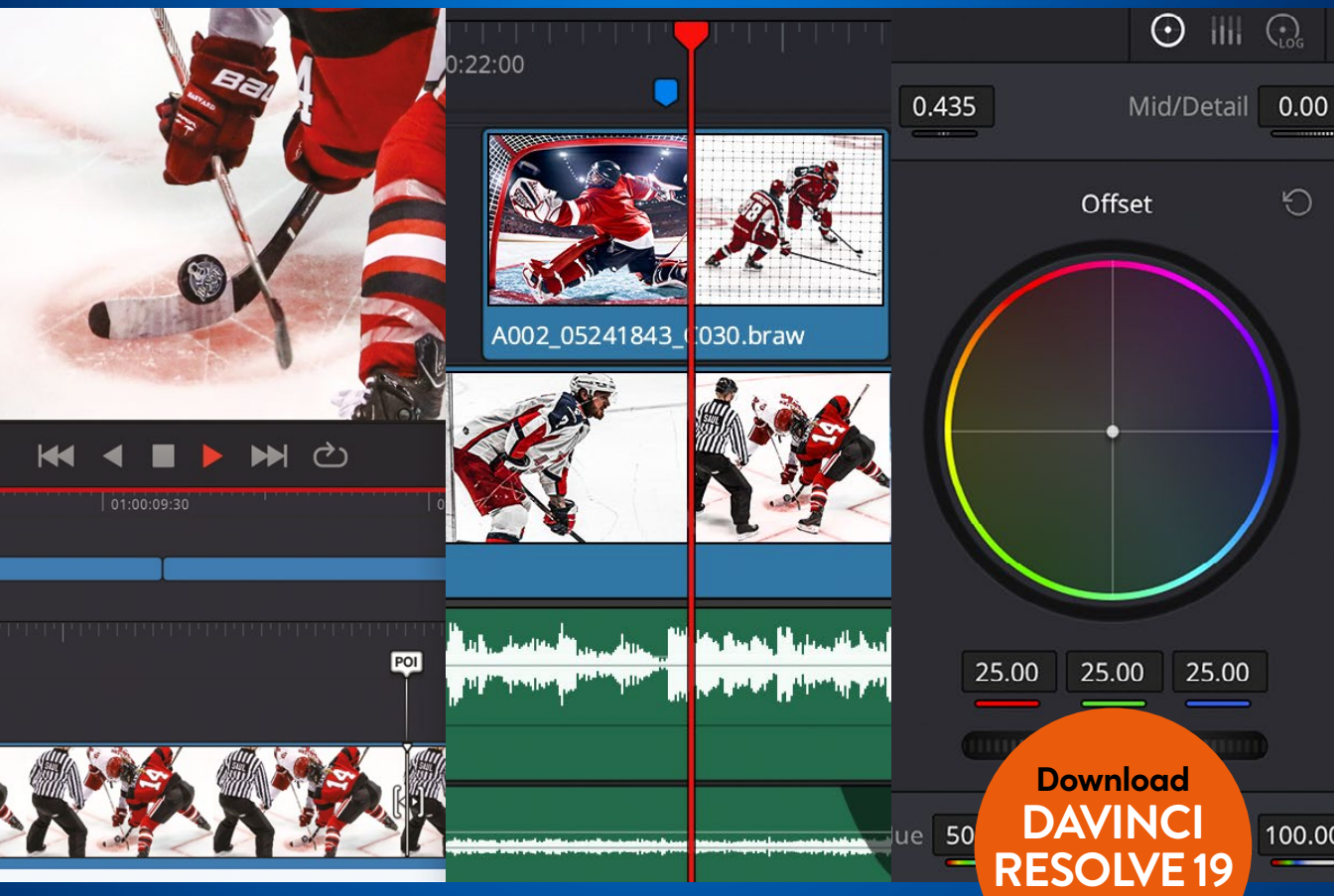
DAVINCI RESOLVE 19

Blackmagicdesign

The Beginner's Guide to

DAVINCI RESOLVE 19



Authors: Chris Roberts, Simon Hall

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The Beginner's Guide to DAVINCI RESOLVE 19

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Chris Roberts and Simon Hall

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Foreword

Welcome to The Beginner's Guide to DaVinci Resolve 19

DaVinci Resolve 19 is the only post-production solution that combines editing, color correction, visual effects, motion graphics, and audio post-production all in one software tool! Its elegant, modern interface is fast to learn for new users yet powerful enough for the most experienced professionals. DaVinci Resolve lets you work more efficiently because you don't have to learn multiple apps or switch software for different tasks. It's like having your own post-production studio in a single app!

DaVinci Resolve 19 adds editing with transcriptions from audio, film look creator and ColorSlice six vector grading, IntelliTrack AI for panning audio to match vision, and broadcast replay for live multi camera broadcast editing, layout and replay with speed control, and so much more!

Best of all, Blackmagic Design offers a version of DaVinci Resolve 19 that is completely free! We've made sure that this version of DaVinci Resolve includes more features than any paid editing system. That's because at Blackmagic Design we believe everybody should have the tools to create professional, Hollywood-caliber content without having to spend thousands of dollars.

I invite you to download your copy of DaVinci Resolve 19 today and look forward to seeing the amazing work you produce!

Grant Petty
Blackmagic Design

Acknowledgments

We would like to thank the following individuals for their contributions of media used throughout this book:

— Chris Lang, Aaron Walterscheid, Nathan LeFever, and Sherwin Lau for Organ Mountain Outfitters content.

— "Furever Glass" music composed and performed by Matt Carlin.

— New color footage: Sean Viljoen and The Conservation Film Company.

About the Authors

Chris Roberts has spent nearly 30 years editing everything from online corporate promos to broadcast television, with editing credits that include the BAFTA award–winning series *The Great House Giveaway*.

He has been delivering video editing training for over 20 years, and has trained university students and staff, broadcast journalists, and sports, factual, and drama editors. As a Blackmagic Certified Master Trainer, he has been responsible for delivering DaVinci Resolve training to end users and other trainers around the world, both in person and remotely.

Over the years, he has also written articles on editing techniques and editing software for a variety of magazines and online publications, as well as writing a number of books, including *The Editor's Guide to DaVinci Resolve*.

Chris lives in Worcestershire, UK, with his partner, Samantha, and, when not working, enjoys reading post-apocalyptic fiction, listening to hard rock and blues music and binge-watching the TV he has invariably missed.

This book is dedicated to the memory of his dearly loved and sadly missed parents, Frank and Maureen.

www.chrisroberts.info

Nahuel Srnec CSI ADF is a film producer and director, cinematographer, post-production coordinator, and university professor with over 15 years of experience teaching at universities and film schools worldwide. His courses span a range of topics, from directing and cinematography to post-production and virtual production (specifically ICVFX). Nahuel is also a Blackmagic Design Master Trainer in English, Spanish, and Italian.

Throughout his career, Nahuel has directed and produced acclaimed films and worked as a cinematographer and colorist on numerous feature films, TV shows, and commercials. He is the producer, co-director, and post-production coordinator of the Argentinian feature film *Machine for the Aura* (WIFF, BJIFF).

He is a full member of the Colorist Society International (CSI) and the Argentine Society of Cinematographers (ADF) and served as a voting member of the ISO/TC 36 Cinematography international standards committee.

He has worked as a consultant and trainer at Paramount's Buenos Aires offices and currently researches the integration of cinematography and virtual production. He also presented an advance on his research on IA and film teaching at the CILECT congress in 2024 (Beijing). The production group he founded, NSfilms, is a Blackmagic Design Training Partner: https://nsfilms.net/.

Simon Hall has been in the post-production industry for 20 years. Starting at a small post-production house as an edit assistant, he became an offline editor for numerous broadcast productions and high-end corporate promotions and then progressed to online editing and finishing.

During this time, he also started delivering training to a few broadcast editors before expanding into training promo editors, documentary and factual editors, journalists, university and college students, and online broadcast editors.

He moved to Soho Editors in London to become the lead trainer specializing in a variety of post-production disciplines, as well as continuing to work on editing and finishing jobs. During this time, he started working with DaVinci Resolve 8 to replace older color correction software.

In 2015, Simon joined Blackmagic Design as a product specialist focusing on post-production and on DaVinci Resolve more specifically, and he now heads the post-production product team in the EMEA region.

He lives in Cheshire, UK, with his wife Emma, his new son Seb, and Nola, the dog. When not working and running around after a toddler, he enjoys following numerous sports, taking peaceful walks with an energetic Labrador, reading a wide range of books, and is a self-confessed petrolhead.

This book is dedicated to my wife, Emma, for her endless support and to my son, Sebastian.

Who This Book Is For

This book is designed for both beginners and professionals. Beginners will find clear and concise lessons to get up and running quickly. If you're a professional switching from another system, you'll find lessons that cover everything from basic editing and trimming to working with audio, adding text, effects, and more. You'll also find dozens of pro tips and tricks that will help you make the switch to DaVinci Resolve!

Getting Started

Welcome to **The Beginner's Guide to DaVinci Resolve 19**, the official Blackmagic Design Training and Certification book that teaches editors, artists, and students how to edit, composite, color correct, and mix audio in DaVinci Resolve. All you need is a Mac or Windows computer, the free download version of DaVinci Resolve 19, and a passion to learn and tell your story!

This official step-by-step training guide covers the basics of editing, visual effects, motion graphics, color correction, and audio so you can start creating your own Hollywood-caliber film and video today!

About DaVinci Resolve 19

DaVinci Resolve is the world's fastest growing and most advanced post-production software.

It also has a long history of being the world's most trusted application for color correction. With DaVinci Resolve 19, Blackmagic Design has added a complete 2D and 3D visual effects compositing and motion graphics environment that enables you to complete even the most challenging projects using only one piece of software!

What You'll Learn

— How to mark selections, edit clips in the timeline, and perform context-sensitive trimming
— How to retime clips, add transitions, and add Resolve FX
— How to work with Fusion title templates, create your own titles, and add animation
— How to perform primary and secondary corrections using DaVinci Resolve's legendary color tools
— How to match shots, use color management, create looks, and grade multiple clips
— How to use Power Windows, track objects in a shot, use curves, and add ResolveFX
— How to set up projects, import media, and use metadata to speed up your work
— How to edit and mix audio using the Fairlight audio tools
— How to navigate the Fusion page and use a node-based interface for visual effects compositing
— How to deliver projects in a variety of formats and share them directly to YouTube and Vimeo
— And dozens of tips and tricks throughout the book that will transform how you work!

The Blackmagic Design Training and Certification Program

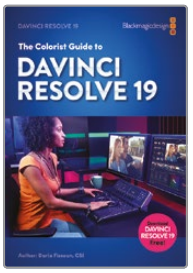
Blackmagic Design publishes several training books that take your skills farther in DaVinci Resolve 19. They include:

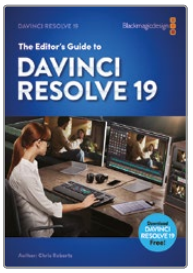
— *The Beginner's Guide to DaVinci Resolve 19*
— *The Colorist Guide to DaVinci Resolve 19*
— *The Editor's Guide to DaVinci Resolve 19*
— *The Fairlight Audio Guide to DaVinci Resolve 19*
— *The Visual Effects Guide to DaVinci Resolve 19*
— *Advanced Visual Effects in DaVinci Resolve 19*

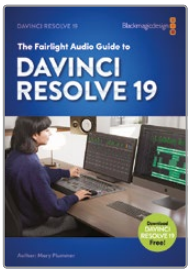
Whether you want an introductory guide to DaVinci Resolve or want to learn more advanced editing techniques, color grading, sound mixing, or visual effects, our certified training program includes a learning path for you.

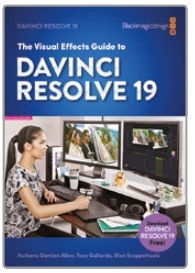
Getting Certified

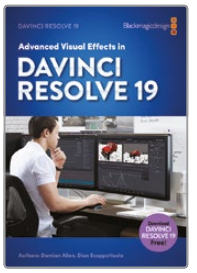
After completing this book, you are encouraged to take a 1-hour, 50-question online proficiency exam to receive a Certificate of Completion from Blackmagic Design. The link to the online exam can be found on the Blackmagic Design training webpage. The webpage also provides additional information on our official Training and Certification Program. Please visit www.blackmagicdesign.com/products/davinciresolve/training.











System Requirements

This book supports DaVinci Resolve 19 for macOS and Windows. If you have an older version of DaVinci Resolve, you must upgrade to the current version to follow along with the lessons.

NOTE The exercises in this book refer to file and resource locations that will differ if you are using the version of software from the Apple Mac App Store. For the purposes of this training book, we recommend that macOS users download and use the DaVinci Resolve software from the Blackmagic Design website rather than from the Mac App Store.

Download DaVinci Resolve

To download the free version of DaVinci Resolve 19 or later from the Blackmagic Design website:

1. Open a web browser on your Windows or macOS computer.
2. In the address field of your web browser, type: www.blackmagicdesign.com/products/davinciresolve.
3. On the DaVinci Resolve landing page, click the Download button.

4 On the download page, click the button corresponding to your computer's operating system.

5 Follow the installation instructions to complete the DaVinci Resolve installation.

When you have completed the software installation, follow the instructions in the following sections to launch DaVinci Resolve and download the media files used throughout this book.

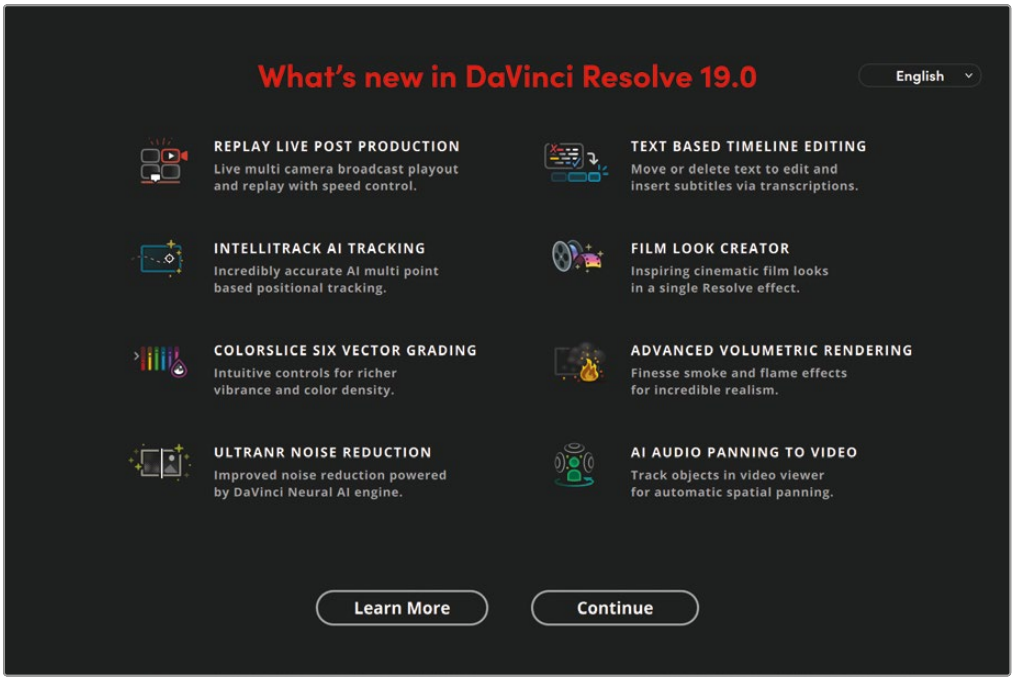
DaVinci Resolve 19 Quick Setup

When DaVinci Resolve 19 is successfully installed, you can launch the application for the first time.

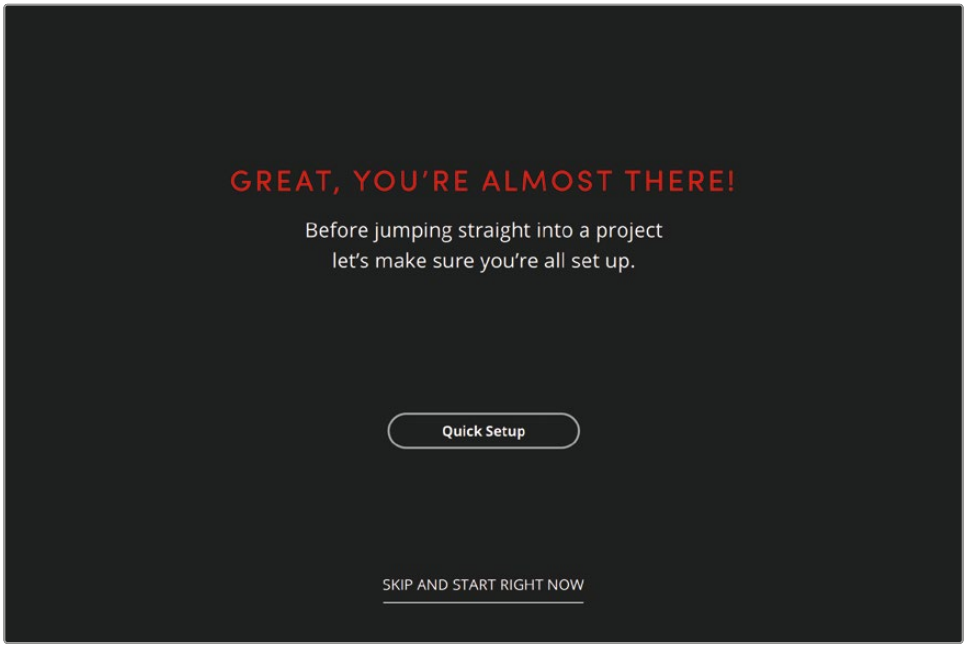
macOS users will find the DaVinci Resolve application in their Applications folder. Double-click the DaVinci Resolve folder, and then double-click the DaVinci Resolve application. Alternatively, you can use Launchpad or Spotlight search to locate and launch DaVinci Resolve.

Windows users will find a shortcut has been added to their Desktop. Alternatively, click the Start menu and search for "DaVinci Resolve" and press Enter to launch the application.

When DaVinci Resolve 19 opens for the first time, you'll see a Welcome splash screen detailing the new features available in the current version.

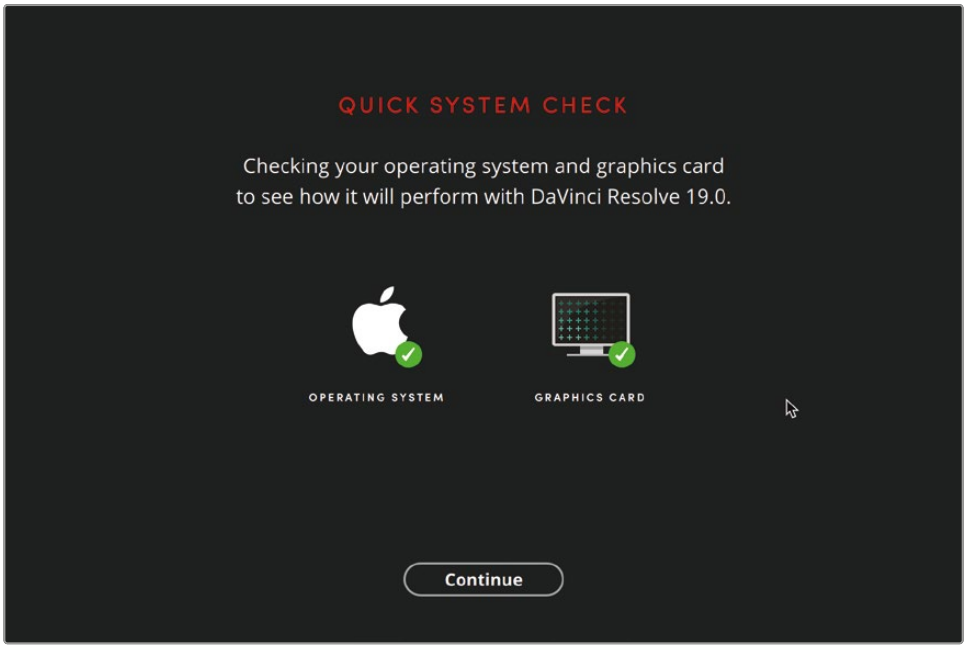


1 If required, you can change the language used. You can also learn more about these and hundreds of other amazing features available in DaVinci Resolve 19 by clicking Learn More. Otherwise, click Continue.

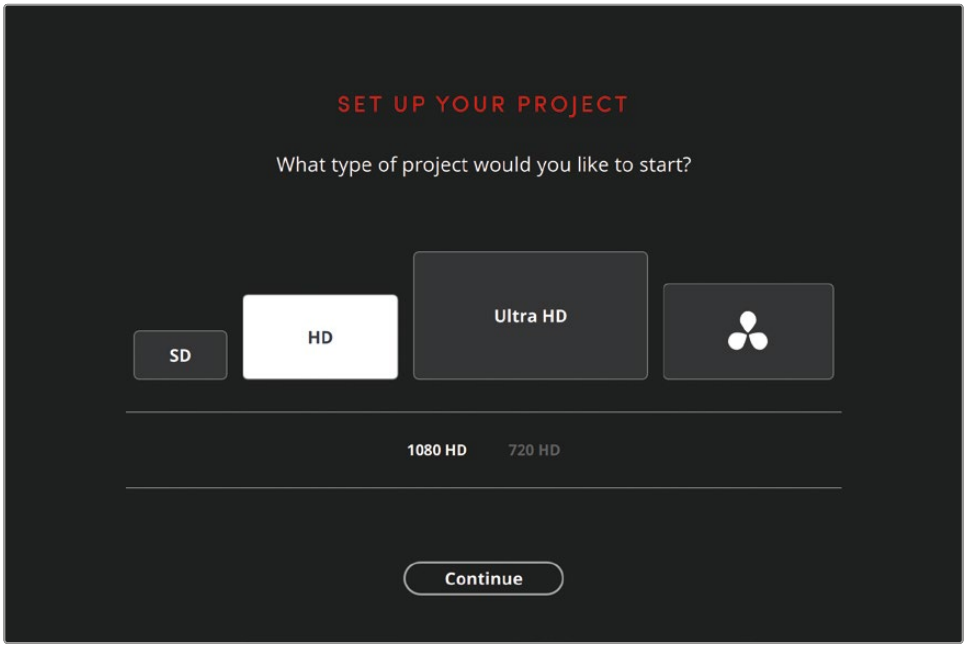


Next, you are invited to go through the Quick Setup process. Experienced users can skip this process by clicking "Skip and Start Right Now," but new users are advised to follow this process. It will only take a couple of minutes and is useful in understanding how Resolve is working.

2 Click the Quick Setup button.



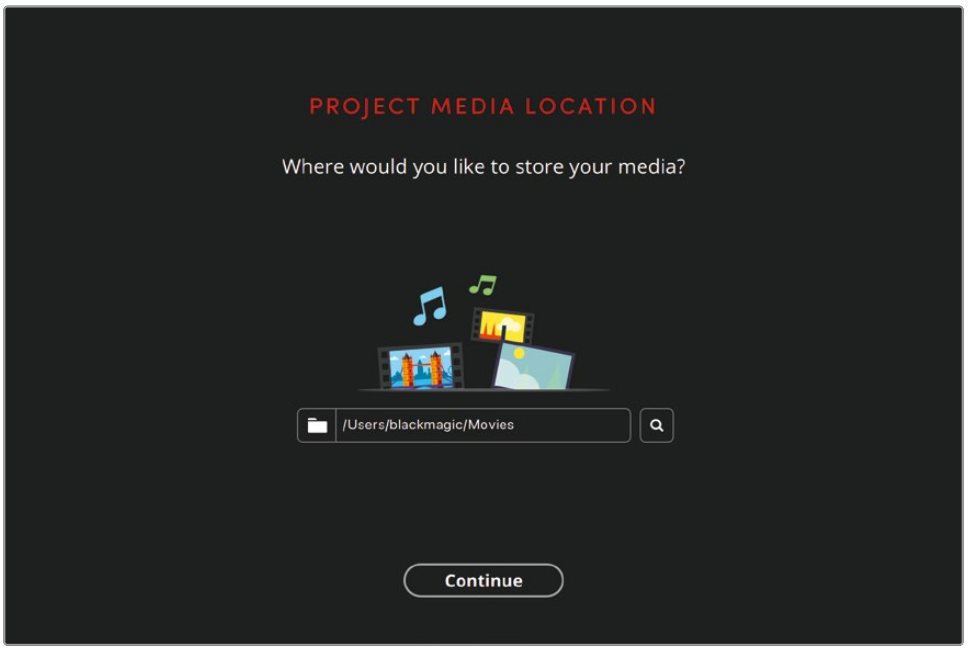
3 DaVinci Resolve will check your system to ensure its operating system and graphics card will perform well. If both pass this test, click Continue.



Next, you will be asked what type of project you would like to begin. DaVinci Resolve supports projects at different resolutions, from Standard Definition (SD) and High Definition (HD) to Ultra High Definition and beyond.

4 If you know the resolution you commonly work with, you can set that here. Otherwise, leave the resolution set to 1080 HD and click Continue.

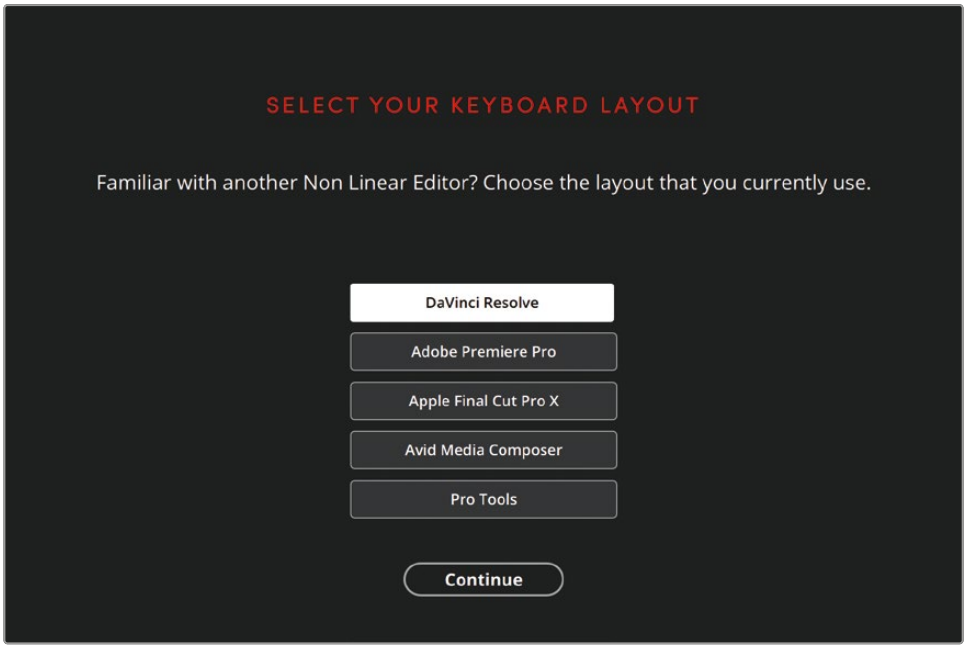
> **NOTE** You will learn more about setting the resolution for your projects in Lesson 7, "Project Setup and Preferences."



The next screen asks where you would like to store your media. This does not refer to the video, audio, and graphics files you'll edit and grade, but rather the ancillary files Resolve will need to create as you're working. This location is commonly referred to as a "scratch disk" and by default is set to your current user's Movies folder (macOS) or Videos folder (Windows).

5 Leave this set to the default location and click Continue.

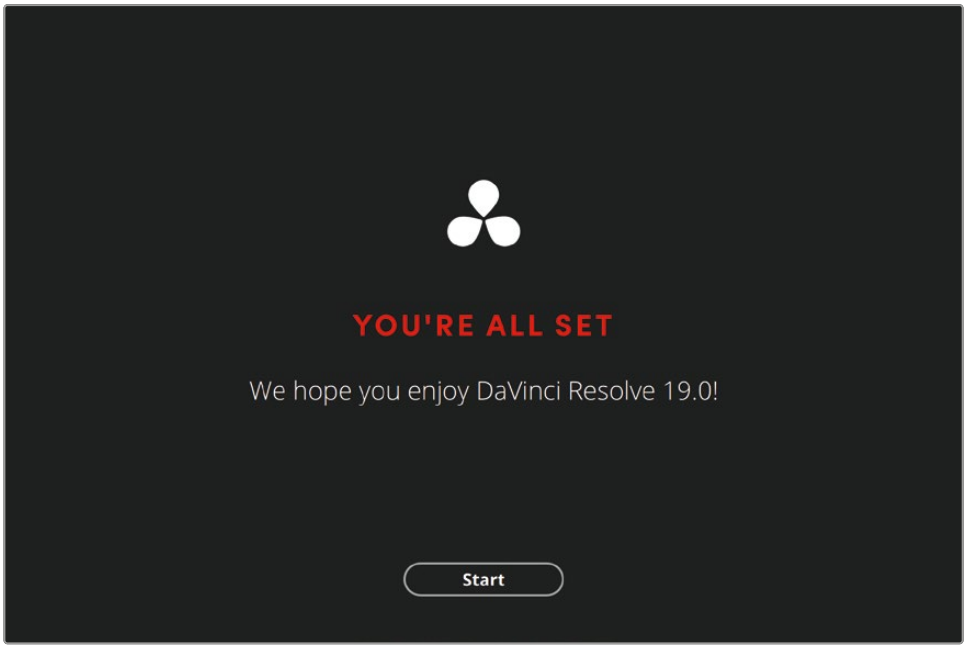
NOTE You will learn more about changing the Media Storage Locations in Lesson 7.



On the next screen, you will be asked which keyboard layout you would like to use. This is specifically relevant if you're familiar with using another nonlinear editor; however, throughout this Beginner's Guide you will be introduced to keyboard shortcuts that use the DaVinci Resolve keyboard layout. So if you change the layout at this point, you may find those shortcuts won't work.

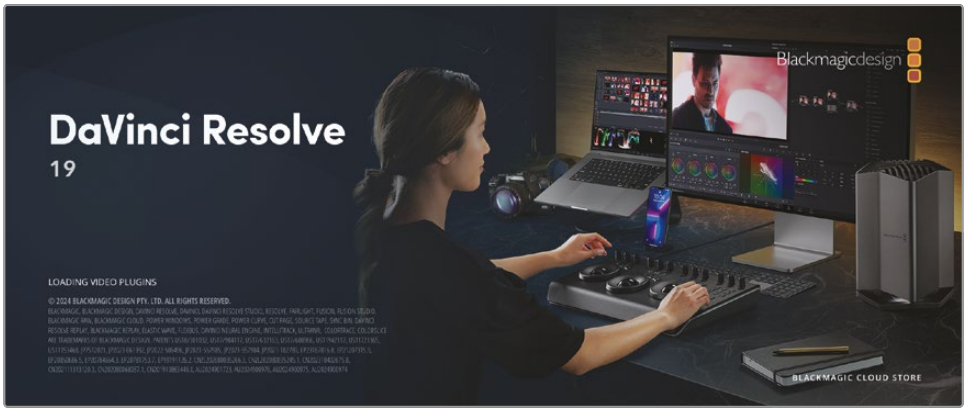
6 For now, leave the layout set to DaVinci Resolve and click Continue.

NOTE You will learn more about changing the keyboard layout, including setting your own keyboard shortcuts, in Lesson 7.



Congratulations! You have completed the Quick Setup process and have changed precisely nothing in terms of DaVinci Resolve's default setup. Nevertheless, you have also gained an insight into some aspects of using DaVinci Resolve that will serve you well as you continue learning about the application and how it uses your system.

7 Click Start to launch and begin enjoying DaVinci Resolve 19!



Once loaded, DaVinci Resolve will open to the cut page, which is the default starting page for all projects. However, this is not the usual place to begin working with DaVinci Resolve. Instead, you should now exit the application in readiness to begin the first lesson in this book.

8 Choose DaVinci Resolve > Quit DaVinci Resolve or press Command-Q (macOS) or Ctrl-Q (Windows).

DaVinci Resolve 19 will close.

Get the Lesson Files

To perform the steps detailed in the exercises throughout this book, the Beginners Guide lesson files must be downloaded to your macOS or Windows computer. After you save the files to your hard drive, extract the file, and copy the folder to your Movies folder (macOS) or Videos folder (Windows).

To Download and Install the DaVinci Resolve Lessons Files

When you are ready to download the lesson files, follow these steps:

1 Open a web browser on your Windows or macOS computer.

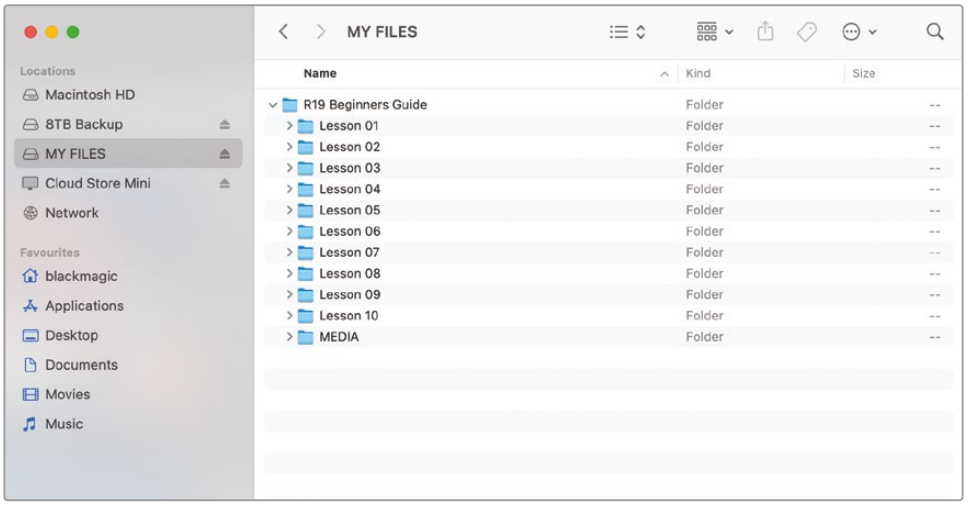
2 In the address field of your web browser, type: www.blackmagicdesign.com/products/davinciresolve/training

3 Scroll the page until you locate *The Beginner's Guide to DaVinci Resolve 19*.

4 Click the Lesson Files Part 1 link to download the media. The file is roughly 5.5 GB in size.

5 After downloading the zip file to your macOS or Windows computer, open your Downloads folder and double-click **R19_Beginner_Guide.zip** to unzip it if it doesn't unzip automatically. You'll end up with a folder named R19 Beginner Guide that contains all the content for this book.

6 From your Downloads folder, move or copy the R19 Beginner Guide folder to a convenient location on your computer or an external hard drive. If in doubt, use your User's Movies folder (macOS) or Videos folder (Windows).



Once you have DaVinci Resolve 19 installed and the media files downloaded, you are ready to begin Lesson 1.

Introducing Blackmagic Cloud

DaVinci Resolve is the world's only complete post-production solution that lets everyone work together on the same project at the same time. Traditionally, post-production follows a linear workflow with each artist handing off to the next, introducing errors and mountains of change logs to keep track of through each stage. With DaVinci Resolve's collaboration features, each artist can work on the same project, in their own dedicated page with the tools they need.

Now Blackmagic Cloud lets editors, colorists, VFX artists, animators, and sound engineers work together simultaneously from anywhere in the world. Plus, they can review each other's changes without spending countless hours reconforming the timeline.

Simply create a Blackmagic Cloud ID, log in to the online DaVinci Resolve Project Server, and follow the simple instructions to set up a new project library—all for one low monthly price!

Once this library is created, you can access it directly from the Cloud tab in the Project Manager to create as many projects as you need—all stored securely online. Then invite up to 10 other people to collaborate on a project with you. With a simple click, they can relink to local copies of the media files and start working on the project immediately, with all their changes automatically saved to the cloud.

Enabling Multiple User Collaboration for your project means that everyone can work on the same project at the same time—edit assistants, editors, colorists, dialogue editors, and visual effects artists can now all collaborate wherever they are in the world in a way never before possible.

Media Sync with Blackmagic Cloud Store

Now you don't need to buy expensive proprietary storage that needs an entire IT team to manage! Blackmagic Cloud Store has been designed for multiple users and can handle the huge media files used by Hollywood feature films. You can also have multiple Blackmagic Cloud Stores syncing the media files with your Dropbox account so that everyone has access to the media files for the project.

To find out more about these exciting workflows, visit: blackmagicdesign.com/products/davinciresolve/collaboration.

Lesson 1

Editing a Rough Cut

Whether you are making social media videos, high-end commercials, episodic television series, or the latest cinematic blockbuster, DaVinci Resolve 19 is the complete post-production solution that allows you to organize, edit, grade, and deliver your video content all in one place. Beyond this, DaVinci Resolve also provides tools for creating complex visual effects and motion graphics, as well as professional tools for sweetening and mixing your audio.

With this level of complexity, it's sometimes difficult to know where to start, especially for the new user.

Time

This lesson takes approximately 75 minutes to complete.

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In this first lesson, you will begin by exploring the tools and techniques you can employ in the edit page to tell your stories by putting together a rough cut of a 1-minute social media promo for New Mexico outdoor clothing brand Organ Mountain Outfitters. In subsequent lessons, you will learn how you can refine this initial edit, mix the audio, add titles and graphics, and export the final video in a suitable format for sharing on social media sites like YouTube and Vimeo.

So make sure you're comfortable as the opening titles roll....

Importing a Project

The process of working with DaVinci Resolve doesn't necessarily start with editing. Usually, there's a whole lot of time, effort, and energy expended making sure the project is set up correctly and that all the media is available and properly organized, both on the hard drives of the computer you're using as well as within the project you're working on within Resolve.

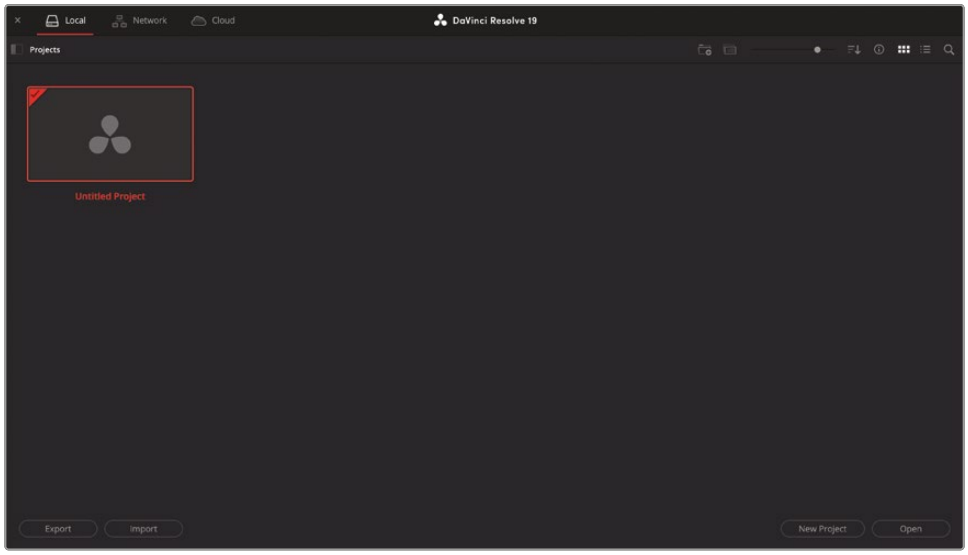
In large-scale productions, this process is often handled by a dedicated person called the DIT (Digital Intermediate Technician), Data Wrangler, Media Manager, or Edit Assistant.

On smaller productions, this person and the editor, colorist, audio mixer, etc., are all usually the same person!

Don't worry, you'll explore all these roles in due course throughout this book. However, to cut to the chase, you will start by working on a project that has already been set up for you. You simply need to import it into your copy of DaVinci Resolve 19 and start editing. This way, you can see how various techniques and processes were applied to make it easier for you to edit—techniques and processes that you will explore further in later lessons so that you can apply them successfully to your own projects in due course.

NOTE The following steps assume that you've already downloaded and unzipped the media files that accompany this book and have opened DaVinci Resolve 19 at least once and been through (or skipped) the Quick Setup process. If you haven't completed either of these steps, please refer to the "Getting Started" section at the beginning of this book.

1 Open DaVinci Resolve, letting the application load until the Project Manager opens.



The Project Manager is the place in DaVinci Resolve where you can access, organize, and manage each of your projects. Each project is stored inside a database called a project library, which is accessible from one of three locations:

— **Local** Project libraries are stored on your computer or on directly attached storage such as an external hard drive. These are the simplest and easiest types of project libraries to work with, especially for someone working on their own projects who doesn't need to collaborate with others regularly.

— **Network** Project libraries are available to anyone using DaVinci Resolve in a networked environment, such as a post-production facility where different people may need access to the same set of projects.

— **Cloud** Project libraries are stored on dedicated Blackmagic Cloud servers, where they can be accessed anywhere you can get online by anyone you choose to invite.

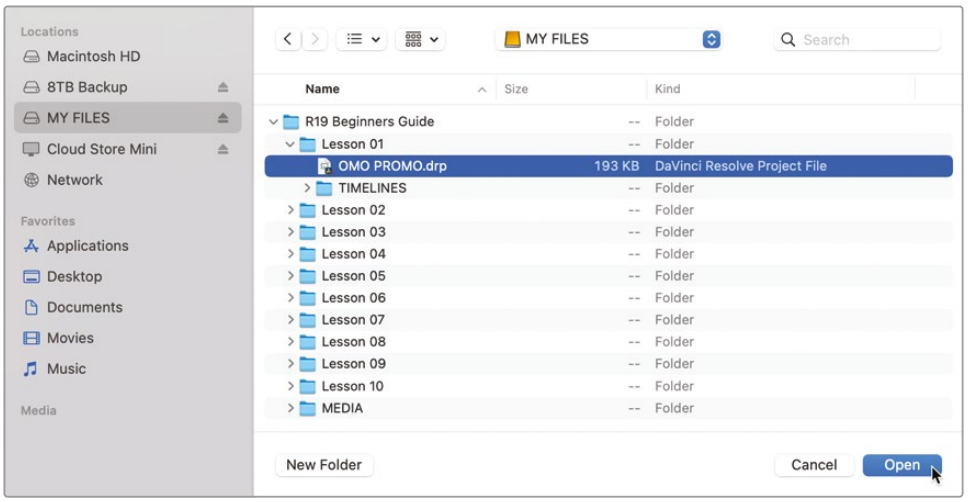
Both networked and cloud-based project libraries have the advantage that they can be used to collaborate so that multiple DaVinci Resolve users can not just access a set of projects in a project library but actually work on the same project simultaneously!

As this is a Beginner's Guide, you will work with the default local project library and, as discussed, you will import a project that has already been set up for you by the authors (think of them as your edit assistants for this lesson).

NOTE You will learn more about creating your own project libraries in Lesson 10, "Delivery and Media Management."

2 In the lower left corner of the Project Manager, click the Import button.

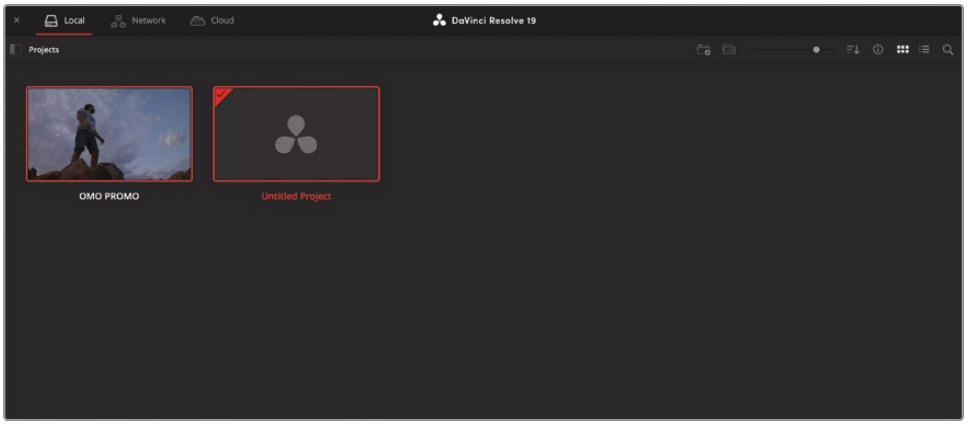
3 In the Finder window (macOS) or Explorer window (Windows) that opens, navigate to the R19 Beginner Guide / Lesson 01 folder and select the file **OMO PROMO.drp.**



The file extension .drp indicates that this is a DaVinci Resolve Project file. Project files contain information about how the project is set up and organized but do not contain any media (audio and video) files. These files are kept in the Media folder in the R19 Beginner Guide folder.

4 With the **OMO PROMO.drp** file selected, click Open.

After a brief process, the project file is imported into the Project Manager and is now available for you to open.



NOTE DaVinci Resolve does not open projects directly from .drp files. Instead, the project file is copied into the current project library. Thereafter, any changes to the project are applied to the copy in the project library, not the .drp file you initially selected. This is why you must always open a project using the Project Manager rather than double-clicking a .drp file directly from your computer, which you might do if you're more familiar with other video editing software.

5 With the OMO PROMO project selected in the Project Manager, click Open. Alternatively, double-click the OMO PROMO project.

DaVinci Resolve will open the project in the last page that was active when it was last opened, so you might be looking at this project in any of the pages.

6 If necessary, click the Edit button at the bottom of the interface to open the edit page.

7 Select Workspace > Reset UI Layout to reset the interface to the default layout preset .

8 In the bin list, Select the VIDEO CLIPS bin to display its contents and move your mouse over the first clip.

Relinking the Media Files

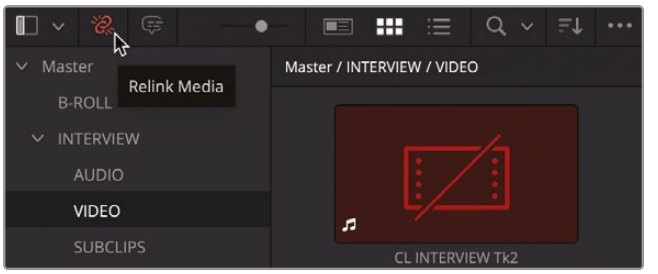
Currently, all the video, audio, and image clips in this project are displaying as "offline media." This means that the links that were originally created when the media files were first added to this project have been broken. So before you can do anything with these clips, you'll need to relink them to their associated media files on your computer's hard drive.

Media files may go offline for a variety of reasons, most commonly because they have been moved. To prevent this from happening, once the files have been added to a project you should always leave them alone. If you need to move them to a different location, such as a larger hard drive, you should use Resolve's built-in Media Management feature, which you will explore in Lesson 10. You should never rename a file on your hard drive once it's in use in Resolve because this might break the link completely and cause lots of problems. If you need to rename a clip, do it in the Resolve project since this does not rename the file on the hard drive.

NOTE You will learn more about the value of renaming clips in Lesson 7, "Project Setup and Organization."

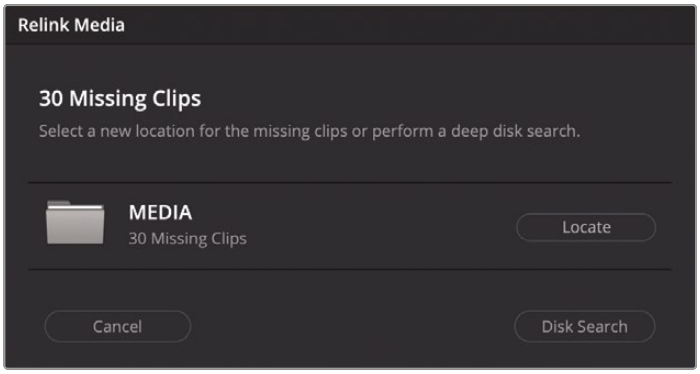
In this case, the reason why the media files are all offline is because the project was originally set up with the media files in one location. However, as the copies of the media files live on your computer in a different location, you must tell Resolve where to find them. Thankfully, Resolve makes it easy to quickly relink them.

1 In the top left of the interface, above the media pool in the edit page, click the red Relink Media button.



NOTE The Relink Media button will only be red if there are any media files in the project that are unexpectedly offline. Media that has been deliberately unlinked in the project is not indicated.

2 The Relink Media window appears, showing how many files are currently offline.

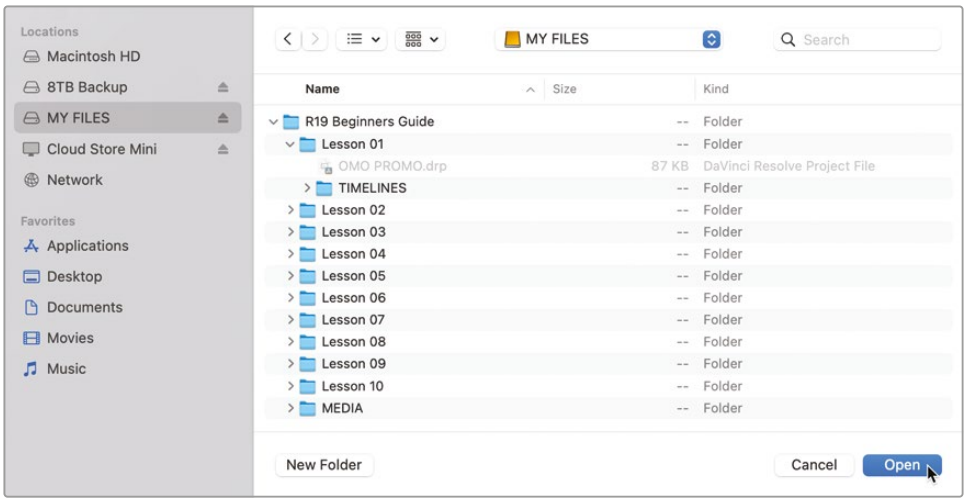


TIP Place your mouse cursor over the location where Resolve expected the media files to be located to view more detail about the original location of the files.

3 Click the Locate button to open a Finder window (macOS) or Explorer window (Windows).

You now need to tell Resolve where the appropriate media files can be found on your system.

4 Navigate to the R19 Beginner Guide folder on your system and click Open.



Resolve automatically searches the location and will relink to the media files.

NOTE If Resolve cannot find the appropriate files, you can initiate a more comprehensive search from the Relink Media window using the Disk Search button. Be aware, though, that this search will take much longer, especially if you have very large hard drives with lots of media files to search through!

Now that the clips have been successfully relinked, you can begin reviewing this project and start putting the rough cut together.

Understanding Bins and Smart Bins

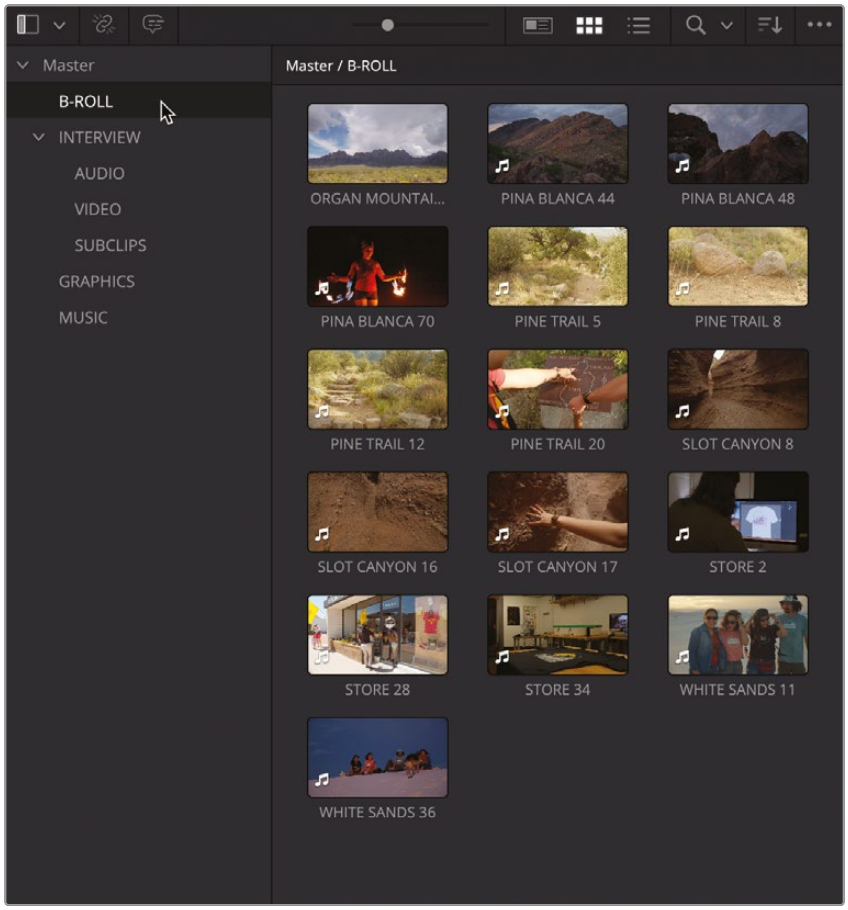
The media pool is the place where clips and other project elements, such as timelines, are stored and organized. You can think of the media pool as a large filing system similar to the Finder in macOS or File Explorer in Windows. In the same way you organize files for use in your OS in folders, you can likewise organize the media pool, except in NLE (nonlinear editing) software, folders are invariably referred to as bins.

NOTE You might wonder why folders are called bins in editing software. Well, this terminology dates to the earliest days of film editing, when editors would store strips of film in containers they referred to as “bins.” As editing moved from physically splicing film on an editing machine to moving digital media around on a screen, the term “bin” was simply retained to maintain continuity and familiarity for editors.

In DaVinci Resolve, you can see the bins in the current project in the bin list, which is displayed to the left of the main media pool window. Each project has a default Master bin, which is listed at the top of the bin list. You can think of this as the top level for your project. All the other bins containing the footage you need for the project are listed inside the Master bin.

You can access the clips inside each bin by simply selecting the bin in the bin list.

1 Select the B-ROLL bin to see the clips contained in this bin in the main media pool browser.



TIP You can use the slider at the top of the media pool to resize the thumbnails of the clips, making them larger or smaller, according to your preferred view. You can also resize the media pool by dragging the dividing line between the media pool and the source viewer.

2 Move your mouse pointer over the clips in this bin to preview them in the source viewer to the right of the media pool.

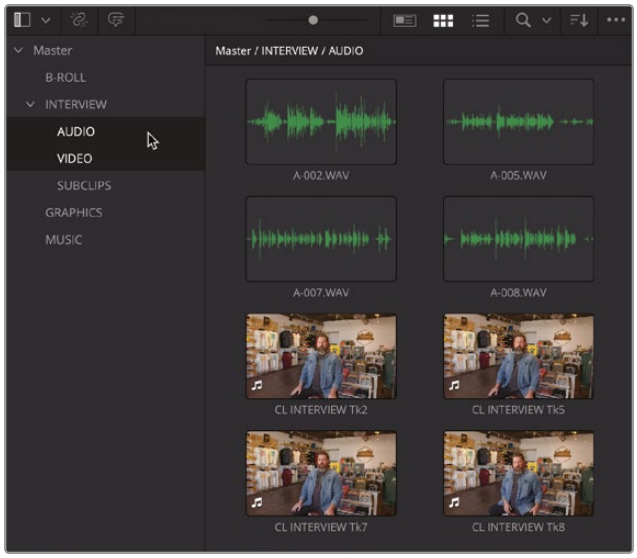
TIP You can disable/enable Live Media Preview by clicking the Options menu (...) at the top right corner of the source viewer and selecting Live Media Preview.

You can also organize bins inside other bins.

3 Click the disclosure arrow to the left of the INTERVIEW bin to reveal the sub bins called VIDEO, AUDIO, and SUBCLIPS.

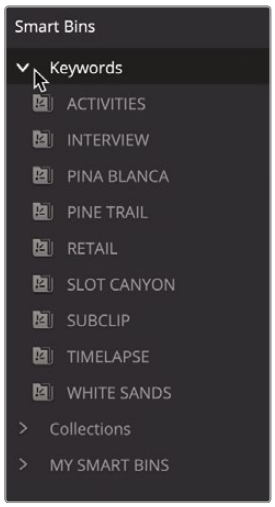
You can also display the contents of multiple bins together in the media pool.

4 Select the VIDEO bin, and then Command-click (macOS) or Ctrl-click (Windows) the AUDIO bin to display all the clips in both bins together.



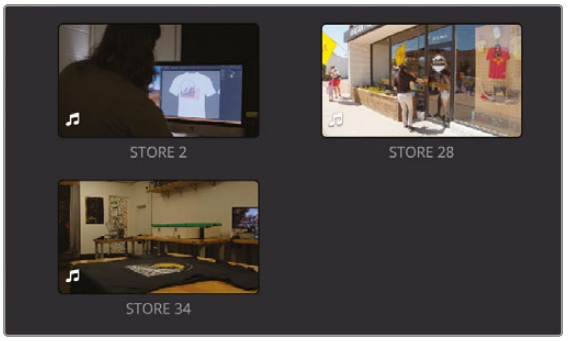
While bins are a useful way of organizing your footage, sometimes the sheer amount of footage you have to work with is overwhelming. That's one reason why the edit page has a much more flexible approach to organizing the clips by using the metadata applied to a clip and grouping the clips in a series of smart bins.

5 In the Smart Bins section of the bin list, select the Keywords folder and click the disclosure arrow to reveal the Keywords smart bins.

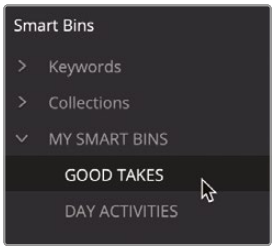


The Keywords smart bins are a set of automatic smart bins that appear when you start adding keywords to clips in your projects.

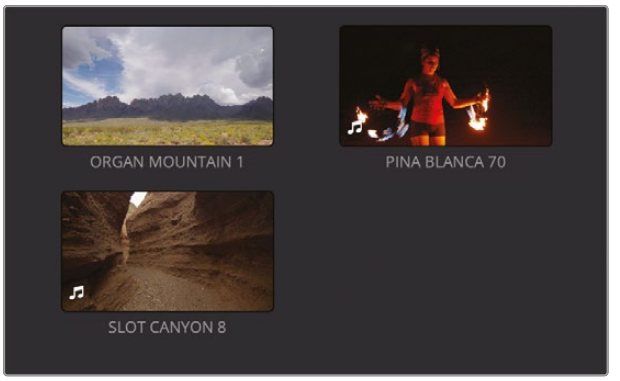
6 Select the RETAIL keyword smart bin, which lists three clips that have the keyword "RETAIL" applied.



7 Click the disclosure arrow for the Keywords category to collapse the Keywords smart bins, and then click the disclosure triangle for the MY SMART BINS category and select the GOOD TAKES smart bin.



This is a manually created smart bin that contains clips that have been marked as good takes.



NOTE You'll learn more about viewing, adding, and modifying clip metadata, including adding keywords and marking clips as good takes, so you can create your own smart bins in Lesson 7.

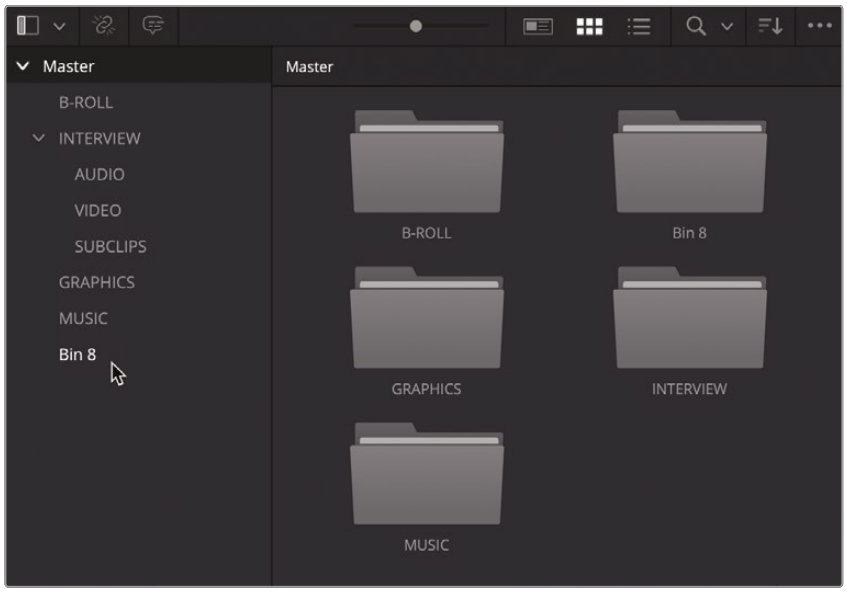
Creating a New Timeline

Someone once said that the hardest part of writing a book is starting the first chapter. Indeed, the same is true for editing, except rather than trying to decide which words you should start with, you have to decide which sounds and pictures you need. Placing those first few clips into an empty timeline can be quite daunting; you never quite know where you should start or where you will ultimately end up. However, once you begin assembling the footage clip by clip, the edit will slowly start to reveal itself, and you'll start to see what's working, what doesn't work, and what might be coaxed into working with a little more effort on your part.

You'll begin by editing some soundbites from the main interview with the proprietor of Organ Mountain Outfitters, Chris Lang. While not every edit relies on spoken dialogue, it can be a useful starting point since it will start to reveal the story you want to tell.

However, to start this exciting process, you will need an empty timeline. And to keep the project organized, you will place this timeline in its own bin.

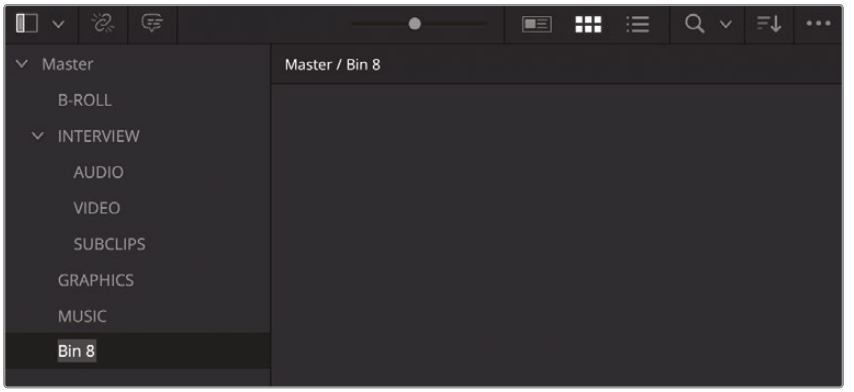
1 In the bin list, select the Master bin and choose File > New Bin.



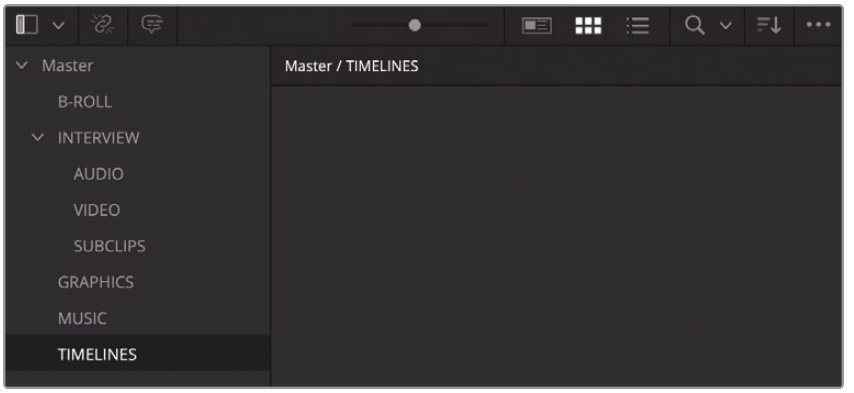
A new bin is created called Bin 8 since this is the eighth bin created in this project.

TIP You can also press Shift-Command-N (macOS) or Shift-Ctrl-N (Windows) to create a new bin. New bins are automatically created in the currently selected bin.

2 Select Bin 8 and click again to highlight the name of the bin.



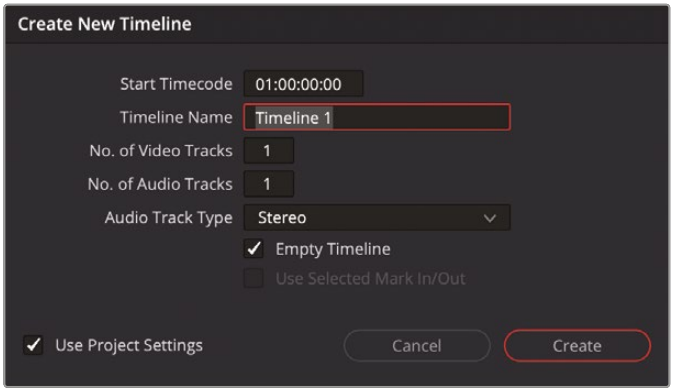
3 With the name of the bin highlighted, type **TIMELINES** to rename it.



Next, you'll create a new, empty timeline in this bin.

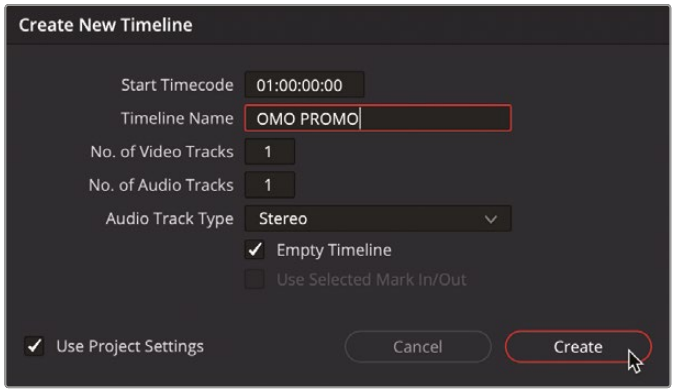
4 With the TIMELINES bin still selected, choose File > New Timeline.

The Create New Timeline window opens.



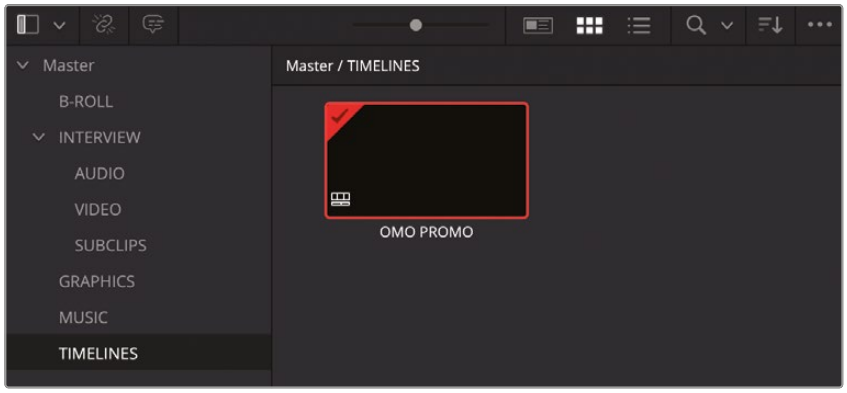
TIP You can press Command-N (macOS) or Ctrl-N (Windows) to create a new timeline. New timelines are automatically created in the currently selected bin.

5 In the Timeline Name field, type **OMO PROMO**.



6 Click Create.

A new timeline is created in the selected bin, and additional controls appear in the timeline window.



NOTE A DaVinci Resolve project can contain many separate timelines. By default, each of these timelines can be created using various settings specified in the Project Settings. However, each timeline can have its own settings specified when you create it, or you can change certain properties later if required. You'll learn more about the importance of choosing the correct timeline settings in Lesson 7.

Adding the Soundbites

Now it's time to start assembling the initial edit for Organ Mountain Outfitters.

1 In the bin list, click the disclosure arrow to open the INTERVIEW bin.

This bin contains three additional bins:

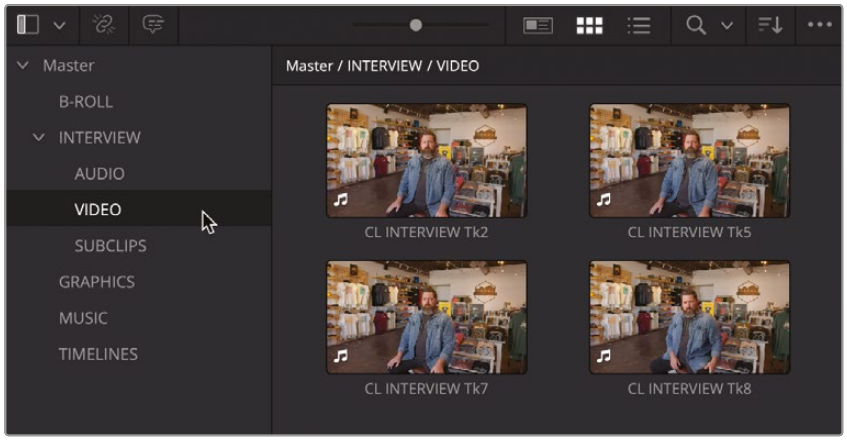
— **VIDEO** This bin contains all the Chris Lang interview clips that you'll need to tell the story of Organ Mountain Outfitters and will be the focus for your work over the next steps.

— **AUDIO** This bin contains the audio clips for the interview that were recorded separately—a common production practice. The audio has already been synced with the interview clips by your edit assistant, so you don't need to work with this bin for now.

— **SUBCLIPS** This bin contains a series of subclips of the main interview clips which, again, have been created by the edit assistant to help make working with the long interview clips easier.

NOTE You'll learn how to sync audio and video clips and create subclips in Lesson 7.

2 Select the VIDEO bin to reveal the full set of interview clips.



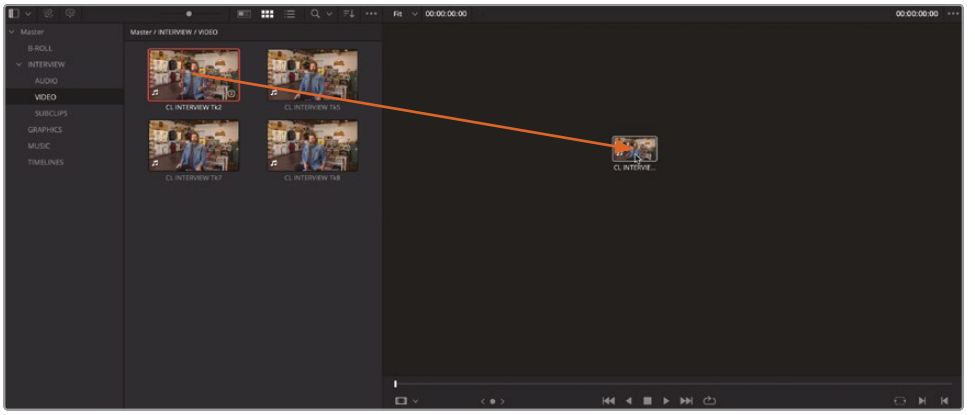
TIP If necessary, move the slider at the top of the media pool to the right to increase the size of the thumbnails, making it easier to view the clip name.

3 Place your mouse pointer over the first clip in the VIDEO bin and move it left and right.

As your mouse pointer moves across the clip, the interview is previewed live in the source viewer.

TIP You can disable audio scrubbing by choosing Timeline > Audio Scrubbing or pressing Shift-S.

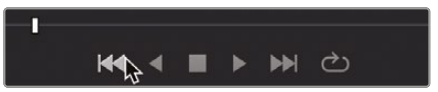
4 Drag the clip to the source viewer.



This opens the clip in the source viewer at the frame that was last displayed during Live Preview.

NOTE Live previewing clips is very handy for quickly seeing the content of clips in the media pool, especially if there are a lot of clips. This process quickly but temporarily allows you to view the clip in the source viewer. However, when you want to spend more time viewing a clip or choosing parts of it to edit into the timeline, it's better to open the clip in the source viewer by double-clicking it or dragging it to the source viewer.

5 In the source viewer's transport controls, click the Go To First Frame button to move the playhead back to the start of the clip.



TIP Press Home to move the playhead to the first frame of a clip or press End to move to the last frame. If you are working on a laptop or other keyboard without dedicated Home and End keys, you can often use fn-Left Arrow for Home and fn-Right Arrow for End.

6 In the source viewer's transport controls, click the Play button to begin playing the clip from the start.

7 Listen to the interview as it plays in the source viewer.

TIP Press the Spacebar to start/stop playback. See also the sidebar "Controlling Playback" later in this chapter.

As you'll probably realize very quickly, this interview clip is rather long and encompasses several answers to different questions. You certainly wouldn't want to use this entire clip. Instead, you will use just a small soundbite.

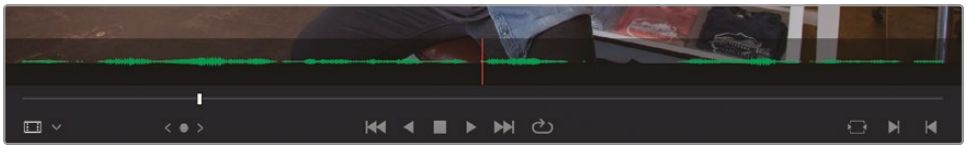
NOTE A *soundbite* is a short, often memorable part of a longer spoken recording. Soundbites are generally only a few seconds long and are chosen as a way of communicating information, ideas, and arguments in a concise format. They are used a lot when editing interviews for news broadcasts and social media promos, for example, because they are often impactful and attention grabbing. But they should be used carefully so as to not misrepresent the person speaking or oversimplify complex subjects.

8 In the source viewer's transport controls, click the Stop button to halt playback.

To help you locate the soundbite, you can display the clip's audio waveform alongside the source video.

9 Click the source viewer's Options (...) menu and choose Show Zoomed Audio Waveform.

A green waveform appears along the bottom of the source viewer.



10 Click the Go To First Frame button to return the playhead back to the beginning of the clip.

11 Press the Spacebar to start playing the interview again.

12 Listen to the interview as it's playing and just after Chris laughs, but before he says, "I'm Chris Lang...," press the Spacebar to stop playback.

You should be able to judge where Chris starts to introduce himself from the size of the audio waveform displayed.

13 In the source viewer's transport controls, click and hold the jog wheel to refine the position of the playhead in the source viewer.

14 Use the jog wheel to move the playhead to just before the start of the large waveform.

> **TIP** If you disabled audio scrubbing in the earlier steps, press Shift-S to re-enable it. Hearing the audio scrub can help you refine the position just before Chris starts speaking.

This is where you want the first soundbite to start. To specify this, you'll need to add an In point at the current playhead position.

15 In the source viewer transport controls, click the Mark In button.

The In point is added, highlighting a portion of the interview clip from the current playhead position to the end.

This is the portion that Resolve will edit to the timeline for you, but it's still far too long for your purposes. Instead, you will specify the end of the soundbite you'll use by adding—yep, you guessed it—an Out point!

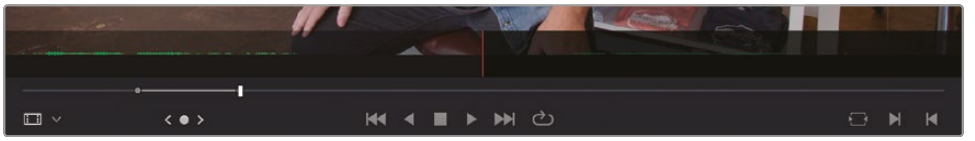
16 Press the Spacebar to continue playing the clip from the current playhead position for a few seconds until Chris says "...in Las Cruces, new Mexico," and then press the Spacebar to stop playback.

17 Using the jog wheel, again refine the position of the playhead to just before Chris blinks.

TIP Press the Left Arrow to jog the playhead back 1 frame; press the Right Arrow to jog the playhead forward 1 frame. See also the sidebar "Controlling Playback" below.

18 In the source viewer's transport controls, click the Mark Out button.

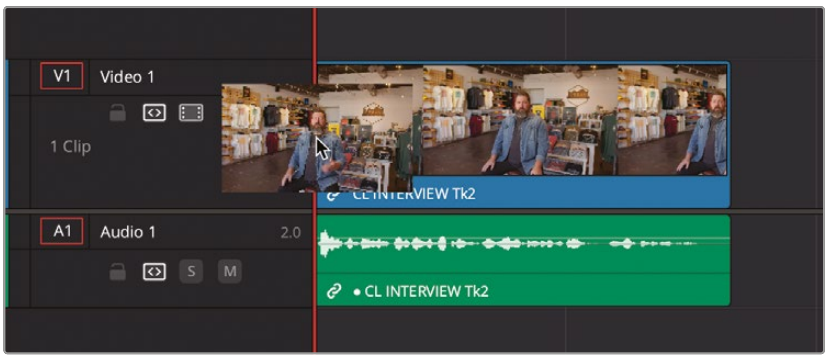
The highlighted duration changes to the newly marked portion of the clip—between the In and Out points you've just set.



This is the portion of the clip you'll edit into the timeline.

> **TIP** Press I to add an In point and press O to add an Out point.

19 Click in the middle of the source viewer and drag the clip down into the timeline, ensuring that you drag the clip into the existing Video 1 and Audio 1 tracks and to the start of the timeline at the far left.



> **NOTE** If you accidentally drag the clip and add additional tracks or leave a gap at the start of the timeline, it's not a huge problem. You can simply drag the clip to the right tracks and location after you've added it to the timeline. It's just that this takes a bit more time and slows down your editing slightly. Alternatively, press Command-Z (macOS) or Ctrl-Z (Windows) to Undo the last action and try dragging the clip to the empty timeline again.

20 In the timeline viewer transport controls, click the Play button or press the Spacebar to play the edited clip in the timeline.

Congratulations! You've successfully added your first clip to the timeline! Now all you need to do is keep repeating this process for all the other clips you'll need to build up the Organ Mountain Outfitter's promo.

Controlling Playback

An important part of editing is learning how to control the playback of your video. DaVinci Resolve's default keyboard layout supports all the usual shortcuts for playback that professional editors around the world recognize. You can use the Spacebar to start and stop playback and the Left Arrow and Right Arrow keys to move forward and back one frame at a time. More experienced users will be happy to know that the J, K, and L keys also control playback at different speeds.

The order of the JKL keys match the layout of the Play Reverse, Stop, and Play transport controls in both the source and timeline viewers.

Try the following to practice controlling the playback of the source or timeline viewer:

- Hold K and tap L to jog forward 1 frame.
- Hold K and tap J to jog backward 1 frame.
- Hold K and Hold L to scrub forward at half speed.
- Hold K and hold J to scrub backward at half speed.
- Press L twice to shuttle forward at twice normal speed.
- Press J twice to shuttle backward at twice normal speed.

You can keep tapping the J or L keys to increase the shuttling speed up to 64x normal speed.

Working with the Subclips

Before you start adding additional soundbites to this timeline, it's worth considering just how much of that first clip you used. If you look at where you added the In and Out points on the clip in the source viewer, you'll see that it's only a small portion of a much larger clip—only about 6 or 7 seconds of a clip that is about a minute long!

TIP You can tell how long a clip is, or the duration between the In and Out points you've added, using the duration timecode value in the top left of the source viewer.

This disparity between the amount of footage shot and the amount used in the edit is not unusual and is often referred to as the shooting ratio. Depending on what's being edited, shooting ratios can vary wildly; a typical news piece might have a shooting ratio of 3:1 (for every 3 minutes shot, 1 minute was used), whereas some reality shows might have a shooting ratio of around 600:1, if not more!

With so much footage being captured and needing to be edited, it can sometimes be useful to just focus on a much smaller, relevant portion. This is where subclips come in.

Subclips are discrete clips that have been isolated from a much longer clip but, because they are still referencing the original media file, are not taking up additional storage space on your system. You will learn how to create and manage your own subclips in Lesson 7. For this lesson, though, your edit assistant has already created a series of subclips for you from the much longer interview clips.

NOTE You will learn how to create your own subclips in Lesson 7.

1 In the bin list, select the SUBCLIPS bin to view the subclips.

Each subclip has a clip name assigned to it to make it easy to recognize.

TIP To show the file names of the clips rather than the clip names used in the project, you can choose View > Show File Names. Choose View > Show File Names again to return to seeing the clip names.

2 Double-click the clip **CL SUBCLIP 1 - Experiences** to open it in the source viewer, and then play this clip through from the start.

Even though this is only about 27 seconds of a much longer interview clip, you still only need to use a portion of it. However, because the subclip is a much more manageable duration, it's easier to see the waveform represented over the duration of the subclip.

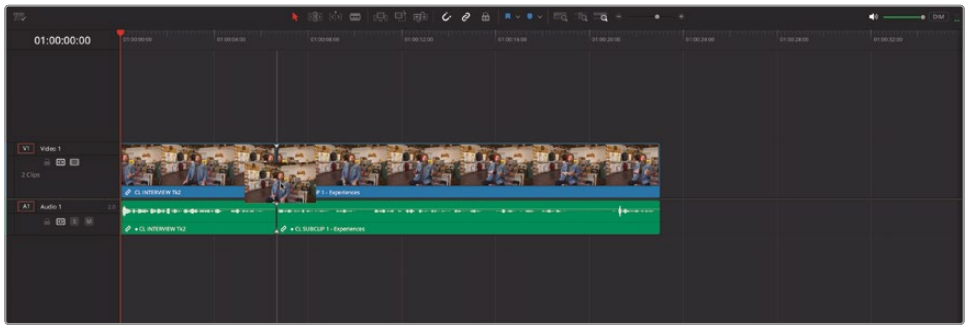
3 Click the Options (...) menu in the source viewer and choose Show Full Clip Audio Waveform.

4 Using the waveform as a guide, move the playhead to just before Chris Starts speaking and press I to add an In point.

5 Play through the clip and then stop after Chris says, "...it's changed my life" but before he blinks, and press O to add an Out point.

With the In and Out points set, you can add this clip to the timeline.

6 Click in the middle of the source viewer and, again, drag the marked clip into the timeline so that it snaps to the end of the previous clip.



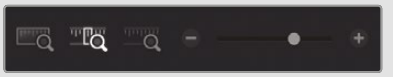
7 In the timeline viewer, click the Play button or press the Spacebar to play the two clips in the timeline.

Excellent. The soundbites seem to make sense next to each other, even though they were taken from two different parts of the interview. Yes, there is a nasty visual jump cut as the second interview starts, but you will fix that using some of the B-roll clips as cutaways in a short while.

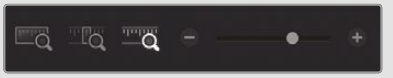
Controlling Timeline Zoom

The edit page has three main options for controlling the zoom level of clips in the timeline, which you will need to be able to use effectively as you build up your edit: Full Extent Zoom, Detail Zoom, and Custom Zoom.

Full Extent Zoom will always display the whole duration of your timeline in the timeline window, automatically adjusting the zoom to keep everything in sight. This is most useful for seeing a bird's-eye view of your edit and allows you to navigate anywhere within the timeline.



Detail Zoom scales the timeline to a closer, zoomed view, centered on the playhead. This option is most useful when you want to step into the timeline to select a clip or edit point to make fine adjustments.



Custom Zoom provides the most flexibility, since it allows you to set your own zoom scale in the timeline. You can use the slider to zoom in and out of the playhead location or hold Option (macOS) or Alt (Windows) and use the scroll function on your mouse (or trackpad) to adjust the zoom of the timeline dynamically, centered on the playhead.

Useful keyboard shortcuts for zooming the timeline include:

- Command-= (equals) in macOS or Ctrl-= (equals) in Windows to zoom in to the timeline playhead
- Command--(minus) in macOS or Ctrl--(minus) in Windows to zoom out of the timeline playhead
- Shift-Z toggles between fitting the timeline to the timeline window and returning to the previous zoom level

Timeline track heights can be adjusted using the Timeline View Options menu or by holding Shift and using the mouse scroll wheel in either the audio or video areas of the timeline.

Adding the Other Soundbites

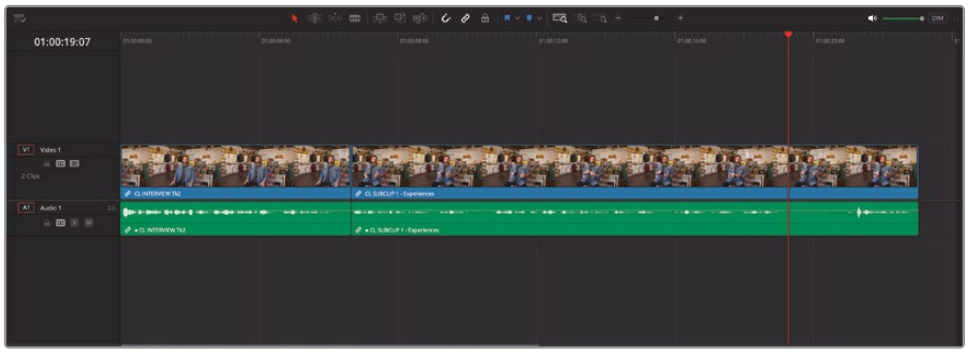
The “drag and drop” approach to editing clips into the timeline you used in the previous steps is one simple way of building up an edit. However, this is a very basic way of editing that offers limited options. In the next steps, you will continue adding soundbites using different editing methods that provide more accuracy and flexibility.

1 Click the Full Extent Zoom button in the timeline toolbar.

2 In the timeline, move the playhead so it snaps to the beginning of the second clip and press the Spacebar to play the clip.

On reflection, the last part of the clip where Chris says, “I can honestly say it’s changed my life” doesn’t really work.

3 In the timeline, place the playhead after Chris says “...the landscapes” but before he looks away from the interviewer.



This is where you will edit the next clip into the timeline.

4 From the SUBCLIPS bin, double-click the clip **CL SUBCLIP 2 - Brand** and, if necessary, return the playhead to the start of the clip.

5 Play the clip in the source viewer, listening to the interview, and add In and Out points around the soundbite where Chris says, “Our brand is really a reflection of our community and who we are.”

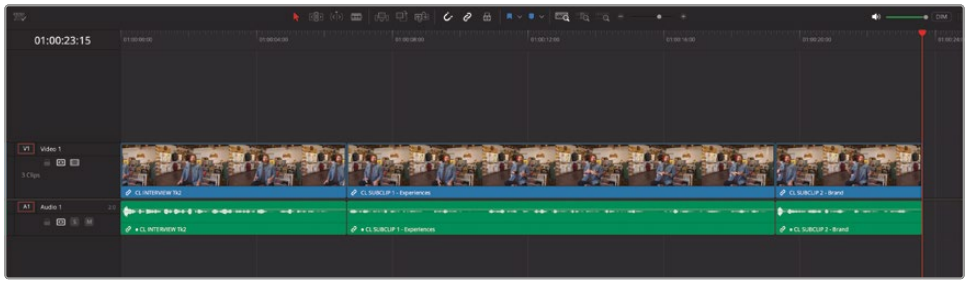
This time, instead of simply dragging the clip to the timeline, you’ll use a slightly different method of editing.

6 Drag the clip from the source viewer to the timeline viewer, but don’t immediately release the mouse button.

This time, a series of editing overlays appears showing the different types of edits that are available to you in DaVinci Resolve. If you have used other nonlinear editing (NLE) software before, you may recognize some of these functions. The default is Overwrite.

7 With the Overwrite edit overlay highlighted, release the mouse button.

The clip is edited into the timeline, starting at the playhead position and overwriting the end of the clip that was in its way.



Don't worry, though, all this editing is completely non-destructive, and you can always trim the clip back out later, recovering the footage that you've just overwritten, if necessary.

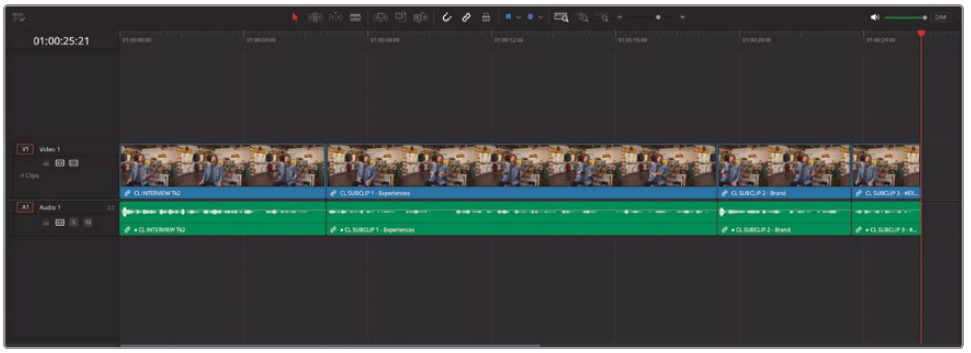
8 Ensure that the timeline playhead is at the end of the third clip you just edited into the timeline (it should be automatically unless you have moved it since the previous step).

9 In the SUBCLIPS bin, double-click the **CL SUBCLIP 3 - #EXSW** clip to open it in the source viewer.

10 Add In and Out points around the soundbite "And that's why we say, 'experience the Southwest.'"

11 In the timeline toolbar, click the Overwrite Clip button or press F10 to overwrite the clip into the timeline.

The new clip is added to the timeline, starting at the timeline playhead position.



NOTE If you're using DaVinci Resolve on macOS, you may need to configure your keyboard settings to use the default editing shortcuts. Select the Apple menu, choose System Settings, and select Keyboard in the sidebar. In the Keyboard settings, click the Keyboard Shortcuts button and select Function Keys. Enable the option "Use F1, F2, etc. as standard function keys." Then select the Mission Control option and uncheck the Show Desktop option for F11 and click Done. Alternatively, you can use the fn key with any F-key to override the macOS shortcuts.

12 If you have moved the timeline playhead since the previous step, ensure it is at the end of the fourth clip in the timeline.

13 Double-click **CL SUBCLIP 4 - Inspiration** to open it in the source viewer and move the playhead to the second group of waveforms.

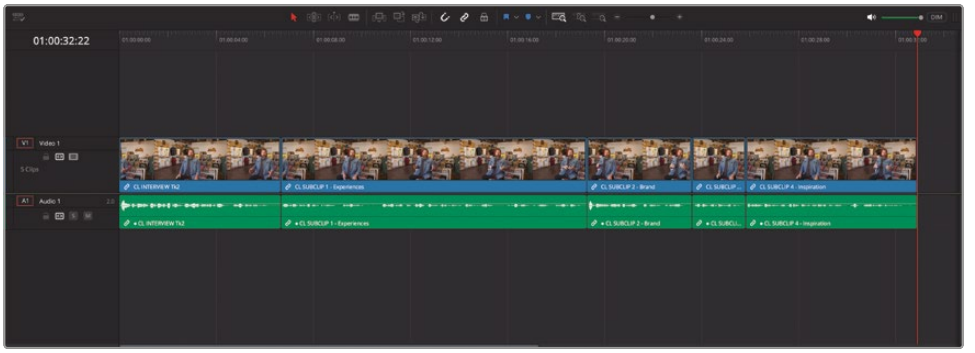
This is the start of the final soundbite you will add to the timeline, but it's a bit of a tight edit to find the In point for when Chris stumbles slightly and says "that" twice. However, using the zoomed audio waveform display will make it so much easier to locate the short pause between the two "thats" quickly and accurately for a clean start to the soundbite.

14 From the source viewer's Options menu, choose Show Zoomed Audio Waveform and jog the playhead into the gap between the waveforms.

15 When the playhead is aligned after the first "that" but before the second "that," press I to add an In point.

16 Return to Full Clip Audio Waveform and continue playing the clip in the source viewer and add an Out point after Chris says, "... that's really where the design process starts."

17 Press F10 or click the Overwrite Clip button to overwrite the clip into the timeline at the playhead position.

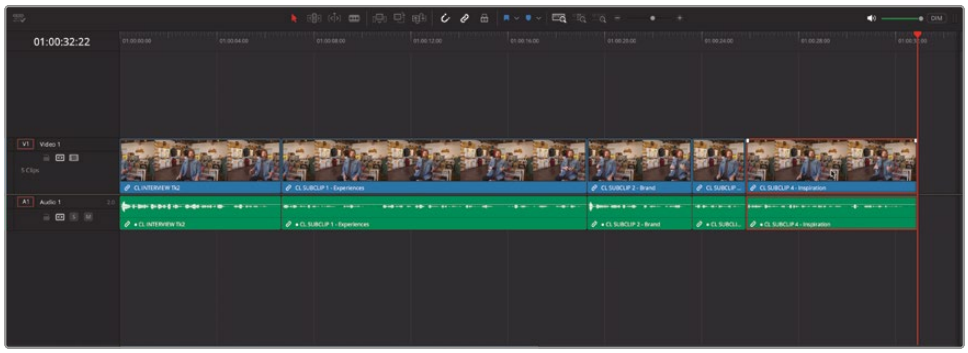


This is the final soundbite you need to add to this timeline. At this point, feel free to move the playhead back to the start of the timeline and play back the current timeline to review the soundbites.

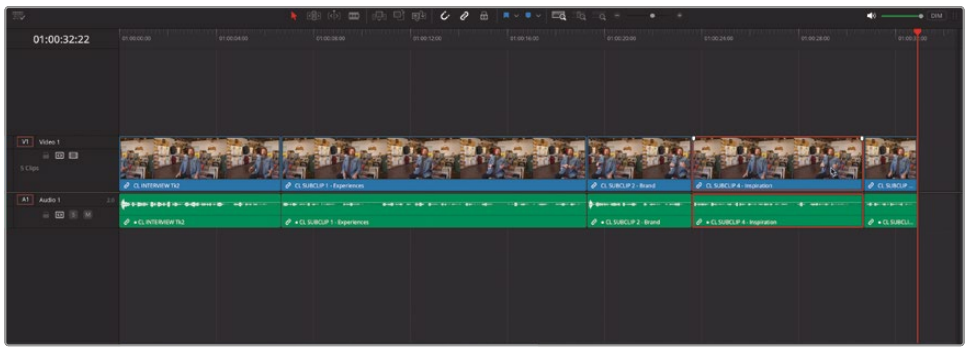
Reordering the Timeline Clips

The soundbites are working well as they currently sit in the timeline. However, there are always changes you'd probably like to make. One of the most common changes at this stage is the reordering of clips in the timeline. While you can select and move clips around freely, DaVinci Resolve has a neat feature that makes this process fast and efficient. It's called a Shuffle Insert edit (or a Swap Insert edit).

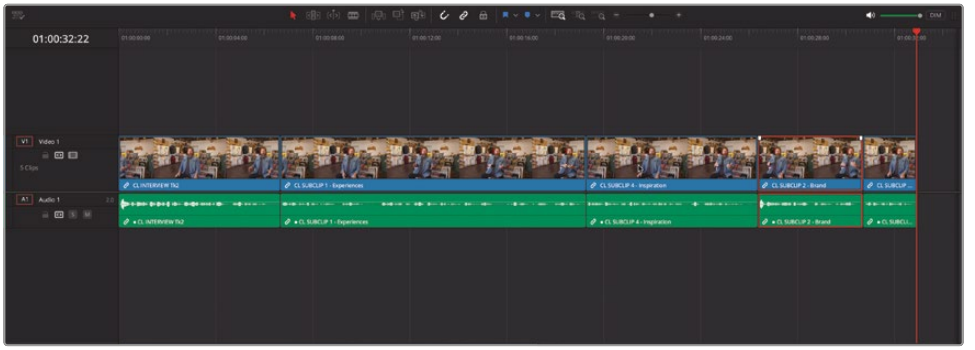
1 In the timeline, select the last of the soundbite clips, **CL SUBCLIP 4 - Inspiration**.



2 Press Shift-Command-, (comma) in macOS, or Shift-Ctrl-, (comma) in Windows, to swap the clip with the previous clip.



3 Select the third soundbite clip **CL SUBCLIP 2 – Brand** and press Shift-Command-. (period) in macOS or Shift-Ctrl-. (period) in Windows to swap it with the subsequent timeline clip.



4 Play through the clips in the timeline again for a slightly better flow to the soundbites.

Using Shuffle Insert edits like this is a useful way of quickly and accurately reordering the timeline clips into a more logical order. You can also use this technique with multiple selected timeline clips.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 01 / Timelines / **OMO PROMO CATCHUP 01.drt** and click Open.

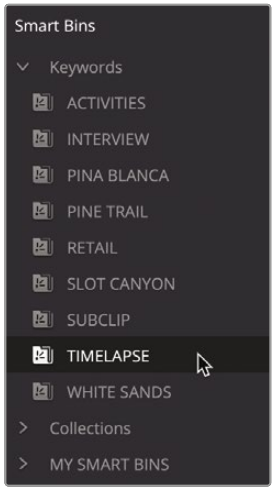
Insert and Append at End Edits

Now that you have the soundbites in the timeline, you can start building out the story with some of the B-roll footage. You will start by adding a shot at the start and end of the edit, which will eventually be used as a background for the opening and closing titles.

1 Select the B-ROLL bin in the bin list.

All the potential B-roll footage for this edit is in this single bin but, depending on how much footage you're dealing with, it may be difficult to see where to start. You could organize this footage further into separate bins; however, as with the subclips you used earlier, this process has already been done for you using a series of keyword smart bins.

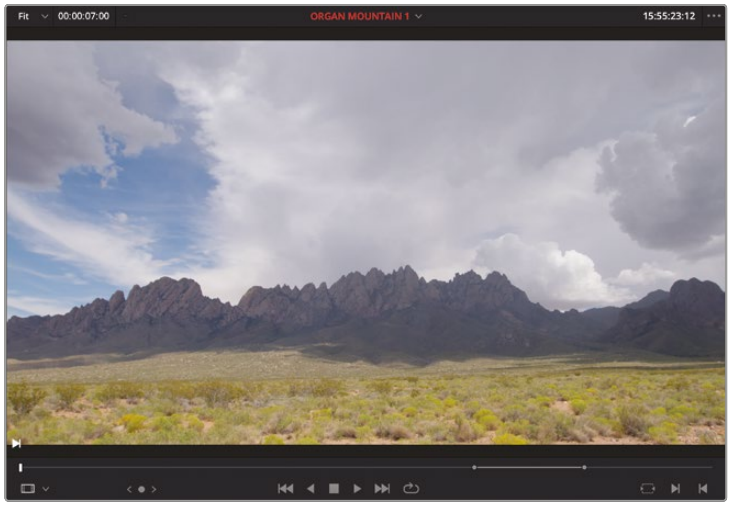
2 In the Smart Bins list in the bottom section of the bin list, select the Keywords folder and then click the disclosure triangle to open the list of keywords smart bins and select the TIMELAPSE smart bin.



This smart bin contains any clips that have been identified and tagged with the "TIMELAPSE" keyword, which is just one in this case.

TIP You can resize the Smart Bins area by dragging the dividing line at the top of the Smart Bins section of the bin list.

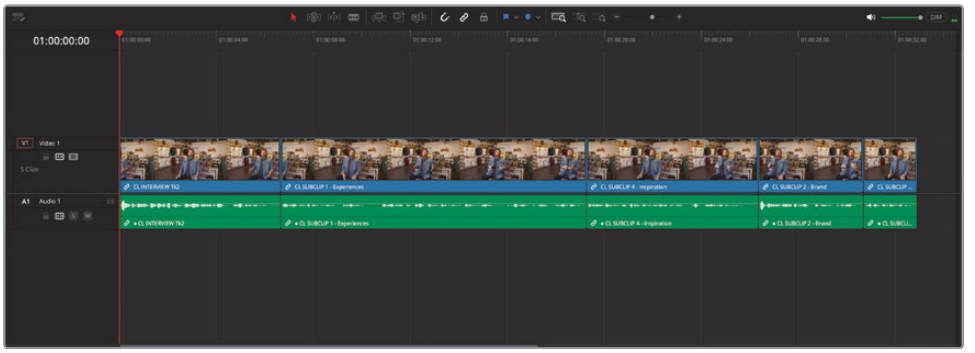
3 Double-click the clip in this smart bin, **ORGAN MOUNTAIN 1**, to open it in the source viewer.



This is a timelapse shot of the eponymous Organ Mountain and will serve well as a background to the opening graphic and closing titles you will add later. Notice that In and Out points have already been applied for you at a duration of 7 seconds.

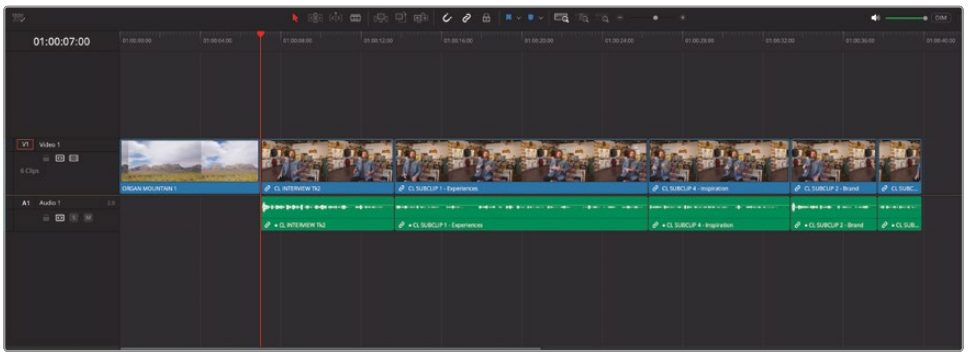
Now you will tell Resolve where in the timeline you want this clip to be edited.

4 Deselect any clips and move the timeline playhead to the start of the timeline.



5 Drag the clip from the source viewer to the timeline viewer, placing it on the Insert overlay, and release your mouse button.

The clip is inserted into the timeline without overwriting any existing clips.

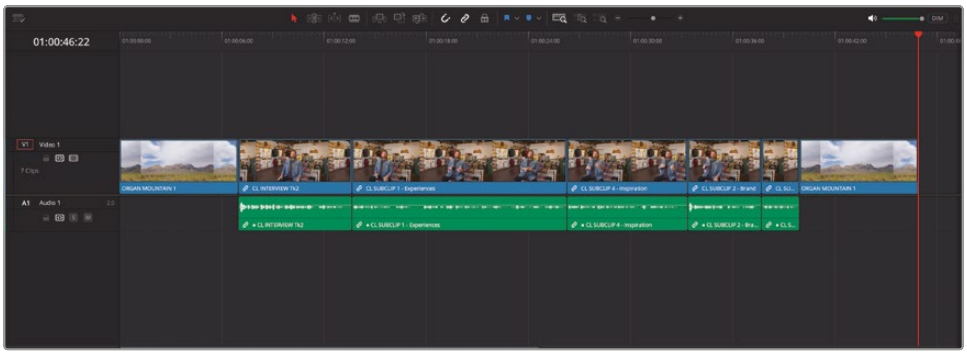


The Insert edit is an effective way to add clips to an earlier part of your edit. By inserting the clips, the rest of the edit will move up the timeline to accept the newly edited clip. This is different from an Overwrite edit that will simply overwrite any clips in the way in the timeline.

Another useful editing function is the Append at End edit. This does exactly what it says: it adds the new clip after the last clip in the timeline.

6 Drag the clip from the source viewer to the timeline viewer, placing it on the Append At End overlay.

The same 7-second clip is added to the end of the timeline.



Pacing the Soundbites

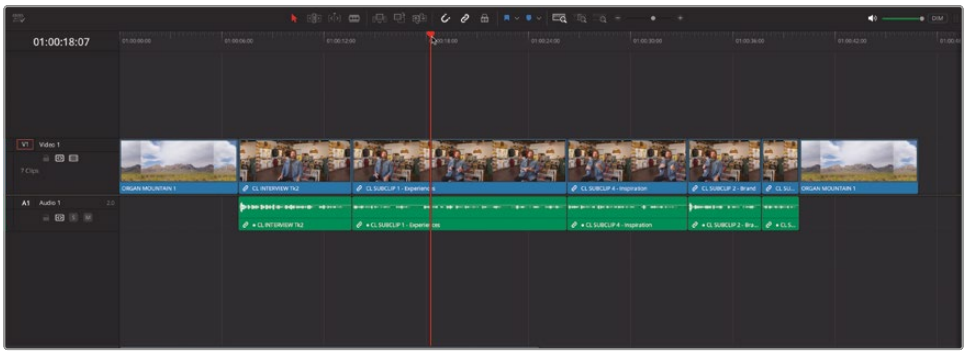
The timeline is starting to take shape, but currently all the clips are tightly edited, meaning there's no "breathing space" between the soundbites. This "breathing space" is important for two reasons. First, it makes the interview sound natural and doesn't distract the audience. This best reflects how people normally speak; very rarely does someone speak out loud without having to take a breath every once in a while, like a voiceover artist reading the terms and conditions in a commercial. Second, it allows the audience to

process what's been said. If you hit them too early with the next piece of information, the audience might feel overwhelmed and might not take in the story or messages you're trying to convey, like a voiceover artist reading the terms and conditions in a commercial!

To make the soundbites sound natural, you'll introduce a short gap between each clip. The best way to do this is to move the clips up in the timeline.

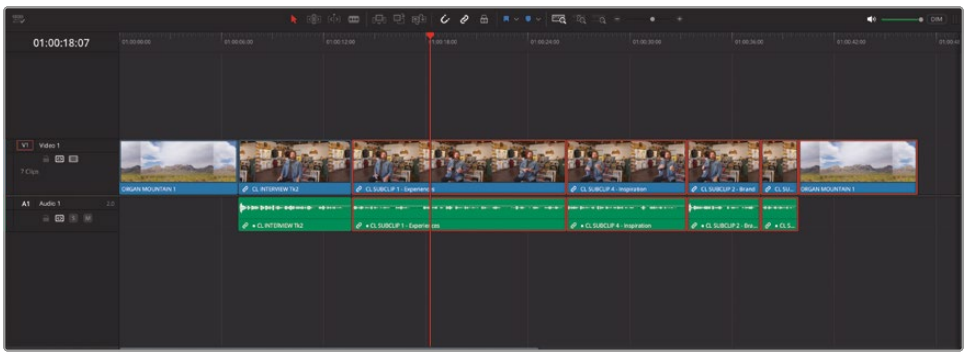
1 In the timeline toolbar, ensure that the Full Extent Zoom is selected.

2 Position the timeline playhead anywhere over the third clip in the timeline.



3 Choose Timeline > Select Clips Forward > Select Clips Forward on This Track, or press Y.

This command selects all the clips forward from the timeline playhead on the targeted track.

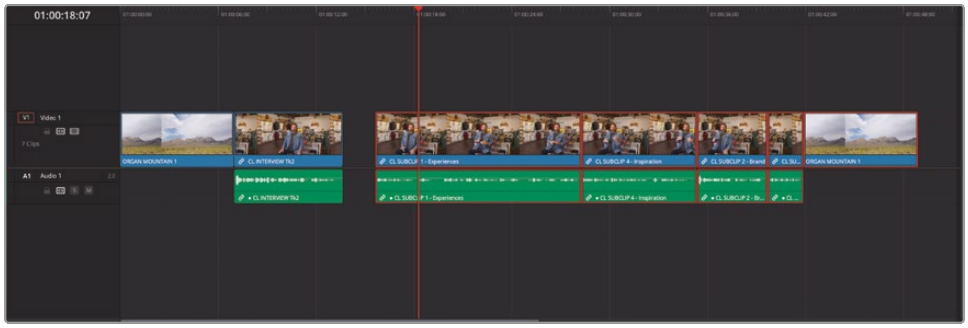


TIP If you have clips on multiple tracks, you can choose Timeline > Select Clips Forward > Select Clips Forward on All Tracks or press Option-Y (macOS) or Alt-Y (Windows).

With all the clips selected, it's easy to move them together.

4 With the clips still selected, type **+200** into the timeline viewer's timecode field.

5 Press Enter (Return).



This moves the selected clips forward by 2 seconds, leaving a gap. This is an arbitrary amount that will most likely be adjusted later when you're refining the timeline.

> **NOTE** In DaVinci Resolve 19, you can use the number pad of an extended keyboard to quickly enter timecode values.

6 Press the Down Arrow key to move the timeline playhead to the next edit, and press Y to select all the clips forward of this point.

7 Type **+100** and press Enter (Return) to add a 1-second gap between the second and third soundbites.

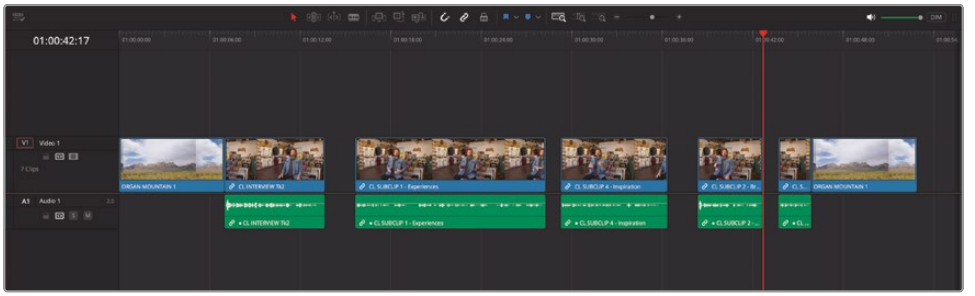
8 Move the playhead anywhere over the fifth clip in the timeline and press Y to again select all the clips forward from the playhead.

9 Again, type **+200** and press Enter (Return) to have the last three clips move forward by 2 seconds, leaving another gap in the timeline.

10 Place the timeline playhead anywhere over the final soundbite clip and press Y.

11 Type **+100** and press Enter (Return) to create a 1-second gap before the payoff of this video, where Chris delivers the tagline, "Experience the Southwest."

12 Click in an empty space in the timeline to deselect all the clips in the timeline.



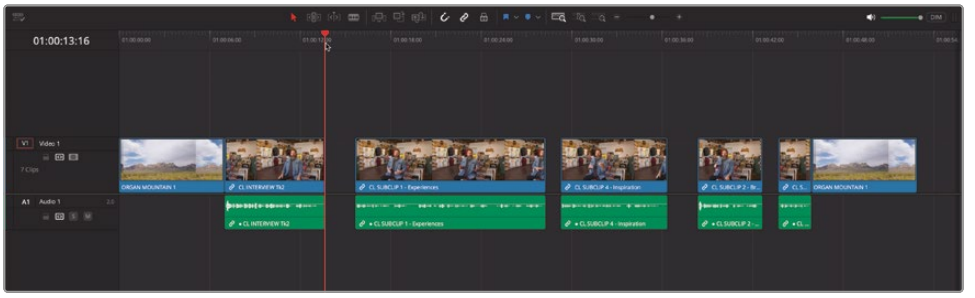
When you play this timeline back now, it might seem very strange to have these gaps. However, once you start covering them with the B-roll clips, Chris's interview will sound more natural and better paced. Think of it as the movie-making equivalent of punctuation!

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 01 / Timelines / **OMO PROMO CATCHUP 02.drt** and click Open.

Painting the Interview

Now that you have the general structure of the edit in place, you can start adding the B-roll. This performs the dual role of making Chris's interview come alive and covering the gaps between the soundbites, pulling the edit into a cohesive whole. This process is often referred to as painting, since you are primarily enhancing the story through pictures. To do this, you will set In and Out points in the timeline to specify the placing and duration of the shots you'll need.

1 Move the playhead so that it snaps to the end of the second clip in the timeline, where the first gap starts.

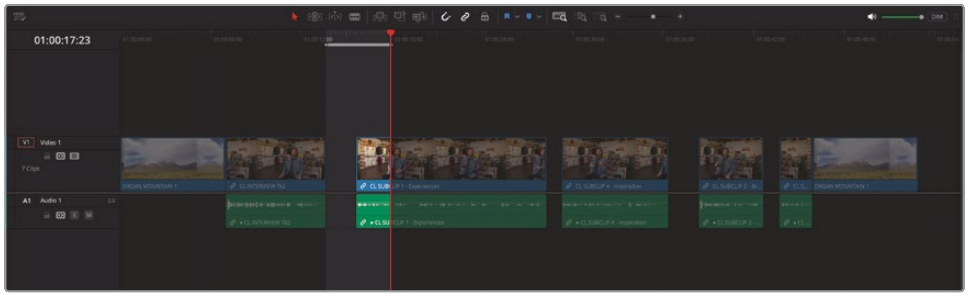


TIP To quickly jump to the start of gaps in the timeline, you can choose Playback > Previous > Gap or Playback > Next > Gap.

2 Press I to add an In point here in the timeline.

3 Play the timeline until Chris says, "... experience the southwest because..." and then stop playback.

4 Press O to add an Out point here in the timeline.



You have now marked a portion of the timeline where you want the first B-roll clip to be edited.

5 Select the ACTIVITIES smart bin and double-click the clip **PINE TRAIL 5** to open it in the source viewer.

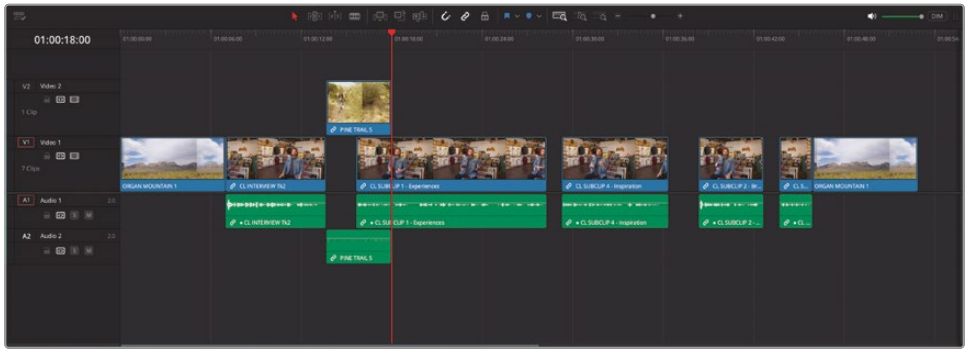
This is a shot of three friends, attired in Organ Mountain Outfitters clothing, walking in the foothills of the mountains.

6 Play the clip from the beginning and add an In point after you hear the director shout, "Go ahead" and the girl is about to take her second step.

Typically, B-roll shots like this tend to be edited on top of the interview already in the timeline as a cutaway. DaVinci Resolve provides an editing function to make this as easy as possible.

7 Drag the **PINE TRAIL 5** clip to the Place on Top function in the timeline viewer overlays.

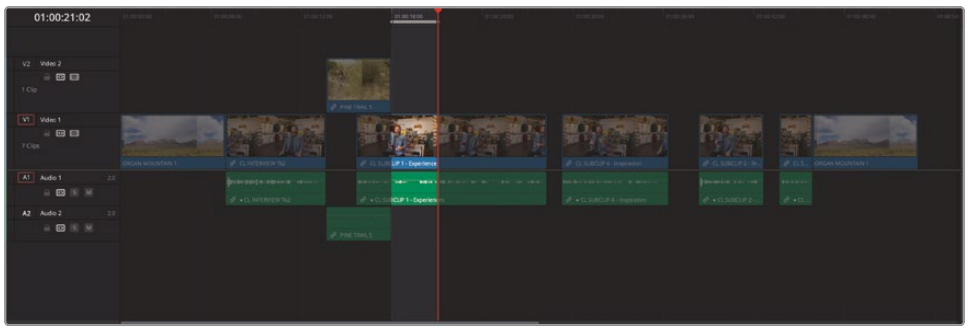
The clip is edited between the In and Out points in the timeline, starting at the In point you set in the viewer. The Place on Top edit has also created an extra video and audio track to accommodate the new clip without overwriting any of the existing footage.



As before, the timeline viewer is now the active window, and the playhead is automatically positioned at the end of the clip you just added to the timeline, ready for you to specify where the next edit should be.

8 Without moving the timeline playhead, press I to add an In point to the timeline.

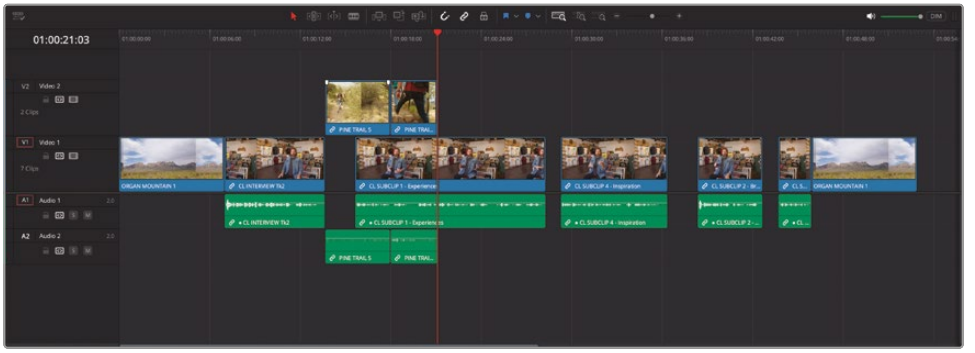
9 Play the timeline and add an Out point after Chris says "...there's nothing like it...."



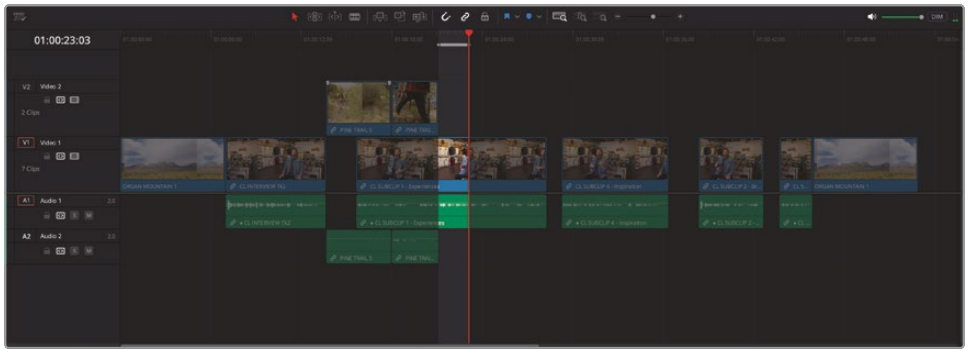
10 From the ACTIVITIES smart bin, open the clip **PINE TRAIL 12** in the source viewer.

11 Set an In point just as the second guy enters the frame and has his left leg outstretched.

12 Choose Edit > Place on Top or press F12 to add the clip to the same tracks as the previous cutaway.



13 With the timeline active, press I to add an In point in the timeline, play forward, and add an Out point after Chris says, "... ever experienced."

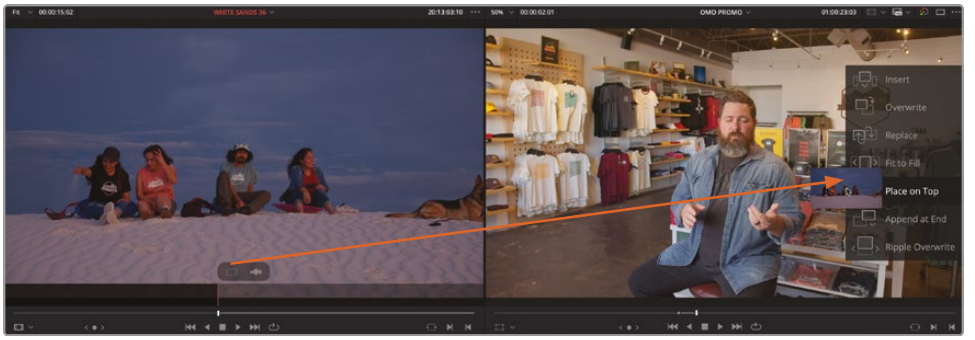


14 From the media pool, open the shot **WHITE SANDS 36** in the source viewer.

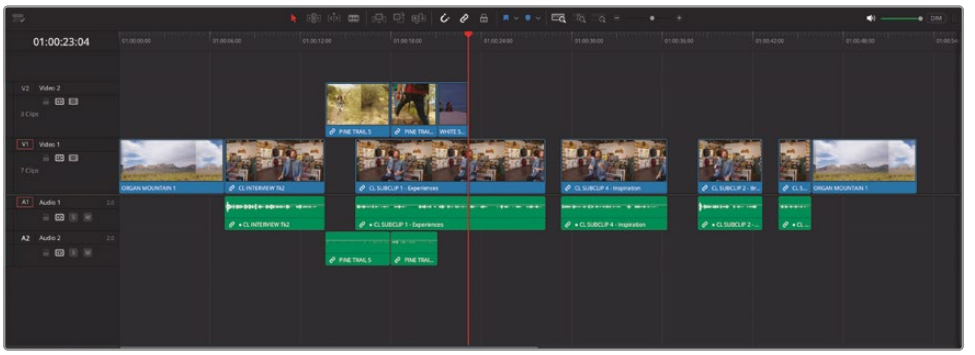
15 Add an In point to this shot after the girl in the pink top starts to move her hair behind her ear.

The wind noise against the camera microphone is a little off-putting for this shot.

16 In the source viewer, click the video-only overlay and drag to the Place on Top overlay in the timeline viewer.

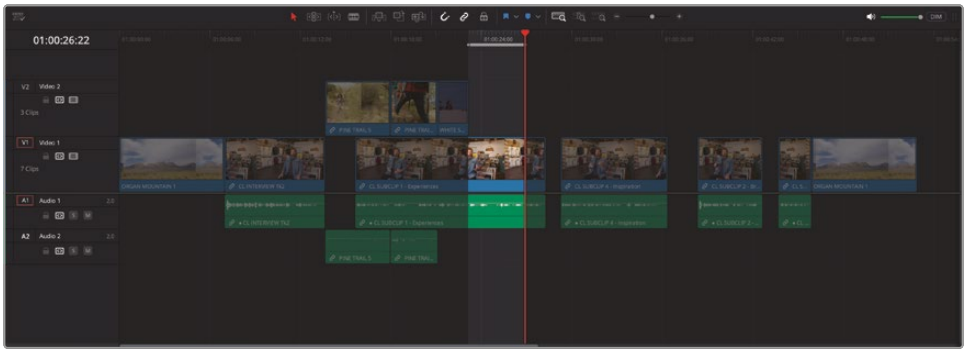


Using the video-only overlay just edits the video portion of this clip into the timeline, not the audio.



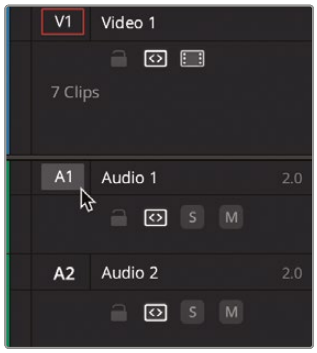
Unfortunately, this technique only works when dragging a clip from the source viewer into either the timeline viewer overlays or the timeline itself. If you want to use shortcuts or editing buttons in the timeline toolbar, you must use a slightly different control.

17 Add an In point to the playhead position in the timeline and an Out point after Chris says, "... the culture, the food...."



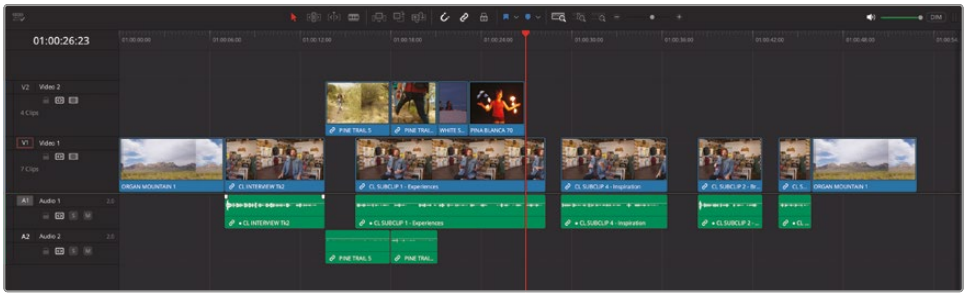
18 From the media pool, open the **PINA BLANCA 70** clip in the source viewer and add an In point near the top of the clip where the girl is spinning the flaming torches.

19 In the timeline, click the destination control for A1 to disable it.

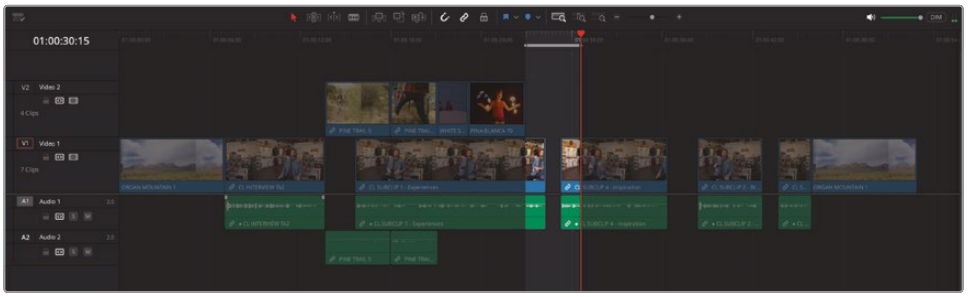


Turning this control off prevents the audio from the source clip being edited into the timeline while allowing you to use editing shortcuts.

20 Press F12 to make a Place on Top edit.

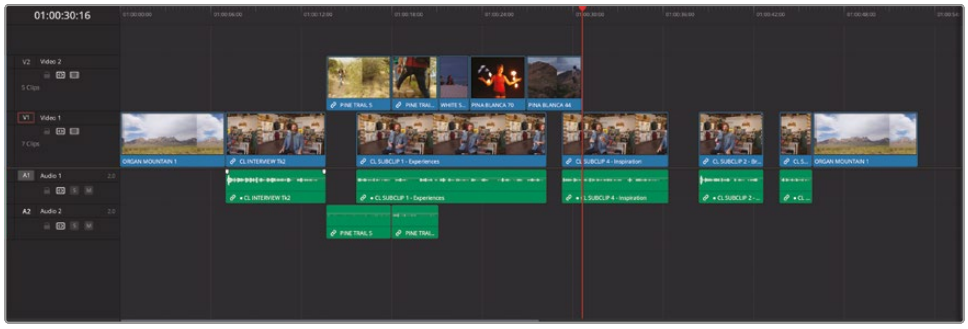


21 Add an In point to the timeline directly after the shot you've just edited, and an Out point after Chris says, ".... really inspires us...."



22 From the media pool, open the clip **PINA BLANCA 44** and add an In point when the guy is about to jump onto the rock.

23 Press F12 to make a Place on Top edit.



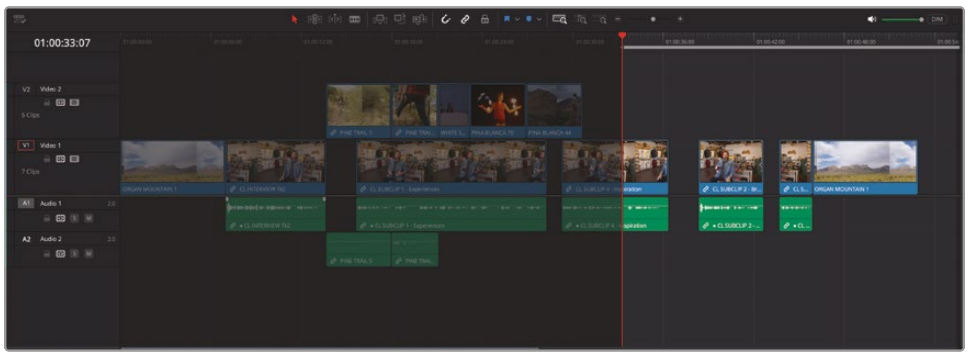
Hopefully, you can see just how powerful an understanding of the different editing techniques can be to quickly add a series of cutaways like this. These shots will likely need trimming, but before you turn your attention to that you will add a few more cutaways to the end of the interview using a variation of the technique you've just been using.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 01 / Timelines / **OMO PROMO CATCHUP 03.drt** and click Open.

Backtiming Edits

When you were adding the first set of cutaways to Chris's interview, you were specifying where each of those shots would start based on the placing of the In point. However, there are certain circumstances when you'll want to edit a clip into the timeline and specify where that shot should end. This process is often referred to as backtiming.

1 Play the third interview clip in the timeline, adding an In point just after Chris says, "...we bring it back to the store...."

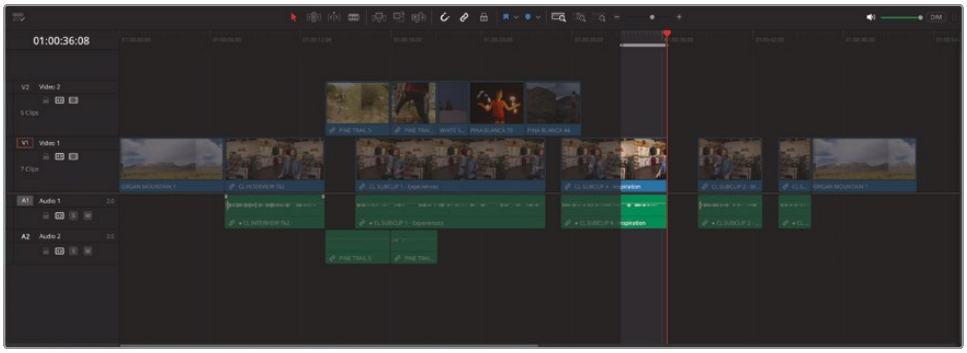


To quickly add an Out point to the end of this clip, you can use a command to jump to the Out point of the clip under the playhead. This is different from simply jumping forward to the next edit because it places the playhead on the last frame of the current clip, rather than on the first frame of the next clip, so that you can add the Out point precisely.

2 Choose Playback > Go To > Last Frame, or press ' (apostrophe).

The playhead jumps to the last frame of the clip, which you can see by the presence of an Out-point symbol in the bottom right of the timeline viewer.

3 Press O to add an Out point.



NOTE The playhead in DaVinci Resolve is inclusive of the current frame, which in practice means that In points are always added at the head, or start, of the frame, and Out points are always added at the tail, or end, of the frame. This means the minimum duration you can mark is 1 frame.

4 From the RETAIL smart bin, locate the clip named **STORE 2** and open it in the source viewer.

This is a clip of Organ Mountain Outfitter's lead designer creating their latest T-shirt design on the computer.

5 Locate the frame, near the beginning of the clip, just before the large black circle appears.

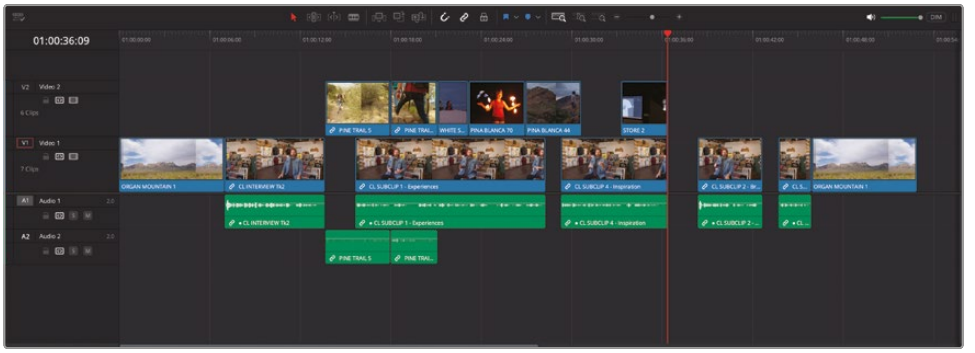
This is where you want this shot to end.

6 Add an Out point at this frame.

In this case, because there is just an Out point and no In point in the source viewer, the clip will be edited to the timeline as expected, but the two Out points will be aligned, meaning the shot will then be backtimed to the timeline In point.

TIP If you need to remove an In point, you can choose Mark > Clear In or press Option-I (macOS) or Alt-I (Windows). Similarly, to remove an unwanted Out point, choose Mark > Clear Out or press Option-O (macOS) or Alt-O (Windows). To remove an In and Out point simultaneously, choose Mark > Clear In and Out or press Option-X (macOS) or Alt-X (Windows).

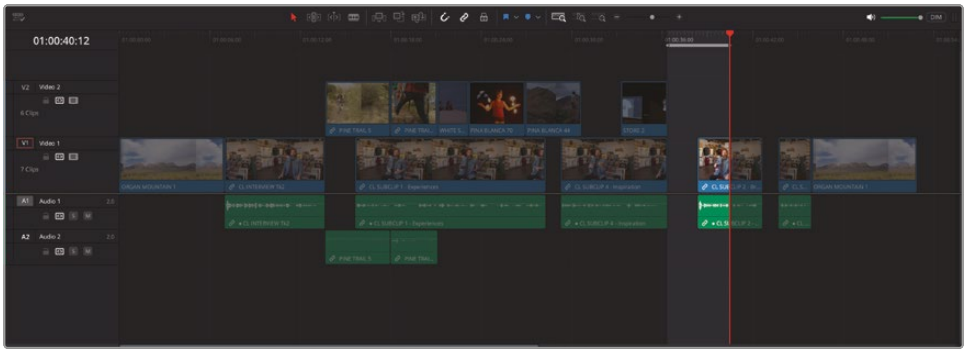
7 Press F12 to make a Place on Top edit.



Next, you'll add a cutaway to help bridge the next gap.

8 Add an In point to the start of the gap in the timeline.

9 Play forward and add an Out point after Chris says, "Our brand is just really a reflection of...."



10 From the RETAIL smart bin, open the **STORE 34** clip in the source viewer.

This clip is a lengthy sequence of a shirt making its way out from the design studio to the shop shelves. You need only the last part of this ambitious shot, though (apologies to the director!).

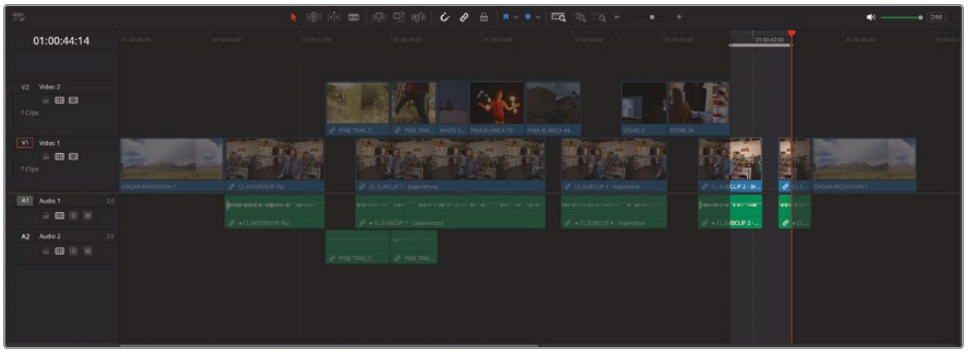
11 In the source viewer, locate the frame where the girl hangs the T-shirt up and has left the frame (near the end of the clip).

12 Mark an Out point.

13 Press F12 to make a Place on Top edit.

14 Add an In point to the current playhead location in the timeline.

15 Add an Out point after Chris says, “That’s why we say….”

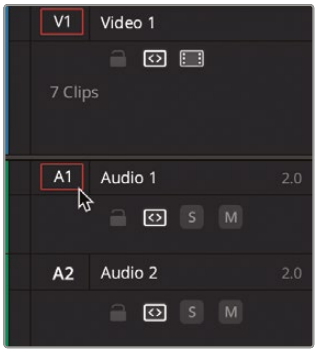


16 From the RETAIL smart bin, open the clip **STORE 28** in the source viewer.

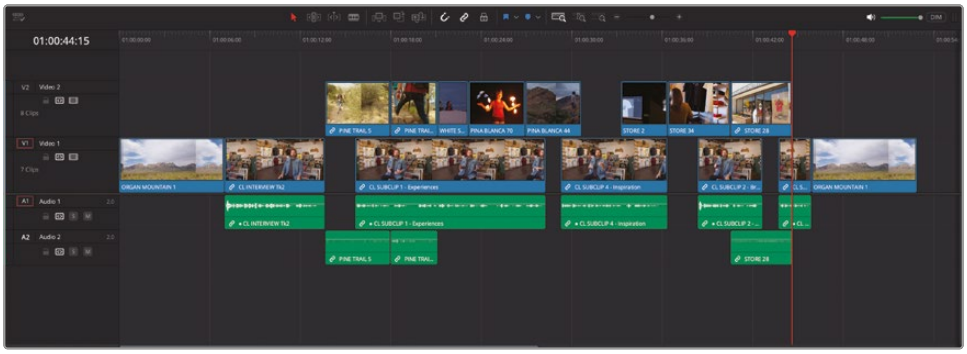
17 Add an Out point on a frame just after the girl in the black hat has exited the store and releases the door.

It would be nice to hear some of the audio recorded with this clip.

18 In the timeline, enable the A1 audio destination control.



19 Press F12 to make a Place on Top edit, with the audio.



With the final cutaway in place, all the jump cuts and gaps between Chris's soundbites have been covered. There's just one final element to add to this timeline to complete the rough cut.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 01 / Timelines / **OMO PROMO CATCHUP 04.drt** and click Open.

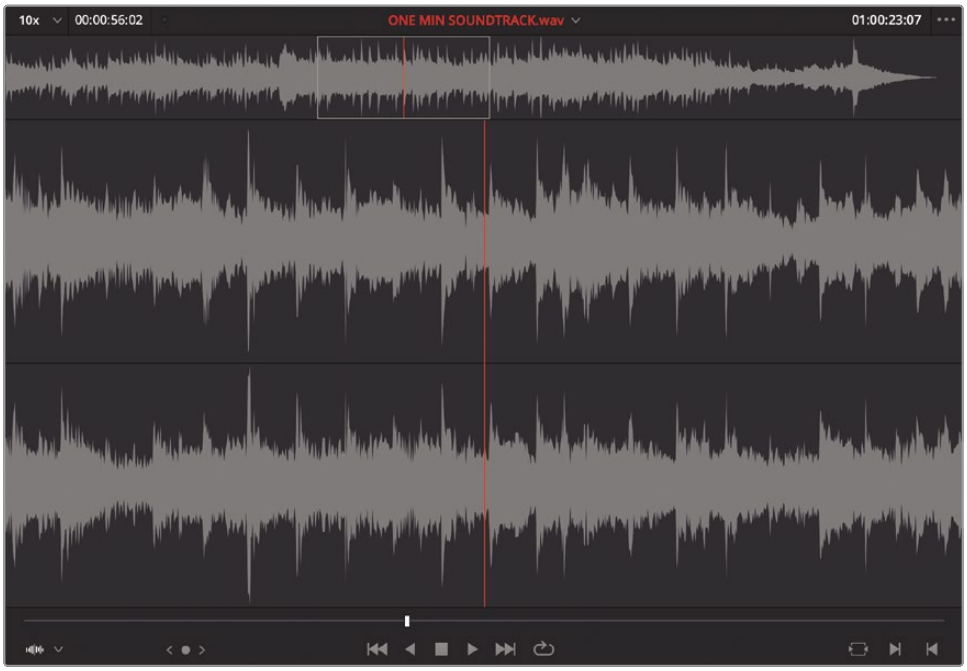
Adding the Music

Music is such an important part of many edits. Whereas the spoken word (scripted dialogue, interviews, or narration) will often convey what we need to know about a subject, music will most often convey what we should feel about a scene or subject. Get the music wrong and the whole edit might communicate the wrong impression completely!

Thankfully, in this case the music has been carefully chosen for you. All you have to do is add it to the current timeline.

1 Ensure that the timeline viewer is selected and press Home to return the playhead to the start of the timeline.

2 Select the MUSIC bin from the bin list in the media pool and open the **ONE MIN SOUNDTRACK.wav** clip in the source viewer.



NOTE When viewing audio-only clips such as this, the source viewer automatically switches to audio mode.

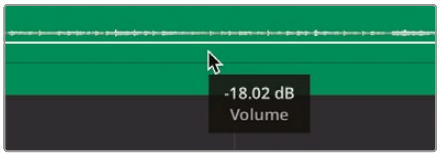
You can add In and Out points to audio clips just as you've done throughout this lesson. In this case, though, it's unnecessary because the music is already just under a minute in length, which is the desired duration for the whole edit.

3 Press F12 to make a Place on Top edit to add the music clip to a new audio track.

The only thing left to do now is attenuate (reduce) the volume of the audio clip so that it more closely matches the rest of the audio in the timeline. It doesn't have to be the ideal level at this time—just low enough that it doesn't overpower the other elements in the timeline as you continue to refine it in the next lesson.

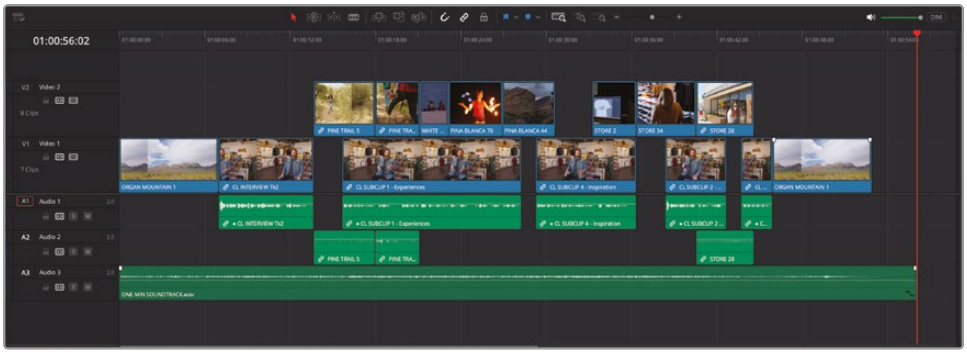
4 Place your mouse over the volume overlay for the audio clip in the timeline, which is represented by a thin white line running through the length of the clip.

5 Click and hold the volume overlay and drag down to reduce the volume of the clip until the tooltip reads about -18 dB.



TIP Hold Shift while adjusting the volume overlay for more precise control.

6 Press Home to return the playhead to the start of the timeline and play back to review the rough cut with the music.



Congratulations! You have completed this first lesson and successfully assembled a rough cut of the Organ Mountain Outfitters promo. Remember, this lesson was about being able to quickly put together a rough cut using the editing tools available in the edit page. However, there is still much, much more to do to refine this timeline before it's ready to show to the client at Organ Mountain Outfitters. This will be the focus of the next lesson.

Lesson Review

1 Where do you access the projects for the current project library?

- **a)** Project Manager
- **b)** Media page
- **c)** Blackmagic Cloud

2 What element is most often used to organize imported clips in DaVinci Resolve?

- **a)** Timelines
- **b)** Thumbnails
- **c)** Bins

3 Which zoom function allows you to manually zoom in and out of the timeline?

- **a)** Full Extent Zoom
- **b)** Detail Zoom
- **c)** Custom Zoom

4 Which of the following can be used to separate long clips into more manageable clips?

- **a)** Source clips
- **b)** Master clips
- **c)** Subclips

5 What is the name given to an edit that uses a combination of two Out points and only one In point?

- **a)** Reversed edit
- **b)** Backtimed edit
- **c)** Append edit

Answers

1. a) The Project Manager contains all the projects for the current project library, although project libraries themselves can be stored locally, on a network, or in the Blackmagic Cloud.
2. c) Bins are most commonly used to organize imported clips in DaVinci Resolve.
3. c) Custom zoom allows you to change the zoom around the playhead manually. You can use the custom zoom slider, keyboard shortcuts, or Option-scroll (macOS) or Alt-scroll (Windows).
4. c) Subclips.
5. b) Backtimed edit.

Lesson 2

Finessing the Rough Cut

In the previous lesson, you created a rough cut for a short promotional video for the outdoor clothing brand Organ Mountain Outfitters. For many, knowing how to quickly create an edit like this is often enough. However, for many other editors, this is only the beginning. Now that the basic structure of the edit has revealed itself, it's time to precisely fine-tune each individual shot and edit so that the piece is as polished as it can possibly be.

To appropriate the 80/20 rule: the rough cut you created in Lesson 1 has accomplished about 80% of the editing required for the promo, but this should be accomplished quickly-within 20% of the available editing time. The remaining 20% of the editing (the trimming, audio mixing, graphics, etc.) will then take up the remaining 80% of the time! As you can see, the job is far from finished!

Time

This lesson takes approximately 75 minutes to complete.

Goals

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Of course, part of the job of the editor is to deliver the final project to meet a deadline—you wouldn't want to miss the movie's opening night!—so it's not surprising that many feel that a job is never really "completed"; it's more that you just run out of time and money!

Setting Up the Project

This lesson starts exactly where Lesson 1 finished. If you completed Lesson 1, you may proceed to the next section in this lesson, "Duplicating and Managing Timelines."

However, if you didn't fully complete the previous lesson, you can always import a catchup timeline to help you get started with this lesson.

> **NOTE** The following steps assume that you have at least completed the first part of Lesson 1 and that you have imported the OMO Promo (Organ Mountain Outfitters promo) project file into your current project library and relinked the offline media. If you haven't, complete those steps as detailed in Lesson 1 before continuing with the following steps.

1. Open DaVinci Resolve and, in the Project Manager, double-click the OMO Promo project to open it in DaVinci Resolve.
2. If necessary, ensure that the edit page is selected.
3. In the bin list, select the TIMELINES bin and choose File > Import > Timeline.
4. Navigate to R19 Beginners Guide/Lesson 02/Timelines, select the file **OMO PROMO CATCHUP 05.drt**, and click Open.

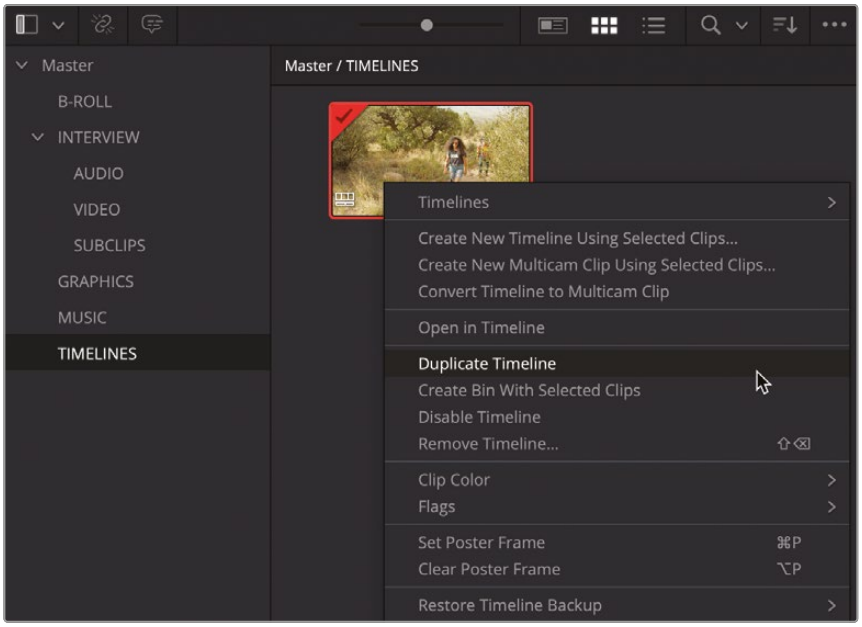
The timeline is imported into the selected bin in your project and automatically opens in the timeline viewer. You can now continue with this lesson.

Duplicating and Managing Timelines

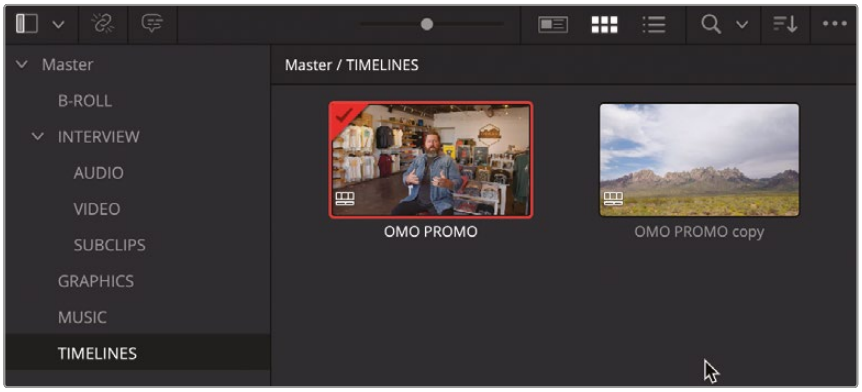
It's generally good practice to duplicate your current timeline before you start making major changes because if you (or your client/director) don't like the subsequent changes you make, you always have a backup copy of the timeline to return to.

1. Choose Timelines > Find Current Timeline in Media Pool to quickly reveal the currently active timeline in its bin.

2 Right-click the current timeline and choose Duplicate Timeline.



A copy of the timeline is created in the same bin.



This duplicate of your active timeline has the same name but with the word *copy* added to the end to signify that this is the duplicated timeline.

Many editors often like to rename the duplicated timeline, usually replacing "copy" with a version number (v1, v2, v3, etc.) so they know what they are looking at in the bin. However, if you leave the name of the duplicated timeline as is, subsequent duplication of the original timeline will result in the name of the new duplicated timeline being incrementally increased (copy, copy 1, copy 2, etc.). This is a useful technique since, firstly, it always means the version of the timeline you're working on is the latest, and, secondly, the automatic names of the duplicated timelines can help to "backtrack" to a previous version of the timeline if needed.

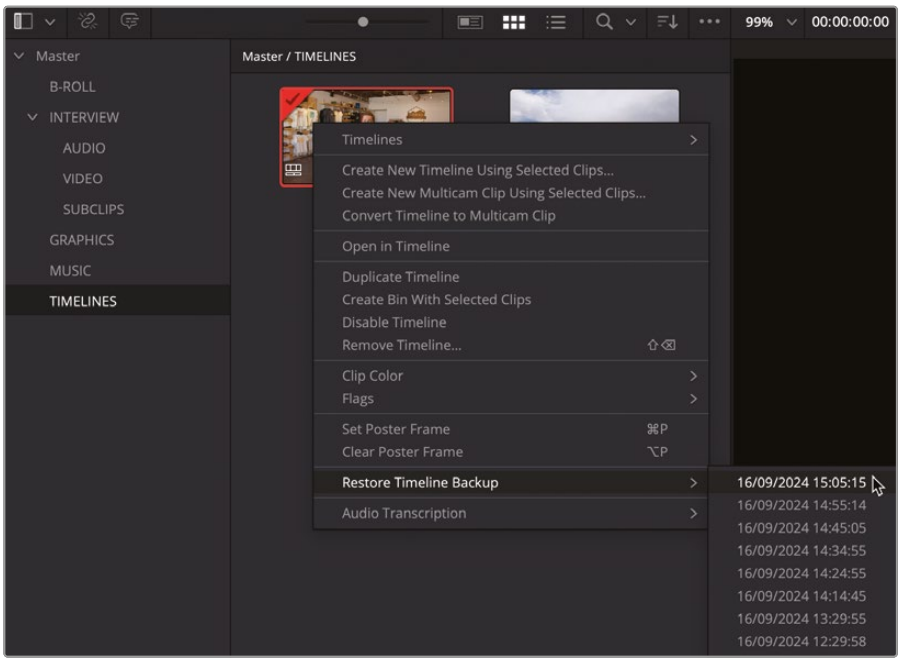
NOTE If you need more detail about when a particular timeline or copy was created, you can click the "I" button in the bottom right of the timeline thumbnail. Alternatively, you can view the Date Modified column using List View in the media pool. You will learn more about the different views in the media pool in Lesson 7, "Project Setup and Preferences."

Restoring a Timeline Backup

Duplicating timelines is a useful step for the reasons outlined above, but it is a step you must undertake manually. Occasionally, you may find yourself in the situation whereby you've been so caught up in the creative process of editing that you have completely neglected to duplicate your timeline! In this case, it would be very difficult to rewind the clock and go back to an earlier version without having to use so many Undo commands that the Z key on your keyboard would wear away!

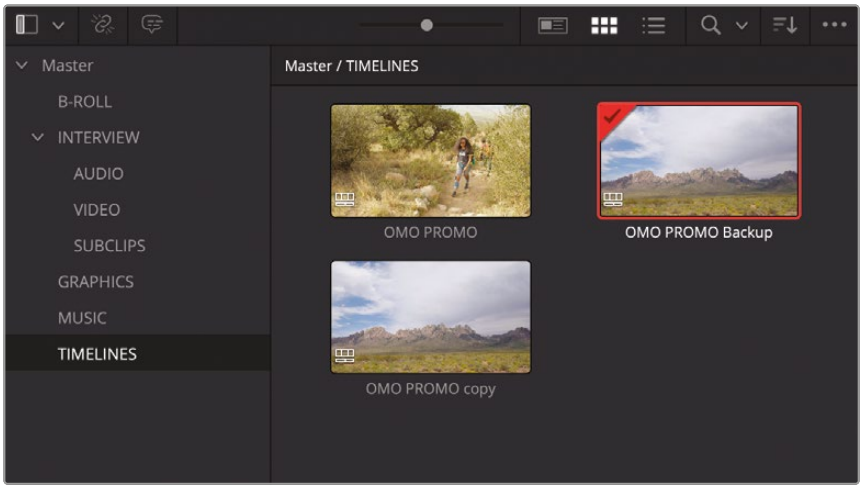
Never fear, though, because DaVinci Resolve has your back and is saving backups of your timelines as you work on them.

1. If necessary, choose Timeline > Find Current Timeline in Media Pool to reveal the active timeline in its bin.
2. Right-click the timeline and choose Restore Timeline Backup.



A list of backups is revealed, date and time-stamped when the backup was created.

3 Choose a backup timeline to restore.



The backup timeline doesn't overwrite the original timeline but adds the restored timeline to the current bin as a separate timeline with the word "Backup" added to the timeline name.

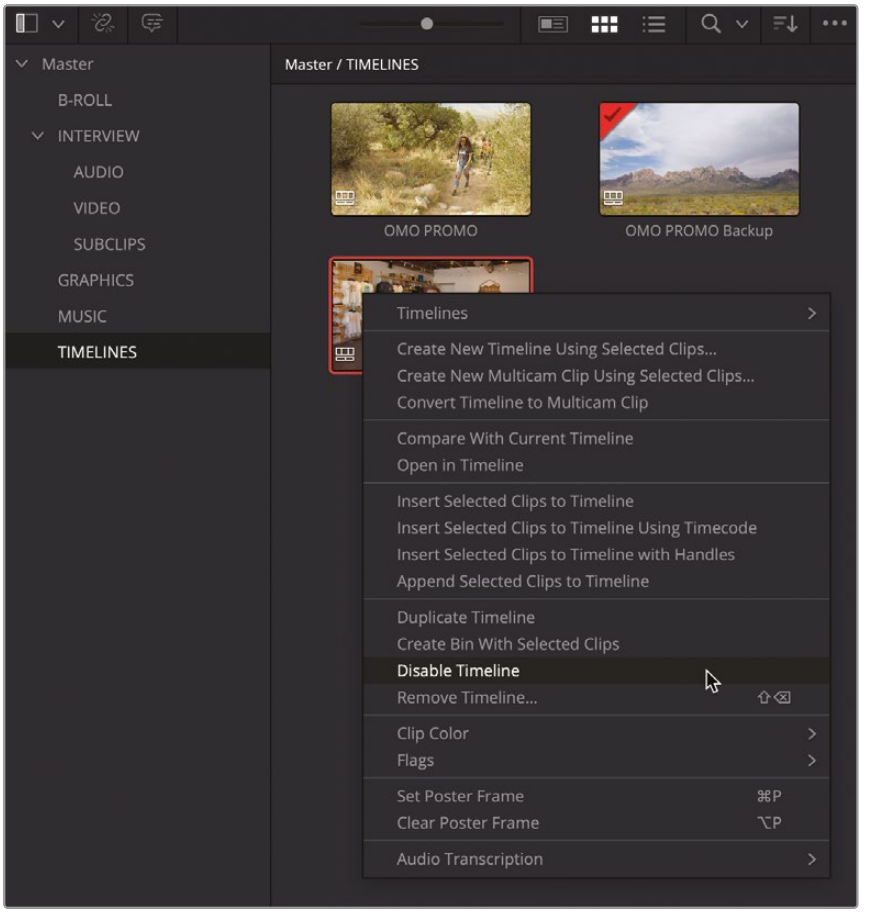
NOTE If the Restore Timeline Backup option isn't available, then no backups are available for that timeline. In this case, make a few changes and check again after a few minutes' work. The time increments between each timeline backup can be viewed and adjusted by using DaVinci Resolve's User Preferences, which you will explore in more detail in Lesson 7.

Disabling Unused Timelines

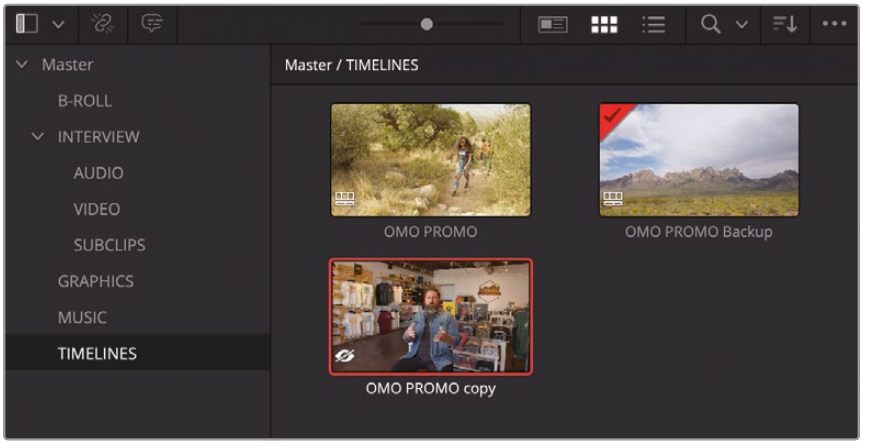
Projects often contain many timelines: different versions of the same edit you create yourself, possibly different cuts of the same material (such as a "Director's Cut"), timelines containing separate scenes, and even backups you need to restore. You might want to keep many of these timelines in the project in case they are useful later, especially if you ever need to restore a deleted scene without having to re-edit it from scratch!

You can use bins to help organize these duplicated timelines so that you always know which timeline you should be working on. Alternatively, you can always disable a timeline you're not using.

1 To disable any unused timelines, right-click the timeline(s) in the media pool and choose Disable Timeline(s).



A disabled timeline's thumbnail is replaced by a struck-through eye.



Disabled timelines cannot be opened without first re-enabling them, and they won't appear in the timeline viewer dropdown list.

2 To re-enable a previously disabled timeline so you can open it and use it again, right-click the disabled timeline(s) in the media pool and choose Enable Timeline(s).

You now have a greater degree of understanding when it comes to managing your working timelines and restoring backups. Ensure that you have at least one backup of the current **OMO PROMO** timeline in the media pool, and you can now continue to finesse the Organ Mountain Outfitters promo.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 02 / Timelines / **OMO PROMO CATCHUP 05.drt** and click Open.

The Editor's Art

Trimming is the term given to adjusting a clip's In and Out points once it is in the timeline and is arguably the most important skill an editor possesses. Trimming allows you to adjust the start of a clip, the end of a clip, the start and end of a clip, or, in certain circumstances, the start and end of other timeline clips.
DaVinci Resolve has one of the most flexible, fully featured trimming toolsets of any nonlinear editor (NLE), allowing you to perform complex timeline adjustments intuitively and precisely.

Beyond simply cutting a clip and removing large sections of unwanted footage, trimming in DaVinci Resolve generally occurs in one of two timeline modes: Selection mode or Trim Edit mode.

Selection mode allows you to move clips around the timeline and adjust their durations simply and easily. This is the most intuitive way to begin trimming clips in Resolve's timeline.

Trim Edit mode unlocks the true power of the trimming functions. In this mode, you can ripple edit points, as well as slip the content of a shot and slide the position of a shot in relation to its neighboring clips.

All the trimming features in Resolve can also be applied to multiple clips or multiple edit points simultaneously and can be made by clicking and dragging with your mouse or using keyboard shortcuts for the utmost precision.

Trimming the Timeline Clips

In the previous lesson, you added a series of cutaways to "paint" the interview by adding In and Out points to the timeline and quickly editing the B-roll footage using the Place on Top edit. Following the steps in the lesson, you didn't spend much time reviewing each of those edits as you made them, focusing instead on just getting the material into the timeline. Now, though, you can start to consider how those shots are working together, trimming each one as appropriate.

You will begin by trimming some of the clips in the OMO Promo timeline using Selection mode.

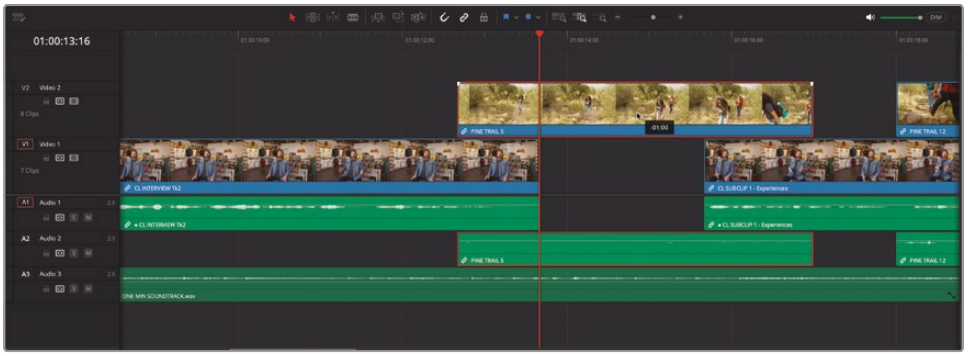
1 Place the timeline playhead at the beginning of the first interview clip and review the first group of cutaways on the VIDEO 2 track.

The edit is functional but feels a little loose, especially coming out of the interview clip into the first cutaway of the friends walking up the path in the foothills.

2 Return the playhead to the start of the first clip on VIDEO 2, **PINE TRAIL 5**.

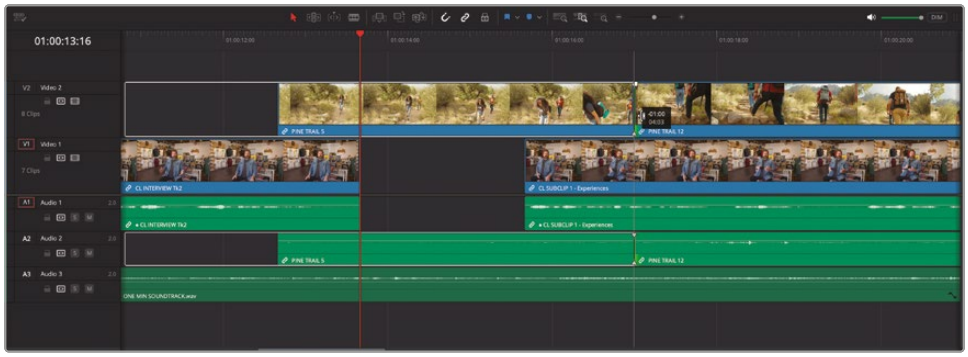
3 Click the Detail Zoom button to zoom in on the playhead position in the timeline.

4 Select the clip on VIDEO 2 to select **PINE TRAIL 5** and drag it backward by about a second (-01:00 in the tooltip).



Unfortunately, moving the clip like this has left a gap in the cutaways, which disconcertingly cuts back to the underlying clip of Chris's interview on V1. You will need to trim the start of the next clip on VIDEO 2 to fill this gap.

5 Click the start of the second clip on VIDEO 2, **PINE TRAIL 12**, and drag backward until it snaps to the end of the previous clip.



This process has lengthened the second clip by one second to fill the gap created when you moved the first clip.

> **NOTE** The white outline shows the available *handles* for the trimmed clip—that is, the portion of this clip not currently being used in the timeline but that can still be used if required.

6 Return the playhead to the start of the first interview clip and play back to review the changes you've just made.

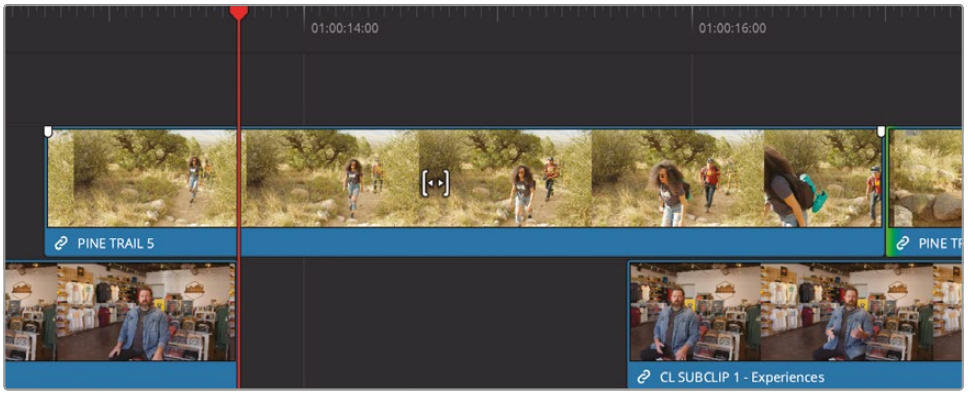
Slipping Clips

Simply bringing the first cutaway in slightly earlier makes the edit feel a little "tighter," but the edit point between the first and second cutaway clips now feels a little more awkward because you've changed the point at which the second clip starts. To refine this edit point, you will slip each shot in turn using Trim Edit mode.

1 Click the Trim Edit Mode button in the timeline toolbar or press T.

The Trim Edit button turns red to indicate that Trim Edit is now active. You will also see that the mouse pointer has changed from the arrow of Selection mode to a trim symbol.

2 Move your mouse pointer over **PINE TRAIL 5**.



The Trim Edit mode is contextual, meaning that it will have different functions depending on where you place your cursor. When you place your mouse pointer over the middle of the clip, the trim symbol changes to a slip icon to reflect the type of trim you are about to perform.

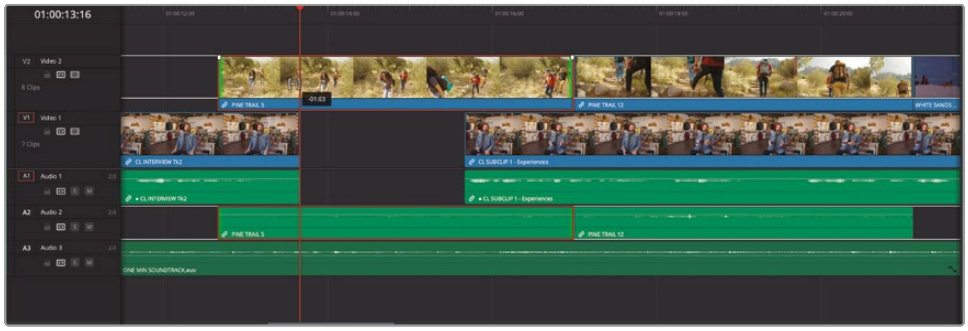
3 With the slip icon displayed, click **PINE TRAIL 5** and drag left in the timeline.

This time, because you are in Trim Edit mode, the clip does not move in the timeline. Instead, you will see that you are slipping the clip within its own In and Out points!

The timeline viewer has automatically changed to a four-up multi-view preview of the change you're making.

The top two images show the start and end (the In and Out points) of the currently selected clip, **PINE TRAIL 5**, and the bottom two images show the last frame of the previous timeline clip (Chris's interview on V1, **CL INTERVIEW Tk2**) and the first frame of the following timeline clip (the second cutaway on VIDEO 2, **PINE TRAIL 12**).

In the timeline itself, you will also see a white outline extending from the start and end of the clip being slipped, again indicating the available handles of that clip.



4 With **PINE TRAIL 5** selected, drag to the left to slip the shot until the top-right image in the multi-view preview shows the guy in the red shirt stepping forward with his left leg forward (about -01:00 in the tooltip), and then play the first clip on VIDEO 2 to review the change.

Things seem to work well. However, it's always worth playing with an edit to see how it might be further improved.

5 Select **PINE TRAIL 12** and slip it to the left so that the top-left image in the muti-view preview has the same guy with his left leg extended in a similar manner.

TIP You can use the lower-left image (which now shows the last frame of **PINE TRAIL 5**) to help visually match the two shots.

6 Return the timeline playhead to the beginning of the first interview clip on V1 and play back to review the changes you've just made.

Even though you haven't adjusted the timing of the gap between the two interview clips on V1, by trimming and finessing the edit between the cutaway shots, the edit feels slightly tighter as a result.

NOTE More often than not, you will find that you need to use different trimming operations in combination. In the previous steps, you trimmed the start of one clip but then needed to slip both clips to refine how the first shot cut to the second. As you will see, this is common to most trimming operations.

Rolling Edits

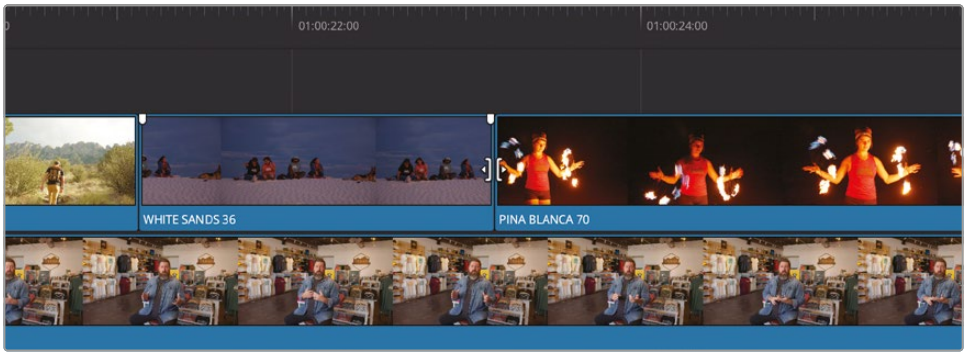
Another useful trimming function is the roll edit, which allows you to reposition an edit point by trimming two neighboring clips at the same time.

NOTE In DaVinci Resolve, roll edits can be made in both Selection and Trim Edit modes; the functionality is the same.

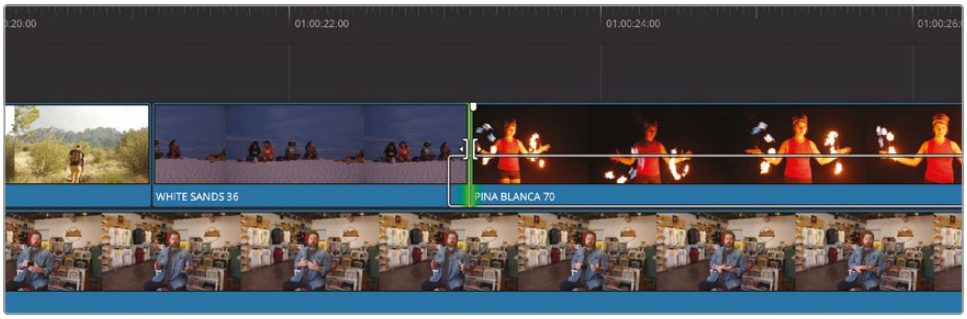
1 Position the timeline playhead at the start of **PINE TRAIL 12** and play the next four cutaways.

The shot of the four friends smiling for the camera, **WHITE SANDS 36**, is a little short when viewed in context with the other cutaways.

2 Place your mouse pointer over the center of the edit between **WHITE SANDS 36** and **PINA BLANCA 70**, so it displays the roll icon.



3 Click to select both sides of the edit: the end, or Out point, of **WHITE SANDS 36** (referred to as the outgoing clip) and the start, or In point, of **PINA BLANCA 70** (referred to as the incoming clip).



4 Trim the selected edit to the right for about a second (+01:00 in the tooltip).

This rolling trim adds footage to the end of the outgoing clip but also trims the same duration of footage from the start of the incoming clip, so it doesn't leave a gap.

5 Return the timeline playhead to the start of **WHITE SANDS 36** and review the change you've just made.

6 Now that the timing of each of the cutaways seems to work better, click the Full Extent Zoom button to zoom out and see the entire timeline.

Creating Split Edits

Rolling edit points is most useful when it comes to creating split edits. *Split edit* is the term used to refer to an edit for which the sound and picture cut at different times and is a technique employed by editors in all genres around the world.

> **NOTE** Technically, you have already made a basic split edit when you moved the **PINE TRAIL 5** clip back a second, overlapping the end of **CL INTERVIEW Tk2** before Chris finishes speaking.

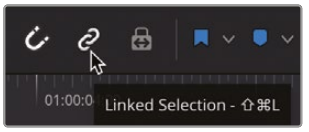
To see how split edits are created, you will roll the video edit between the opening shot and the first interview clip so that Chris starts his introduction while the viewer is still looking at Organ Mountain.

1 In the timeline, place the playhead on the edit of the opening timelapse shot of Organ Mountain, **ORGAN MOUNTAIN 1** and **CL INTERVIEW Tk2**.

2 Click the Detail Zoom button to increase the timeline zoom so it's easier to concentrate on this edit.

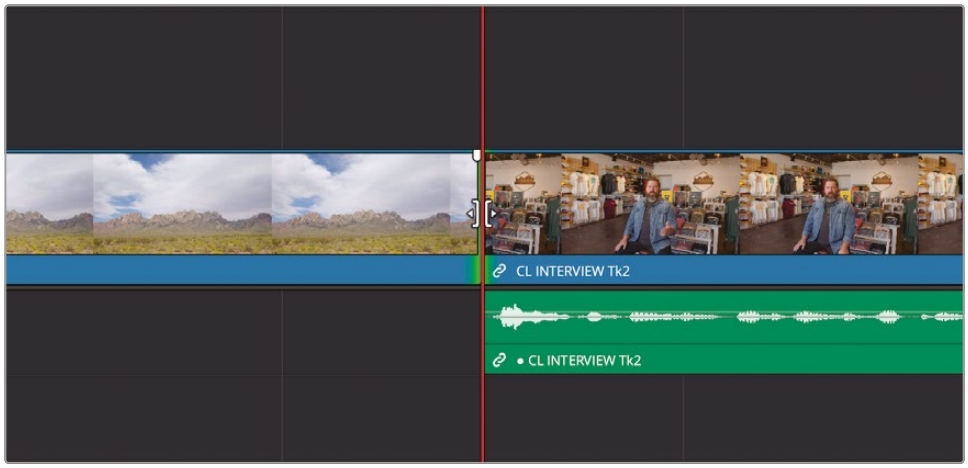
At this point, you will only want to adjust the video edit, not the audio edit.

3 In the timeline toolbar, click the Linked Selection button.



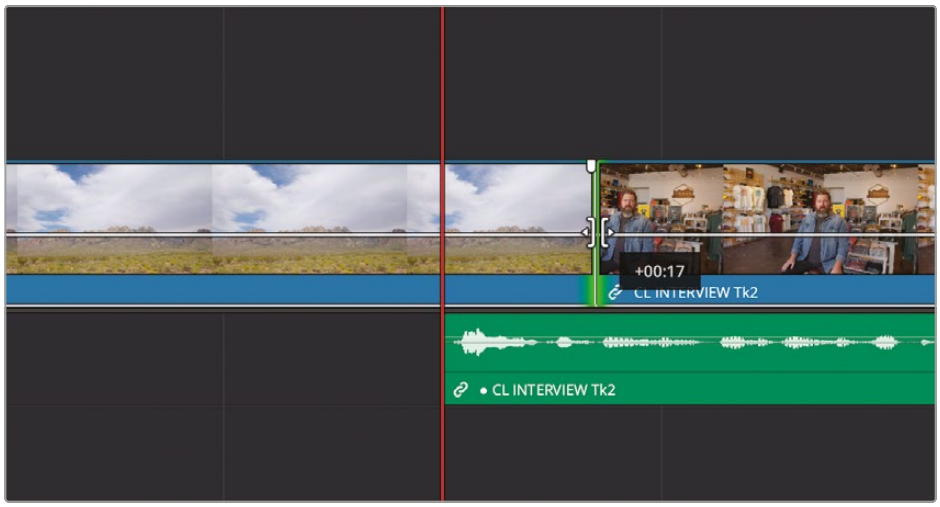
Linked Selection is used for automatically selecting both the video and audio parts of linked timeline clips and makes it easy to quickly trim both parts of a clip together. Linked clips are indicated by the presence of the chain icon before the clip name in the timeline.

4 Click the edit point between the **ORGAN MOUNTAIN 1** and **CL INTERVIEW Tk2** clips to select just the video edit point.



NOTE You can move the playhead out of the way so it's easier to see the edit point.

5 Drag the Selected edit point forward by about 15 frames (+00:15 in the tooltip).



You can also use the two-up display in the timeline viewer to view the outgoing and incoming sides of the edit, so you can adjust the edit visually when Chris has lowered his hand to his knee in the incoming shot.

This results in the **ORGAN MOUNTAIN TIMELAPSE** extending slightly into the **OMO INTERVIEW 01** visuals and over the audio.

> **NOTE** This type of split edit is often referred to as a *J-cut* because of the implied shape it creates between the video and audio edits. Rolling the video edit to the left of the audio edit creates an *L-cut*.

6 Once complete, review the change you've just made.

Split edits like this are very powerful since they help an edit knit together better. Rather than a clumsy sound and picture cut, you now have a sophisticated edit in which Chris's audio preempts the visual cut, making it feel a little less abrupt.

Ripple Trimming Multiple Edit Points

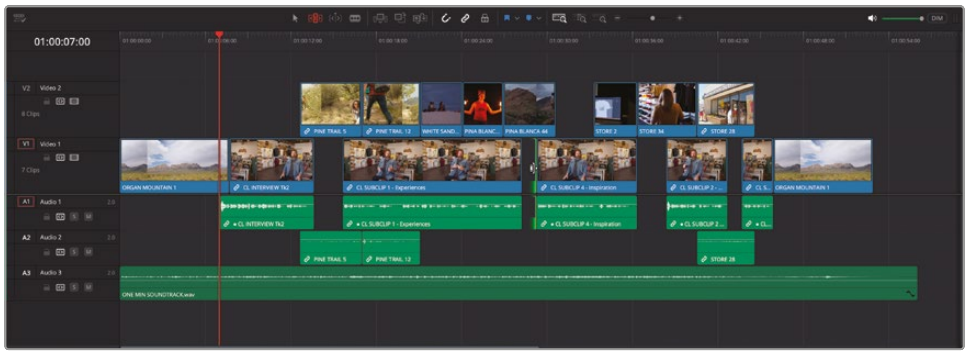
Another powerful function of the timeline's Trim Edit mode is the ability to ripple edit points. Rippling edits is very useful when you want to refine the timing or pacing of shots because, unlike with Selection mode, the changes you make aren't confined to the clip(s) you have selected. Instead, the change in duration ripples through the rest of the timeline.

In the current timeline, you can use a ripple edit to adjust the pacing of the gaps between the interview clips.

1 Click the Full Extent Zoom button to view the entire timeline.

2 Click the Linked Selection button or press Shift-Command-L (macOS) or Shift-Ctrl-L (Windows) to re-enable Linked Selection.

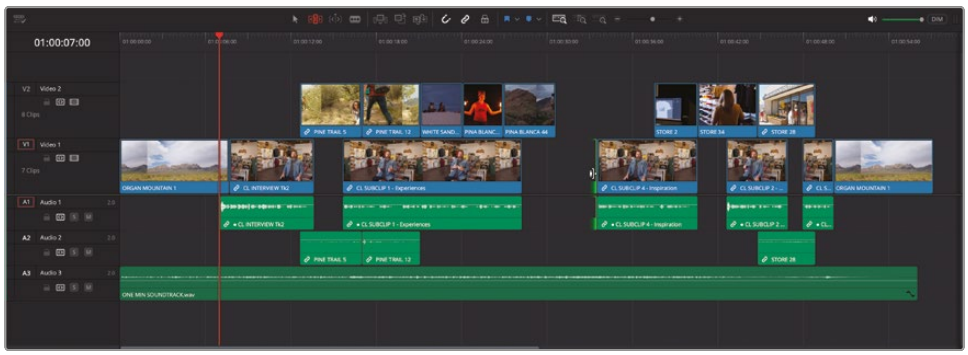
3 With Trim Edit mode still selected, click the outgoing edit of the second gap, just before the third interview clip, **CL SUBCLIP 4 – Inspiration**.



Even though there isn't actually a clip at this point in the timeline, the "outgoing" part of the gap is selected.

> **NOTE** On a laptop, you might need to zoom in closer to this edit to select it effectively.

4 Drag the selected edit point to the right to begin lengthening the gap.



As you do this, you'll notice that all the other clips starting after the selected edit are also being adjusted based on the change you're making. This is the power of ripple edits.

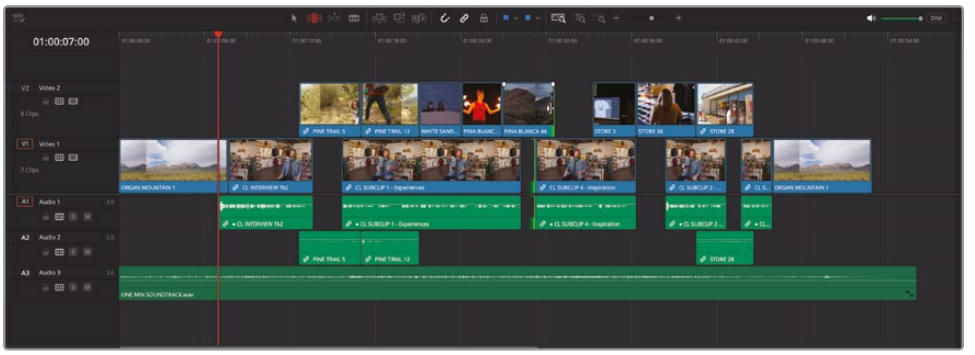
However, the clip covering the gap between the second and third interview clips, **PINA BLANCA 44**, isn't included in this change because it starts before the selected edit. As a result, that clip's position remains unchanged, so you will end up cutting back to Chris's interview at a different place!

While it should be no problem to simply roll the end of the cutaway of the guy on the rock, sometimes it's easier to trim multiple edit points together.

5 Release the mouse button and choose Edit > Undo or press Command-Z (macOS) or Ctrl-Z (Windows) to undo any changes that you might have made to this edit.

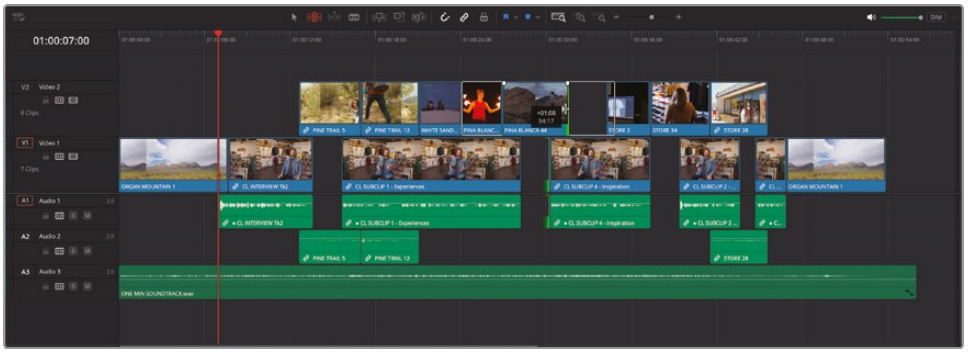
> **TIP** You can view a complete list of the steps you can undo and redo by choosing Edit > History > Open History Window.

6 With the end of the gap still selected, Command-click (macOS) or Ctrl-click (Windows) the end of **PINA BLANCA 44** on VIDEO 2.



By selecting both of these edit points, you can now trim them together.

7 Drag the selected edit on VIDEO 2 to the right to add about 1 second to the duration of this clip and the selected gap below.

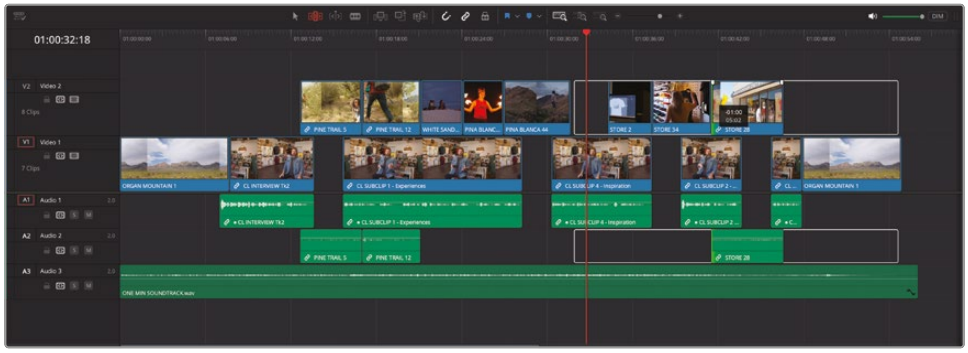


8 Play back this part of the timeline to review the change.

Lastly, you will adjust the final gap between the soundbite clips by rippling the start of the final clip on Video 2.

9 Click the start of **STORE 28**.

10 Ripple the start of the **STORE 28** clip backward by a second (-01:00 on the tooltip).



By ripple trimming the start of the clip on VIDEO 2, all clips that start after this point will also be rippled. This has the effect of increasing the duration of the gap below the **STORE 28** clip.

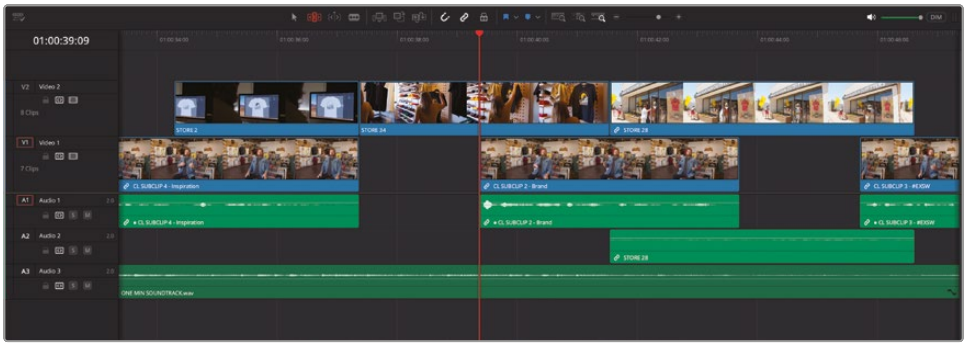
Sliding Clips

The fourth type of trim that you can make in Trim Edit mode is the slide edit. Slide edits are probably the least used type of trimming operation, but it's still useful to know that they're available to you.

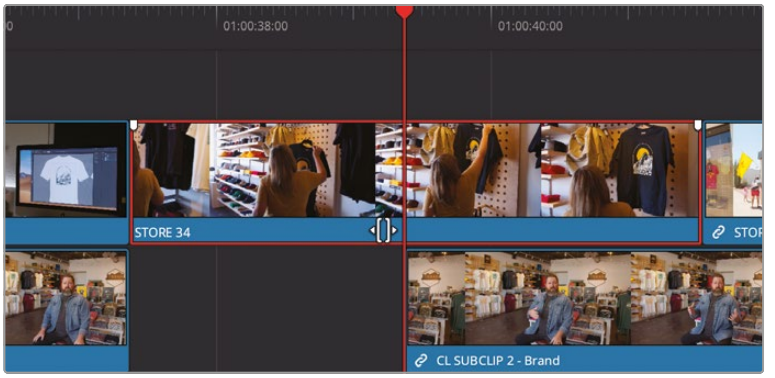
Like a slip edit, slide edits are made to selected clips, but they primarily affect the outgoing and incoming clips on either side of the selected clip(s). The net result is that the clip slides between the two clips on either side.

1 Place the timeline playhead over the middle of the final three cutaways on Video 2 and click the Detail Zoom button.

2 If necessary, readjust the timeline zoom and scroll so you can comfortably see the three clips on Video 2.

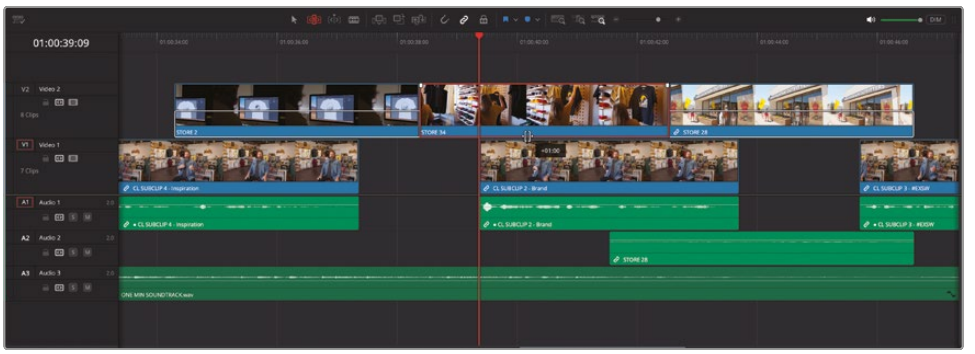


3 Ensure that the timeline is still in Trim Edit mode and place your mouse pointer over the lower part of the second of the final three middle cutaways, where you can read the name of the clip, **STORE 34**.



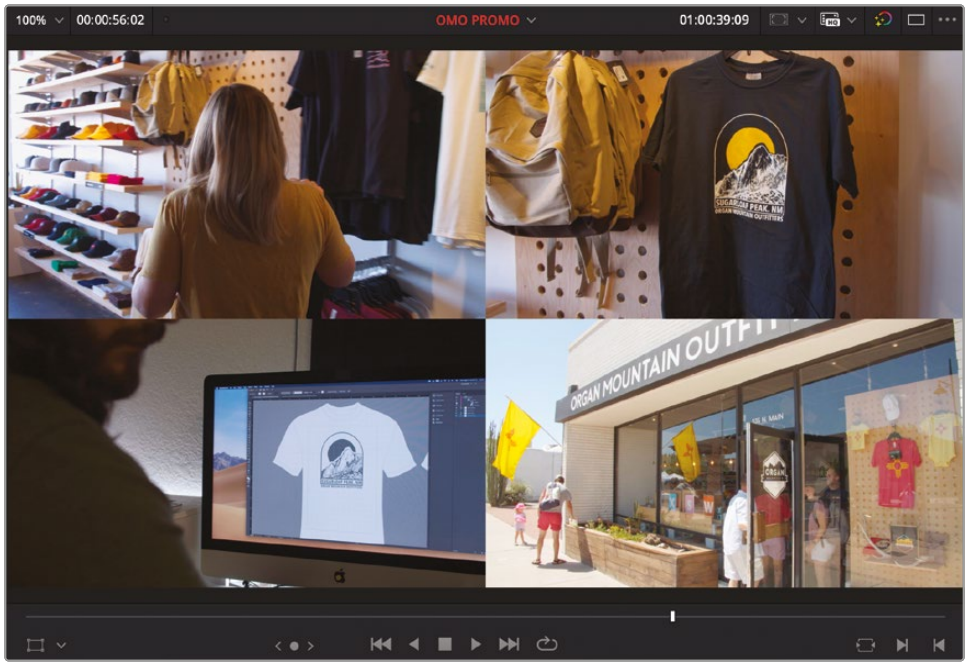
When in Trim Edit mode, the cursor changes to the slide icon when placed over a clip's name bar.

4 With the slide icon displayed, click and hold **STORE 34** and drag right, pressing N to disable snapping if necessary to slide the clip by 1 second (+01:00 in the tooltip).



TIP When you disable snapping by pressing N when in the middle of adjusting a clip like this, snapping will be automatically re-enabled when you release the mouse button.

When sliding the clip, you'll notice in the four-up preview viewer that the two lower clips are being adjusted.



These are the outgoing and incoming frames of the two clips on either side of **STORE 34** in the timeline: **STORE 2** and **STORE 28**, respectively.

Excellent! You should now have a fuller appreciation of how DaVinci Resolve's Trim Edit mode functions in practice.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 02 / Timelines / **OMO PROMO CATCHUP 06.drt** and click Open.

Replace Edit

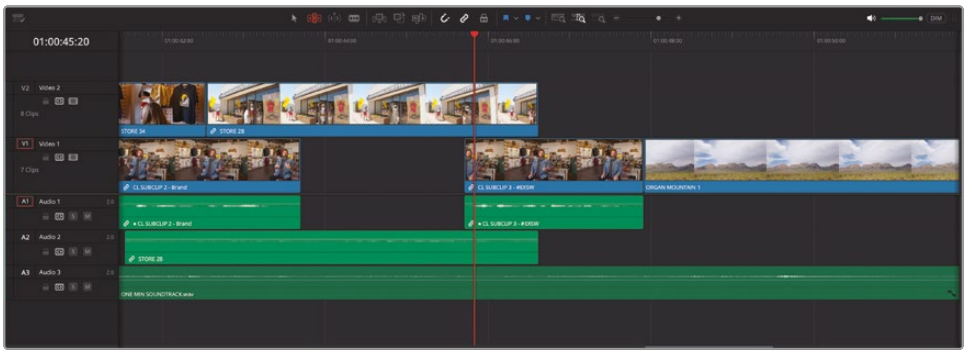
Another useful function that can help you finesse the edit is the replace edit. This type of edit allows you to quickly change an existing clip in the timeline for alternative takes or even completely different shots.

The replace edit is slightly different from the editing functions you've learned previously because it primarily uses the positions of the timeline and source playheads to align the edits, rather than the traditional In and Out points.

1 In the timeline, play the final interview clip and listen to Chris deliver his "experience the southwest" tagline.

Arguably, it's not exactly his best delivery, especially since this is the final dialogue of this promo video. Luckily, this wasn't the only take of this spoken line.

2 Click the Detail Zoom button to zoom in to the clip and place the timeline playhead where Chris begins to say, "And that's why we say..." using the waveforms as a guide.



3 From the INTERVIEW smart bin, double-click the clip **CL INTERVIEW Tk7** to open it in the source viewer.

This clip contains a marker to help you locate the correct part of this clip.

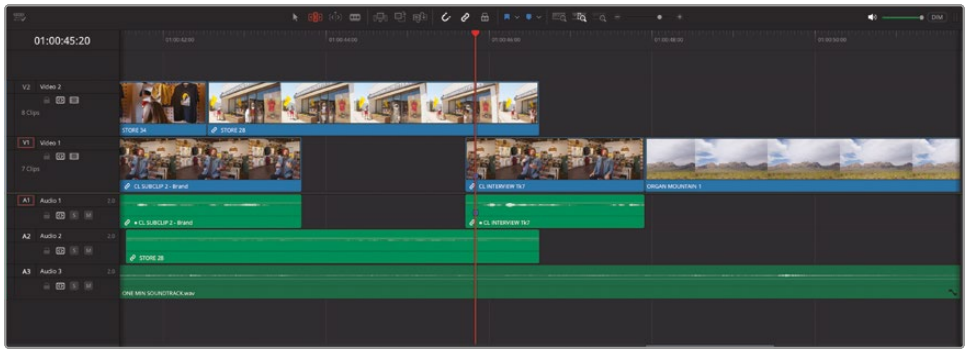
TIP You can add your own markers to a clip in the source, in the timeline, or to the timeline itself by pressing M. Double-click any existing marker to change the name and color of the marker and add comments or keywords. You will learn more about adding and working with markers in later lessons.

4 If the source viewer playhead is to the left of the marker, press Shift-Down Arrow to jump forward to the marker; if the source playhead is to the right of the marker, press Shift-Up Arrow to jump back to the marker.

Once the playhead is on the same frame as the marker, an overlay in the source viewer shows details about the marker.

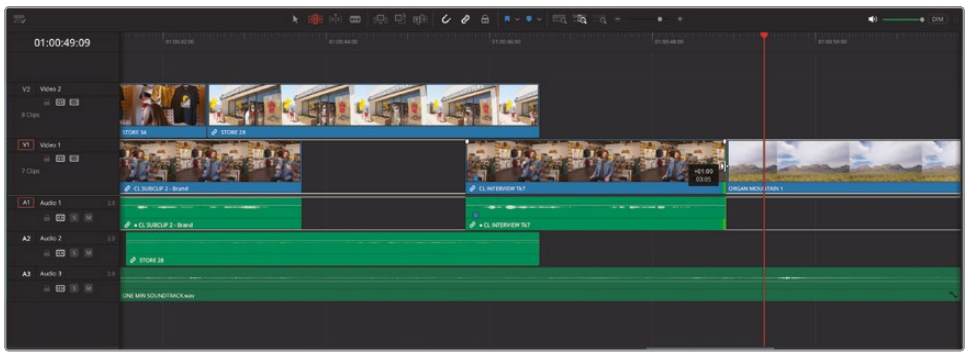
5 Drag the clip from the source viewer to the replace edit in the timeline viewer overlays.

The clip in the timeline is replaced by the clip in the viewer. Notice that the marker from the source clip appears under the position of the timeline playhead.

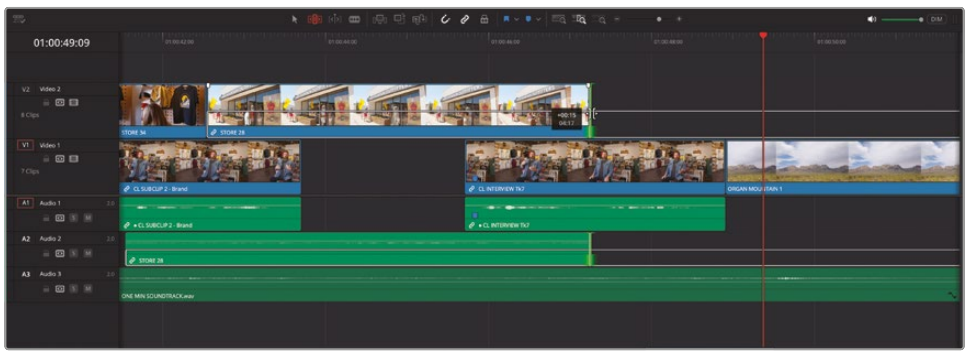


However, since this alternative take of the “experience the southwest” line was delivered slightly slower than the one you originally used, you’ll need to do a bit of trimming.

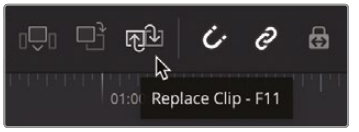
6 If required, press T to enable Trim Edit mode and ripple trim the end of the new clip by about 1 second (01:00 in the tooltip).



7 Roll the end of the last clip on Video 2, **STORE 28**, so that you cut back to Chris’s final interview clip on Video 1 after he has put his hands on his knees.



The replace edit is one of the most useful types of edits beyond the usual overwrite and insert edits. In fact, it's so common to use the replace edit that it is one of only three editing functions available in the timeline toolbar.



NOTE On macOS systems, you might need to make a further change to the default keyboard functions in order to use F11 as the shortcut for replace edits. Select the Apple menu > System Settings and choose Keyboard > Shortcuts > Mission Control, and either deselect or change the shortcut used for Show Desktop.

Specifying Destination Tracks

In the previous lesson, you started by editing a series of clips onto the first video and audio tracks in the timeline: Video 1 and Audio 1. The clips you subsequently added as cutaways were edited onto additional tracks (Video 2 and Audio 2, and then Audio 3 for the music) using the Place on Top edit, which automatically created those additional tracks as they were needed.

NOTE You can create new tracks manually by right-clicking the track controls for any track in the timeline and choosing Add Tracks. Right-clicking the controls for a video track will allow you to create a new video track directly above it (e.g., right-clicking the track controls for Video 2 and choosing New Track will automatically create a Video 3 track) and right-clicking the track controls for an audio track will allow you to create a new audio track below it. If you wish to add multiple video and/or audio tracks, right-click the controls for any track and choose Add Tracks.

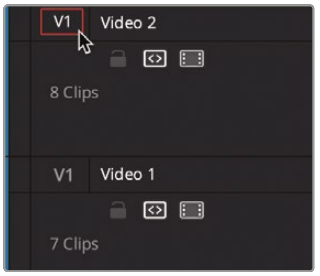
However, if you wish to edit directly to an existing track, you will need to specify that track using the destination controls in the timeline track headers.

1. Click the Full Extent Zoom button to see the entire timeline.
2. Place the timeline playhead at the start of the third clip on Video 2, **WHITE SANDS 36**, and click the Detail Zoom button.

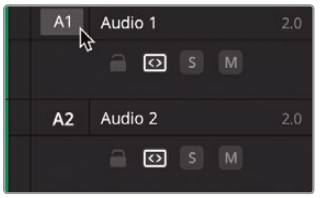
   This shot is OK, but there's another shot that might work better instead. Time for another replace edit.
3. Select the WHITE SANDS keyword smart bin to view the clips for this location.
4. Double-click **WHITE SANDS 11** to open the clip in the source viewer.
5. In the source viewer, place the playhead at the point where the girl on the left raises her head and smiles.

Because the clip you want to replace is on Video 2, you'll need to change the timeline destination controls to specify that you want to edit that track.

6 In the timeline, change the V1 destination control to the Video 2 track by dragging the V2 source control.

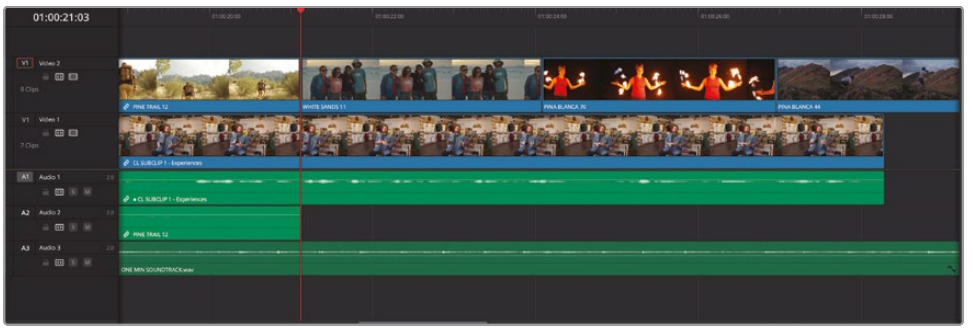


7 Click the A1 destination control to disable audio editing and prevent the audio on the destination track from being replaced as well.



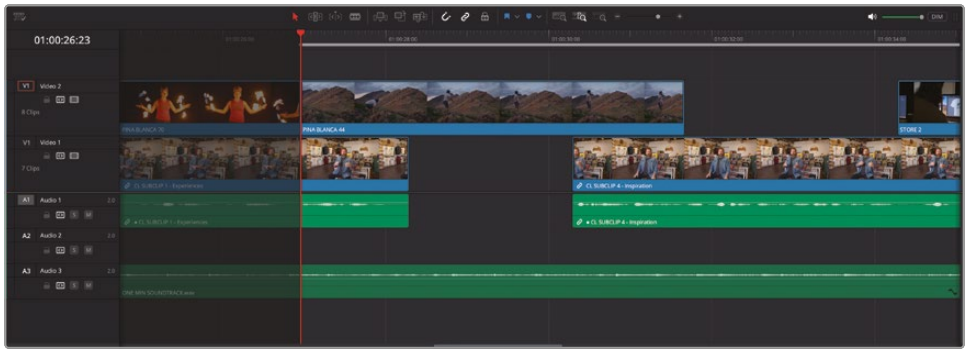
TIP A series of commands for changing the various video and audio destination controls can be found by choosing Timeline > Track Destination Selection.

8 Click the Replace Clip button in the timeline toolbar or press F11 to perform a replace edit and replace **WHITE SAND 36** with **WHITE SANDS 11**.

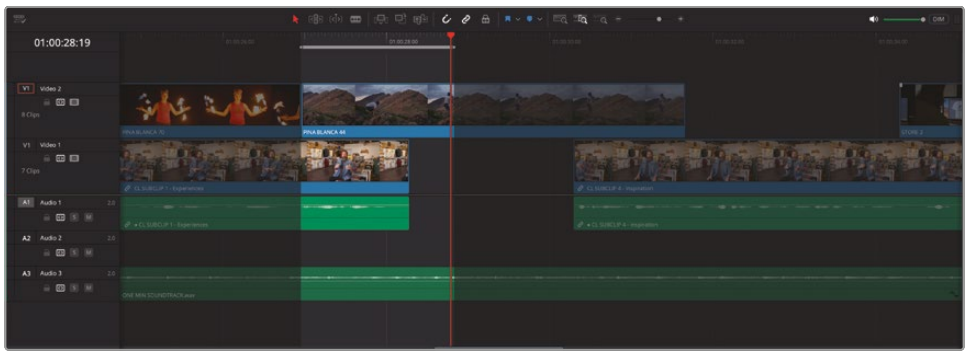


Replace edits are so powerful and quick. You can also use In and Out points to refine the portion of the timeline being replaced.

9 Place the timeline playhead at the start of the fifth clip on VIDEO 2, **PINA BLANCA 44**, and add an In point.



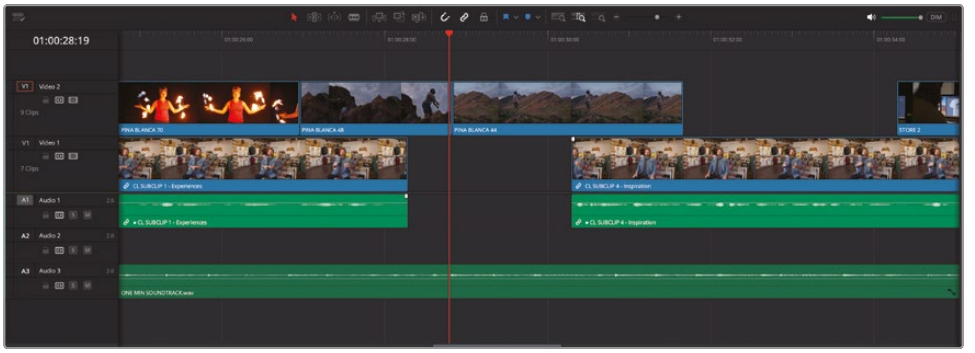
10 Add an Out point about 2 seconds later, as the guy reaches the top of the rock.



11 From the PINA BLANCA keyword smart bin, open the clip **PINA BLANCA 48** in the source viewer and locate a frame about halfway through the clip that most closely matches the frame in the timeline viewer.

12 In the timeline track header, drag the video source (V1) to the Video 2 track or press Option-2 (macOS) or Alt-2 (Windows).

13 Press F11 to perform a replace edit between the In and Out points you set on the timeline.



14 Review the change you've just made.

An advantage of using the replace edit, rather than a backtimed overwrite edit, is that you don't need to add any In or Out points in the source viewer. Indeed, any In or Out points in the source viewer will be ignored whenever you make a replace edit. Also, when you perform replace edits, the source and timeline playheads can be placed on frames outside the In and Out points in the timeline, but the portion of the source footage replaced within this marked portion will be calculated from the offset of the In and Out points from the playheads. This makes it a much more flexible editing function in this situation.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 02 / Timelines / **OMO PROMO CATCHUP 07.drt** and click Open.

Visual Effects

In addition to using industry-standard professional editing tools and functions to assemble and trim your footage into the story you want to tell, the edit page also contains several controls that allow you to enhance or fix the clips directly in the timeline.

You will explore some of the ways you can adjust the audio clips in the next lesson, but for now you will continue to focus on the visual aspects of this timeline starting with a simple but very common change you'll often need to make: changing the framing of a shot.

About Real-Time Performance and the Render Cache

DaVinci Resolve is high-performance software that is optimized to deliver real-time effects at high resolutions on a variety of workstations. To ensure that your system is maintaining real-time performance, you can check the GPU and frame rate playback indicator at the top of the viewers. If the indicator is green, all is well. However, if it changes to red, this indicates that the available GPU power of your computer is insufficient for real-time playback, and the frame rate indicator drops accordingly. Depending on your system specifications, this is probably most noticeable when trying to play back clips with multiple color corrections or a portion of the timeline with many effects and/or titles.

While DaVinci Resolve includes several options you can employ when your real-time performance drops, such as using proxy media (see Lesson 7), one of the simplest solutions is to enable the Render Cache by choosing Playback > Render Cache and choosing one of the three options:

— **Off** No render caching takes place, and all timeline clips, grades, effects, and titles are attempted to be played in real time.

— **Smart** Automatically caches intensive effects and timeline clips in formats judged too processor-intensive to play in real time.

— **User** Allows you to manually specify which timeline clips will be cached, along with automatically caching all Fusion titles and effects as part of the Project Settings (see Lesson 7, "Project Setup and Preferences").

Smart is arguably the easiest option to use since it will do much of the work for you, and you can always manually flag a clip to cache by right-clicking the clip and choosing Render Cache Color Output.

You can clean up the render cache for the current timeline at any point by choosing Playback > Delete Render Cache and choosing All, Unused, or Selected Clips.

Option-R (macOS) or Alt-R (Windows) allows you to cycle between the three render caching options.

Changing Shot Framing

There are several reasons why you might need or want to adjust the size, position, or rotation of a clip. One common reason is to be able to change the framing of a shot. This could be to correct poor framing when the shot was originally filmed, or if you wish to change the shot size to add emphasis or visual variety to the shots.

In the current edit, it might be better to finish on a slightly closer shot of Chris to emphasize the "Experience the Southwest" motto of Organ Mountain Outfitters.

1 In the timeline, move the playhead over the final interview clip.

2 In the timeline viewer, click the Transform Mode button, or choose View > Viewer Overlay > Transform to enable the onscreen transform controls.

The onscreen transform controls can be used to change the zoom of the clip as well as the onscreen position and rotation.

3 Use the scroll wheel on your mouse and zoom out slightly in the timeline viewer.

TIP If you are using a trackpad, you can use Option-two finger scroll (macOS) or Alt-two finger scroll (Windows) to zoom the viewer in and out.

4 Drag the corner controls to resize the clip so it appears to be a closer shot.

5 When you are happy with the adjusted framing of the shot, click the Transform Mode button or choose View > Viewer Overlay > Toggle On/Off to turn off the onscreen transform controls.

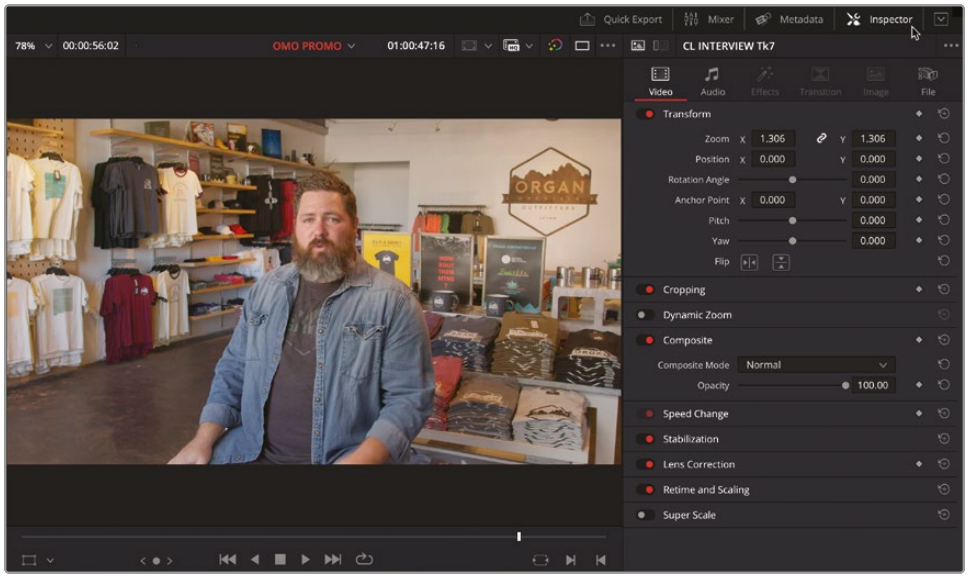
6 Press Z to adjust the scale of the image so it fits the timeline viewer.

This is a simple example of how you can change the size of a shot in the timeline. There are many other creative reasons to make similar adjustments.

Changing Clip Speed

Another common technique is often employed to enhance the action of a clip by slowing down a shot. While there are several ways you can adjust the speed that a clip plays in the timeline, one of the easiest is by using the Speed Change controls in the Inspector.

1 To open the Inspector, click the Inspector button in top right of the interface.



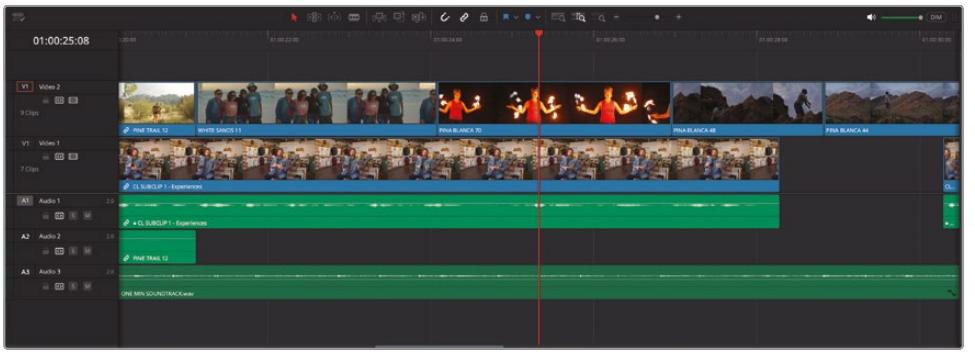
The Inspector opens to the right of the timeline viewer. You can use the Inspector to make changes to a clip in the timeline, including its size, position, and rotation on the screen using the Zoom, Position, and Rotation controls, respectively, similar to using the onscreen controls you used in the previous steps to resize the interview shot.

You can scroll down to view the controls lower down in the Inspector. Alternatively, you can "expand" the Inspector vertically, so it occupies the full height of the Resolve interface, by clicking the Expand button at the top right of the interface.

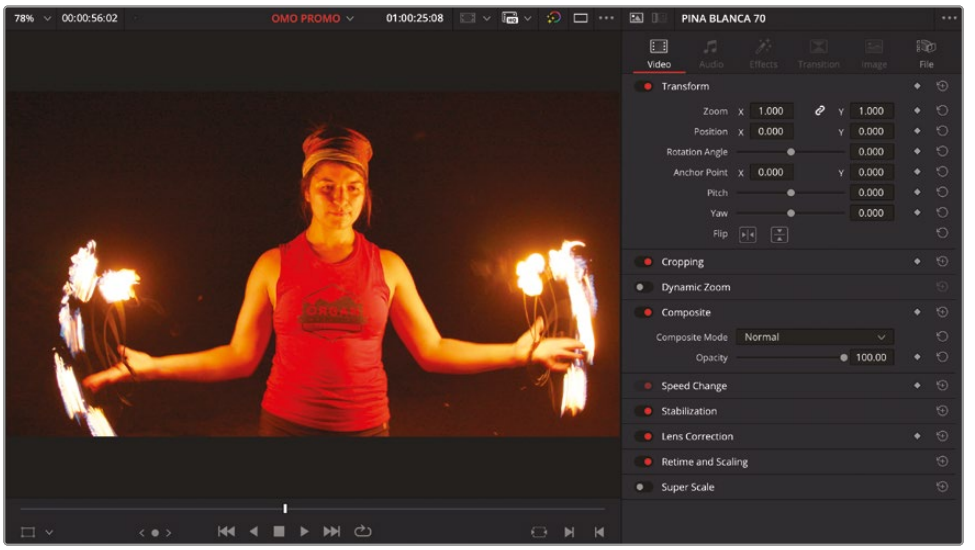
NOTE If you're working on a laptop or screen using a resolution lower that 1920 x 1080, you will probably find that Resolve automatically switches to single-viewer mode. In this mode, it appears as though the source viewer you have been using has vanished! You can still open a clip in the source viewer by double-clicking it in the media pool as before, it's just that the source viewer and timeline viewers will now occupy the same space in the interface. This is a space-saving method employed to prevent the various parts of the interface from becoming too small and unusable.

To make a change to a clip in the timeline, you need to display its controls in the Inspector. You can do this in a couple of ways. First, you can single-click a clip in the timeline to select it. If you are selecting a clip in this manner, then you are also best off moving the timeline playhead over the clip you want to adjust. This way, you will see the changes you're making reflected in the timeline viewer. Alternatively, you can simply place the timeline playhead over a clip. Using this latter method will automatically display the controls for the uppermost timeline clip in the timeline at the location of the timeline playhead.

2 Place the timeline playhead over the clip **PINA BLANCA 70**.



The Inspector automatically displays the controls for this clip since it's on the uppermost video track. You can confirm whether this is the correct clip by verifying the name displayed at the top of the Inspector.

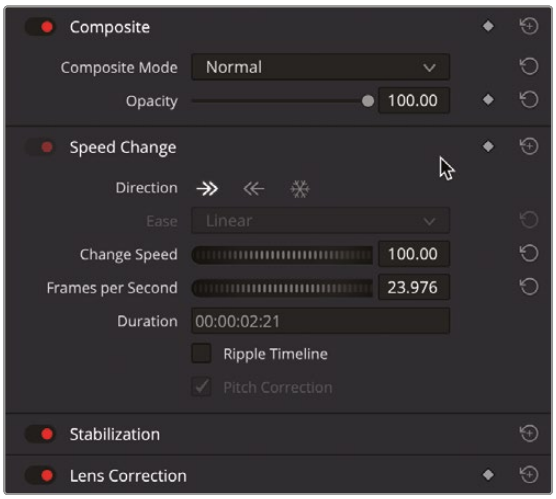


NOTE If you see another clip's name in the Inspector, ensure that you don't have any clips selected in the timeline. Selected clips will override the automatic selection method.

3 In the Inspector, locate the Speed Change controls.

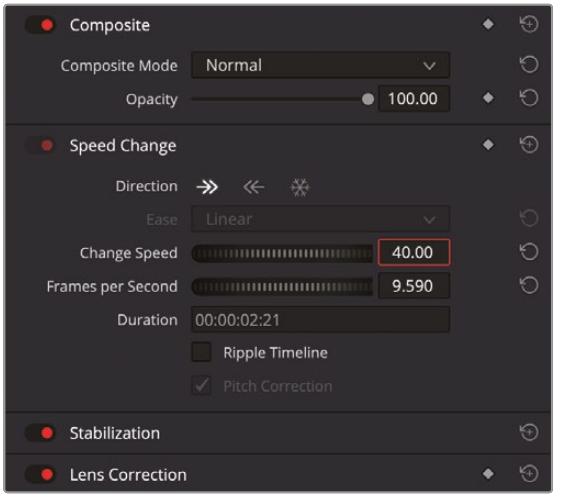
Currently, the specific Speed Change controls are collapsed to save space in the Inspector.

4 Click the Speed Change section to reveal the controls.



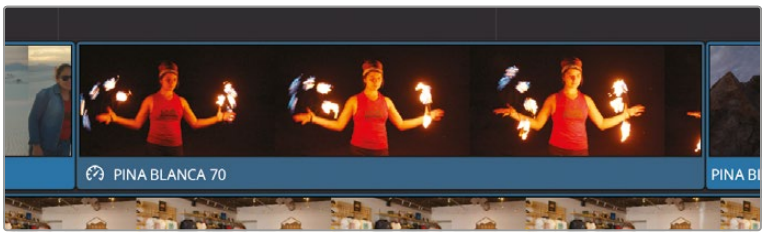
The Speed Change controls show several options.

5 Ensure that the Direction arrow is facing to the right, so the clip is playing forward, and drag the Change Speed percent wheel value to the left to 40.00 to reduce the clip's speed to 40% of its original.



TIP For quicker and more precise adjustments, you can type **40** into the Change Speed percent field and press Enter (Return).

The clip now plays back at 40% of its original speed, and an icon on the clip in the timeline indicates that a speed change has been made.



You can use the same controls to increase the speed of a clip from its original speed by increasing the Change Speed percent value to above 100%.

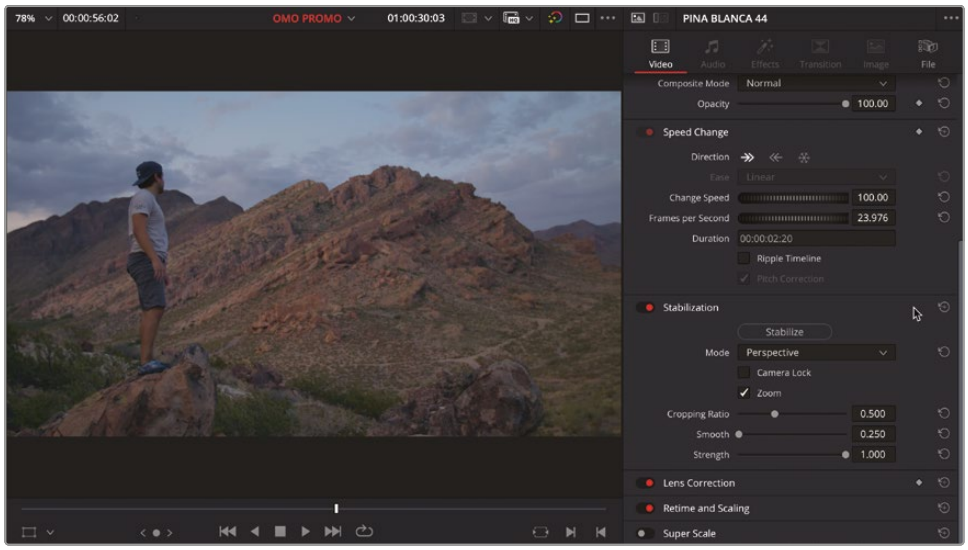
Stabilizing Shots

Next, you will use the controls in the Inspector to stabilize a clip that has some excessive and distracting camera movement.

1 In the timeline, play the second clip of the guy standing on the rock looking out over the mountains, **PINA BLANCA 44**.

The shake from the handheld camera is quite noticeable and detracts from an otherwise fantastic shot.

2 In the timeline, place the timeline playhead over the clip and, in the Inspector, click to expand the Stabilization controls.

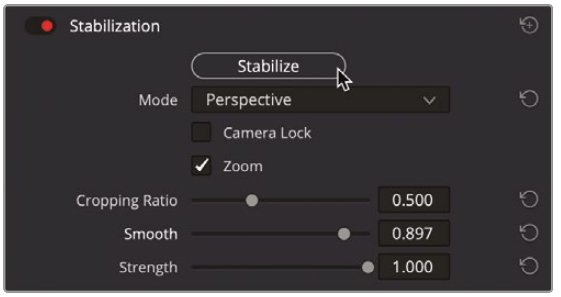


3 Click the Stabilize button.

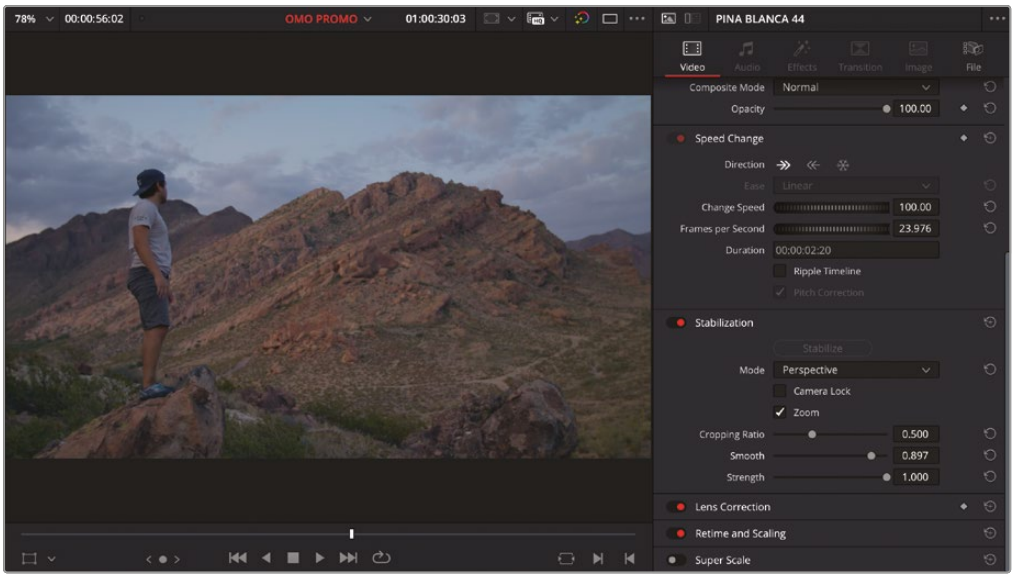
Resolve analyzes the clip and attempts to stabilize the shot. Once the analysis has completed, play the shot to review the changes.

The shot seems to be a little less shaky, but it doesn't completely smooth the camera movement.

4 Increase the Smooth control to about 0.900 and click the Stabilize button again to apply the changes.



The increased smoothing value helps to reduce the camera shake even further, resulting in a much-improved shot.



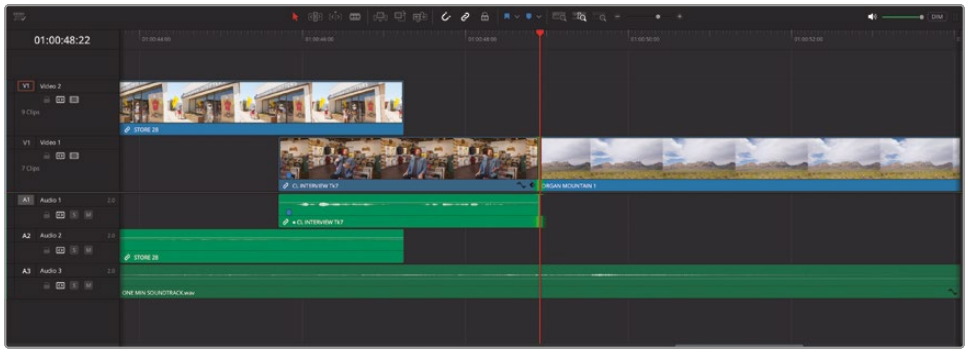
NOTE These are the same (albeit simplified) stabilization controls you can find in the color page's Tracker pallet. The resulting stabilization applied in the edit page will be mirrored in the color page, allowing you to make further refinements if necessary.

Adding Transitions

Video transitions are a set of effects that are often used to make the cut between two clips a little more visually interesting. They can be a powerful storytelling tool when used correctly.

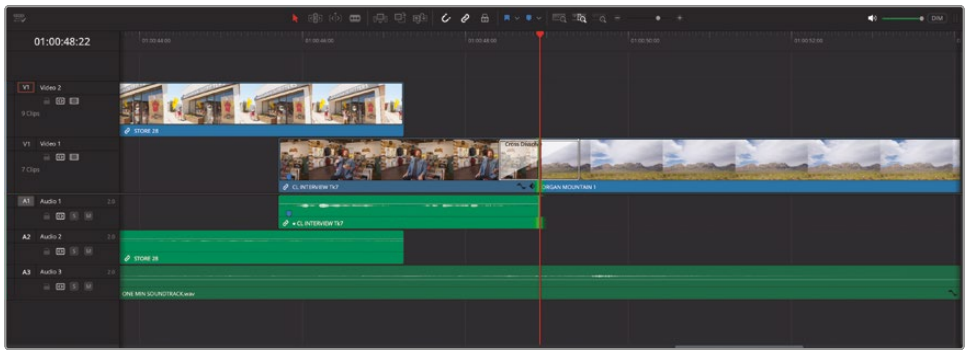
1 In the timeline, place the timeline playhead at the start of the final clip on Video 1 and click the Detail Zoom button.

2 Select the edit point between the last interview clip, **CL INTERVIEW Tk7**, and the **ORGAN MOUNTAIN 1** clip.



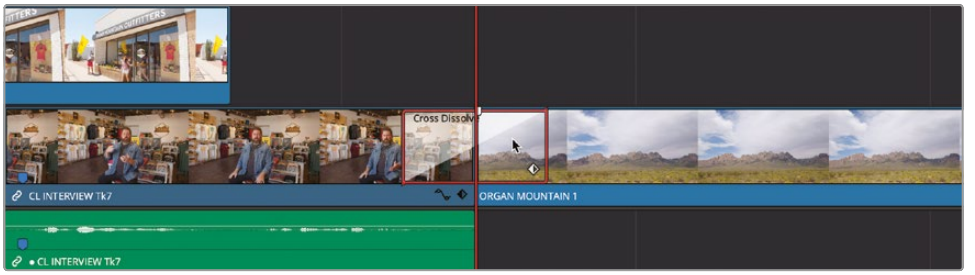
If Linked Selection is enabled for the timeline, the audio and video edit points are selected (even though the timelapse shot has no audio). If only the video edit is selected, ensure that the Linked Selection button is active in the timeline toolbar.

3 Choose Timeline > Add Video Only Transition or press Option-T (macOS) or Alt-T (Windows).

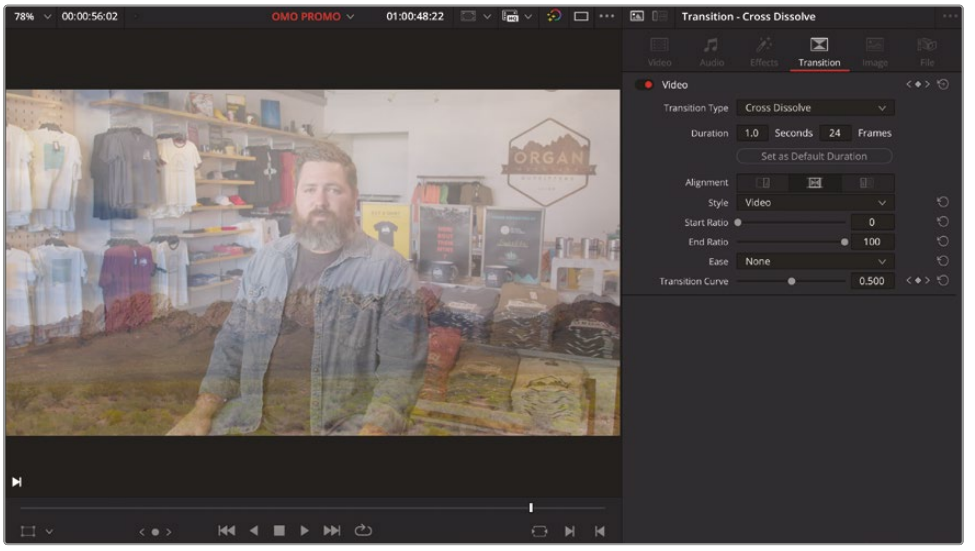


The current Standard Transition is added to the video edit using a default duration.

4 Select the transition in the timeline.



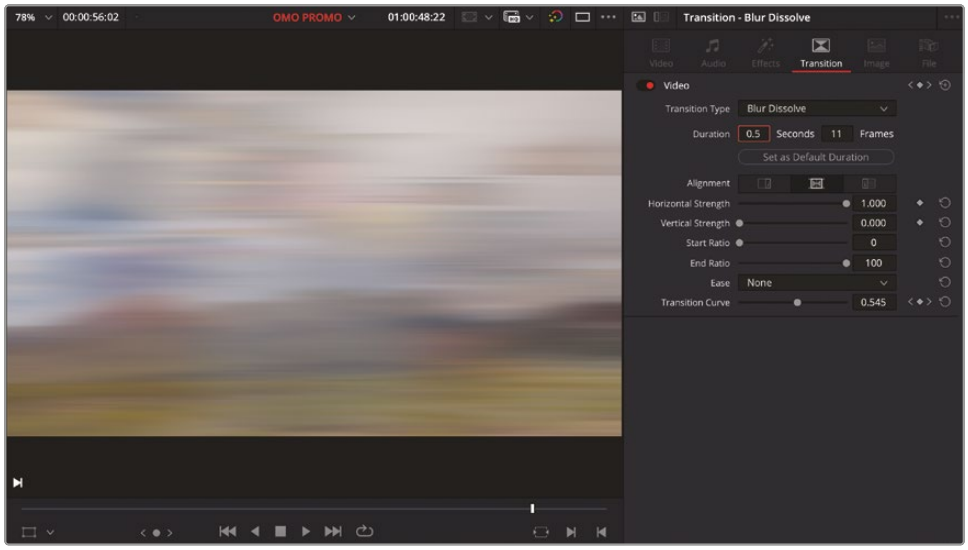
With the transition selected, the Transition tab of the Inspector automatically becomes active, with controls for the currently selected transition.



5 Press / (forward slash) to preview the transition.

By default, the current transition should be a Cross Dissolve with a 1-second duration, but you can always adjust a transition to your requirements.

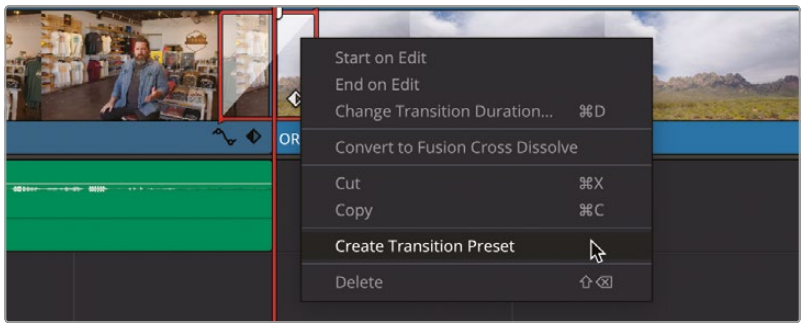
6 From the Transition Type dropdown menu, choose Blur Dissolve, click in the Duration Seconds field, and type **0.5** for half a second.



7 Press / (forward slash) again to preview the changes.

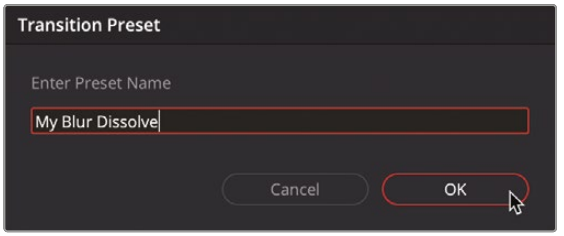
You can save transitions as presets that you can use over and over again.

8 In the timeline, right-click the transition and choose Create Transition Preset.



The Transition Preset window opens.

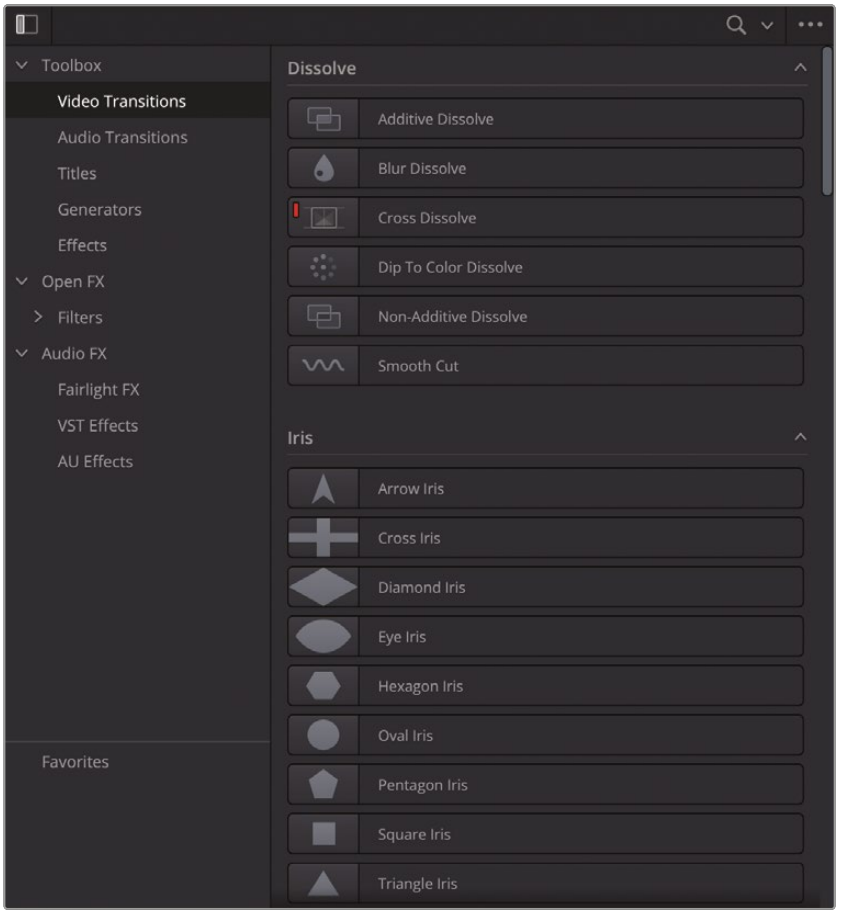
9 In the Preset Name field, type **My Blur Dissolve** and click OK to save the preset.



Saved presets like this are available in the Video Transitions in the Effects Library.

10 Click the Effects button at the top left of the interface to reveal the Effects Library.

11 Select Toolbox > Video Transitions.

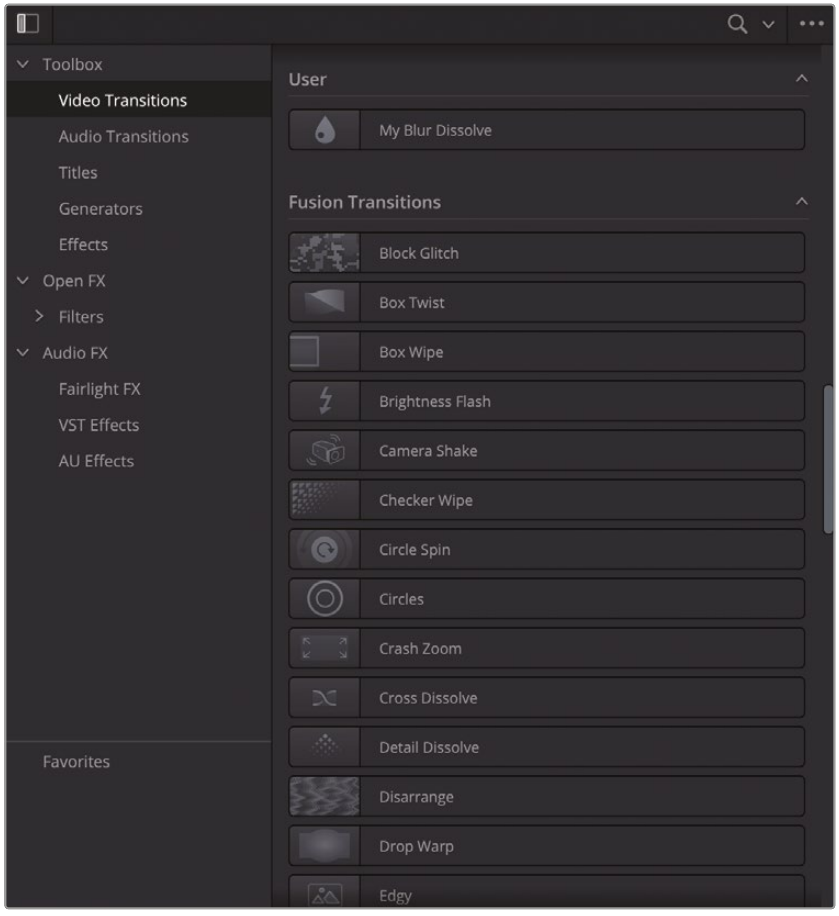


This section of the Effects Library lists all the available transitions, including any third-party transitions you may have installed on your system. Each transition is grouped in a category (for example, Dissolve, Iris, Wipe, etc.), indicating the type of transition it is.

Note that the Cross Dissolve currently has a red tag in the top left corner of the transition's icon. This indicates it is currently the Standard Transition, which you applied by default.

> **NOTE** You can preview any of the supplied transitions by hovering your mouse pointer over a transition and moving it left and right. To add any of these transitions, just drag them to an edit point in the timeline.

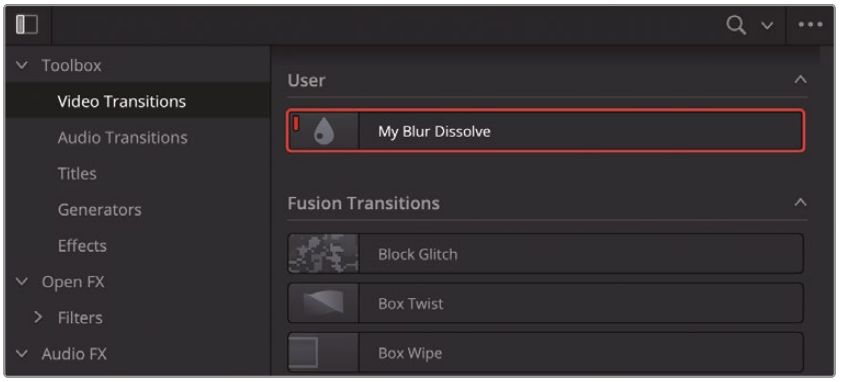
12 Scroll down to the User group of transitions.



Here you will find all your saved transition presets.

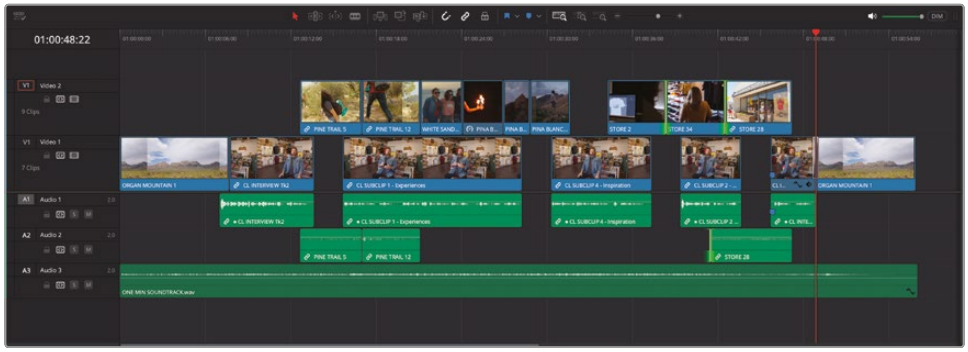
13 Right-click the My Blur Dissolve transition and choose Set As Standard Transition.

A red tag appears in the top left corner of the transition's icon, indicating that this transition is now the Standard Transition. You can now apply this using a keyboard shortcut.

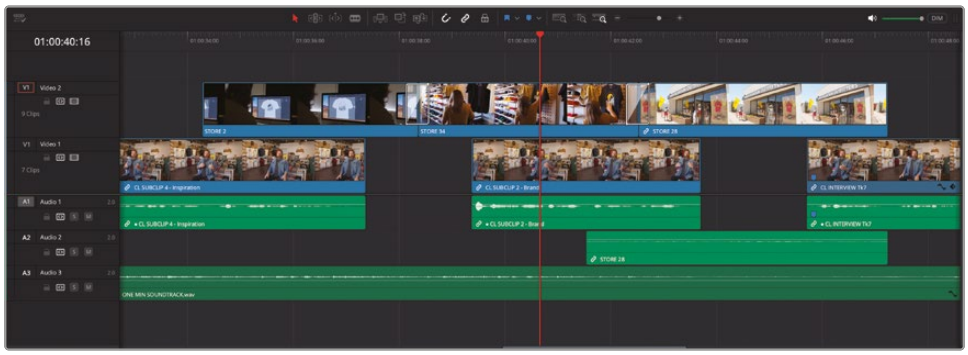


NOTE To remove an unwanted user transition preset, right-click the transition and choose Delete Transition Preset.

14 In the timeline, click the Full Extent Zoom button and Command-click (macOS) or Ctrl-click (Windows) the edit points between the **STORE 2**, **STORE 34**, and **STORE 28** clips.



15 Choose Timeline > Add Video Only Transition or press Option-T (macOS) or Alt-T (Windows) to add your customized transition to both selected edit points.



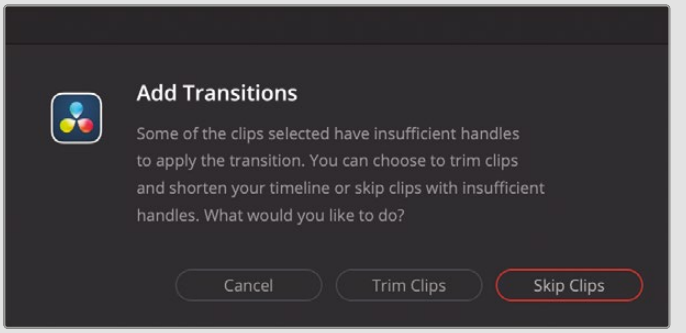
NOTE To return the Standard Transition back to the default, scroll back up to the Dissolve category of transitions, right-click the Cross Dissolve transition, and choose Set As Standard Transition.

About Transition Alignment and Clip Handles

Whenever you add a transition, you should consider a couple of things—firstly, whether the clips on either side of the edit where you're adding the transition have enough handles to allow you to add the transition and, secondly, how the transition is aligned around the edit point.

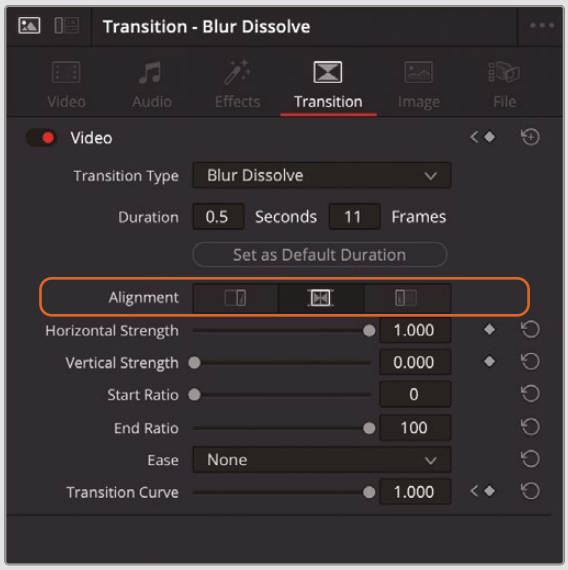
Handles are parts of the clips that extend beyond the current In and Out points of the clips in the timeline. You see the handles of a clip outlined in white whenever you trim a clip. Transitions need these handles in order to create the overlap needed. A 1-second transition will play a half second extra of both the outgoing and incoming clips, even though the clips won't appear longer in the timeline.

If you attempt to apply a transition to an edit point that doesn't have sufficient handles on one or both sides, a warning box will appear.

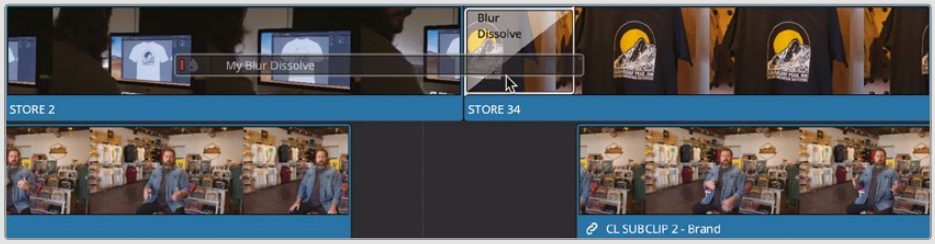


You can choose to cancel applying the transition, trim the clips so there are enough handles, or skip the clips that don't have enough handles. In most cases, you probably don't want your edit shortened like this unless absolutely necessary, and it's always best to manually ensure that you have enough handles.

Alternatively, you can choose to adjust the alignment of the applied transition. Transition alignments are always based around the edit point where they are applied. When you select both sides of an edit to apply a transition, this will center the transition across the edit, with equal numbers of frames used from the available handles of both the outgoing and incoming clips.



If you don't have enough handles on a clip on one side of the edit, you can choose to align the transition either starting or ending on the edit point by selecting the outgoing or incoming side of the edit only. Transitions aligned "starting on edit" are useful if there are no handles on the incoming clip; aligning them "ending on edit" is useful if the outgoing clip doesn't have the required handles.



You can change the current alignment of a transition in the Transition tab of the Inspector or by right-clicking the transition on the timeline. You can also choose the transition alignment when dragging a transition to an edit point from the Effects Library by dragging it to the left or right of the edit point (provided enough handles are available, of course).

Adding Video Filters

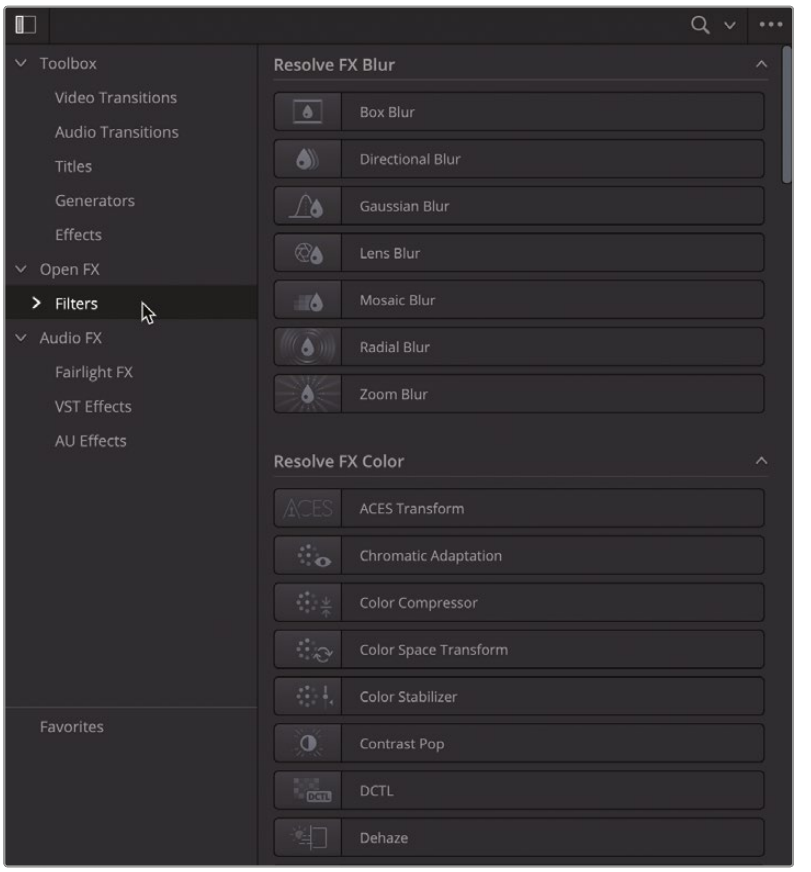
Transitions are one way in which you can add stylization and visual flair to your edits. Another commonly employed technique is to add videos filters to stylize an entire clip.

Many NLE systems often have color correction tools included in their video effects and filters and, while Resolve has some of these, they are more specialized than other systems' tools. As you're no doubt aware, Resolve has a page entirely dedicated to color correction and grading, which you will explore starting with Lesson 4, "Primary Color Correction." Nevertheless, there are a number of creative filters you can apply in the edit page.

1 In the timeline, move your playhead over the opening shot of Organ Mountain.

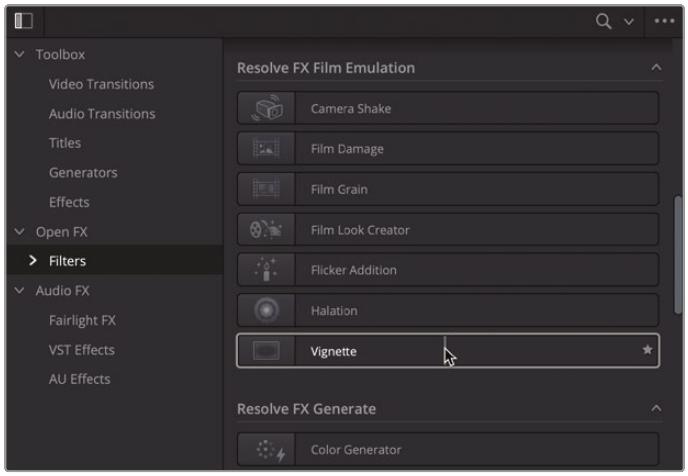
As with transitions, filters can be accessed in the Effects Library.

2 In the Effects Library, select the Open FX > Filters group.



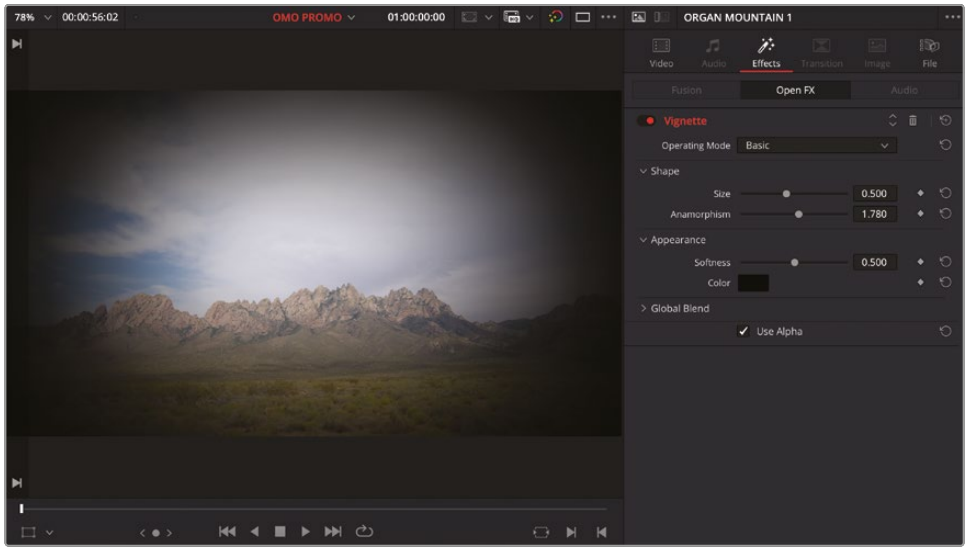
As with transitions, video filters are listed here in descriptive categories (e.g., Resolve FX Blur, Resolve FX Key, Resolve FX Light, etc.) and can be live previewed by hovering your mouse pointer and moving it left and right over a filter.

3 In the list of Filters, scroll down to the Resolve FX Film Emulation category and place your mouse pointer over the Vignette filter.



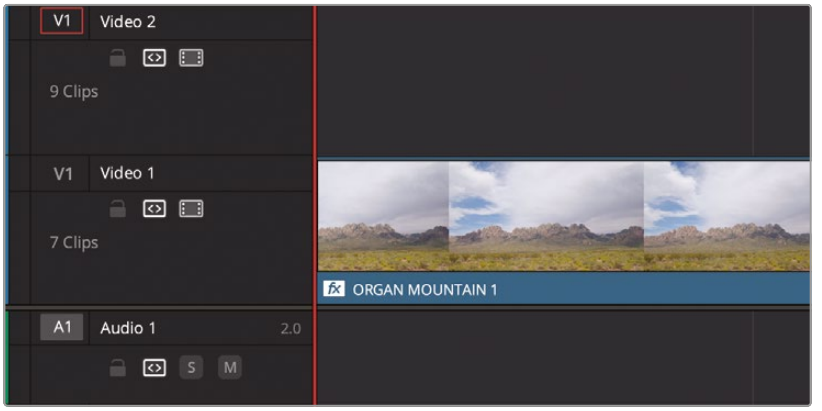
NOTE In photography and cinematography, *vignetting* refers to a reduction in brightness and/or saturation of the image around the edge of the frame. It was traditionally a result caused by the type of lens used, its focal length, and the aperture selected, or obstructions like lens hoods or filters. These days it tends to be added in post-production to draw the viewer's attention to the center of the frame or to create a dreamy or nostalgic atmosphere.

4 Double-click the Vignette filter to apply it to the clip under the playhead using its default (and rather intense) settings.

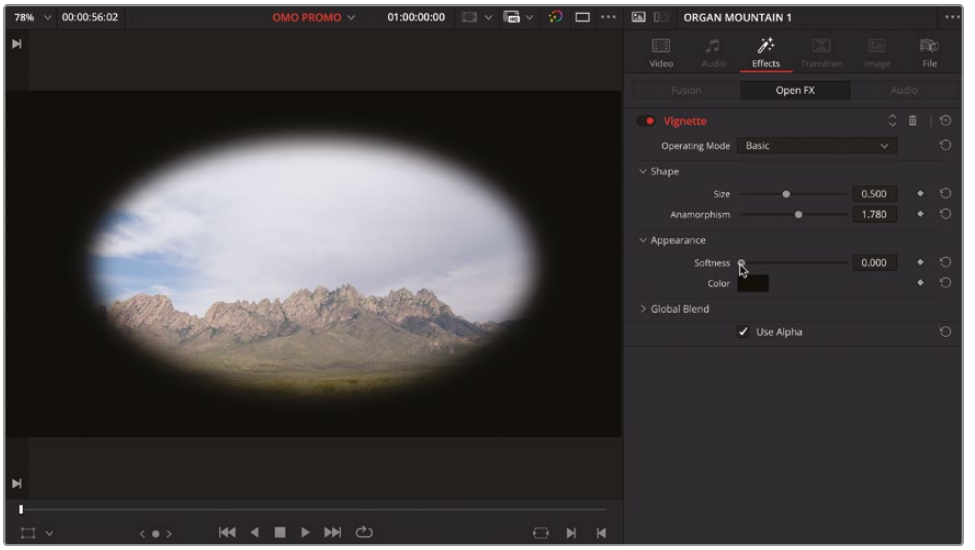


The Effects tab of the Inspector becomes active and displays the parameters for the effects applied to the selected timeline clip.

The clip in the timeline also displays the FX badge to indicate that a filter is applied.



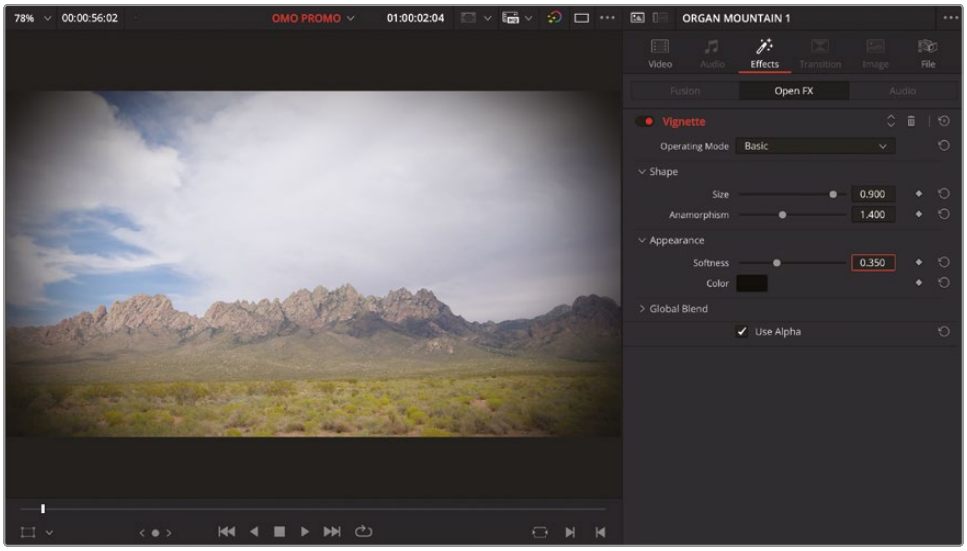
5 In the Inspector, change the Softness value to 0.0 to better see the shape of the vignette being applied.



6 Increase the Size to around 0.9 and the Anamorphism to around 1.4.

> **TIP** The Size slider only allows you to adjust the value to a maximum of 1. To increase it further, click and drag in the value field, or select the field and type in the value you desire.

7 Increase the Softness back up to around 0.35 to darken the sides of the frame.



8 Click the red Enable button to disable the Vignette filter to see what the clip looked like originally, and then click it again to re-enable the Vignette filter.

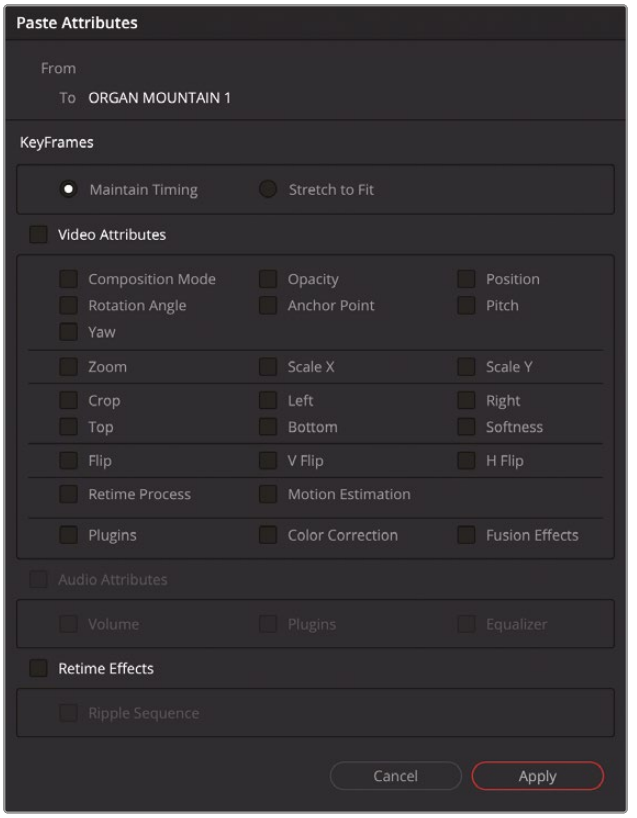
For consistency, you now need to apply this same filter, with the same settings, to the same shot you're using at the end of the current edit. To do that, you will copy the first clip and then choose to paste just the filter and its settings to the other clip.

9 In the timeline, select the first clip and choose Edit > Copy or press Command-C (macOS) or Ctrl-C (Windows).

10 Click the Full Extent Zoom button and move the playhead over the final clip.

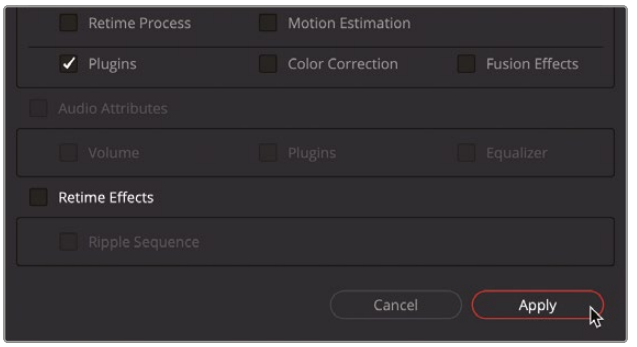
11 Click the Detail Zoom button and select the clip under the playhead.

12 Choose Edit > Paste Attributes or press Option-V (macOS) or Alt-V (Windows) to open the Paste Attributes window.



The Paste Attributes window allows you to choose which specific attributes from the copied clip you want to apply to the selected clip(s).

13 In the Paste Attributes window, select the Plugins option and click Apply.

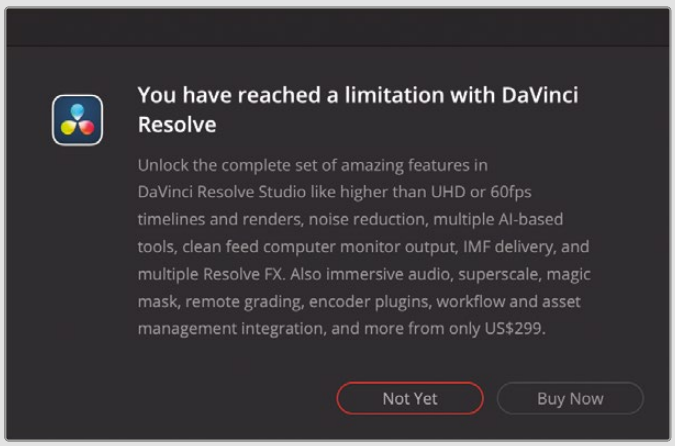


The Vignette filter is pasted from the first clip to the last clip, using the same settings. This means you don't have to re-create the effect from scratch.

Studio Only Filters

If you're using the free version of DaVinci Resolve to work through this book, as you are live previewing the Open FX filters, you will no doubt come across filters that bring up the DaVinci Resolve Studio watermark in the viewer. These filters are only fully available in DaVinci Resolve Studio.

You can still apply these filters, but you will see a dialog informing you that you have reached the limitation of the free version of DaVinci Resolve.

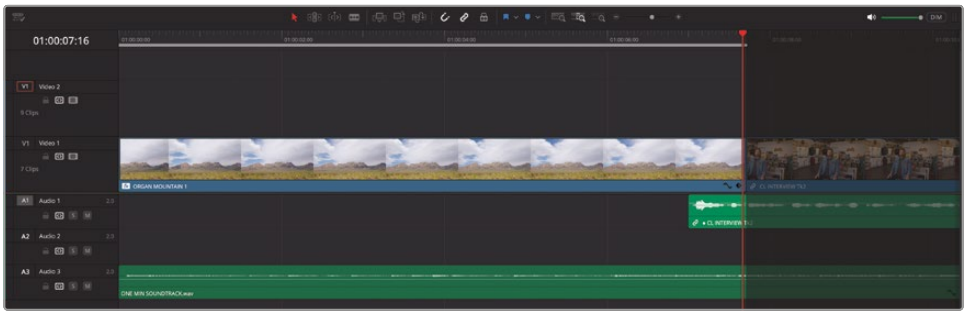


If you choose to continue without upgrading, the watermark will continue to display in the timeline viewer when playing that clip. However, if you open the same project in DaVinci Resolve Studio, the watermark will disappear.

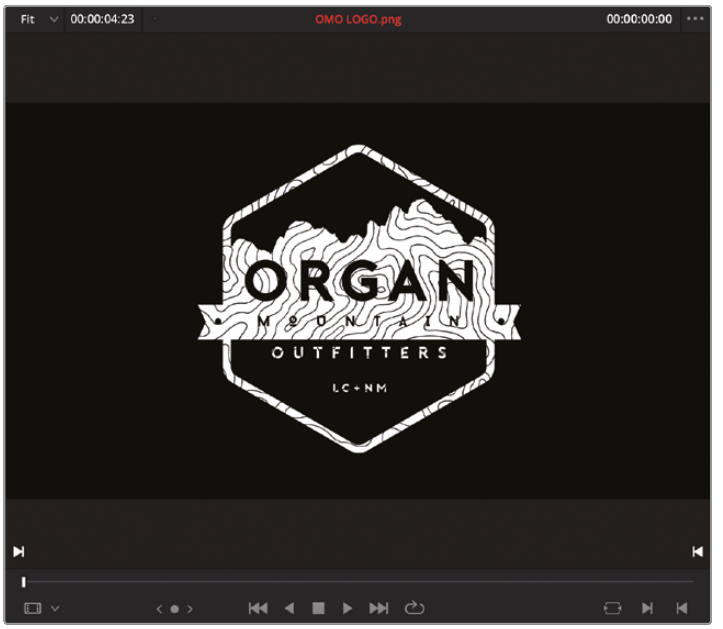
Adding the Logo

Visually, the edit is coming along nicely, but now it's time to add some graphic elements—specifically, the Organ Mountain Outfitters logo—to the opening shot and some titles to the closing shot featuring a "call to action" to encourage the viewer to visit the Organ Mountain Outfitter's website.

1. In the timeline, press Home to move the playhead to the start, over the **ORGAN MOUNTAIN 1** clip.
2. Press the Detail Zoom button.
3. Choose Playback > Go To > Last Frame or press ' (apostrophe) to jump to the last frame of the **ORGAN MOUNTAIN 1** clip, and press O to set an Out point at this frame in the timeline.



4. From the GRAPHICS bin, open the clip **OMO LOGO.png** in the source viewer.



DaVinci Resolve can work with various graphic file formats as well as video and audio files. When using graphic files, the clips have a default "duration" of 5 seconds, which will be enough for this graphic. However, because graphic files are simply the same frame repeated, the clip can be trimmed to be as long or as short as you need it.

> **NOTE** You can adjust this default "duration" used for graphics or still images in the User Preferences > Editing category under "Standard still duration." You will learn more about adjusting preferences in Lesson 7.

You will now backtime the graphic into the timeline.

5 Drag the clip in the source viewer to the timeline viewer and choose Place on Top from the editing overlays, or press F12, to edit the clip to the Video 2 track.

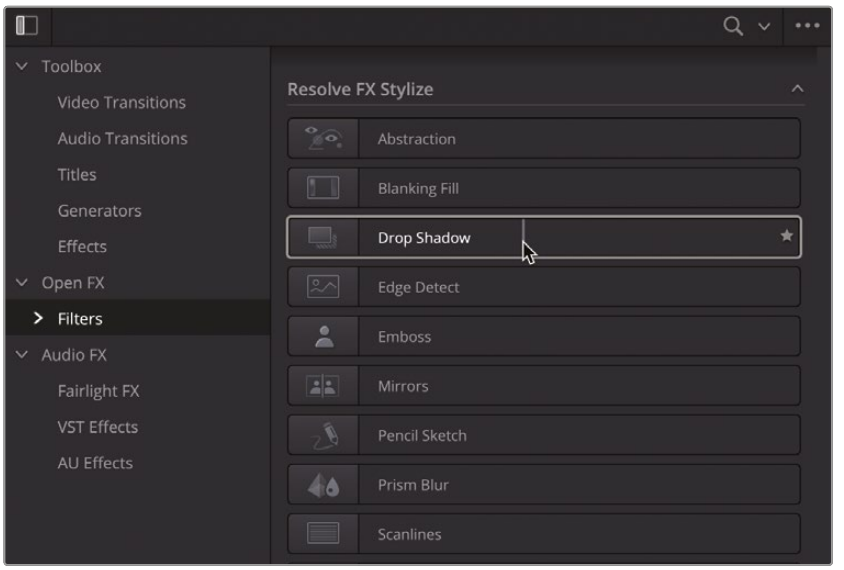
6 In the timeline, drag the fade handle at the start of the clip to the right to apply a 12-frame fade in (+00:12 in the tooltip).

The fade handles appear on every video clip in the timeline and can be used in lieu of a cross-dissolve transition to quickly fade the clip over any clips in video tracks below.

7 Place the timeline playhead over the **OMO LOGO.png** clip to see the graphic over the background in the timeline viewer.

At the moment, the white graphic is getting a little lost against the bright background, despite the vignette applied to the timelapse shot in the background.

8 In the Effects Library, select Open FX > Filters, scroll down to the Resolve FX Stylize group, and locate the Drop Shadow filter.



9 Double-click the Drop Shadow filter to apply the effect to the **OMO LOGO.png** clip in the timeline.

The drop shadow helps the logo stand out from the background clip on V1. To adjust the settings for this clip, you will need to use the controls available in the Inspector.

NOTE DaVinci Resolve automatically "selects" the clip on the highest track in the timeline without the need for you to physically click and select it. Clicking and selecting a clip will override this behavior, allowing you to manually choose which clip the effect will be applied to. Alternatively, you can drag the filter directly to any clip, or selected clips, in the timeline.

10 In the Inspector, reduce the Drop Distance to about 0.020 and the Blur to about 0.40 to create a more defined shadow.

With the drop shadow applied and finessed, there's one more useful effect you can apply to this graphic to provide some much needed visual interest.

11 In the Inspector, click the Video tab.

12 Enable the Dynamic Zoom and click to reveal the controls.

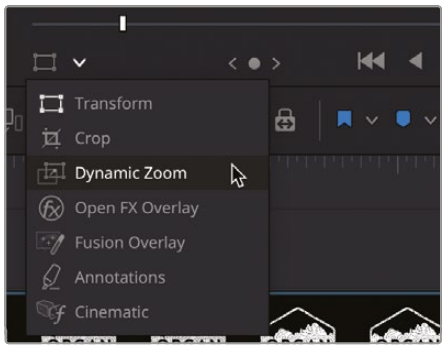
Dynamic Zoom applies an automatic movement to the current clip so it appears to move into the frame.

13 Change the Dynamic Zoom Ease dropdown menu to Ease Out.

Play the **OMO LOGO.png** clip in the timeline to review the dynamic zoom results, and notice how the still image fades and zooms, coming to a gentle rest toward the end of the clip.

You can also choose to refine the start and end framing for the Dynamic Zoom.

14 In the timeline viewer's Transform Mode menu, select the Dynamic Zoom controls or choose View > Viewer Overlay > Dynamic Zoom to reveal the onscreen controls for the Dynamic Zoom.



15 Adjust the starting framing for the dynamic zoom by dragging the corners of the green box out slightly, away from the edges of the graphic.

16 Once you're happy with the starting and ending framing of the Dynamic Zoom, choose View > Viewer Overlay > Toggle On/Off or click the timeline viewer's Transform Mode button to turn off the viewer overlays.

By utilizing some of the built-in effects and controls in the Inspector, you have taken a simple still image and used it to create an eye-catching opening for the promo.

Animating with Keyframes

An alternative way of creating this sort of animated effect is by using keyframes. You will add audio keyframes in the next lesson, but keyframes can also be added to many parameters in the Inspector, including filters and even transitions.

To add a keyframe to animate a specific parameter, click the diamond icon next to that parameter.

Once you have added the first keyframe, subsequent keyframes will be added when you make an adjustment to the parameter at a different place on the clip.

The parameter will then animate as it changes between the two keyframes. To jump to the previous or next keyframe on the selected clip, press [(left square bracket) or] (right square bracket), respectively.

You generally need a minimum of two keyframes to effect a change over time to a parameter, but you can add a keyframe to every frame if required.

To adjust the timing of keyframes, choose Clip > Show Keyframes Editor or press Shift-Command-C (macOS) or Shift-Ctrl-C (Windows) to reveal the Keyframes Editor.

continues

You can further refine the smoothness of the acceleration in to or out of a keyframe by choosing Clip > Show Curves Editor or by pressing Shift-C to reveal the Curves Editor.

To hide the Keyframes and Curves Editors after you have refined the keyframes, you can use the respective shortcuts or, alternatively, click the active Curves and Keyframes buttons on the bottom right of the clip in the timeline.

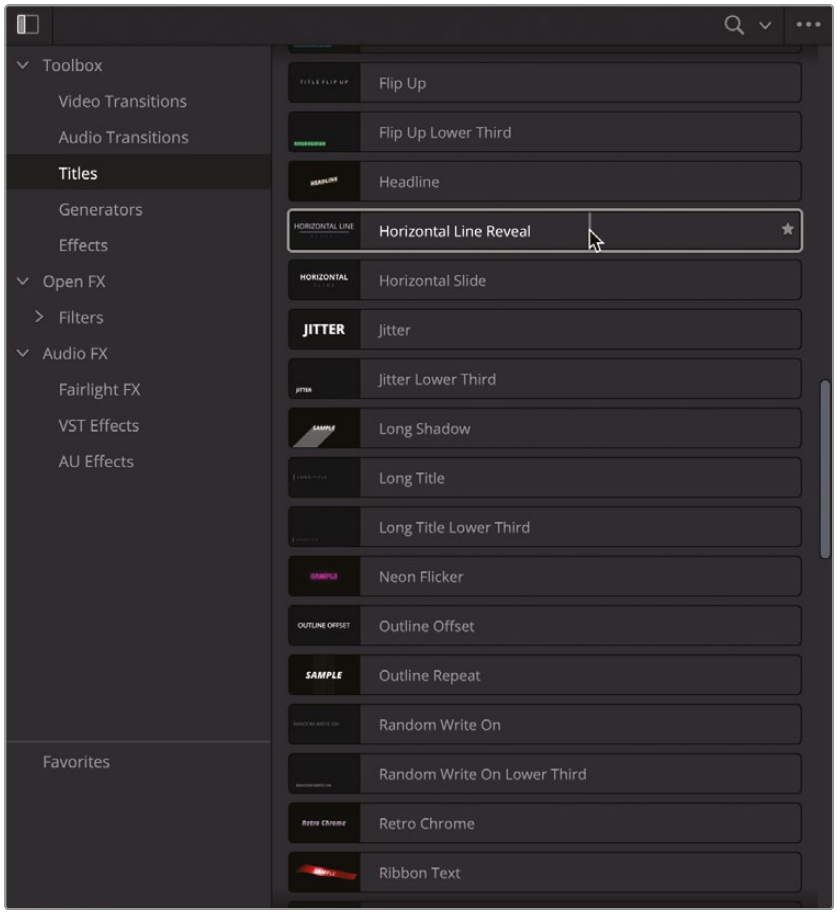
Adding the Closing Titles

Next, it's time to add the call to action using one of Resolve's built-in Fusion Titles templates.

1 Scroll to the end of the timeline and play the final clip, **ORGAN MOUNTAIN 1**. Using the audio waveforms of the **ONE MIN SOUNDTRACK.wav** as a guide, stop when you hear the final strum of the music.

Resolve has many options for creating text and titles using a series of title generators and templates directly in the edit page. You will explore more options for creating your own titles using the Fusion page in Lesson 9, "An Introduction to Fusion."

2 In the Effects Library, select the Titles category and scroll through the list of Fusion Titles to the Horizonal Line Reveal title.

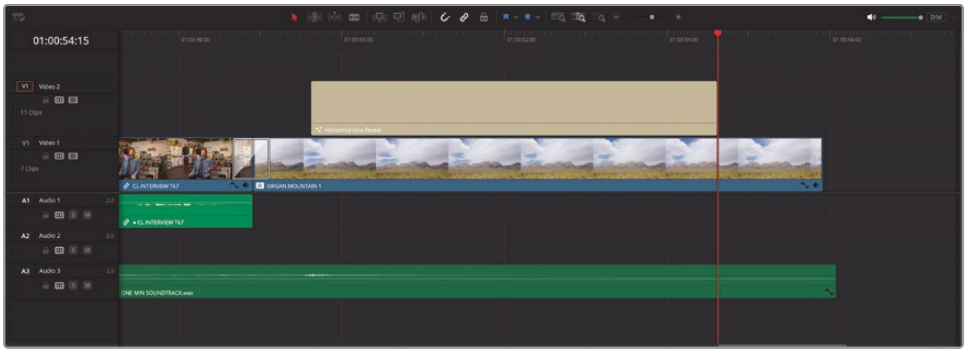


As with the transitions and filters you've worked with previously, each title template can be live previewed by hovering your mouse pointer over the title and moving it left and right.

To add a title to your timeline, you can simply drag it to the location where you want it to appear. However, as you discovered in the previous lesson, this can be quite limiting. Instead, you can open the title in the source viewer.

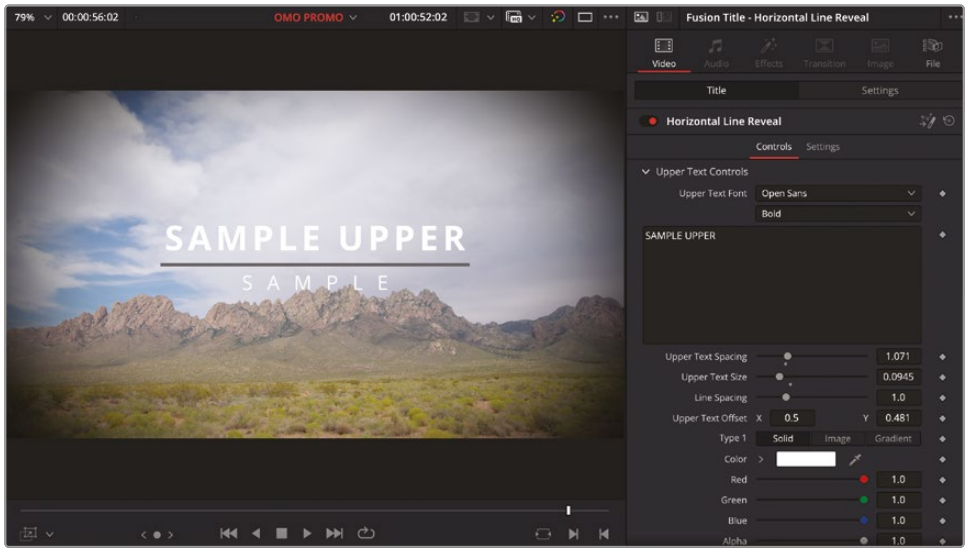
3 Double-click the Horizontal Line Reveal title to open it in the source viewer. If necessary, move the source viewer's playhead to the center so you can see the title better.

4 Drag the Horizontal Line Reveal title from the source viewer to the timeline viewer, or press F12, to perform a Place on Top edit.



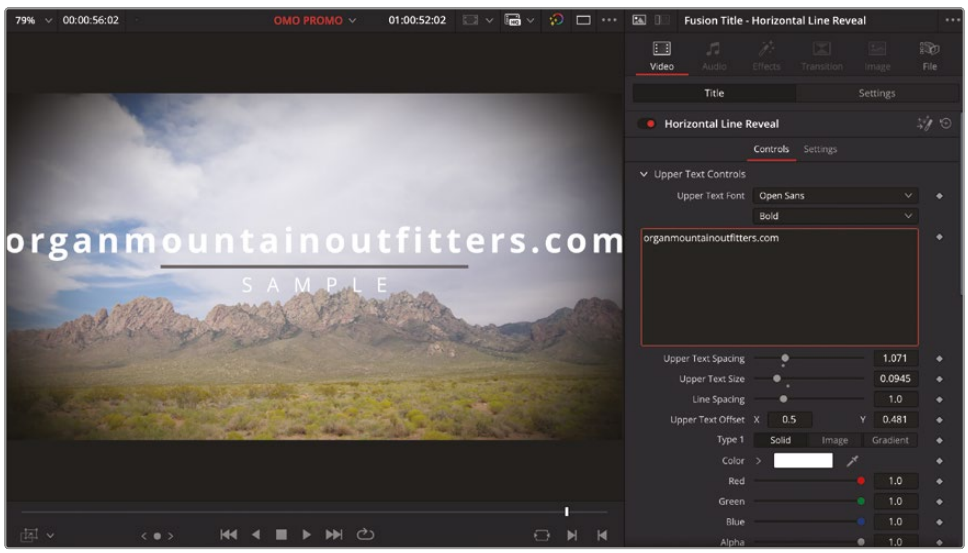
5 Place the timeline playhead over the title clip in the timeline.

The Inspector automatically displays the controls for the Horizontal Line Reveal title.



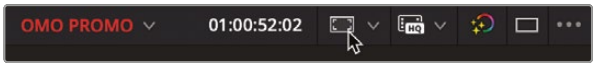
TIP You can open the Inspector by double-clicking any title once it's been added to the timeline.

6 In the Inspector, select the SAMPLE UPPER text in the Upper Text Controls and type **organmountainoutfitters.com**.

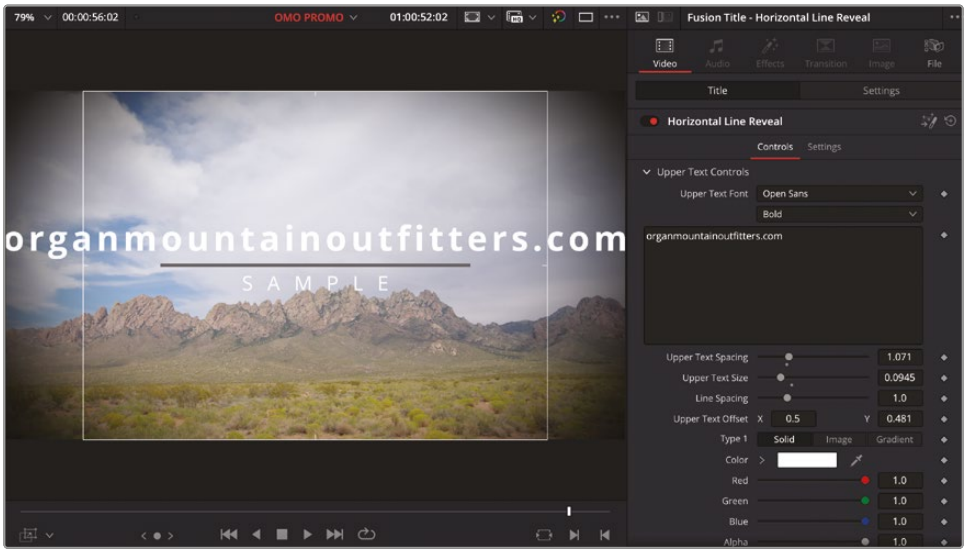


To ensure that the text isn't too large, you can use the safe areas as a guide. Safe areas are used to ensure that titles and graphics are properly displayed on screens that have an overscan and are typically required for broadcast programs.

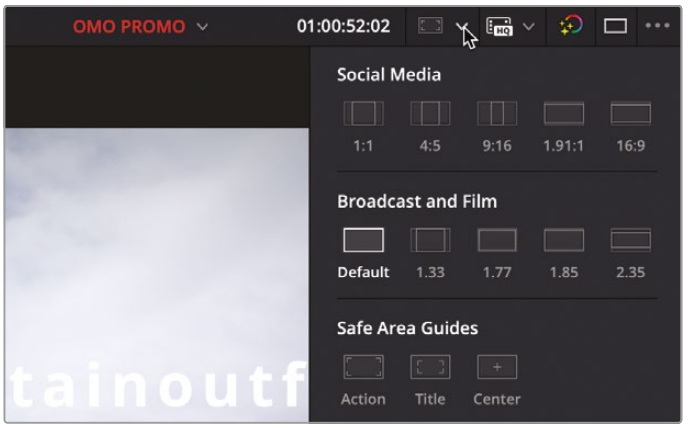
7 In the timeline viewer, click the Safe Area Guides button.



By default, the guide shows you the safe area as if this footage were being displayed on a 4:3 monitor.



8 Click the Safe Area Guides dropdown menu to open the options.



9 In the Safe Area Guides, enable the Title option.

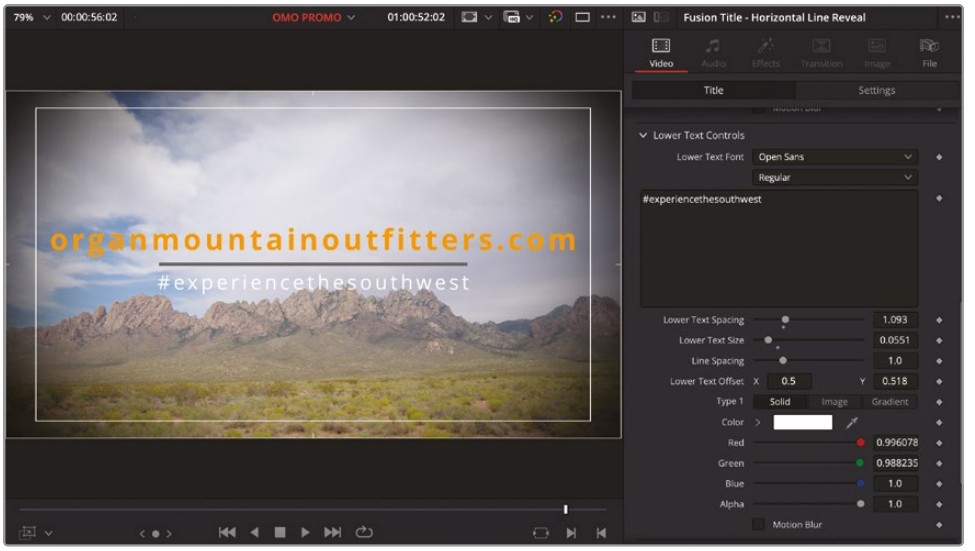
Adhering to these guides will ensure that your titles will appear correctly on different HD monitors.

10 Change the Upper Text Size to about 0.08 so the title fits within the inner safe title guide.

11 To change the color of the text, reduce the Blue control to 0.00 and the Green to about 0.40 to give the text a bright orange color.

12 Scroll down in the Inspector to the Lower Text Controls, highlight the SAMPLE text, and type **#experiencethesouthwest**.

13 Adjust the Lower Text Spacing to about 1.09 so the text is about the same length as the line.



TIP You can press the Up Arrow and Down Arrow keys to adjust the values of a selected field in the Inspector.

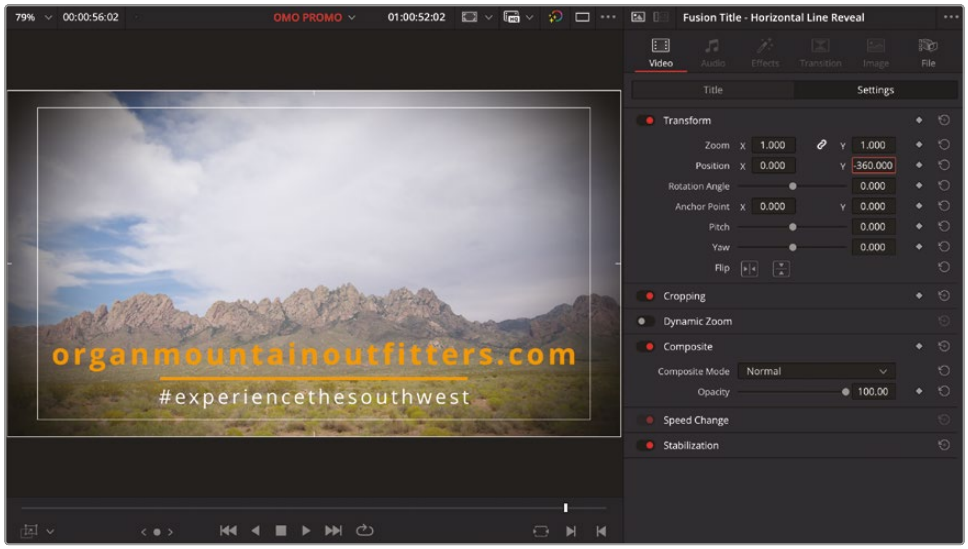
14 Scroll to the bottom of the Inspector to the Line Color controls.

15 Change the Line Color to a similar shade of orange as the Upper Text: Red 1.00, Green 0.40, Blue 0.00.

Finally, you will position the entire title over the lower portion of the screen.

16 Click the Settings tab at the top of the Inspector.

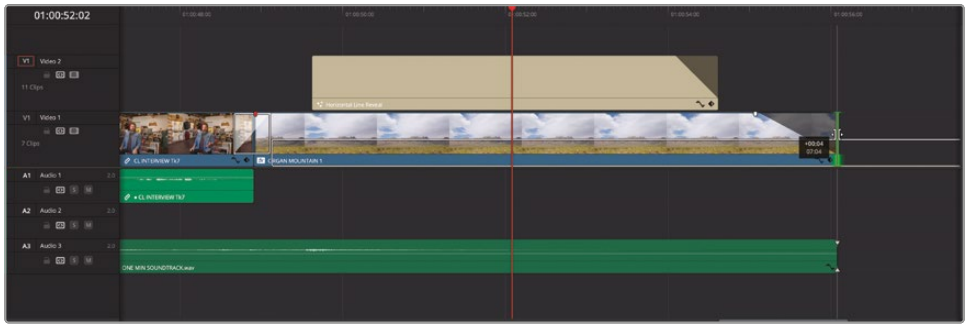
17 Change the Y Position value to about -360.00 to move the title down in the timeline viewer but still inside the inner title safe guide.



18 In the timeline, use the title clip's fade handle to apply a 12-frame fade out (-00:12 in the tooltip).

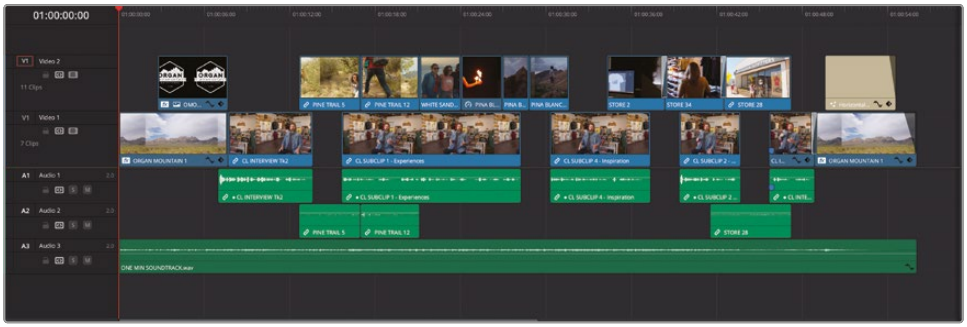
19 Apply a 1-second fade out using the fade handle on the **ORGAN MOUNTAIN 1** clip (-01:00 on the tooltip).

20 Trim the end of the **ORGAN MOUNTAIN TL.mov** clip on V1 so it snaps to the end of the audio clip on A3.



21 Click the Guides button in the timeline viewer to turn off the guides.

22 Click the Full Extent Zoom button and watch the timeline.



NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 02 / Timelines / **OMO PROMO CATCHUP 08.drt** and click Open.

Excellent! The edit looks great, and you've brought it to a whole new level using the tools and techniques detailed in this lesson. However, it's still not quite completely finished. Now that you've made it look as good as it can look, it's time to make it sound as good as it can sound! It's time to turn your attention to finessing the audio before you provide the client with a file that they can upload to their social media accounts.

Lesson Review

1 Which timeline mode(s) allows you to adjust the start or end of a clip in the timeline?

   a) Selection mode

   b) Trim Edit mode

   c) Blade Edit mode

2 Which timeline mode(s) allow you to slip a clip in the timeline?

   a) Selection mode

   b) Trim Edit mode

   c) Blade Edit mode

3 True or False? The replace edit uses the position of the timeline and source viewer playheads but always ignores In and Out points in the timeline.

4 True or False? DaVinci Resolve Studio effects cannot be applied in the free version of DaVinci Resolve.

5 Which elements can be previewed live in the Effects Library before being applied to a clip in the timeline?

   a) Video Transitions

   b) Open FX Filters

   c) Fusion Titles

Answers

1 a) and b). Selection and Trim Edit modes can be used to trim the start and end of a clip in the timeline.

2 b). Trim Edit mode allows you to slip a clip in the timeline by adjusting the In and Out points of the clip at the same time.

3 False. The replace edit will use In and Out points in the timeline to limit the amount replaced but will always ignore any In or Out points in the source viewer.

4 False. However, Studio-only effects applied in the free version of DaVinci Resolve will display a watermark.

5 a), b), and c). Video transitions, Open FX filters, and Fusion Titles can all be previewed live from the Effects Library by placing your mouse pointer over them and moving it left and right.

Lesson 3

Audio Editing and Quick Export

So far, over the previous two lessons, you have focused primarily on editing and refining the video clips in the OMO edit timelines. However, at some point you must switch your focus to other parts of the edit that need your attention, especially if you're going to deliver the edit to the client in good time!

Since the visual side of the edit is well in hand, it's time to turn your attention to the audio in the timeline.

Time

This lesson takes approximately 60 minutes to complete.

Goals

Setting Up the Project	140
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Ducking the Music Levels	162
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Setting Up the Project

This lesson starts exactly where Lesson 2 finished. If you completed Lesson 2, you may proceed to the next section in this lesson, "Audio Mixing."

If, however, you didn't fully complete the previous lesson, you can import a catchup timeline to help you get started with this lesson.

1. Open DaVinci Resolve and, in the Project Manager, double-click the OMO Promo project to open it in DaVinci Resolve.
2. If necessary, ensure that the edit page is selected.
3. In the bin list, select the TIMELINES bin and choose File > Import > Timeline.
4. Navigate to R19 Beginners Guide/Lesson 03/Timelines, select the file **OMO PROMO CATCHUP 08.drt**, and click Open.

The timeline is imported into the selected bin in your project and automatically opens in the timeline viewer. You can now continue with this lesson.

Audio Mixing

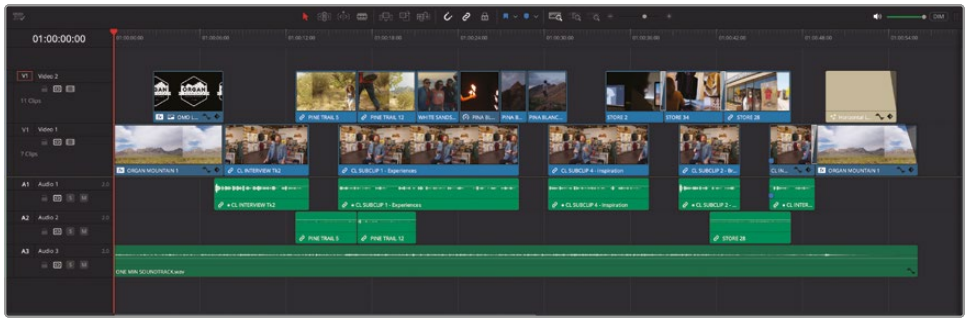
In many cases, you can spend as much time refining and finessing the audio in the timeline as you can the video. Over the first part of this lesson, you'll use some common techniques to ensure that you can mix your audio to the correct levels efficiently and effectively.

Arguably, while the audio in your timelines is made up of many different elements (dialogue, effects, and music are just three of these elements), the most important of these is the spoken word. Whether it be an interview as you have with the Organ Mountain Outfitters footage, voiceover, or dialogue in a dramatic scene, each spoken word is an important way of communicating with your audience and will need to be easily heard and understood. If the audience can't hear what someone is saying, then clearly there is no way they will be engaged with your story or messaging.

With this in mind, setting the initial levels of the dialogue clips in your timelines is a good starting point for creating a successful mix. So for the Organ Mountain Outfitters edit, you will start by normalizing Chris's interview clips to a consistent level. However, to do that you need to know where the levels are currently.

1. Choose Workspace > Reset UI Layout to reset the interface layout to the default.

2 In the timeline, click the Full Extent Zoom button and, if necessary, adjust the timeline so you can see all the clips.

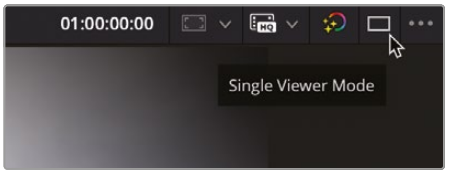


TIP To prevent the timeline view from resetting when you choose Reset UI Layout, choose File > Close Current Timeline before resetting the UI layout. You can then choose to reopen the last timeline from the timeline menu at the top of the timeline viewer.

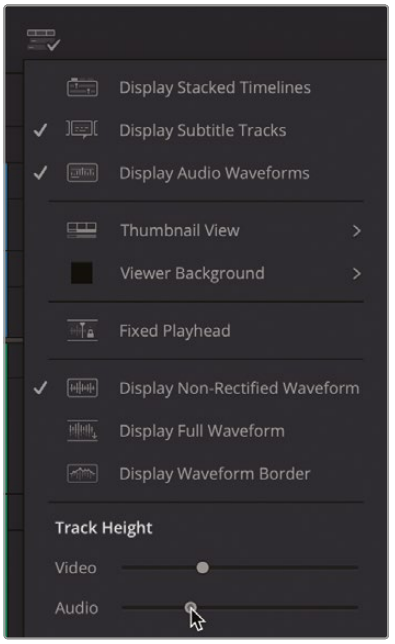
3 Click the Media Pool button in the top left of the interface to close the media pool since you won't need it for this lesson.

4 Click the Mixer button in the top right of the interface to open the audio mixer to the right of the timeline, resizing it to show all the audio track controls.

5 Click the Single-Viewer Mode button in the top right of the timeline viewer so that Resolve now displays a single viewer.



6 Click the Timeline View Options menu and resize the video tracks to make them smaller and the audio tracks to make them larger.

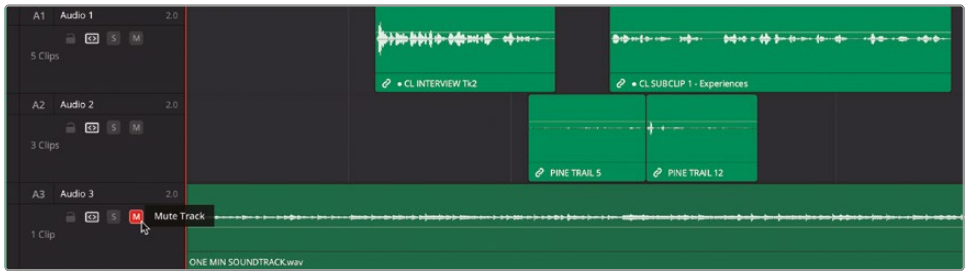


This will give you a more focused layout that makes the best use of your screen real estate.

TIP To save this layout for use later, choose Workspace > Layout Preset > Save Layout Preset.

You need to start off by focusing on Chris's dialogue clips. These are currently all in the first audio track, Audio 1.

7 Click the Mute button for Audio 3 in the timeline track controls or in the mixer so the music doesn't play, allowing you to focus just on what Chris is saying.



8 Play the timeline from the start, observing the levels of the clips in the mixer for Audio 1.

Even though the audio for these clips is from the same interview, there's a lot of variation in the levels. In the mixer, you should see some clips peak as loud as -3 dBFS, while others peak as low as -18 dBFS.

Normalizing Clip Levels

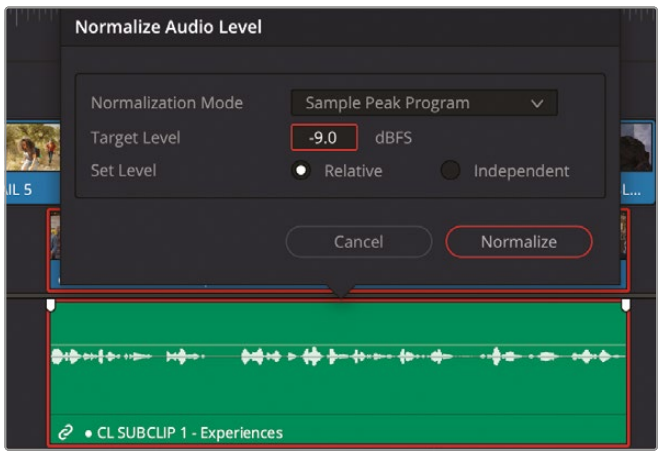
Normalizing the clips will help to smooth out some of the differences in the levels of each clip. Note that normalization in itself does not "fix" the levels. Instead, you are trying to discern a starting point from which you will be able to adjust the clips appropriately.

1 Make sure the timeline is in Selection mode and select all the clips on the Audio 1 track.

NOTE If Linked Selection is enabled for the timeline, both the audio clips and their linked video clips will be selected. This is fine; normalization is an audio-only process and does not affect video clips.

2 With the clips on Audio 1 selected, right-click any of the selected clips and choose Normalize Audio Levels to open the Normalize Audio Levels window.

The Normalization Mode dropdown menu allows you to choose the method used to determine how each clip's volume level will be normalized.



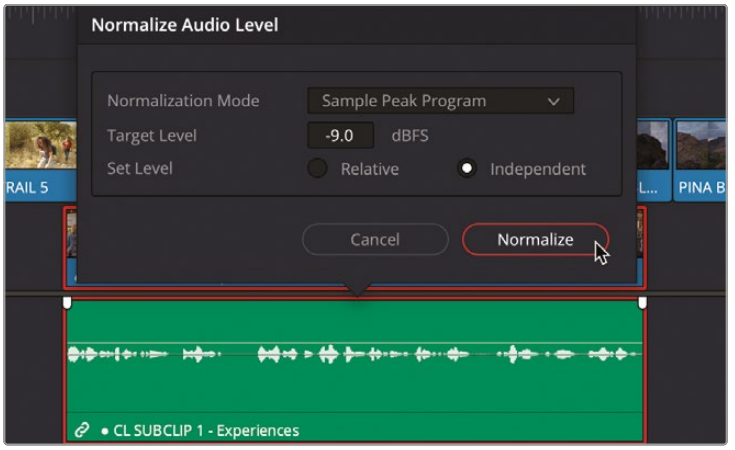
Options include a variety of loudness normalization algorithms specific to various international standards, which are useful for balancing the perceived overall loudness of several clips to one another, regardless of transient levels throughout each clip. You can also perform peak normalization, with options for both Sample Peak and True Peak. Whichever method you choose, the result is largely the same: each clip's audio level is analyzed and then adjusted to the various peak and/or loudness levels specified.

NOTE You will learn more about delivering your audio for various loudness standards in Lesson 10, "Delivery and Media Management."

3 Leave the Normalization Mode set to Sample Peak Level and the Target Level to -9 dBFS.

With the target set to -9 dBFS, this is where the normalization process will set the peak (highest) levels of the selected clips and is a good starting point for setting dialogue levels.

4 Change the Set Level option to Independent.



When Set Level is set to Relative, all selected clips are treated as if they're one clip so that the highest peak and/or loudness level of all the selected clips is used to define the adjustment, and the volume of all selected clips is adjusted by the same amount. When Set Level is set to Independent, the peak and/or loudness levels of each clip is used to define the adjustment to that specific clip. This is likely to result in different volume adjustments to each clip that make the peak and/or loudness levels of each audio clip better match one another. Relative is useful if you're normalizing a series of clips that have a consistent recorded level, such as a controlled dialogue recording, whereas Independent is much more useful if you're trying to balance a series of clips that have different recorded levels (subtle or not), such as interviews or other location audio, which might have been recorded under less-controlled conditions.

5 Click Normalize.

The audio levels for the selected clips are each adjusted so that the peak level for each clip reaches the target level of -9 dBFS on the audio meters in the mixer.

6 To verify, play through the timeline again, looking for the peak levels of the clips on Audio 1.

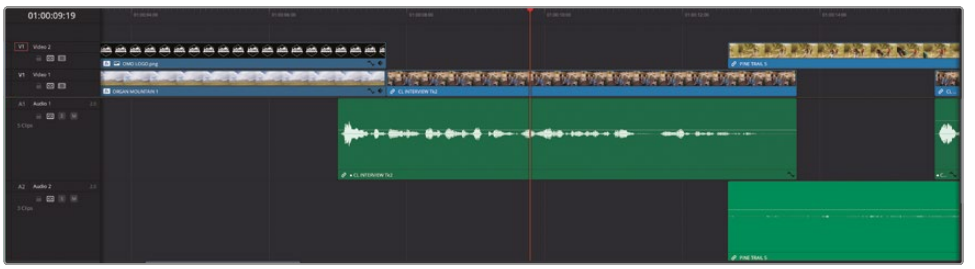
You should now see that each clip peaks at the consistent level of -9 dBFS. However, as you'll no doubt see (and hear), that does not mean the levels are entirely consistent with each other, because it depends on the consistency at which the original audio levels were recorded! For example, while the first and fifth interview clips each start with a peak of -9 dBFS, the rest of the audio levels for these clips is around 6 dB lower than each of the other clips due to the nature of the recorded audio.

Adding Keyframes to Audio Clips

Normalizing audio levels doesn't really set the correct level for each of your clips. Instead, think of it as a useful starting point from which you can make further adjustments. Having set the initial peak level, all you need to do now is bring the rest of the audio in the clips up to the same level so each dialogue clip plays at a consistent level, making it easier for the audience to concentrate on what's being said.

There are several ways you can achieve this, but one of the most common methods is using audio keyframes.

1. If necessary, deselect all the clips in the timeline, move the playhead over the center of the first interview clip, click the Detail Zoom button, and center the clip in the timeline.
2. Place your mouse pointer over the audio portion of the timeline and use Shift-mouse scroll to increase the size of the audio tracks so it's easier to view the waveform of the audio clip.



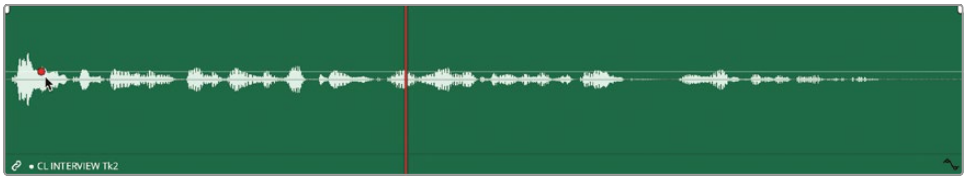
Looking at the waveform of the clip, you should be able to clearly see what's happening to the audio levels. The clip starts with a large waveform, the peak of the clip, where the audio level is the highest, and this is the point of the clip that has been set to the -9 dBFS target level as part of the normalization process—but then it seems to drop considerably after the first few words have been spoken.

This is a common enough problem: no matter how carefully the audio recordist is at setting recording levels on location, you often get these variable levels since people will generally begin their answers forcefully before dropping off slightly.

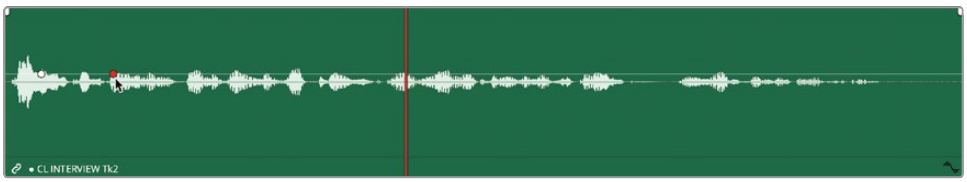
Sometimes it's due to feeling a little anxious at first in front of the camera, or possibly it's because they start to lose the thread of what they're saying as they progress through an answer. Either way, you really need the rest of the audio in the clip to be peaking around -9 dBFS for a consistent level.

> **NOTE** This still doesn't mean a peak level of -9 dBFS is the ***correct*** level. You're still only concerned with getting a ***consistent*** level across the dialogue clips.

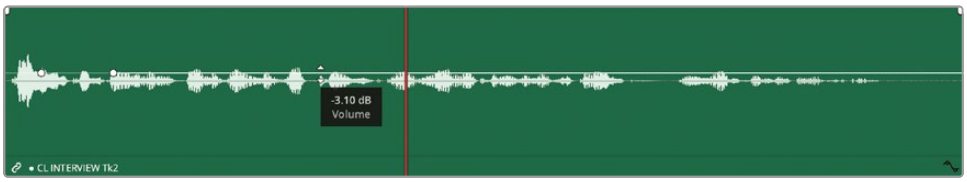
3 Option-click (macOS) or Alt-click (windows) the volume bar to add the first keyframe just after the large initial peak in the waveform.



4 Option-click (macOS) or Alt-click (windows) to add a second keyframe just before the third, slightly lower peak.



5 Click and hold the volume bar after the second keyframe to see the current level adjustment applied by the normalization process.



The tooltip shows an adjustment of -3 dB. To bring the rest of this clip back to a level comparable to the initial peak and the other dialogue clips in the timeline, you need to apply a +6 dB adjustment to this latter portion of the clip.

6 Drag the volume bar up until the tooltip reads 3 dB.

TIP For greater control over the precision of the volume level adjustment, hold the Shift key while dragging the volume bar.

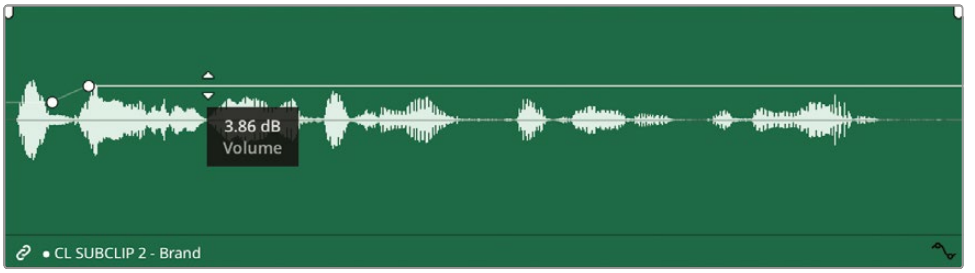
7 Play the clip again.

Note how the levels at the end of the clip drop slightly again as Chris reaches the end of his introduction. A couple of additional keyframes will help.

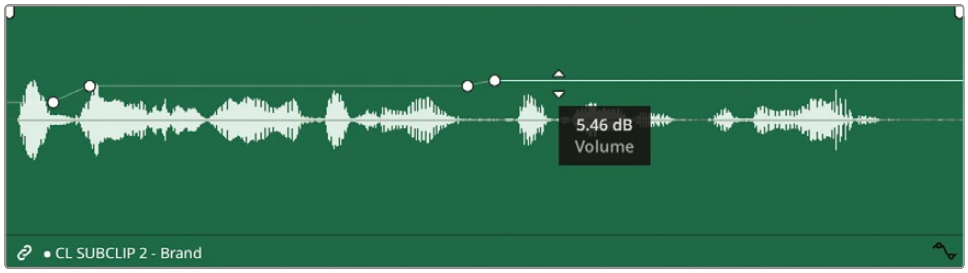
8 Option-click (macOS) or Alt-click (Windows) twice more to add two additional keyframes to the volume bar toward the end of the first audio clip and adjust the level after these keyframes to around 6 dB.

With these adjustments, the clip now has a consistent audio level throughout its duration.

9 Repeat the process on the fifth clip on Audio 1, **CL SUBCLIP 2 - Brand**, adding the keyframes just after the first large peak and bringing the level after the second keyframe up to around 4 dB.



10 Add another couple of keyframes further through the same clip and raise the level after by about another 1.5 dB, to around 5.5 dBFS.



11 Finally, play back the timeline again to ensure that all the interview clips play at around the same level, and no part of the interview sounds noticeably louder or quieter than the rest. If necessary, add additional keyframes as required.

Congratulations. You have successfully normalized and balanced the interview clips for this timeline. This provides a good starting point from which to mix in the rest of the audio clips.

Using Keyframes to Remove Unwanted Audio

You can also use audio keyframes to help remove unwanted sounds.

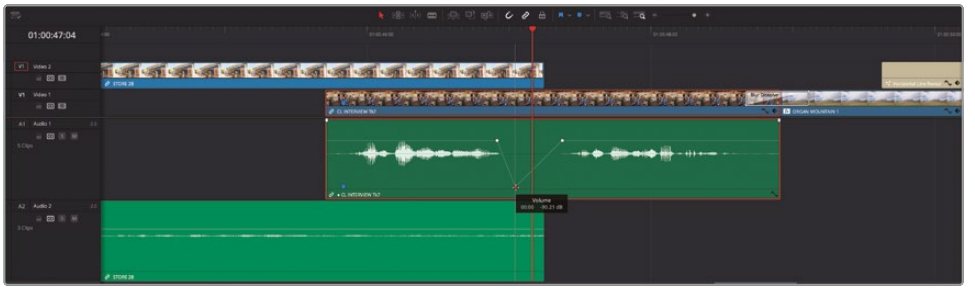
1 Play the last interview clip on track A1, **CL INTERVIEW Tk7**, listening carefully after Chris says, "That's why we say...."

You can hear an unwanted clapping sound as he lowers his hands to his knees. Although this action is covered by the cutaway of the store exterior, it's quite distracting now that the levels have been normalized.

2 Zoom in on the clip in the timeline so you can clearly see the waveform and identify the slight peak created by the clap.

3 Option-click (macOS) or Alt-click (Windows) the volume bar to add two keyframes just after Chris's first sound bite and just before the second, and a third above the peak made by the clap.

4 Drag the middle keyframe down to reduce the level of the clap so that you no longer hear it in the mix.



Using keyframes like this is an easy way of minimizing unwanted or distracting sounds in your mix.

Noise Reduction Using Fairlight FX

Using simple techniques like keyframes means you can clean up your audio edits to a certain degree, but sometimes you need to employ other methods to remove unwanted or distracting sounds. In certain circumstances, you can use Resolve's powerful built-in Fairlight FX audio plug-ins.

1 Mute Audio 2 and click the Full Extent Zoom button.

2 Return the timeline playhead to the start of the first clip on Audio 1 and begin playing this clip, listening carefully.

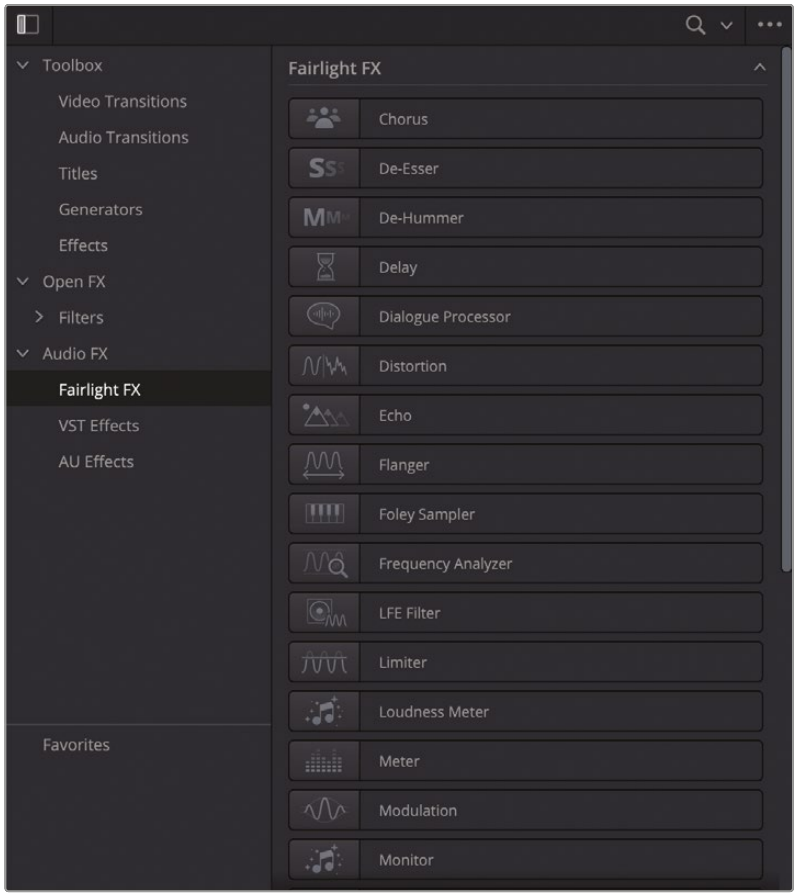
The audio level is much better due to the work you've done normalizing and balancing the clip's levels. However, this has raised another issue with this clip, and possibly the interview as a whole: by increasing the levels, you have made the background noise much more prominent, which you can hear as a hissing noise, especially when Chris isn't talking.

Now, it's very likely that once you start adding other parts of the mix back in (most notably the music on Audio 3), this won't be a problem. However, this gives you the opportunity to learn how to employ the power of Fairlight FX for reducing audio noise.

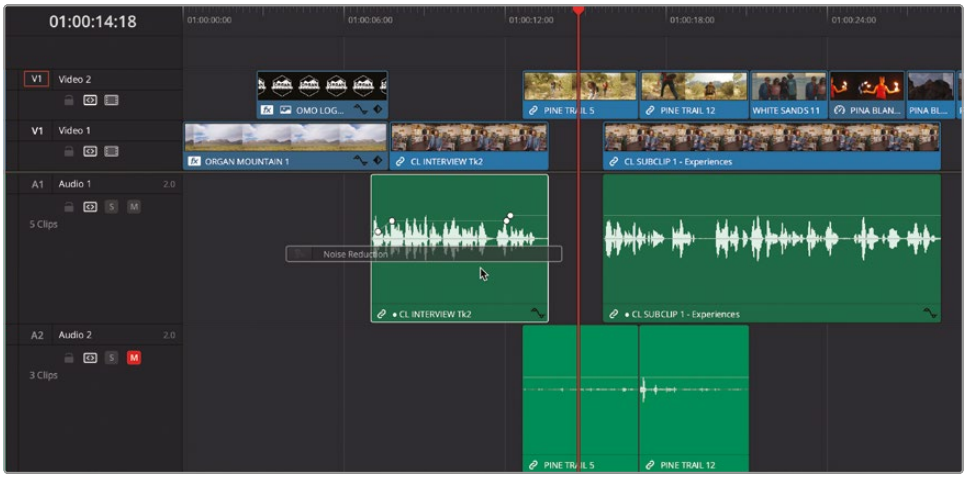
3 Click the Effects button in the top left of the interface to open the Effects Library.

4 Open the Audio FX group and choose Fairlight FX.

The Fairlight FX plug-ins are installed along with DaVinci Resolve.



5 Select the Noise Reduction plug-in and drag it across to the first clip on Audio 1 in the timeline.



The plug-in is added to the clip in the timeline, and its controls window opens.

The Noise Reduction plug-in can be used in either a manual or automatic mode. As a basic introduction to the power of this plug-in, and Fairlight FX plug-ins in general, you will use the automatic settings. For more information on using the plug-in manually, see the DaVinci Resolve 19 User Manual.

6 In the Noise Reduction controls window, select the Auto Speech Mode.

7 Play the clip in the timeline to hear the results of the Noise Reduction plug-in.

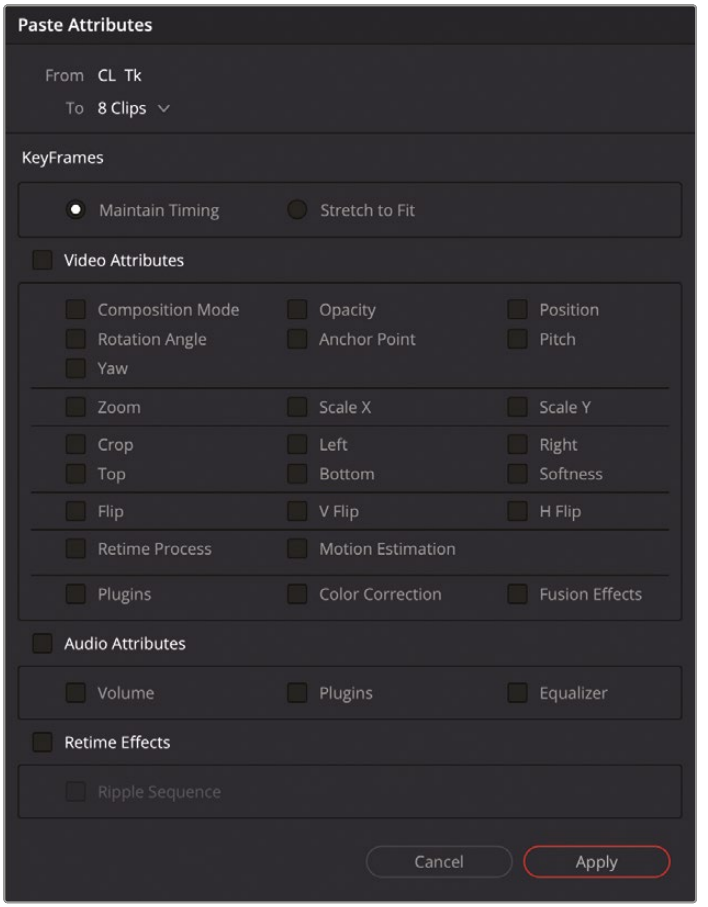
8 Close the Noise Reduction plug-in window.

NOTE To reopen the Noise Reduction plug-in's controls, select the clip in the timeline and open the Effects Inspector, and then click the Custom button in the top right corner of the effects controls.

You can quickly apply the same Noise Reduction plug-in to all the other dialogue clips by using Paste Attributes.

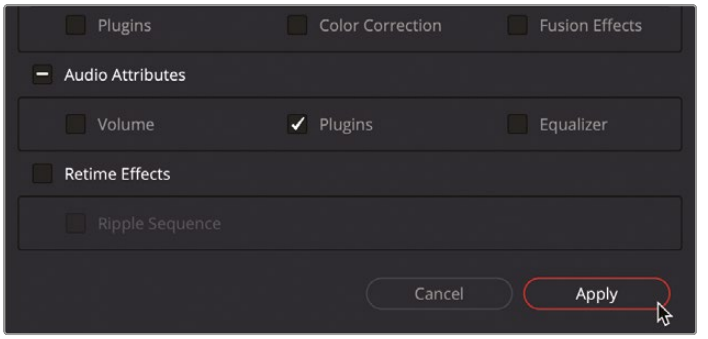
9 Select the **CL INTERVIEW Tk2** audio clip and press Command-C (macOS) or Ctrl-C (Windows) to copy the clip.

10 Select all the other clips in the Audio 1 track and press Option-V (macOS) or Alt-V (Windows) to open the Paste Attributes window.

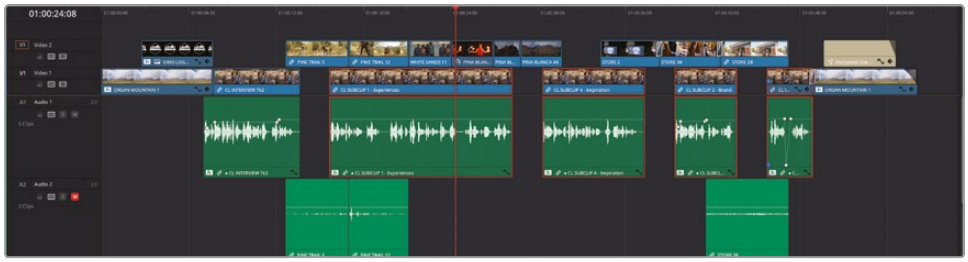


The top of the Paste Attributes window tells you which clip you are pasting attributes from and how many clips you're pasting them to.

11 Select the Audio Attributes Plugins and click Apply.



This will apply the Noise Reduction plug-in copied from the first clip to all other clips in the track.

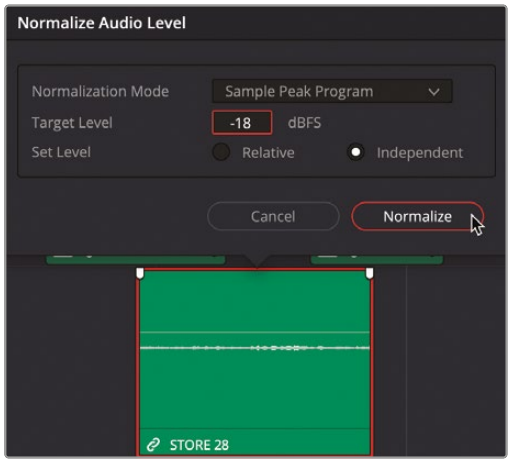


NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 03 / Timelines / **OMO PROMO CATCHUP 09.drt** and click Open.

Setting Levels of SOT Clips

You can also apply normalization to effects clips, such as those on Audio 2. This type of audio is often referred to as SOT, for "sound on tape," an anachronistic term used to refer to audio recorded on a camera.

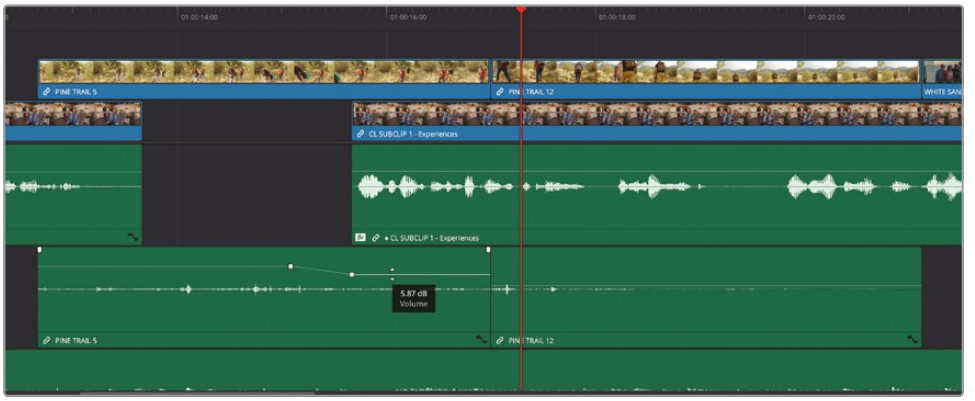
1. Unmute Audio 2.
2. Select the first two clips on Audio 2, right-click either of them, and choose Normalize Audio Levels.
3. In the Normalize Audio Level window, change the Target Level to -18 dBFS, a level more in keeping with sound effects, or SOT clips.



4 Click Normalize.

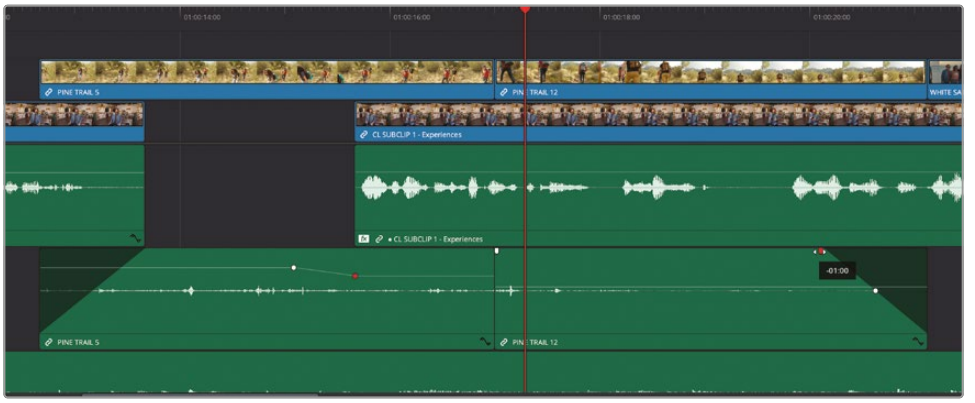
The clips are normalized to the desired level.

5 Add two keyframes to the first of the SOT clips, just before Chris's second interview clip, and lower the second part of this clip to about 6 dB so the walkers' footsteps drop slightly as Chris starts speaking.

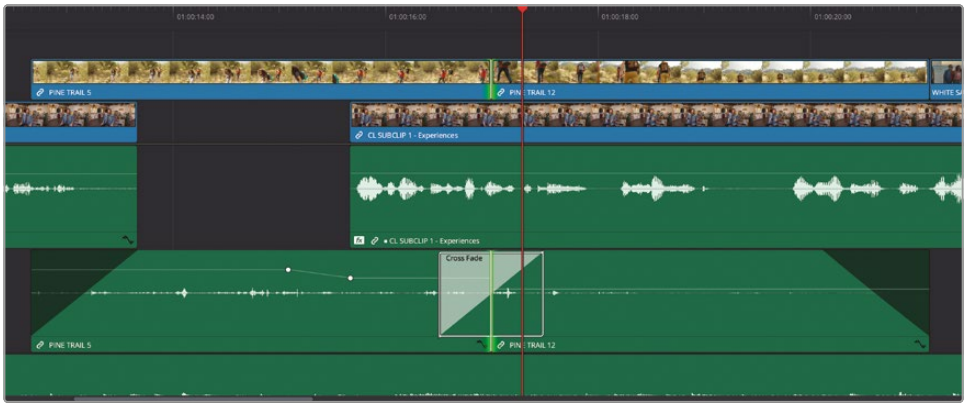


6 Use the fade-in handle to fade in the first SOT clip over a duration of about a second.

7 Use the fade-out handle to fade out the second SOT clip over a duration of about a second.



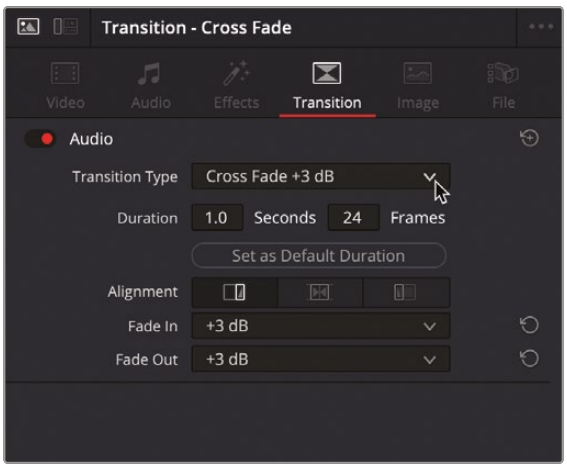
8 Select the edit point between these two clips and choose Timeline > Add Audio Only Transition or press Shift-T.



An audio transition is applied to the edit point, cross fading the two audio clips and providing a smoother audio transition between the two clips than a simple cut.

9 Select the audio transition in the timeline and open the Inspector.

10 In the controls for the audio transition, change the Transition Type to Cross Fade +3 dB.



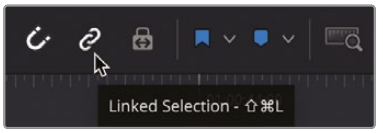
This type of transition is a more appropriate setting for cross dissolving two clips than the linear 0 dB default.

Next, you will turn your attention to the final SOT clip on Audio 2.

11 Scroll toward the end of the timeline and listen to the audio from the STORE 28 clip.

In hindsight, this audio probably isn't appropriate for the promo, so you will remove it completely.

12 In the timeline, click the Linked Selection button to override the links between the timeline clips.



13 Select the audio for STORE 38 and choose Edit > Delete Selected or press Backspace to remove it.

> **NOTE** If you press Delete instead of Backspace, you will perform a Ripple Delete, which will ripple all the clips starting after the deleted clip back in the timeline.

Next, you'll need to bring the music back into the mix.

> **NOTE** If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 03 / Timelines / OMO PROMO CATCHUP 10.drt and click Open.

Different Types of Audio Transitions

DaVinci Resolve has three types of audio transitions, which you can access through the Transitions controls in the Inspector as you just did or via the Effects Library under the Audio Transitions category. Audio transitions can be applied, adjusted, saved as presets, and set as the Standard Transition in the same way as video transitions (see the previous lesson).

By default, the Standard Audio Transition is the Cross Fade 0 dB. While this would seem to be the natural audio cross fade you'd want to use, due to the nature of audio levels, it can result in a slight (albeit almost imperceptible) dip in the levels during the cross fade.

Cross Fade +3 dB minimizes this issue by applying a ramped adjustment to the levels where the audio is initially faded out/in slower. This is sometimes referred to as a constant power cross fade and is commonly used when cross-fading music or sound effect clips.

Cross Fade -3 dB is the opposite of the constant power fade, whereby the audio is initially faded out/in faster and can be used when fading music out completely.

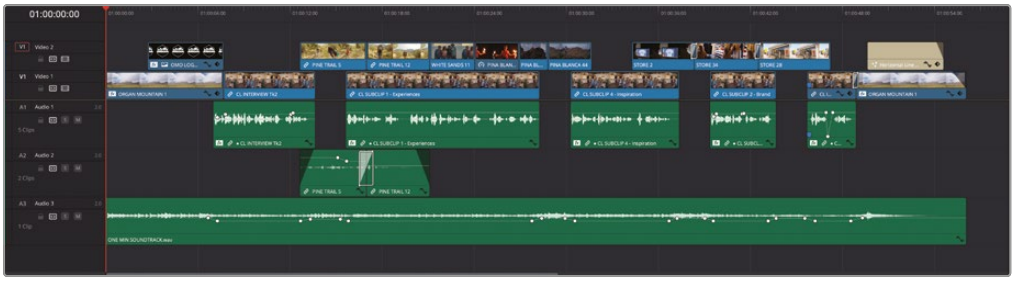
The Transition Inspector allows you to mix between the different types of audio fades using the Fade In and Fade Out pop-up menus. You can also manually adjust the shape of the fade applied by the fade handles using the control that appears on the center of the audio curve.

Ultimately, the choice of which type of cross fade works in any given situation depends on what you're hearing.

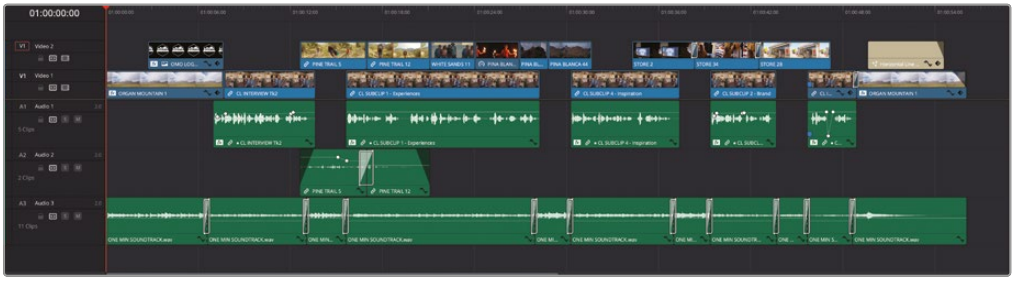
Ducking the Music Levels

The final touch you will apply to the audio for this edit is to mix the music with the rest of the timeline audio, reducing the volume level of the music during interviews or other dialogue clips—a technique referred to as ducking.

As always, there are many different ways of achieving this result. For example, you could use keyframes to adjust the levels of the music clip so that it's louder when people aren't speaking and quieter when they are.



An alternative method favored by many editors is to cut the music clip into different sections, adjusting alternate clips to lower or higher levels, and using audio transitions to cross fade between each of these separate clips.



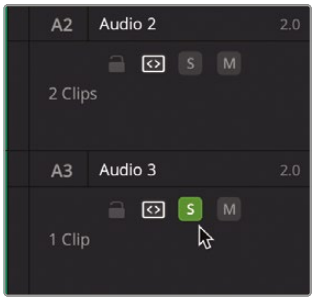
Both of these techniques are valid ways of "ducking" the music around the dialogue clips. However, DaVinci Resolve has a clever way of achieving the same results automatically, through the Ducker. The advantage of using this process is that if you adjust the placement of your dialogue clips, you don't need to change the keyframes or the edit points that you've manually applied.

To use the Ducker, you must set the initial level of the music. Currently, the music's audio level is set at -18 dB, which has been a good level to work with while you've been editing the various parts of the timeline. Now, though, you'll set the music to the level you want it to be when Chris isn't speaking.

1. Click the Mute button for Audio 3 in either the track controls or the mixer and play the timeline to hear the music against Chris's dialogue and the SOT clips.

   Ideally, you want the music to be at the same level as Chris's dialogue clips when he isn't speaking, and then drop as he is speaking (hence the term "ducking").

2. Click the Solo button for Audio 3 in the timeline track controls or in the mixer to play just the clips in that track.



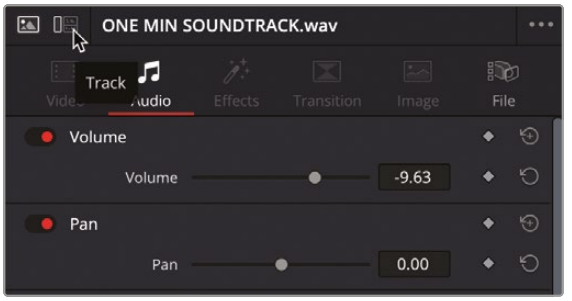
3. Play the music again, noting the level in the mixer.

4. As the music is playing, adjust the volume bar so the music peaks at about -10 dBFS on the mixer (about -9 dB on the volume bar tooltip).

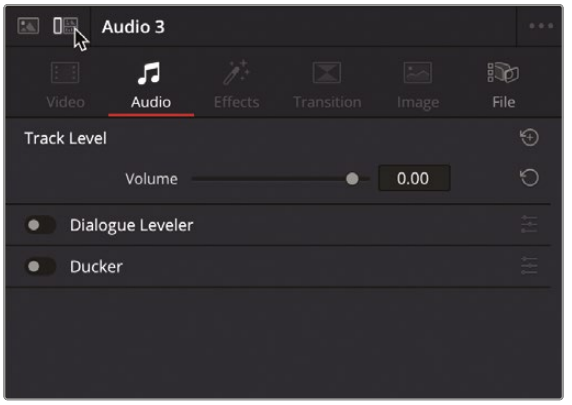
It might seem a little loud right now, but this sets the initial level. Now it's time to apply the Ducker.

The Ducker is a track-level effect, so you won't find it in the Fairlight FX category in the Effects Library. Track-level effects are easily accessed in the mixer in the Fairlight page but can also be accessed in the edit page.

5 Select the music clip in the timeline and click the Track button at the top of the Audio tab in the Inspector to switch to the track controls for Audio 3.

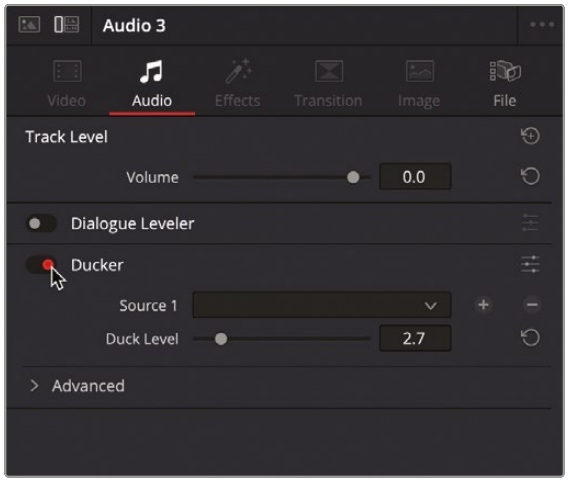


Here, you will find a number of track level controls, including a Track Volume control (the same as using the faders in the mixer), Dialogue Leveler, and Ducker.



NOTE In the Studio version of DaVinci Resolve, you will also have additional track level effects, such as Voice Isolation, Dialogue Separator, and Music Remixer.

6 Click the Enable switch to activate the Ducker and reveal its basic controls.



7 In the Source 1 dropdown menu, ensure that the Ducker is using Audio 1, where your dialogue clips are located.

> **TIP** You can add additional source tracks to the Ducker by clicking the + (plus) button next to the Source 1 menu.

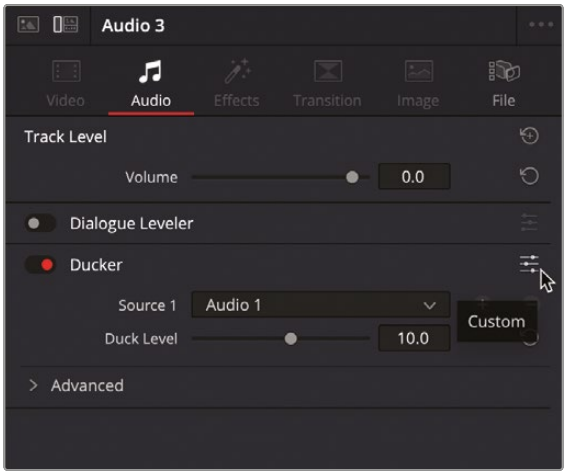
8 Adjust the Duck Level to 10. This is the amount of dB by which you will lower the clips on the Audio 3 track when there are audio clips on Audio 1.

9 Play back the timeline as it currently stands.

Now, when the playhead reaches a clip on the Audio 1 track, you will hear the music level drop by 10 dB. Once the playhead has passed the clip on Audio 1, the music level will rise again to its original level.

There are some additional controls you can access to refine this process.

10 In the Inspector, click the Ducker's Custom button.



The custom controls open in a separate window.

11 Play the timeline again, this time using the graph in the Ducker controls to view more information about what the Ducker is doing.

Currently, the Ducker seems to be lowering the music very abruptly and rising a little more naturally.

12 In the Ducker controls, adjust the Rise Time to about 550 mS. This will result in a more natural adjustment into the ducked audio.

13 To adjust the speed coming out of the ducked audio, adjust the Recovery control to about 660 mS.

14 Once you are happy with the speed with which the Ducker is applied and removed, close the Ducker controls window.

15 In the timeline track controls, or in the mixer, click the Solo button to unsolo the Audio 3 track and play back your timeline with the Ducker applied. If necessary, continue adjusting the controls to achieve the desired effect.

The Ducker makes it possible to automatically mix the audio levels of one track against other tracks in the same timeline without the need to resort to complex keyframing. However, for more complex timelines, you might be better off using the more tried and tested manual ducking techniques, which you will explore in Lesson 8, "An Introduction to Fairlight."

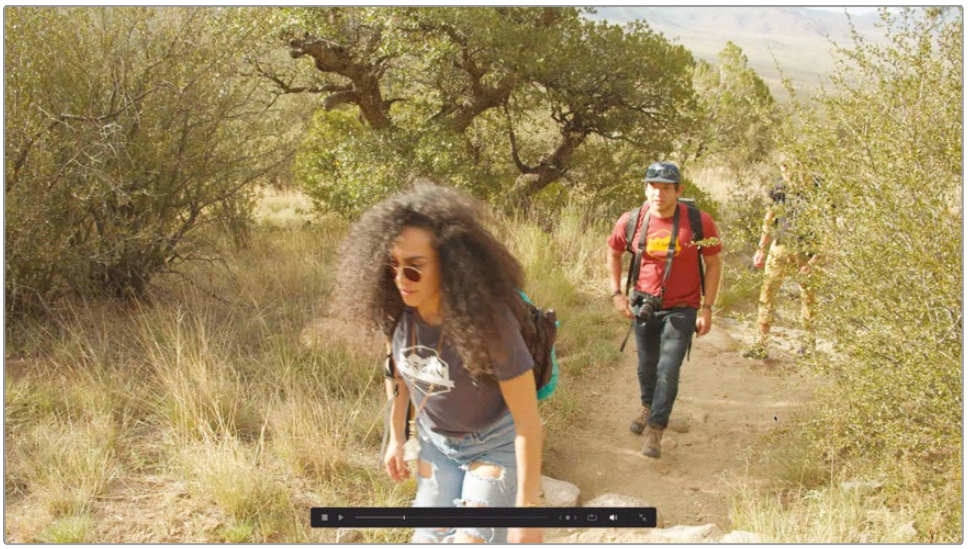
Re-Create Ducker Results with Keyframes

You've seen how the Ducker works in practice, but can you re-create similar results by manually adding keyframes? To try this, duplicate the current timeline you've just been working on, reset the Ducker on Audio 3, and try adding keyframes to see if you can easily re-create the same ducking results.

Full-Screen Review

Congratulations! You have successfully edited a short but polished promotional clip for Organ Mountain Outfitters. However, before you deliver the final file that will be uploaded to the client's social media channels, you should watch the whole thing back at full screen. This can be very useful because it will allow you (and the client, if they're with you) to see the results of your efforts without being distracted by all the "editing paraphernalia" of the interface.

1 Choose Workspace > Viewer Mode > Cinema Viewer or press Command-F (macOS) or Ctrl-F (Windows).



DaVinci Resolve displays the current timeline in full screen. Simple onscreen navigation and playback controls are available as an overlay.

> **TIP** You can still use the keyboard shortcuts you're familiar with to navigate around the timeline in the Cinema Viewer. Use Home to return to the start of the edit, J, K, and L for playback, etc.

2 Use the onscreen controls to return to the start and begin playback. The controls and your mouse pointer will disappear after a few seconds.

3 When you've finished watching your masterpiece, move the mouse slightly to display the controls again and click the Exit Fullscreen button or press Esc (Escape) to return to the full Resolve interface.

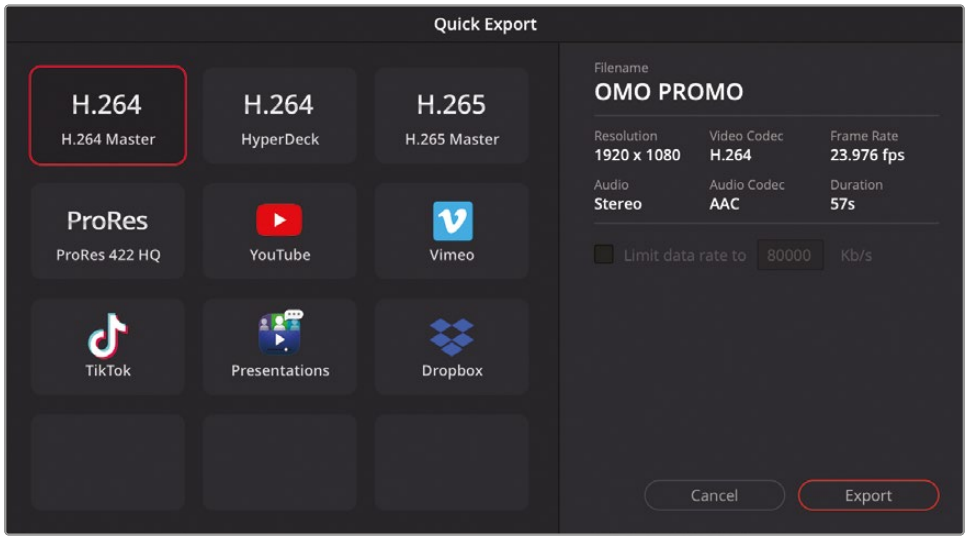
Playing back your timeline like this gives you an opportunity to see your edit the same way your viewers will. Watch carefully and see if there are any parts of the edit that might benefit from additional changes. If so, now is the time to make those adjustments.

NOTE If you need to catch up before moving to the next step, select the TIMELINES bin and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 03 / Timelines / **OMO PROMO CATCHUP 11.drt** and click Open.

Quick Export

Of course, the client loves the edit and is happy to sign off on your work. Hopefully, you're also pleased with what you've accomplished. Now, the only step left is to export the edited timeline so it can be posted to popular streaming and social media websites as quickly as possible. You can accomplish this quickly using DaVinci Resolve's Quick Export feature.

1 In the top right corner of the interface, click the Quick Export button or choose File > Quick Export.



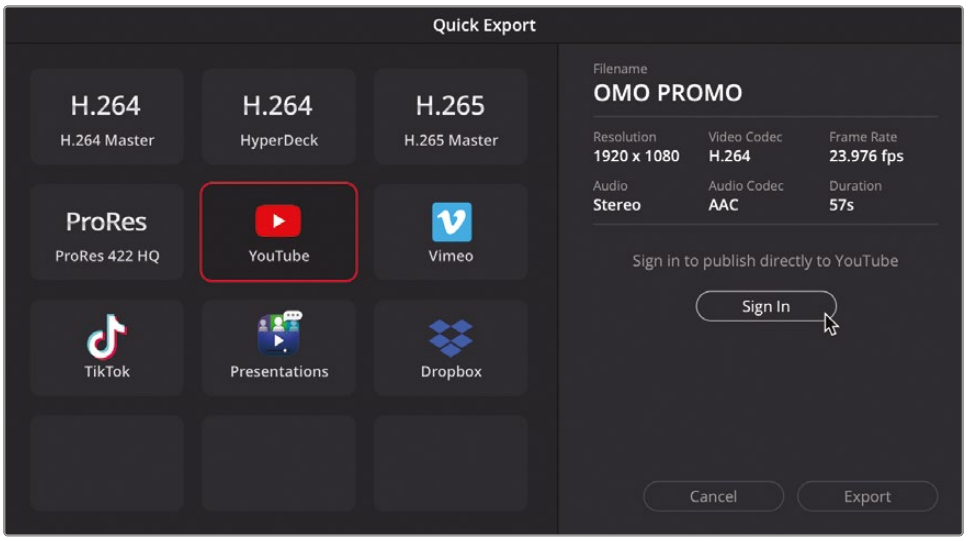
The Quick Export window includes commonly used presets for creating a video file of your currently open timeline, including uploading directly to common social media and sharing sites including YouTube, Vimeo, TikTok, and Dropbox.

> **NOTE** You can also upload your timelines as a Presentation to Blackmagic Cloud, where you can invite people to watch and provide feedback on your work.

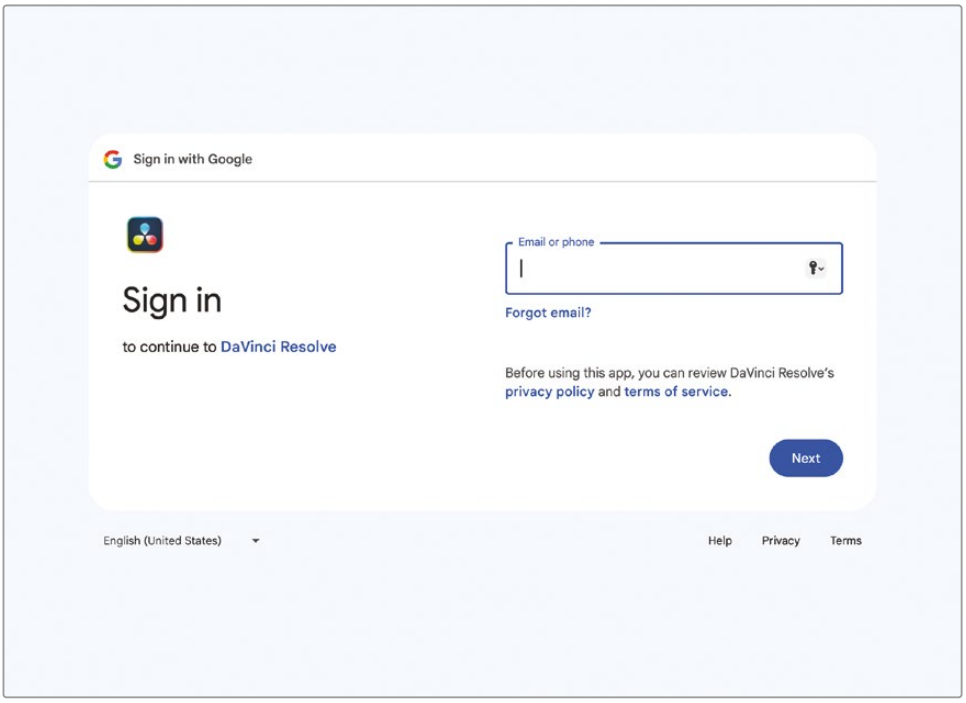
2 Select the YouTube option.

This preset contains all the settings needed to create a file and upload it directly to YouTube for you, a summary of which is available in the panel on the right. However, if you haven't already input your account information, you'll just see a Sign In button.

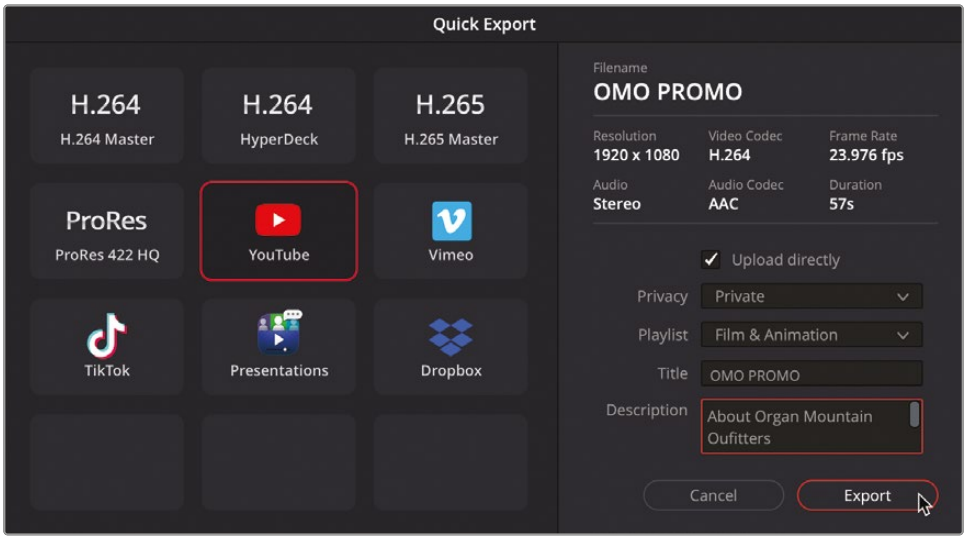
3 Click the Sign In button if you haven't already input your account information for YouTube.



Resolve will open a window in your internet browser for you to authenticate your account.



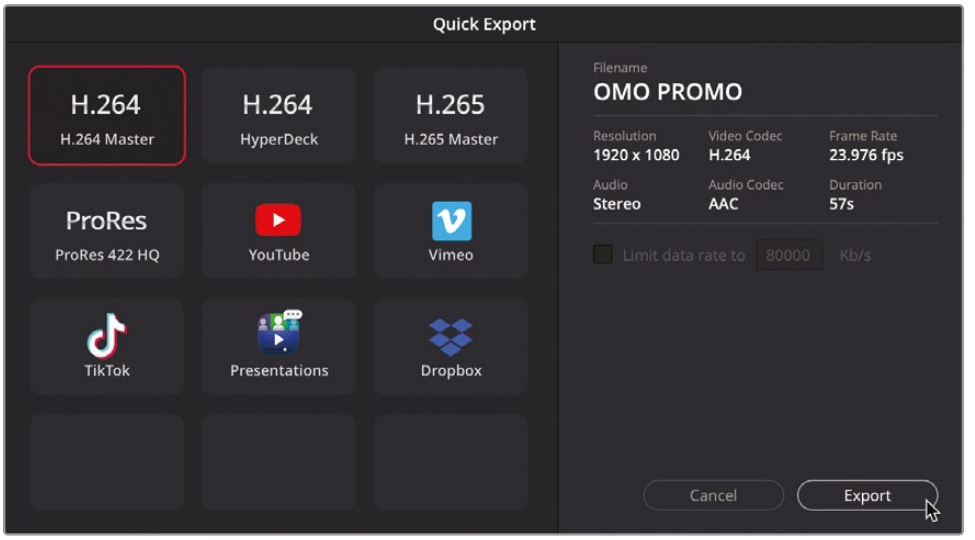
4 If required, follow the directions to enter your account information and give DaVinci Resolve the relevant permissions. When you've completed the sign-in process, the Quick Export window will show an Upload Directly checkbox. Selecting this allows you to enter a title, privacy settings, and a description for the uploaded video.



TIP You can also sign in to these services by choosing DaVinci Resolve > Preferences > Internet Accounts.

Instead of uploading directly to a video sharing service, though, you might just want to create a stand-alone file. You can then manually upload the file instead or distribute it in other ways.

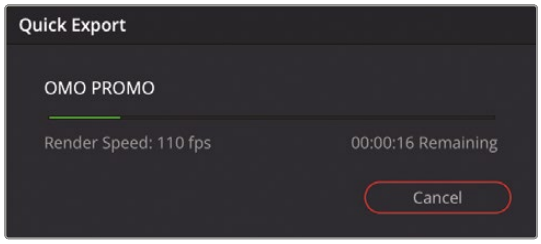
5 Select the H.264 Master preset. Again, details of the file to be exported are summarized in the right panel of the Quick Export window.



6 Click Export, choose a location where you want the movie to be saved on your computer, and then click Save.

TIP By default, the exported file will have the same name as the timeline you're outputting, but you can rename the exported video at this stage if necessary.

A render progress window shows the time to completion and, if appropriate, the upload progress for the movie.



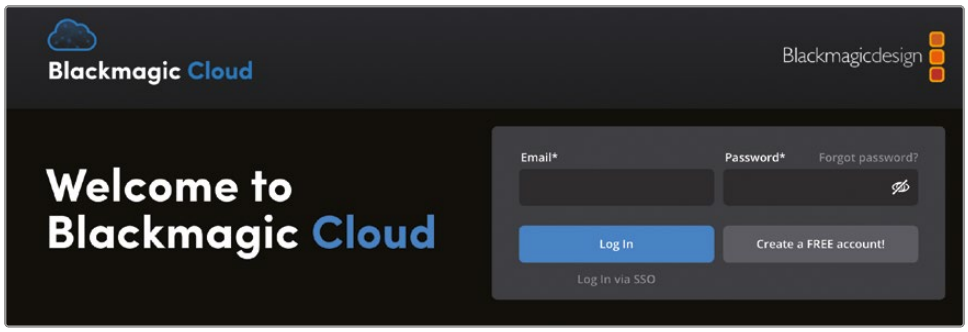
Once the render progress bar has completed, close the Quick Export progress window, and you will find the exported video in the location you chose for it so you can open it in your computer's default video player.

Using Presentations

Sometimes you want to review your work with the director or client, wherever you and they are in the world. The Presentations preset available in Quick Export can be used to upload a video file directly to Blackmagic Cloud. Once your file has been uploaded to the Cloud, you can invite other people to view, comment, and collaborate, all in real time. What's more, comments can be added directly to the video as a series of time-stamped markers that will automatically appear directly in your timeline in DaVinci Resolve!

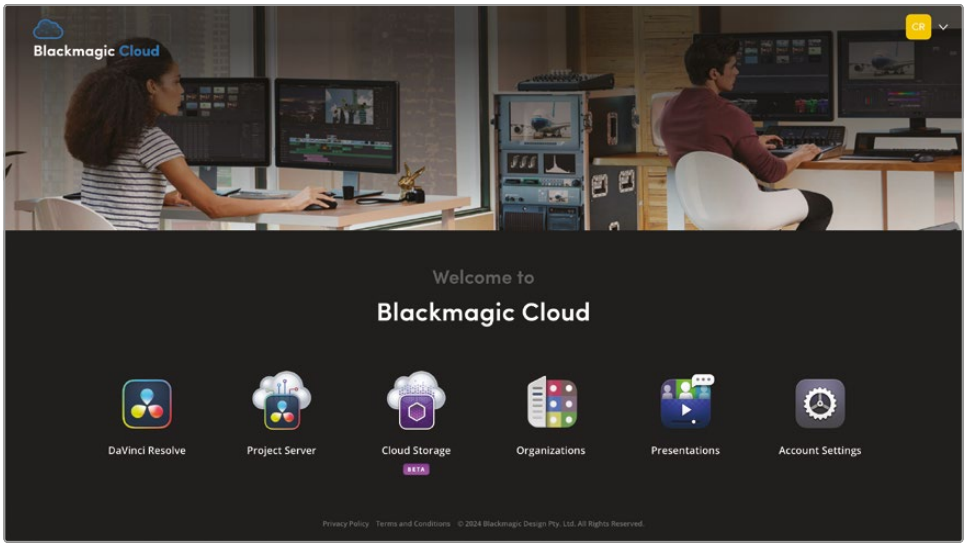
To begin working with Presentations, you will need a free Blackmagic Cloud account.

1. In a web browser window, go to https://cloud.blackmagicdesign.com
2. If you already have a Blackmagic Cloud account, enter your email and password to sign in; otherwise, click the "Create a FREE account" button and fill in your details before clicking Sign Up.



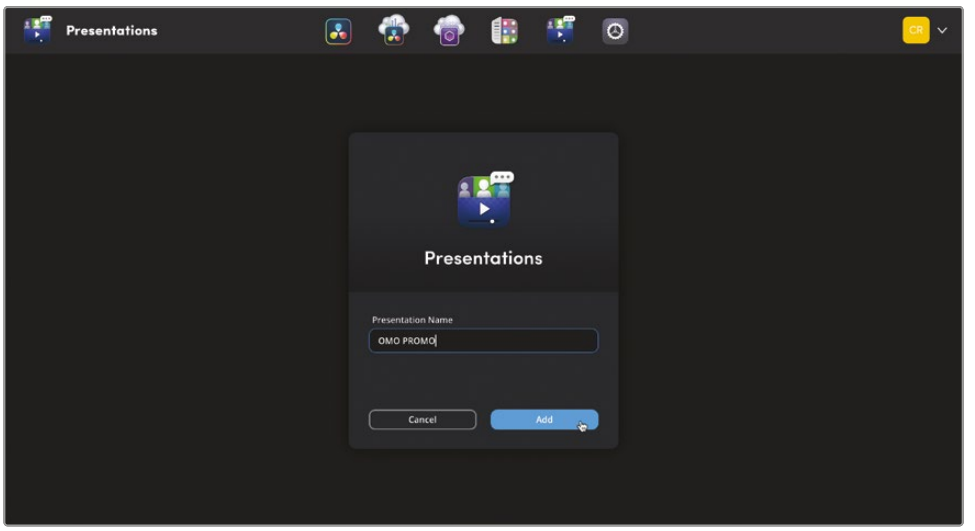
NOTE New accounts will need to be verified by using a link sent to the email address you use for your Blackmagic Cloud Account.

Once you have signed in, you will see the Blackmagic Cloud Welcome screen.

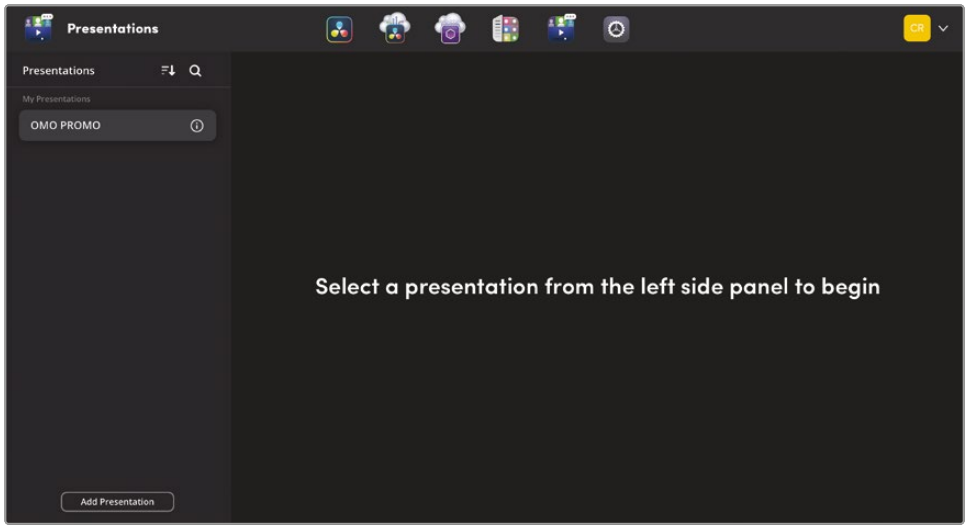


3 Click the Presentations option.

4 If this is your first Presentation, in the Presentation Name field, type **OMO PROMO** and click Add; otherwise, click Add Presentation at the bottom of the Presentations list, name the new Presentation **OMO PROMO**, and click Add.

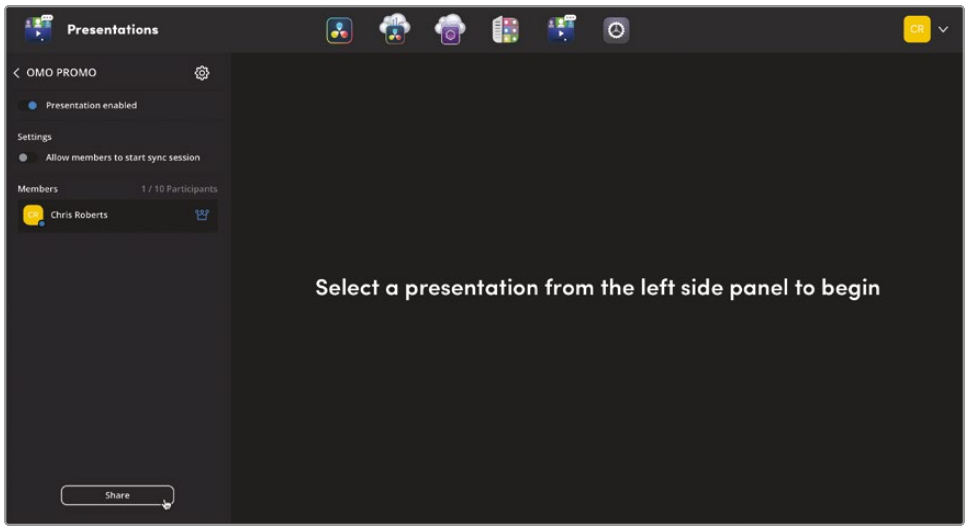


The OMO Promo presentation is added to the Presentations list. To share this Presentation with other users, you'll need to invite them.

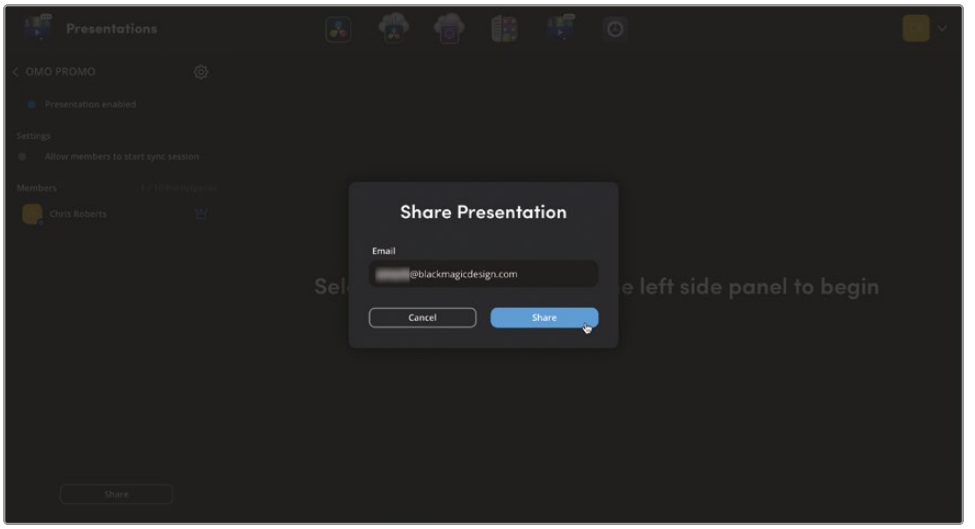


NOTE To view a Presentation, your invitee must have a free Blackmagic Cloud account. If they don't have a Blackmagic Cloud account associated with the email you use to invite them, they will be prompted to create one.

5 Click the "i" button for the OMO Promo Presentation and click the Share button.

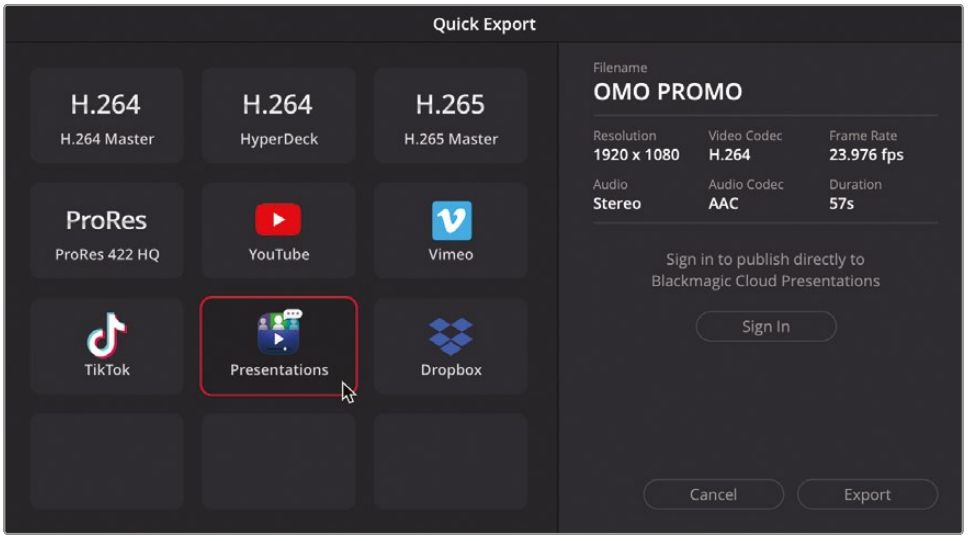


6 Enter your recipient's email address and click Share to send the invitation to your Presentation.



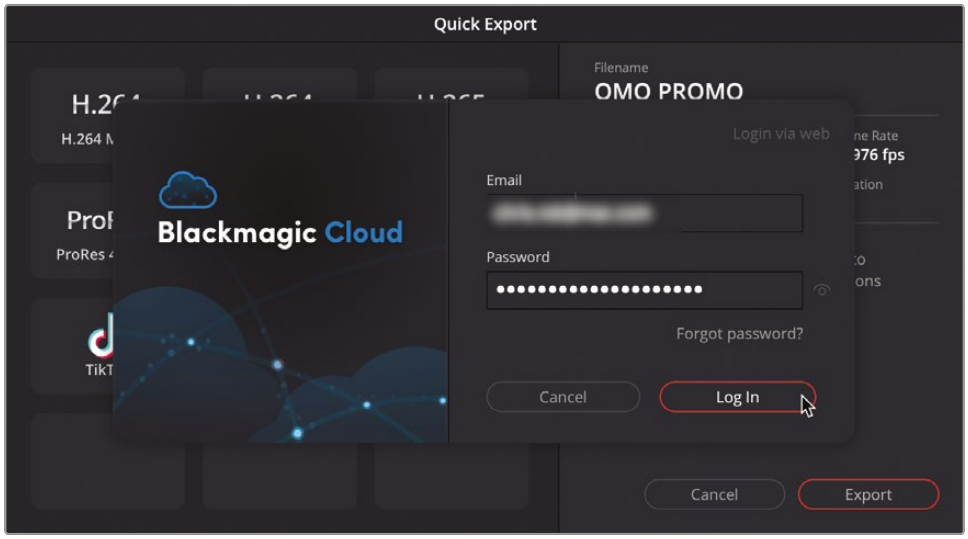
Once you have created a Presentation using your Blackmagic Cloud account, you can use Quick Export to upload a video.

7 Return to DaVinci Resolve and click the Quick Export button or choose File > Quick Export and select the Presentations preset.



8 Click the Sign In button.

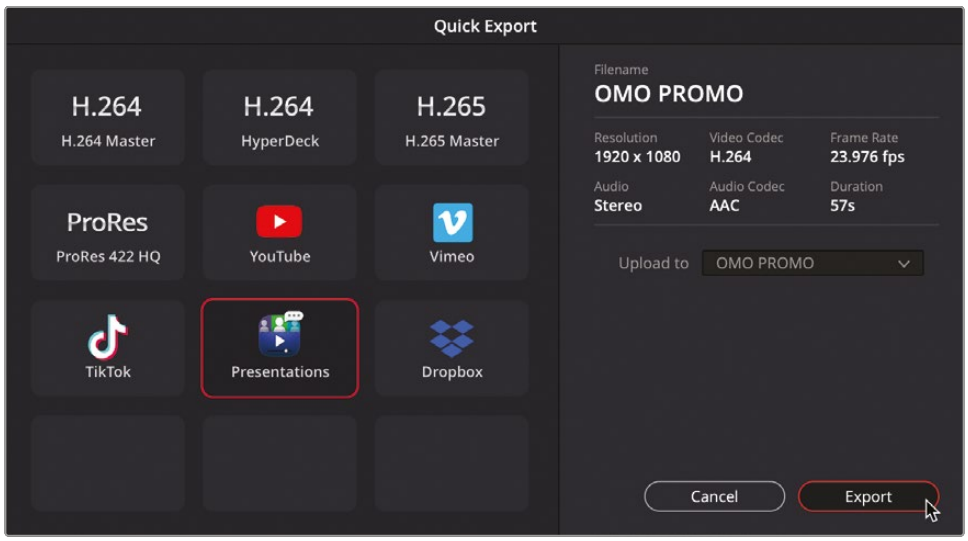
9 Enter your Blackmagic Cloud email and password and click Log In.



You are now logged in to your Blackmagic Cloud account in DaVinci Resolve.

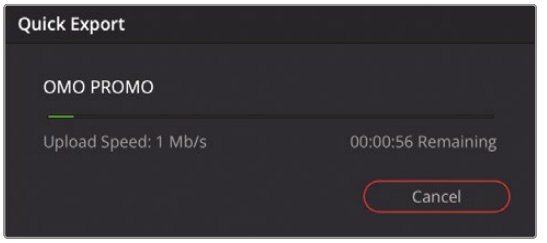
NOTE You can sign out of your Blackmagic Cloud account using DaVinci Resolve > Preferences > Internet Accounts, which you will explore in more detail in Lesson 7, "Project Setup and Preferences."

10 In the "Upload to" menu, select the OMO Promo Presentation.



11 Click Export.

Quick Export will render the video file and then upload it directly to the specified Presentation in your Blackmagic Cloud account.



Reviewing the Presentation

Once the file has been uploaded to the Presentation, you and your invitees will be able to review it and add comments.

1 Return to your web browser. If necessary, return to https://cloud.blackmagicdesign.com and log in using your Blackmagic Cloud account email and password.

2 On the Welcome screen, click Presentations and select the OMO Promo Presentation you created previously.

You will now be able to review the uploaded presentation with everyone who has been invited.

NOTE You may need to give permission for the website to access your camera and microphone through the web browser. You'll need to allow this if you want to collaborate live with other people on this and other Presentations.

As the presentation is playing, you can leave comments as markers. These comments will then show up directly in the DaVinci Resolve timeline for easy reference and review.

TIP Tip: Sync playback can be enabled in a presentation by clicking the Start Sync button. This means that all attendees' playback of the presentation will be sync'd in their individual browsers, ensuring that everyone is reviewing the same part of the presentation at the same time.

3 As you review the Presentation, stop playback and click the Markers option at the top right.

4 Type a comment in the Comments field and click Add Marker.

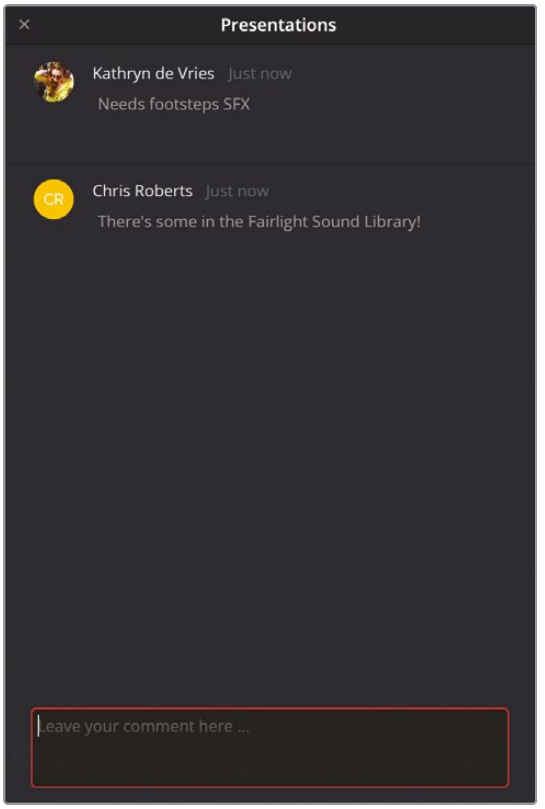
The marker will be added to the current playhead location. The marker and its comments will appear in the markers list, with a timestamp.

5 Continue adding some more markers with comments to this presentation, returning to DaVinci Resolve when you have finished.

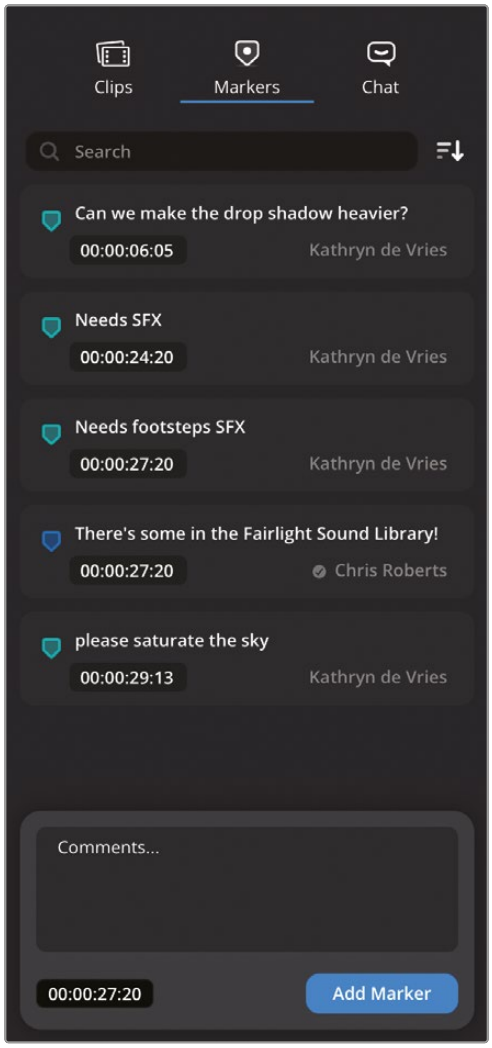
In the timeline, you will see that a series of circular markers have appeared. Each of these markers has been added in the presentation and has automatically appeared here as part of your project, with different members assigned different colors. This makes Blackmagic Cloud's Presentation feature a wonderful tool for collaboration and feedback.

These markers can be adjusted and, if necessary, responded to directly in the edit page.

6 Double-click any timeline marker to open up the Presentations comments window, where you can reply to or delete the comment as necessary.



These responses will be synced with the list of markers in the Presentation hosted on Blackmagic Cloud.

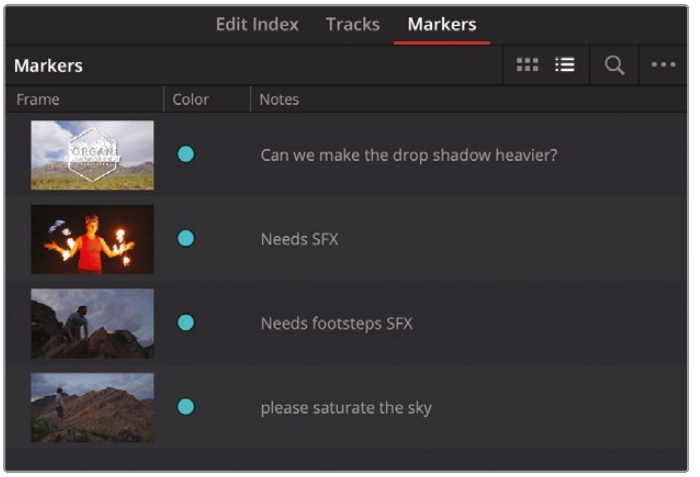


You can also review the markers using the Markers Index.

7 Click the Index button to open the Edit Index and select the Markers panel.

A list of all the timeline markers appears where you can filter the information being shown.

8 Right-click the column headings and deselect all options except for Frame, Color, and Notes.



9 Select the markers in the Markers panel to jump to that location on your timeline.

10 With the timeline playhead over an existing timeline marker, press M to open the marker's comments and add a reply if necessary.

> **NOTE** Presentation markers are linked to the timeline you uploaded to the Blackmagic Cloud Presentation and will retain their relationship with the timeline (including if you duplicate the timeline) unless they are deleted.

Congratulations! Over these first three lessons, you have successfully put together a short yet complex promo using the editing toolset available to you in DaVinci Resolve's edit page. Hopefully, these lessons have given you some insights into how these tools function and how you can start to use them in your own work.

In the next section of this Beginner's Guide to DaVinci Resolve 19, you will look at how you can use the color page to color correct and grade your footage.

Lesson Review

1. True or False? All dialogue clips should be normalized to -9 dBFS.
2. Which modifier key is used to add keyframes to the volume bar?
   a) Control (macOS) or Ctrl (Windows)
   b) Shift
   c) Option (macOS) or Alt (Windows)
3. Which of the following are Fairlight FX that can be applied to an audio clip in the timeline?
   a) Normalization
   b) Noise Reduction
   c) Ducker
4. Where can you access controls for track-based audio effects in the edit page?
   a) Using the Effect button in the mixer
   b) Switching to Track in the Inspector
   c) Controls for track-based effects are only accessible in the Fairlight page
5. How can you access the Quick Export window in the edit page?
   a) Press Command-E (macOS) or Ctrl-E (Windows)
   b) Choose File > Export > Quick Export
   c) Choose File > Quick Export

Answers

1. False. -9 dBFS is the default value for normalizing clips, but clips can be normalized to whatever level you think is appropriate. You can always make further adjustments to a clip's audio levels afterward or normalize to another peak level altogether.
2. c). Option-clicking (macOS) or Alt-clicking (Windows) the volume bar will add keyframes.
3. b). Only Noise Reduction is a Fairlight FX that can be applied to individual clips. Normalization isn't a Fairlight FX, and the Ducker is a track-based effect.
4. b). Track-based effects controls are accessible in the edit page by switching to Track in the Audio Inspector.
5. c). Choose File > Quick Export. You can also click the Quick Export button.

An Introduction to Color Correction

Before you get into the technical side of color correction and learn how DaVinci Resolve's powerful color correction tools work, it's important to take a moment to understand color correction and the creative medium it is.

Color correction is not something you can do by learning the controls of the color corrector, and it's not something you can do well just using the scopes. It's a highly creative skill. Just as a good editor can tell a story and bring a dramatic flow to a program, the colorist evokes an emotion in a viewer via visual manipulation of the image. While it can take time to learn how to be a top-level colorist, like all creative skills, it never gets boring because you'll always have something new to learn and a new creative style to explore!

When using DaVinci Resolve, you have the advantage of more than 30 years of color correction experience. Blackmagic Design pioneered the development of color correction hardware and software specifically designed to artistically enhance visual images acquired from film, video, and digital sources. As a result, DaVinci Resolve possesses an incredibly deep, sophisticated, and efficient toolset for adjusting the look of the clips in your program and managing these adjustments over an entire timeline.

Furthermore, DaVinci Resolve has continuously evolved thanks to feedback from countless professional colorists worldwide working at all levels of the film and broadcast industry. So the DaVinci Resolve color page has been developed to work the way colorists think. Still, for all its technological sophistication, it's important to remember that DaVinci Resolve is merely a tool that requires an artist to realize its full potential. But, of course, that's the fun part!

The following lessons cover the basics you'll need to learn to begin harnessing the power of the color page in your own projects—be they feature films, episodic television, web series, short subjects, spots, promos, or corporate videos. No matter what you work on, these formats employ the same fundamental grading techniques and the same basic tools; so if you're new to the world of professional color grading, don't worry. All rock star colorists once had to learn these first steps for themselves, and you'll use the fundamentals you learn here for the rest of your career.

Gone are the days when high-quality color grading was unaffordable. Blackmagic Design has put the powerful color tools of DaVinci Resolve within reach of any editor who has a reasonably capable workstation or laptop. The polish you'll need to achieve world-class results is only a click away on the color page.

However, before you start getting into the specifics of color, it's important to step back and consider, what are these tools really used for?

Why Color Correct Your Work?

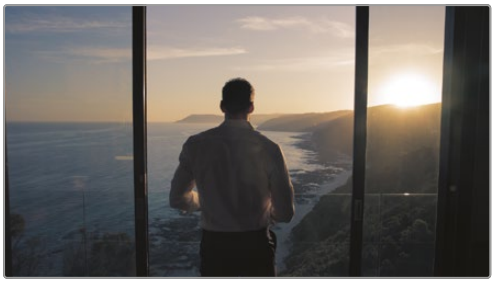
Here's a tempting question that countless producers and directors have asked: "The program looks fine the way it was shot; why spend the time to color grade it?" It's a good question in an industry where time is money; if the program you've cut in the edit page looks fine, why bother grading it?

The answer is because your program won't look as good as it will after being graded.

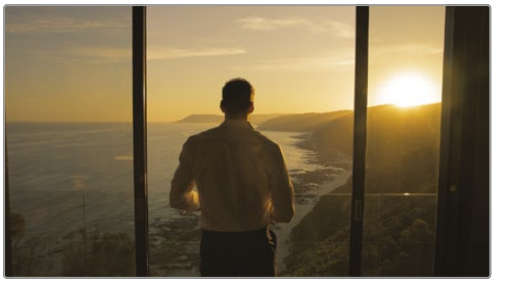
The process of adjusting the contrast and color of every clip in a program is variously called color correction, color grading, or just grading. The difference in terminology is largely superficial, but most experienced colorists prefer "grading" because "correction" implies that you only adjust things that are wrong, whereas "grading" implies that you're holding each clip in your program up to a higher artistic standard. A colorist doesn't ask, "Does this clip look good?" A colorist asks, "Could this clip look better?"

Setting the Tone of the Visuals

Much has been said about the emotional power of color to shape audience mood, and everyone would agree that a scene lit by cool blue lighting will have a very different vibe than one that's lit by warm orange lighting. The greenish tinge of fluorescent fixtures and the salmon-hued wash of mercury vapor streetlights each paint the scenes of a show with different atmospheric feelings that, when done right, add to the narrative and how your audience perceives it.



Cooler



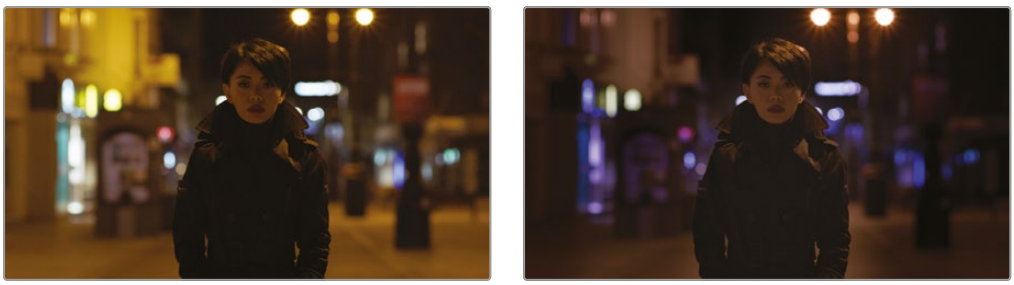
Warmer

Of course, what these varied illuminants mean depends on the visual palette you develop. Warm lighting that denotes romance in one film may instead portray roiling, desert-bound discomfort in another. Their impact depends on the associations that your grading makes between the visuals and the story. Should this scene seem later in the day? Should the colors be more subdued? Should the sky be an inescapable presence? You control these audience perceptions when you exercise subtle control over the picture via color grading.

The important takeaway is that the color page gives you the tools to mold these associations to suit your needs—intensifying, attenuating, or completely counteracting their effect, as necessary, to strike the right tone for every scene.

Portraying the World Subjectively

Narrative cinematography is rarely concerned with capturing objectively lit renditions of locations with perfectly accurate, neutral color and tonality. Instead, truckloads of lighting instruments and careful art direction manipulate the light and color of the location to make it look somber, magical, frightening, or sultry. These efforts extend to the grading suite, where your job is not to portray the world as it is, but the world that the cinematographer and director want the audience to see.



What the camera saw (left) and what you want audiences to see (right).

Documentary photography may very often be concerned with presenting a supposedly unvarnished (yet gloriously rendered) look at the world. And yet even this "realistic" look at the world is a fabrication, since every adjustment you make to improve the visibility of a subject, enhance the glory of nature, clean up some archival footage, or push the surroundings of the frame to recede artfully into the background can be as carefully thought out and manipulated as any music video grade.

The point is, whether you're making a horror movie, an architectural documentary, a sales video, or an automotive advertisement, you're using the tools and techniques of color correction to create a subjective representation of the imagery. The more control you can exercise over this representation, the larger the palette of emotional response you'll have to draw from.

Evolving Toward High-End Work

If you want to learn and stay competitive, and especially if you intend to work on client projects rather than your own, it's good to make yourself aware of current styles and trends. You've no doubt heard that if you want to write, you should read (and write) as much as you can, and the same holds true for color grading. Watch movies, television, music videos, and web shorts. And if you're watching television, make yourself watch the ads. Once you've had a chance to learn the grading controls that DaVinci Resolve offers, you'll start to see how different looks correspond to adjustments you can make in your own projects.

Finally, get out into the world and look at other visuals. Flip through fashion magazines, go to art galleries, take a hike in the woods, and observe. Fill your mind with diverse images and analyze them to see what inspires you. The more aware you are of other visual disciplines, the more ideas you'll bring to your own work.

A last issue to consider is the effect that affordable color grading has had on the television industry. In most current episodic television productions, the visual style is now as good as in a feature film. This dramatic change in quality has made television programming better than ever.

An unintended benefit of this change is that top-level feature film actors now move into television work and back to film with amazing freedom because television no longer looks like an inferior medium. Also, high-level film crews and facilities can do a wider range of both television shows and feature films, while still retaining their premium status. It's an exciting time when you consider the additional increase in the number of distribution platforms for high-quality work, such as streaming services. The industry is growing more quickly than ever, which means talented editors and colorists are more in demand than ever!

The Goals of Color Grading

Color correction can be considered the process of choosing which parts of the raw image data to display to create a pleasing image for the viewer.

Developing the Image

The latest generation of digital cinema cameras are almost all capable of either shooting raw color space image data or at the very least recording RGB image data with a log-encoded exposure. Doing so preserves the maximum amount of image data for manipulation during the color correction process. While this is great for flexibility in

workflow and for making high-quality adjustments, acquiring media in this way forces you to take the extra step of transforming it into a viewable image for editing and finishing (in much the same way that film negatives required development and printing to yield a viewable image).

DaVinci Resolve simplifies this task with built-in camera raw controls, DaVinci Resolve color management (RCM), and LUT support, so you can quickly get your media to a solid starting point upon which to build the rest of your grade.

Log-encoded source (left) and the same source color managed to a deliverable color profile (right).

Making Every Clip Look Its Best

While the job of the cinematographer is to light and expose the image with an artistic intent, your job as an editor and colorist is to realize this intent by adjusting the color and contrast of the image of each clip so the result is as close to the director's and cinematographer's intentions as possible. In the process, you can overcome inconsistencies with exposure and color balance that were otherwise unavoidable. Furthermore, you can subtly adjust warmth and contrast to realize looks that were not achievable during the shoot, but that the director and cinematographer would have liked.

An overexposed image (left) and the corrected image for the audience (right).

Of course, in some situations, you may find it necessary to fix media that has more substantial problems in color and exposure. In these cases, the tools exist to make far more involved changes to the image; however, the quality of your results will depend

heavily on the quality and "latitude" of your source media. For example, Blackmagic URSA Mini cameras record quite a bit of image data within raw or minimally compressed media formats, allowing you to make extreme corrections that would be impossible with data from consumer cameras. Happily, in either case, the color page provides the tools to process images in many ways to adjust the image to achieve a better look.

Quality Control

While you're doing all this, it's important to keep in mind that for all the creative possibilities that DaVinci Resolve affords, it's still important that the deliverables you provide to your client have appropriate signal levels relative to their distribution requirements. Programs destined for cinema, broadcast, or streaming usually have very specific outer boundaries of luma, chroma, and gamut that you must not exceed, or you'll risk having a show kicked back to you for quality control violations.

DaVinci Resolve provides tools specifically designed to help you keep an eye on how the image data is affected, and to fine-tune the image. In particular, the scopes display the standard Waveform, Parade, Vectorscope, and Histogram graphs that you can use to objectively analyze image data. These scopes let you see the boundaries of what's possible and make it easy to spot subtle problems and compare the characteristics of one image to another.

Balancing Scenes

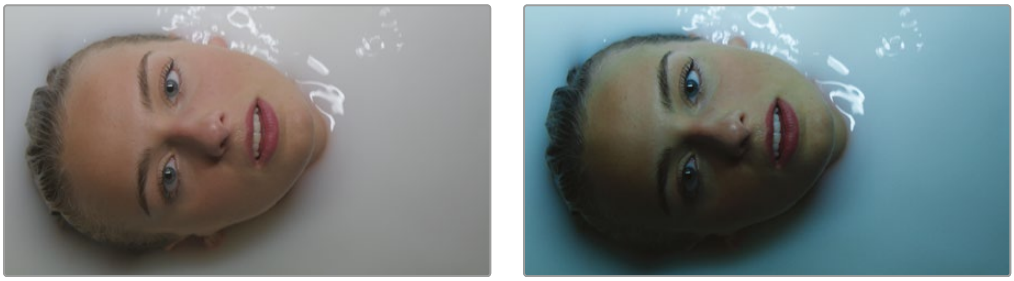
It's rare for uncorrected shots to match one another seamlessly. Even the most carefully exposed angles of coverage can have small variances that should be evened out. For example, run-and-gun programs using available light often result in edited scenes with huge changes in lighting and color as one shot cuts into the next.

Whether small or large, variations between shots can call undue attention to the editing and jar the audience in ways that distance them from the program. Balancing these differences is another fundamental task of the colorist. You know you're finished when every shot in a scene looks like the same time and the same place, and the color and contrast adjustments you've made flow unnoticeably from one clip to the next.

Adding Style or Custom "Looks"

Of course, it's not all about subtlety and correction. It's often appropriate—when grading music videos and commercials, for instance—to bring some radical visual style to a piece. Here, too, DaVinci Resolve provides an abundance of features for manipulating unexpected

aspects of the image. For example, you can use custom curves to create an illusion of chemical cross-processing.



Grading an image (left) with several primary and secondary grades to create the look (right).

The Tool Hollywood Uses

If all that isn't enough incentive to plunge forward into the next few lessons, keep in mind that DaVinci Resolve has become the tool of choice for some of the largest post-production facilities in the industry, worldwide. And yet, thanks to its accessibility, within the last several years, DaVinci Resolve has also become the go-to tool for a wide variety of smaller boutique post companies and individual artists. Considering only projects completed recently, DaVinci Resolve was used to grade blockbusters such as *Rocketman* and *John Wick: Chapter 3 - Parabellum*, along with indie productions such as *The Big Sick* and *A Ghost Story*; not to mention television shows including HBO's *Westworld*, AMC's *The Walking Dead*, and Amazon Prime's *The Marvelous Mrs. Maisel*.

Whether you're looking to build a foundation of skills to enter the post-production industry as a contributing artist or you want to develop the ability to finish your personal creative work in your own way, the following lessons will usher you into a much larger world of image manipulation and artistic expression than has ever been available in the average nonlinear editing (NLE) application.

Lastly, color grading is just fun! The feeling of resting your hands on the trackballs and holding the emotion of your images in your hands is exhilarating. It's like no other feeling in the world; you can make adjustments in real time, instantly see the results, and feel the emotional impact in your heart. We believe that color correction is one of those tasks that is more creative than cerebral. It's also one of those jobs that surprises you every day and has an emotional connection that reminds us why we fell in love with the film and television industry in the first place!

Enjoy the journey!

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Lesson 4

Primary Color Correction

Like editing, audio mixing, and visual effects, color correction is an art form that takes time to learn and master. Color is an incredibly powerful creative tool that can define the style and convey the mood of your film. If you give yourself the time to practice and learn, you can master this exciting skill and create images that look amazing!

These next three lessons provide a valuable overview of the most important color-correction tools to get you comfortable with how they work. You'll learn about the primary corrector, secondary adjustments, nodes, and even applying DaVinci Resolve FX for special effects. You'll use the same tools that Hollywood's top colorists use to correct and finish the biggest blockbuster films, episodic television shows, and commercials. Experience is key, and with so many controls at your fingertips, these lessons will give you the start you need toward learning this creative skill.

Time

This lesson takes approximately 90 minutes to complete.

Goals

Exploring the Color Page Interface 194
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Exploring the Color Page Interface

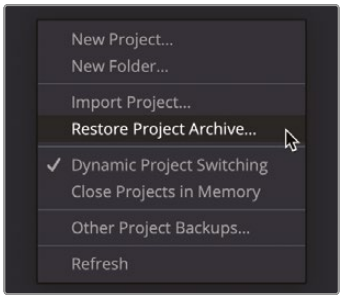
The exercises in this lesson will teach you how to make color adjustments on clips to correct common issues such as overexposure, low contrast, and incorrect white balance.

All these corrections, along with the creative process of color grading, take place within the color page in DaVinci Resolve. Let's start by examining the color page layout.

1 Open DaVinci Resolve to the Project Manager window.

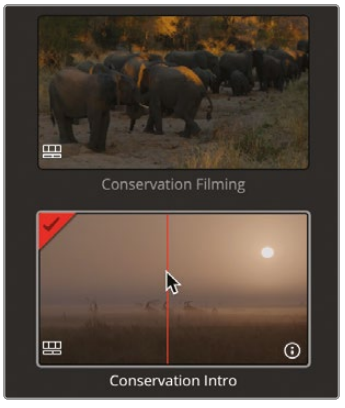
In Lessons 4–6, you'll learn a color-grading workflow using a documentary about the Conservation Film Company in South Africa. The project you will use was archived using DaVinci Resolve. An archive is a self-contained project that includes all its media. All you need to do is restore the archive, and the project will be available with all the media already linked.

2 Right-click in the Project Manager window and choose Restore Project Archive.



3 Navigate to R19 Beginner Guide lessons > Lesson 4. Select the Conservation.dra folder and click Open.

4 In the Project Manager, open the Conservation Film Company project, and then from the edit page Timelines bin, double-click Conservation Intro to load the timeline.



This timeline has only five clips. All the clips are from a Blackmagic Camera.

One of the best aspects of DaVinci Resolve is that editing and color grading are completely integrated into a single application, so you can easily move between the two with a single click.

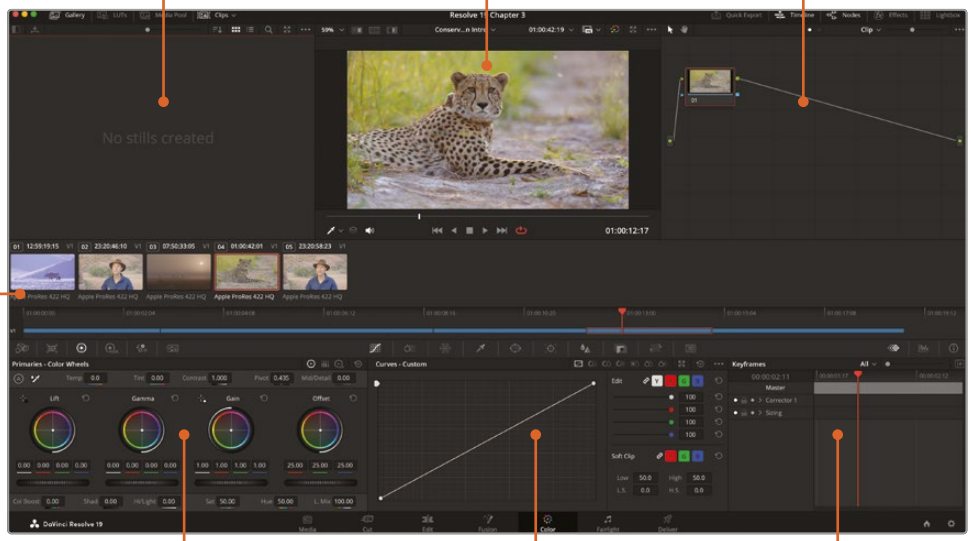
5 At the bottom of the DaVinci Resolve window, click the Color button to go to the color page.

NOTE If your UI layout does not look like the image below, go into the Workspace menu and choose the Reset UI Layout option.

The gallery includes saved adjustments that you can copy to other clips in the timeline.

The viewer shows the frame at the playhead's current position in the timeline.

The Node Editor connects color corrections, image adjustments, and effects to create unique looks.



The left palettes contain primary adjustments for color, contrast, and RAW image processing.

The center palettes provide access to curves, windows, tracking, and keying controls.

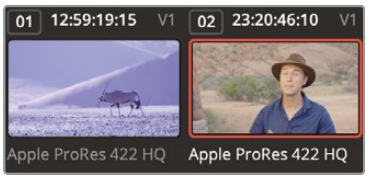
The lower right area may display the Keyframes Editor, scopes, or a metadata display.

The timeline is divided into thumbnails and a mini-timeline.

NOTE When you're using DaVinci Resolve on a computer display with a resolution lower than 1920 x 1080, the left and center panels and buttons might consolidate and the interface will just have two windows below the Timeline window.

When you switch to the color page, the playhead's position from the editing timeline remains the playhead's position in the color page timeline. The color page does not change or alter any cuts or transitions; it just provides a way of looking at your timeline that's more appropriate for color correction.

6 Click thumbnail number 02, the second clip in the timeline.



An orange outline appears around the selected thumbnail, and the playhead jumps to the first frame of that clip.

7 Below the thumbnail, double-click the Apple ProRes 422 HQ name to switch to viewing clip names.

The mini-timeline below the thumbnails displays thin bars to represent each clip. A bar's width is proportional to a clip's duration. Like the cut page, the mini-timeline shows all the clips in a timeline.

8 Press the Spacebar, and the playhead will begin to play through the timeline.

If you leave the timeline playing, you'll notice that the orange highlight around the thumbnail will jump from clip to clip, so no matter where you are in the timeline, the clip you're looking at will always be the one selected.

9 Press the Spacebar again to stop playback.

TIP If a track is disabled in the edit page, it will be dimmed in the color page's mini-timeline.

Now that you have a basic understanding of the color page layout, you're ready to make some adjustments.

Using the Primary Corrector

The most popular controls for creating different looks and balancing your shots are found in the primary corrector. Because DaVinci Resolve includes many controls in the primary corrector, you'll spend much of your time using this palette of tools while you're on the color page. In this first exercise, you'll make a few adjustments just to get a feel for the controls.

1 In the timeline, make sure thumbnail 01 is the selected clip.

The primary corrector is divided into four regions: Lift, Gamma, Gain, and Offset. Each region is split into the color balance controls for adjusting the tint of the image and the master wheels for adjusting the tonality or brightness.

The Offset adjusts the overall picture. In this first clip, the overall shot looks a little bright. This is probably a result of the conditions it was filmed in. The darker areas of the image look a little gray, particularly the background and the darker sections of the antelope. To make an entire image brighter or darker, you use the master wheel, located under the color wheel.

2 Drag the Offset master wheel to the left until the image is not as bright and the shadows appear to be black. The red, green, and blue number fields above the master wheel should end up around 10.00. There is quite a lot of range in the clip, so you can go darker if you wish.

This improves the tonal range. When you hear the term tonal range, we are talking about brightness values as if the image were black and white. What this has not done is affect the color in the image. We can see this as the image looks quite blue, and we want something a little more neutral in color.

3 Drag the color indicator at the center of the Offset color wheel left toward yellow until the blue hue in the image fades and the image looks more neutral in color.

TIP This process involves adding a complementary color to an image. Complementary colors sit opposite a specific color on the color wheel, so in this case yellow is the complementary color of blue. If you are ever unsure about how to remove a color cast, decide on the color of the cast in the image and then start by adding a color that is directly opposite in the color wheel.

Adjustments made in the color balance controls are subtle. In most cases, you are just moving the indicator a few pixels away from the color you want to reduce.

4 To turn the correction you have applied on and off to see the before and after, click the Bypass button in the upper right corner of the viewer to turn the grade off.

5 Click the Bypass button again to turn it back on.

> **TIP** Always remember to turn the Bypass back on because it turns off the grading for all the clips in the timeline.

While these adjustments have been made by what you can see in the viewer, DaVinci Resolve includes tools that can show exactly what is happening in the image and therefore give you a better understanding of where corrections may be needed. This is where the video scopes come in.

Understanding Video Scopes

The correction you just made was performed by looking at your viewer and deciding which changes were needed. However, this can be quite difficult to do by eye—for example, a color cast may only be in the brighter areas of the image and not in the entire image. But how can you determine this? Video scopes can give you information about the clip you're looking at to help make accurate decisions when grading.

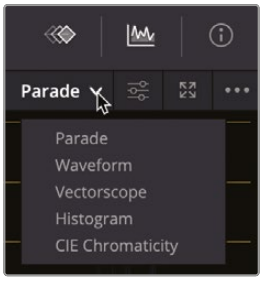
There are several scopes at your disposal: Waveform, Parade, Vectorscope, Histogram, and CIE chart to check a clip's luminance, exposure, hue, saturation, and color space.

You will use the Parade scope to help balance a shot.

1 In the timeline, make sure thumbnail 02 is the selected clip.

2 In the lower right window, click the Scopes button on the far right of the toolbar.

3 Click the disclosure arrow to open the Video Scope dropdown menu.



You can switch between the five different scopes using the menu, depending on what you want to monitor.

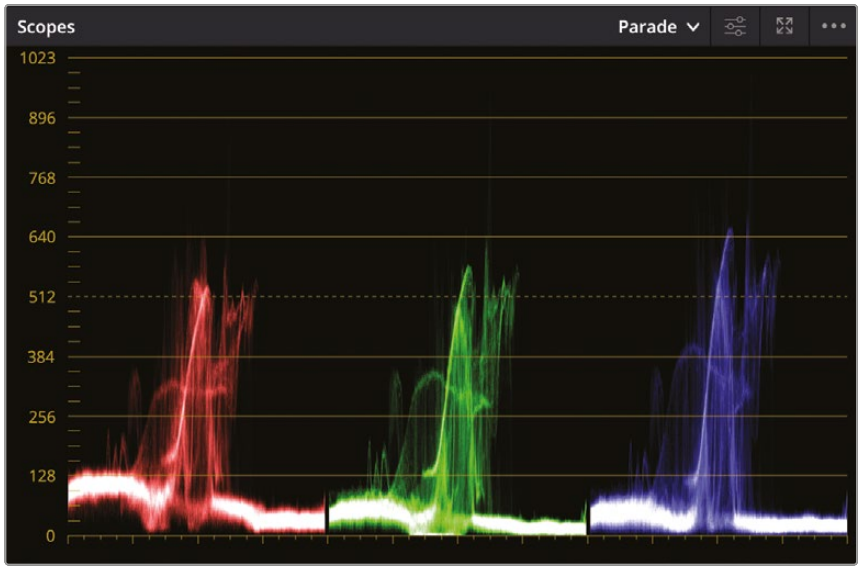
4 Choose Parade.

You may just want to make your scopes a little brighter in the interface so they can be seen more clearly.

5 Click the Settings button.

6 From the Settings menu, drag the Parade slider to the right to make the scopes a little brighter so you can see them comfortably in the interface.

7 Click the Settings button again to close the menu.



The Parade scope graphs each color channel individually. The graph is read from bottom to top with absolute black at line 0 and absolute white at line 1023. When balancing shots, the image in the parade, called the *trace*, ideally should not go below 0 or above 1023. Otherwise, the image will clip—cut off parts of the image data—and lose detail.

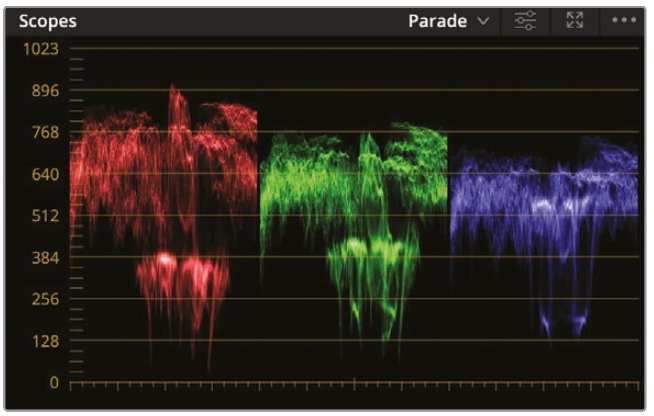
TIP You can switch back to the Keyframes Editor and hide the video scopes to free up your graphics card's processor and improve playback performance.

Reading the Parade from left to right, each channel corresponds to the image displayed in the viewer. For instance, the left part of the red, green, and blue trace corresponds to the image's left part. This layout makes it easy to look at the scope and know exactly which area you are evaluating.

Color Correcting Using Lift, Gamma, and Gain

1 Make sure you have clip number 02 selected.

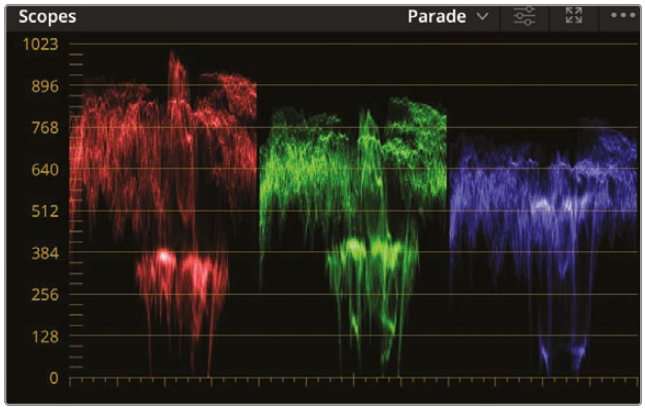
Looking at this clip, it appears a little flat with little contrast in the shot, and there is a notable color cast. Areas of the clip that should be near white look gray. This is reflected in the parade. The top of the trace, rather than being close to the top of the parade, sits well below it. This means the highlights in the image are not bright enough.



Instead of using the Offset controls, you will use the Lift, Gamma, and Gain controls to make the adjustments. The Gain control allows you to adjust the brighter parts of the image.

2 In the Gain region of the primary color wheels, drag the master wheel right so that the highlights start to look brighter.

3 Using the Parade scope, adjust the highlights so the top of the trace touches the top 1024 line in the red channel. The value in the Gain control should be around 1.11



NOTE If you go beyond the 1024 line on the parade, you will notice areas of the image starting to clip, as mentioned earlier. You can try this to see the effect if you continue to push the Gain master wheel: details in the face will start to look very bright but essentially lose detail.

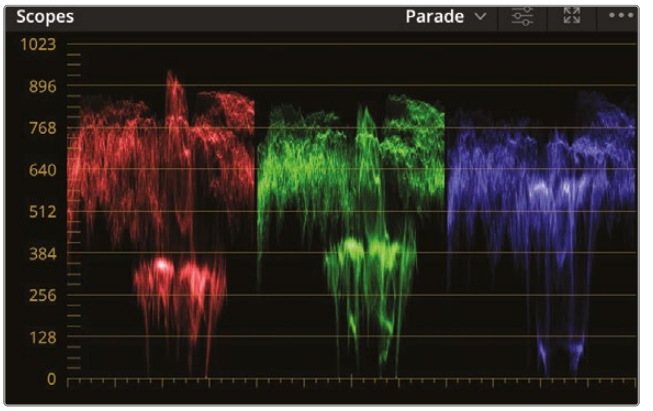
The highlights in the image now look better. However, the image still looks quite orange. This is reflected in the parade since the top of the red channel is higher than either the blue or the green channel. This shows that there is more red in the highlights, and therefore your brighter areas of the image look quite warm.

To create pure white using additive colors, you mix an equal amount of red, green, and blue. A white image would have the red, green, and blue traces completely level along the top of the Parade scope. Conversely, pure black would have the three color channels completely aligned at the bottom of the graph.

That being the case, you'll use the Parade scope to make color balancing easier.

NOTE Sometimes the parade may look uneven due to the nature of a shot. For example, a sunset will have a much higher red channel compared to the green and blue, simply due to the time of day it was recorded.

4 Using the Gain color wheel, click and drag the center point away from red, toward cyan, so the tops of the parade traces are approximately level toward the right side. For now, there is a peak of red in the center, which is our subject; however, you would expect this to be redder since skin tone sits in the channel between red and yellow.



5 If at any point you make a mistake, you can simply reset the controls by clicking the Reset button in the upper right corner of each region.

6 Make the highlights a little brighter again by getting the top of the parade in the red channel to touch the top 1024 line.

Now the highlights of the image look correct; however, you need to adjust the shadows as well to improve the contrast in the shot since it still looks a little flat. It also looks a little too cold due to the fact that there is more blue in the shadows. This can be seen in the parade, since the blue channel in the shadows is higher.

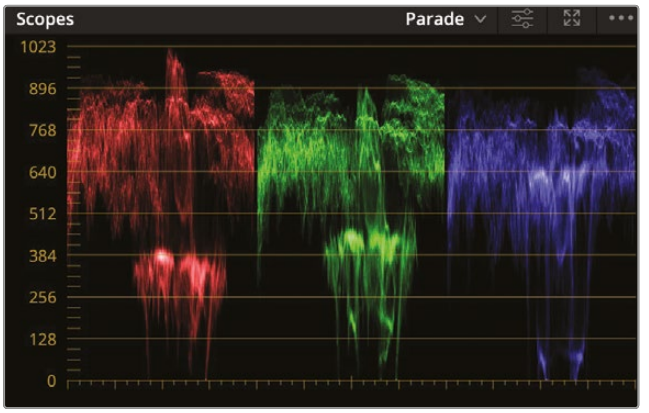
7 Under the Lift color wheel, drag the center point away from blue toward yellow, and you will see the bottom of the blue scope start to drop down. You will notice, however, that the green channel does not really move and therefore the shadows start to look a little green.

8 Continue to drag the center point more toward red until the bottom of the parade is level across all three channels.

Immediately the shot looks less cool. Without the scopes, It might have been difficult to pick up on the fact that the blue tint was actually in the darker areas of the image. The shot still looks a little flat. If you look behind our subject, Sean, to where his shirt collar sits off his neck, the area appears to be gray, not black.

9 Drag the Lift master wheel to the left so that the shadows start to look darker. Drag the wheel until the area of the shirt collar looks black or until the bottom of the parade touches the 0 line.

> **NOTE** Dropping the levels below the bottom of the parade works in the same way as it does in the highlights. Clipping the shadows will mean detail will be lost in darker areas. This, however, is not as noticeable as it is in the highlights and can also be used as a technique to hide such things as noise in dark areas of an image.



Immediately the shot's contrast has improved, and the shadows no longer look gray.

10 Click the Bypass button in the upper right corner of the viewer, or press Shift-D on the keyboard, to show the clip without the correction. Click the Bypass button again to turn it back off to show the adjustments you have made.

Using these controls, you have now accurately adjusted the clip's contrast by controlling where the black and white points sit by using the Lift and Gain controls. You have also adjusted the color in the highlights and shadows to remove any tint that may have been present in those areas, rather than using the Offset control that would adjust the color for all areas of brightness in the clip.

NOTE DaVinci Resolve's viewers are previews that are not intended to be color-critical displays. For projects that are intended for online delivery or social media, the viewer output may be suitable. For television broadcast or digital cinema, you can use a Blackmagic Design UltraStudio or DeckLink card to connect to a broadcast or digital cinema calibrated display.

Now let's look at Gamma.

The master wheel under the Gamma color balance control adjusts the brightness while maintaining the black and white points that you set previously. In general, once you set your black and white points, you can make further adjustments using the Gamma wheel. This is often where you can start to build more of a look for the shot. Gamma is sometimes referred to as midtones because it adjusts the middle tonal range of an image.

In this case, we will make the image a little darker again, but we will not adjust the Lift parameter.

11 Drag the Gamma's master wheel to the left to make Sean's shirt a little darker but make it pop a little more. The luminance, red, green, and blue values above the master wheel should end up around -0.06.

Your image still looks a little green, so you may want to ease that off a little and make the subject a little warmer. You can see in the middle of the parade the green channel sits slightly higher.

12 Click and drag the center of the Gamma color wheel toward magenta so the image looks a little green and has a warmer feel. The values you are aiming for are red -0.03, green -0.06, and blue -0.03.

As you can see, the Gamma control is more subjective. As the colorist, you can decide if the shot should be brighter or darker, warmer or cooler.

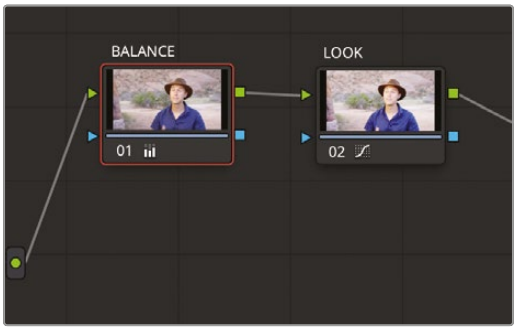
TIP Trust your eyes. While the video scopes are there to help you, they don't always have to line up exactly. Start by adding a color and see if you get a result that you like. Sometimes grading solely by the scopes can push the color too far in one direction.

The Lift, Gamma, and Gain controls are not narrow adjustments that change only the dark, midrange, or bright areas. In fact, their ranges overlap by a considerable amount. This overlap helps you make more natural, smoother-looking adjustments, but it also means that you'll need to move among the three color balance controls to achieve best results because adjusting one control visibly impacts the others.

Understanding Nodes

The color page uses nodes for multiple color corrections. Instead of stacking color corrections and effects as layers, you can add as many color correctors and filter effects as you like using nodes. You can view the nodes as a color correction flowchart for each individual clip. The clip, or the input, starts at the left, flows through each node, and ends on the right side of the screen with the corrected image output. Unlike the Fusion page

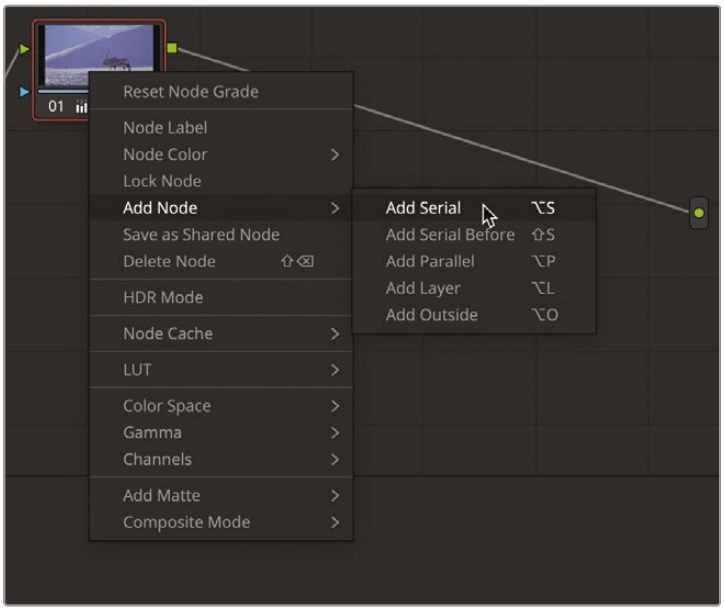
nodes, each node in the color page is a full DaVinci Resolve color corrector and not an individual effect that performs only one type of image processing. Think of nodes as building blocks that allow you to construct your finished grade.



The adjustments you made in the preceding exercises were performed using the first node, which is provided for you automatically in the Node Editor. As you create more sophisticated corrections, you can add more nodes that target different parts of the image or add effects.

1 Select clip 01 again in the clip window. Right-click over node 01 in the top right Node Editor window.

2 From the contextual menu, choose Add Node > Add Serial. A second node will appear in the node window.



You can tell which node you're working on because an orange outline will highlight the active node.

Using Nodes to Separate Corrections

Sometimes, as you balance shots, you may decide adjustments are best performed by separating initial tonal corrections from other adjustments, such as pushing contrast into a shot. This builds on the idea that the first node is the initial balance, and further adjustments can be made once a shot is balanced correctly.

For the first shot, the offset balance you did was OK but there is more work to do in the grade to get the shot looking really good. The contrast needs to be better, and the shot still looks a little blue.

1 On the node you just created, go into the left palette and drag the Lift master wheel to the left so the values read -0.04.

2 Drag the Gain master wheel to the right until the highlights touch the top of the 1024 line. The values should be around 1.25.

The contrast in the image should look much better now since the brighter areas look less dull and the shadows look more defined.

Rather than Bypass the grade, you now just want to see the before and after of the adjustment you have just made.

3 Click the number of the node in the bottom left corner to turn off the node. You will see it turn gray when it's off.

Now you will see the shot with just the original balance node on.

4 Click the number again or press Command-D (macOS) or Ctrl-D (Windows) on the keyboard to turn the selected node back on.

The contrast still needs punching up a little. The Contrast tool allows you to push the contrast in your shot without going beyond the set white and black points that you made. The pivot essentially changes the point from where the contrast adjustment is made to allow you to make the image brighter or darker.

5 In the Contrast parameter, place the mouse pointer over the numbers and drag to the right to around 1.200 to add more contrast to the shot.

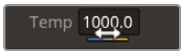
6 The brightness needs to come down slightly, so drag the Pivot parameter in the same way until it reads around 0.851.

TIP To reset any of the parameters, simply double-click the tool label in the interface and the parameter will reset.

The shot now needs warming since it is in the desert, and despite the earlier correction it still looks a little blue. Again, we want to do this on a separate node, so we don't need to alter the other changes we've already made.

7 Right-click node 02 and choose Add Node > Add Serial from the contextual menu or press Option-S (macOS) or Alt-S (Windows) on the keyboard to add a serial node.

8 Make sure node 3 is selected (it should be by default). Click the Temp parameter and drag it right until it reads around 1000 or you feel the image is suitably warm enough.



TIP In addition to dragging the number fields, the values themselves can be typed in. Simply double-click the parameter value and type in a new value.

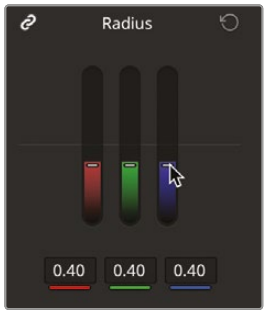
Finally, the focus in the shot looks a little soft, which could be due to the amount of heat haze in the image. We will add a final node to try and compensate for this and complete the look of the shot.

9 Right-click node 03 and choose Add Node > Add Serial from the contextual menu or press Option-S (macOS) or Alt-S (Windows) on the keyboard to add a serial node.

10 Go into the middle window of the interface.

11 Select the Blur tool from the middle toolbar window.

12 Click and drag the Radius Blur control down to around 0.40 so the foreground and the antelope start to look a little sharper.



TIP When using sharpening, keep in mind that not only will you sharpen the image but also any noise that exists. This can start to degrade the material. When using sharpening, make fine adjustments to get the best results.

13 Click the number or press Command-D (macOS) or Ctrl-D (Windows) on the keyboard to turn off the selected node to see the results of the sharpening.

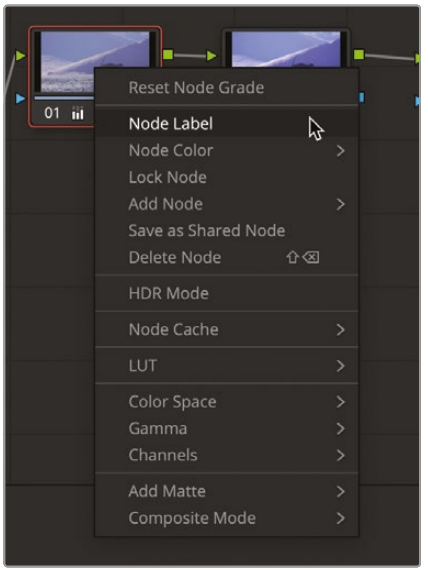
You can now start to understand how useful nodes are, since they allow you to build your grades a step at a time without affecting the changes you made previously. Since they can be turned on and off individually as well, when sitting with clients you can easily toggle between before and after adjustments to show what has been done. In this case, you can toggle the sharpening on and off to see the softening being fixed without affecting any of the other grades.

TIP If you want to know about nodes in more detail, *The Colorist Guide to DaVinci Resolve 19*, by Daria Fissoun, explains why you use nodes and the different types of nodes available.

Labeling Nodes

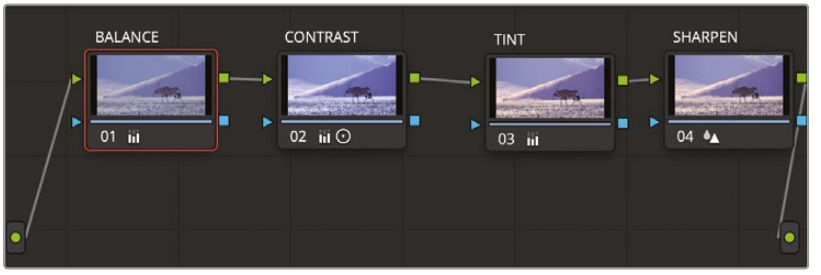
The more adjustments you make on a clip, the more nodes you are likely to need. After a while, you could have a complex-looking node tree, so it's a good idea to start labeling nodes to give you an indication of what adjustments may have been made on each node.

1 Still on clip 01, right-click node 01 and choose Node Label from the contextual menu.



2 Label the node **BALANCE** and press Return (Enter) on the keyboard to exit the text entry.

3 Repeat the process, labeling node 02 **CONTRAST**, node 03 **TINT**, and node 04 **SHARPEN**.



Now you have a good idea of which grade is on which node, so you can make an adjustment on the correct node at any time—for example, changing the overall color to a cooler look can be done on the TINT node.

Making Automatic Adjustments

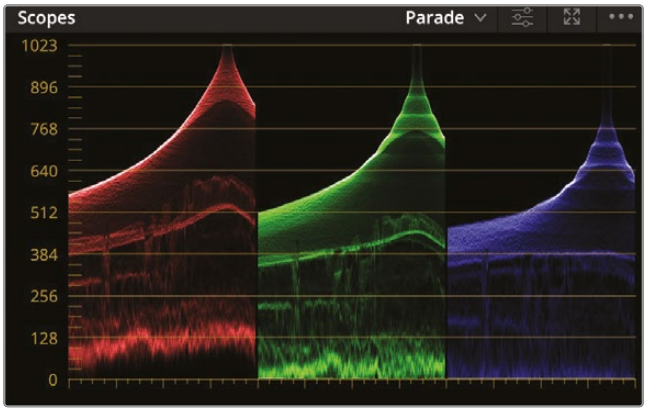
Now that you have a good understanding of how the primary color controls work, you can balance, or normalize, your shots before you start down the path of creating complex looks or isolating certain colors or areas. Normalizing shots is often the first part of the grading process that can remove inaccuracies that might have occurred while filming. Doing this will unify the shots so applying creative grades later will be easier.

However, what happens if you are unsure of what needs correcting, especially if you are just starting out with color grading? Or maybe due to time limitations, you just want to correct shots quickly. DaVinci Resolve provides a range of quick automatic tools to help you correct shots.

1. Select clip 03 in the timeline. You can see that the tonal range is quite narrow due to the lighting conditions of early morning.
2. Click the Auto Balance button (the A within a circle) in the upper left corner of the left palette window, and the clip's tonal range and color will balance automatically.

NOTE An Auto Balance may not work on every clip in your timeline because it depends on how the material was shot. For example, with a clip shot in low light, the Auto Balance might try to make the image much brighter, which you might not necessarily want.

As you can see, the Auto Balance has given you a good starting point. However, the highlights are a bit too high, and the highlights are also too blue.



3 Add a second serial node by right-clicking node 01 and choose Add Node > Add Serial from the contextual menu or press Option-S (macOS) or Alt-S (Windows) on the keyboard.

4 In the Gain region, drag the master wheel left to bring the highlights down so that the top of the blue parade graph can be seen to ensure nothing is clipped. The values should be around 0.83.

5 Click and drag the center of the Gain color wheel toward orange to balance out the top of the parade and make the shot look a little warmer.

6 Press Option-D (macOS) or Alt-D (Windows) on the keyboard or press the Bypass button to see the before and after grade.

You have done a pretty good grade by using the Auto grade and then refining it with an additional node. Automatic adjustments may not get you to a perfect grade, but they can certainly set you on the right path.

7 Select clip 05 in the timeline. This is a different section of the same interview clip that we did our initial correction on. Instead of using a manual adjustment, we could try to use the Automatic White Balance tool to even out the shot.

NOTE If you are using different sections of the same clip in the color page, DaVinci Resolve will treat them as separate clips. If you do wish to grade the entirety of a clip, you can learn more about this in *The Colorist Guide to DaVinci Resolve 19*.

8 Click the White Balance tool in the upper left corner of the left palette. You will see that the mouse pointer changes to an Eyedropper tool.

TIP If you accidentally click the White Balance tool, simply press the Esc key on the keyboard to go back to the default mouse pointer.

9 Bring the pointer over the viewer and place it over an area that should be white—in this case, we will use Sean's teeth. Try to get the pointer values as close to those shown in the image for best results. Click the selection.

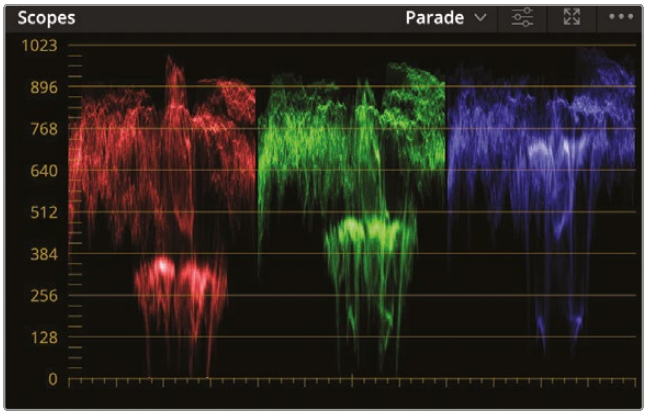
10 The clip will immediately lose its orange cast since you have identified an area that should be white, and the software has automatically corrected for this.

It does not quite match the initial grade we did; however, it is quite close, so we can add another serial node and make some further adjustments so the two shots can look similar.

11 Add a serial node by right-clicking node 01 and choosing Add Node > Add Serial from the contextual menu or by pressing Option-S (macOS) or Alt-S (Windows) on the keyboard.

12 Drag the Gain master wheel right to around 1.20 so the highlights are correct.

13 Drag the Lift master wheel left to around 0.03 so the shadows sit toward the bottom of the parade.



Again, using an automatic tool has given you a good starting point that you can build on to get a nice even color balance. We just need to make some final adjustments so it looks close to the first interview.

14 Add a serial node by right-clicking node 02 and choosing Add Node > Add Serial from the contextual menu or by pressing Option-S (macOS) or Alt-S (Windows) on the keyboard.

15 On the third node, drag the Gamma master wheel to around -0.06 and drag the Gamma color wheel up toward red.

A little later in this chapter, you will learn how to match shots, but this gets us pretty close by simply adjusting an automatic white balance.

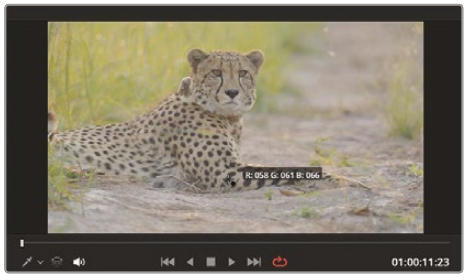
The final auto balance allows you to automatically set black and white points in an image.

16 Select clip 04 in the timeline.

17 Select the Pick Black Point tool to the left of the Lift color wheel and move it over the viewer.

An RGB tooltip appears next to the point, giving you a brightness value for the pixel you're hovering over. The values range from 0 (black) to 255 (white). When selecting a black point, you want the red, green, and blue values to be as near to 0 as possible without all displaying 0. If all the values display 0, there's a chance that there is no brightness information present.

18 Click one of the cheetah's spots on its leg in the foreground. The shadows will be immediately darkened so the spots now look black.



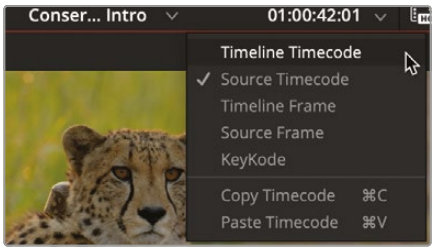
TIP You can zoom in and out of the viewer by either scrolling a middle mouse button or using the shortcut Command-+/- (macOS) or Ctrl-+/-(Windows). Pressing Z on the keyboard will resize the image back to the window.

Clicking the shadow area identifies it as your darkest black point and adjusts other pixels accordingly. It also corrects any tint in the black so that no single color channel dominates in the shadow regions.

Now you'll do the same for the white point. In the viewer, you'll locate a bright point in the image and select it. The point should not be the absolute brightest point, but rather an area you think should be soft white. In other words, you do not want to pick the sun in every outdoor shot but rather the white T-shirt someone is wearing or a white car.

This shot includes a small white area on the cheetah's tail; however, it is not currently in the shot.

19 To ensure that you are using the same timecode reference as the edit page, click the dropdown menu next to the timecode in the viewer and make sure it is set to Timeline Timecode.



20 Press the Spacebar and play the shot until the tail appears in the shot. Using the Left and Right Arrow keys on the keyboard, nudge the playhead until the timecode reads 01:00:12:22.

21 At the upper left corner above the Gain color wheel, click the white point picker.

22 Place the picker over the white area of the cheetah's tail and select it. You can zoom in if needed.

NOTE DaVinci Resolve is an application that requires a three-button mouse. The third wheel on the mouse has numerous uses; however, in the color page it can be used to zoom in and out of the viewer by scrolling in and out on the wheel. Once zoomed in to the viewer, clicking and holding the middle mouse button will allow you to navigate around the zoomed-in image in the viewer.

23 Click the Bypass button or press Shift-D to see the original image. Click the button again or press Shift-D to turn the grade back on.

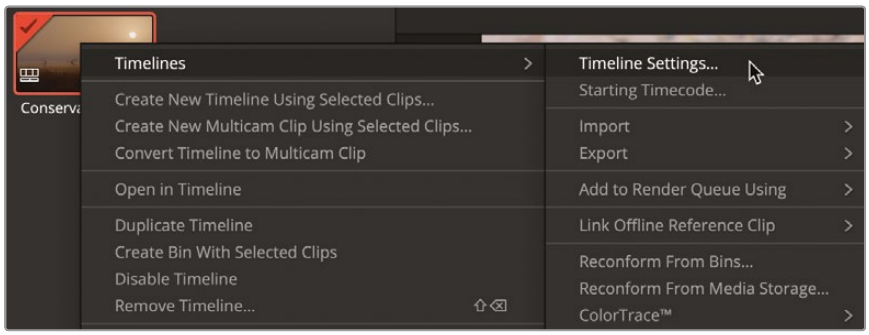
Using the auto select black point and white point tools has allowed you to adjust the tonal range of the image quickly and easily by allowing you to decide what should be black and what should be white in the image.

Using Separate Timeline Settings

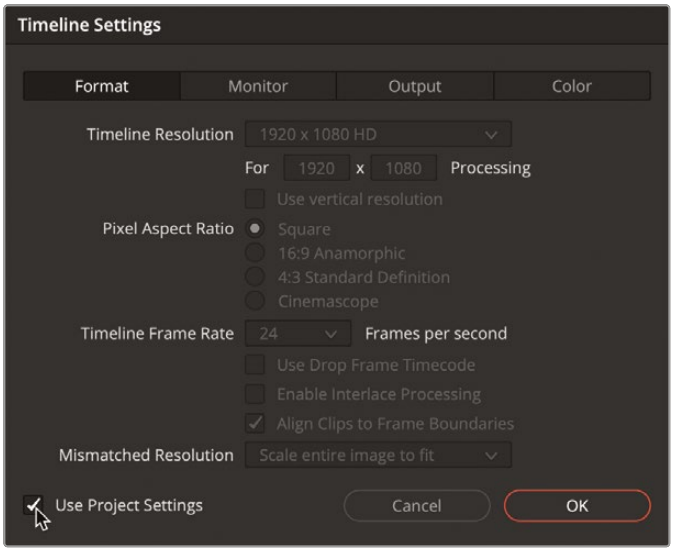
Now that our introduction timeline is completed, you'll want to keep the grades exactly as they are. In the next section, we will start looking at DaVinci Resolve's incredibly powerful color management. However, we don't want the current timeline to use any of those settings. So to ensure that it keeps its own settings, we'll make it independent from the project settings, meaning the grades will not change.

1 Open the media pool in the color page and select the Timelines bin.

2 Right-click the Conservation Intro timeline and, from the contextual menu, choose Timelines > Timeline Settings.



3 From the Timeline menu, uncheck the Use Project Settings box and click the OK button.



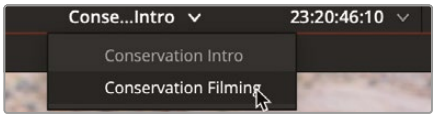
The timeline now uses its own independent settings, so any changes that we now make to the project settings will not affect our graded timeline.

Using DaVinci Resolve Color Management

So far, we've had it fairly easy in our color-grading process. We worked with a few controls and made the HD clips look better. In your projects, if all you ever deal with is HD clips and output them as HD masters, then you can essentially continue with the process we started in this lesson.

However, filmmaking is technical and at times complicated. Few aspects of the process illustrate this as well as cameras and their various file formats. Each camera manufacturer tries to give you the best-looking image possible by customizing the color palette (gamut) and tonal range (gamma). You'll often hear these types of clips referred to as *log clips* due to their logarithmic contrast profiles. The result of recording log clips is that they don't look great on your HD monitor. When using different log clips from different cameras in a single project, you need to manage various gamuts and gamma ranges more efficiently to achieve consistency in your final output. That's where Resolve color management (RCM) helps.

1 Above the viewer, click the dropdown arrow next to the timeline name to reveal all the project's timelines.



2 Choose the Conservation Filming timeline.

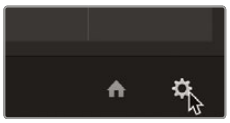
This timeline contains shots from several different cameras. The majority of the material comes from Blackmagic Design's Pocket 4K and 6K cameras. However, we also have a shot from our secondary camera, which is a Sony, a drone that is a DJI, and also a GoPro. All these clips have their own gamut and gamma profiles.

3 In the timeline, click the fourth thumbnail.

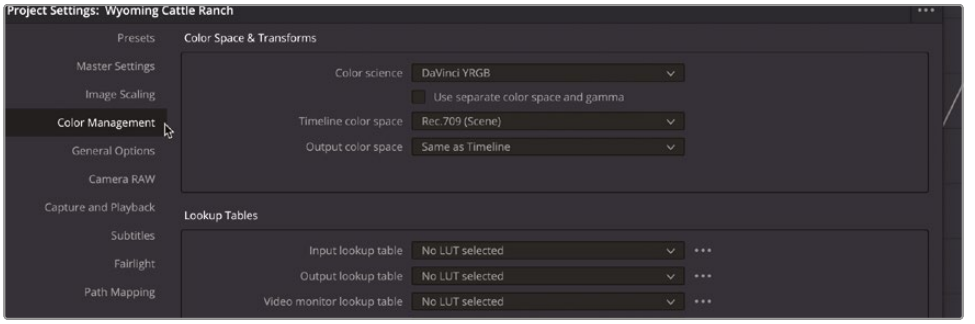
Like many clips from digital cinema cameras, these scenic log clips are not intended to look perfect on an HDTV. Although they have a wide tonal range and a wide color gamut, they look flat and undersaturated. Your monitor (or computer monitor) is expecting a profile that it understands, so it has no idea how these digital cinema camera clips should look. Resolve color management (RCM) is the easiest and most accurate way to unify different clips from different cameras so they all match your desired output.

NOTE DaVinci Resolve color management is a non-destructive process. Even though you will see the clips in a profile that is suitable for viewing on a TV, the original profile of the camera that contains a lot more information is still there—it is just mapping this profile to the output.

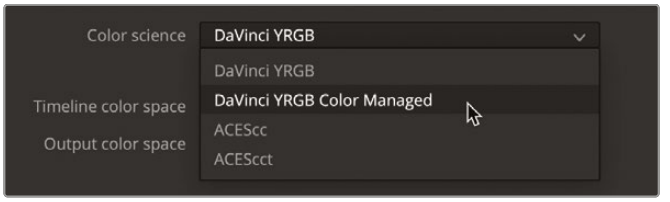
4 Click the Project Settings icon in the bottom right corner of the screen.



5 Select the Color Management category from the window that pops up.



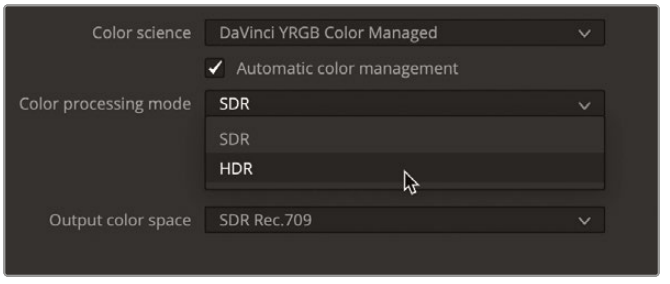
6 In the Color Science dropdown menu, choose DaVinci YRGB Color Managed.



Enabling color management presents a new dropdown menu below the Color Science menu. By default, Automatic color management is turned on. This preset menu contains two settings, either SDR or HDR, which can be chosen from the Color processing mode menu. SDR is the choice for standard dynamic range source media and output. The media in our timeline is a mix of log footage from various different cameras, which has a much higher dynamic range, as well as some SDR material.

TIP The Automatic color management shows only a few options for processing and output. If you cannot find the setting you require, uncheck the Automatic color management option to see the full range of processing modes and color outputs.

7 In the Resolve Color Management Preset dropdown menu, choose HDR.



Although the output is still targeting an SDR output, it is a better choice when using a mix of higher dynamic range footage from cameras and SDR clips because it preserves the dynamic range (the super bright highlights and darker shadows) contained within the camera files.

The output color space should be set for your final output delivery. The most common color space used for TVs and monitors is Rec709, which is also the standard for HD broadcast delivery.

8 Click Save to close the settings but keep an eye on the viewer.

TIP You can change the output color space at any time when you are delivering to different display devices. This is one of the main benefits of using a color-managed workflow.

When using DaVinci Resolve color management, some source clip formats like RAW files, as well as some QuickTime and MXF wrapped files, include information about the color gamut and gamma. If these metadata tags are present in the files, RCM can automatically read it and automatically apply the correct settings for the source clips. This is the case with the clips we have now. They are all tagged and color managed, so now they look brighter and more colorful on our HD monitor or computer screen.

However, you will likely have some content that does not include metadata tags, so let's walk through how you might manually set the Input Color Space for source clips that are not set automatically.

Typically, you want to change the Input Color Space value to match the device that recorded the imported clips. By default, a Rec 709(Scene) input is applied to clips without metadata. This is probably suitable for your HD recorded clips, but you will come across other formats.

9 Select clip 17 in the timeline. This clip is from a GoPro camera.

10 Go into the Project Settings and turn off the Color Management.

You will see the GoPro clip does not change. Since it was shot in a Rec709 profile, it simply matches the output profile, so while the clip might have no metadata at this stage, it doesn't really matter.

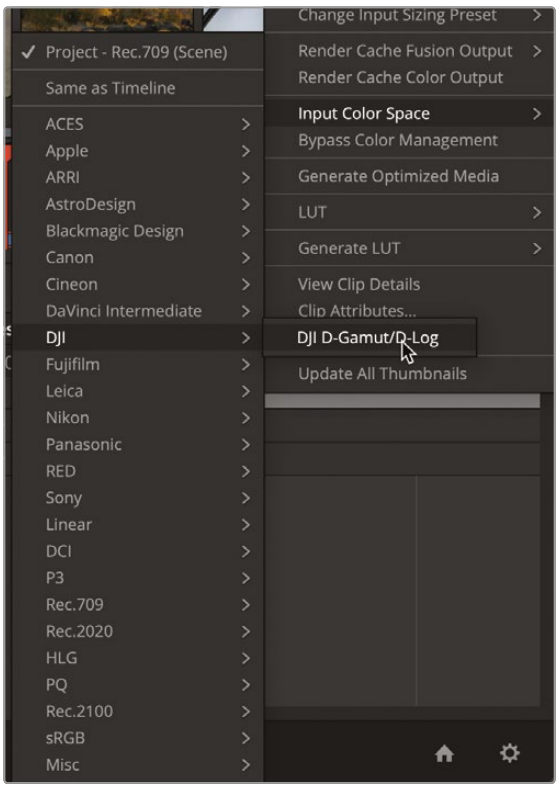
11 Go into the Project Settings and turn Color Management back on.

When you have clips without metadata tags, you can manually set those clips individually from the timeline or in groups from a bin.

TIP Adding the Input Color Space as a media pool column will display the currently assigned color profile for each clip, whether it is assigned manually by you or automatically by metadata.

12 Click clip 18 in the timeline. This is a shot from a DJI drone, and it still looks very flat. This is because there's no metadata in the clip that DaVinci Resolve can read, so it cannot understand the profile.

13 Right-click the thumbnail in the timeline and choose Input Color Space > DJI > D-Gamut/D-Log. The clip will adjust and will no longer look flat.



NOTE Transcoding clips from one format to another tends to strip the metadata out of the file. If you do convert your clips from one video codec to another, make a note of the camera they were shot on; it will save you time in the long run.

Note that you have not color corrected these clips, although they may appear improved. If the clips were shot overexposed, they will appear overexposed. If they were shot with the incorrect white balance, they will display incorrect white balance. All you have done is correct the different gamma curves and color gamuts, so they are uniformly set to suit your HD display device and file output. From here, you can use the techniques you learned earlier to correct contrast, white balance, and so on. in the color managed workspace.

When grading this sequence, you may find yourself playing the clips repeatedly to check certain processes you are applying. Playing back the audio continuously may get a little repetitive, so at this stage we will turn it off.

14 Go to the edit page and click the Mute button next to the audio level. Alternatively, you can stay in the color page and go to the Fairlight menu and choose Monitoring > Mute.

Matching Different Cameras

1 Select clip 10 in the timeline and press the Spacebar to play it back. Let it run into clip 11 and then stop playback.

Here we have two clips shot at the same time in the same environment. However, they look different because they were shot on different cameras. Clip 10 is from a Blackmagic camera and clip 11 is from a Sony. While both clips have been shot correctly, the cameras have different profiles and therefore they look different. As we have established, color management will put them in the same deliverable profile, so you don't have to try to match them from scratch. You do want them to look like each other so it is less noticeable when switching from one camera to another.

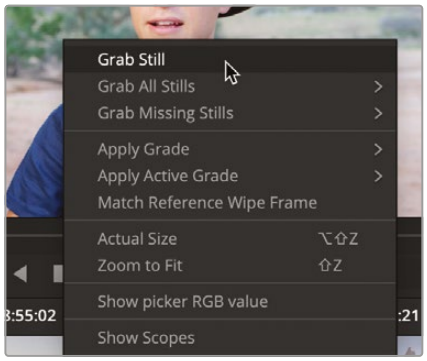
Since the Blackmagic camera is our A camera, we will adjust it first, and then we will grade the Sony to match.

2 Select clip 10 and then drag the Gain master wheel right to around 1.11 to lift the highlights of the shot.

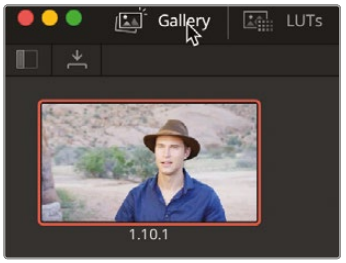
3 Drag the Lift master wheel to the left to around -0.07 to get the shadows darker and improve the contrast in the shot. Now we need to match the other shot to this.

At this point, you need an easy reference to compare the clips side by side. DaVinci Resolve has a stills gallery that allows you to take a snapshot of a clip and compare that to another clip. You will look at the stills gallery in much more detail in Lesson 6. For now, you just need a reference frame.

4 Right-click the viewer window and, from the menu, choose Grab Still.



5 If the Gallery is not open, click the Gallery button in the top left corner of the interface. You will see the still you grabbed.

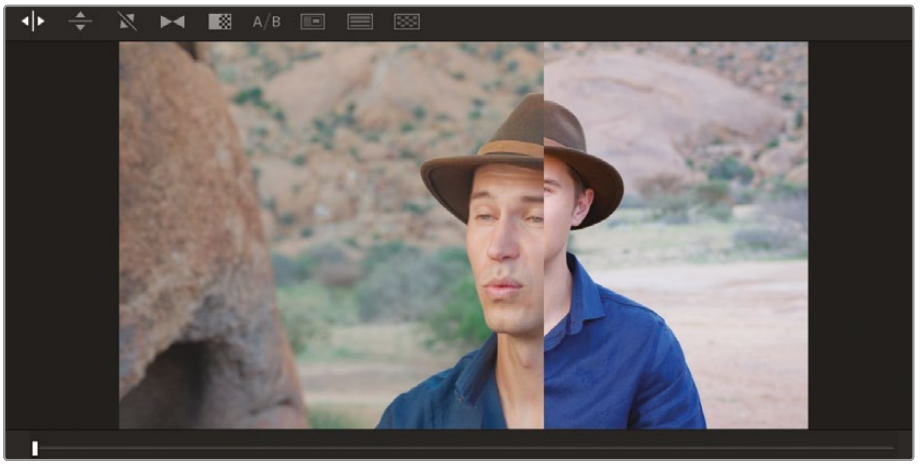


6 Select clip 11 in the timeline.

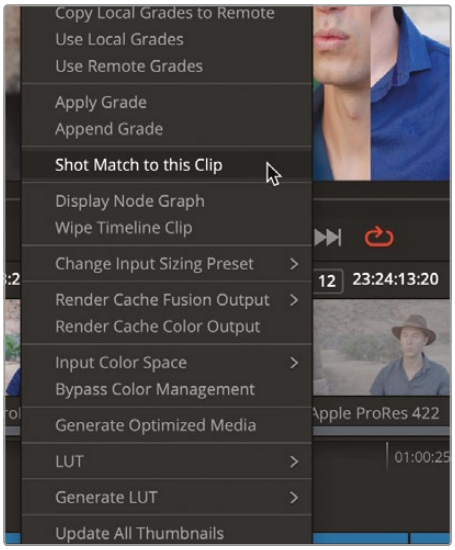
7 Click the Image Wipe button in the top left corner of the viewer.

You will see that the image splits in two, with the left side of the frame showing you the selected timeline clip and the right side showing the still. If you drag the split around, you can adjust it to show more or less of each side.

8 Drag the split slightly to the right to show a little more of Sean's face on our timeline clip. You can see that the color just doesn't quite match.



9 With clip 11 still selected in the timeline, right-click clip 10 and, from the menu, choose Shot Match to this Clip and DaVinci Resolve will match clip 11 to clip 10.



While the match does a pretty good job, the shot still needs a slight adjustment because it appears slightly too bright in the highlights and a little cold.

10 Drag the Gain master wheel to the left to around 0.95 just to bring the highlights down slightly.

11 Using the Gamma color wheel, drag the center slightly toward orange. This is a minor adjustment that may not even register on the controls, but you will notice the shot get slightly warmer.

12 Click the Image Wipe button to remove the wipe.

13 Press Option-D (macOS) or Alt-D (Windows) on the keyboard to toggle the grade off to see the adjustments made.

Play the two clips together, and you can see the result is now much less noticeable. While it's not an exact match, the viewer would not notice much of a difference. Different camera angles will always look slightly different due to such things as light sources being in different places for each camera. With color grading, it is often a case of what you can get away with.

The DaVinci Resolve Neural Engine

The Color Match uses the DaVinci Resolve Neural Engine to perform the grade. The Neural Engine is AI built directly into DaVinci Resolve that speeds up certain processes for the user. It is not generative and does not access third-party AI tools.

The Neural Engine is used for multiple purposes across all the pages, and in the color page it is used across several Resolve FX and tools. An example is the Magic Mask, which allows the masking of complex shapes by using a simple selection so that elements of the same shot can be graded separately using complex shapes.

Original shot

Subject selected with Magic Mask

Many of the Neural Engine features are included in DaVinci Resolve Studio only.

Adjusting Individual Color Channels

Much of the power of DaVinci Resolve comes from the flexibility of its toolset, which provides many ways to do the same thing. To learn more about the primary corrector toolset, you'll explore another method for creating a balanced correction on a new shot.

1 While still in the Conservation Filming timeline with color management turned on, select clip 03.

The clip requires a tonal and color balance, but instead of using the color wheels and master wheels, we'll use the individual number fields for luminance, red, green, and blue below the Lift, Gamma, and Gain to make fine-tuned adjustments.

These controls allow you to make color and luminance adjustments similar to the master and color wheels but provide explicit red, green, and blue controls and separate luminance adjustments in the Lift, Gamma, and Gain regions. So you might find them more effective tools for balancing specific color channels in different regions of a shot. For tonal adjustments, the Y, or luminance bar, allows you to adjust luminance without changing saturation.

The image has low highlights as well as slightly raised shadows that can be confirmed in the scopes. Let's start by setting our black point.

2 In the Lift region, drag the Lift Y number field to the left until the bottom of the green and blue traces in the parade touch the 0 line, with the value at around -0.08.

You can see the blue channel is ever so slightly lower than the red and green, so let's rectify that.

3 Drag the Blue number field to the right to level off the bottom of the parade. This needs only a slight adjustment until the bottom of the traces are level around 0.01

The darker areas of the image now look better, so we can go ahead and adjust the brighter parts.

4 In the Gain region, drag the Y parameter right until the top of the traces sit just above the 896 line and the value is around 1.30.

The shot certainly looks brighter now; however, it looks a little too warm, and again, looking at the parade, you can tell this by the fact that the traces are not level at the top.

5 In the Gain blue number field, drag the parameter to the right until the tops of the parade traces line up and the shot looks cooler.

We could go a step further by adjusting the midtones. Remember that midtones are more subjective and are quite difficult to measure on a scope, so this will be your judgement call on what you want to do with the shot.

In this case, it looks as though the cheetah is a little dark.

6 Drag the Y parameter under the Gamma wheel right until you feel the cheetah is a little brighter and you can see more detail, approximately 0.05.

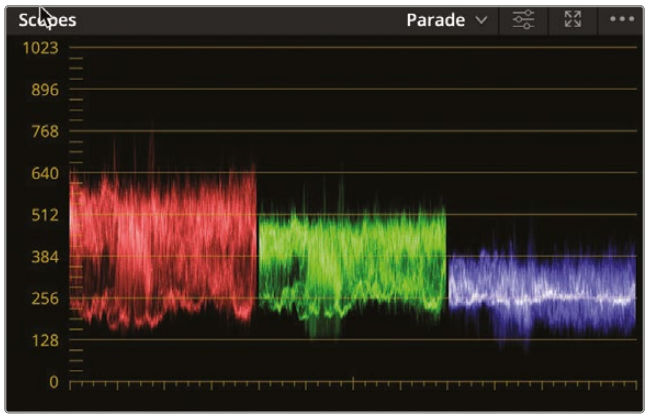
7 Choose Bypass, or press Shift-D, to see the original image and then press Shift-D again to see your grade.

Using Curves for Primary Color Corrections

In this exercise, you'll look at a final method of creating a balanced shot. Using custom curves, you'll have the greatest degree of flexibility for making tonal and color adjustments, but this technique also requires some more finessing.

1 Select clip 15.

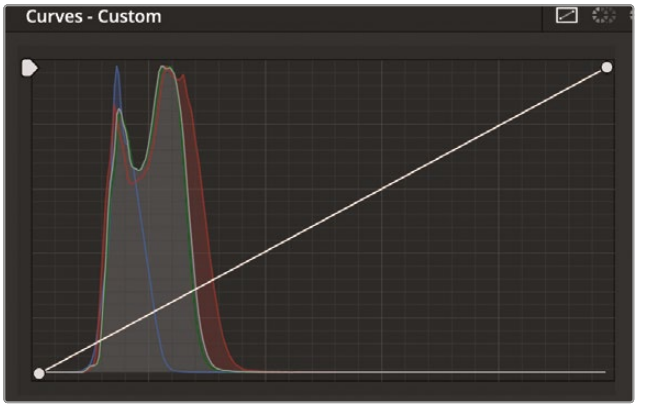
Looking at the image, you might not be able to tell that there isn't a lot of contrast, but looking at the scope, you can see how the trace is all bunched up in the middle of the graph. This is a common trace appearance for low-contrast images.



You will approach this shot in the same way you did the previous shots: correcting black point, white point, and color.

NOTE On computers with lower screen resolution, you might have to click the Curves button to display the curves palette.

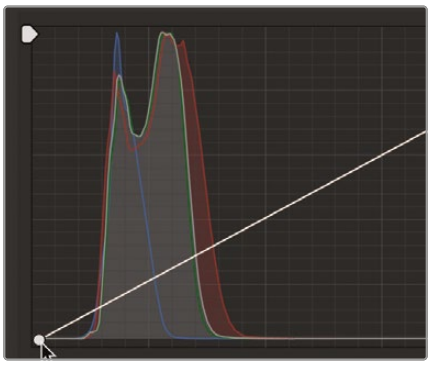
The custom curve graph is a plot graph in which you can perform incredibly flexible adjustments on specific tonal ranges of images. The X axis represents the image's tonal values going from the darkest shadows on the left to the brightest highlights on the right. Along the Y axis are the output, or offset, values, with darker adjustments placed lower in the graph and brighter adjustments placed higher.



TIP In the color page, each clip has its own undo/redo history. Choosing Edit > Undo will undo different steps, depending on which clip is currently selected.

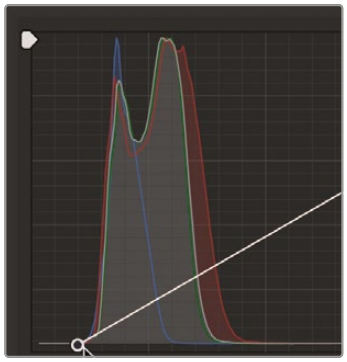
The shadows should be much darker since the shot was filmed later in the afternoon and therefore areas of the image should be close to black.

2 Position the mouse pointer over the control point located in the lower left corner of the custom curve graph.



This point is the black-point control. Like the Lift master wheel in the primary corrector, adjusting this point raises or lowers the black point in a clip.

3 Drag the point to the right until it touches the edge of the Histogram curve in the curves window. The trace in the parade should be close to 0 on the blue channel.



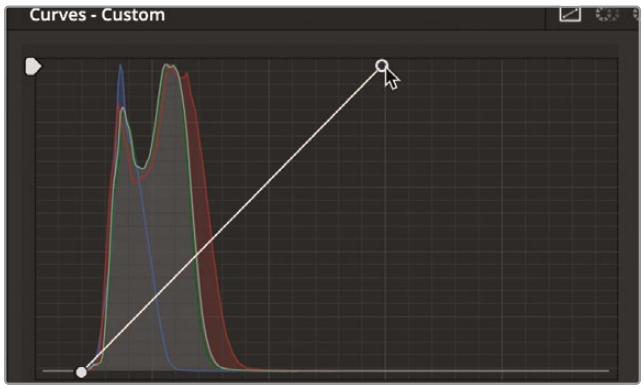
Moving the black point to the right darkens the darkest parts of the image.

4 Position the mouse pointer over the control point located in the custom curve graph's upper right corner.

This point is the white-point control. As with the Gain master wheel, adjusting this point raises or lowers the white point in a clip.

The highlights in this shot are fairly dull and could use some brightening.

5 Drag the point to the left until the red trace hits the 1024 line. The curve point should sit two full guide squares to the left of where it started.

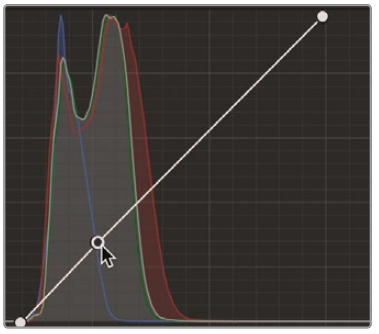


Dragging the control point to the left brightens the brightest parts of the image.

You can further increase contrast by darkening the darker midtones and brightening the brighter midtones. Stretching the distance between the two ranges will increase the contrast. This is one of the main areas where the curves interface provides a lot of flexibility.

You can precisely control the contrast by adding two control points to the curve line: one point in the lower shadows area and one in the upper highlights.

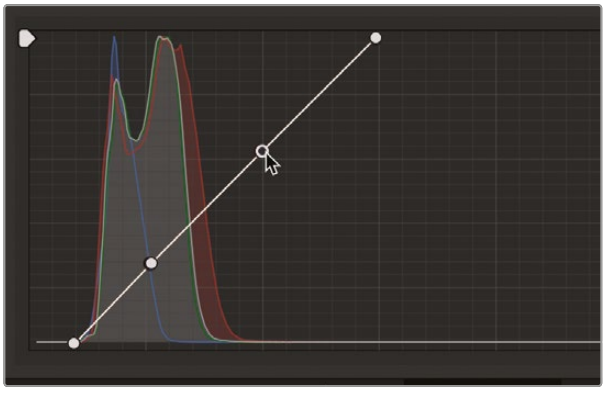
6 Click the curve line directly where it meets the blue Histogram curve, about one-quarter of the way up from the bottom.



This adds a point to manipulate the shadows. One of the peaks in the histogram shows you where most of the pixels are in the lower shadow range of this image.

7 Add a point about a third of the way down from the top of the curve line, where the curve line meets the next guide square.

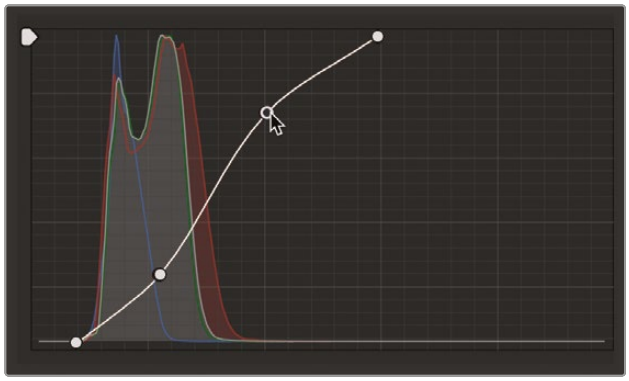
This will allow you to push the highlights without clipping them.



TIP Right-clicking with the mouse on a curve point will automatically delete the point.

8 Drag down the lower control point until the image's shadows look sufficiently dark but not crushed.

9 Drag up the upper control point until the white sections on the cheetah are brighter without being clipped.



10 Choose View > Bypass All Grades, or press Shift-D, to see the original image, and then press Shift-D again to view your corrected clip.

Moving both points into this S-shaped curve is a typical form of adding contrast using a curve control. It offers more flexibly than the Contrast control or even adjusting the Lift and Gain master wheels. Using the custom curves, you can define how much shadows are modified and how much highlights are modified, independently.

TIP Placing points along a curve will allow you to sculpt the contrast to get the look you want to achieve. If you are having difficulty getting your contrast to look right using the contrast and pivot controls, try switching to the curves for finer, custom contrast adjustments

Using Curves in Separate Nodes

As you have already explored, nodes can be used when you decide adjustments are best performed separately. To further adjust the clip we just worked on, you'll use the curves on two separate nodes to correct the color cast issue.

1 With clip 15 still selected in the timeline, right-click node 01 and, from the menu, choose Add Node > Add Serial, or press Option-S (macOS) or Alt-S (Windows) on the keyboard.

   As with the primary corrector's number fields, you can adjust color separately using the curves. Looking at the Parade scope, you can see that the blue trace is lower than the red or green across the image, so you'll start by adjusting the blue channel.

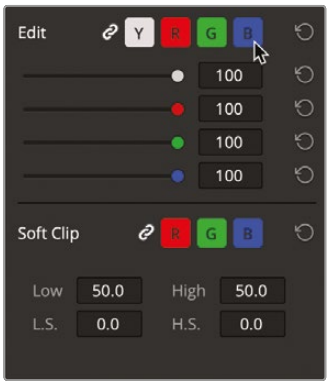
   Before we go any further it might be a good idea to label the nodes.

2 Right-click over node 01, choose Node Label, and then type **CONTRAST**.

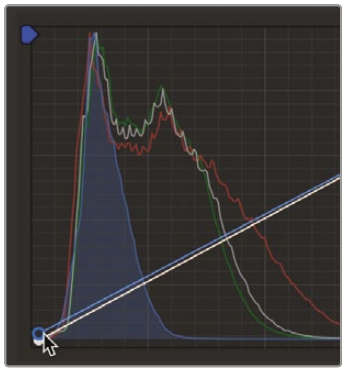
3 Right-click over node 02, choose Node Label, and then type **BLUE BALANCE**.

4 Make sure node 02 is selected.

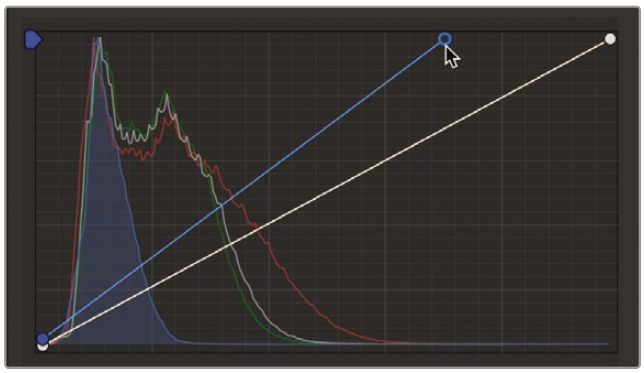
5 In the curve controls area, click the B button to activate the blue curve.



6 Drag the blue channel's black control point up just a hair until the bottom of the blue trace in the Parade scope is level with the green.



7 Drag the blue channel's white control point to the left until the blue trace in the Parade scope aligns at the top of the graph with the green trace.

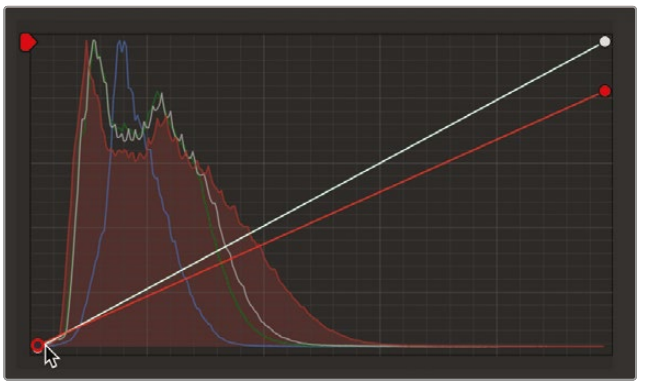


This image now looks almost magenta because there is too much red in the image.

8 Add another node as you did previously and label it **RED BALANCE.**

9 Click the R button in the custom curves and drag the white point down until the top of the parade traces are level.

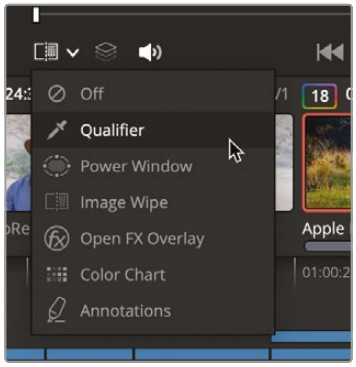
10 Carefully drag the black point up slightly so the bottom of the traces are level. You have now removed the orange cast on the clip



Sometimes, balancing the white point, black point, and color casts for shadows and highlights is not enough. Often, you will come across color casts in midtones as well. The curves are distinctly capable of correcting color casts in midtones because you can add control points anywhere along the line to pinpoint specific tonal regions that need correcting. You can even pinpoint the area you need to adjust by selecting it in the viewer. Looking at the current shot, it still looks a little blue, so you need to adjust the midtones.

11 Select node 02 BLUE BALANCE again.

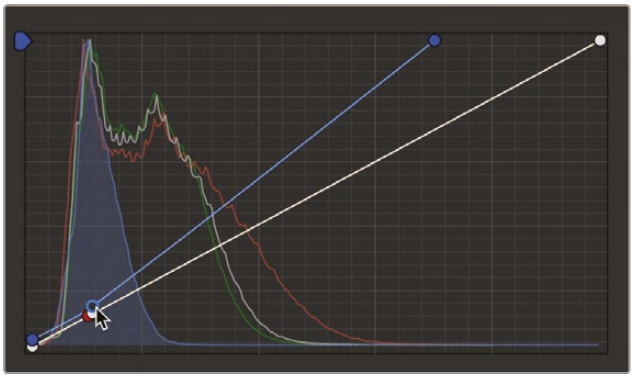
12 In the viewer window, click the onscreen Overlay button menu in the bottom left corner. Currently, it might look like the Image wipe icon we were using earlier. From the menu, choose the Qualifier tool.



13 In the viewer, click the area of trees on the left side of the image.

The trees appear to have a blue cast that needs to be corrected. Although you are not specifically isolating the trees in the shot by clicking in the viewer, you are placing the control point precisely along the curve line where the color for that tree is located.

14 Drag the blue control point down very slightly until the trees and even the grass in front of them start to look slightly warmer and greener.



Dragging the point lower in the graph decreases the green in the midtones by adding more red/magenta.

15 Press Option-D (macOS) or Alt-D (Windows) to see the image without the hue curves adjustment. Press Option-D (macOS) or Alt-D (Windows) again to view the corrected clip.

Before color balance (left) and after color balance (right).

Using the HDR Wheels

So far, you have used your Lift, Gamma, and Gain wheels quite a lot. As already explained, there is a large overlap between the three wheels, meaning that when you move something in the highlights it will affect some of the midtones as well. These controls have been used for a long time to balance shots; however, cameras have been developed to shoot higher dynamic ranges and wider color gamuts. This means that just having a tool that affects the highlights may no longer be enough, since the highlights have multiple ranges. This is where HDR color wheels come in. Rather than having three controls, the HDR wheels have six and allow you to adjust more precisely areas of shadows, midtones, and highlights.

1 Select clip 07 in the timeline.

2 Drag the Offset master wheel left just to bring the overall level of the clip down slightly, to around 18.00.

3 Add a second node by pressing Option-S (macOS) or Alt-S (Windows) on the keyboard.

4 In the left window, click the HDR tools button.

The window shows four wheels that look similar to the controls you have been using. Along the top are six circular icons that allow you to choose which of the six controls you see. By default, the Global wheel is always present and works very much like the Offset wheel you have been using.

> **TIP** If you would like to use the position of the Global wheel for another control, this can be adjusted in the HDR wheel options by choosing the Bank Global With Color Wheels setting.

5 Click the rightmost circular icon in the HDR window and the wheel labels will change to Light, Highlight, and Specular.

These wheels will affect the brighter areas of the image, but rather than having just one control, you now have three. You can also see which area the wheel is affecting by using the Highlight button for each control.

6 Click and hold the Highlight button on the Highlights wheel, and you will see the viewer turn gray, apart from the sky in the image. Anything that turns gray will not be affected by that color wheel.

7 Make sure node 02 is selected and, using the Highlight wheel, drag the center point toward blue almost all the way to the edge.

8 Drag the Saturation slider right until it is around 1.10 to make the blue more vibrant. You can continue to push the blue as much as you like.

9 Drag the exposure slider left until the sky becomes slightly darker, around -0.80.

NOTE HDR wheels have an advantage over the standard color wheel because they can adjust the saturation of a color in a specific range of luminance. To achieve this with a standard color wheel, a secondary tool would have to be used.

The sky now looks much less washed out; however, it still looks a little flat. It needs more of a range of color.

10 Using the Specular wheel, drag the center point straight up to add a magenta hue to part of the sky.

TIP The HDR wheels have overlap between them, so adjustments have a roll-off from one control to another, much like the standard color wheels. Unlike the standard color wheels, however, these zones can be adjusted if needed.

11 Click the leftmost wheel icon until the controls show Black, Dark, and Shadow. These wheels affect the darker areas of the image.

12 Click and drag the exposure setting to the left in the Shadow control to around -0.60 to get a more defined darker side of the sand dune. Click and hold on the Highlight button if you want to see the area you are affecting.

13 Drag the center of the Shadow wheel toward red until the right side of the dune starts to look redder.

As you can see, the HDR wheels allow you to select more focused areas of dynamic range, which can be ideal for adjusting clips from cameras that shoot a high dynamic range. You can get even more precise by isolating areas of an image using secondary grading controls that we will explore in the next lesson.

You can see that using the primary controls allows you to balance the color in your shots and start to give them a feel. You will use these controls a lot when you grade, so it is a good practice to get to know them. If you wish, you can duplicate this timeline and carry on grading these shots by applying what you have learned so far.

Lesson Review

1. What are the four main color grading controls that would be used for a primary grade?
2. True or False? The Parade video scope can show any tonal and color imbalances on a clip.
3. How can you stop a timeline from taking Color Management settings from the project?
4. True or False? The Color Match tool uses DaVinci Resolve's Neural Engine.
5. How many different ranges of luminance can be controlled from the HDR wheels?

Answers

1. Lift, Gamma, Gain, and Offset.
2. True. The parade shows both luminance levels and the levels of the individual RGB channels, so you can see if there is a color imbalance and if the contrast is not set correctly.
3. Open the individual timeline settings and uncheck the Use Project Settings option.
4. True. The Neural Engine AI is used to get shot matches as close as possible using an automatic process.
5. Six ranges of luminance can be controlled from the HDR wheels: Black, Dark, Shadow, Light, Highlight, and Specular.

Lesson 5

Secondary Color Correction

Primary adjustments work on the entire image, whereas secondary adjustments let you isolate and work on specific parts of an image.

For example, you might want to change the color of a car from blue to red without affecting the rest of the shot, add warmth and saturation to an actor's skin, or lower the shine on someone's forehead. DaVinci Resolve features many powerful tools to make these adjustments.

In this lesson, you will use power windows, HSL curves, Color Slice, Color Warper, and the qualifier to isolate elements based on their color and shape. You will then use the tracker to follow your selections so your color correction follows them through the shot.

Time

This lesson takes approximately 60 minutes to complete.

Goals

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Lesson Review 291

Masking Areas with Windows

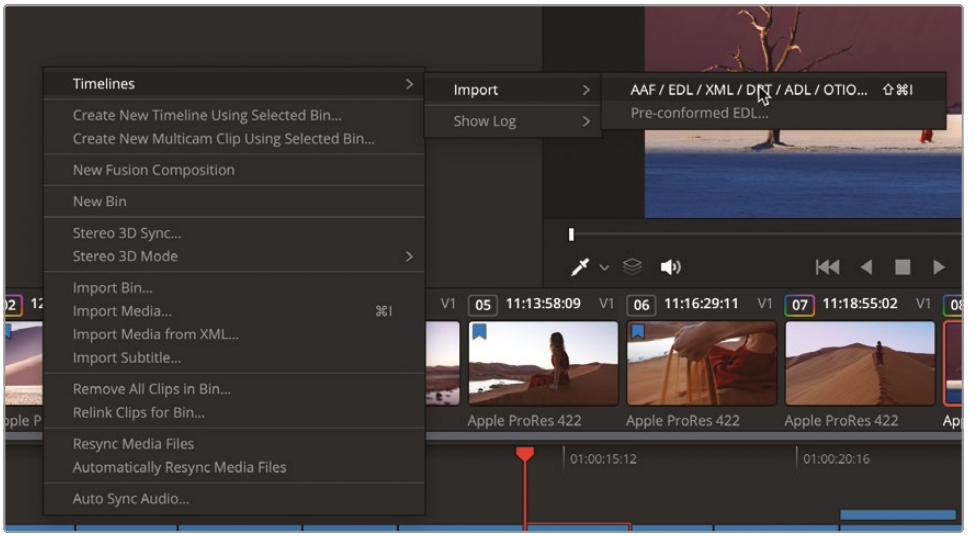
The first part of making a secondary color correction is to isolate the adjustment on a node. This allows you to make very specific adjustments without modifying the primary grade you have already completed.

Using multiple nodes, each containing separate adjustments, you can exercise more precise control over the order of those adjustments and more easily track and modify them.

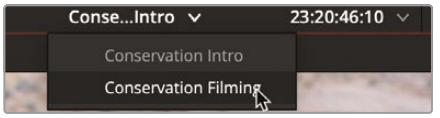
You will continue to use the timeline from the previous lesson.

1 Open DaVinci Resolve 19, if necessary, and then open the Conservation Film Company project you have been working on.

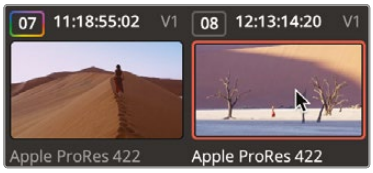
2 If you have fallen behind at this stage, import the **Conservation Primary.drt** file from the Lesson 05 folder. Go to the media pool and, in the Timelines bin, right-click and choose Timelines > Import > AAF / EDL... If you do not need to do this, proceed to step 3.



3 Go to the color page and ensure that you are using the Conservation Filming timeline, which can be found from the menu at the top of the viewer.



4 Select thumbnail 08 in the timeline.



This is a panoramic shot of one of the subjects in the desert , but it lacks the punch you would expect from a shot like this. By working on the foreground separate from the desert background, we can enhance this beautiful shot to bring out more colors.

5 On the first node, using the Offset master wheel, bring the level down to around 19.55 to ensure that you have no clipped highlights.

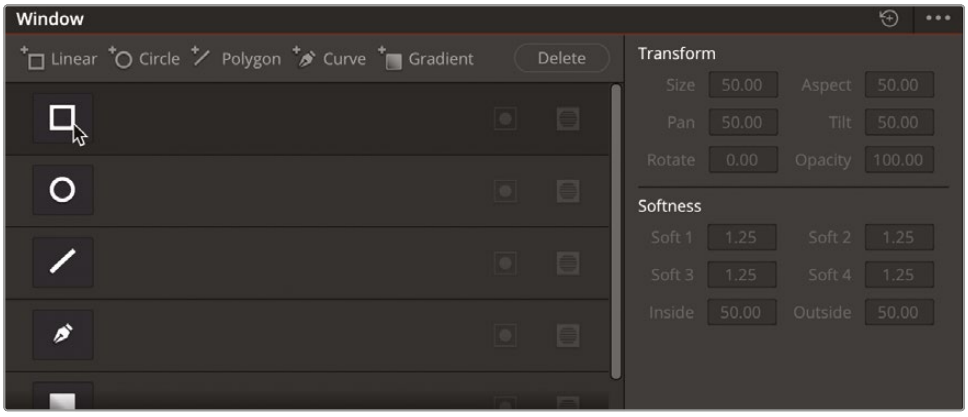
6 In the Node Editor, right-click over node 01 and choose Add Node > Add Serial to add a second node.

7 Right-click over node 02 and choose Node Label, and then name this node **FOREGROUND**.

8 In the toolbar center palettes, click the Windows icon.

Power windows, or windows for short, are probably the most heavily used features when trying to isolate an area for correction. They allow you to specify which area of the image you want to alter using a drawn shape. The shape can be standard ellipses, rectangles, polygons, or arbitrary Bézier shapes that you draw with a pen tool.

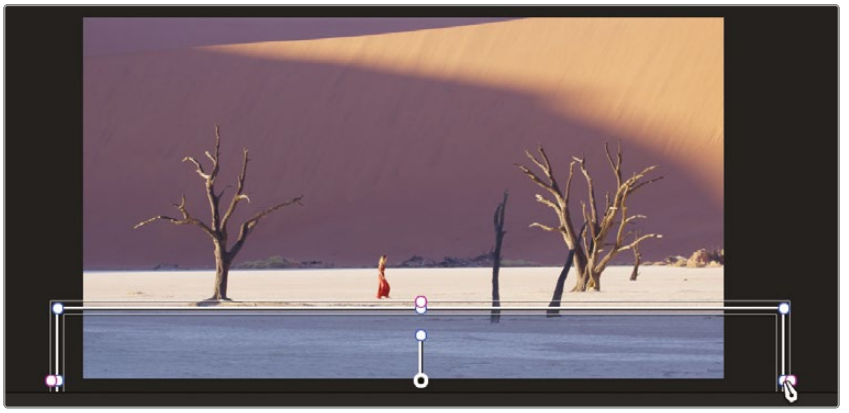
9 In the list of windows, click the Linear button to activate it.



A rectangular window shape appears in the viewer. You can resize and reposition it so that it is only over the foreground in our picture.

10 Drag within the center of the rectangle to move it down so the top sits level with the top of the shadow in the foreground.

11 Using the white control points on either side of the rectangle, drag to the edges of the frame until the rectangle covers the entire width of the picture.



TIP Use the middle mouse wheel to zoom out in the viewer so that you can expand the rectangle outside the frame boundary.

The center handle inside the rectangle is used for rotation, but there are also transform controls for the window in the center palette. Sometimes, using the controls in the center palette is easier than dragging in the viewer.

12 On the right side of the windows palette, drag the Rotate number field slightly to the left, to around 0.85 so the top of the window in the viewer is better aligned with the foreground shadow.

TIP If you need to expand the rectangle after rotating it, use the Size number field to expand all sides of the rectangle.

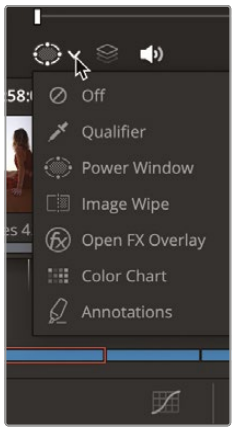
Now that you have your window in place, any color adjustment you make with node 02 selected will be made only within the area covered by the window.

13 In the primary controls, lower the Offset master wheel to make the foreground shadow much darker, around 10.85.

14 Using the Gamma color wheel, drag the center toward blue to give the shadow a cooler feel.

The outline of the window can obscure the edges of the correction, so it can be helpful to hide them from time to time.

15 In the viewer's lower left corner, click the onscreen Overlay button and choose Off from the dropdown menu that appears.



The top edge appears to match the shadow well, but the edge might be a little too hard. It needs some roll-off from the shadows into the highlights.

16 On the right side of the windows palette, drag the Soft 2 number field slightly to the right to expand the soft edge along the rectangle's top. Aim for around 5.00.

17 In the viewer's lower left corner, click the onscreen Overlay button and choose Power Window from the dropdown menu that appears to turn the window back on.

TIP Clicking off the Window menu in the middle panel to any other tool, apart from the Tracker, will also hide the window in the viewer.

18 To compare the change you made on node 02, press Command-D (macOS) or Ctrl-D (Windows) to disable the node's adjustments, and then press the keyboard shortcut again to enable it.

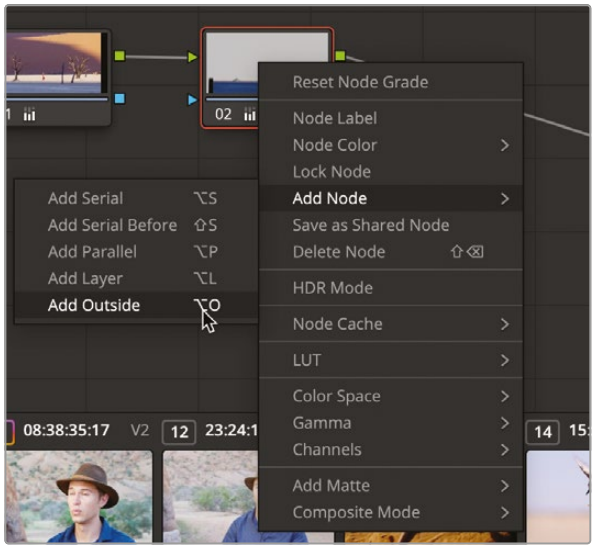
Before window correction (left) and after window correction (right).

Windows are the perfect solution when you have a clearly defined area you want to work within. This simple color adjustment has made a big impact by using a window to limit it to the picture's top half.

Reversing Selections with Outside Nodes

Often, you will want to switch your attention to the area outside of your window. For example, now that the shadow looks dramatic in this shot, you might want to adjust the desert area. For this purpose, you can use an outside node, which takes the mask created by the window and inverts the selection.

1 With node 02 selected in the Node Editor, right-click it and choose Add Node > Add Outside or press Option-O (macOS) or Alt-O (Windows).

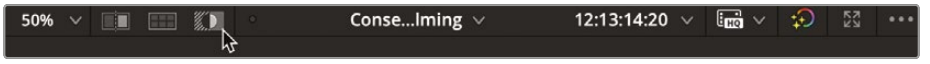


A third node is now present in the Node Editor. As with previous nodes you've created, it will connect with the preceding node via the green RGB input/output circles. However, this time you'll see a new connection: the key input/output blue triangles. The key is the portion of the image that you isolated using the window tool. When you create an outside node, it receives the key from the previous node and automatically inverts it.

2 With node 03 selected, right-click and choose Node Label, and then name the node **BACKGROUND**.

To more clearly visualize the area you are adjusting, you can briefly enable the viewer's Highlight mode.

3 In the viewer's upper left corner, click the Highlight button.



The Highlight button shows the area you will be changing and displays gray pixels over the area that will be protected from your adjustments.

4 Using the primary controls, drag the Contrast control right to around 1.200 to lengthen the shadows in the desert.

5 Using the Gamma control wheel, drag the center toward orange until the desert starts to look warmer.

6 Click the Highlight button again to disable the Highlight mode.

The ability to reuse key data is a beneficial component of node-based workflows. It speeds up the grading process by requiring you to create a single mask and reuse it multiple times.

Using Windows to Adjust Lighting

In addition to being able to isolate certain regions to grade, you can use windows to change the light in a shot, and without your audience noticing, pull their attention to something that you as the colorist want them to focus on.

1 Select clip 03 in the timeline.

We balanced this shot in the previous lesson, and while we neutralized the yellow cast on the shot, the clip itself looks very flat and almost gray. Also, there is a lot of background behind the cheetah.

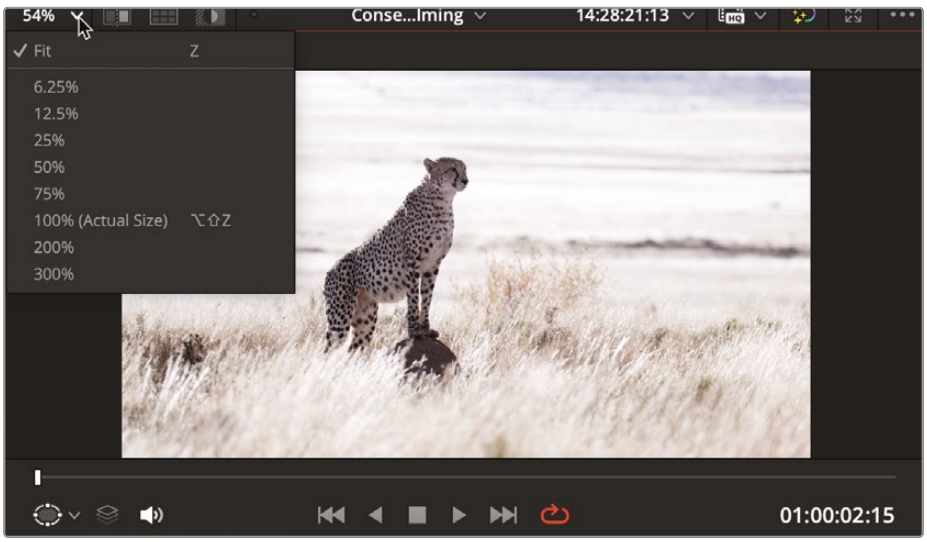
So at this stage, you will create more definitive lighting in the shot so the audience will focus more on the subject and the shot's lighting will not look so flat.

2 Add a second node by right-clicking node 01 and choosing Add Serial or press Option-S (macOS) or Alt-S (Windows) on the keyboard.

3 In the toolbar center palettes, click the Windows icon and select the Curve tool from the Window options. The mouse pointer will look like a pen, and the tool will allow you to draw the window shape you want.

You will need to zoom out of the viewer slightly to make sure the top and bottom edges of the window are not in the shot.

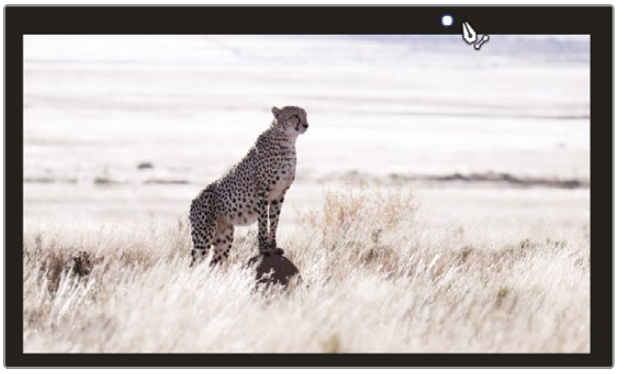
4 Place the mouse pointer over the viewer window and, using the mouse scroll wheel, scroll out to reveal the edge of the image or click the percentage button in the top right corner and choose a value lower than the current one.



NOTE The percentage value of an image fitted to the viewer will differ from system to system since it is dependent on the resolution of the screen you are using.

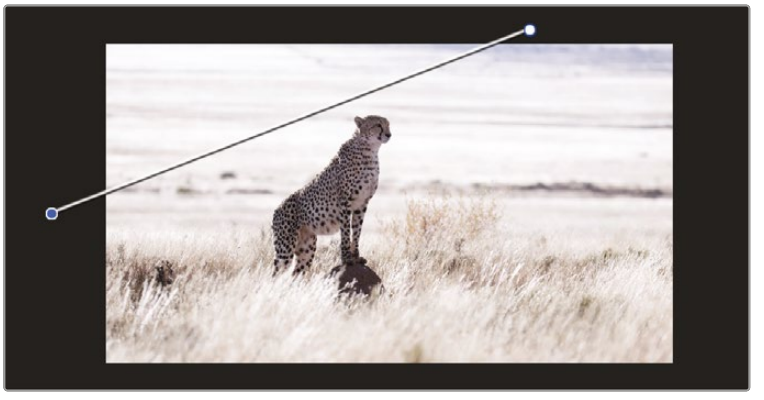
5 You can also press Command-minus (macOS) or Ctrl-minus (Windows) to zoom out of the image. Each time you press the minus key, the image will zoom out further.

6 Click and add the first point about a third of the way in from the right of the frame but make sure the point is outside the frame.

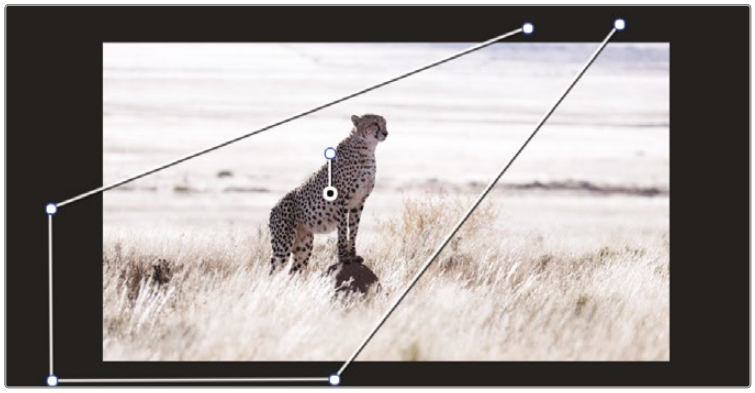


TIP Don't worry too much about the points when you are drawing a window; their positions can be changed later, and points can also be added and deleted from a shape.

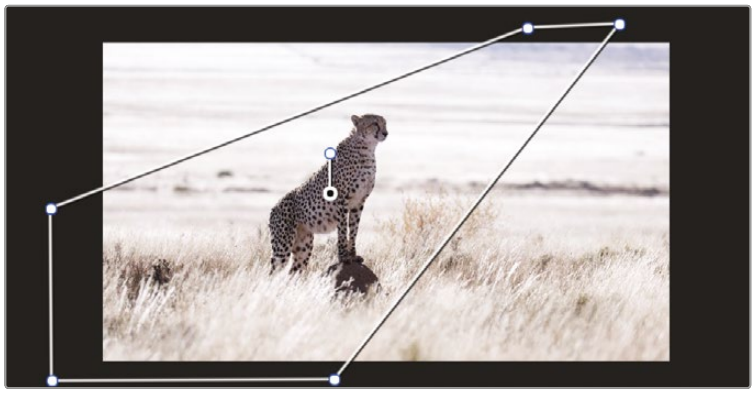
7 Add a second point approximately halfway down the left side of the frame, again making sure that the point is outside the frame.



8 Add another three points as shown in the image below.



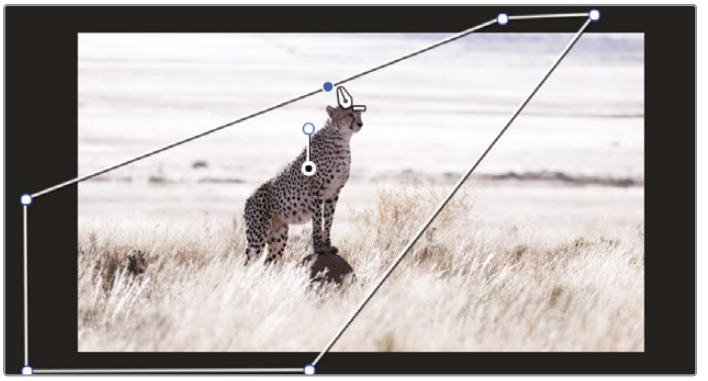
9 After adding the fifth point, position the mouse pointer over the first point you created and click the point. The shape will close.



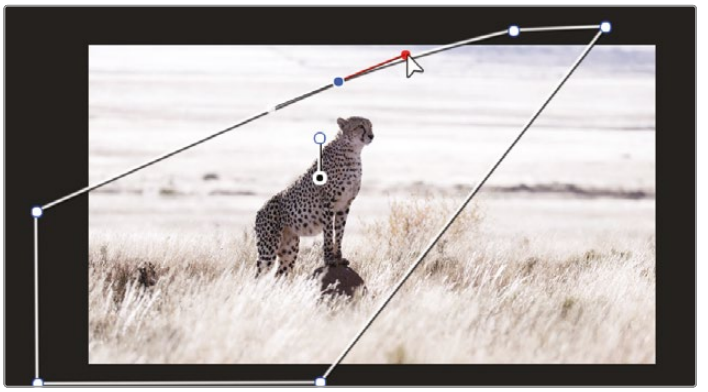
At this stage, if you want to adjust any of the points, you can simply select and drag them to a new position as needed. Middle mouse clicking a point will delete it. You can click anywhere on the shape path to add a point.

Since light is never that linear, you will add a few points to the window you created to give the shape a more customized look that appears more like natural light.

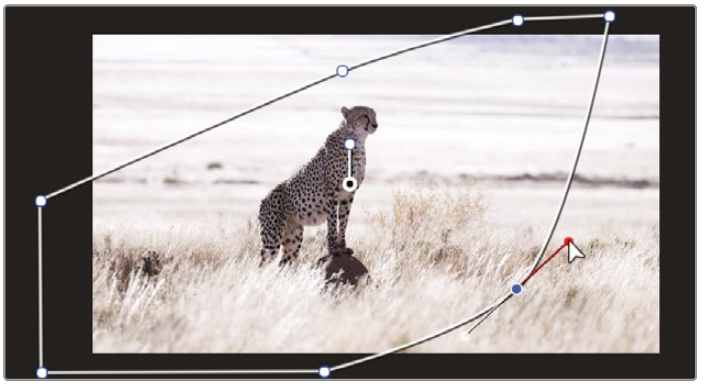
10 With the Curve tool selected, add a point just above the cheetah's head.



11 Drag the point up slightly and then drag to lengthen the Bézier handles to create a smooth curve.



12 Add another point halfway down the other vertical side of the shape and drag it down diagonally until it lines up with the first point you added. Again, lengthen the Bézier handles so that the shape has a nice curve to it.



Now you'll want to change the color inside the window to give it a late afternoon feel.

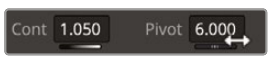
13 Go to the HDR wheels you used in the previous lesson.

14 In the Offset control, drag the temperature slider up toward orange until it can go no further.

TIP Using the HDR wheels to add color to a shot can be beneficial since that will avoid adding color to the brightest highlights and darkest shadows, which should have no color in them naturally.

15 Drag the Contrast control in the HDR wheels to the right until it hits approximately 1.050.

16 Drag the Pivot all the way to the right until it can go no further. The value should be 6.000.



We've now darkened inside our window to give the impression of longer shadows as if there is a low-lying sun.

17 With node 02 selected in the Node Editor, right-click it and choose Add Node > Add Outside or press Option-O (macOS) or Alt-O (Windows).

18 With the new node 03 selected, drag the Exposure in the Global control to the left until it reads approximately -4.20 or the area outside our created window looks suitable dark.

The area now looks darker but perhaps a little too cold. We need to add a bit of warmth to the shadows.

19 Click and drag the Global temperature slider up slightly so the shadows lose the blue tint.

You now have the lighting for the look you want; however, it looks slightly ridiculous since the window itself is so defined.

20 Select node 02 again.

21 Click the onscreen Overlay button to turn off the window in the viewer.

22 On the right side of the Window panel, click and drag the Soft 1 value right until the window softens enough to look natural.

23 To compare the change you made on node 02, press Command-D (macOS) or Ctrl-D (Windows) to disable the node's adjustments, and then press the keyboard shortcut again to enable it.

You now have a shot for which the eyes are drawn more to the subject, and the lighting is much more interesting and reflective of the environment than in the original shot. If you toggle the grade on and off, you will notice your eyes are drawn more toward the subject's face when the window is on. To see this better, you might want to go into full-screen mode.

24 Press Command-F (macOS) or Ctrl-F (Windows) to expand the viewer to full screen. Then press Command-D (macOS) or Ctrl-D (Windows) to toggle the window node on and off to see the changes.

Making Secondary Adjustments with HSL Curves

Windows come in handy when you have well-defined simple areas that you want to adjust. However, in cases where the area is less defined, the shape is too complicated, or you are trying to select a particular color, HSL (Hue, Saturation, Luminance) curves may be a more appropriate tool.

1 On the color page, select clip 04.

This clip already has a nice balance to it, but the blue sky seems washed out. Also, the orange of the desert could use a little more warmth. Making the blue sky more vivid and the orange in the image more vibrant will make this a more striking shot.

2 Right-click over node 01 and label it **ORANGE SATURATION**.

The easiest technique to use when you have a simple secondary color adjustment is to use the HSL curves. HSL curves are located in the custom curves palette.

3 In the toolbar, click the curves palette.

4 In the upper right corner of the curves palette, click the third button from the left, which is the Hue vs Sat curve.

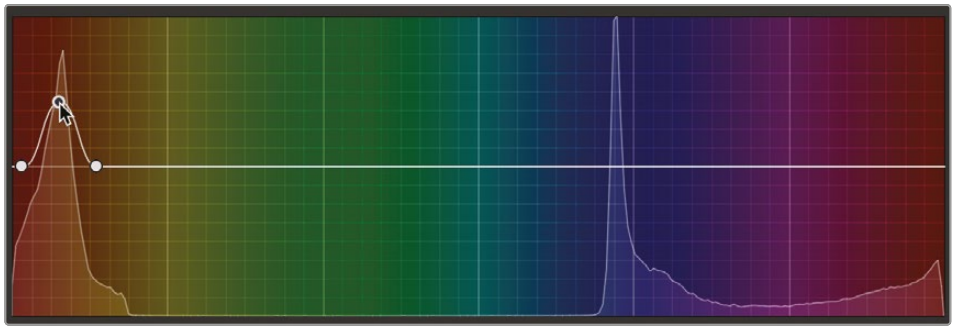
The buttons in the top right corner of the window give you access to different curves. Each curve displays the property that will be selected versus how that property will be adjusted. In this case, you will use Hue vs Sat, which will select a hue from the image and adjust that hue's saturation, pushing more of the selected color into the image.

In this case, the color of the desert is correct; you just want more of it.

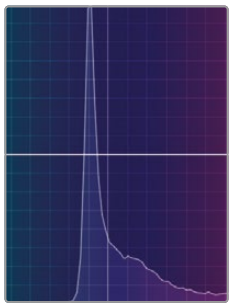
5 In the viewer, click a point in the desert in the bottom left of the image.

Clicking in the viewer adds three points to the line in the graph. The middle point is the precise hue shade you selected in the viewer. The outer two points limit the range of green hue that will be adjusted.

6 Drag the middle point in the graph up to start making the desert a more vivid orange.



There is a range of orange in the image, including on our subject; however, as we are warming the orange hue it gives the subject a natural warm look in keeping with the image. Now you need to adjust the sky. We know the blue hue must be adjusted, so we could select it; however, you can see in the curves window that there is a natural spike on the histogram showing where the blue sits.



Since we can see where the blue sits, we can just manually add a point to the blue section of the curve.

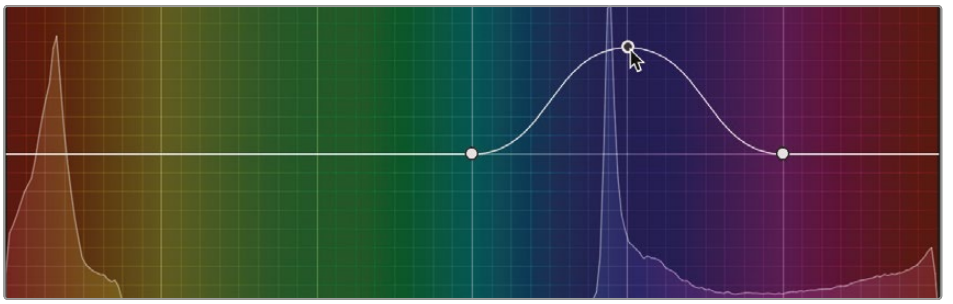
7 With node 01 selected in the Node Editor, right-click it and choose Add Node > Add Serial Node or press Option-S (macOS) or Alt-S (Windows).

8 Right-click over node 02 and label it **SKY SATURATION**.

9 In the same Hue vs Sat curve, select the blue channel from the color menu in the bottom left corner of the curves window. Three points will automatically appear on the curve.

Drag the blue point directly upward until the sky looks bluer.

> **TIP** If you want to move a point up and down in the curves and make sure its position doesn't move left or right, you can click and drag on the Saturation parameter, which will only move the point vertically.



Before the saturation shift (top) and after the saturation shift (bottom).

Now we want the sky to have a little more magenta in it so it looks a little more like the sky in clip 07 that we adjusted in the previous lesson with the HDR wheels.

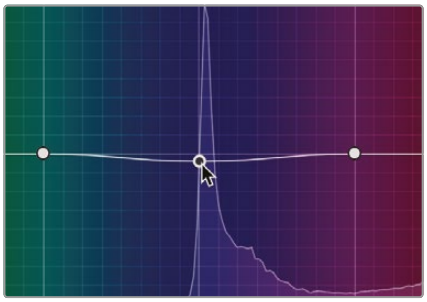
10 With node 02 selected in the Node Editor, right-click it and choose Add Node > Add Serial or press Option-S (macOS) or Alt-S (Windows).

11 Label node 03 **SKY COLOR**.

12 Go into the curves window and select the Hue vs Hue curve.

13 Select the blue channel from the color menu as you did before.

14 Drag the middle point of the curve down ever so slightly so the sky looks a little more magenta.



As you can see, curves allow you to quickly adjust specific areas of hue, saturation, and luminance. As you have already seen, however, Davinci Resolve has a deep tool set, and there are many different ways of adjusting specific areas of color.

Making Quick Adjustments with the Color Warper

The computer mathematics behind the HSL curves create a very smooth and natural result; however, they only allow the adjustment of one color parameter at a time. In the previous lesson, one curve allowed you to adjust the saturation of a color and then a separate curve allowed the adjustment of the hue.

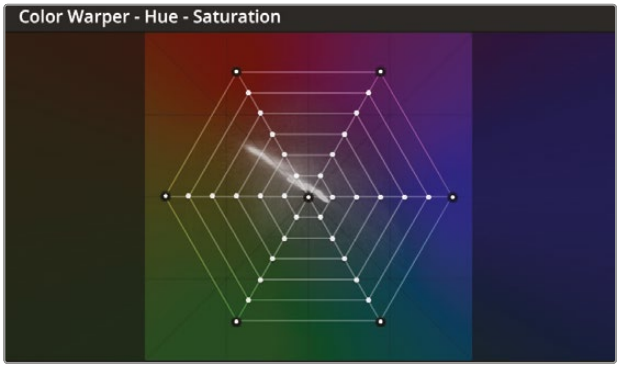
The Color Warper allows the adjustment of two parameters at the same time using a grid of adjustable points. For example, you can change not only the saturation of a color but the color itself by adjusting the hue at the same time—essentially the process we just did but with two sets of curves. This makes the process of manipulating color a quick and intuitive process when using the Color Warper.

1 Select clip 14 in the timeline.

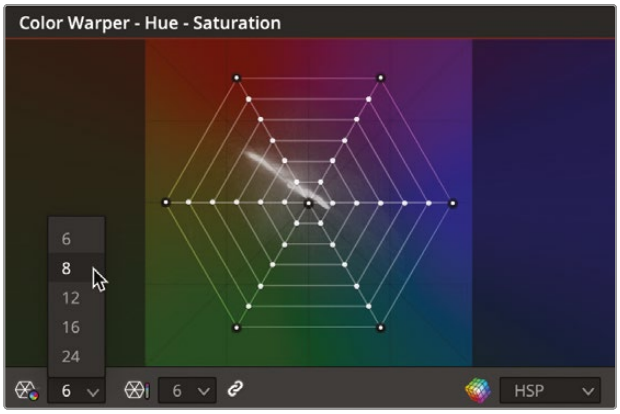
Here we have a clip that essentially has just orange and blue in it, so we can manipulate these colors quickly and easily with the Color Warper.

2 In the toolbar center palettes, click the Color Warper icon.

The Color Warper appears in the middle window and by default is split into six separate segments. Each section divider will have a number of points that can be dragged to change the color and saturation in the image.

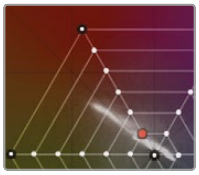


3 To make the Warper a little more precise, change the number of segments from 6 to 8.

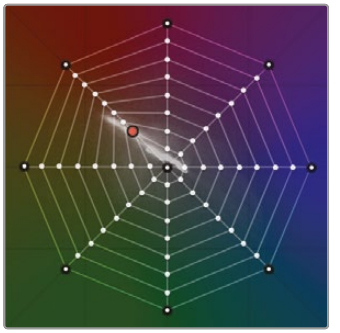


4 Position the mouse pointer over the viewer, and it will default to the Qualifier tool. Place it over the sandy area toward the bottom left corner of the frame.

5 Select the sandy area in the viewer, and you will notice that it selects a control point in the Color Warper.



6 With the qualifier still over the sandy area in the viewer, click and drag left and upward until the area looks more saturated and orange and the Warper looks similar to the image below.



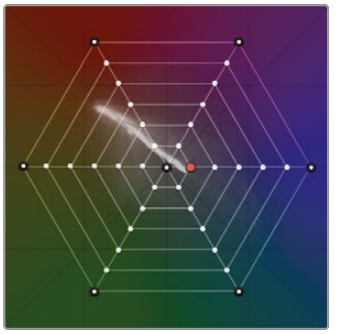
By dragging a control point further away from the center of the Warper, more saturation will be added to a selected area. Dragging the point into a hue in the Warper changes the color of the selection. As you can see, both of these adjustments can be made simultaneously.

You now want to make a slightly more precise selection for the sky. Rather than simply dragging along the image, you'll use the control points in the Color Warper itself.

7 Add a second node by right-clicking node 02 and choosing Add Serial or press Option-S (macOS) or Alt-S (Windows) on the keyboard.

8 Make sure the Color Warper window is still visible.

9 Select any part of the sky, and a point will appear just to the right of center toward the blue axis.



10 Drag the control point right toward blue. The sky might start to go a little magenta, so drag it down slightly until the sky looks blue.

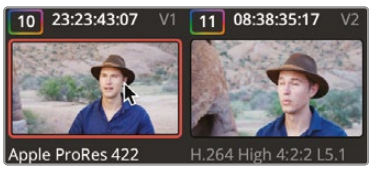
Both the HSL curves and Color Warper can create very natural results that are much trickier to get using other methods. However, the controls are limited to one adjustment in the case of HSL curves and two adjustments in the case of the Color Warper. So what happens when you want something even more precise—a tool that can use three adjustments together to identify an area of an image? Let's look at a more advanced method of selection but also one that takes a bit more time to master.

Selecting Areas with the Qualifier

The qualifier palette is another method of isolating a color for secondary color corrections. Compared to the HSL curves or Color Warper, the qualifier is a more sophisticated palette that includes several ways to select that color using hue, luminance, and saturation. This detailed level of control enables you to get a clean isolation, or matte, of objects even when other elements in the shot are of a similar color.

TIP Qualifiers are used only as a method of creating a matte. They are not color-grading tools themselves, and you only start to see their effects when you begin adjustments in the color-grading palettes.

1 Select thumbnail 10 in the timeline.



This is the interview shot we adjusted in an earlier lesson, but it now needs refining.

2 Add a second node by right-clicking node 01 and choosing Add Serial or press Option-S (macOS) or Alt-S (Windows) on the keyboard.

The qualifier is extremely useful for isolating specific colors since the controls narrow down the selection using hue, saturation, and luminance. You begin using the qualifier much like you would a chroma keyer. Using an Eyedropper, you click over an area of interest. The area you select is what you want to be adjusted. In this case, the producers feel Sean's blue shirt doesn't match the rest of the shot and would prefer it to be green.

There are several different types of qualifiers. In this case, you'll use the 3D qualifier, so you can simply drag on your selection.

3 In the middle window toolbar, click the Qualifier icon.

4 In the top right corner of the Qualifier window, click the fourth button, which is the 3D Qualifier tool.

5 In the viewer, click and drag from just above the left of the blue shirt. When you draw, the image will turn black and white. The white area will be your selection, or key, and the black area will be excluded from the selection. Continue to draw the line until the shirt is all white.

TIP At this stage, you are not trying to achieve a perfect selection; you just want to ensure that you have included a large portion of the area you are trying to adjust in your qualifier.

Once you have finished dragging the selection, the viewer will return to normal but will show a blue line that shows the selection that you drew in the viewer.

Your next step will be to refine and clean up your selection. To do so, you must first change the viewer's output to show your selection.

6 In the upper left corner of the viewer, click the Highlight icon or press Shift-H.

You are now seeing the pixels you selected against gray pixels that are not selected. The goal is to make as much of the image gray while the shirt remains its natural color.

Our selection is pretty good but it might just need some cleaning up.

7 With the Highlight tool still turned on, click the Black And White button at the top left corner of the viewer and your image will go back to the black-and-white highlight.

You want to smooth out this noise as much as possible so the selection goes unnoticed to an audience.

> **NOTE** The quality of the selection when using the Qualifier tool can depend on your footage as well as the tool itself. When using heavily compressed files, such as the H.264 codec, the qualifier does not have much color information to work with, leading to uneven selections. Using higher-end files such as Blackmagic RAW will get you more refined selections since there is much more color information to work with and therefore select.

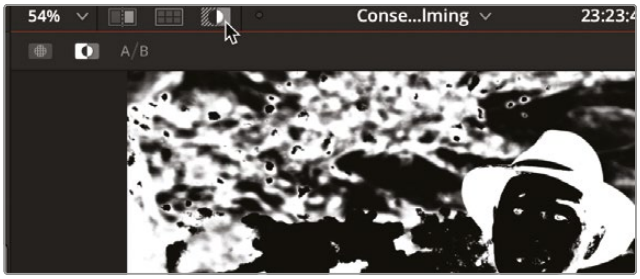
8 Zoom in to the right side of the image.

9 Play the clip, and you might see slight areas of noise in the shirt that show up as slight specks of black.

10 In the Matte Finesse tools on the right side of the Qualifier window, click and drag right on the Clean White parameter until it reaches approximately 7.0. This cleans up the noise that was in our selection, and the shirt now looks solid white.

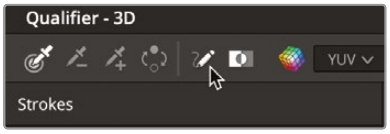
TIP Don't go too far with the clean and blur controls or your qualified area can begin to bleed back into the non-selected area.

11 Turn off the highlight by clicking the Highlight button at the top left corner of the viewer.



12 Press Z on the keyboard to make sure the image is fitted back to the window.

13 To prevent the blue path from being distracting in the Qualifier window, turn off the Show Paths option.



14 In the primary controls in the left window, click and drag the Hue control to the right and change the color of Sean's shirt from blue to almost olive.

15 Drag the Offset master wheel to the left to drop the brightness of the shirt.

The shirt still has a little too much color in it.

16 Click and drag the Sat control to the left until it sits around 30 and the shirt looks less vibrant.

Using the qualifier, you have used the hue, saturation, and luminance information in the image to isolate a very specific area. Using the qualifier in this way allows you to change the color of objects or dial specific hues back into a certain area or simply make selections brighter or darker. The qualifier very precisely controls what you select in an image. You can see from our image, however, that while the shirt looks correct, our adjustments have had a nasty effect on the rest of the shot. However, that can be fixed.

Combining Qualifiers and Power Windows

You can refine an area of the image you want to modify even more precisely by using the qualifier and power windows together. Often, an image will have several instances of a hue that you are trying to manipulate. Instead of focusing your efforts on cleaning up the selection in the qualifier palette (and likely compromising the quality of the key), sometimes the best option is to use a power window to limit which part of the frame the qualifier operates on.

1 If it is not already selected, select clip 10.

2 Make sure you still have node 02 selected. The image does not look great, because the results of our qualifier are spilling into the rest of the shot.

3 In the middle window, select the Window button.

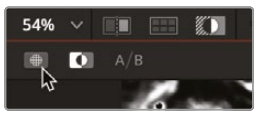
4 Select the curve window from the menu.

5 Zoom out of the image slightly by either scrolling the middle mouse wheel or pressing Command-minus (Mac OS) or Ctrl-minus (Window).

The qualifier area may be a little difficult to see in the current view, so you can change it to see the qualified area in more detail.

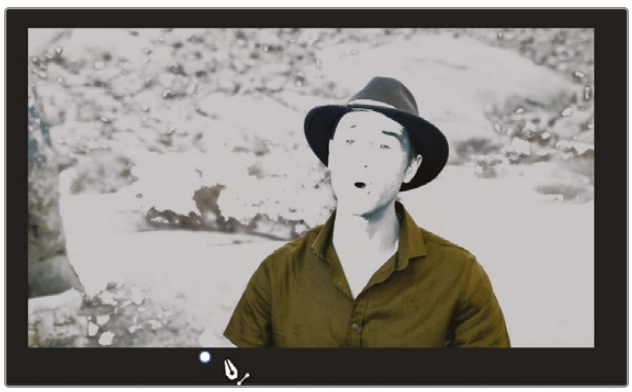
6 In the top right corner of the viewer, turn the Highlight button back on.

It will still be in the black-and-white setting, so click the default Highlight button in the highlight options menu in the top left corner of the viewer.

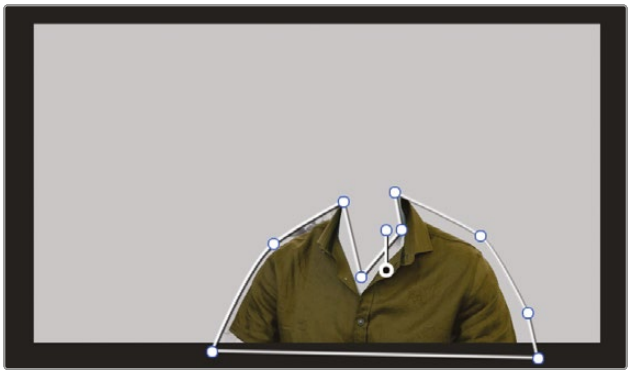


You are looking to isolate the shirt from the rest of the image.

7 Click and add a first control point in the viewer just offscreen under the left sleeve.



8 Continue to add control points and draw a rough shape around the shirt. Remember that you can always add points once the shape has closed.



TIP Remember that you can delete a point by clicking the middle mouse button. You can also turn a linear point into a smooth point by holding down Command (macOS) or Ctrl (Windows) and dragging the point. Double-clicking a point will make it linear.

9 Turn off the highlight by clicking the Highlight icon or press Shift-H.

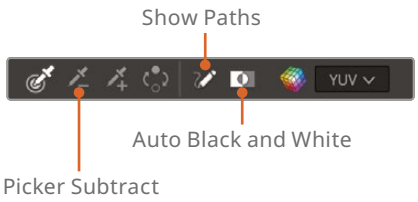
10 Turn off the Window by clicking the onscreen Overlay button off.

You should now have isolated the shirt from the rest of the image. However, a little cleanup is still needed around Sean's neck area and just off the left shoulder since we still have some noise from the qualifier.

11 Go back into the Qualifier tool and select the Picker Subtract tool.

12 Click the Auto Black and White Highlight to stop the viewer from going into highlight mode.

13 Turn on the Show Paths option.



You now have the ability to remove areas that were originally qualified.

14 Zoom in to the image around Sean's neck on the right side.

15 Click and drag from the top of the noise down, getting as close to the shirt collar as possible without touching it. You will see a red line appear as a selection is removed from the original qualifier.

If at any point you make a mistake, in the Qualifier window, simply click the trash can icon in the Strokes panel to delete the stroke.

16 Click and drag another stroke over the left shoulder to remove the last of the qualifications that sit outside the shirt.

As you can now see, the window is working with the qualifier to remove selected areas outside the power window.

Combining the qualifier with a window has allowed you to quickly make a clean selection based on the element's hue while just as quickly excluding interfering elements from your selection. Using both tools meant that you didn't have to draw an overly precise power window or endlessly tweak the qualifier. Combining the two tools has saved time and resulted in the cleanest key.

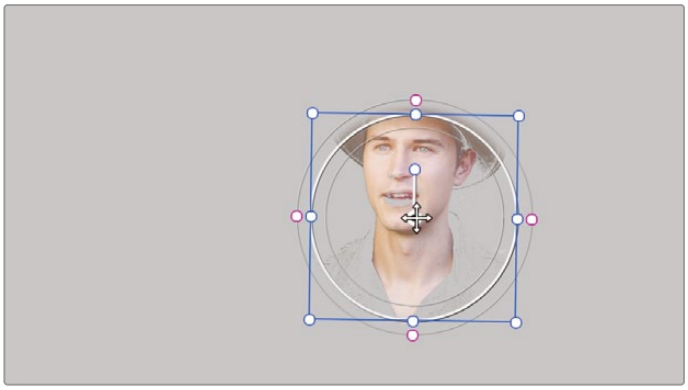
Using the Tracker

We want to isolate the subject's face in the shot we just worked on. Using the techniques we explored in the previous section, we can isolate the face and limit the effect of the isolation with a power window. The slight issue you will have, though, is that the face moves and therefore we would need the power window to move with it as well.

1. Add a second node by right-clicking node 02 and choosing Add Serial or press Option-S (macOS) or Alt-S (Windows) on the keyboard.
2. Select the Qualifier tool again and select the 3D Qualifier.
3. Click just below Sean's right eye and click and drag down on the face to halfway down the neck and drag up toward the other side of the neck to isolate the face. The path should look like a letter *J*.

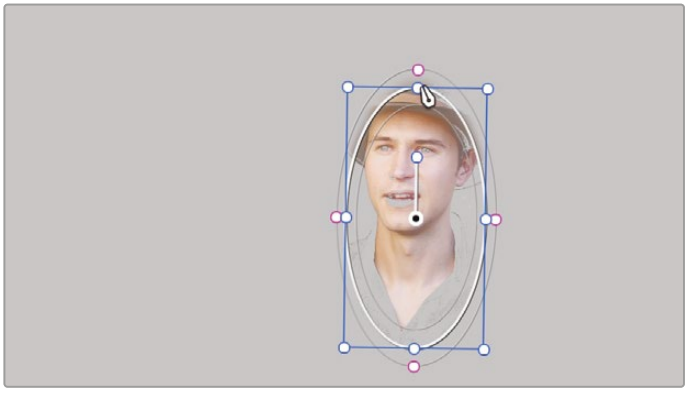
4. Click the Highlight button at the top left corner of the view or press Shift-H on the keyboard.
5. Go into the Window menu and select a circular window.

6 Click and drag the center of the window until it sits level with the subject's chin.



7 Click and drag either the left or right side control point to narrow the window to focus more on the subject's face.

8 Click and drag the top control point just to ensure that you get the subject's ear in.



9 Turn off the window by clicking the onscreen Overlay button to off.

TIP You can press Shift-` (grave accent) to hide the onscreen overlays.

You now have a pretty good selection; however, the qualifier needs tidying up again.

10 Select the qualifier and click and drag the Clean Black parameter to the right to around 5 or until the additional noise that we had in the shirt disappears.

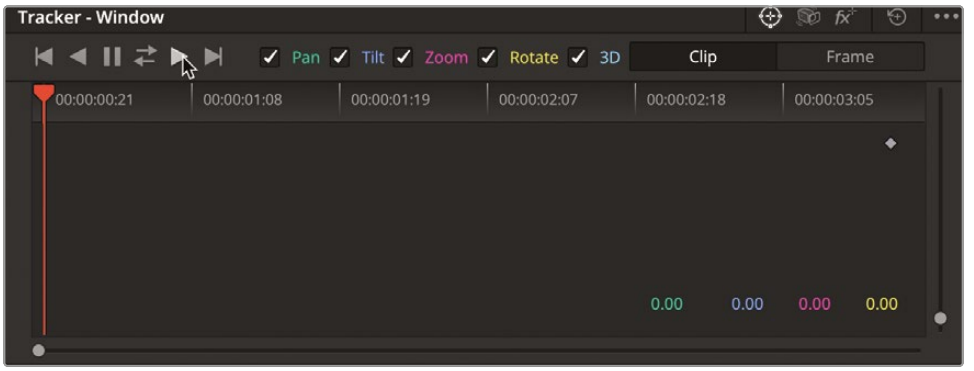
11 Go back into the Qualifier window and click the Picker Add button. Drag over the lips to ensure they are part of the selection.

We want to make the subject's skin appear warmer, but a good way to do this is to cool the background.

As Sean now moves his head the window does not move with him, so we need the window to track his movement.

12 In the toolbar center palettes, select the Tracker tool.

13 Ensure that the playhead is over the first frame and then click the Track Forward button.



The window will move along with Sean's face, ensuring the window still isolates the skin tone you qualified.

14 With node 03 selected in the Node Editor, right-click it and choose Add Node > Add Outside or press Option-O (macOS) or Alt-O (Windows).

15 Drag the Gamma color control point toward blue to make the background look a little colder.

16 Drag the saturation control to the left and drop the saturation of the background slightly to around 40 to ensure that it is not too blue

As you can now see, Sean's skin looks warmer because you changed the background to look cooler, tricking the eye into thinking there has been a change to our qualified area when there actually hasn't.

> **TIP** If you want the skin tone to look still warmer, go back to the previous node and, using the Gamma control, add more orange to the shot. There is also a video scope called the Vectorscope that can help you when grading skin tones. For more information on this please refer to the book *The Colorist Guide to DaVinci Resolve 19*, by Daria Fissoun.

There is one more adjustment required for this shot. Since the eyes are typically the focal point for most shots of people, we can further enhance this shot by simulating the eyes to look sharper, using a window and tracking.

17 Click the Onscreen Overlay button in the viewer's lower left and choose Window from the dropdown menu to show the window outline.

18 Make sure you are on the first frame of the shot.

19 Add another serial node in the way you used previously.

20 In the central palette, click the Windows icon.

We'll again use a circle window to focus on his eyes.

21 In the windows palette, click the circle window.

22 In the viewer, drag the circle over his eyes, so the center is on the bridge of his nose.

23 Use the white top, bottom, and side handles to create a smaller, more oval shape covering his eyes. Use the anchor point handle to align the window with the angle of the eyes.

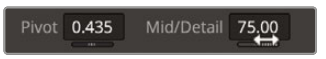
24 Use the Soft 1 control in the windows palette to increase the softness to around 7.5.

25 Select the tracker palette.

26 Click the track Forward button.

Now we'll use this window to sharpen the eyes.

27 In the primary controls, drag the Mid/Detail to the right to around 75.00. This is often referred to as *local contrast* or *clarity* to give the eyes a sharper appearance.



NOTE Midtone detail is not the same as sharpening. It simply adjusts contrast in the midtone regions of the image, giving the impression that the image is being sharpened.

28 Click the Onscreen Overlay button in the viewer's lower left and choose Off from the dropdown menu or press Shift-` to hide the window outline in the viewer.

29 Press Command-D (macOS) or Ctrl-D (Windows) to disable the Eyes node, and then press the keyboard command again to enable it and compare the adjustment.

Before eye light (left) and after eye light (right).

The tracker is a commonly used tool, most often when tracking windows for secondary color corrections. As simple as it is to use, it is a very advanced palette that can handle many tasks.

Using the Color Slice Tool

The final tool we will look at is one of the newest additions to the color page, and that is the Color Slice. Imagine the range of colors you work with in an image as a 3D shape sliced into segments for each hue. The Color Slice allows you to control each of the slices, giving you the ability to adjust the hue, saturation, and density of the color involved. It also has a helpful skin-tone control, so in some cases you don't have to even qualify a skin tone to make an adjustment.

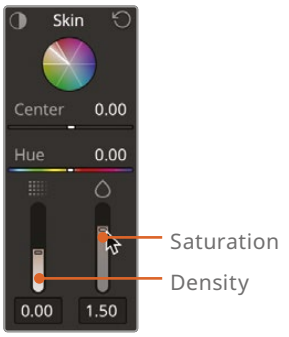
1 Select clip 21 in the timeline.

2 Select the Color Slice tool in the middle window.

As you can see, the tool is split into the 6 color areas you find in a color wheel and also the skin control. In this shot, the skin tone looks a little flat and gray, so we will enhance the skin tone.

3 Click and drag the Saturation slider on the skin tone up to around 1.50 to add more saturation to our subject's face.

4 Drag the Density slider down to around -0.50 to lift the skin tone area.



NOTE The Color Slice tool works in a slightly different way than the other color tools. It works in a subtractive way, meaning that when adjusting the saturation of colors, it does not make the colors unnaturally bright. Therefore, they do not need luminance adjustments. If luminance needs to be tweaked, the Density control can be used to adjust the luminance of more saturated colors, which emulates the subtractive process.

The skin tone looks OK. However, there appears to be blue noise in the image. This could be because the area that the skin tone is adjusting does not cover all the hues of the face.

5 Click and hold the Highlight button at the top left corner of the skin tone control to see the area you are affecting.

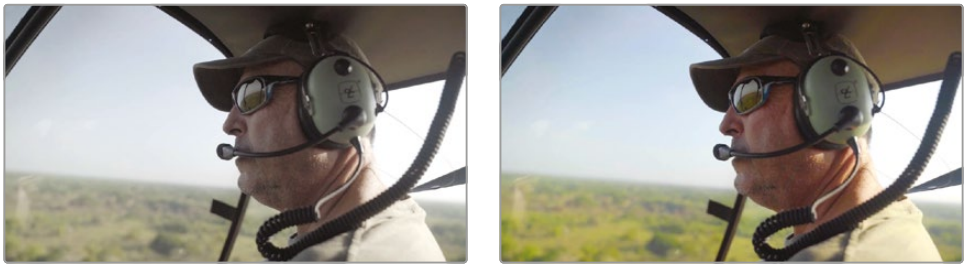
6 Repeat the process using the Highlight button over the red control. As you can see, some of the face spills into the red channel.

7 Drag the red saturation up to around 1.50 and the density down to around -0.60 to make the skin color look a little smoother.

8 With node 01 selected in the Node Editor, right-click it and choose Add Node > Add Serial or press Option-S (macOS) or Alt-S (Windows).

9 Using the yellow control, adjust the saturation and density until the trees look suitably green.

10 Add another node and adjust the blue and cyan saturation until the sky looks a more even blue.



Original shot and completed grade.

NOTE When using the Highlight button, you will notice that the selections look quite pixelated and not as refined a selection as you have been using. This is due to the fact that the clip has been shot in an H.264 format, which in this case is heavily compressed. Formats such as ProRes store much more information and therefore are much better to work with when doing secondary color correction. The better the recording format, the cleaner your selections can be. Formats such as Blackmagic RAW are ideal for this since they use a large color gamut, and the larger the gamut, the easier it is to isolate individual colors.

As you have seen, not only can you work with color in the whole image, but you can isolate areas of color in several different ways to get the ideal look you want.

Lesson Review

1. What happens when you click the Highlight button in the upper left corner of the color page viewer?
2. True or False? Midtone detail sharpens the image.
3. In the color page, what does an outside node do?
4. What are the three ways of adding a point to a Hue vs Sat curve?
5. The Color Slice has seven control areas, including red, yellow, green, cyan, blue, magenta, and what other control?

Answers

1. Clicking the Highlight button above the color page viewer displays pixels that are selected by a qualifier or power window. These selected areas are displayed with their normal colors and will be affected by any color adjustment. Non-selected areas are displayed as gray pixels and will not be affected by color adjustments.
2. False. Midtone detail adjusts the contrast in certain midtones, giving the impression that the image looks sharper.
3. The outside node inherits the alpha channel from the node before it and inverts the selection.
4. Select a color using the qualifier in the viewer, click the curve to manually add a point, or click the color control to add a point on a specific hue.
5. The additional control is skin tone, which allows you to quickly adjust skin tones without the need to qualify it.

Lesson 6

Finishing and Grade Management

Once you have achieved the corrections you require, you might want to complete the grade by applying a specific look or effect. You must also be able to find ungraded clips, copy grades, match grades, save them for later, or put them into a Lookup table.

In this lesson, you will learn how to apply effects, easily identify ungraded clips, copy and paste grades, save grades using stills, match clips to stills, use and save LUTs, and preview them for creative decision-making.

Time

This lesson takes approximately 60 minutes to complete.

Goals

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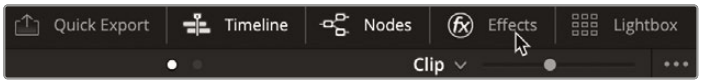
Applying Resolve FX in the Color Page

Just like the cut, edit, and Fusion pages, the color page includes many high-quality Resolve FX such as blurs, glows, film grain, and lens flares. They can be applied to the entire image, or you can combine them with windows on the color page to isolate the effect to one area of the frame. You'll start by applying an effect to the whole image. You will continue using the timeline you used in the previous chapter.

1 Select clip 07 in the timeline.

2 In the Node Editor, right-click over node 02 and choose Add Node > Add Serial.

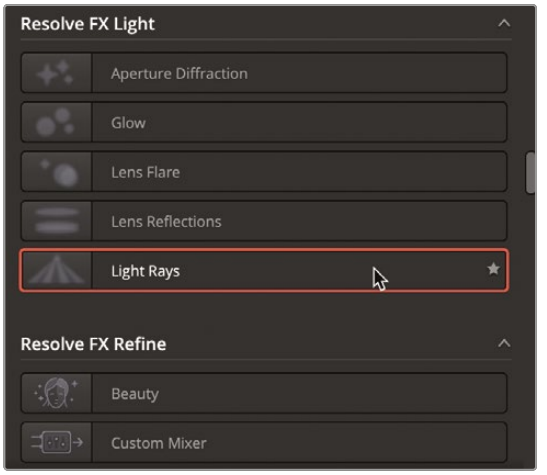
3 In the top right corner of the interface, click the Effects button to show the Resolve FX you can utilize in the color page.



This shot could use more of the feel of the sun shining, so you need a lighting effect that conveys this.

4 Scroll down the effects palette until you reach the Resolve FX Light group. Under this section, you will find the Light Rays effect.

> **TIP** Some Resolve FX are available only in DaVinci Resolve Studio. However, to test their functionality, you can apply them in the free version with a watermark.



5 Drag and drop the Light Rays effect onto node 03.

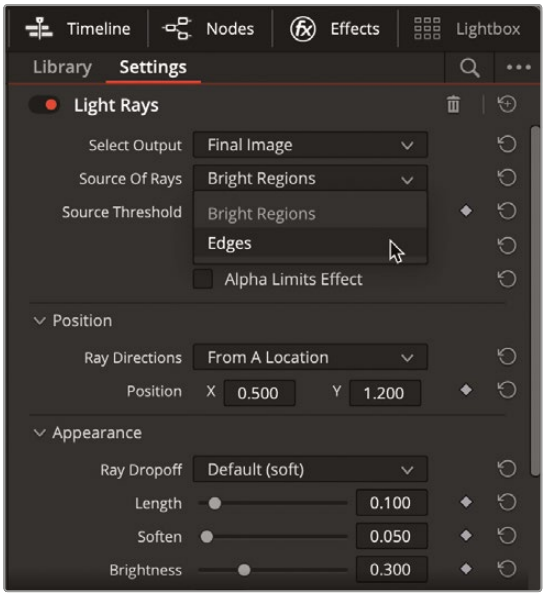
Clip with Light Rays effect applied.

TIP If you cannot see node 03 because of the Effects tab, click and drag with the middle mouse button anywhere in the node window to reframe the node tree.

You will now see the effect added to the node and applied to the shot. The Effects menu switches to the Settings tab to allow you to control the effect on the node.

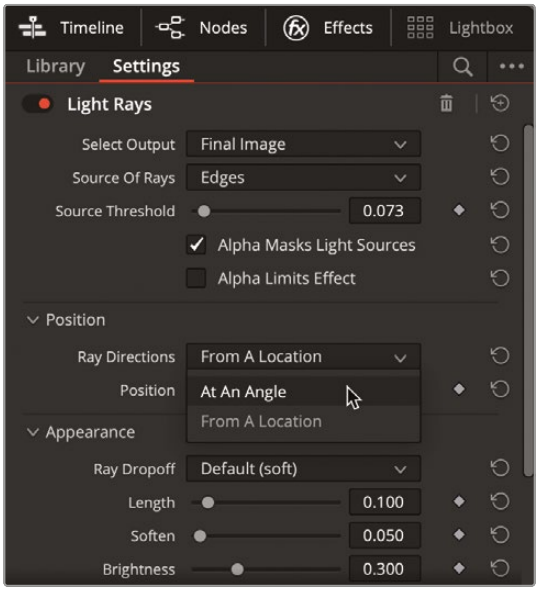
The effect is very bright and definitely not what we want.

6 In the Source Of Rays menu, choose Edges.



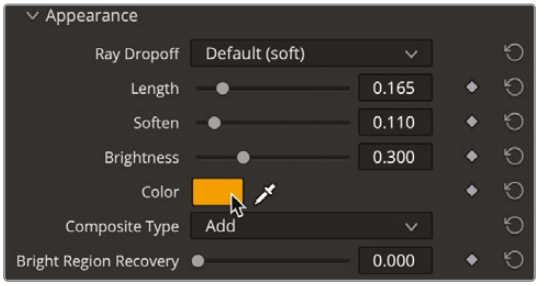
7 Drag the Source Threshold down to around 0.073 so the light rays start to appear more vibrant again.

8 Under the Position menu, click Ray Directions and change the selection to At An Angle.



9 Under the Appearance menu, click and drag the Length to around 0.165 or until you feel the light rays are long enough in your image.

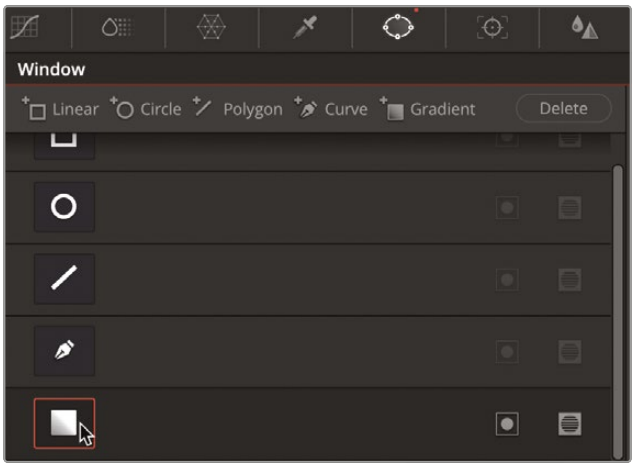
10 Soften them slightly and change the color to orange.



You should now have an image that looks like the one below, in which the light rays to the left of our subject look good but to the right they still seem a bit too much.

You can limit the effect by using them in conjunction with power windows as you did with the qualifier.

Click the Windows button in the middle window and select the gradient power window.



TIP You can apply one Resolve FX per node. To remove a Resolve FX from a node, right-click the node and choose Remove OFX Plug-In.

11 In the viewer, grab the arrowhead at the bottom of the gradient control and rotate the window around so the arrow points to the right, limiting the effect.

Now the effect is limited to just the windowed area and now appears to be sunlight shining in for the light source on the left of the frame.

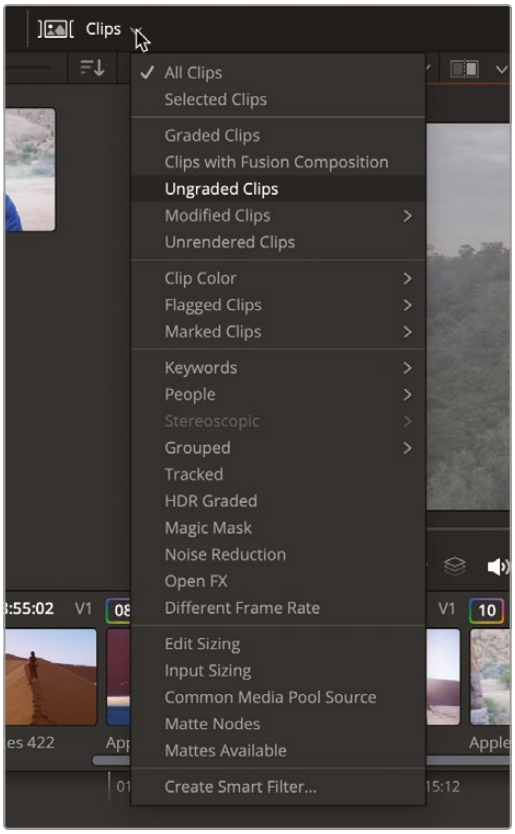
Understanding how to use tools such as the qualifiers, windows, effects, and the tracker palette enables you to perform secondary color grading with substantial control over your image's final look. However, it is only when you combine these tools that their true potential is unlocked.

Identifying Ungraded Clips

When grading your timeline, it's very important to ensure that all the clips are graded. An ungraded clip can be quite obvious, especially in a scene that has a specific look applied, meaning the ungraded clip will surely be noticed by the audience. It is quite possible that a timeline can run into hundreds of shots, depending on the project, and you may also have shots drop into the project after you have started grading. Therefore, keeping track of every single shot can be difficult.

The color page contains tools that can help you identify shots that are not graded.

1 In the top right corner of the interface, click the Clips dropdown menu.



A menu will appear showing you all the clip filtering options.

> **TIP** The Clips filter can identify shots in a number of different ways. For example, you can use metadata such as keywords that you used earlier in this guide, whether or not a clip has a Resolve FX applied or whether clips have different frame rates. There are numerous options.

2 In the menu, choose Ungraded Clips.

You will notice fewer thumbnails in the interface. You are now looking at all the clips within the timeline that do not have any grades.

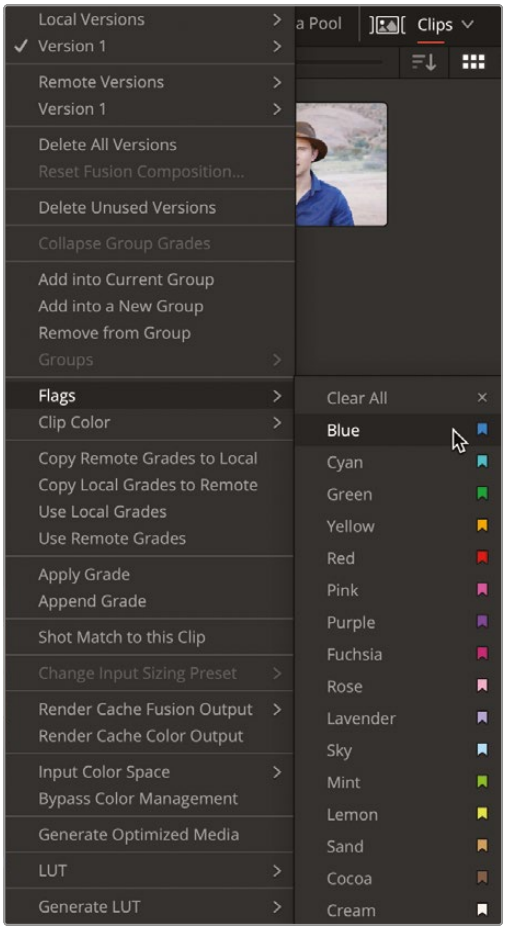
> **TIP** If your thumbnails have disappeared, it may be due to clicking the Clips button rather than the dropdown menu arrow. If this is the case, click the button again and then click the menu arrow.

Even though this identifies the clips, working in this view may be less than ideal if you want to preview the entire timeline or match ungraded shots to graded shots. In this case, you can flag the clips to identify ungraded files in the complete timeline.

3 In the thumbnail view, select clip 01 in the timeline.

4 Hold down the Shift key on the keyboard and select the last thumbnail in the timeline. A red border should appear around the selected thumbnails.

5 With the mouse pointer over any one of the selected thumbnails, right-click and choose Flags > Blue. Each thumbnail will now have a blue flag in the top left corner.



6 Click the Clips dropdown menu again and from the menu choose All Clips.

You will now have the full timeline back with all the ungraded clips with a blue flag on them, so it is now easy to see which clips are graded and which are ungraded.

Copying Grades

If a shot has been used on multiple occasions in the same timeline—for example, an edited interview will have numerous sections of one clip of either the interviewer or interviewee—you don't want to spend time grading each clip from scratch, since the grade would be pretty much the same. Likewise, if you have multiple shots from a similar environment, the chances are the grades for the shots will be very similar.

With this being the case, you can easily copy and paste grades between clips.

1 Select clip 03 in the timeline. This is the clip we graded in Lesson 5 by adding a power window to it.

2 From the Edit menu, choose Copy or press Command-C (macOS) or Ctrl-C (Windows) to copy the grade.

We have a clip next to it that also looks quite flat and gray, much like our original shot, so maybe the grade will be suitable for this shot as well.

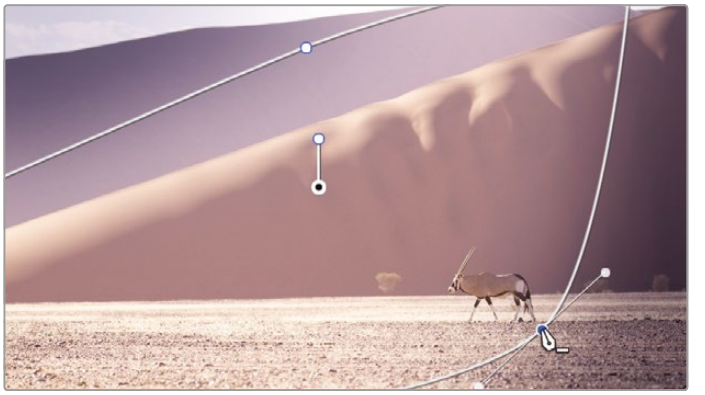
3 Select clip 02 and choose Edit > Paste or Command-V (macOS) or Ctrl-V (Windows) to paste the grade.

All the nodes will be copied onto the new clip. The grade now pasted on looks good on our new shot, giving it some much needed contrast. However, the window is not quite in the correct place.

NOTE The default setting for pasting grades is to copy all the nodes from one clip to another. The setting can be adjusted to copy only the selected node in a grade. This can be done from the Davinci Resolve User Settings menu by choosing the option "Always perform copy paste on selected nodes."

4 Select node 02 and then click the Window button in the middle window to show the power window on the node.

5 Click the control point that sits in the bottom right corner of the window and drag it right so part of the antelope is no longer in shadow.



6 Click back on the curves window to hide the power window from the viewer.

There is a quicker way of copying and pasting grades between shots.

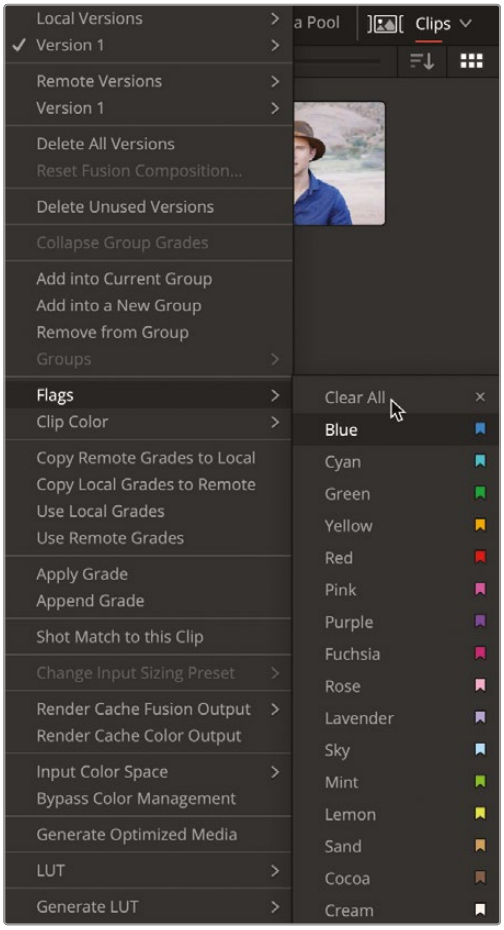
7 Select clip 01 in the timeline. Again, this is another shot that looks a little flat.

8 Place the mouse pointer over clip 02 and click with the middle mouse button. The complete grade will be copied to clip 01.

You now have several clips that have grades applied but are still flagged blue, which identified them as being ungraded, so this needs to be changed.

9 Select clip 01, hold down the Command (macOS) or Ctrl (Windows) key and select clip 02. The red border should appear around the clips.

10 Right-click over any of the selected clips and choose Flags > Clear All.



Working with Stills

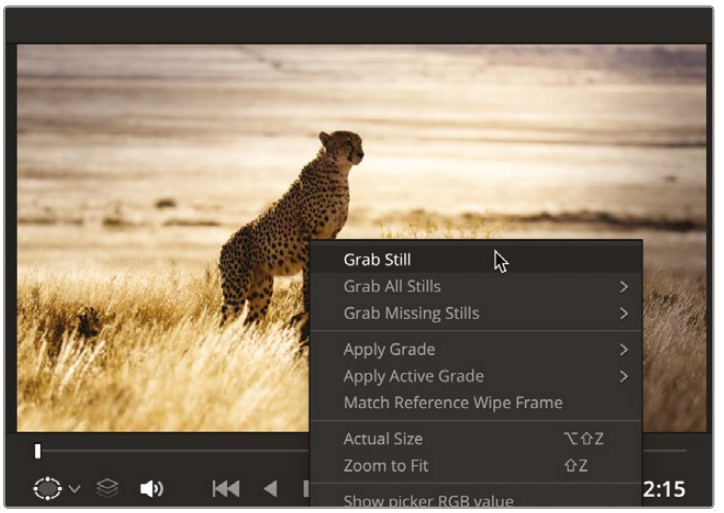
Instead of simply copying and pasting grades, you may want to save your grades into the gallery as a still so you can recall the grade at any time. Using stills has some advantages over copying and pasting grades. First, stills can be imported and exported from a project so you can have an independent folder of your grades that you can use at any time in any project. They also save each node of the grade so you can apply only certain nodes if needed. A key feature of using stills is the ability to compare clips with saved graded stills so you can easily match two shots together.

Applying Stills

1 Select clip 03 again in the timeline. This grade has proved useful so far, so it might be a good idea for you to save it.

You can save the grade on this shot by saving a still into the gallery.

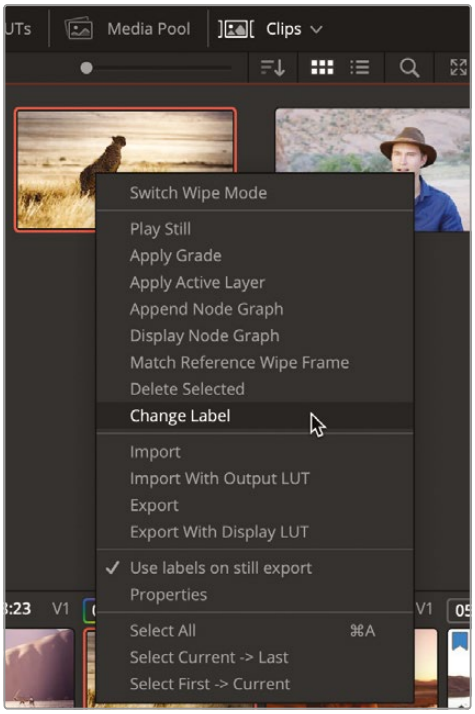
2 Right-click in the viewer and, from the menu, choose Grab Still.



The reference still image is saved to the gallery. The still contains all the nodes needed to rebuild the grade for any shot it is applied to.

It is good practice to label the stills so when you return to them you have an idea as to what they are.

3 Right-click the still in the gallery and select Change Label.



4 Rename the still **CONTRAST LIGHT**.

5 Select clip 13 in the timeline.

This is another desert shot that may benefit from the grade we have saved.

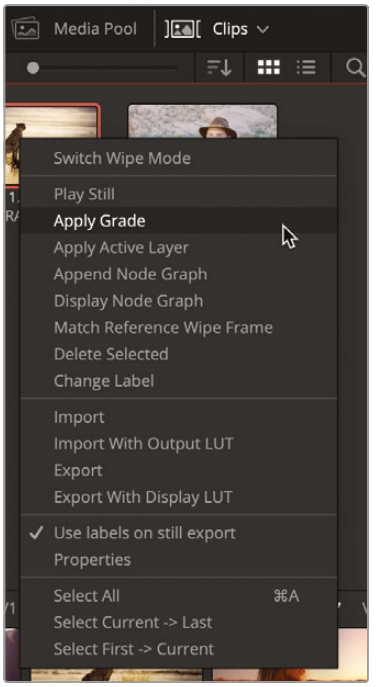
Before applying the grade, you can preview it on any clip in the timeline using the still in the gallery.

6 To preview the still, with clip 13 selected, move the mouse pointer over the still and move it back and forth.

The viewer will show you the current selected clip in the timeline using the grade of the still you are hovering over. If you decide the grade is suitable, you can apply it.

TIP If you want to turn the preview off, you can go into the Options (...) menu in the gallery by clicking the three dots in the top right corner of the window and unchecking the Live Preview option.

7 Right-click the CONTRAST LIGHT still in the gallery and choose Apply Grade.



8 Select node 02 and go into the HDR tools and dial down the temperature in the Global controls to make the windowed area in the image a little less saturated.

The grade contained in the still is applied to the clip. If only achieving specific looks across multiple clips were this straightforward. What happens when you need to add grades to clips that have already been graded or need shot matching?

Appending Stills

Sometimes copying and pasting a grade is not the correct way of working, since simply pasting a grade will overwrite any nodes that have already been applied to the clip. In this case, stills become extremely useful because the nodes contained within them can be added to nodes already on a clip.

1 Select the clip 10 thumbnail. This is the primary and secondary grade you did of the interview.

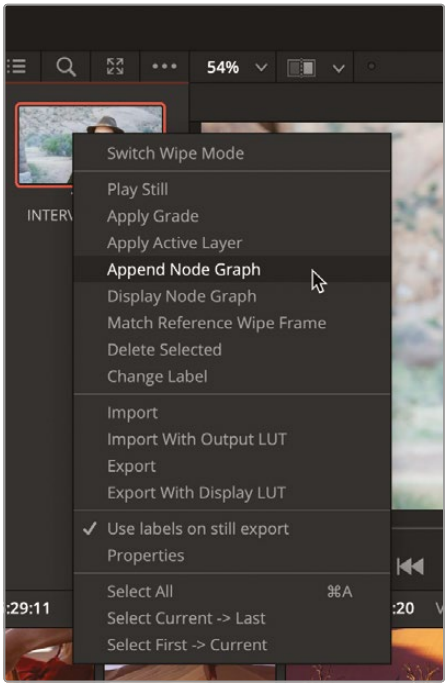
2 Right-click in the viewer and choose Grab Still.

3 In the gallery, rename the still **INTERVIEW GRADE**.

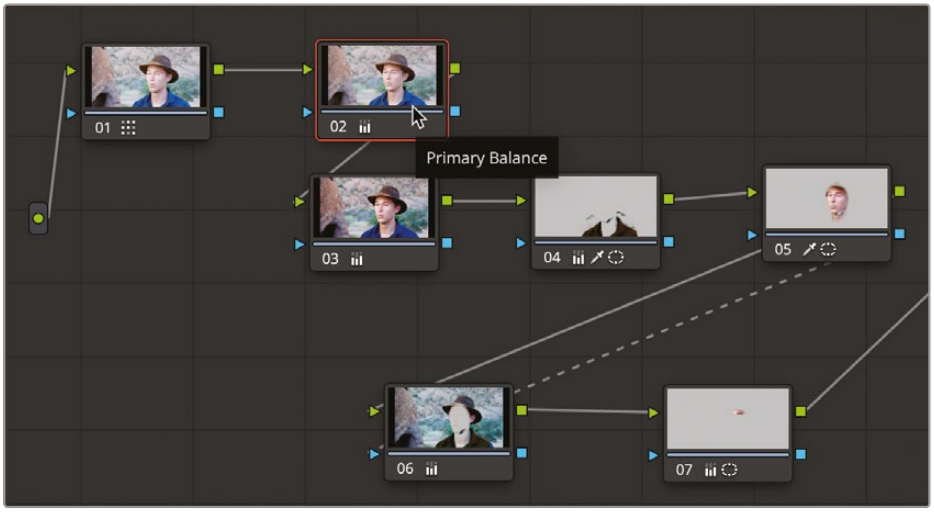
4 Select clip 11.

This is the clip from the Sony camera that we matched to earlier, but you now need it to take all the complex grades you applied to the other angle.

5 Right-click the INTERVIEW GRADE still in the gallery and choose Append Node Graph from the menu.



The grade from the still will be added to the nodes already applied to the clip.

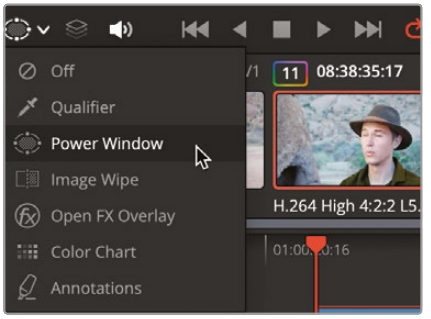


If only you could leave it there...but several adjustments are needed to get the clips to match again.

6 Delete node 03 since it is the contrast adjustment from the first grade.

7 Select the new node 03, which is now the shirt we changed the color of.

8 Turn on the Window by clicking the onscreen Overlay button to the window icon.

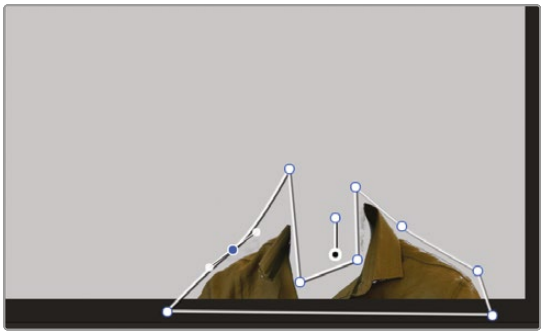


As you can see, the window is totally out of position and the key for the shirt needs some cleaning up as well.

9 In the top left corner of the viewer, turn on the Highlight button.

10 Using the power window control points, reposition the power window so it just sits over the shirt. Remember to try to get it as close as possible to the shirt.

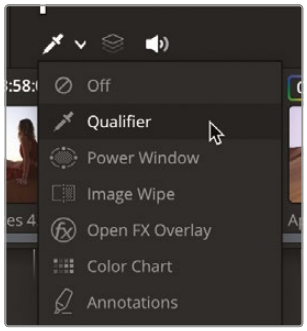
> **TIP** You can add extra control points by simply clicking any part of the window path to make a more accurate selection.



Now the shirt looks much cleaner; however, the key does need a little bit of tweaking.

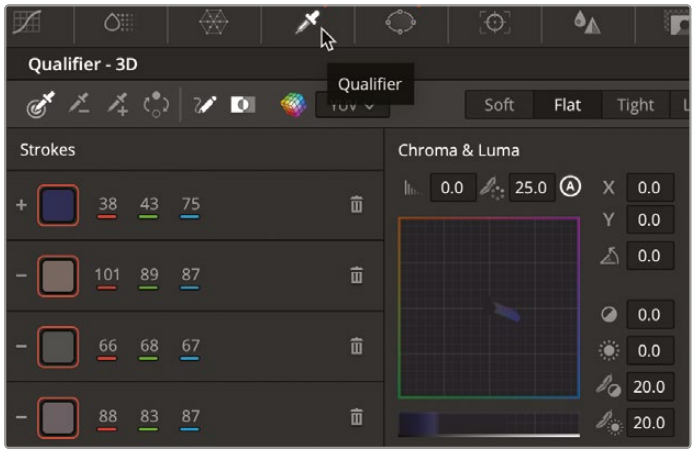
11 In the top left corner of the viewer, turn off the Highlight button.

12 Turn on the Qualifier by clicking the onscreen Overlay button from the window icon to the qualifier icon.



You should now see all the qualifier paths drawn for the selection of the shirt. Even though they are not quite in the right place, you have a pretty good key. Again, however, like the window it just needs a slight adjustment.

13 Click the Qualifier tool in the middle window to bring up the Qualifier window.



14 Click the Picker Subtract tool and then deselect the Auto B/W Highlight.

15 In the viewer, click and drag over the noise over Sean's left shoulder and on the right side of the neck.

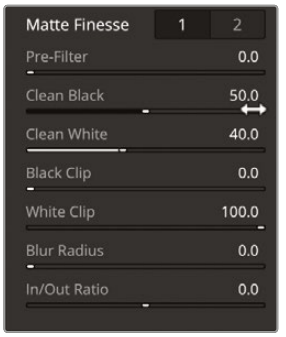
16 Just on the right neckline is a dark green area. Using the same tool, drag over the section to remove it.

17 Go back into the Qualifier window and click the Picker Add button and carefully draw a line on the top of the right shoulder of the shirt to add the blue edge to the selection.

We have now got rid of the noise, but the face needs a slight adjustment as well.

18 Select node 04.

19 In the Qualifier window, click and drag the Clean White parameter to the right to around 40 so the blue sections on Sean's face disappear and the Clean Black parameter to around 50 so the skin selection is smooth.

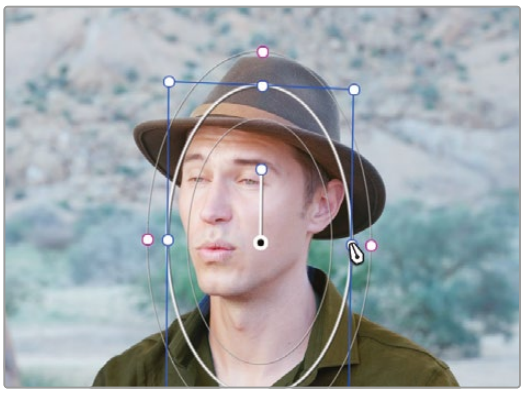


You can see that there is a slightly blue section now on the subject's neck, so we just need to add that to the selection.

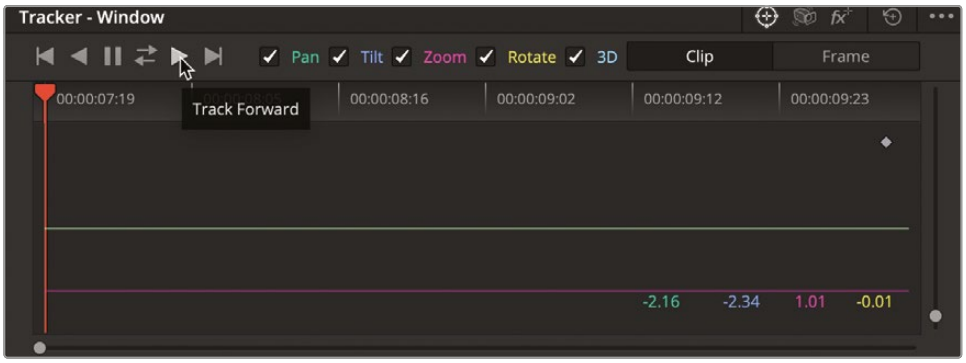
20 Go back into the Qualifier and click the Picker Add button and drag the selection over the blue neck area. We now have a pretty good key but remember that this grade had a tracked power window as well.

21 With node 04 still selected, click the Window tool in the middle window.

22 Resize and reposition the circular power window in the viewer so it comfortably covers all the face.



23 Click the Tracker tool in the middle window and click the Track Forward button to make sure the window is tracked accurately to the face.



24 Select node 06 and repeat the above process by moving the power window over the eyes and tracking it.

Matching Shots Using Stills

Looking at the two shots together now, they look mostly the same apart from one thing: the skin tone on clip 11 that we just applied the grade to looks a little bit pink and has a little too much contrast. We can use the still we saved from the previous clip to compare the skin tones side by side to get them as close as possible.

1 With thumbnail 11 still selected, double-click the INTERVIEW GRADE still to create a split screen.

After double-clicking a still, a vertical split appears in the viewer, showing the timeline clip (clip 11) on the left and the selected gallery still on the right.

2 Click and drag the vertical line in the viewer right to reveal more of the timeline clip. By dragging left and right you will notice that the timeline clip is slightly darker and lacks a little contrast when compared to the still.

3 Drag the vertical line slightly right until you have a good position to see the skin tone on the timeline clip and some of the skin tone from the reference still.

4 Select node 04, which is your skin tone qualified node.

5 Choose Workspace > Viewer Mode > Enhance Viewer or press Option-F (macOS) or Alt-F (Windows) to expand the viewer.

This gives you a better view when you do not need to access the Node Editor or gallery.

Since we are adjusting a grade that took some time to get right, you may want to save it at this stage.

6 Right-click in the viewer and choose Grab Still.

7 Label the still **INTERVIEW ALT ANGLE**.

> **TIP** Stills are a great way of taking a snapshot of a grade at any stage. The more you progress with color correction, the more complex your grades will become. Grabbing a still saves a version of a grade at any point in time, making sure you can reapply it if you make mistakes further down the line.

8 In the primary controls in the left window, drag the Contrast up slightly to around 1.094 and the Pivot to around 0.030 so the highlights and shadows on Sean's face are a closer match to the still.

9 Drag the Mid/Detail right to around 20.00 so the features look slightly less soft.

10 Using the Gamma color control, drag the center control point slightly toward green so the red and blue controls both read -0.01.

11 Drag the Color Boost up to around 8.00.

> **TIP** Color Boost lets you raise the saturation in areas of low saturation. This can sometimes prove more useful than the saturation control since areas of higher saturation will not be affected.

You will focus on the area of Sean's face that is to the right of his mouth and that lines up with his neck on the still.

You can see that the areas are very close, and the still might be ever so slightly darker.

12 Drag the Gamma master wheel left slightly until the skin tones between the two shots look matched.

13 Click the split screen button in the top left corner of the viewer to turn the split screen off.

14 Press the Up Arrow key on the keyboard to jump to the previous shot and then press the Down Arrow key to jump back to the shot we have just matched.

The skin tones now look so close that when you jump between the shots you can hardly tell the difference. This is what you are aiming for, as the second interview clip is at an alternative angle, meaning that its lighting may be slightly different so therefore may not match exactly, but the skin tone looks the same when jumping from shot to shot.

15 Choose Workspace > Viewer Mode > Enhance Viewer or press Option-F (macOS) or Alt-F (Windows) to exit the expanded viewer.

To try more shot matching, grab a still from thumbnail 04, apply the still to thumbnail 05, turn on split screen and, using the techniques you have learned, try to match the shots.

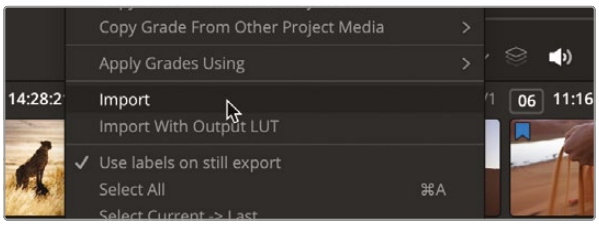
Shot matching is made easier when using the gallery and reference stills to help you analyze the makeup of your shot and what corrections need to be made. You should also use the scopes to minimize any visual quirks because your visual perception naturally tends to force you to match shots. The combination of reference stills and scopes will make the shot matching more accurate, providing continuity in your project.

Importing and Exporting Grades

One of the big advantages of using stills is the ability to import them into and export them out of the project. You could have a folder of stills on a hard drive that could be applied to any project, and because a still saves each step of the grade, it can be applied to any clip and adjusted accordingly.

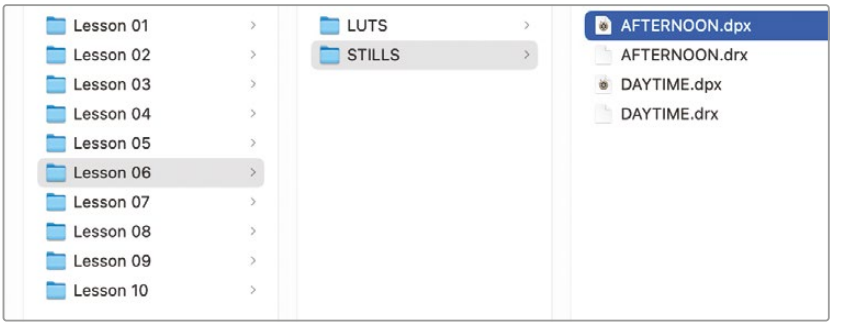
Post-production houses often use multiple galleries in episodic television work so they can get color continuity correct across different scenes and different episodes. Using stills gives the colorist a good starting point rather than having to start the grade from scratch each time. Colorists may also have multiple stills for the same shot so they can choose a creative look.

1 Right-click in the gallery and choose Import.

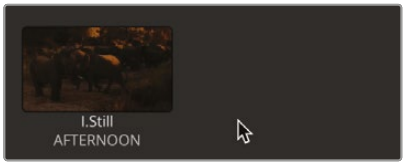


2 Go into the Lesson 06 folder in the training materials and select the STILLS folder.

3 Select the .dpx file called AFTERNOON.



4 Click the Import button, and the stills will be imported into the gallery.



5 Make sure clip 16 in the timeline is selected.

6 Right-click over the AFTERNOON still and choose Apply Grade.

As before, all the steps of the grade, including the power windows, have been applied to the clip. However, you want to create a totally different look for this shot, so you can use the nodes already there to create a shot that feels like morning rather than evening.

7 Select node 01 BALANCE and, in the top right corner of the Primary Color Wheels window, click the Reset All button. This will reset the color on the node but not the power window.

You now want this clip to be brighter to have more of an early morning feeling.

8 Drag the Gamma master wheel to the right to lift the brightness of the shot. Drag until the parameter reads around 0.04 or until you feel the shot is suitably brighter.

9 Select Node 02 SHADOWS and click the HDR wheels in the left window.

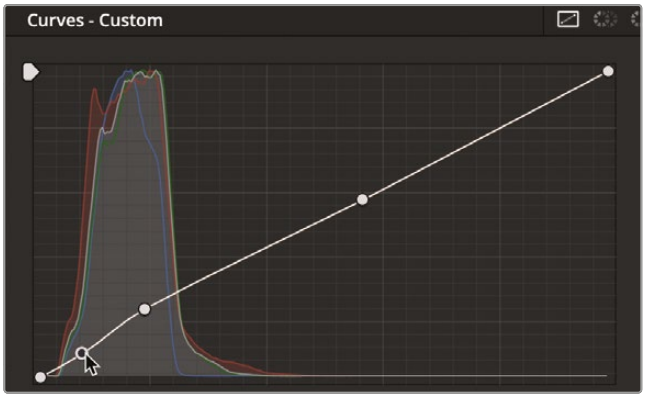
10 Using the Shadow color control wheel, drag the center away from orange across toward teal to give the shot a colder look.

11 Select node 03 CONTRAST.

The shot looks much cooler now; however, there is a little too much contrast, giving the shadows a longer feel when they should be much flatter.

12 Select the Curves button in the middle window.

13 Right-click the control point second from the left on the curve to delete it.



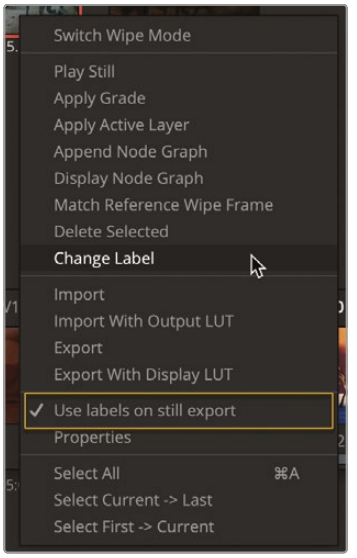
14 Now on the second point in the curve, drag it upward slightly to get the contrast in the shot looking reasonably flat.

This cool morning look can now be saved as a still for use later.

15 Right-click the viewer and choose Grab Still. The still will appear in the gallery.

16 Right-click the still and choose Change Label. Label the still **MORNING**.

17 Right-click the clip again and ensure that the option "Use labels on still export" is checked.



TIP The Project Settings > General Options includes an option to label your stills automatically. There are several parameters that you can configure to automatically label a still.

18 Keep the menu open and choose Export. Save the still back to the STILLS folder in the Lesson 06 folder.

As you can see from this process, using stills can be timesaving. Even though the look you imported was very different from the one saved, it was a quicker process to adjust the clip to the creative look by using the nodes that were contained within the original still.

Working with LUTs

A Lookup table, or LUT, is in essence a conversion chart that converts color values. It takes the input color (the red, green, and blue values), converts those using a chart, and produces the conversion onscreen. There are two different types of LUTs: 1D and 3D. A 1D LUT works very simply by changing the red, green, and blue channels input values to another value for output. A 3D LUT is more complex because it gives each color channel an RGB value, so the math is more complex, yet the LUT is able to hold more information.

At first glance, a LUT appears very similar to a still since it can be applied to a clip and change the look of the color and contrast in the shot. Unlike a still, though, a LUT does not show the stages of a grade; it is in essence a locked box that cannot be broken down, merely applied.

NOTE Because a LUT is a table of information, it cannot contain any complexities that go beyond RGB values. That means secondary grading tools such as power windows are not included in a LUT because it cannot understand the window information it is being sent.

However, LUTs have many uses, and unlike stills they can work outside of the DaVinci Resolve software. For example, if a camera is shooting in a Log profile it may be difficult to judge what the shot looks like in a deliverable color space. So a LUT can be added to an output monitor to give the production crew an idea of what the shot will look like on a cinema or television screen, while the camera still records the Log profile with all its contrast and color information still intact.

You can even create a custom LUT, save it, and upload it onto a Blackmagic Design camera, where you can shoot the scene while seeing an approximation of how the final footage will look.

Applying a LUT

Lookup tables allow you to quickly recalibrate how your color pixel data is displayed, essentially providing another form of color management or color correction. Conveniently, DaVinci Resolve comes equipped with many different LUTs for converting one color space to another, and you can easily apply these LUTs from the color page.

1 Select clip 18 in the timeline.

2 In the top left corner of the interface, click the LUTs button to reveal the LUTs browser.

The clip you are looking at is using color management; however, it still appears to have little contrast. You could try using a LUT, which may get a better result.

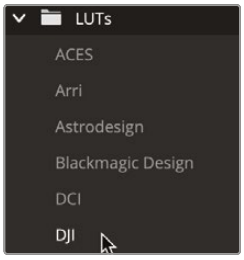
The LUTs browser is divided into different cameras and color space categories. When you're working with a specific camera and need to convert it to look appropriate for your display, you can apply one of the LUTs from your camera's category. We are using a DJI clip, so we will choose from the DJI LUT category.

Before applying the LUT, we need to make sure the shot is not color managed; otherwise, the color conversion will be performed twice and will be incorrect.

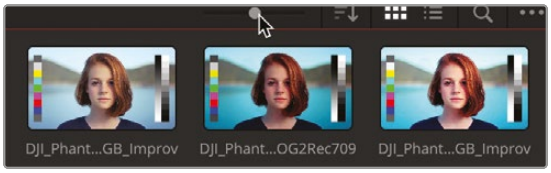
3 Right-click thumbnail 23 and, from the menu, choose Input Color Space > Project Rec.709 (scene).

This means the color management will use the project settings for this clip, so it will not perform any conversion, and the clip will look like a log image again.

4 In the LUT browser, select the DJI category.

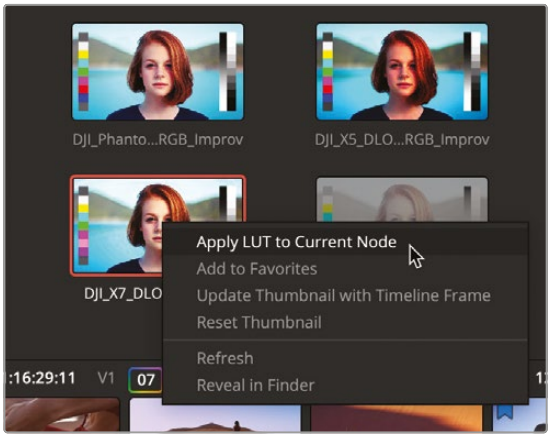


5 Click and drag the slider in the top right corner of the LUT browser to make the thumbnails slightly bigger.



6 In the browser, locate the DJI_X7_DLOG2Rec709 LUT and move your mouse pointer back and forth over the thumbnail to preview the LUT in the viewer.

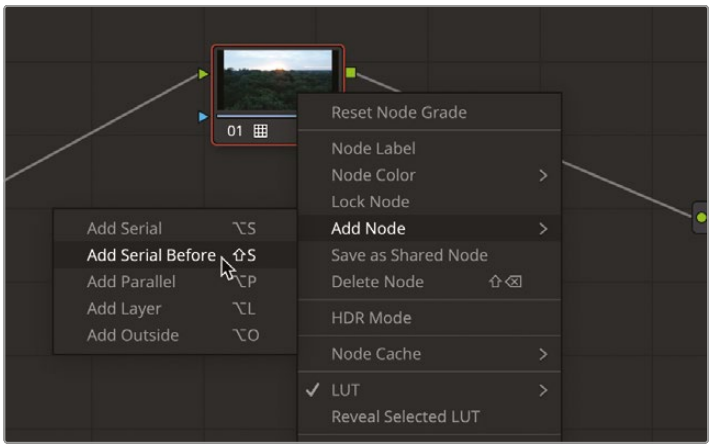
7 Right-click the LUT thumbnail and choose Apply LUT to Current Node.



The LUT is applied to node 01, but just like using color management, LUTs do not know where to set your shadows and highlights. The LUT doesn't know if your white balance is correct. You still need to balance the shot after applying a LUT.

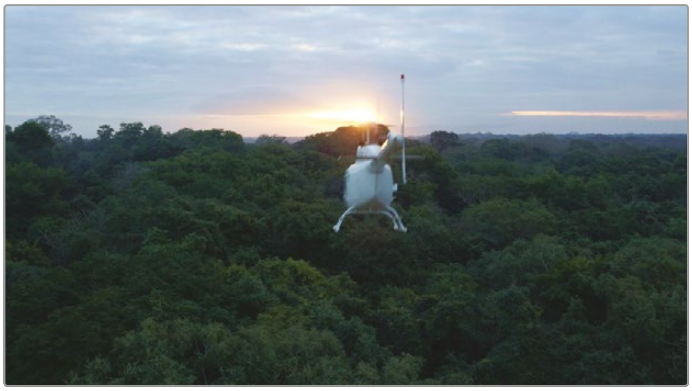
> **NOTE** Always keep in mind that a LUT is converting one set of RGB values to another using the values contained in the LUT itself. So if you go from a wide camera gamut to a much narrower delivery gamut through a LUT, much of the color information will be discarded. When using LUTs, it is often better to grade before using them to ensure that you can still use a camera's full color profile.

8 With node 01 still selected, right-click and choose Add Node > Add Serial Before to add a node before the LUT.



9 In the left window, drag the Contrast slider right to around 1.280 and the Pivot left to around 0.250.

10 Drag the Color Boost right until it is around 14 or the shot has more color in it.

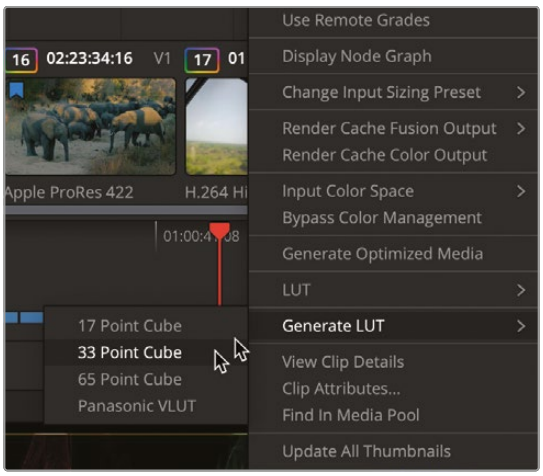


Saving LUTs

DaVinci Resolve comes with a variety of LUTs that you can start using right away. However, one of the strengths of DaVinci Resolve and its LUT workflow is the ability to create custom LUTs and share them with other colorists or production crew members.

We have now created a nice conversion for our DJI shot and you may want to save this as a LUT for other shots. Remember that LUTs cannot save secondary grades such as power windows or qualifiers—for that you need stills—but in this case for any other DJI shots you can create a LUT.

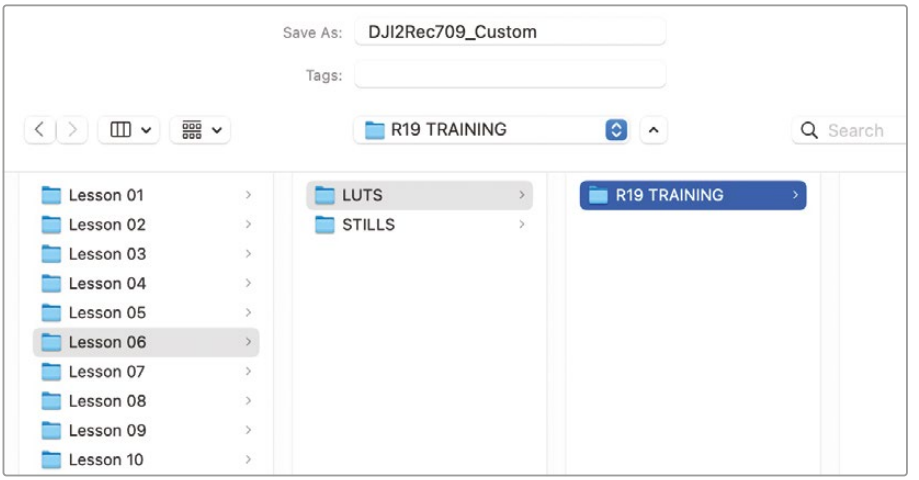
1 Right-click thumbnail 18 and choose Generate LUT > 33 Point Cube.



LUTs can be saved using 17, 33, and 65 points. The more points, the more accurate the LUT. 33-point LUTs have been the standard for a while and are widely supported in cameras, displays, and applications. 65-point LUTs contain more precision but are also less compatible with other devices.

2 Go into the Lesson 06 folder in the training materials and select the LUTS folder.

This folder contains another folder called R19 TRAINING, which is currently empty. It is set up this way so the R19 TRAINING folder will appear in your LUT browser.



3 Save the LUT as **DJI2Rec709_Custom**.

> **TIP** By default, the LUT will take the name of the clip it was generated from. If you want to change this, you can simply rename the LUT in the Finder/Explorer window on your system. It will automatically update in DaVinci Resolve.

Using LUTs in this way can be very useful for sharing grades. The LUT has no adjustable parameters and is just applied, therefore no mistakes can be made. If a still is sent, there is more room for error since a node can be missed or accidentally deleted, changing the look. Also, if you do not want to show how your grade was built, saving it as a LUT removes all the node information.

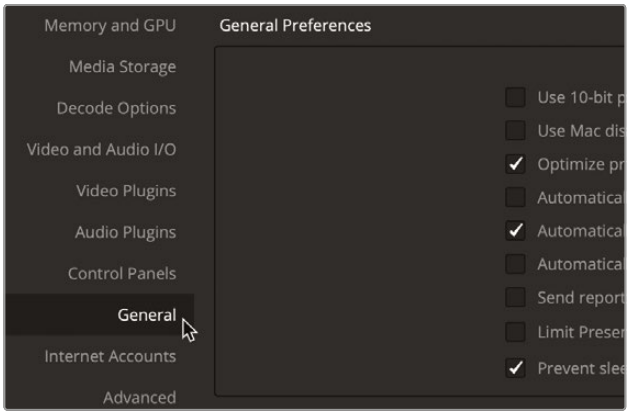
Loading LUTs

Once a LUT has been saved, it must be loaded back into DaVinci Resolve for you to be able to use it. Unlike gallery stills that are saved in one place that DaVinci Resolve references, LUTs can be imported from any location on a system. Therefore, you must point DaVinci Resolve to the location of your custom LUT folders.

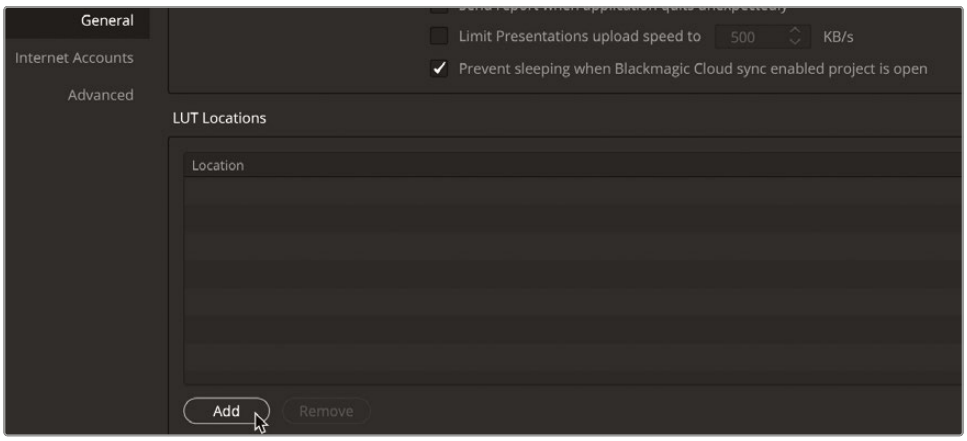
You can choose to install a LUT into the default LUT folder or simply choose a LUT folder to load in the System Preferences.

1 In the top left of the interface, select DaVinci Resolve > Preferences.

2 Within the System Preferences, choose the General option.



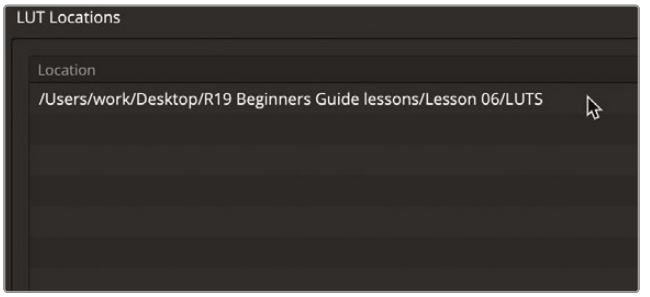
3 In the LUT Locations section, click the Add button in the bottom left corner.



4 Go into the Lesson 06 folder in the training materials and select the LUTS folder.

This folder contains another called R19 TRAINING, which contains the LUT you have just saved. It is set up this way so the R19 TRAINING folder will appear in your LUT browser.

5 With the LUTS folder selected, choose Open, and the LUT folder will be added to the LUT Locations.

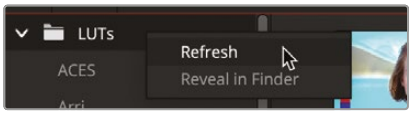


NOTE The file path may be different to the one in the picture since it depends on where you have saved your lesson files.

6 Click Save in the bottom right corner of the System Preferences window.

The LUT may not appear straight away since the file path to the LUT may need to be refreshed.

7 Right-click the LUT folder in the folder window and choose Refresh. The R19 TRAINING folder will appear with your newly created LUT inside.



TIP Be cautious when downloading LUTs from third-party sources. Their implementation could result in your content looking very different from the originally intended adjustments. Since post-production companies can generate LUTs precisely calibrated to their environments, they are popular for in-house use. However, using LUTs taken out of those controlled environments can cause results to vary widely.

Your LUT can be used for any other DJI footage that you now use.

8 Go to the edit page and find the clip A126C012.mov in the DJI bin.

9 Add the clip to the end of the timeline.

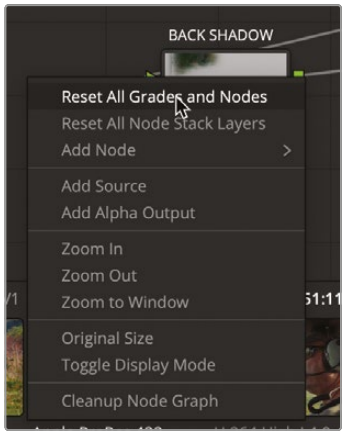
10 Go back into the color page and select the clip you have just added to the timeline.

11 In the LUT folder, choose the R19 TRAINING folder and double-click the DJI2Rec709_Custom LUT to apply it to the new clip.

Making Creative Decisions

You now know how to create stills and LUTs to save different grades. One of the most exciting elements of color grading is making the creative decisions regarding what the look and feel of your project or certain scenes will be. If you have created a number of different looks, by saving them as stills or LUTs, you may want to compare these looks side by side to see what look a shot or scene may lend itself to.

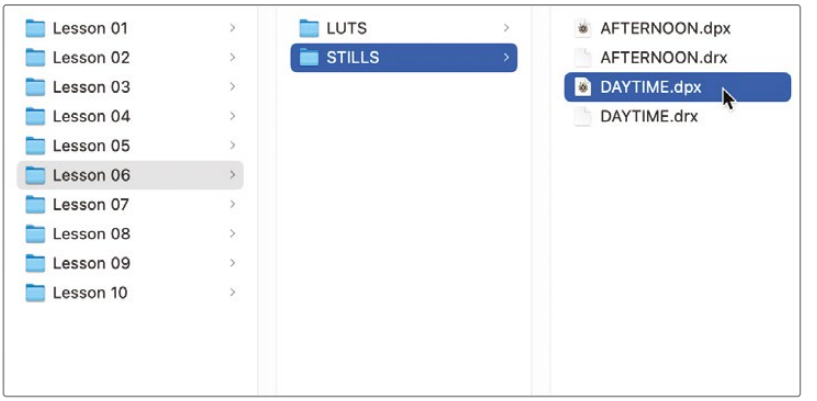
1 Select clip 16 and right-click in the Node window and choose Reset All Grades and Nodes.



2 Select the Gallery button to turn on the gallery.

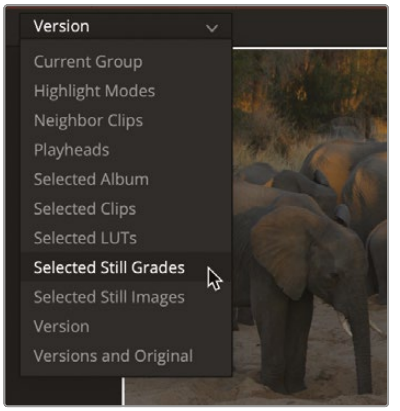
3 Right-click in the gallery and choose Import.

4 Navigate to the Lesson 06 folder in the browser, select the STILLS folder, and import the DAYTIME still.



5 In the top left corner of the viewer, click the Split Screen button. A white outline will appear around the viewer.

6 Click the split screen menu and choose Selected Still Grades.



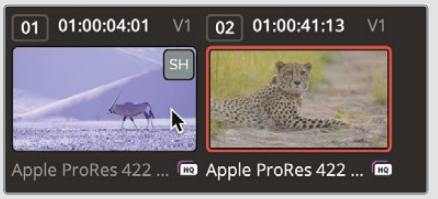
7 In the gallery, hold down the Command key (macOS) or Ctrl key (Windows) and select the EVENING, MORNING, and DAYTIME stills.

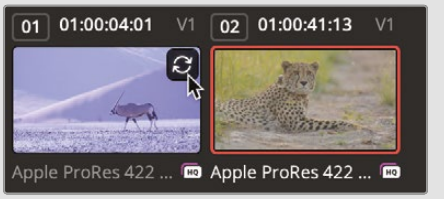
The viewer will split into four, showing the original clip and three other versions of the clip with the selected still applied. From here, you can decide which still suits the clip the best and add it by double-clicking in the viewer to add the specific still.

With an understanding of the color page, you can now quickly assemble a variety of looks using your color-grading skills. You could also employ the use of LUTs or export your own to share with fellow collaborators. By saving stills of your grades as you progress, you will be able to quickly balance similar shots and create looks that you can reuse in different projects.

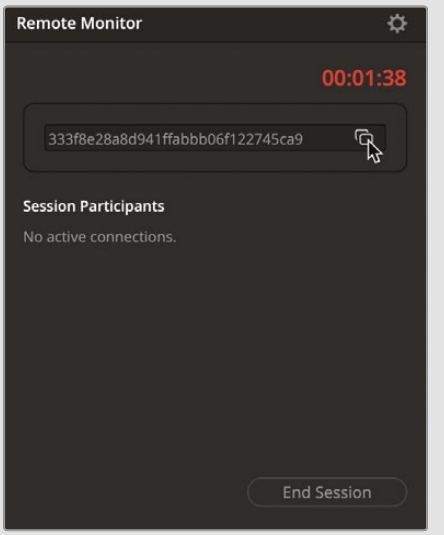
Color Grading Using Blackmagic Cloud and Collaboration

When working in collaborative projects in Blackmagic Cloud, multiple colorists can grade on the same timeline at the same time. In collaboration mode, a colorist who selects a clip will become the owner of that clip until they select another in the timeline. The colorist's initials will appear in the top left corner of the thumbnail. When they move on to the next clip, a refresh symbol can be selected by every other user in the project, and the grade will be applied, ensuring a seamless workflow wherever the colorists are in the world.





The Cloud workflow also allows for remote monitoring to an iOS device or computer with a Blackmagic Design Desktop Video device. By simply turning on remote monitoring, DaVinci Resolve will generate a stream key that can be sent to anyone anywhere in the world. By simply downloading and opening the remote monitoring app, the key can be pasted in, and a graded timeline will be shown on the device. The grades are shown in real time, so when you adjust the grade, it can be seen changing on the remote monitor.



Lesson Review

1. True or False? Appending a still will overwrite the current grade?
2. How would you match a shot in the timeline with a still stored in the gallery?
3. True or False? DaVinci Resolve FX will always affect the whole image, even when used in conjunction with other tools.
4. How can a grade be copied using just the mouse?
5. When on a selected node with a LUT applied, what node might you use to avoid using a LUT's limited color space?

Answers

1. False. Appending a still will add the grade contained in the still to the current grade on the clip.
2. Using the Image Wipe will split the viewer, with one half showing the timeline clip and the other showing the still so the shots can be easily matched together.
3. False. Resolve FX can be used with power windows to mask the effect to a certain area.
4. Selecting the clip you want to copy a grade to and then clicking over the clip you want to copy the grade from using the middle mouse button will automatically copy and paste the grade.
5. Choosing Add Serial Before will apply a node before a LUT and will ensure that you are not working in a LUT's limited color space.

Lesson 7

Project Setup and Preferences

By now, you should have a good understanding of how the toolset and features in DaVinci Resolve 19 can be used to edit and color grade your projects. In the preceding lessons, the projects you worked on were set up and organized for you to explore how certain features can be used—whether it was how useful subclips are, or how enabling DaVinci Resolve Color Management can fast forward the grading process. Now that you have a good grasp of the general toolset, it's time to learn how to correctly set up a project of your own.

Time

This lesson takes approximately 60 minutes to complete.

Goals

Creating a New Project 334
Exploring the Source Media 336
Project Settings 342
Importing Media 348
Generating Proxy Files 352
Syncing Audio to Video 365
Working with Metadata 379
Creating Keyword Smart Bins 386
Creating Custom Smart Bins 394
Renaming Clips with Metadata 400
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Preferences 412
Exploring Keyboard Shortcuts 422
Lesson Review 429

In this lesson, you will delve deeper into DaVinci Resolve's Project Settings to learn how to ensure that your projects are set up correctly. Then, you'll learn how to leverage the power of metadata to sort through large amounts of footage quickly and efficiently. Finally, you'll be taken on a guided tour of the various preferences and keyboard shortcuts you can customize to your specific needs.

Creating a New Project

The projects you have worked with so far have all been created and set up so that you didn't have to worry about the settings, allowing you to just delve in and explore the exciting tools that the edit and color pages have to offer. At some point, though, you will need to create your own project, so it's important that you understand some of the important project settings you'll need to consider.

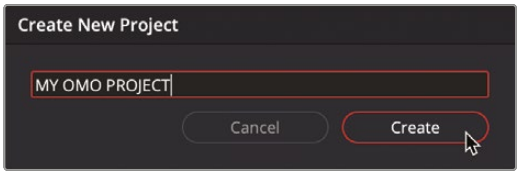
Of course, the first step is to actually create a new project in the Project Manager.

1 Open DaVinci Resolve.

2 Ensure that the Project Manager is set to your Local project library and click the New Project button.

> **TIP** If DaVinci Resolve is already open, you can choose File > Project Manager, or press Shift-1, or click the Project Manager button in the lower right corner of the interface to open the Project Manager. You can also choose File > New Project to create a new project directly. Projects created in this way will still be added to the top level of the Project Manager, even though the Project Manager itself isn't open.

3 In the Create New Project window that appears, type the project name, **MY OMO PROJECT**.



4 Click Create.

The new project is created, and DaVinci Resolve opens on the cut page unless you were previously working in another page and hadn't closed Resolve prior to creating the new project.

5 Choose Workspace > Reset UI Layout to return all pages in Resolve to their default layouts.

> **TIP** If you want to save a customized layout, you can choose Workspace > Layout Presets > Save Layout as Preset. Note that saved presets save the layout for every page in Resolve. You can then load, update, export, or delete a saved preset by choosing Workspace > Layout Presets > [Preset Name] > Load Preset / Update Preset / Export Preset / Delete Preset.

The media page is dedicated to helping you focus on preparing and organizing the media for your project. It is here that you have the most space to explore the clips you have to work with, without the distractions of a timeline, color grading controls, or audio mixers taking up valuable screen real estate.

However, as project organization is not something that just happens once when you first set up a project, many of the functions discussed in this lesson can also be applied directly in the edit page so you can implement them alongside your editing.

6 Click the Media button or press Shift-2 to switch to the media page.

> **TIP** You can also use similar keyboard shortcuts to switch between the other pages: Shift-4 for the edit page, Shift-5 for Fusion, Shift-6 for the color page, Shift-7 for Fairlight, and Shift-8 for the deliver page.

The media page is dedicated to reviewing and organizing your source media—principally, video, audio, and graphics. However, before you start dragging files into your project, you'll learn more about the settings of your projects and why it's important to make sure those settings are correct.

Exploring the Source Media

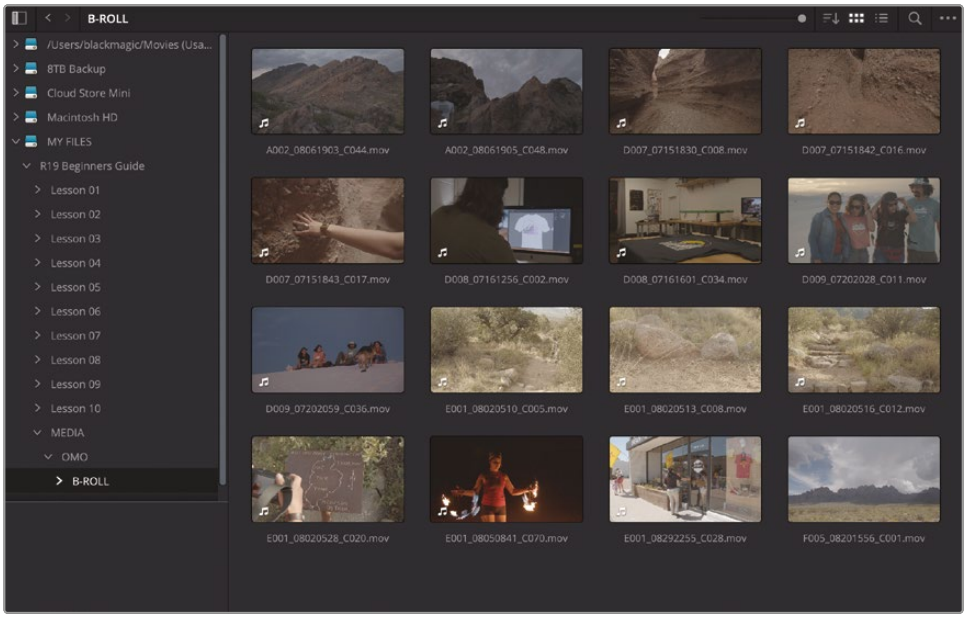
Before going further with this project, it is useful to consider the source media files you'll be working with. For this lesson, you will re-create the project you started with in Lesson 1, "Editing a Rough Cut." The media page is the perfect place to do this, even before you've imported a single clip, thanks to the media storage browser.

1 Using the media storage browser at the top left of the media page, navigate to R19 Beginners Guide/Media/OMO.

This displays the source media folder, which contains additional folders that have been created to store the source clips.

TIP If you find it difficult to navigate through your file system using the media storage browser's rudimentary directory tree, you can simply open a location in the Finder (macOS) or File Explorer (Windows) and drag the folder into the media storage browser to open that location directly.

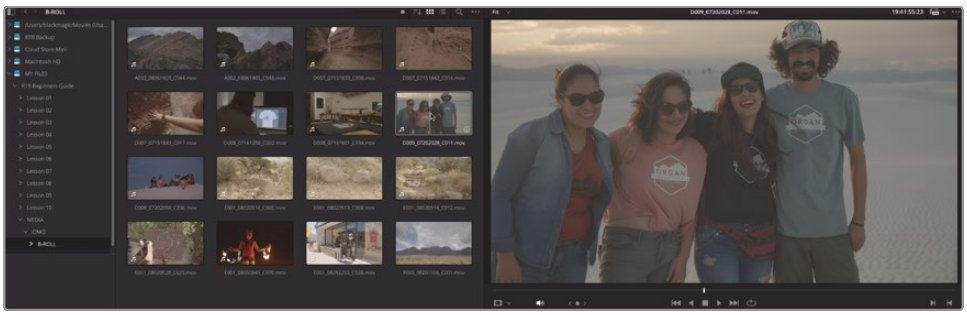
2 In the media storage browser at the top left of the media page, double-click the B-ROLL folder to view its contents.



This folder contains the B-roll clips for the Organ Mountain Outfitters project that you'll no doubt recognize from earlier lessons.

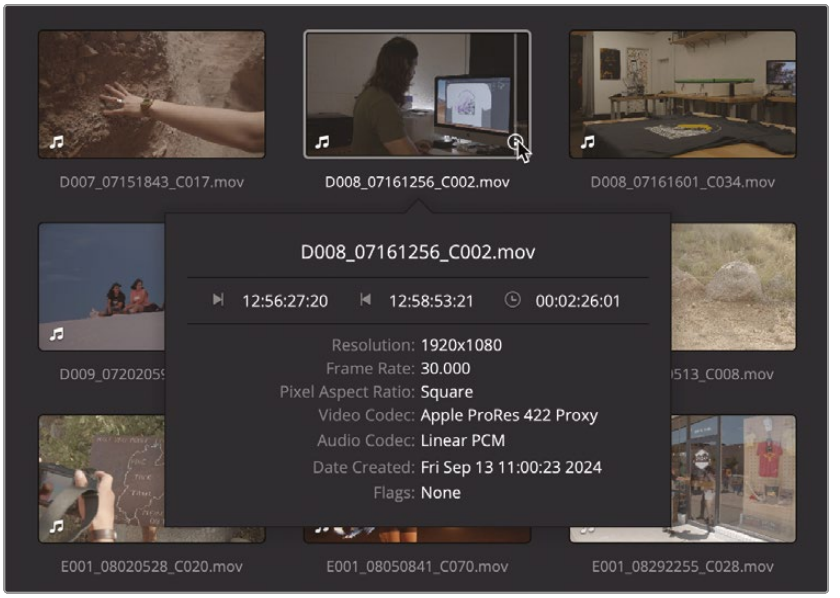
You can select any of these clips and preview them, similar to how you've worked previously in the edit page.

3 Move your mouse pointer across any of the clips in this folder to live preview the clip in the media page's viewer.



TIP You can disable and enable Live Preview in the viewer's Options (...) menu and toggle audio scrubbing by pressing Shift-S or by choosing Timeline > Audio Scrubbing

4 In any clip's thumbnail, click the "i" button to reveal more information about the clip.

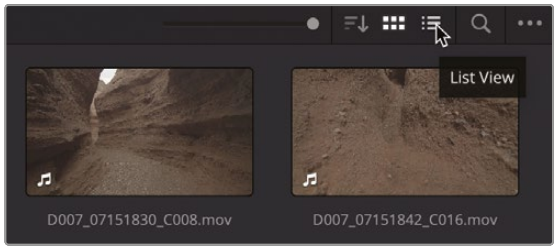


As in the media pool, clicking the "i" button reveals information about the file, such as its duration, resolution, frame rate, and video codec.

5 Click to select any of these B-roll clips to open it in the media page's viewer.

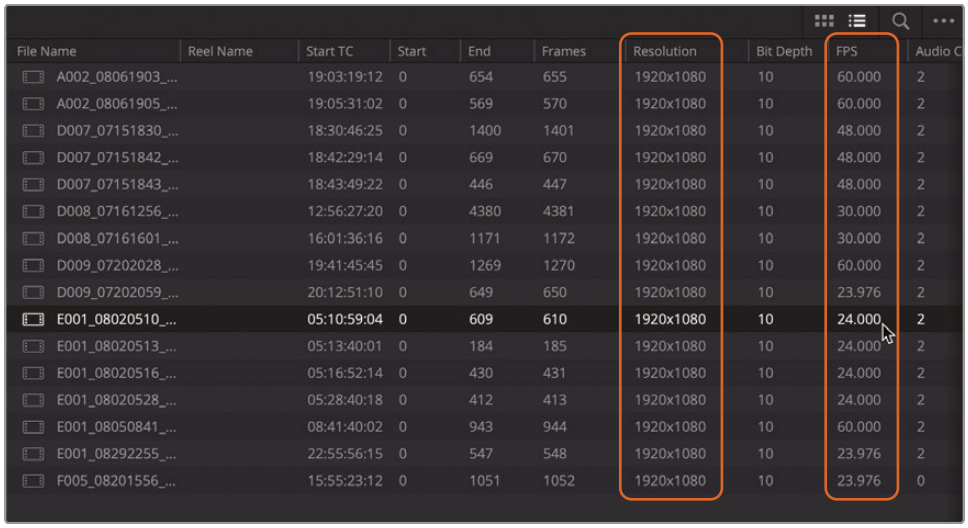
When a clip is selected, you can use the same keyboard shortcuts for playing clips in the media page's source viewer that you've used previously on the edit page (see Lesson 1 for more details), and the Metadata panel gives you some information regarding that clip, including the file's codec, resolution, frame rate, and number of audio channels.

6 Click the List View button at the top of the media storage browser.



7 Scroll until you can see the Resolution and FPS columns.

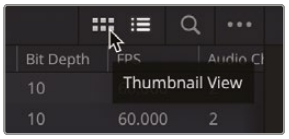
Using List View allows you to compare the properties of multiple clips. Here, you can see that the clips are all the same resolution (1920 x 1080) but have a variety of different frame rates (23.976, 24, 48, and 59.94).



File Name	Reel Name	Start TC	Start	End	Frames	Resolution	Bit Depth	FPS	Audio C
A002_08061903_...		19:03:19:12	0	654	655	1920x1080	10	60.000	2
A002_08061905_...		19:05:31:02	0	569	570	1920x1080	10	60.000	2
D007_07151830_...		18:30:46:25	0	1400	1401	1920x1080	10	48.000	2
D007_07151842_...		18:42:29:14	0	669	670	1920x1080	10	48.000	2
D007_07151843_...		18:43:49:22	0	446	447	1920x1080	10	48.000	2
D008_07161256_...		12:56:27:20	0	4380	4381	1920x1080	10	30.000	2
D008_07161601_...		16:01:36:16	0	1171	1172	1920x1080	10	30.000	2
D009_07202028_...		19:41:45:45	0	1269	1270	1920x1080	10	60.000	2
D009_07202059_...		20:12:51:10	0	649	650	1920x1080	10	23.976	2
E001_08020510_...		05:10:59:04	0	609	610	1920x1080	10	24.000	2
E001_08020513_...		05:13:40:01	0	184	185	1920x1080	10	24.000	2
E001_08020516_...		05:16:52:14	0	430	431	1920x1080	10	24.000	2
E001_08020528_...		05:28:40:18	0	412	413	1920x1080	10	24.000	2
E001_08050841_...		08:41:40:02	0	943	944	1920x1080	10	60.000	2
E001_08292255_...		22:55:56:15	0	547	548	1920x1080	10	23.976	2
F005_08201556_...		15:55:23:12	0	1051	1052	1920x1080	10	23.976	0

TIP You can choose to show or hide different columns of information by right-clicking any of the column headings in the media storage browser.

8 Click the Thumbnail View button to return to viewing the familiar clip thumbnails.

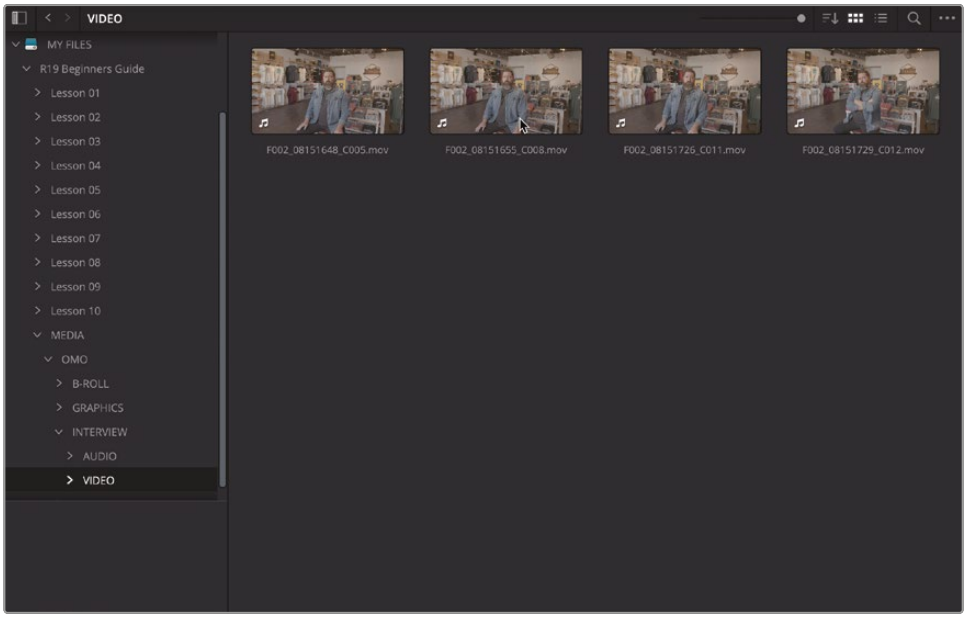


9 In the media storage location's directory tree, select the INTERVIEW folder in the Organ Mountain Outfitters folder.

This folder contains two additional folders: AUDIO and VIDEO.

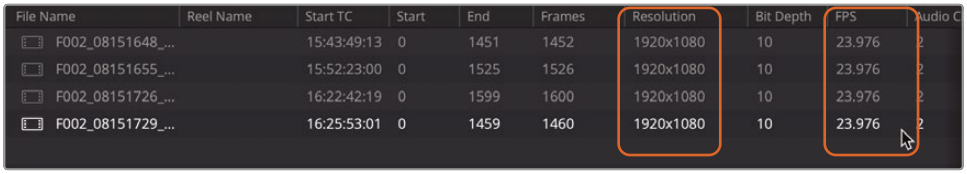
TIP If you manually navigate to a folder, you can then use the Back and Forward buttons at the top left of the media storage browser, like in an internet browser.

10 Double-click to open the VIDEO folder and view the clips.



This folder contains all the interview clips with Organ Mountain Outfitter's founder, Chris Lang.

11 Click the List View button and compare the clips' resolutions and frame rates.



Again, these interview clips have all been shot at a resolution of 1920 x 1080 and at a consistent 23.976 frames per second.

To summarize: the media you've been supplied with for this project has a 1080 HD resolution, with a variety of frame rates ranging from 23.976 to 59.94 frames per second. You will also note from the rather low saturation of the images that the footage has been shot in a specific color space.

Project Settings

When you create a new project in DaVinci Resolve, the project itself has some default settings that it draws upon. While these settings might be commonly used, they're not always appropriate, depending on where you need to deliver the project, your clients' requirements, or the source media you're working with. Therefore, the next step when creating a new project should be to check these basic settings and adjust them to your needs. Possibly the most important of these settings concerns your timelines, since these are the containers for all your edited and graded clips. It's important to get these settings right as early as possible because making things right later, while possible, can become a little tricky.

By default, all projects usually have a timeline resolution of 1920 x 1080 HD and a timeline frame rate of 24 frames per second (fps). You'll remember that the resolution was chosen during the Quick Setup phase when you first installed and opened DaVinci Resolve on your system (see the "Getting Started" section at the beginning of this book), but it also becomes the default even if you chose to skip the Quick Setup or when you create another project library (see Lesson 10, "Delivery and Media Management"). Therefore, this resolution and frame rate are used whenever you create a new timeline using the Project Settings option. Although these settings can be changed when you create a new timeline so that each timeline in any project can have completely different settings, most projects tend to use the same timeline settings for the majority of their timelines, so it's useful to set a general setting in the Project Settings window.

So what timeline settings should you use? That depends primarily on where you will deliver your final edited timeline. For example, if you're working on a feature-film project, you'll probably want to deliver a 3840 x 2160 Ultra HD timeline at 24 frames per second; if it's a broadcast TV show, then the timeline might be 1920 x 1080 HD at 29.97 or 25 frames per second; whereas if you will deliver a file to a streaming site such as YouTube or Vimeo, your choices aren't quite so limited and you may need to make a judgement call based on the source footage itself. Ideally, you should always decide the resolution and frame rate of a project prior to shooting any footage. This way, you can ensure that the footage is shot appropriately. However, Resolve can easily work with different resolutions and frame rates in the same project, even on the same timeline.

Resolution Independence

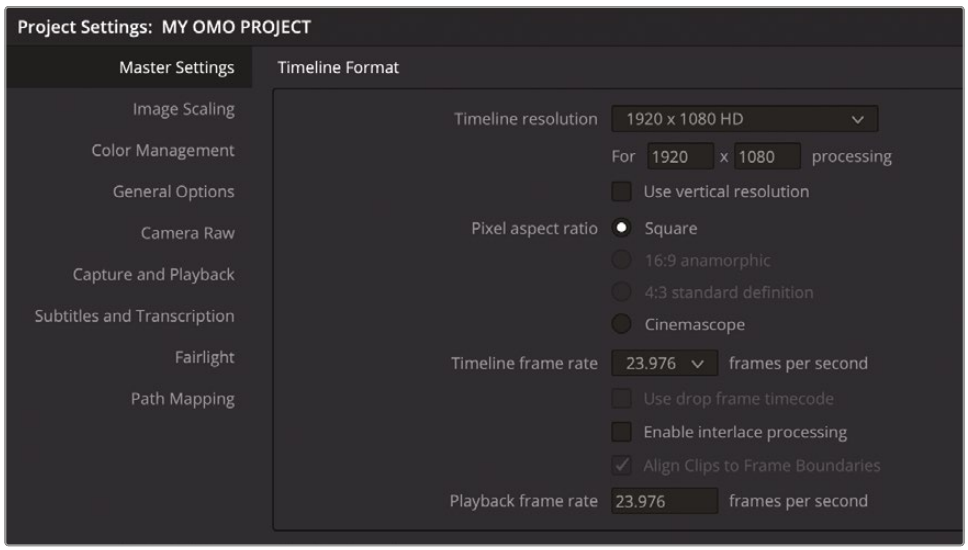
DaVinci Resolve is "resolution independent," which means you can add clips to a timeline in any combination of resolutions, and they will automatically fit the current timeline resolution. You can later output that timeline to as many other resolutions as necessary in order to create multiple deliverables. When you do so, all effects and transforms will automatically readjust themselves to match the sizing of each new timeline resolution.

In short, what this means is that you can create multiple deliverables in multiple resolutions by simply changing the timeline resolution or by using a lower resolution setting in the deliver page compared to the timeline resolution when you create a new job to render out, and every effect will be the right size automatically.

For the Organ Mountain Outfitters project, the final exported file needs to be HD resolution at 23.976 frames per second, so these are the Project Settings you will choose.

NOTE In the free version of DaVinci Resolve, you are limited to working with timelines at a maximum resolution of 3840 x 2160 Ultra HD, with a frame rate of up to 60 frames per second.

1. Choose File > Project Settings or press Shift-9 to open the Project Settings window.
2. Ensure that 1920 x 1080 HD is selected in the Timeline Resolution menu and 23.976 frames per second is selected from the Timeline Frame Rate dropdown menu.



NOTE When you change the frames per second option, the Playback Frame Rate and Format in the Video Monitoring section change to match (the latter is only relevant if you are using Blackmagic Design Decklink or Ultrastudio I/O devices). Normally, this is what you would want; however, in very rare instances you can adjust these separately, especially if you're working with a timeline resolution or frame rate that is not supported by your video monitoring hardware.

YOU MAY ALSO NEED TO MANUALLY CHANGE THE VIDEO RESOLUTION SO THAT YOU ARE MONITORING AT THE CORRECT RESOLUTION.

While you are here, there are other settings that you can adjust for this project too, especially since this footage looks like it's shot in a particular color space.

3 Select Color Management and, in the Color Science dropdown menu, choose DaVinci YRGB Color Managed. Leave the Timeline and Output Color Space options set to Rec 709.

4 Once you have changed the Project Settings for this project, click Save to save them. The media displayed in the media storage browser will now be automatically color managed.

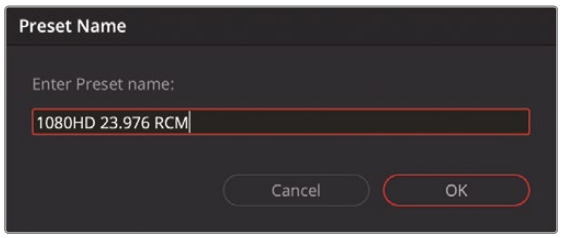
Saving Project Presets and Setting the Default Preset

If you frequently work with projects that require different settings, it can be useful to save project presets.

Project presets save all the settings in the Project Settings. They are useful because they can be used to quickly load lots of settings instantly or to transfer project settings among different Resolve systems. You can also set a project preset as a default for all newly created projects in the current Project Library.

1 In the Project Settings window, click the Options (...) menu and choose Save Current Settings as Preset.

2 In the Preset Name window, type **1080HD 23.976 RCM**.



NOTE This naming convention summarizes the current project settings—resolution (1080 HD) and frame rate (23.976)—and shows that Resolve Color Management (RCM) is enabled. However, there are no definitive rules regarding how you should name your presets.

3 Click OK.

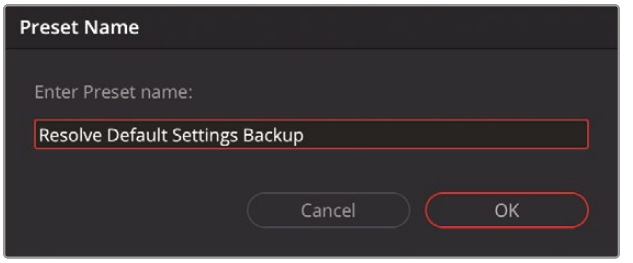
All the settings for the current project are now saved as a preset that you can quickly load.

4 Click the Options menu again and choose Default Preset > Load Preset.

This reloads the default project settings, returning the Timeline Format settings to their starting values, with the Timeline Format set to 1920 x 1080 and 24 frames per second and the Color Science set to DaVinci YRGB.

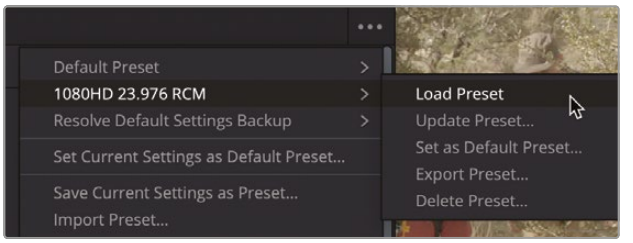
You will save this default as a preset so you can swiftly return to these settings if you need to.

5 Click the Options menu again and choose Save Current Settings as Preset and rename it **Resolve Default Settings Backup**.



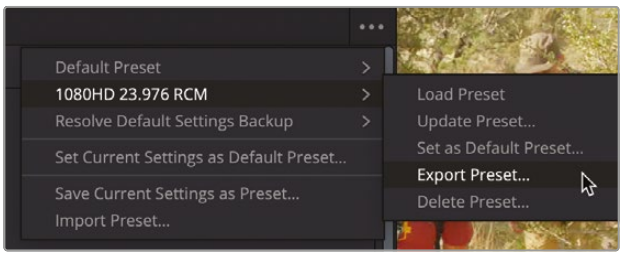
6 Click OK to save this as a new preset.

7 Click the Options menu and choose 1080HD 23.976 RCM > Load Preset to reload the saved preset you'll use for this project.



You can also export a project preset that you can use to quickly load the same project settings onto another DaVinci Resolve 19 system.

8 Click the Options menu and choose 1080HD 23.976RCM > Export Preset.



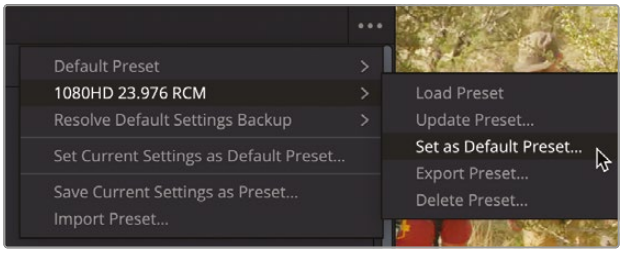
In the Save As field, the preset will be automatically named "1080HD 23.976 RCM Settings.preset."

9 Choose a location and click Save to save the preset as a **.preset** file.

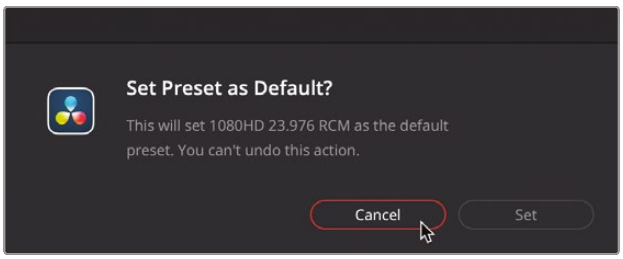
> **NOTE** To import this **.preset** file into another DaVinci Resolve system, select the Options (...) menu in Project Settings and choose Import Preset.

You can also set any saved preset as a default for all new DaVinci Resolve projects for the current Project Library.

10 Click the Project Settings Options menu and choose 1080HD 23.976 RCM > Set as Default Preset.



A window appears confirming that you want to set the 1080HD 23.976 RCM preset as the default for all future projects.



This will change the default project settings for the current project library.

11 Click Set.

All future projects created in the current Project Library will use this preset by default. Existing projects will not be affected.

NOTE To revert back to the "default" project settings for this project library, click the Project Settings Options (...) menu and choose Resolve Default Settings > Set as Default Preset. You will learn more about project libraries in Lesson 10.

Importing Media

Now that you have a better idea about the files you'll be working with and have set up the project accordingly, it's time to import the files into your project so you can start working with them further.

There are numerous ways to import files into a DaVinci Resolve project. For instance, you could choose File > Import > Media on any page that has access to the media pool (that is, every page except the deliver page). You can also simply drag and drop files from the Finder (macOS) or File Explorer (Windows) directly into the media pool! However, both techniques offer limited options, whereas the media page provides much more flexibility when it comes to importing clips.

NOTE Whenever you import media, DaVinci Resolve creates a link to the original clips on your hard drive. At no point does this import process copy, move, convert, or in any way alter the source media.

1. In the media storage browser, navigate to the R19 Beginners Guide/ Media/OMO folder and select the four folders.
2. Right-click any of the selected folders to reveal the import options.

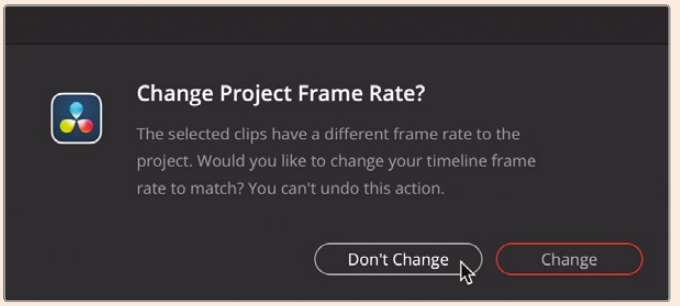
There are three main options for importing clips from the media storage browser:

- **Add Folder into Media Pool** will import the contents from one level inside the current folder.
- **Add Folder and SubFolders into Media Pool** will import the contents of the current folder and any additional folders contained within it. This is the same as when you drag a folder into the media pool either from the media storage browser or from the Finder (macOS) or File Explorer (Windows). This is a useful option when importing numerous files from different folders from a camera card that uses a complex directory structure.
- **Add Folder and SubFolders into Media Pool (Create Bins)** will import the contents of the current folder and any additional folders contained within it, preserving the folder structure as a series of bins in the media pool. This option is most useful when you want to import several clips that are already organized into folders on your hard drive.

3 Choose Add Folder and SubFolders into Media Pool (Create Bins).

The clips are added to the media pool in a series of bins that reflect the folder structure of the Organ Mountain Outfitters folder.

NOTE If Resolve presents a dialog asking whether you want to change the project frame rate, and you have already set the current project to 23.976 frames per second, click Don't Change; otherwise, Resolve will change the project frame rate to a setting other than your desired 23.976 frames per second!



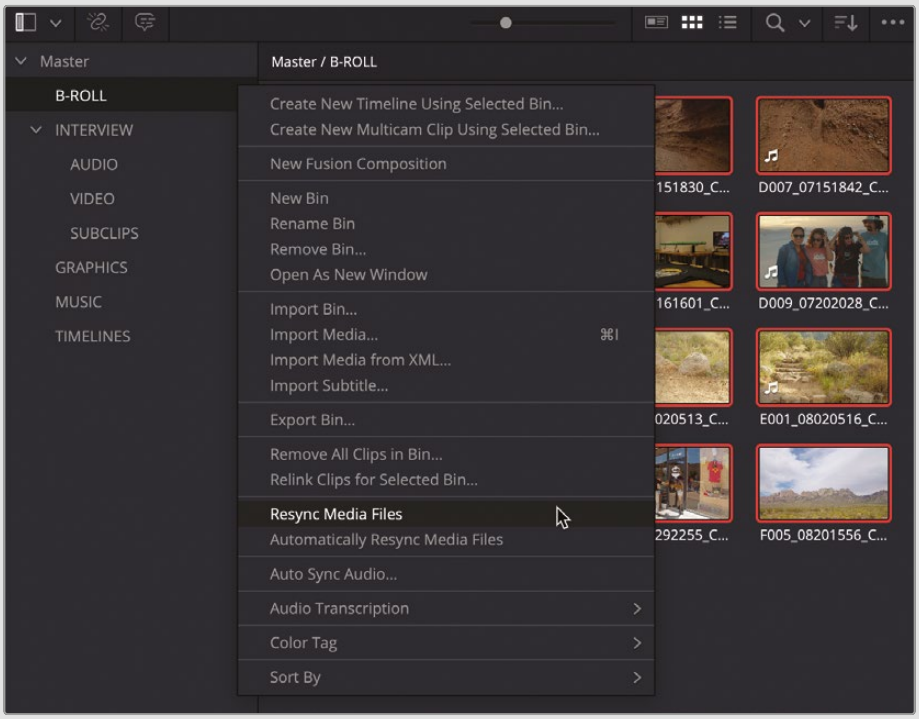
THIS WARNING OCCURS ONLY IF THE FIRST CLIP IMPORTED INTO A PROJECT HAS A DIFFERENT FRAME RATE THAN THE TIMELINE FORMAT IN THE PROJECT SETTINGS. SUBSEQUENT FILES WILL NOT TRIGGER THIS BEHAVIOR.

IF YOU DO INADVERTENTLY CHANGE THE PROJECT FRAME RATE, YOU CAN ALWAYS CHANGE IT BACK IN THE PROJECT SETTINGS PRIOR TO CREATING ANY TIMELINES. ONCE YOU'VE CREATED A TIMELINE IN A PROJECT, THE TIMELINE FRAME RATE IN PROJECT SETTINGS CANNOT BE CHANGED, ALTHOUGH TIMELINES YOU CREATE SUBSEQUENTLY CAN HAVE THEIR OWN INDIVIDUAL SETTINGS, WHICH YOU WILL NEED TO SET WHEN YOU CREATE THE NEW TIMELINES.

Resyncing Media Files

If you choose to import media using the folders on your system's hard drives to create the bins in your projects, then you can use the Resync Media Files option to automatically import any newly added media files to those folders on your hard drive.

Simply right-click a bin and choose Resync Media Files. Any files that have been added to the source folder since import or the last resync operation will be automatically added to the bin!



Alternatively, you can choose to enable Automatically Resync Media Files. This automates the resyncing process, importing any new media files to the bin in your project that are added to the source folder without you having to do anything else!

Generating Proxy Files

Modern digital video files are highly complex assets that contain huge amounts of information, as attested to by their file sizes, with many individual files easily measuring in the tens of gigabytes (GBs) and many projects in the terabytes (TBs) in size!

Working with camera-original content is ideal when color grading but, when it comes to editing, these large, complex files can often slow you down if they overtax your hardware. A computer that cannot process media efficiently, or a drive that is not fast enough to play high-resolution or high-frame rate media, can result in a frustrating editing experience.

Remember, to ensure that your system is maintaining real-time performance, you can check the GPU and frame rate playback indicator at the top of the viewers. If the indicator is green, all is well. However, if it changes to red, this indicates that the available GPU power of your computer is insufficient for real-time playback, and the frame rate indicator drops accordingly. If this happens only when playing back footage, it likely indicates that your computer isn't powerful enough to work with the material or the hard drive isn't fast enough to deliver the data rates the footage requires. In these cases, it's worth considering generating proxy media.

Proxy media is typically smaller and more efficient than the camera-original media, requiring less processing power and less speedy hard drives. Blackmagic Design has provided a convenient method for creating proxy media for use in DaVinci Resolve, while retaining a relationship with the camera originals. Generating proxy media enables the speed you want when editing yet leaves you only one click away from the camera-original media when you need it for color grading or VFX work.

You can choose to generate proxy files directly from DaVinci Resolve or by using the Blackmagic Proxy Generator. Both have advantages, depending on your workflow.

NOTE The video files included with this book have been optimized for easier downloading by reducing their size; therefore, you will probably have no problem playing back these clips on your computer. Nevertheless, learning how, why, and when to create proxy media is an important step to understanding the broader Resolve workflow.

Using the Blackmagic Proxy Generator

The Blackmagic Proxy Generator is a separate program that is installed alongside DaVinci Resolve and can automatically create proxy media from source video files placed in a designated watch folder. The Proxy Generator is a lightweight application that can be left running in the background, and DaVinci Resolve will automatically recognize and use the proxy media as it becomes available. Moreover, the Proxy Generator can be used to manage proxy files quickly and easily.

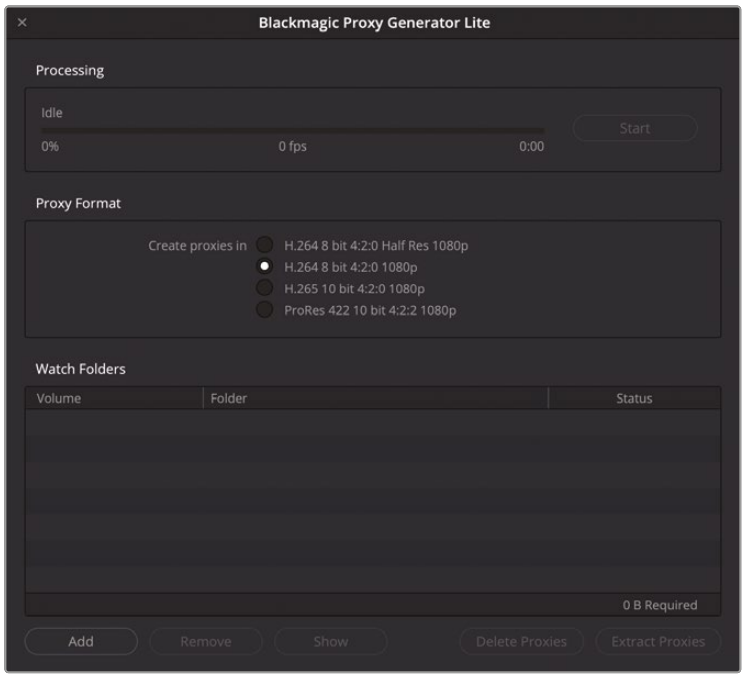
NOTE If you're using the free version of DaVinci Resolve, the Proxy Generator program will be called "Blackmagic Proxy Generator Lite."

1 Open the Blackmagic Proxy Generator application.

NOTE If a notification appears asking for permission to access your files, click Allow.

2 If a file browser window also opens, click Cancel.

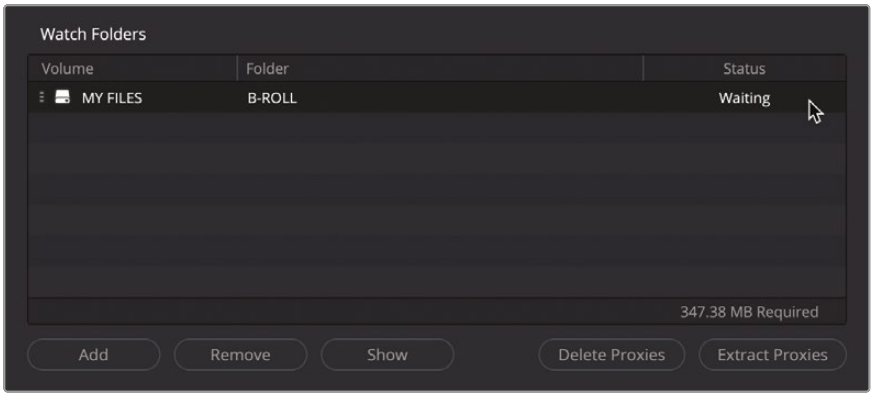
The Proxy Generator is a simple program that has no complex settings.



The first step in using the Proxy Generator is to set a "watch folder." A watch folder is simply a normal folder on your system that contains your source media files.

3 Click the Add button to add a watch folder location.

4 Navigate to R19 Beginners Guide/Media/OMO/B-Roll and click Open.

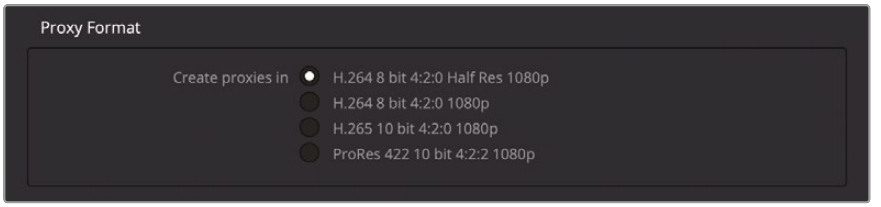


The watch folder is added to the list, detailing the volume, the specific folder, and the status of the folder. You can add as many watch folders to this list as required. Alternatively, you can add a higher-level folder, and the Blackmagic Proxy Generator will create proxy media for all the media in any subfolder.

TIP You can drag folders directly into the list of watch folders from the Finder (macOS) or File Explorer (Windows).

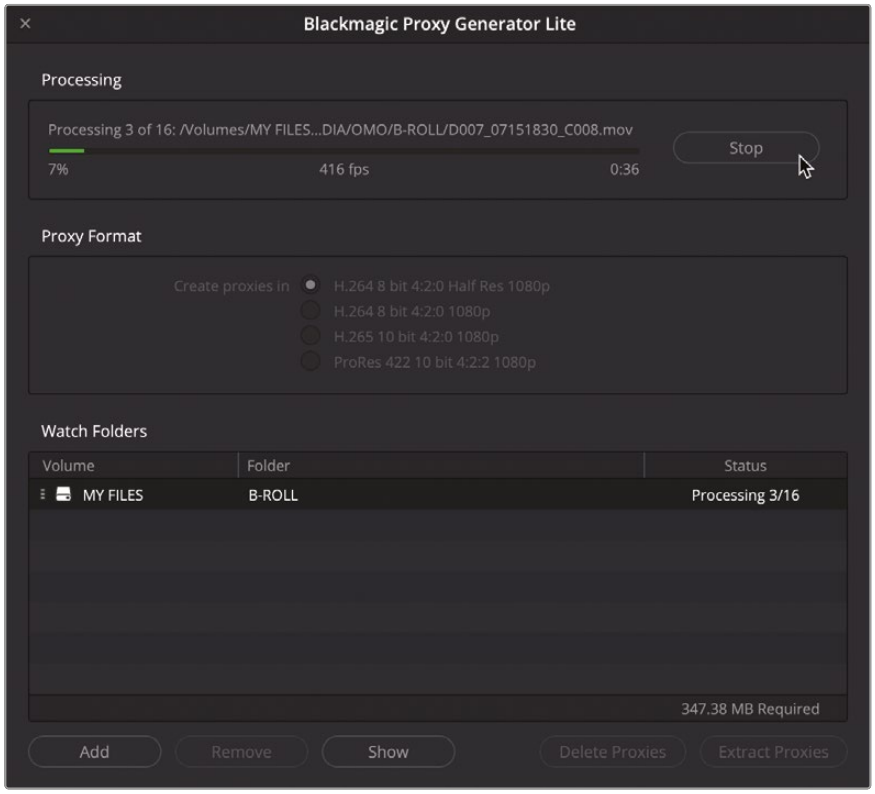
You can choose one of four preset settings (three for Windows users) for your proxy media. A value at the bottom right of the list of watch folders indicates the amount of storage required to generate the proxies for the selected location(s).

5 In the Proxy Format section, choose the H.264 8 bit 4:2:0 Half Res 1080p option.



This option will create proxy media at one-half the resolution of the source media (up to 1920 x 1080 if the source files are UHD resolution or larger) and using the H.264 video codec. This will generate small, lightweight proxy files that are useful for editing but not for grading, mainly due to the 8-bit and 4:2:0 chroma subsampling properties of these files.

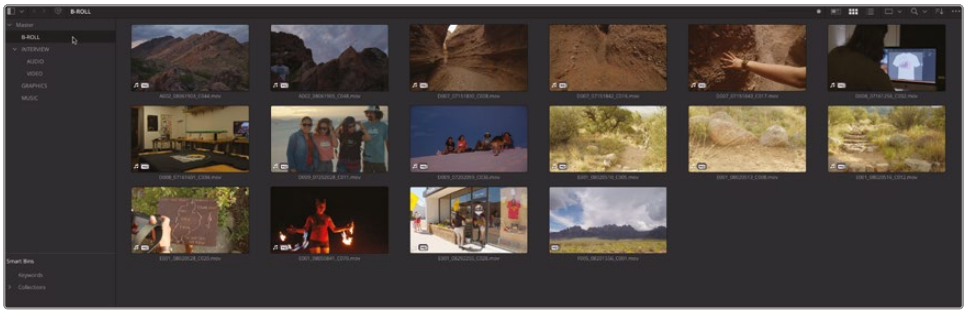
6 Click Start.



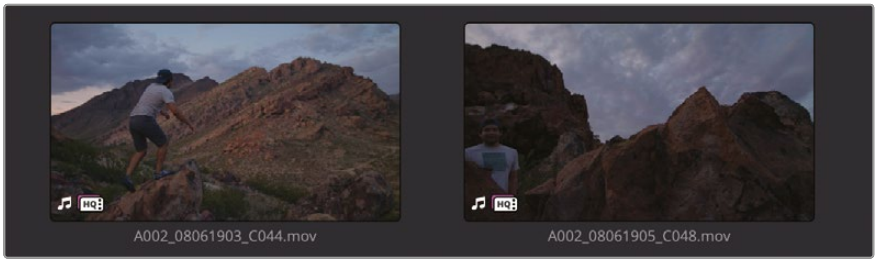
The Proxy Generator begins processing the source video clips in the watch folder, placing the generated proxy media in a Proxy subfolder in the same location as the source media. This allows Resolve to automatically see the relevant proxy media for clips in this source folder, so you don't have to add or relink the proxies manually.

NOTE Unless you click the Stop button, the Proxy Generator will continue to monitor the watch folder(s) you've chosen. Should any new source files be placed in these folders, the proxy media will be automatically generated without you needing to restart the process. In order for this to work correctly, the Blackmagic Proxy Generator will prevent your computer from sleeping while it is open.

7 Return to DaVinci Resolve and select the B-ROLL bin in the media pool.



The clips in this bin have a new status icon to indicate that these clips have proxy media associated with them.



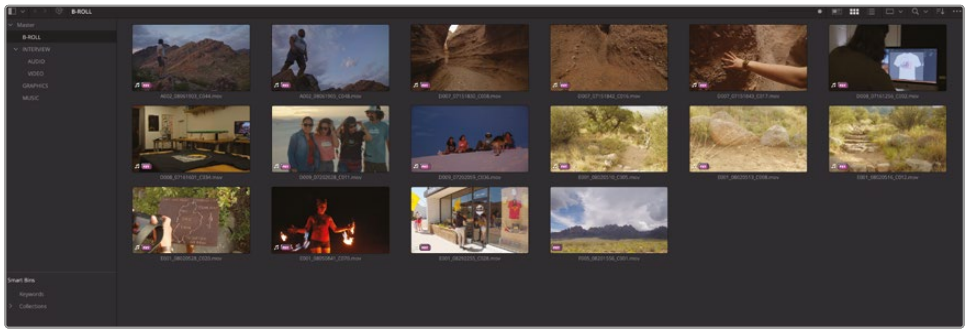
At the moment, this proxy status indicator is displaying the white HQ icon, meaning that you are currently working with the high-quality original footage. This icon will remain displayed on any clip in the media pool, the edit page, or color page timelines whenever the original source file has proxy files available.

8 In the viewer, click the Proxy Media dropdown menu at the top right.

By default, this is set to Prefer Camera Originals.

9 Choose Prefer Proxies.

The icon in the Proxy Media dropdown menu changes to indicate that Resolve is now using the lower-resolution proxy media you generated in the Blackmagic Proxy Generator, which means your real-time performance should increase.



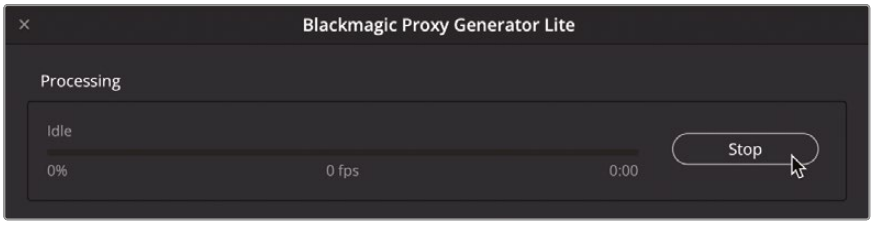
Using lower-quality proxy media files will help improve your editing workflow, especially when using very high-resolution or high-frame-rate source media. However, you don't want to inadvertently use the proxy media when grading, but you can easily switch from the proxy media back to the original files by changing the Proxy Media dropdown menu back to Prefer Camera Originals.

NOTE Clip information such as resolution and codec will still refer to the original files, even when you are preferring to use proxy media. Remember, the proxy media did not replace the camera-original files, so Resolve continues to display the camera-original parameters.

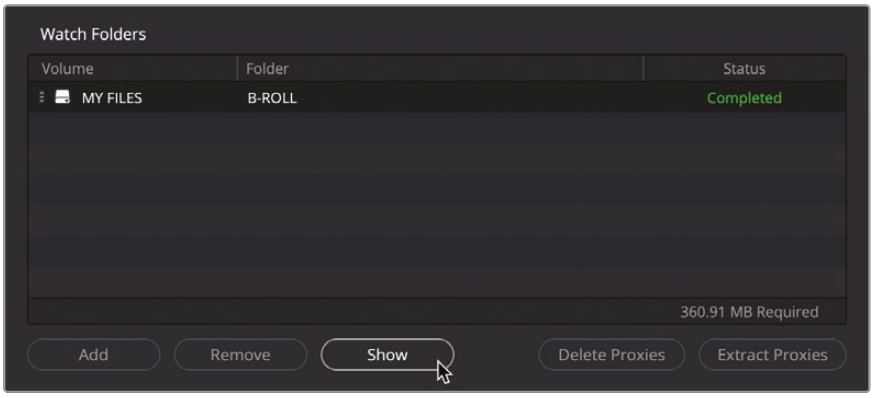
Managing Proxy Files Using the Blackmagic Proxy Generator

You can also use the Proxy Generator to manage your proxy media.

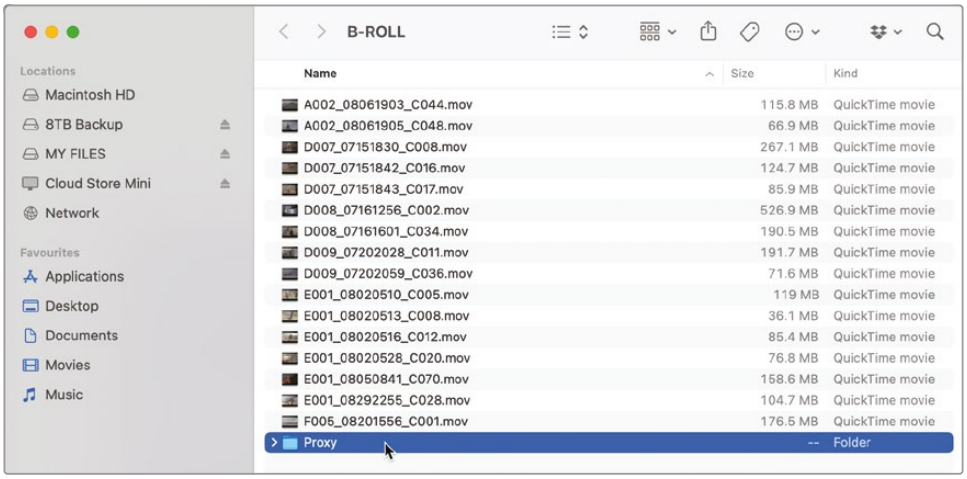
1 Return to the Blackmagic Proxy Generator application and click Stop.



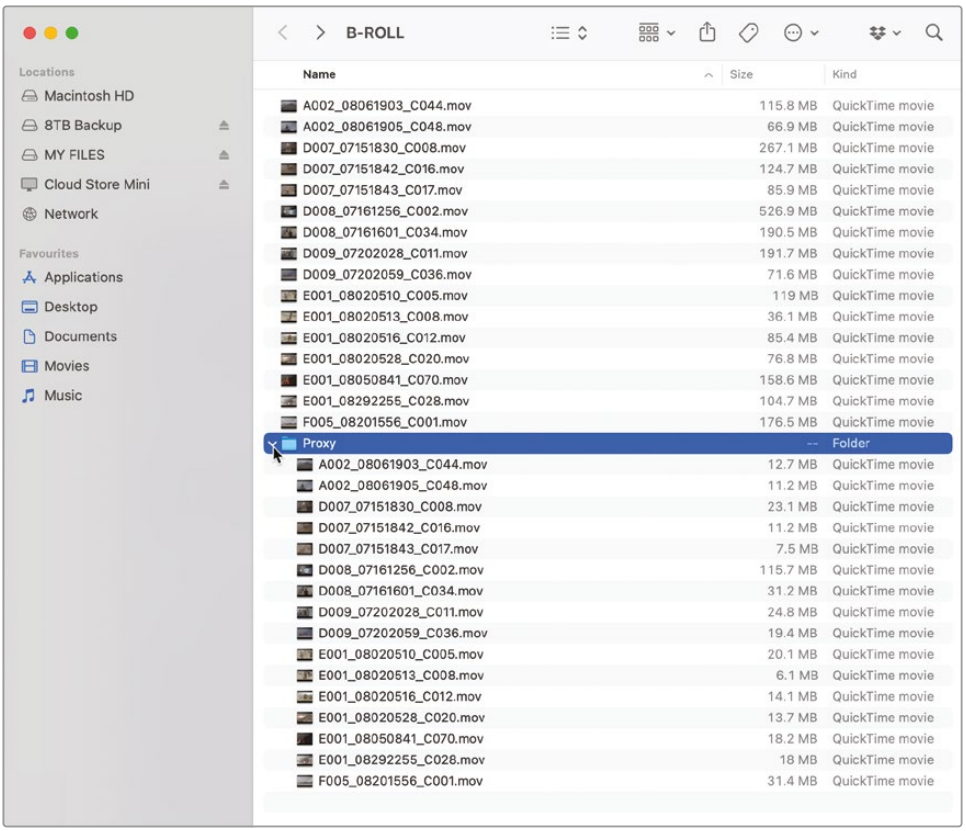
2 Select the B-ROLL folder in the list of watch folders and click Show.



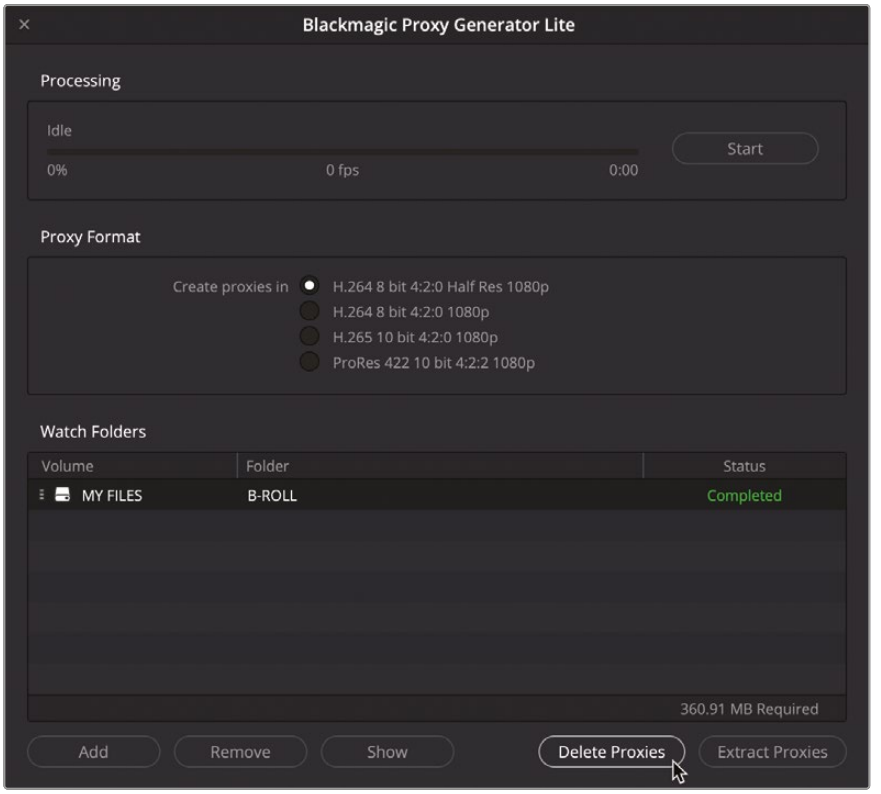
A Finder window (macOS) or a File Explorer window (Windows) opens to reveal the B-ROLL folder, which also contains a new Proxy subfolder.



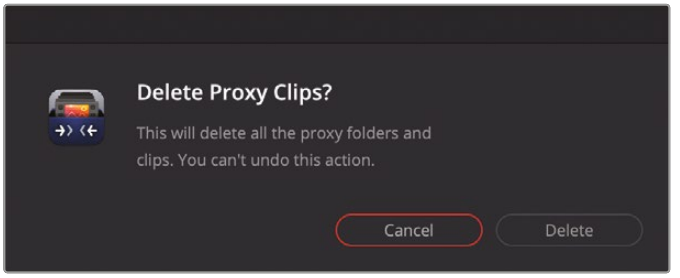
3 Open the folder to reveal the Proxy subfolder with the generated proxy media files, noting the difference in file sizes between these new files and the original media.



4 In the Proxy Generator, click Delete Proxies for the selected B-ROLL watch folder.



5 A warning appears confirming that you want to delete all the proxy folders and clips.

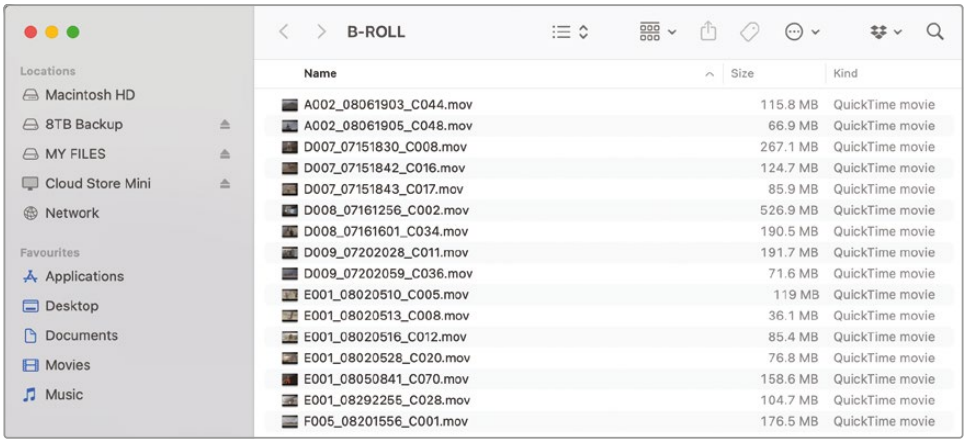


Don't worry! This warning refers to the proxy media files and folders only. Your original source clips are safe from being deleted.

6 Click Delete, and then click Done.

The proxy media and subfolders are instantly removed from your system.

7 With the B-Roll watch folder still selected, click Show.



8 To re-create the proxy files for the watch folder using the Blackmagic Proxy Generator, click Start.

> **NOTE** The Proxy Generator also has a button to Extract Proxies. This will copy the proxies for the selected watch folder(s) to the location of your choice. This is useful for creating a separate proxy-only folder that you can hand over to another editor via a portable hard drive or cloud storage for a proxy-only workflow.

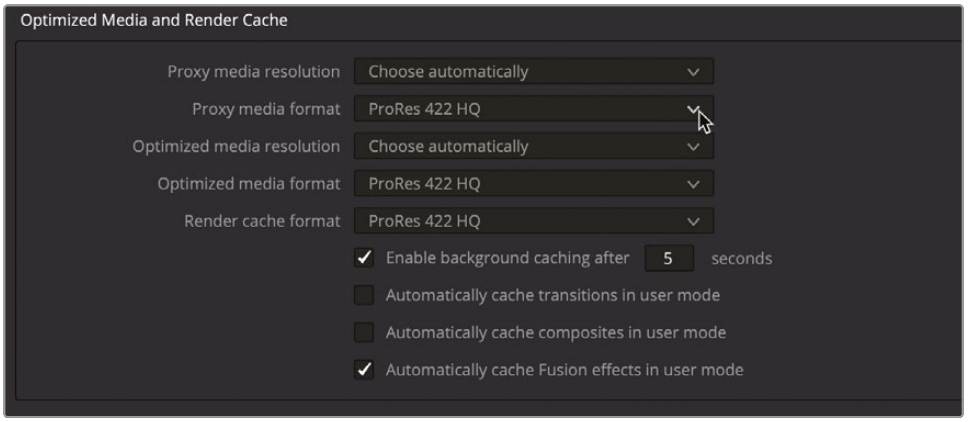
Generating Proxy Media from the Media Pool

The Proxy Generator is a handy, intuitive way to quickly create proxy media. However, an alternative way of creating proxy media is directly from the media pool in Resolve. This can be useful if you only need to generate proxy media for a limited number of clips, since the Proxy Generator application will generate proxies for all the media in a watch folder.

The first thing to consider when generating proxy files in this way is to check the resolution, codec, and location where the proxy files will be created.

1 In Davinci Resolve, press Shift-9 to open the Project Settings.

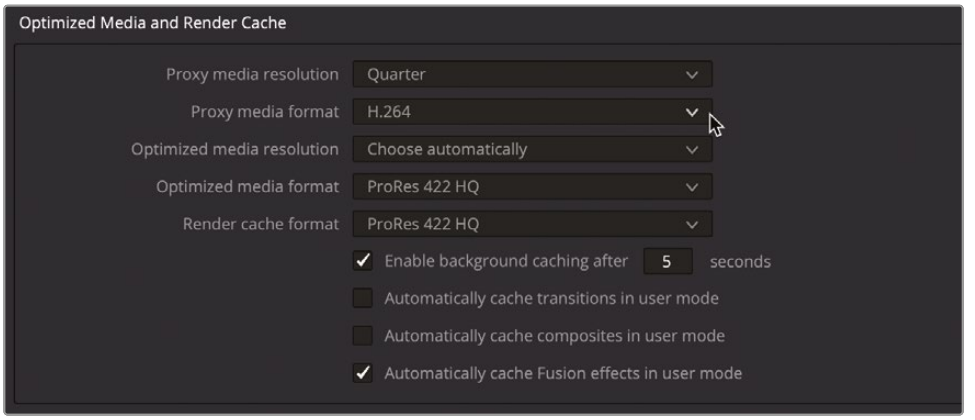
2 In the Master Settings, scroll down to the Optimized Media and Render Cache group of settings, which also includes settings for creating proxy media.



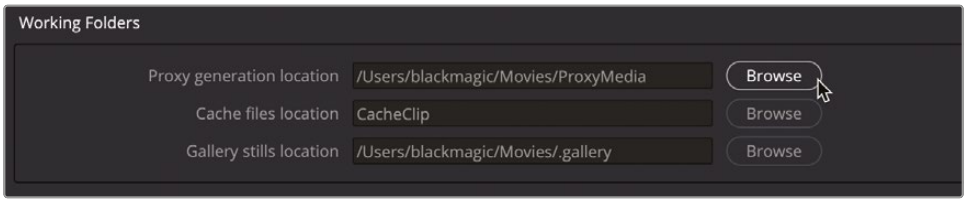
3 Change the Proxy Media Resolution dropdown menu to Quarter.

This will create proxy media that is one-quarter the resolution of the source media file. This setting is relative, so proxies for 1080 HD media will be 480 x 720, and proxies for UHD clips will be 960 x 540.

4 Change the Proxy Media Format dropdown menu to H.264.



5 Scroll down to the Working Folders section.



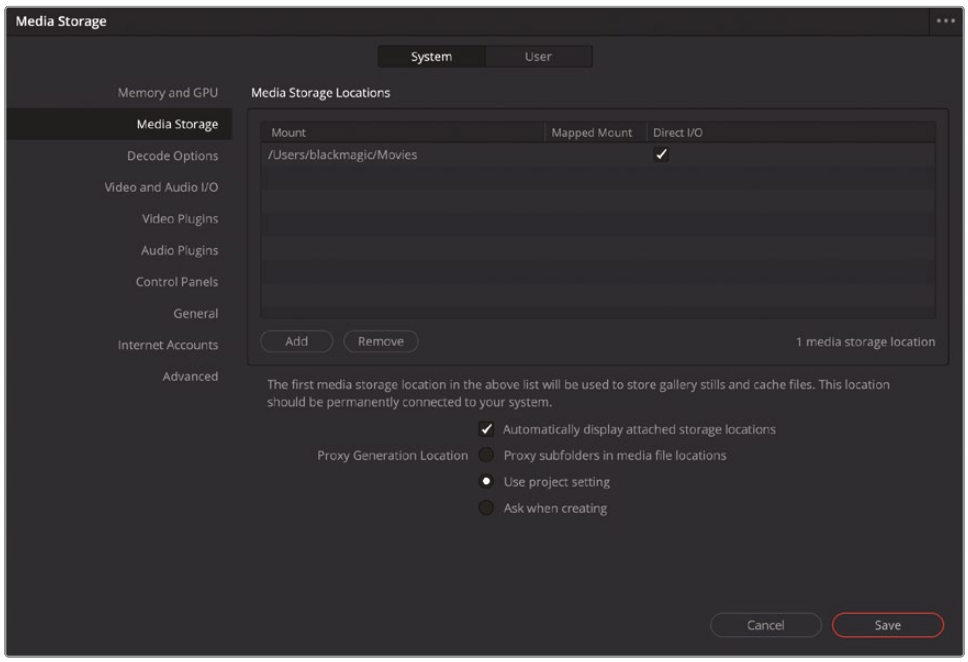
The Proxy Generation Location specifies where the proxy media will be created for this project. Leave this unchanged.

6 Click Save to save the changes to the Project Settings.

> **NOTE** Since these settings—proxy media resolution, media format, and generation location—are part of the Project Settings, they can also be saved as part of the current preset. To update the current preset, click the Project Settings Options (...) menu and choose 1080HD 23.976 RCM > Update Preset.

If that's not enough, there is another setting that affects where proxy media can be generated.

7 Choose DaVinci Resolve > Preferences.



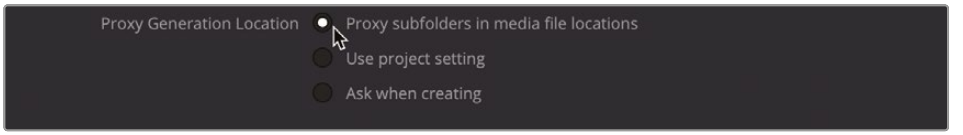
> **NOTE** You will take a closer look at the Preferences later in this lesson.

The System Preferences window opens to the media storage settings. Here you'll find three Proxy Generation Location options:

- **Proxy subfolders in media file locations** will create the proxy media in a "Proxy" folder in the same location as the source media file.
- **Use project setting** creates the proxy media in the location specified in the Project Settings.
- **Ask when creating** allows you to manually select the location where the proxy media will be created.

> **NOTE** Choosing "Proxy subfolders in media file locations" generates the proxy files in the same location as the Proxy Generator application does. Choosing this option also means that the proxy files can be deleted and extracted by the Proxy Generator if the enclosing folder is added as a watch folder.

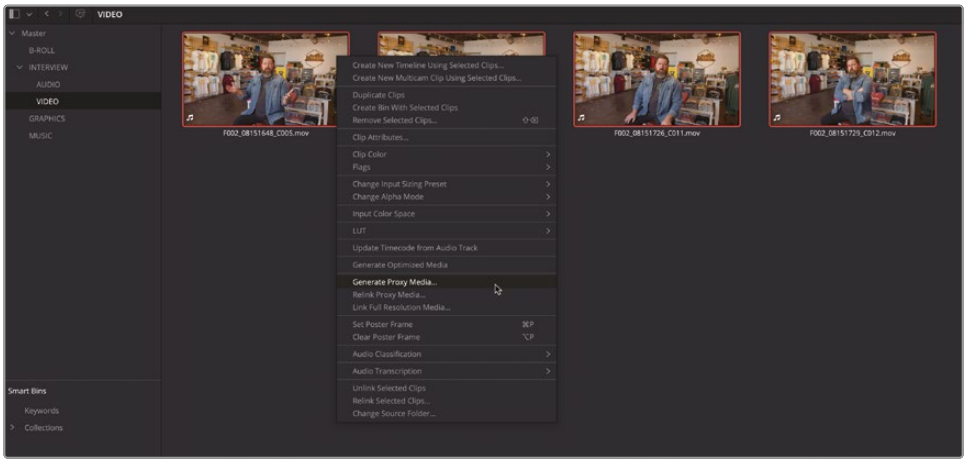
8 Choose "Proxy subfolders in media file locations."



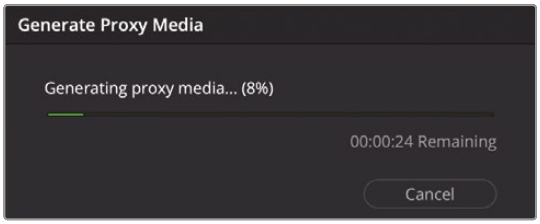
9 Click Save.

Now you can generate the required proxies in the media pool.

10 Select all the interview clips in the VIDEO bin, right-click, and choose Generate Proxy Media.



The proxy media will be generated for the clips.



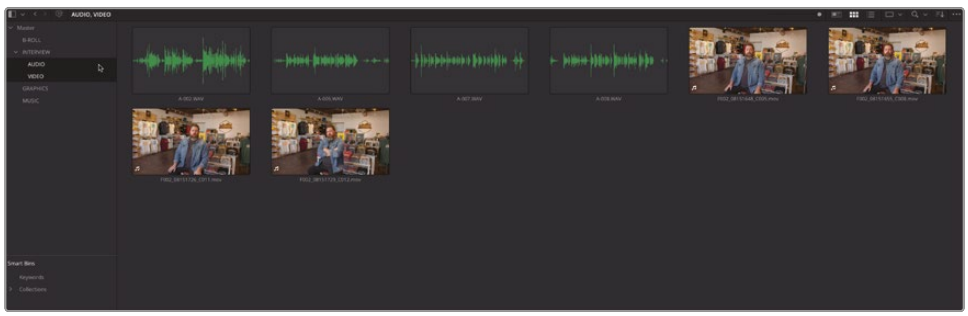
Unlike using the Proxy Generator, though, you will have to wait until all the proxies have been generated before you can continue working.

NOTE These settings will result in very low-quality proxy media. If you prefer, you can choose Prefer Camera Originals from the Proxy Media dropdown menu for the rest of this lesson. Alternatively, you can right-click the interview clips again and choose Unlink Proxy Media. However, unlinking proxy media like this will not remove the proxy media from your system. You can do this manually or by using the Blackmagic Proxy Generator if you add the Interview folder as a watch folder.

Syncing Audio to Video

Many productions record audio on dedicated digital audio devices to capture the highest quality audio or when it's not practical or desirable to record audio directly to a camera. Thus, when the files come in from the day's shoot, you'll need to sync the appropriate audio and video clips—a process often referred to as "syncing the dailies." Thankfully, Resolve has a fantastic way of making this process as painless as possible.

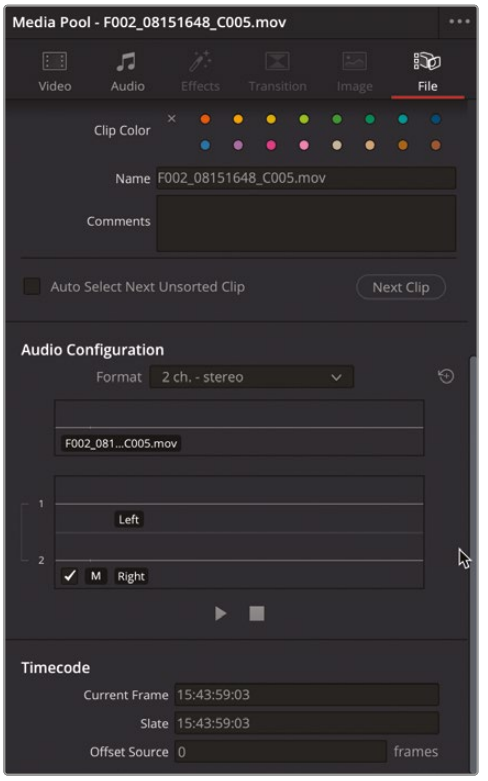
1 In the bin list, select the AUDIO and VIDEO bins inside the INTERVIEW bin to display the contents of both bins in the media pool.



2 Play the first video clip, **F002_08151648_C005.mov**, in the viewer.

This is one of the interview clips with Chris Lang that you worked with in Lesson 1. Unfortunately, the audio isn't very well recorded. From the meters in the Audio panel, you can see that this clip has two audio channels that are very low.

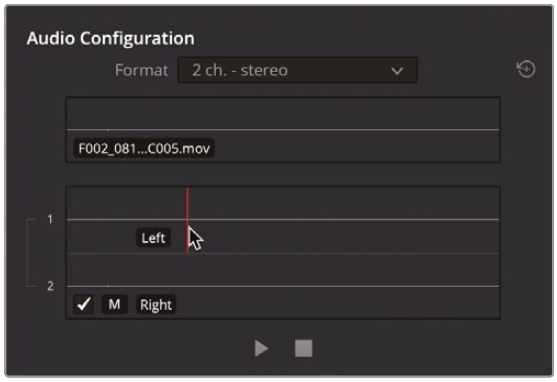
3 Open the Inspector, select the File tab, and scroll down to the Audio Configuration panel.



This clip has two embedded audio channels, configured as Left and Right channels in a single stereo audio track, displayed as "2 ch. - stereo" in the Format dropdown menu. A "composite" waveform at the top of this panel displays a single amalgamated waveform of all active audio tracks, with each individual audio track displayed underneath.

NOTE The Audio Configuration panel can display and allow you to preview up to 36 audio tracks in a single clip.

You can scrub and play each of these waveforms separately using your mouse pointer in order to be able to preview each track in isolation.



TIP Press Shift-S to toggle audio scrubbing.

As you scrub or play the audio channels for this clip, you should hear the Left and Right channels play from the left and right speakers of your system, respectively.

4 Click the Audio button in the top right of the interface to reopen the audio meters and move the Inspector next to the media pool.

5 Select the first audio clip, **A-002.WAV**, and play it.

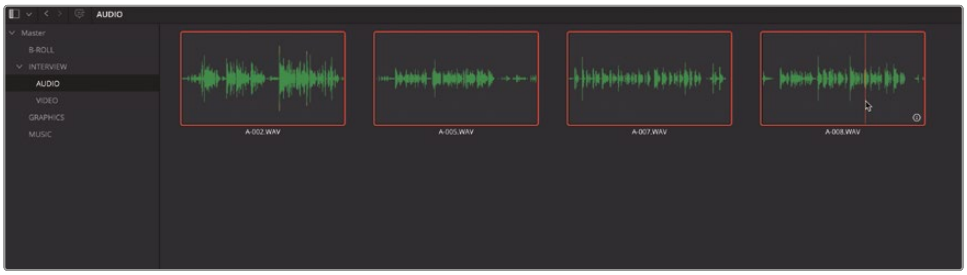
You'll see that this clip has four audio channels, displayed as separate waveforms in the audio viewer, all with healthy audio levels showing in the meters

In the Info tab of the Inspector, you see the individual channels labeled "Mix-L," "Mix-R," "Boom," and "Chris." This indicates that a boom mic was recorded on channel 3, Chris's personal mic was recorded on channel 4, and channels 1 and 2 are a mix of both.

NOTE The track names have been imported as part of the audio files' metadata. You can view specific track names (or add your own) by choosing Audio Tracks from the Metadata panel's Sort menu.

You will notice, however, that this clip is configured as "4 ch - adaptive" in the Format dropdown menu. This means that although the clip has four separate channels with different mics or mixes being recorded to each channel, if you were to edit this into a timeline, the audio would be presented as a single clip. To get the most out of the separate channels, you'll need to change the audio configuration.

6 In the media pool, Command-click (macOS) or Ctrl-click (Windows) the VIDEO bin to deselect it, and then select all the remaining audio clips, **A-002.WAV**, **A-005.WAV**, **A-007.WAV**, and **A-008.WAV**.



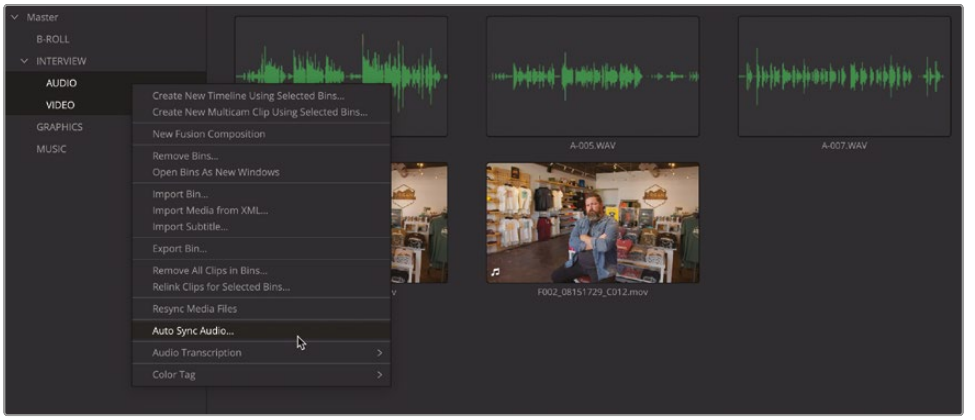
7 In the Format dropdown menu in the Inspector, choose the option "4 ch - mono."

This changes the audio configuration of the selected clips so that each channel can now be used separately.

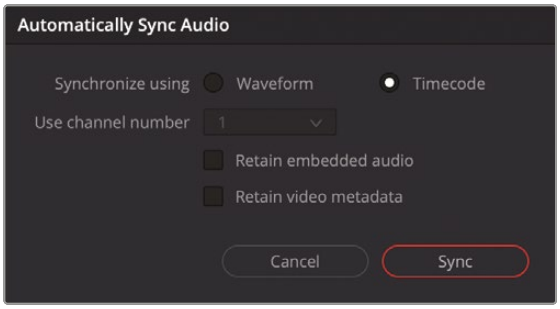
Now that you have correctly configured the audio, you can sync the video and audio clips together and choose the most appropriate channels to work with.

8 In the media pool, Command-click (macOS) or Ctrl-click (Windows) the VIDEO bin again to display the contents of this bin in the media pool again.

9 Right-click the selected AUDIO and VIDEO bins and choose Auto Sync Audio.

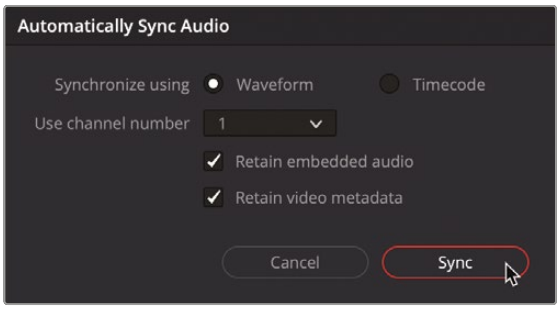


The Automatically Sync Audio window opens, displaying several options for how you want the audio synced with your video clips.



Synchronizing audio using matching timecode is always preferable because it's quicker and much more reliable. However, if your clips don't have exactly matching timecodes, using the waveforms is the next best option. This is why most clips that need synchronizing like this will also contain some kind of "scratch" or reference audio to make this process easier.

10 Select Waveform for the "Synchronize using" option and select the "Retain embedded audio" and the "Retain video metadata" options.



NOTE When choosing to sync using waveforms, the "Use channel number" option can be used to specify which audio channel you want to use for syncing. This is useful if one audio channel has better audio than another.

Retaining the embedded audio means that Resolve will keep all the audio channels active on the clip. This can be useful for verifying that the audio is in sync with the original. However, if you don't choose this option, the original embedded audio is not deleted and is accessible through Clip Attributes (see below). You will use the metadata of the video clip in later steps, so retaining the video metadata means that the metadata of the audio files won't override those of the video clips.

11 Click Sync, and Resolve analyzes the audio.

Although nothing appears to happen beyond this, Resolve has successfully synchronized the audio with the video clips. If the Auto Sync hadn't been successful, a warning dialog would have appeared indicating which clips couldn't be synced.

12 Select the first video clip again, **F002_08151648_C005.mov**, and play it.

Now this clip has six audio channels, the last four of which are much higher in the meters than the first two. These are the four channels of the audio clip that you have just synced.

> **TIP** You can verify that there is synced audio with each of the clips in List View in the Synced Audio column.

You could continue using the audio of these clips as is. Having multiple audio tracks on a clip gives you the opportunity to choose which microphone to use at any given time. However, it can be just as simple to configure the audio of a clip so that it is using just the track(s) you need.

13 Command-Click (macOS) or Ctrl-Click (Windows) the AUDIO bin to deselect it and leave just the contents of the VIDEO bin displayed in the media pool.

14 Select all the interview clips and, if necessary, open the Inspector.

15 Select the File tab in the Inspector and scroll down to the Audio Configuration panel.

Now you can see that these clips all have a total of six audio channels: the first two being the embedded audio channels (still configured as stereo), and the last four being the linked audio clips (configured as mono). Since you only need the audio recorded from Chris's personal mic, you can remove the audio channels you don't need.

16 Deselect the first two audio channels. As these are the original audio embedded in the interview clips, there is one checkbox to disable both channels, since they are currently configured as a stereo track.

17 Continue to deselect tracks 3, 4, and 5, leaving just Chris's final audio track active.

18 Once again, play **F002_08151648_C005.mov** in the viewer, this time noting that only one track is playing.

NOTE Muting and disabling tracks in the Audio Configuration panel results in two different things when the clips are edited into a timeline. Disabling the audio track means the track is effectively "hidden," so these tracks will not be edited into a timeline. Muting an audio track in the Audio Configuration panel means that that track will still be edited into the timeline but will be automatically disabled. Disabled tracks like this can be re-enabled in the timeline by right-clicking them and choosing Enable Clip (or by pressing D).

Advanced Audio Configuration Using Clip Attributes

As these clips are currently configured, only one mono audio track is currently being used. This is perfectly fine; however, if you were to edit this directly into a timeline, the audio track would need to be mono too. If you were to inadvertently edit this mono audio into a stereo track, you would only hear it out of one audio channel.

To prevent this, you can reconfigure the single mono audio as a stereo clip.

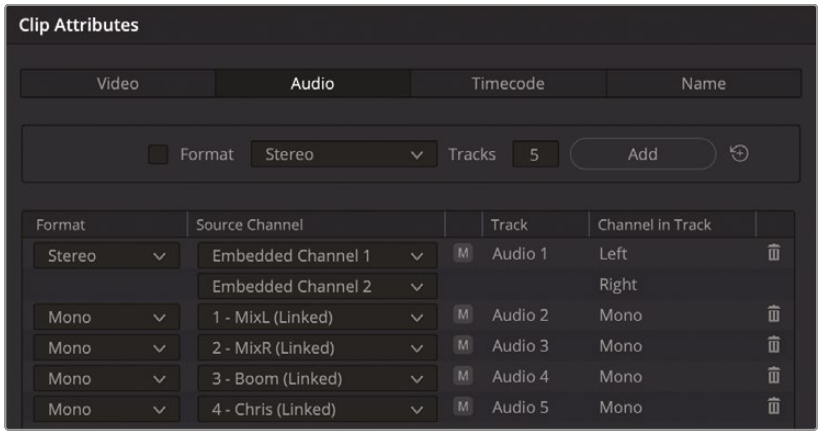
NOTE You will learn more about working with mono and stereo audio channels and tracks in Lesson 8, "An Introduction to Fairlight."

Depending on the number of audio channels, the different tracks can be configured in different ways using the Format dropdown menu in the Audio Configuration panel. However, the options here are for simple configurations. For more advanced configurations, you can use Clip Attributes.

1 In the media pool, select all the interview clips in the VIDEO bin.

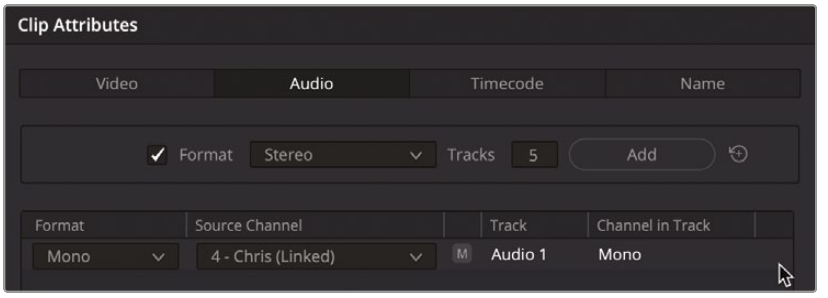
2 In the Audio Configuration panel in the Inspector, click the Format dropdown menu and choose Custom.

The Audio Configuration for these clips is reset, and the Audio tab of the Clip Attributes window opens.



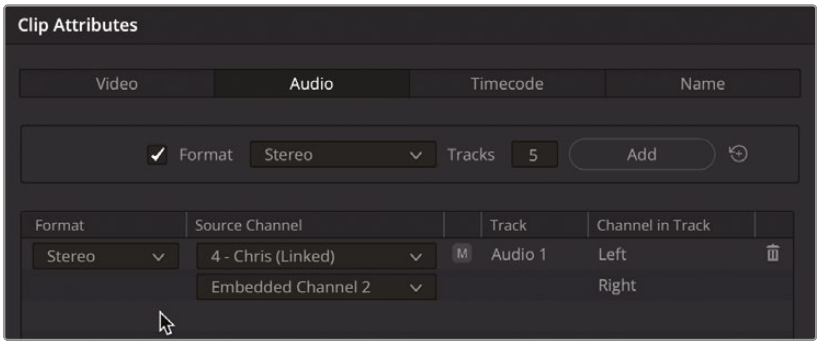
NOTE You can manually open Clip Attributes for any selected clips by right-clicking them in the media pool and choosing Clip Attributes.

3 Click the trash can icon to remove the unneeded audio channels in audio tracks 1 through 4, leaving just the mono track using channel 4 of the linked clip.

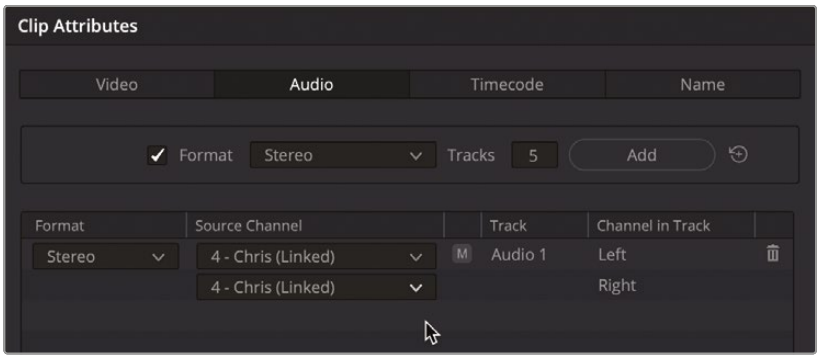


4 Change the Format dropdown menu to Stereo to change the current mono track to a stereo one.

This gives you an additional source channel.

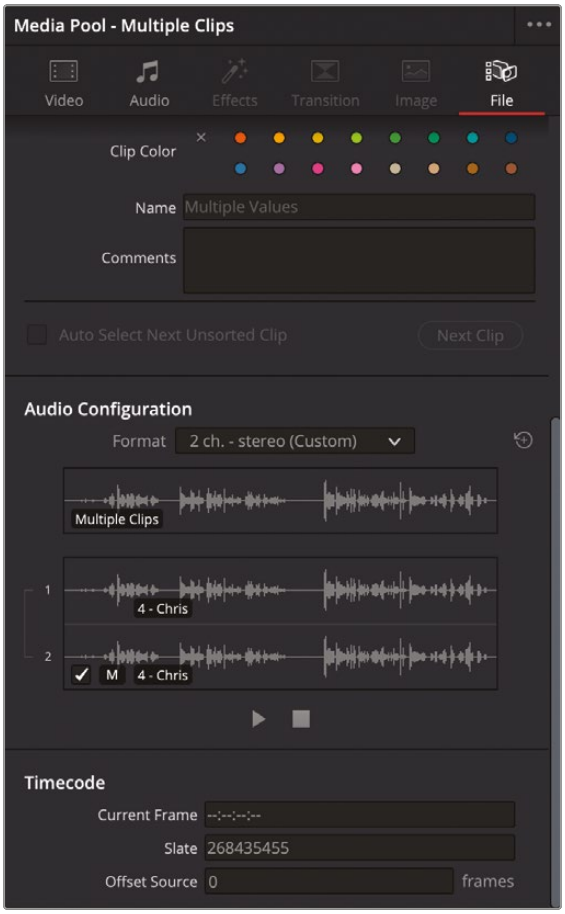


5 Click the new, second source channel and choose the audio channel "4 - Chris (Linked)."



6 Click OK.

You can now verify the new (custom) stereo configuration of these clips using the Audio Configuration panel in the Inspector.



Working with Metadata

Metadata has quickly become an important part of working with digital media files, not least in the sorting and finding of specific clips in the morass of media in any given project, and metadata is an integral part of working with DaVinci Resolve throughout the post-production process.

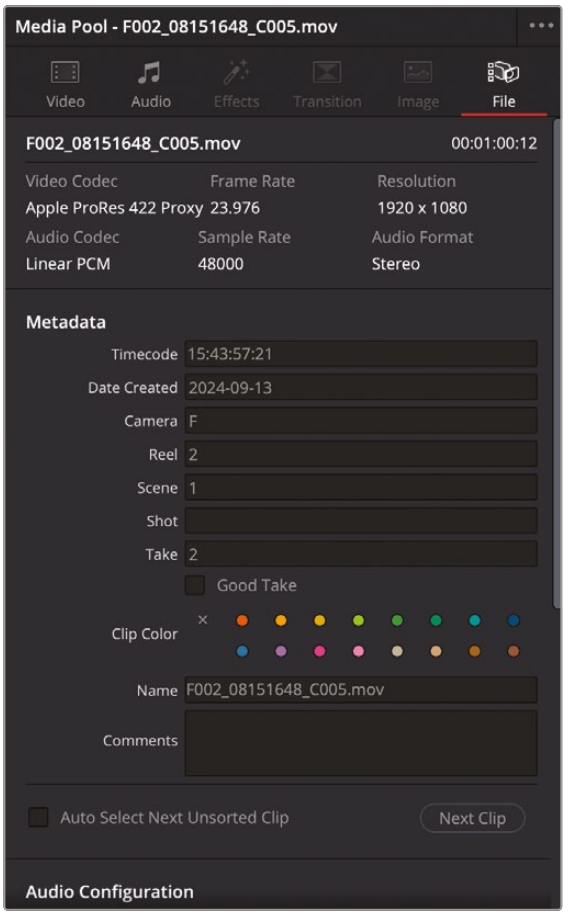
You have many ways to populate your clips with useful metadata: it may be entered on the camera during production; you can enter it manually in DaVinci Resolve; or someone on set can be assigned to be responsible for entering metadata in their favorite spreadsheet

program or in any of the smart slate apps that can be used to log metadata such as shot, scene, take, and more. You can then import this data into Resolve using the simple CSV (comma-separated values) format. The benefit of understanding and utilizing metadata is that you have a more intimate understanding of your media and will no doubt save yourself hours of work and frustration!

Over the next few steps, you will explore each of these different pieces of metadata before learning how it can be put to practical uses.

1 In the media pool, select the first interview clip in the VIDEO bin, **F002_08151648_C005.mov**.

2 Scroll to the top of the Inspector to display the Metadata panel.



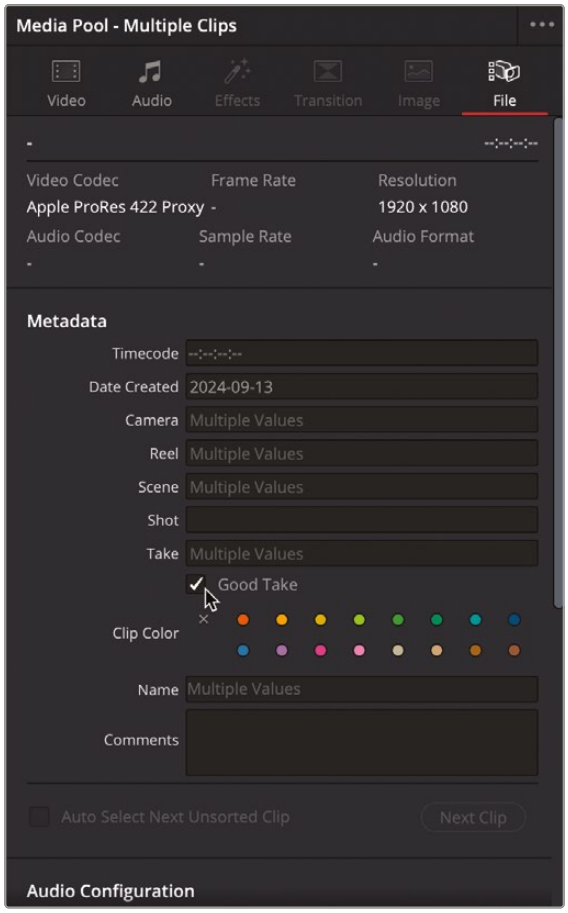
The Inspector contains several common metadata fields. In this case, you can see pieces of information that detail the camera number, reel, scene, and take. This is an example of metadata that has been assigned in-camera when the clip was originally recorded.

You can edit many of these fields to adjust or add your own metadata as needed.

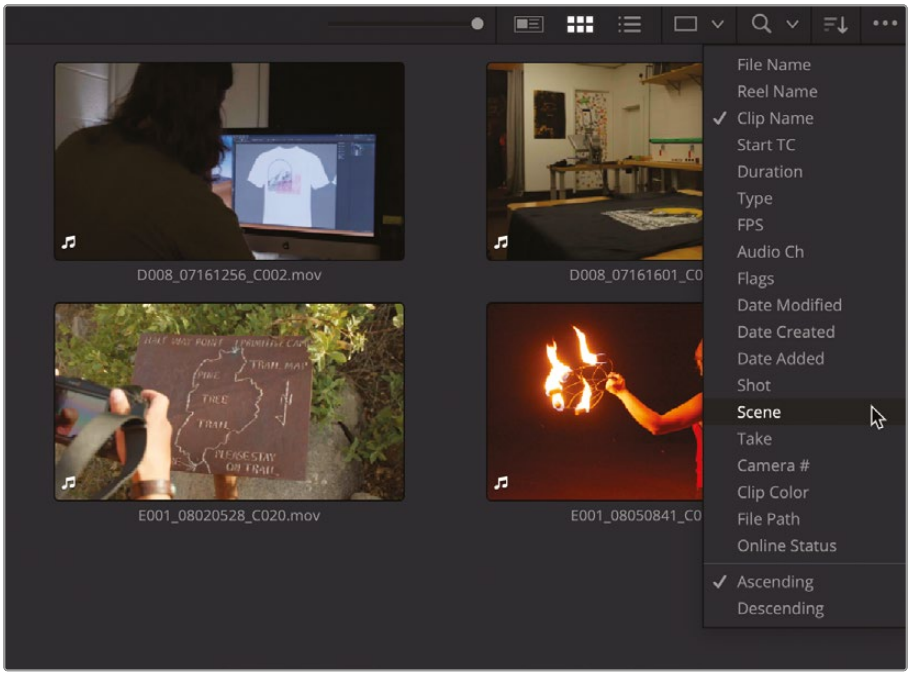
3 In the media pool, select the B-ROLL bin.

4 Use Live Preview to quickly review the clips in this bin, and then Command-click (macOS) or Ctrl-click (Windows) your three favorite clips.

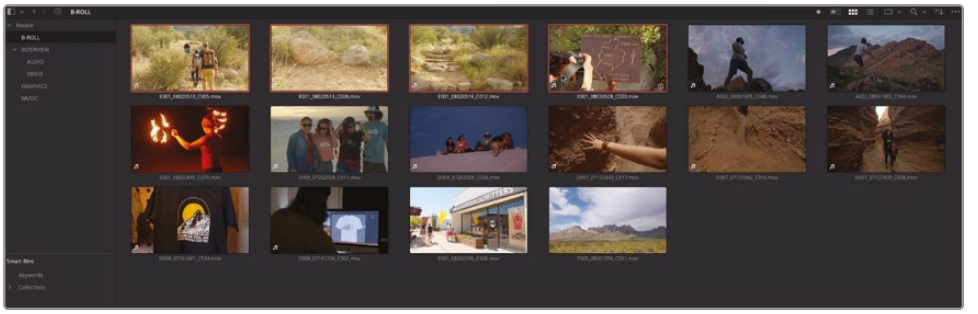
5 In the Inspector, click the Good Take checkbox.



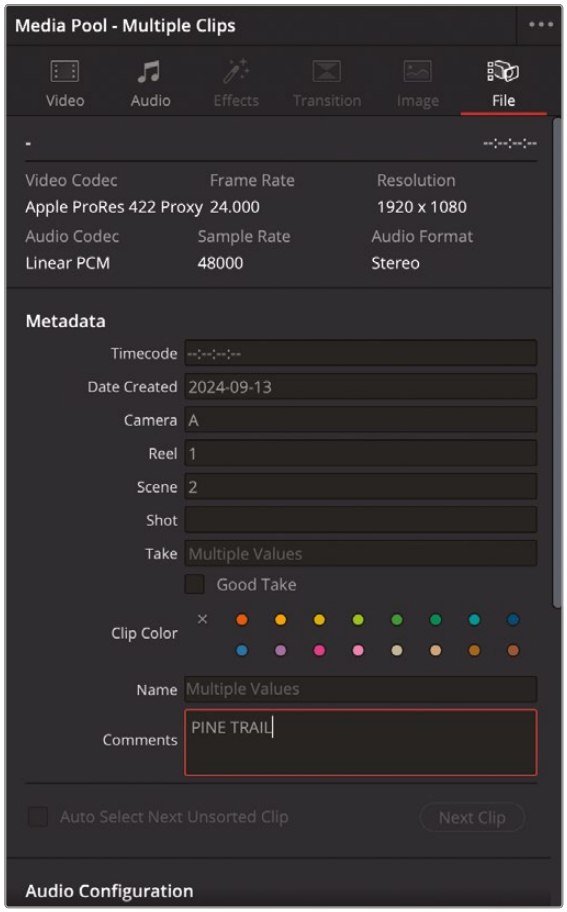
6 Click the media pool Sort menu and choose Scene to list the clips in order of their scene number.



7 With the clips reordered, select the first four clips (from Scene 2).



8 In the Inspector, type **PINE TRAIL** in the Comments field.



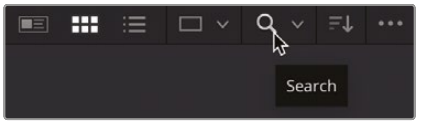
9 Click the media pool Sort menu again and choose Clip Name to reorder the clips in the media pool by their names.

Simple Searches Using Metadata

Having just added your own simple pieces of metadata to these clips, you can now use it to find these clips instantly.

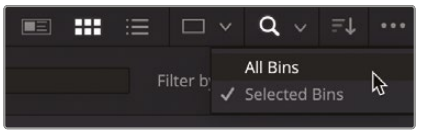
1 In the bin list, select the Master bin.

2 At the top of the media pool, click the Search button (the magnifying glass) to reveal the search field.

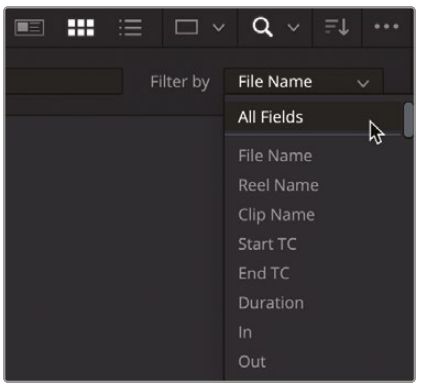


By default, the search will only look in the current bin and will only search across your clips' filenames.

3 Click the Search menu and choose All Bins.



4 In the "Filter by" menu to the right of the Search field, choose All Fields.



Resolve will now search all the bins and across all the available metadata fields.

5 In the Search field, type **soundtrack**.

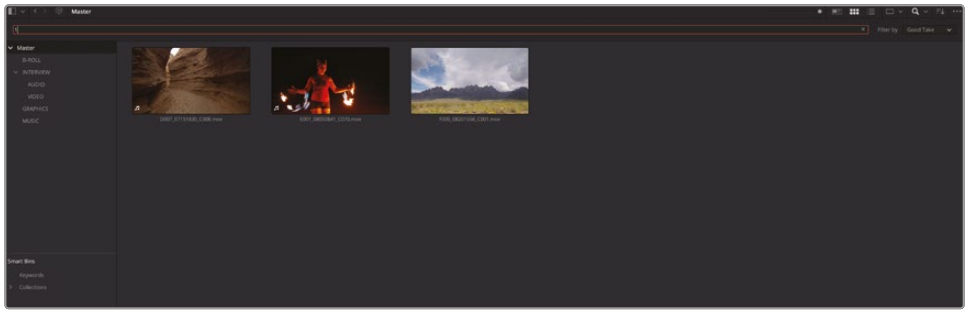
The music clip is instantly displayed because it has the phrase “soundtrack” in its name.

6 In the Search field, highlight “soundtrack” and type **pine** to reveal the clips that have the “PINE TRAIL” comment you previously added.

7 Click the “x” on the right side of the Search field to clear the current search.

8 In the Filter By menu, choose Good Take.

9 In the Search field, type **1** to indicate the value should be “true” (active), and the clips you marked as good a few steps earlier are instantly recalled.



NOTE To view all the clips you haven't marked as Good Takes, type **0** in the Search field.

10 Click the Search button again to close and clear the Search field.

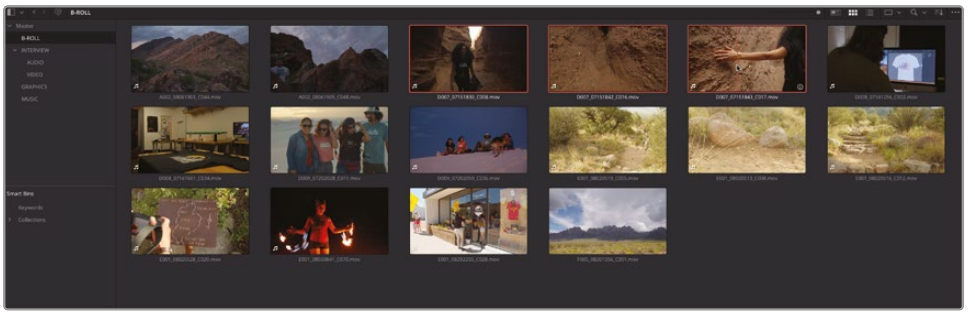
Resolve's powerful and responsive search feature lets you leverage the flexibility of metadata to find media pool clips in even the largest projects.

Creating Keyword Smart Bins

Not all possible metadata fields are available in the Inspector, which is why the dedicated Metadata panel comes in handy. This is especially true when it comes to adding keywords to your clips. You used keywords in Lesson 1 when you added B-roll clips to your rough cut as an easy way of seeing just the relevant footage.

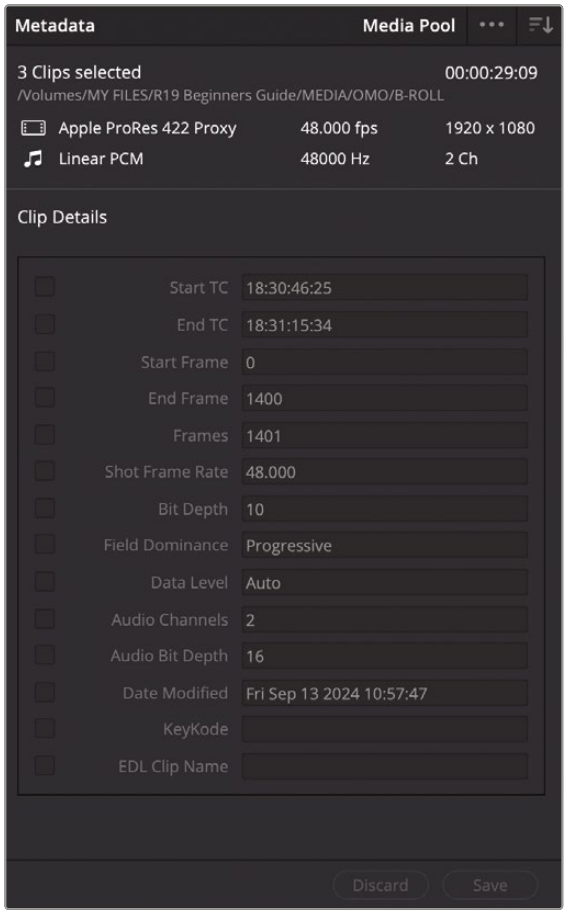
Creating a Keyword Smart Bin is as simple as adding a keyword to a clip.

1 In the media pool, click the B-ROLL bin and select the three clips of the girls walking through Slot Canyon.

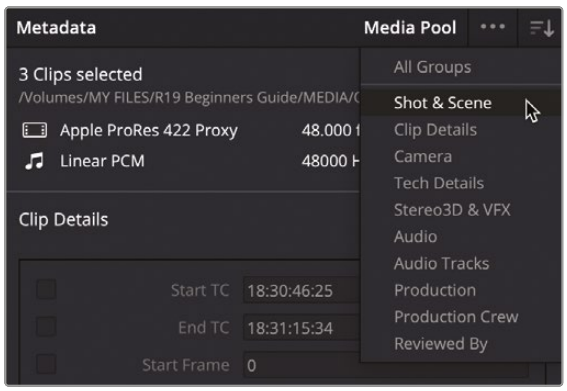


2 From the top right of the interface, click the Metadata button to reveal the Metadata panel.

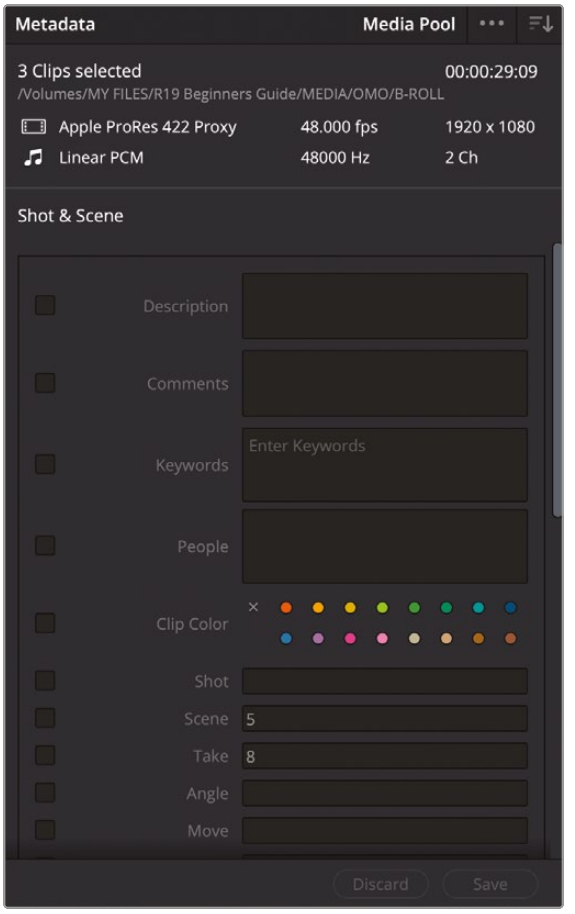
The Metadata panel opens at the bottom right of the interface, in place of the Inspector, which is moved up in place of the Audio panel (which is closed).



3 At the top of the Metadata panel, click the Sort menu (three lines with an arrow) and choose “Shot & Scene.”

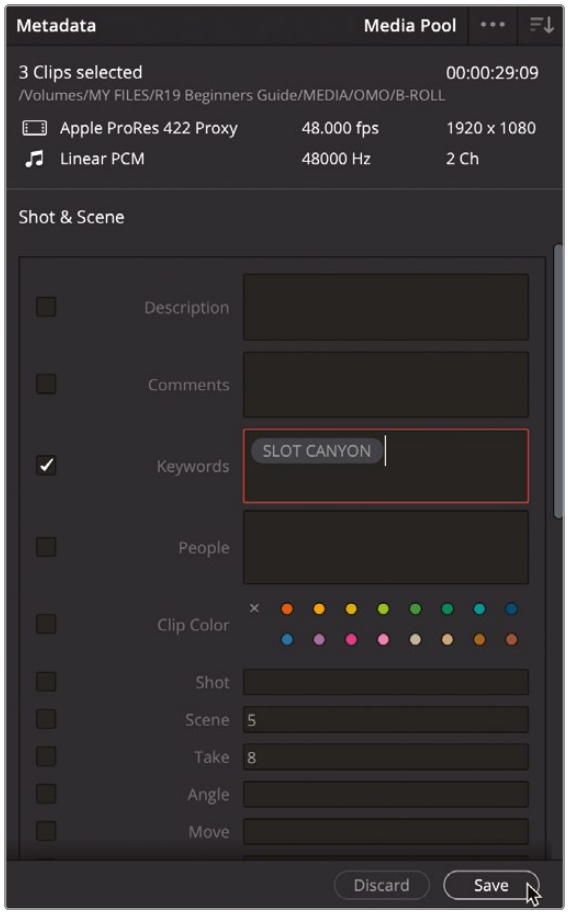


This displays the metadata fields most closely associated with shot and scene information.



Some of these fields are the same as those listed in the Inspector; indeed, they are the same fields and are available in either of the two panels, and you will no doubt see the same information listed twice.

4 With the three clips still selected, type **SLOT CANYON** into the Keyword field of the Metadata panel and press Enter (Return).

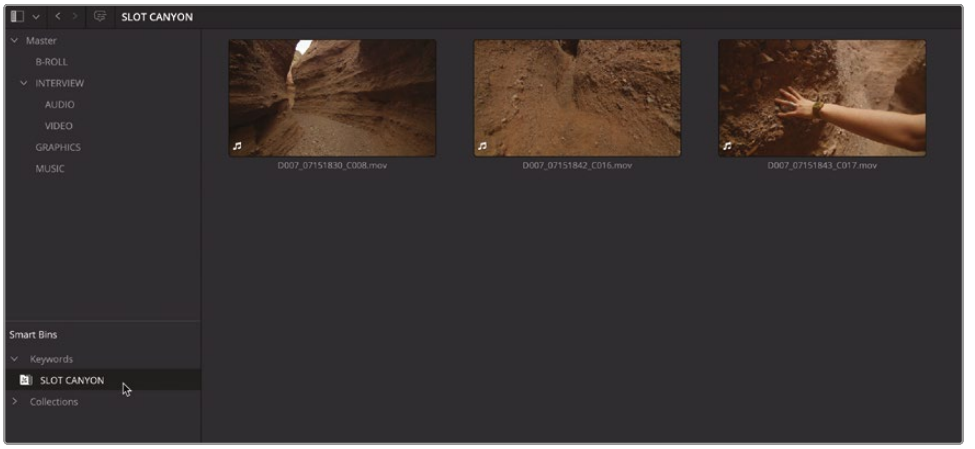


Your text is converted into a Keyword that is assigned to the selected clips.

5 At the bottom of the Metadata panel, click Save.

> **NOTE** You only need to save the metadata if you're adding it to multiple clips at the same time.

6 In the Smart Bins area of the media pool's bin list, click the Keywords smart bin folder, and then click the disclosure triangle to open the Keywords smart bins.



As soon as you added the "SLOT CANYON" keyword to the clips in the VIDEO bin, the SLOT CANYON Keyword Smart Bin was automatically created, which then displays just the clips with that keyword applied. You will learn how to display other automatic smart bins like this later in this lesson.

> **TIP** You can drag and drop clips onto an existing automatic smart bin to quickly add the clips to that bin by automatically assigning the metadata properties of the smart bin to the clips. For example, dragging a clip onto a keyword smart bin will automatically add that smart bin's keyword to the clip.

Favorite Keyword Shortcuts

Rather than typing keywords each time you want to add them to a clip, you can set up to nine favorite keywords in the Keyword Manager so you can quickly apply certain keywords using keyboard shortcuts.

Choose Workspace > Keyword Manager to open the Keyword Manager and enter the keywords you commonly use in the slots provided.

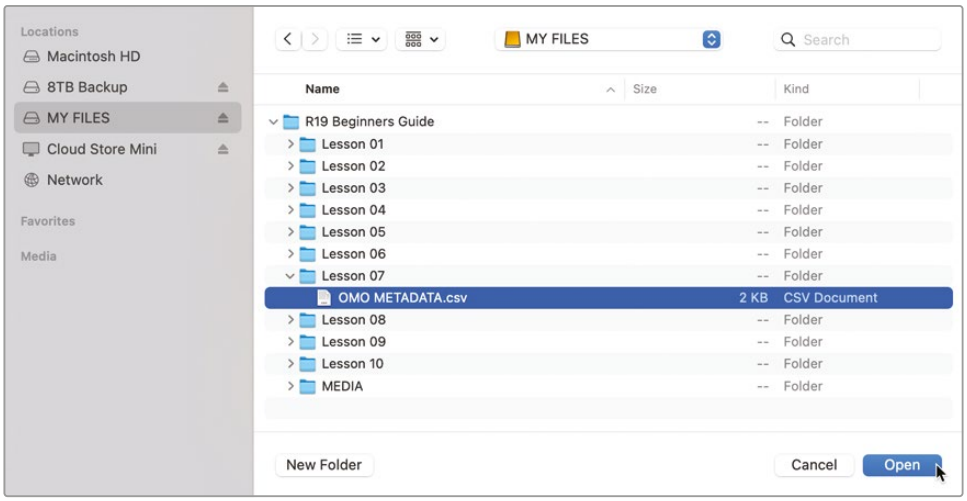
Once assigned, you can quickly add the keywords to any selected clip(s) by choosing Mark > Favorite Keywords and selecting the keyword you want. Alternatively, you can use the shortcuts Option-Shift-1 through 9 (macOS) or Alt-Shift-1 through 9 (Windows) to apply the appropriate keywords to the selected clip(s). Use Option-Shift-0 (macOS) or Alt-Shift-0 (Windows) to remove all keywords applied to the selected clip(s).

Importing Metadata

As you can see, adding your own metadata to any of the clips in the media pool is easy, and you can continue to enter metadata manually in this way. However, to make it easier to see how useful metadata as a whole can be, you will import some additional metadata for this project.

1 Choose File > Import Metadata To > Media Pool.

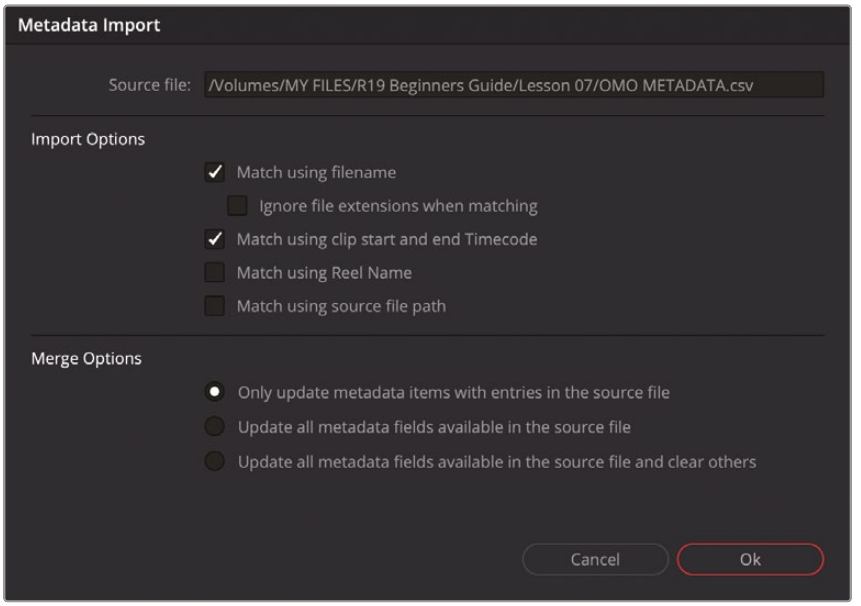
2 Navigate to R19 Beginners Guide / Lesson 07 and select the file **OMO metadata.csv**.



This .csv (comma-separated values) file was exported from a simple spreadsheet program and contains additional Comments and Keyword metadata with which you will update the clips in the media pool.

3 Click Open.

The Metadata Import dialog opens.

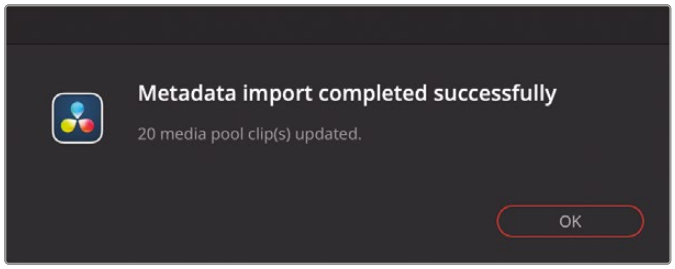


This window allows you to choose how you want Resolve to match the metadata in the .csv file with the clips in the media pool. The default is to match clips based on their filenames and starting and ending timecodes, though you can adjust these or use additional matching options as required if the .csv files do not contain the information.

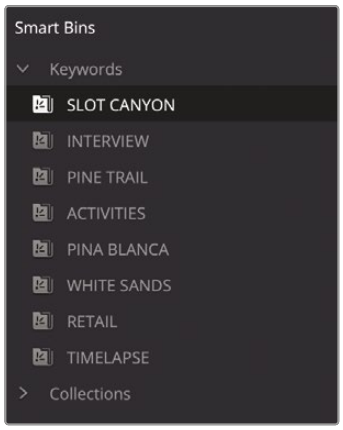
In this case, the .csv file has both the required filename and timecode information, so you don't need to change any of these options.

4 Click OK.

A confirmation window appears stating that the metadata import has successfully updated 20 clips with the new metadata from the .csv file.



You can verify that the information from the .csv file has been added to the media pool clips by the new Keyword smart bins that have just appeared.



You can now explore this new level of organization applied to your clips in the media pool, along with some newly added Comments, which you'll be able to see in either the Inspector or the Metadata panel. Hopefully, you might begin to see how all this additional information can help you find the clip(s) you're looking for.

Exporting Metadata and Bins

In addition to importing metadata to clips in your media pool, as detailed in the preceding steps, you can also choose to export the metadata from your media pool or from selected clips from the media pool. To do so, simply choose File > Export Metadata From > Media Pool, or choose File > Export Metadata From > Selected Media Pool Clips (as appropriate). Your chosen clip metadata will then be exported as a .csv file and will provide a way of easily transferring metadata from one project to another that uses the same media, even if that project is on another Resolve system.

You can also export an entire bin by choosing File > Export > Export Bin. This command will export the clip metadata (not the media) from the currently selected bin to a .drb file. As with exported metadata, you can use this option to transfer bins between different Resolve projects or systems by choosing File > Import > Import Bin.

Any clips listed in the .drb file will be automatically imported into the current project, together with their associated metadata. If the source media is in the same location as the system the bin was exported from, it will be automatically linked to the newly imported clip. If the media is in a different location, you will have to manually relink it as you did in Lesson 1.

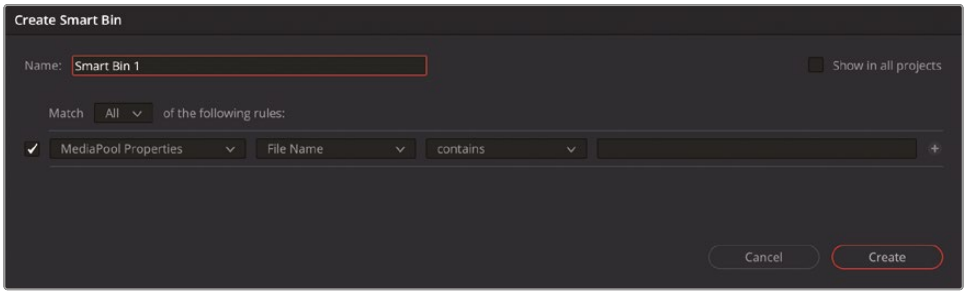
Creating Custom Smart Bins

Using automatic smart bins only scratches the surface of what smart bins can do. In addition to using the automatic Keywords smart bin, you can also create your own smart bins using a simple set of and/or rules. In the next steps, you will create a smart bin to automatically collect the clips you previously marked as Good Takes.

1 Choose File > New Smart Bin.

TIP You can also right-click the smart bin list and choose Add Smart Bin.

The Create Smart Bin window appears.



Using this window, you set up the rules that determine which clips are automatically added to this custom smart bin. There are many potential options, enabling you to create smart bins that group clips based on a wide range of metadata.

2 In the Name field, enter **GOOD TAKES** as the name for this smart bin.

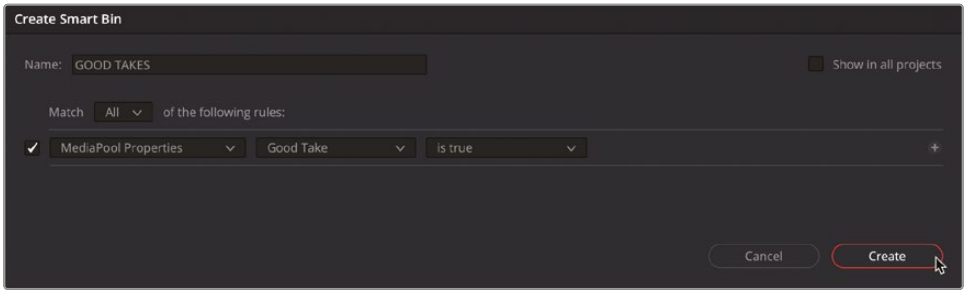
3 Leave the Match menu set to "All of the following rules."

4 In the rule itself, leave the first metadata criterion set to "Media Pool Properties."

5 Change the metadata type dropdown menu from "File Name" to "Good Take."

> **TIP** To navigate quickly through the list of options, begin typing the name of the metadata field. You can then select it with your mouse to jump directly to it from the list.

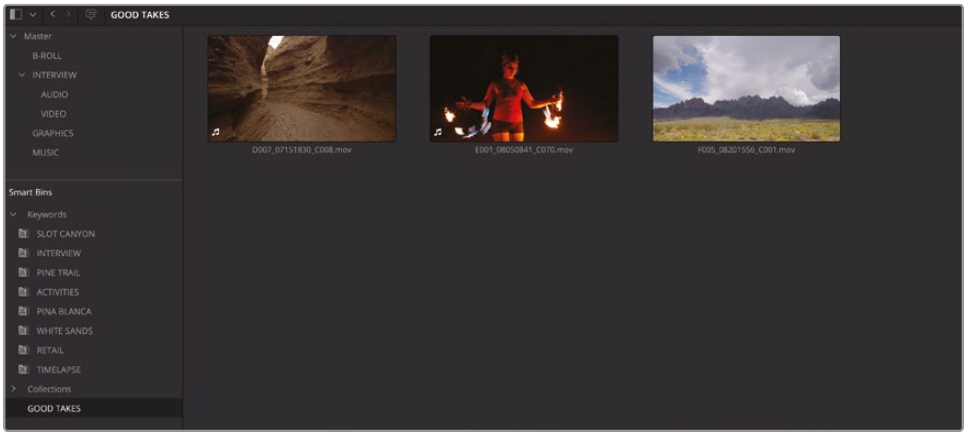
6 Leave the third and final metadata criteria dropdown menu set to "is true."



The media pool will show the results of this rule, displaying the clips you previously marked as Good Takes.

7 Click Create.

You have now saved the search as a smart bin that includes all the clips that you previously marked as Good Takes.



8 Select any clip in the Good Takes smart bin and uncheck Good Take in the Inspector to instantly remove it from the smart bin. Alternatively, select any other clip from the B-ROLL bin and click the Good Take option to add it to the Good Takes smart bin.

The content of a smart bin is always governed by the rules you set, so you cannot simply drag clips to and from a smart bin. To add or remove clips from a smart bin, you must either adjust the rules of the smart bin or adjust the clips' metadata so it meets or falls outside of the rules.

> **NOTE** To edit the rules for an existing smart bin, right-click it in the bin list and choose Edit to open the Edit Smart Bin window so you can review and adjust the rules as necessary. Automatic smart bins (like the Keyword smart bins) cannot be edited in this manner.

You can also set up additional rules when creating custom smart bins by using the options to Match using All or Any of the listed rules you choose.

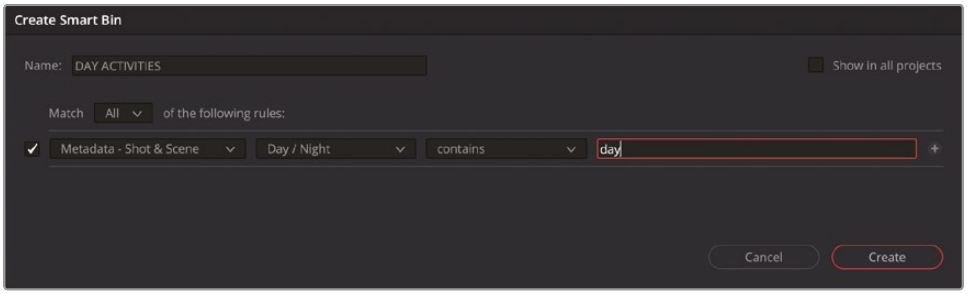
9 Choose File > New Smart Bin.

10 In the Name field of the Create Smart Bin dialog, type **DAY ACTIVITIES**.

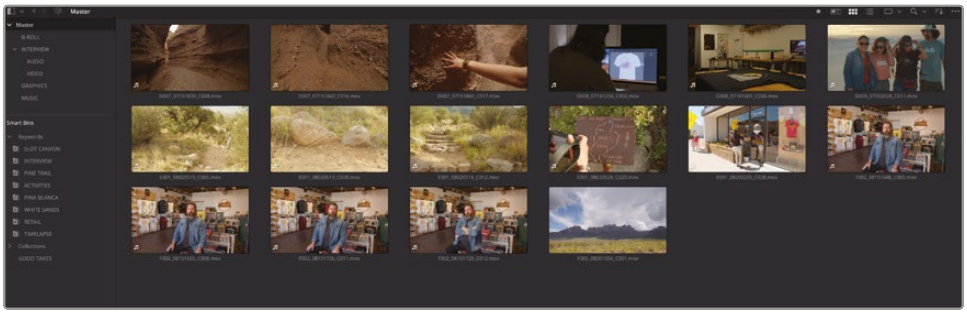
11 Leave the Match menu set to "All of the following rules."

12 Change the first field of the rule to "Metadata – Shot & Scene," change the second field to "Day / Night," and leave the third field set to "contains."

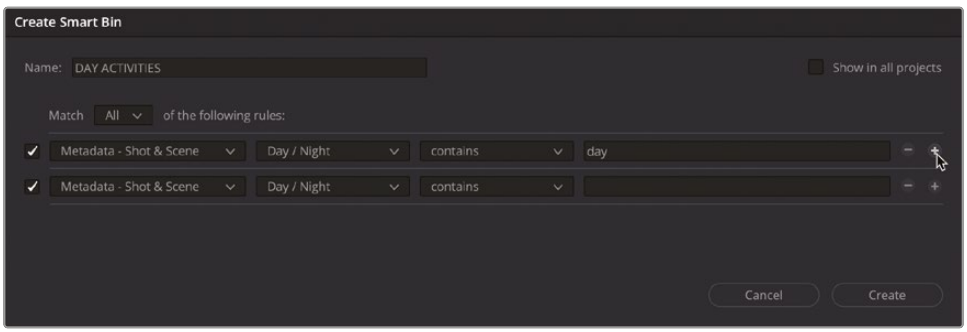
13 In the final field, type **day**.



The media pool displays the results of the rule, displaying all clips that have “day” entered in the Day / Night metadata field.



14 In the Create Smart Bin window, click the + icon to add another rule for the smart bin.

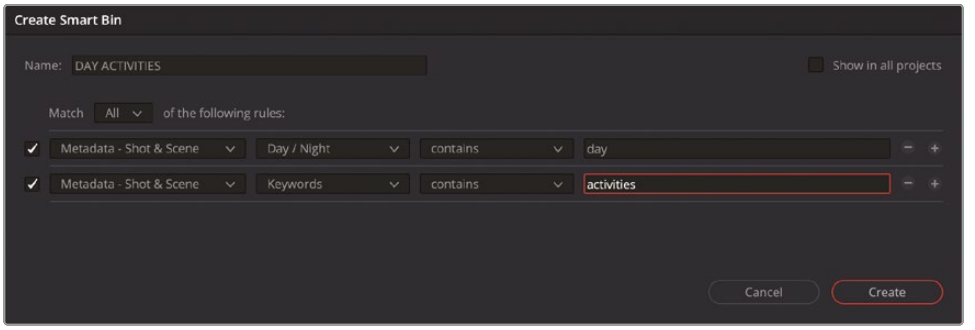


TIP For added flexibility, you can choose additional match options by Option-clicking (macOS) or Alt-clicking (Windows) the Add Filter Criteria button. This will add a new subset of rules that have their own All/Any options.

15 In this new rule, change the second field to “Keywords,” and the third field to “contains.”

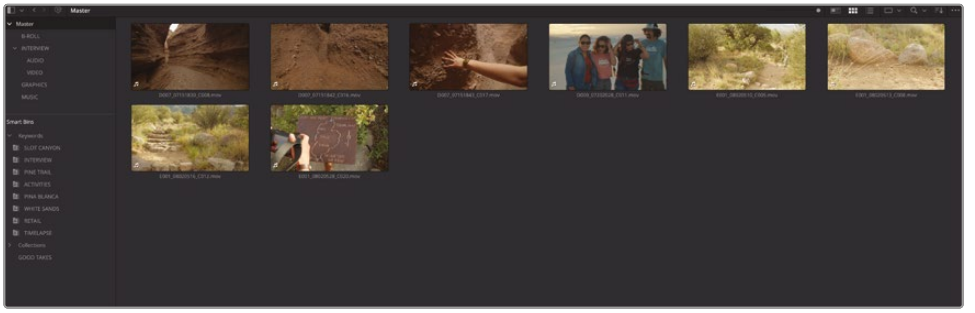
All the clips disappear from the media pool because you have not specified a keyword.

16 In the final field of the second rule, type **activities**.

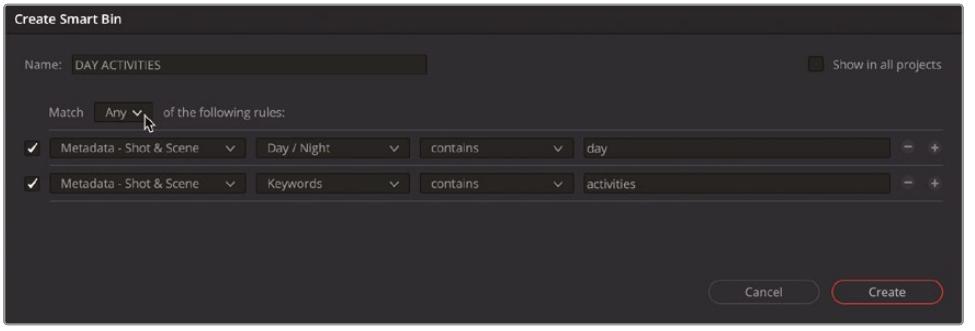


NOTE This field is not case sensitive.

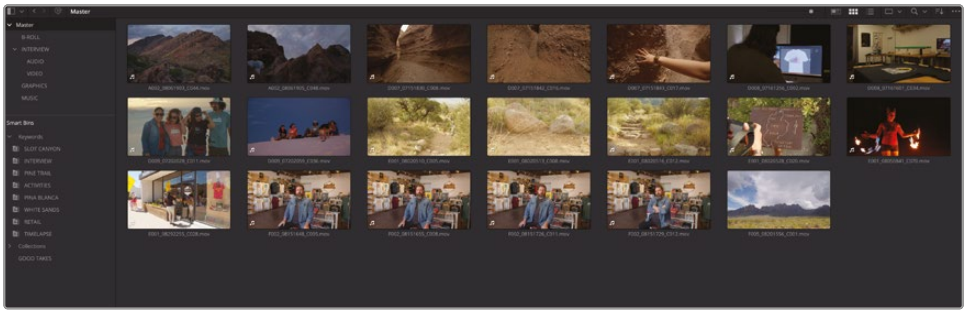
Using this second rule, you have further refined the contents of the smart bin by only including the clips that have the keyword “activities.”



17 Change the Match dropdown menu to “Any of the following rules.”



This time, the rules specify that the contents of the smart bin should display any clip that has either “Day” in the Day / Night field or “activities” as a keyword.

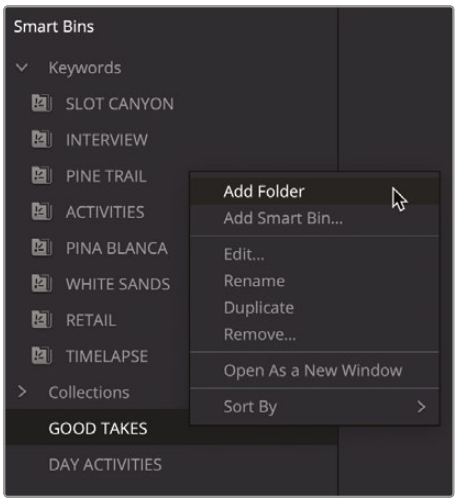


18 Change the Match dropdown menu back to “All of the following rules” and click OK to save the smart bin.

Organizing Custom Smart Bins

You can organize smart bins into folders to make them easier to find, in the same way that all the Keyword Smart Bins are organized in the Keywords folder.

1 Right-click the Good Takes smart bin and choose Add Folder.



2 Select Folder 1 and rename it **MY SMART BINS**.

3 Drag the Good Takes and Day Activities smart bins into the Custom Smart Bins folder.

Hopefully, you now have a much greater appreciation of the organizational power of smart bins in DaVinci Resolve. Smart bins can be used to return results based on just about any piece, or combination, of metadata you can find. This could be to find footage at a certain resolution, footage shot on a particular date, or even footage stored on a certain hard drive! The only limit to working with smart bins is your imagination.

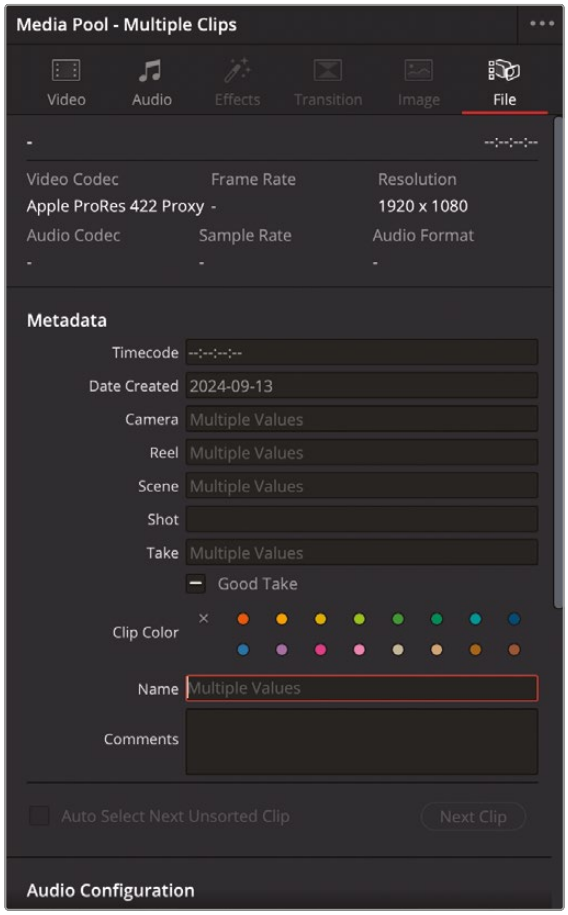
Renaming Clips with Metadata

Clip names from a camera, or almost any capture device, are often an alphanumeric string that typically includes the date and time that the clip was created. They are not always the most descriptive names and often must be changed for editing purposes. Entering clip names manually is one way to address this, but it is not the only way (or even the most efficient way) to rename them.

Variables are references to other metadata that exist on the clip, such as scene, take, and shot number—so called because variables are not the same for each clip. You can enter a variable into the clip name, and Resolve will reference the correct information for each clip (provided the information is present). You will use variables to change the generic names of the clips in the media pool to more descriptive names based on their metadata.

1 Select the B-ROLL bin and press Command-A (macOS) or Ctrl-A (Windows) to select all the clips in this bin.

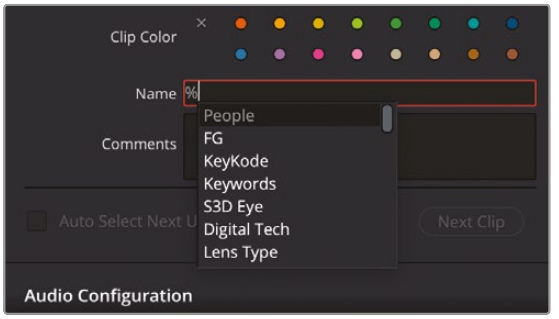
2 In the Inspector, click the Name field.



This field currently shows “Multiple Values” because you have many clips selected, all with different clip names.

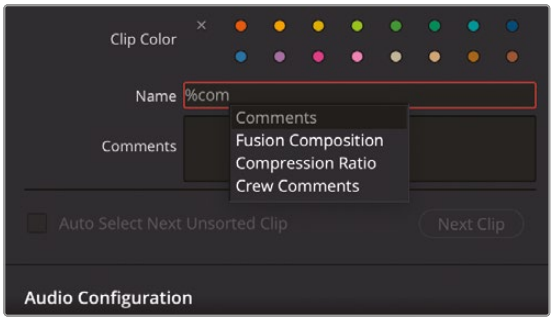
3 In the Name field, type **%** (percentage sign).

Entering % indicates that you are about to enter a variable. When you enter that %, a list of variables appears.



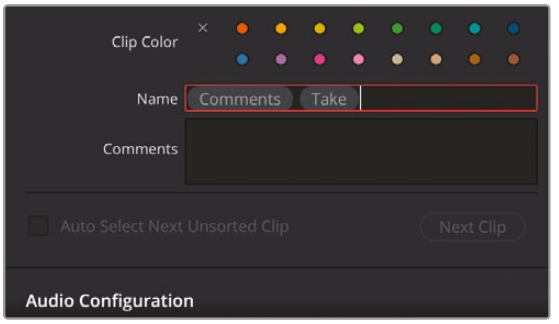
4 Type **com**.

A list of potential variables appears that contain the letters "com."



5 In the dropdown menu, click Comments to add it to the Clip Name field.

6 Press the Spacebar to add a space after this variable, and then type **%take** and choose Take from the list of variables.



7 Click away from the Name field.

The clip names now show a combination of each clip's Comments and Take metadata fields.

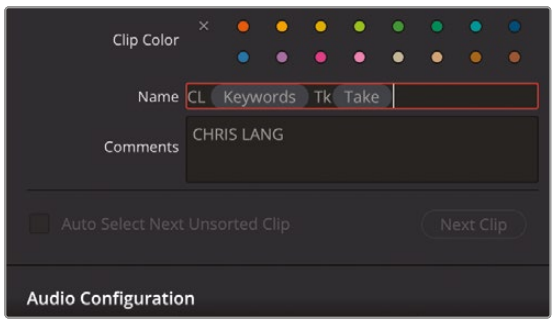
NOTE Changing the clip names in this way does not change the names of the original media files. Clip names are often used by editors within a project to provide a more user-friendly way of identifying a clip or series of clips. If you wish to see the original filename instead of the clip name, choose View > Show File Names, or you can always search for a specific filename if required. EDLs, XMLs, or AAFs generated from within Resolve will always reference the original filename.

You can also combine text that you enter along with the variables to create a more descriptive clip name.

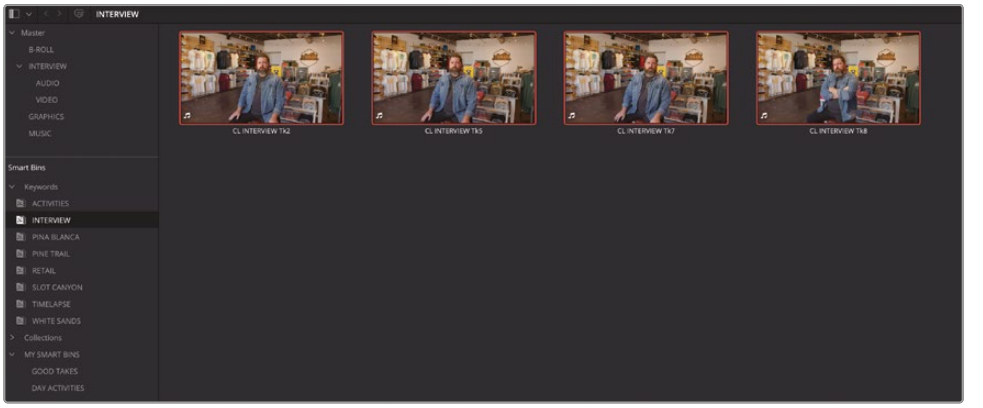
8 Select all the clips in the INTERVIEW keyword smart bin.

You could just as easily select the same clips from the VIDEO bin, but you might as well make use of the smart bins now that you have them.

9 In the Name field in the Inspector type **CL %Keywords Tk%Take**, selecting the options for Keywords and Take as they appear.



10 Click away from the Name field.



Now all of Chris's interview clips have been renamed with his initials and the clip's keywords and take number. Renaming clips with variables like this can save hours of manual typing and provide clear, descriptive information about a clip without having to dig deeper into its metadata.

> **TIP** To reset any custom names you've applied to any clips, delete the text in the Name field in the Inspector and, because a clip must have a name, the original filename will be substituted.

As you can see, coupled with an understanding of metadata, Resolve has some flexible and powerful searching functions, so you should always be confident that you'll be able to find your media. One word of caution, however, is that metadata searches are only as good as the quality of the metadata provided in the first place. Sometimes a simple spelling mistake (a mere typo) can thwart all these potential benefits!

Creating Subclips

Another technique commonly used when dealing with large amounts of footage, especially long clips, is to create a series of subclips. You encountered subclips in Lesson 1 when you edited soundbites from the interview, and the subclips made it easier to work with smaller portions of footage rather than the very long interview clips they were taken from.

The important thing to remember about subclips is that, while they are created from a longer clip, they refer to the same source media files on your system. As a result, they don't take up any more space on your system, regardless of how many subclips you create.

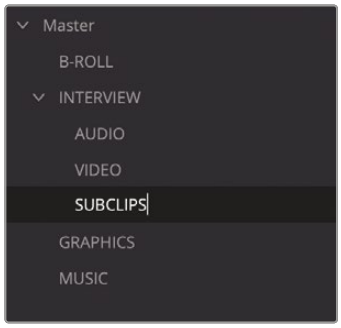
Also, while subclips will initially inherit the metadata of the clip they are created from, the subclip itself is a completely independent clip. This means that you can store them in different bins, and they can each have their own metadata.

> **NOTE** In this exercise, you'll create subclips in the media page. However, the same techniques can be used to create subclips from clips in the source viewer on the edit page.

1. Select the INTERVIEW bin and choose File > New Bin or press Shift-Command-N (macOS) or Shift-Ctrl-N (Windows) to create a new bin.

   A new bin is created called Bin 7, because this is the seventh bin created in this project.

2. In the bin list, select Bin 7, and then click it again and rename it **SUBCLIPS**.

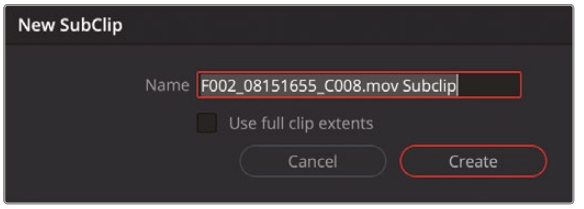


3. Select all the clips in the VIDEO bin and drag them into the viewer.
4. Select the SUBCLIPS bin.
5. Ensure that **CL INTERVIEW Tk5** is active in the viewer, click the viewer's Options menu, and choose Show Full Clip Audio Waveform.

6 Set an In point just before Chris says, “That’s what really inspires us…” and an Out point after he says “…the design process starts.”

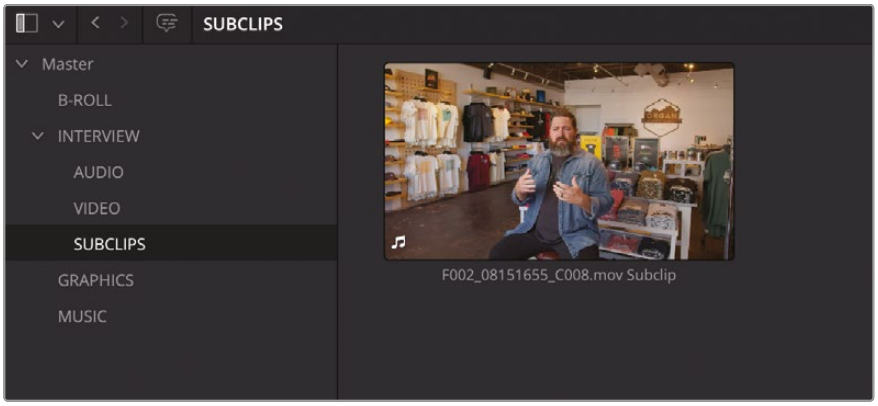
TIP You don’t need to be accurate when setting In and Out points for subclips. In fact, setting them to include a little more than you intend to use is a recommended technique (see the sidebar “Adjusting Subclip Limits” later in this lesson).

7 Choose Mark > Create Subclip or press Option-B (macOS) or Alt-B (Windows).



The New Subclip window opens, asking you to confirm the name of this subclip, which is the same filename as the original clip but with the word “Subclip” added to the end. Don’t worry about the name of the subclip at this point.

8 Click Create to add the subclip to the current bin.



9 From the viewer dropdown menu, choose the clip **CL INTERVIEW Tk8**.

10 Set an In point just before Chris says, "We want people to experience..." and an Out point after he says "...it's changed my life."

11 Right-click between the In and Out points and choose Create Subclip.

12 Again, don't worry about the name of the new subclip for now, just click Create in the New Subclip window.

13 Continue playing the clip in the viewer and set an In and Out point around the next notable soundbite, when Chris says, “Our brand is really a reflection of our community and who we are.”

14 This time, drag the clip from the viewer into the SUBCLIPS bin in the media pool.

15 Again, click Create in the New Subclip window.

16 Continue playing the clip in the viewer and set another In and Out point around Chris’s final soundbite: “That’s why we say experience the southwest.”

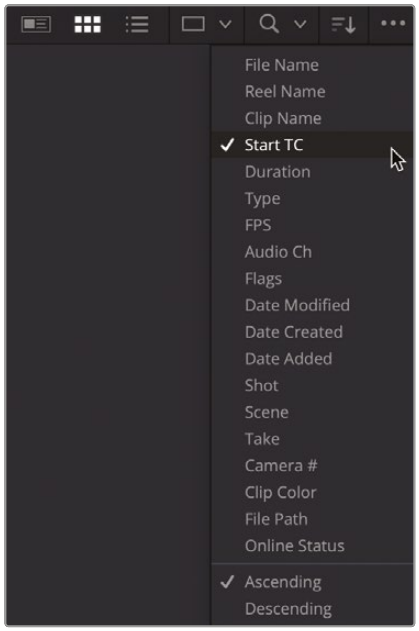
17 Choose your preferred method for creating a subclip from this last soundbite and click Create in the New Subclip window.

You now have four subclips in the SUBCLIPS bin.

Modifying Subclip Metadata

Now that you've created the subclips, you can take advantage of some of the metadata tricks you learned throughout this lesson.

1 Click the media pool Sort menu and choose to sort the clips by Start TC (Timecode).



2 Select the first subclip and, in the Metadata panel, type **inspiration** in the Description field.

3 Select the second subclip and type **Experiences** in the Description field.

4 Select the third subclip and type **Brand** in the Description field

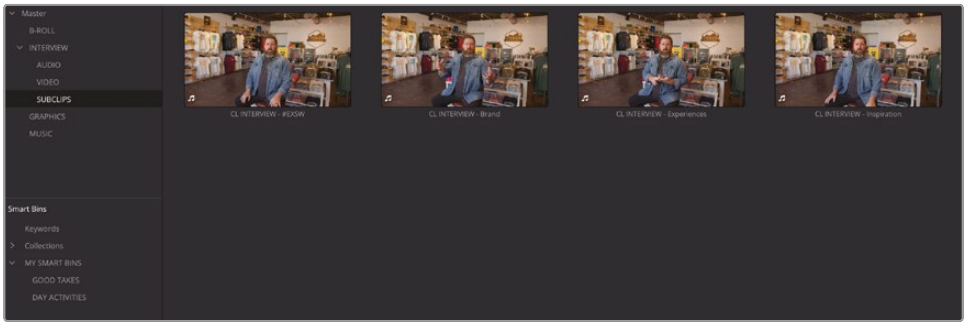
5 Select the final subclip and type **#EXSW** in the Description field.

6 Select all the clips in the SUBCLIPS bin and, in the Metadata panel, delete the INTERVIEW keyword and type **SUBCLIP** in the Keyword field. Click Save at the bottom of the Metadata panel.

7 In the Name field in the Inspector, type **CL %Keyword -- %Description**, selecting the metadata options from the menus as they appear.

8 Click away from the Name field, and the subclips are now all renamed using the appropriate metadata.

9 In the Sort menu, change the sorting order back to Clip Name.



You can now edit using these subclips just like any other clip, as you did in Lesson 1.

NOTE When you used these subclips in Lesson 1, each subclip was given a shot number that was also added to the clip name so that they were ordered naturally for you to work with them.

Adjusting Subclip Limits

One limitation of a subclip is that, even though it references the original source media file, it is limited to the initial In and Out points you used to create it. Therefore, it's good practice to set your initial In and Out points a little before and after the portion you want to subclip, thereby leaving a little wiggle room when you later trim the clips in the timeline.

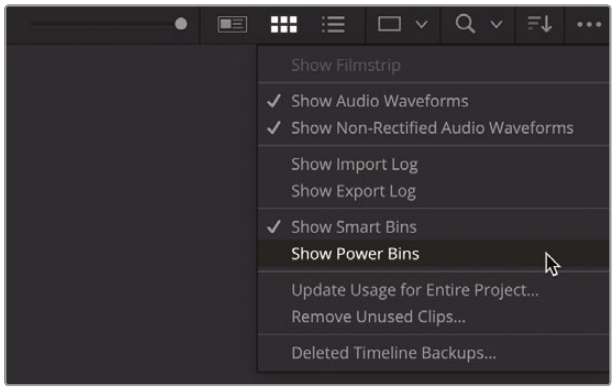
However, when you find that you need a few extra frames not included in your subclip, you can always extend the limits of a subclip by right-clicking a subclip and choosing Edit Subclip.

This allows you to adjust the start and end timecodes for the subclip, updating the limits of the subclip in both the media pool and the timeline simultaneously.

Power Bins

Throughout this lesson, you've been using both regular bins and Smart Bins, both of which are great organizational tools to use within a project. However, a third bin type available in DaVinci Resolve is the Power Bin. Unlike regular bins or Smart Bins that exist only within the current project, Power Bins are available across every project within the current Project Library. They are useful for storing elements you want to reuse across separate projects, such as graphics, titles, sound effects, or music files.

1 Click the media pool's Options (...) menu and choose Show Power Bins.



Power Bins are displayed in the media pool above the Smart Bins.

2 Select the Power Bin's Master bin and press Shift-Command-N (macOS) or Shift-Ctrl-N (Windows) to add a new Power Bin. Name the new bin **LOGOS**.

3 Select the Graphics bin that's currently in your project, which contains a graphic file called **OMO LOGO.png**.

4 Drag this clip to the LOGOS Power Bin.

Power Bins are accessible from every project in the current Project Library, so this image file (plus its associated metadata) will now be easily accessible for any other project. The next time you find yourself with a series of projects that share elements—whether they be sound effects, graphics, or common video elements—you can use Power Bins to save time that you'd otherwise spend manually importing clips and any required metadata into different projects.

NOTE Some clip types, including timelines, multicam clips, compound clips and Fusion clips (many of which aren't mentioned in this *Beginner's Guide*) cannot be added to a Power Bin.

You should now have a good understanding of just how powerful Resolve is at helping you organize your projects. Remember, while some projects may require much more organization than others, the techniques demonstrated throughout this lesson can be applied at any point in a project and in many cases can be applied as readily in the edit page as they can in the media page. Project organization doesn't just occur once at the start of a project; it is something that you will constantly refine as you continue working.

Preferences

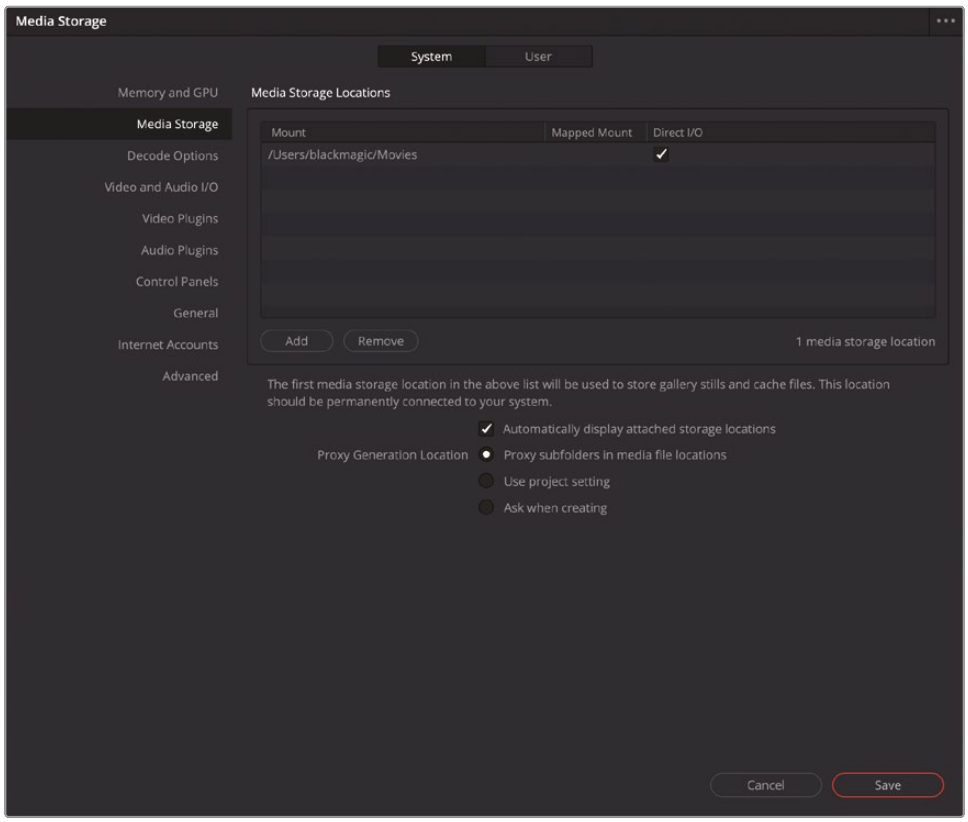
So far in this lesson, you have learned how to correctly set up a project, explored different ways of importing clips, and learned how to organize media to make it easier to work with. Now it's time to learn a little more about how you can customize DaVinci Resolve through its preferences.

DaVinci Resolve includes two sets of preferences that you can configure: System Preferences are a group of settings that control how Resolve uses your computer hardware, and User Preferences affect how Resolve works for you, the user. You have already taken a quick look at the System Preferences earlier in this lesson when you learned how Resolve can be used to create proxy files. Now it's time for a closer look.

NOTE Different user accounts on a computer have their own set of DaVinci Resolve preferences that are stored separately from each other. This means that multiple users who each have their own login on the same computer can maintain separate workspace layouts and preferences. When a user logs out and another user logs in and opens Resolve, their specific preferences are recalled.

Like the Project Settings window, the preferences contain a large and bewildering number of options. However, there are only a few important preferences you should be aware of.

1 Choose DaVinci Resolve > Preferences to open the Preferences window.



The two types of preferences—System and User—are listed at the top of the Preferences window and, like the Project Settings window, categories are listed along the left side. By default, the Preferences window opens to the Media Storage category in the System Preferences, unless the project hasn't been closed since the Preferences window was last opened.

> **NOTE** You had a sneak peak of these settings earlier this lesson when you were creating proxy files from the clips in the media pool and changing the Proxy Generation Location.

The Media Storage preferences allow you to manage various media storage locations that DaVinci Resolve can access. These can be used to access files easily in the media storage browser in the media page for importing, but the first location in this list is also used to store gallery stills you create in the color page (see Lesson 5) and cache files generated in the edit page (see Lesson 2). This location is more commonly referred to as a scratch disk. By default, this location is always set to the current user's Movies folder because this location should automatically exist on every computer.

> **NOTE** It's almost always advisable to set the first media storage location to the largest, fastest hard drive available to your computer. However, for the purpose of following this book, it is not necessary to change the current location.

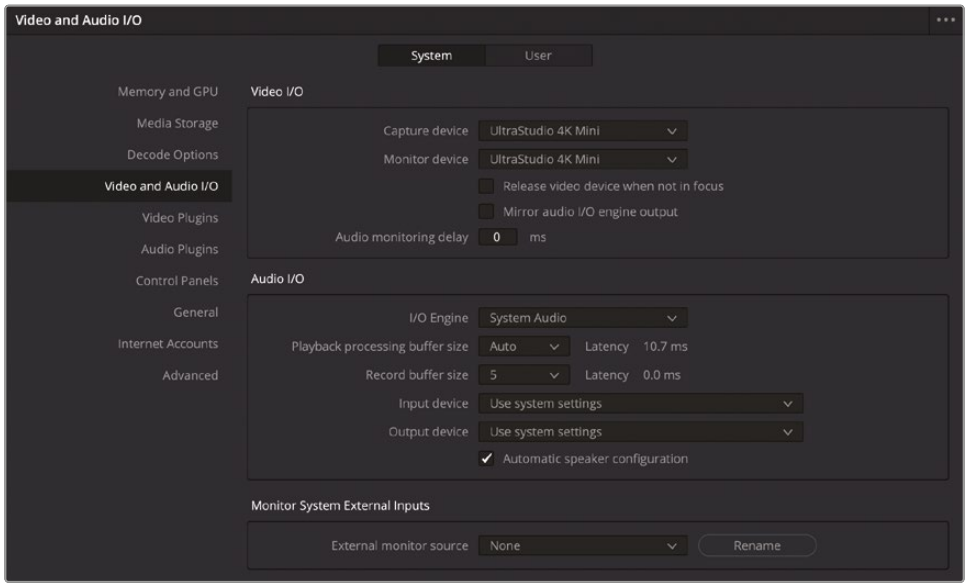
If you wish to change or add a media storage location, click the Add button and select the hard drive or folder you wish to add as a media storage location. To remove an unwanted media storage location, simply select it in the list and click Remove.

2 Ensure that "Automatically display attached storage locations" is selected.

This option is important, since it will allow hard drives and other storage media you connect to your computer to be instantly available in the media page so you can import any files stored on them directly into Resolve and begin working as quickly as possible.

NOTE If you're working on macOS and have downloaded DaVinci Resolve or DaVinci Resolve Studio from the Mac App Store, you will need to select this option and give permission for Resolve to access your hard drive. Unless you do this, Resolve will be unable to import any footage.

3 Click the Video and Audio I/O group.

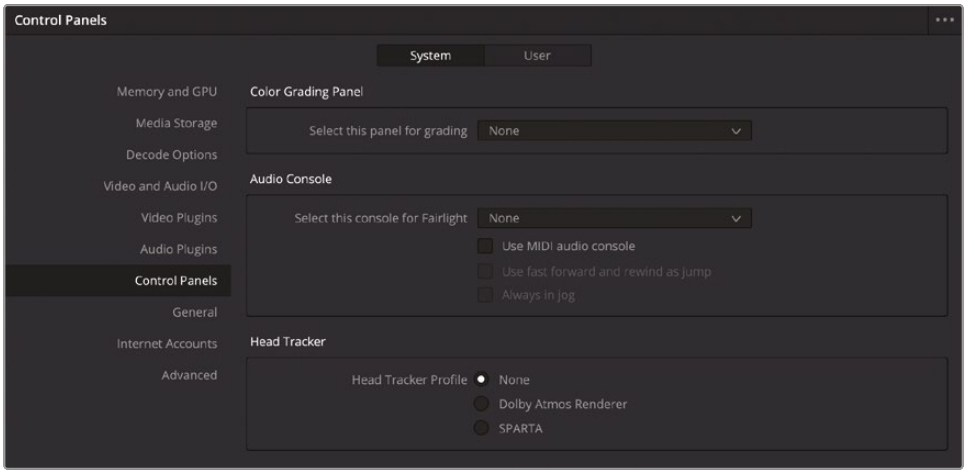


NOTE I/O refers to Input/Output.

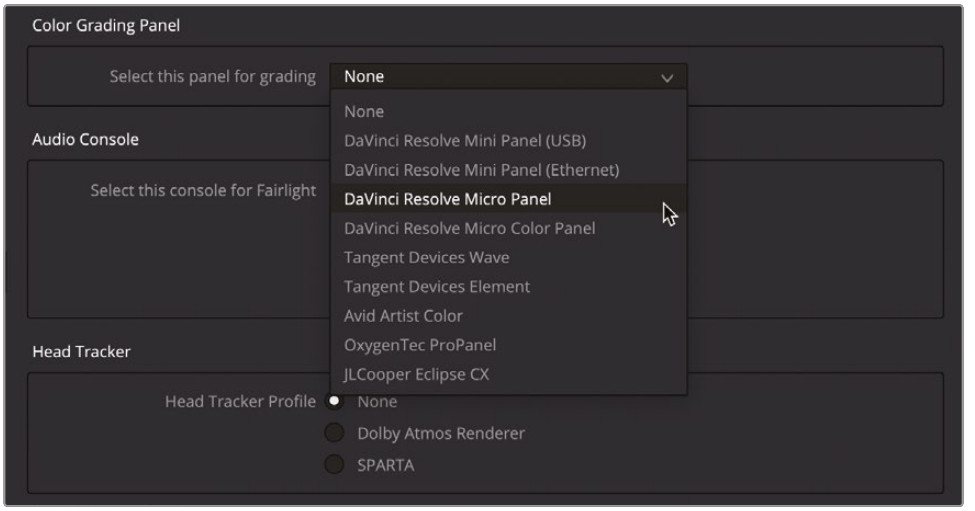
If you have a Blackmagic Design capture or playback device attached to your computer, such as a Decklink PCI Express card or UltraStudio device, you will be able to specify this as a capture and/or monitor device here.

Specifying such a supported device as a monitor device will allow you to play the current timeline out to an external video monitor. If you do not have a supported device attached to your system, the Capture and Monitor device options will not be selectable.

4 Click the Control Panels group.

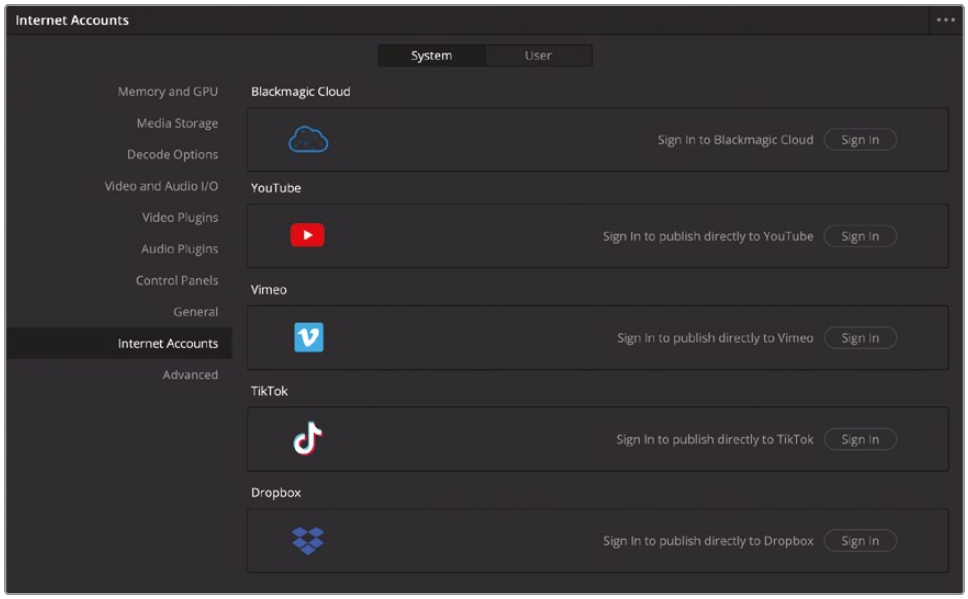


As with the Video and Audio I/O settings, this is where you can specify which type of control panel you want to use for color grading.



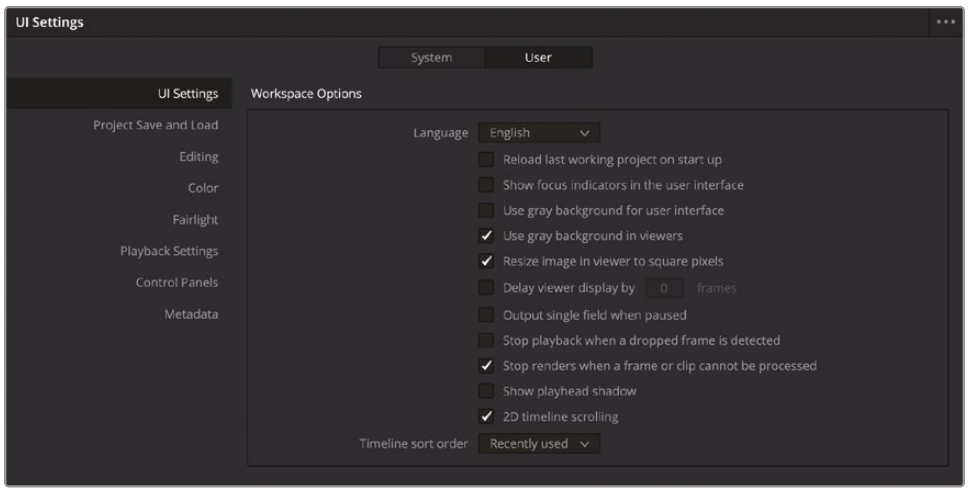
In addition to the Blackmagic Design Micro, Mini, and Advanced Panels, DaVinci Resolve also supports a range of panels from other manufacturers.

5 Click the Internet Accounts group.



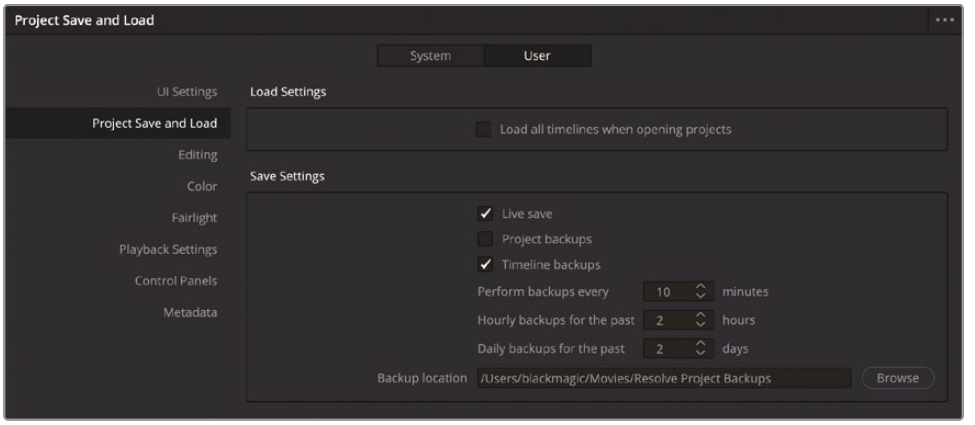
This is where you can sign in to supported video sharing and social media services. Signing in to any of these services will allow DaVinci Resolve to upload an exported file to that service on your behalf.

6 At the top of the Preferences window, click the User tab.



The first group of User Preferences that is selected is the UI Settings. These allow you to customize the user interface of DaVinci Resolve. For example, here you can change the language that the user interface uses.

7 Click the Project Save and Load group.



You might have been wondering why this book makes no mention of saving your work as you go along, especially if you've ever been in a situation where the software you are working in has crashed, causing you to lose work and valuable time.

Well, thankfully, this isn't something you ever have to worry about when working in Resolve because everything you do is automatically saved as soon as you do it! The explanation for this is a feature called Live Save, which is found in the Project Save and Load group of the User Preferences, and which is enabled by default.

With Live Save enabled, once you create a new project in the Project Manager, DaVinci Resolve begins saving all the changes you make as soon as you make them. If there is ever a problem, such as the software crashing or the power to your computer being interrupted (assuming it's not a laptop with a charged battery, of course), simply restart Resolve and reopen the project. You will not have lost any work as long as Live Save is enabled.

8 Ensure Live Save is enabled (it should be by default).

You will also notice there is an option here for timeline backups. You were introduced to using timeline backups in Lesson 2, but here in the User Preferences you can specify how often Resolve makes those backups and where they are saved.

The default is to save a timeline backup every 10 minutes. After an hour of backups has been reached (six backups at 10-minute intervals), an hourly backup is saved and the older backups for the previous hour are discarded as new backups are created. This means you'll only ever have six backups for the last hour you've been working.

Once hourly backups start to be made, the Hourly Backups value becomes relevant. Again, the default is to save the previous two hourly backups, with older backups being discarded as newer ones are created.

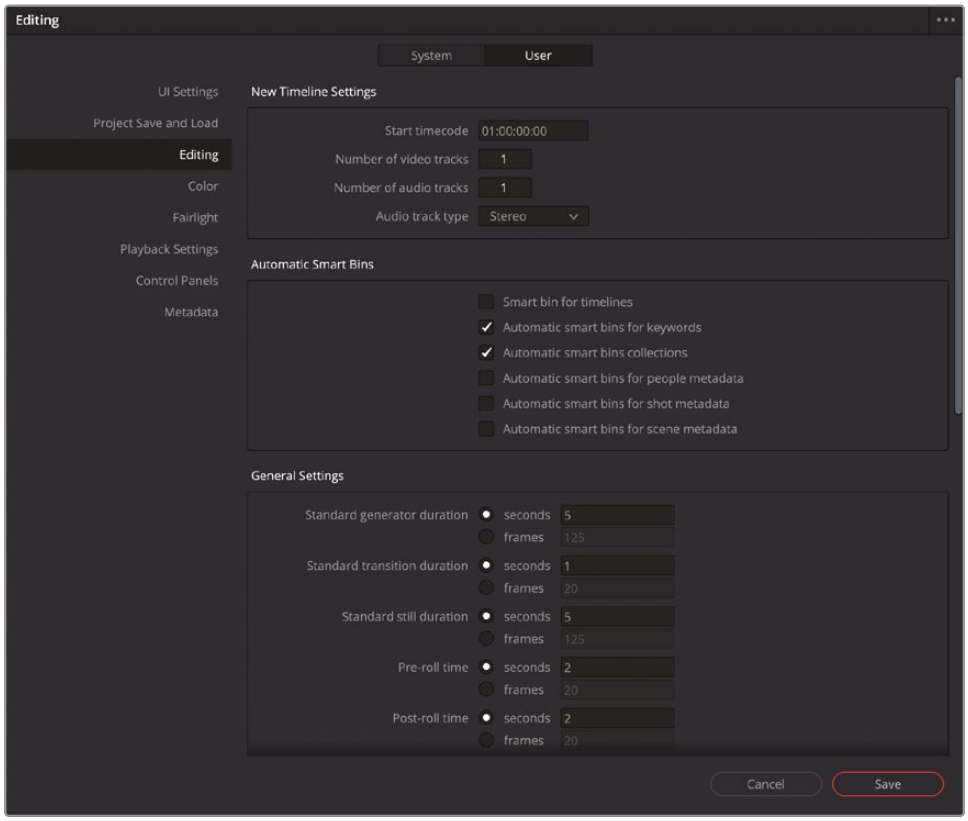
The very last backup created on any given day then becomes the daily backup and, again, the previous two daily backups are saved, with older backups being discarded

as newer ones are created. If you are working on a project over a longer stretch of time, you can always increase this value so you always have a daily backup stretching as far back as you feel comfortable with.

Timeline backups are saved in the Backup Location detailed here. However, there are no user-manageable files in this location, and timeline backups should always be restored as detailed in Lesson 2.

NOTE Although not enabled by default, if you want to have incremental backups of an entire project made automatically, simply enable the Project Backups option. Once enabled, projects are backed up using the same periodic intervals as timelines are backed up. To access available backups for a project that has this feature enabled, simply right-click the project in the Project Manager window and choose Project Backups, where you can choose to delete any unwanted backups or load a previously saved backup of the project. When loading a backup project, you will be prompted to name the project because Resolve will not overwrite the current version of the project.

9 Click the Editing group for the User Preferences.



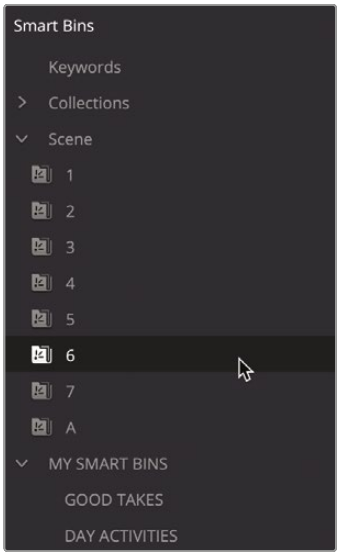
This group of settings allows you to customize many of the editing features you used in the first three lessons.

The New Timeline Settings allows you to specify the starting timecode and number of video and audio tracks in a new timeline, and the Automatic Smart Bins category allows you to choose which automatic smart bins you want to be active in the media pool.

10 Click to enable "Automatic smart bins for scene metadata" and click Save to save and close the User Preferences window.

A new set of automatic smart bins is now active called Scene.

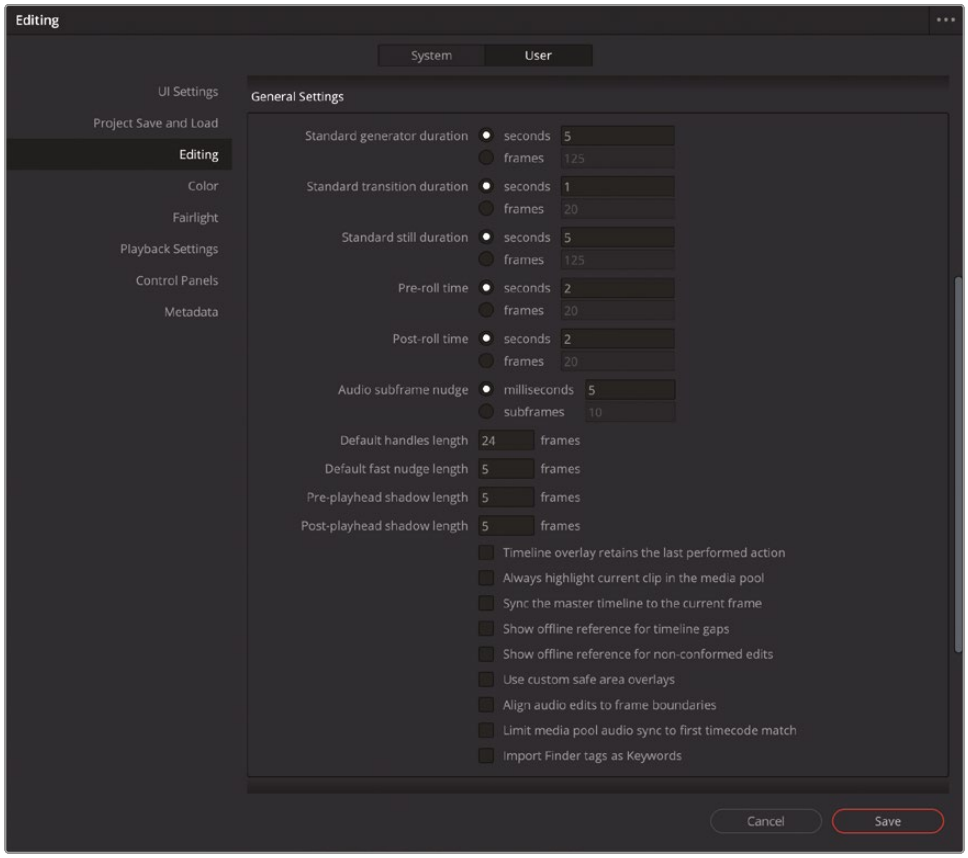
11 Select the Scene smart bin folder and click the disclosure triangle to open the Scene smart bins.



Now each clip in the media pool is automatically grouped based on the Scene metadata of the clip. This can often be added during filming to the recorded files.

12 Press Command-, (comma) in macOS or Ctrl-, (comma) in Windows to reopen the User Preferences window.

13 Scroll down to see more Editing preferences.



The General Settings allow you to adjust the standard transition and still-image durations, in either seconds or frames, along with other specific options you can choose to enable, such as having the timeline viewer overlay retain the last editing action, rather than always defaulting to Overwrite.

> **TIP** If you're working on macOS, you also have the option to enable DaVinci Resolve to automatically create keywords from Finder tags when importing media.

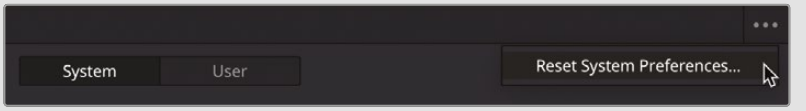
Once you've finished exploring the System and User Preferences, you must save your preferences or else any changes you have made will be lost.

14 Click Save to close the Preferences window.

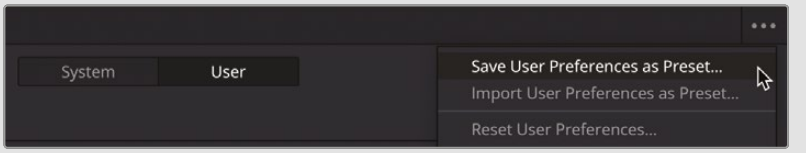
NOTE Changing some options in the preferences will not take effect until you restart DaVinci Resolve. A dialog will appear informing you if that is the case.

Resetting and Saving Preferences

Using the Options (...) menu in the top right corner of the Preferences window, you can choose to reset the System or User Preferences back to their defaults.



For the User Preferences, you can also save the current set of preferences as a preset, which can then be exported as a self-contained file with the **.userprefs** extension.



If required, this file can then be imported to another DaVinci Resolve system, where you can use the same Options menu to load it as a new preset, making it easy to transfer your preferred user preferences between different systems.

Exploring Keyboard Shortcuts

Although you had a choice during the Quick Setup phase (see the "Getting Started" section at the beginning of this book) to choose from a set of default keyboard shortcuts, you can always further customize the different keyboard shortcuts used throughout Davinci Resolve. Although the default keyboard shortcuts are extensive and cover a wide range of functions, they might feel unnatural to you, or there might be a function that doesn't have a keyboard shortcut assigned by default that you find yourself using on a regular basis.

1 Choose DaVinci Resolve > Keyboard Customization or press Option-Command-K (macOS) or Alt-Ctrl-K (Windows).

The Keyboard Customization window opens, where you can choose which set of keyboard shortcuts you want to use, discover which keyboard shortcuts are available, or create your own custom keyboard shortcuts.

DaVinci Resolve provides a set of presets that emulate the various keyboard shortcuts used by other nonlinear editing (NLE) systems.

2 Click the dropdown menu in the top right corner of the Keyboard Customization window to reveal the options.

If you're familiar with any of the listed NLEs, you can load the appropriate preset. However, note that this is not a 100% remapping of the shortcuts. Because each system operates in a slightly different way, some functions available in one or more of these other systems may not be available in DaVinci Resolve. Therefore, it is impossible to map the shortcut to the non-existent function; or DaVinci Resolve may include

functions not available in these other systems, and the shortcuts assigned by default in the DaVinci Resolve preset may be overridden in the other settings. It is always worth exploring and learning the default keyboard shortcuts, since they have often been thought out carefully for you to get the best out of the software.

Nevertheless, there are times when you will want, and even need, to customize the shortcuts.

The upper part of the Keyboard Customization window provides you with an interactive keyboard for exploring keyboard shortcuts.

Keys that do not have an assigned function are displayed in a dark shade; those that do have an assigned function are a slightly lighter shade. The keys displaying a number at the bottom right represent keys that have functionality in more than one page.

You can begin exploring the functions by selecting the keys on the keyboard.

3 Click the D key using the onscreen keyboard.

TIP You can hold down keys on your physical keyboard for a more interactive experience.

As you can see, the Keyboard Customization window responds to the selection you make and, in the Active area in the bottom half of the window, displays the function assigned to this keyboard shortcut, next to the panel in which you can use it. In this case, the D key will toggle the Enable Clip function in the edit page timeline and in the Fairlight timeline.

You can also explore the keyboard shortcuts that utilize the different modifier keys for your system.

4 Click the D key again on the onscreen keyboard to deselect it and then click the Shift button.

The Shift buttons for your keyboard layout are highlighted and the mapping shifts to reflect the shortcuts that are available while holding the Shift key.

5 Click the D button again to reveal the function activated by the Shift-D key combination.

As you are already aware, Shift-D bypasses the grades on all clips and works across the application.

6 Click the D and Shift buttons again to deselect them.

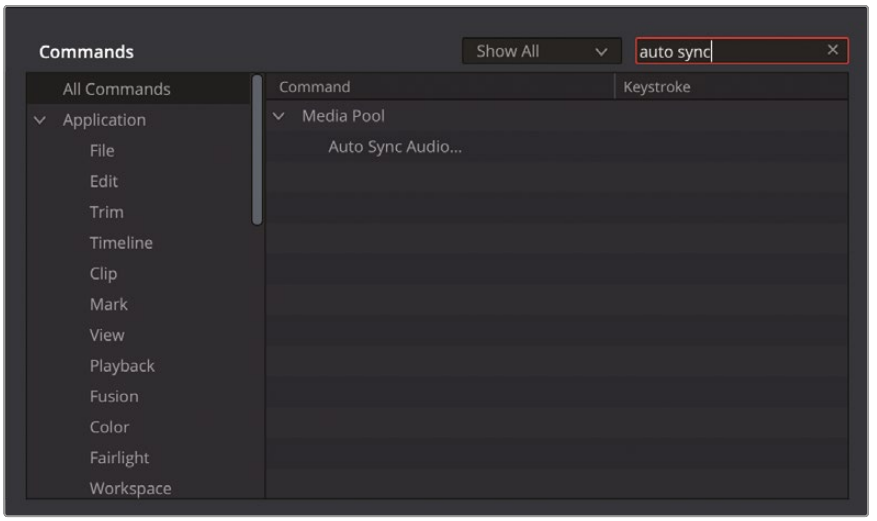
Searching Keyboard Shortcuts

Instead of discovering the command associated with a shortcut, it's much more common to search for a command to discover what keyboard shortcut (if any) is assigned.

1 In the Commands area in the lower right portion of the Keyboard Customization window, ensure that the All Commands group is selected.

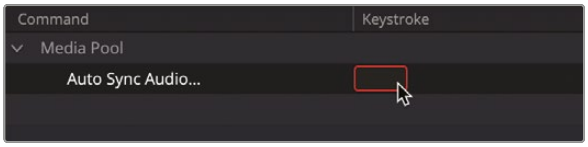
> **TIP** Instead of choosing All Commands, you can narrow your search a little more to certain menus or panels using the options in the left list of the Commands area. Scroll down this list to see more options.

2 Click the Search field and type **auto sync** to perform a search for commands that include "auto" and "sync" in their description.



It seems Auto Sync Audio does not have a shortcut assigned under the default keyboard shortcuts.

3 Click the area in the Keystroke column for the Auto Sync Audio command.



Once selected, you can now choose to assign a shortcut by pressing the appropriate keys on your keyboard.

4 Press Option-Shift-A (macOS) or Alt-Shift-A (Windows) to assign that key combination to the Auto Sync Audio command.

Each command can have multiple keyboard shortcuts assigned. If you wish to add more than one keyboard shortcut to the same command, click the + (plus) icon to add another keystroke combination. You can also remove shortcuts from a command by clicking the x next to the keystrokes. To reset the keystrokes for a command back to their defaults for the current layout, click the reset arrow to the right of the keystrokes.

> **NOTE** If you choose a keystroke combination that is already assigned to a command, Resolve will warn you and give you the choice of whether you want to continue to assign that keystroke. If you choose Assign, the keystroke will be removed from the original command and will be applied to the new command. Resetting the keystrokes for a command will also reassign the keystroke back to the original command.

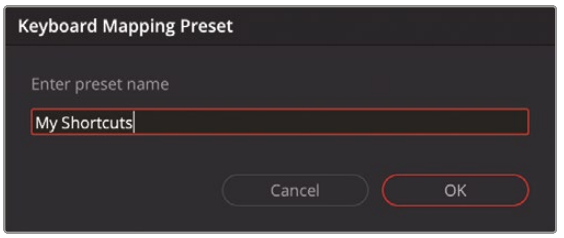
You have chosen a new keystroke combination for the Auto Sync Audio command; however, you will need to save it before you can use it.

5 Click Save.

The Keyboard Mapping Preset window opens, asking you to save the changes to a new, customized preset.

NOTE DaVinci Resolve will not allow you to alter the default mapping presets, so if you wish to return to an unadulterated set of keyboard shortcuts, you can simply select the DaVinci Resolve preset.

6 In the Enter Preset Name field, type **My Shortcuts** and then click OK.



The new mapping preset is added to the dropdown list of presets, containing your customized shortcut.

In the future, when this shortcut preset is active, you'll be able to press Option-Shift-A (macOS) or Alt-Shift-A (Windows) to enable the Auto Sync Audio command for selected clips.

NOTE To manage the mapping presets, click the Options (...) menu in the top right of the Keyboard Customization window to reveal commands for exporting, importing, and deleting available presets.

7 To return to the default shortcuts, select the DaVinci Resolve preset.

You should now have a clear understanding of how to set up your projects correctly and customize the preferences to your requirements at both the system and user level.

Lesson Review

1. True or False? All media files must be organized into different folders on your hard drive before you import them into DaVinci Resolve.
2. What happens to your media files when they are imported into DaVinci Resolve?
   a) The files are converted to high-quality files for color grading
   b) The files are copied to the first media storage location listed in System Preferences
   c) DaVinci Resolve creates a link to the media files but does nothing to the files themselves
3. What type of information is used by Smart Bins?
   a) Metadata
   b) User Data
   c) System Data
4. Where is the Live Save option located?
   a) User Preferences
   b) System Preferences
   c) Project Settings
5. Which page provides the most flexibility for importing clips into the media pool?
   a) Cut page
   b) Edit page
   c) Media page

Answers

1. False. Media files should be placed on a large, fast hard drive attached to your system but do not need to be organized beyond that. However, if they are organized into folders, you can replicate that folder structure as a series of bins when you import the clips.
2. c). DaVinci Resolve creates a link to the media files but does nothing to the files themselves.
3. a). Smart Bins utilize the metadata of clips.
4. a). Live Save is located in the User Preferences, in the Project Save and Load group.
5. c). The media page provides the most flexibility for importing clips, although clips can be imported using the cut and edit pages too.

An Introduction to Audio Post and Sound Design

Chances are you've heard the adages "Seeing is believing" and "A picture is worth a thousand words." However, when it comes to motion pictures, both the visuals and soundtrack are equally important. In fact, a great soundtrack sells the onscreen illusion, manipulates emotions, transports the audience into the scene, and captivates their imagination. A lousy soundtrack, on the other hand, keeps the audience at a distance, distracts from the story, and draws attention to production flaws, performance issues, and plot holes.

Audio post-production is much more than simply adjusting volume levels and mixing tracks. Transforming production sound into a powerful soundtrack requires time, technical skill, creative vision, and execution, as well as a full set of professional audio tools. The good news is that DaVinci Resolve includes the tools to create a professional soundtrack from start to finish. Before you dive into the following chapter, it's a good idea to understand the audio post-production process and workflow.

Keep in mind that many elements affect the workflow you'll use: the type of project, budget, format, length, deliverables, and distribution methods often dictate the size of the post audio team, amount of time, and tools available to get the job done. This introduction focuses on the fundamental post-production audio processes necessary for both narrative and documentary style projects. Although the following pages explain the different jobs and stages in audio post-production, having the Fairlight page built into DaVinci Resolve means that you can perform the same steps on your projects with no additional crew or budget.

What Is Audio Post-Production?

Let's start with a few basic terms. *Audio post-production* refers to the process of making a soundtrack for moving images. Notice the use of "moving images," which encompasses all projects great and small, from blockbuster theater movies to streaming videos and everything in between. A *soundtrack* is simply the audio that accompanies a finished project.

How your audience experiences the finished project is greatly influenced by the soundtrack. In fact, a well-executed soundtrack may go unnoticed for hours by the audience while they are immersed in the show. On the other hand, it takes only a few seconds of an amateurish or sloppy soundtrack to lose the audience not only from the story but possibly from the theater or to a different channel.

If you've ever recorded or watched a home movie, especially one shot at an exciting public place such as a beach or an amusement park, then you have firsthand experience with some of the inherent challenges in both recording and listening to natural production sound. All those excess environmental sounds and distractions create a need for audio post-production to transform raw sound into successful soundtracks with clear dialogue, realistic effects, and lush acoustic soundscapes wrapped in an emotionally powerful score.

What Is the Audio Post-Production Workflow?

Since the advent of sync'd sound in motion pictures, the first rule of audio post has been "Never start working on audio until the picture is locked." "Locked" suggests that there will be no more changes to the picture edit from this point forward.

In reality, changes always happen. Why does this matter? Because soundtracks must maintain a frame-accurate relationship with the picture to stay in sync. If they are off by as little as one or two frames, the sight and sound will be noticeably out of sync—a situation that is distracting, unprofessional, and likely to lose your audience.

In a traditional post-production workflow, changes to the locked picture have a cascading snowball effect on audio post. But when you're working with DaVinci Resolve, which is the only professional editing software that includes a full digital audio workstation (DAW), no matter what editing changes are made, you can update your project immediately and efficiently. This gives you tremendous creative flexibility if you are working on your own because you can go back and forth between editing picture, audio work, and color correction as often as needed.

For larger productions, DaVinci Resolve solves the issue of updating, transferring files to other systems, and conforming projects between editorial and audio post because editing and audio post-production are done in the same project without ever leaving the application. Best of all, audio post-production can start on the exact same timeline that the editor used so you have zero chance of losing frames or getting out of sync. Once audio post begins, the editor can use a duplicate timeline to make any new changes. Then the audio editor can easily merge the changes between timelines with DaVinci Resolve's powerful timeline comparison tool.

DaVinci Resolve provides the audio tools needed for the highest-quality audio post-production and is ideal for small projects yet powerful enough for big Hollywood studios and broadcast productions to use as well. Whether you're working on your own or with a large post-production team, you can easily migrate projects to a large facility for experienced audio sound designers and engineers to mix and master the soundtrack.

Now, let's break down the different phases and jobs in a traditional audio post-production workflow. With DaVinci Resolve, you can perform all these steps as needed by yourself or with a team of audio professionals on your own projects.

Spotting the Soundtrack

A *spotting session* is when the supervising sound editor and the sound designer (often the same person) sit down with the director, editor, and composer to look for soundtrack elements that need to be added, fixed, or re-recorded. Notes from a spotting session are combined into a spotting list that details music cues, important sound effects, dialogue fixes, and additional audio notes.

DaVinci Resolve has simplified these spotting sessions with the timeline markers that you can use in either the edit page or Fairlight page. The index in the edit and Fairlight pages serves as an interactive spotting list that not only includes information for each marker but also moves the playhead to the selected marker's position in the timeline.

Production Dialogue Editing

Dialogue editing is the tedious, behind-the-scenes task of splitting dialogue into separate tracks, removing unwanted sounds, replacing individual words or phrases for clarity, and balancing separate clip audio levels for consistency. Why go to all that trouble? Because spoken words are as important to a soundtrack as the lead vocals in a hit song. Keep in mind that dialogue editors are responsible for all spoken words, including dialogue, narration, and voiceover.

Production dialogue editing starts with creating separate tracks for each character, and then moving all those dialogue clips into a specific track. This crucial step is necessary because each voice in a production is different and therefore must be processed individually with volume normalization, equalization, and effects specific to that voice.

Next, the dialogue editor cleans up the tracks and removes any unwanted human sounds (like tongue clicks and lip smacks). If a distracting sound can be physically cut out, this is the time to do it. Plug-ins and effects can help eliminate unwanted clicks, pops, and noise automatically, but be aware that any processing you add to a clip can affect a voice as well.

After the dialogue is cleaned up, the volume levels are balanced to be consistent on each dialogue track. If dialogue can't be used because it is damaged, noisy, or unclear, it must be re-recorded or replaced with audio from other takes. The process of re-recording production dialogue is called *automatic dialogue replacement* (ADR), or *looping*.

Dialogue editing can be time consuming and laborious. Once again, DaVinci Resolve includes easy navigation, precision editing tools, and shortcuts that can simplify and speed up the process.

Sound Design and Sound Effects Editing

Once the dialogue editing is finished, the creative process begins! The sound designer's creative input to the soundtrack is like that of the director of photography (DP) for the picture. Sound designers are responsible for the overall acoustic experience for the audience. They also oversee the many individual tracks of sound and music that make up the soundtrack. These audio tracks include dialogue, ambience, hard sound effects, and foley sounds (as defined below).

Not only do sound designers determine the aural illusion and mood of the soundtrack, but they also create, record, and enhance sound elements that only exist in their imagination. After all, many projects need sound effects that don't exist in the real world. Where do you go to record dragons, aliens, or zombies? Those sounds must be created or designed from scratch using a combination of real sounds, simulated sounds, and a lot of processing and effects.

While the sound designer determines the depth and detail of the sound effects tracks, the sound effects editor places each sound effect in corresponding tracks. Sound effects fall into four main categories:

— **Natural sound**, also known as *nat sound* or *production sound*, is anything other than dialogue recorded by a microphone on location during the shoot.

— **Ambience**, or ambient sound, is the realistic conglomerate of sounds that establish a location, such as waves crashing rhythmically and seabirds chattering for remote seaside ambience.

— **Hard sound effects** are so named because they need to be physically sync'd to picture and are necessary for the story or scene. Hard sound effects are typically elements like door slams, car horns, and face slaps

— **Foley sound** consists of any character-driven sound effects caused by characters interacting with their onscreen environments. Foley sounds are named after Jack Foley, a legendary sound editor at Universal Studios, who originally developed the technique of recording reenactments on a stage. Foley sound replaces the original production audio for everything from fistfights to footsteps and clothing movement.

Audio editing tools in DaVinci Resolve's Fairlight page are designed specifically for the precision editing and placement required when editing sound effects. And DaVinci Resolve's clip speed changes are perfect for advanced sound design and pitch effects.

Music Editing

Music editing involves placing different music elements into the soundtrack to enhance the mood or story. All soundtrack music falls into one of two categories: music occurring within the scene that the characters can hear, called source music or *diegetic music*, and *non-diegetic music* that is added in post for the benefit of the audience—e.g., the *background score*.

Diegetic music needs special attention to make sure that the volume levels, placement, effects, and presence fit the context of the scene.

Non-diegetic music added in post-production for emotional effect or impact includes the score, stingers, and stabs. *Stingers* are singular notes or chords that build tension and suspense. *Stabs* are quick bursts of music that work like an exclamation point to draw attention to something or someone in the story or narration.

Enhancing and Sweetening Tracks

Once the dialogue tracks are edited and the sound effects and music added, it's time to make subtle improvements to the sound of each track so that they work in context with the other tracks in the mix. The tools used to improve the sound in a track are similar in many ways to the tools that colorists use to improve individual shots within a scene. Because you are learning to use DaVinci Resolve, and color correction is an integral part of the post-production process, it seems fitting to show the similarities between adjusting audio and color.

For all intents and purposes, this process could be called "audio correction." You manipulate four fundamental elements to enhance or "sweeten" audio tracks, so they work together as intended in the final mix: volume level, dynamics, pan, and equalization. DaVinci Resolve controls all four of these elements on every track without the need for additional plug-ins or patching.

— **Volume controls** are used to adjust the loudness of a track on a decibel scale and are similar to luminance (brightness) because both volume and luminance have strict broadcast standards and are usually the first thing the audience notices in each scene. Volume levels can be adjusted on each clip, track, and the main output, just as luminance (black and white levels) can be adjusted on individual clips, scenes, and output. In DaVinci Resolve, you can change the volume level of a clip in the timeline or Inspector. Track volume is controlled by faders in the mixer. You can also change the volume levels over time using automation.

— **Dynamics controls** adjust the *dynamic range*, which is the difference between the loudest peaks and quietest moments in a track. A track's dynamic range is very similar to video contrast within a shot. A track with a high dynamic range has very loud and quiet elements within the track, such as a character whispering and then screaming in the same scene. A low dynamic range would be rather flat, such as a commercial voiceover in which the volume level of the talent is very even from start to finish. If you have ever worked with a Waveform or Parade scope in the color page, controlling a track's dynamics is very similar to adjusting the white and black levels of a clip. Just think of white as the loudest you can get (-3 dB) and black as the quietest.

— **The Fairlight page mixer** includes the four most common dynamics controls in one easy-to-use panel. The compressor is used to narrow the dynamic range by lowering the loudest peaks and bringing them closer to the lowest peaks. The expander, in contrast, expands the dynamic range to increase the difference between the loudest and quietest peaks. The limiter and gate both work as acoustic "brick walls" to limit sound from exceeding a target level (limiter) and to prevent sounds lower than a set threshold from being heard (gate).

— **Pan controls** place the sound of a track within a panoramic stereo field. These controls are used to compose the acoustic experience just as a cinematographer composes the visuals of a shot. Tracks can be precisely located anywhere from left to right to sound as if they come from an offscreen source, or somewhere within the frame. DaVinci Resolve includes advanced pan controls in both the edit page and Fairlight page with both 2D (stereo) and 3D sound placement for surround sound systems.

— **Equalization (EQ) controls** manipulate specific frequencies to enhance the overall sound, and are just like working with color, saturation, and hue in color correction. For example, the human voice is based on a fundamental frequency shared by millions, while the additional frequencies add tonal qualities to "color" the voice and make it unique and recognizable. The primary function of equalization is to lower frequencies that detract from the voice and boost the positive frequencies to improve the overall sound. The Fairlight page mixer includes a six-band *parametric equalizer* on each track, which is the perfect tool for enhancing and "sweetening" audio tracks.

Mixing and Mastering

The last step of audio post is mixing the tracks and mastering the output. If all the other steps were completed prior to the mix, the process is straightforward. The goal of mixing and mastering is to balance the levels coming from each track, so they sound good as a whole. This is accomplished by making subtle changes to the track levels or combining similar tracks into submixes to make them easier to control with one fader. The final master needs to sound great and meet delivery standards for loudness. Fortunately, the Fairlight page includes everything you need to mix tracks and loudness meters to make sure the levels are right on target.

Now that you understand some of the technical steps and creative tools that are essential in an audio post-production workflow, you can dive in to the next lesson and start putting them to use on your own projects!

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Lesson 8

An Introduction to Fairlight

By now, you've probably heard that sound is half of the video experience. In the words of George Lucas, "Filmmakers should focus on making sure the soundtracks are really the best they can possibly be. Because in terms of an investment, sound is where you get the most bang for your buck."

The Fairlight page in DaVinci Resolve is designed specifically for audio to accompany pictures, realizing cinematic-quality sound for your productions. Most importantly, since it is built right into your editing, grading, and visual effects application, you can freely refine the edit, create visual effects, grade the pictures, and mix sound, right up until the time of your final delivery. This integration is what makes DaVinci Resolve a game changer for filmmakers of all levels.

Time

This lesson takes approximately 70 minutes to complete.

Goals

Setting Up the Project	440
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Trimming Clips in Fairlight	455
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Using Scrollers	480
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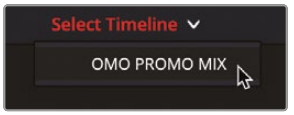
In this lesson, you'll learn how the Fairlight page can enhance your audio work, whether that's working at a higher level of detail than in the edit page or helping you sync sound effects to onscreen action easier than ever before.

Setting Up the Project

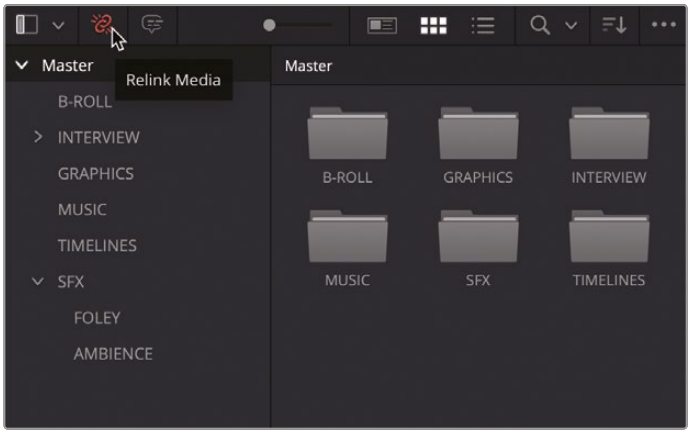
In this lesson, you will revisit the edit you were working on in Lesson 3, the short promo video for Organ Mountain Outfitters, and you will start by importing a version of that project and relinking the media files.

1. Open DaVinci Resolve and, in the Project Manager, click the Import button.
2. Navigate to R19 Beginners Guide / Lesson 08. Select the **OMO PROMO FAIRLIGHT.drp** project file and click Open.
3. Once it has been imported into the Project Manager, double-click the OMO Fairlight project to open it.
4. If necessary, click the Edit button or press Shift-4 to switch to the edit page.
5. Choose Workspace > Reset UI Layout.
6. From the top of the timeline viewer, open the timeline OMO PROMO MIX.

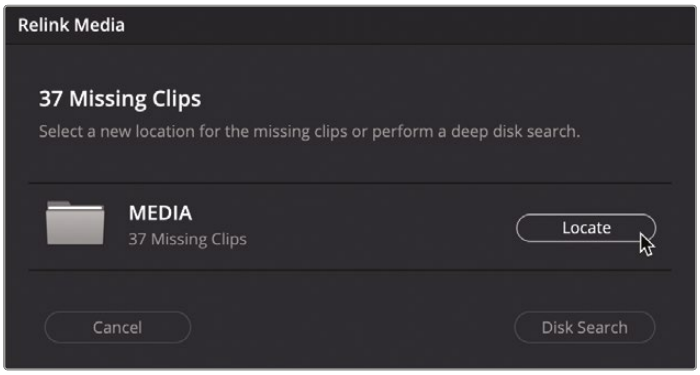


You will see that all the clips are currently offline and will need relinking.

7 Click the Relink Media button at the top of the media pool.

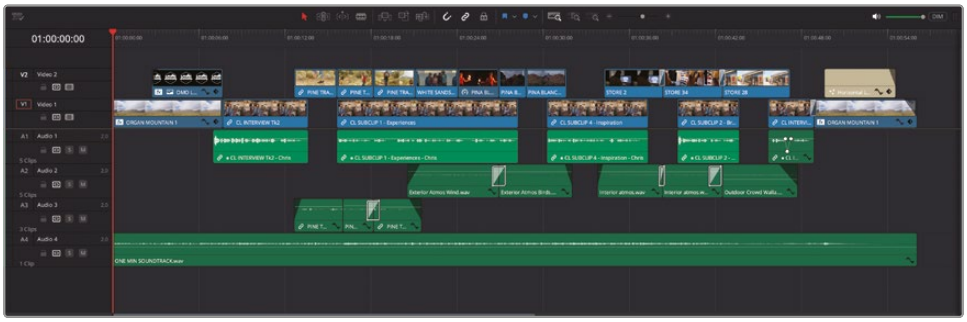


8 In the Relink Media window, click Locate.



9 Navigate to the R19 Beginner Guide folder and click Open to allow Resolve to search the folder and locate the media files.

10 Play the OMO FAIRLIGHT timeline to refamiliarize yourself with the Organ Mountain Outfitters promo.

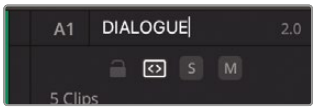


Preparing the Timeline

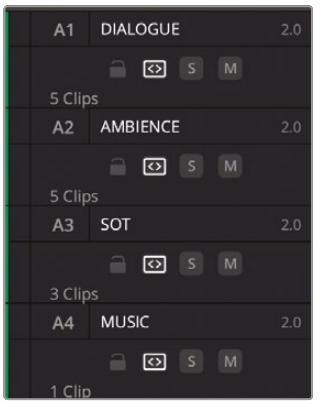
As you can see (and hear), this timeline is a version of the OMO Promo you worked on in the first three lessons of this book, with a few adjustments for this lesson. The main difference is that there are additional audio clips on the Audio 2 track. These clips provide ambience for the different B-roll clips. You will build on these in later steps to flesh out the sound design of the promo. You will also notice that there are several level adjustments to these clips, a couple of keyframed adjustments, some cross-dissolve transitions and audio fades.

To streamline the audio mixing process, you can name and color-code the tracks for easy reference.

1 Click the Audio 1 track name and rename it **DIALOGUE**.

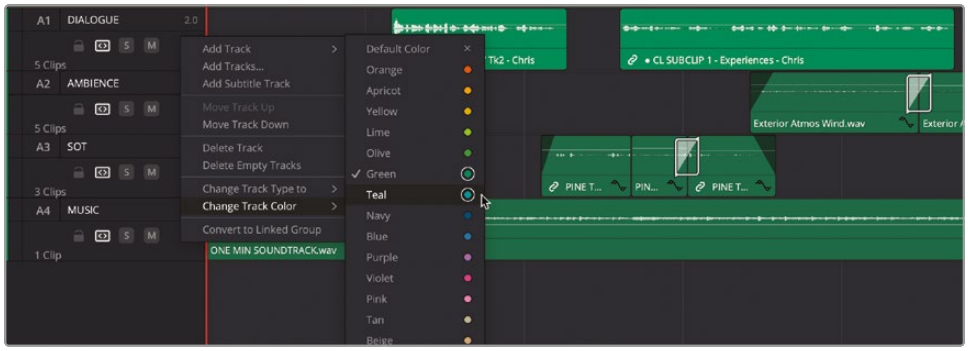


2 Rename Audio 2 **AMBIENCE**, Audio 3 **SOT,** and Audio 4 **MUSIC**.



You can also change the color of the tracks so they are easy to identify visually.

3 Right-click the track controls for the DIALOGUE track and choose Change Track Color > Teal.



All the clips in this track change to a teal color.

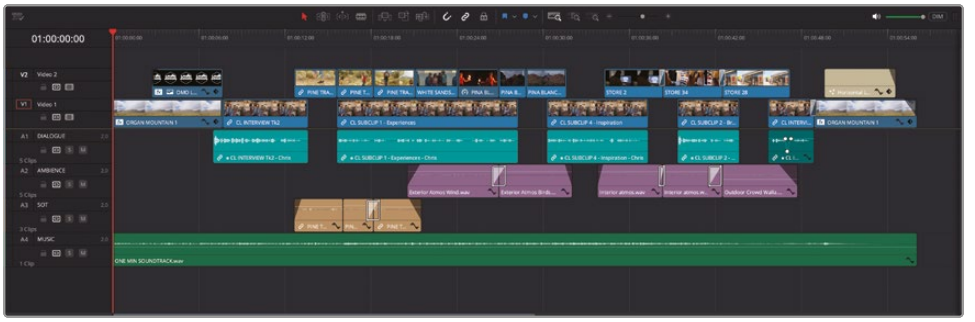
NOTE If any clips in this track have their own clip color applied, this will supplant the color assigned to the track.

4 Right-click the track controls for the AMBIENCE track and choose Change Track Color > Purple.

5 Change the color of the SOT track to Beige.

6 Leave the MUSIC track the default Green for audio tracks.

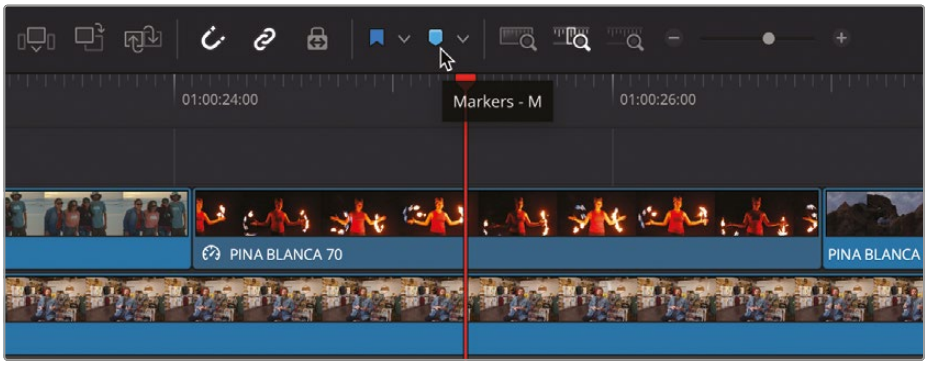
The new colorful timeline makes it easy to quickly identify the different audio elements of your mix.



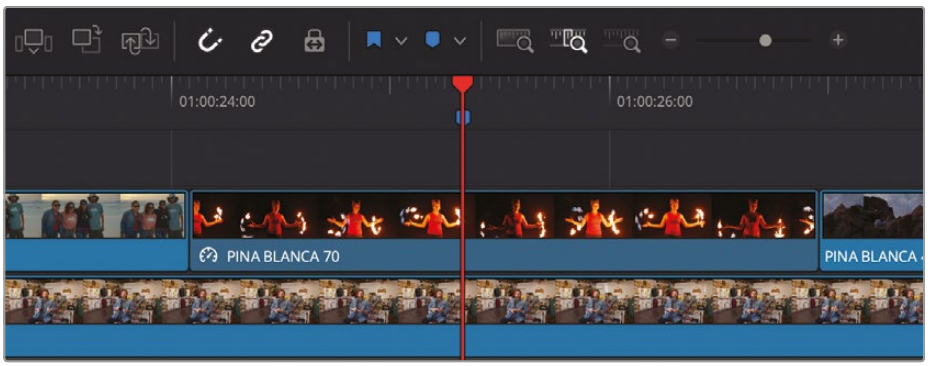
Next, you will also add a series of markers to the timeline to quickly identify parts where you want to enhance the soundtrack with elements of sound design.

7 In the timeline, ensure that you have no clips selected. You can press Shift-Command-A (macOS) or Shift-Ctrl-A (Windows) to be sure.

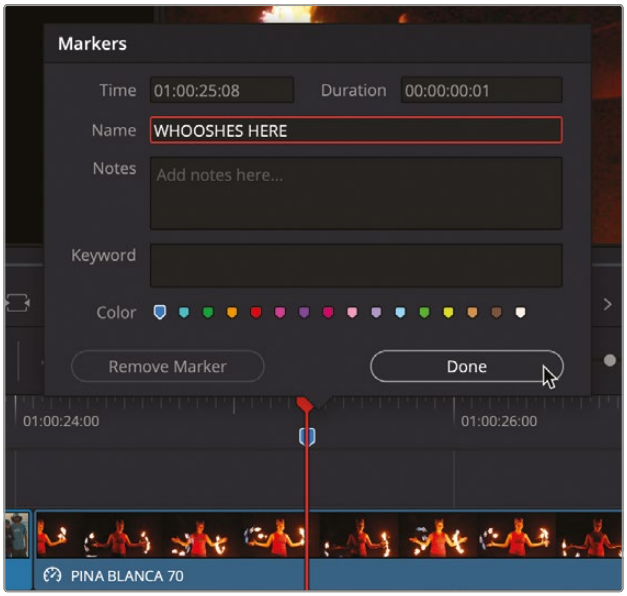
8 Move the playhead anywhere over the clip **PINA BLANCA 70** and click the Markers button in the timeline toolbar.



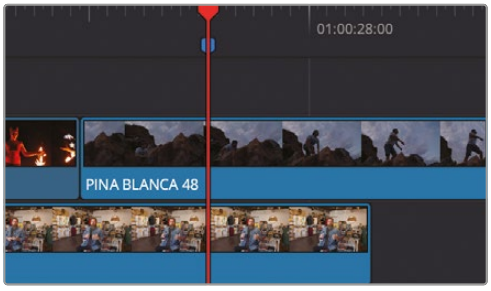
A blue marker appears underneath the playhead along the top of the timeline.



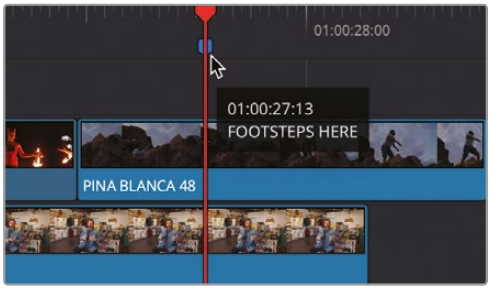
9 Double-click the marker and rename the marker **WHOOSHES HERE** and click Done.



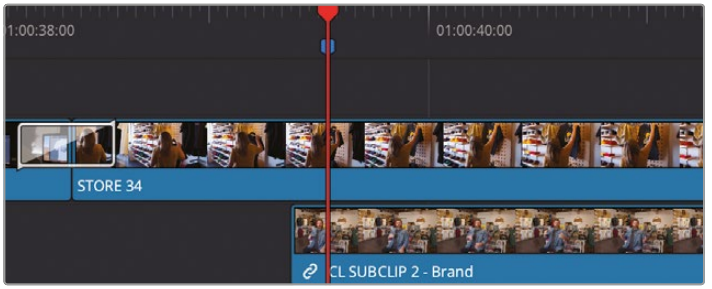
10 Move the playhead over the next clip **PINA BLANCA 48** and press M to add another marker above this clip.



11 With the playhead still over the new marker, press M again to open the Marker window and rename this marker **FOOTSTEPS HERE** and click Done.

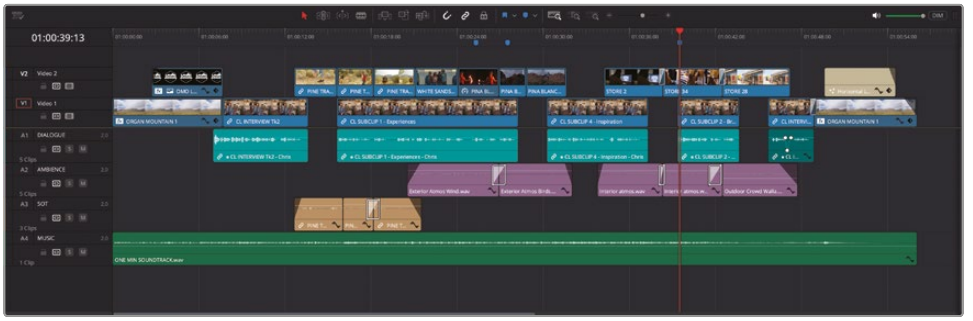


12 Move the playhead over the clip **STORE 34** and press M twice to add a marker and open the Marker window in quick succession. Rename this marker **HANGING SHIRT** and click Done.



> **TIP** You will find a list of the markers in the open timeline in the Markers tab in the Index.

13 Click the Full Extent Zoom button in the timeline toolbar to take a look at the timeline with the new markers added.



You are now ready to take your timeline into Fairlight, DaVinci Resolve's audio editing and mixing environment.

14 At the bottom of the Davinci Resolve interface, click the Fairlight button or press Shift-7 to switch to the Fairlight page.

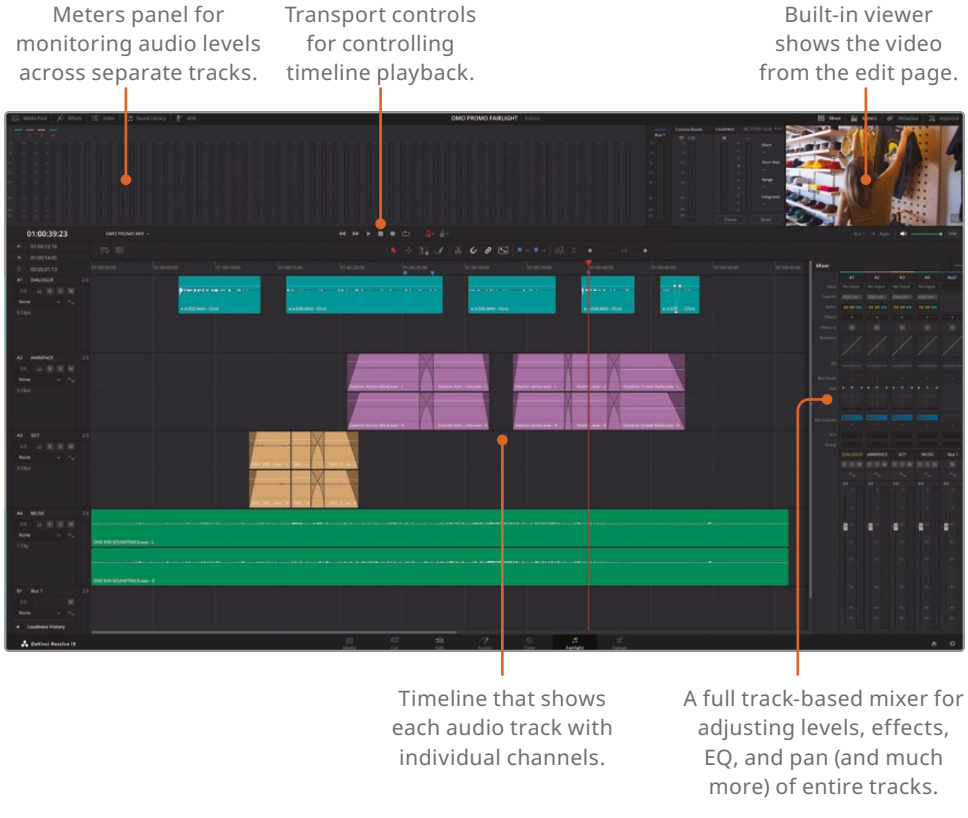
This is the one and only workflow step required to move from editing to audio post-production in DaVinci Resolve!

Exploring the Fairlight Interface

In Lesson 3, you completed steps that resulted in an acceptable mix of all the audio for the OMO Promo. However, the Fairlight page offers a greater level of control over your audio, since it is designed around working with audio and is optimized for multichannel audio recording, editing, mixing, and sweetening. As you can see, the default layout is streamlined to focus on the audio in the timeline.

1 Press Shift-Z to fit all the timeline clips horizontally in the timeline window.

2 If necessary, Shift-mouse scroll to adjust the height of the tracks so you can see all the clips in the timeline.



Looking at the timeline, you'll notice that all the audio fades, transitions, and keyframes are still applied and viewable in the Fairlight page, along with the track names, colors, and markers you added in the edit page. This is because this is exactly the same timeline as you were viewing in the edit page, so any audio adjustments you made in the edit page are immediately viewable in the Fairlight page, and vice versa. In fact, the changes you made previously in the edit page could just as easily have been made here in the Fairlight page using the same techniques.

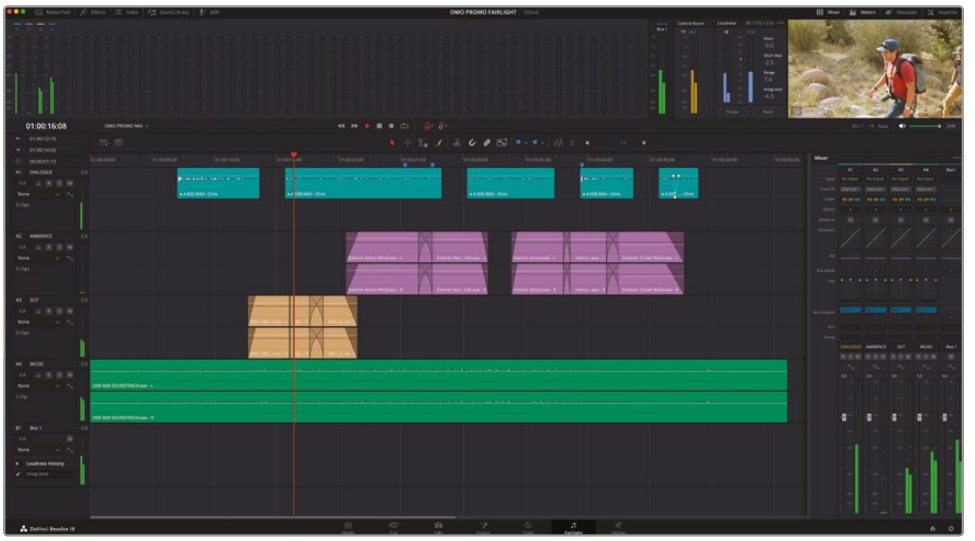
In many ways, the Fairlight page operates and feels like the edit page, but there are some differences. Before you dive in and start adjusting things, take a moment to become more familiar with the main parts of the Fairlight interface.

In addition to clip adjustments being viewable in the Fairlight page, so too are any adjustments you've made to the mixer. The only difference is that in the Fairlight page you have access to the full mixer, whereas in the edit page you only have access to certain controls in the mixer.

At the bottom of the timeline, you will also see an extra "track" that you have not seen before: Bus 1. This represents the stereo output of your timeline. You can change the number of channels for your timeline by choosing Fairlight > Bus Format and changing the Format for Bus 1. For more information on this and other bussing options, see *The Fairlight Audio Guide to DaVinci Resolve 19*.

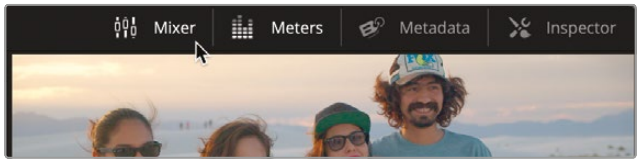
NOTE The Fairlight page doesn't have the equivalent of the edit page's full extent and detail zoom buttons, but you can still use the same options for controlling timeline zoom and track height as in the edit page: Option-mouse scroll (macOS) or Alt-mouse scroll (Windows) to zoom the timeline and Shift-mouse scroll (macOS and Windows) to zoom track height. To zoom the track height centered on a specific track, click the track's header to highlight the track and use Shift-mouse scroll. This will also automatically select the clip on that track under the playhead.

3 Move the playhead to the start of the timeline and play back to review the edit.

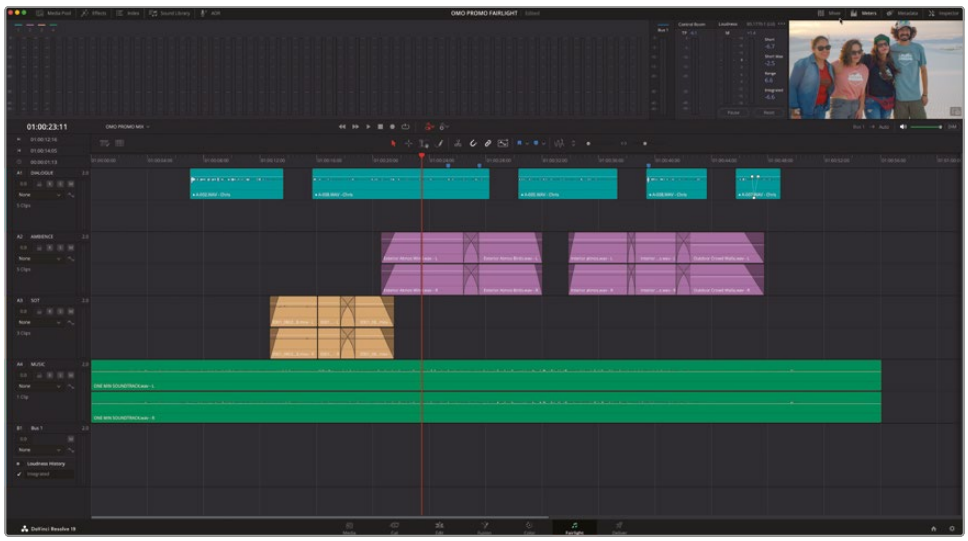


You'll probably notice several things immediately. First, the meters for each track that show the level of the clip currently playing can be seen in several locations: in the track headers, along the top of the interface in the meters panel, and in the mixer on the right of the interface. Don't worry, though: since they are showing the same thing, for the moment at least, you don't need the mixer.

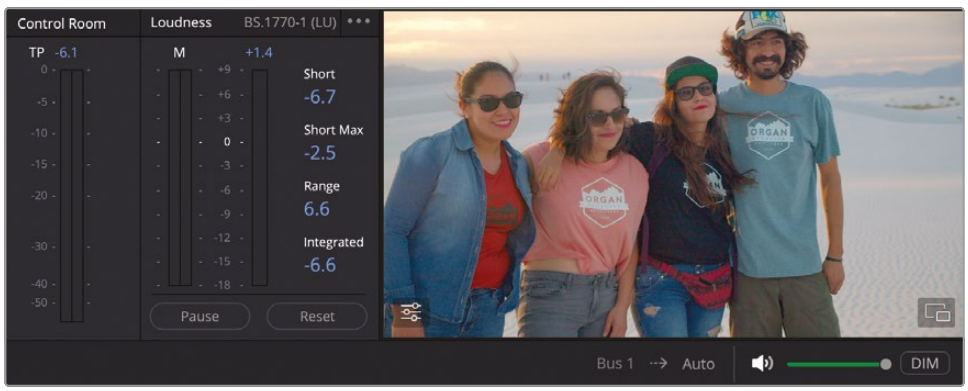
4 Click the Mixer button above the viewer to hide the mixer.



5 Press Shift-Z to display the timeline across the full width of the interface.



The other thing you will have noticed is that you can see the video from the edit page, including effects, titles, and transitions on the right of the meters panel.



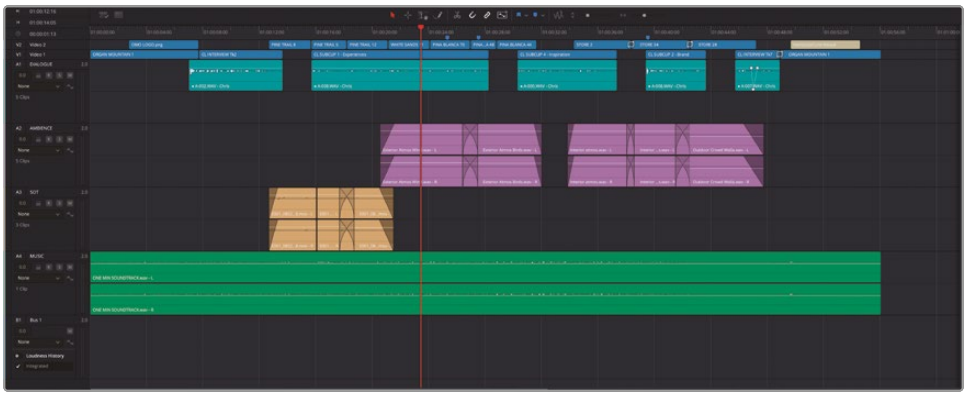
This video preview always shows you the current video frame wherever the playhead is in the timeline and can be used as a reference to make sure everything stays in sync and the sound is timed correctly.

> **NOTE** If you use a Blackmagic Design output device such as an Ultrastudio or Decklink card, you will also see the preview on your external monitor.

In addition to using the viewer, it can be useful to see the video edits that were made when referencing edit points or other elements in the timeline, such as titles.

6 Click the Timeline View Options menu.

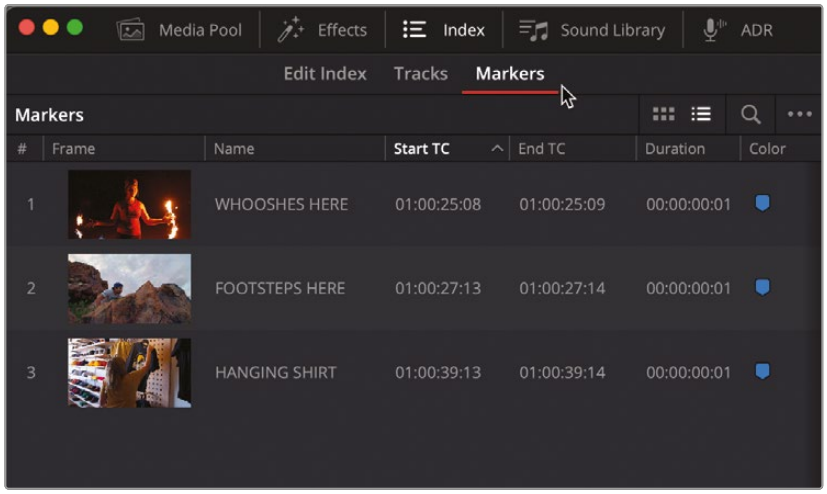
7 Click the first option in the Track Display Options section to display the video tracks at the top of the timeline.



NOTE To prevent inadvertently adjusting the clips in the video tracks, you can choose to lock the tracks on the edit page.

8 In the timeline, press Shift-Up Arrow or Shift-Down Arrow to jump between the different markers.

9 Click the Index button and, in the Edit Index, select the Markers tab to view a list of all the markers in the timeline.



Since you won't be using the markers just yet, you can easily close the Index so it's not taking up valuable screen real estate.

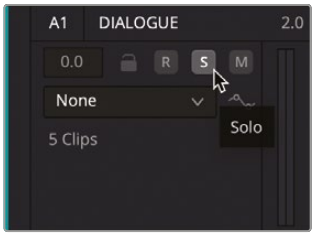
10 Click the Index button to hide the Edit Index panel and press Shift-Z to zoom the timeline to fit the window.

After that brief tour of the main elements of the Fairlight page, it's time to see how you can start to use Fairlight to enhance your soundtracks.

Setting Track Formats and Clip Channels

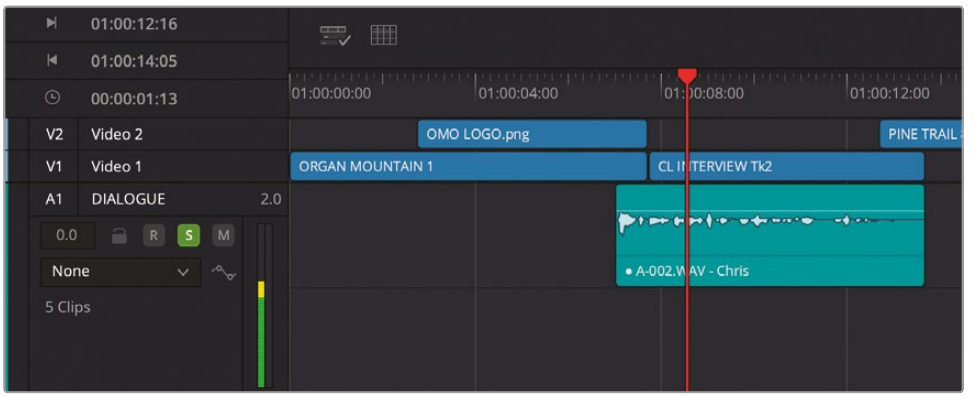
Working with audio in the Fairlight page follows the same principles as when you were dealing with audio in the edit page in Lesson 3 in terms of setting levels and general workflow. As before, you will start with the dialogue clips. However, the Fairlight page exposes more information about those clips that you may find useful.

1 In the timeline header, click the Solo button for the DIALOGUE track.



2 Return the playhead to the start of the timeline and play through again, watching the track meters and listening carefully.

Again, you will notice that Chris's audio clips are only playing out of the left output channel of this timeline, rather than out of both left and right. This is because these clips are only configured to use one mono channel of audio—the fourth channel of the linked audio, which is Chris's lavalier microphone. (Previously, you used a stereo configuration of this channel in two output channels. However, as there is only one channel, it makes sense to use just this channel.)



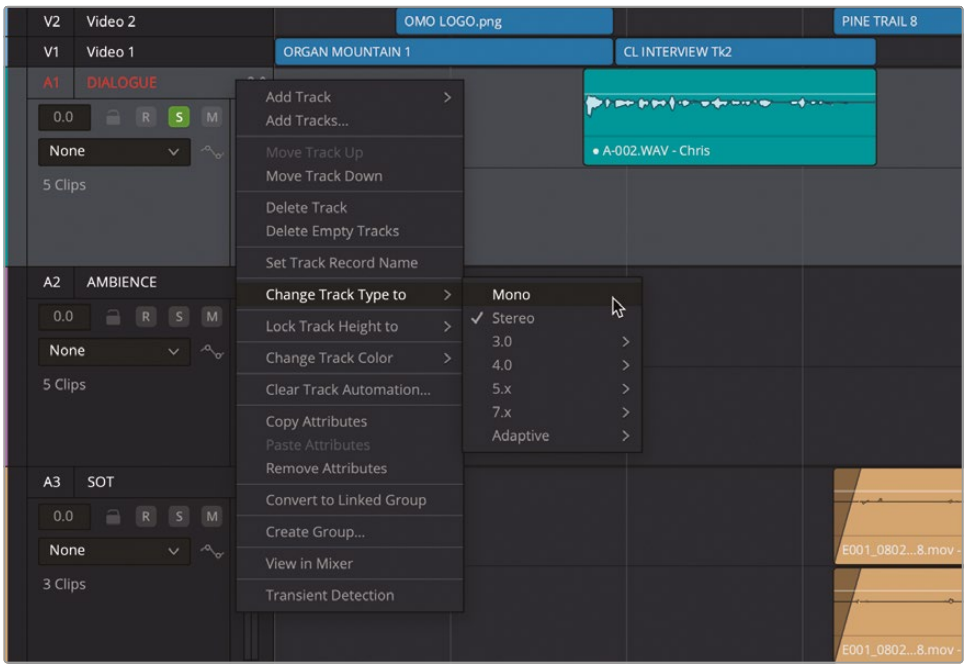
If you look at the clips in the dialogue track, you will clearly see that these clips have only one channel, whereas the track they are sitting in is a stereo track, so the second channel of the track remains empty.

The edit page doesn't typically expose the individual audio channels like this, so this is a good reason to at least check your audio clips on the Fairlight page, even if just briefly.

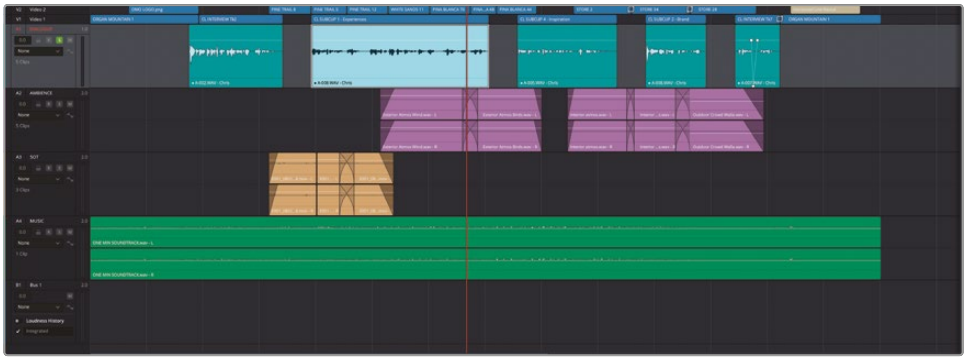
TIP If you wish to see the individual audio channels in the edit page, select the relevant clips, right-click them, and choose Display Individual Audio Channels.

As dialogue audio is invariably mono (no one has more than one mouth), all dialogue should be placed in a mono track. Thankfully, it's very easy to make this change in DaVinci Resolve.

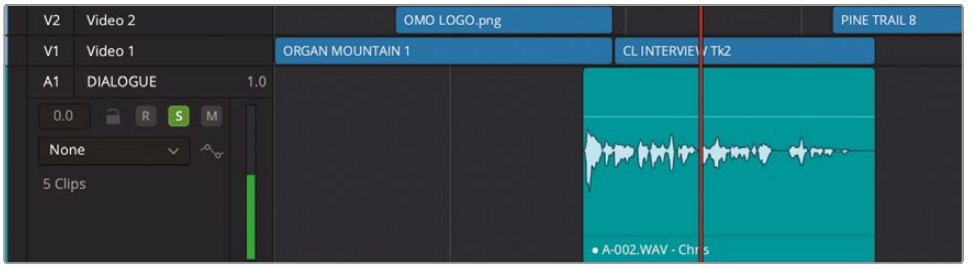
3 Right-click the track header for the A1 DIALOGUE track and choose Change Track Type To > Mono.



The track changes from a stereo track to a mono track.



The clips now fill the full height of the track, and when you play these back, you'll see that the track meter is now one solid bar with the 1.0 indicator, instead of two thin bars with the 2.0 indicator.



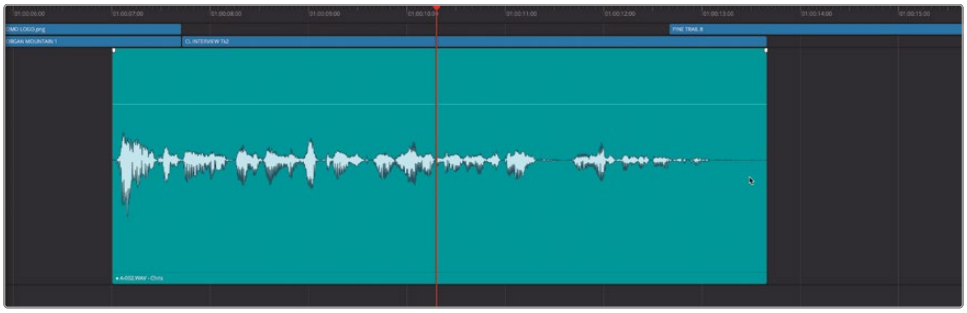
Moreover, the audio now plays out of both left and right speakers equally.

NOTE Only the first audio channel will play in a mono audio track, even if the clip is a stereo clip. You can always adjust the audio configuration of a clip in the timeline by right-clicking it and choosing Clip Attributes. For more information about configuring audio channels using Clip Attributes, see Lesson 7.

Trimming Clips in Fairlight

Another common task you have more control of in the Fairlight page is trimming audio clips. The smallest amount a video clip can be trimmed is the individual frame level. Audio, however, has a much greater level of detail. Audio for video production is typically recorded at 48 kHz (kilohertz), meaning that there are 48,000 samples of audio per second; this equates to around 2,000 samples per frame if your video is running at 24 frames per second. Fairlight allows you to trim at this sample level.

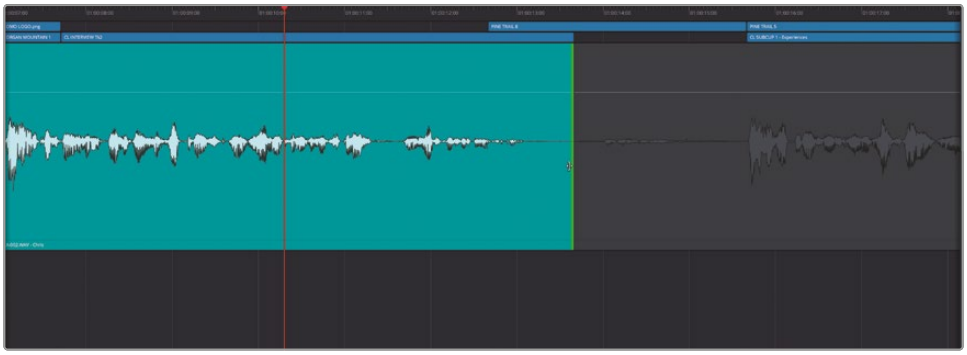
1 In the timeline, use Option-scroll (macOS) or Alt-scroll (Windows) and Shift-scroll to zoom in on the first audio clip on the DIALOGUE track.



Notice that the end of this clip contains no waveform, since Chris isn't speaking, and you hear the environmental noise captured in the audio recording.

> **NOTE** It's very easy to zoom in much further than you can in the edit page. If you see the dots appear on the audio clip, you are so close that you can see the individual samples!

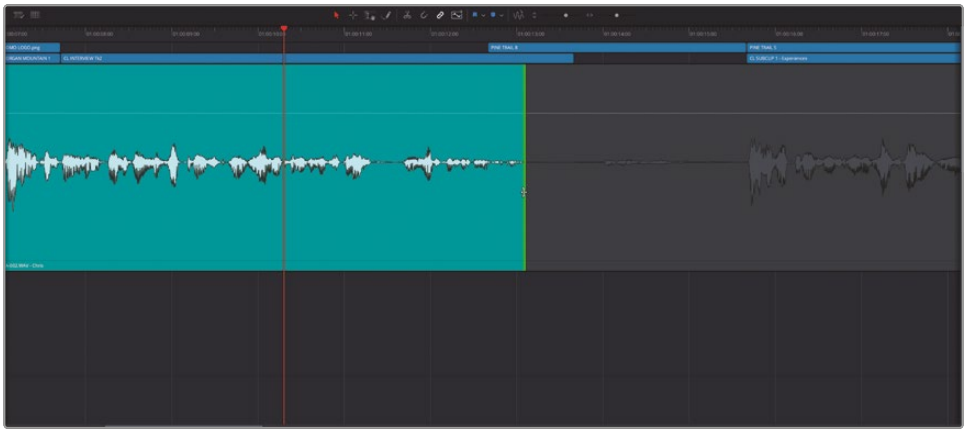
2 Select the end of the clip as if you were trimming the clip in the edit page, but keep your mouse button held down.



When trimming clips in the Fairlight page, you can see the waveforms of the clip's handles displayed, making it easier to trim the audio clips with more precision.

3 In the timeline toolbar, disable the Snapping button or press N.

4 Trim the end of the clip back to the end of the previous waveform.



5 Listen back to the change you have made.

Trimming audio in the Fairlight page is much more accurate and precise than it is in the edit page. Before going any further, listen to all the other audio edits along the first two tracks in this timeline to see if there are any other edits that could benefit from the precise adjustments you can make in the Fairlight page.

NOTE The Fairlight page does not have a Trim Edit mode like the edit page has, so any trimming performed on the Fairlight page will not affect the overall duration of the timeline. Similarly, it's not possible to roll, slip, or slide an edit point or clip. For actions like this, you'll need to use the edit page, which highlights the flexibility of Resolve in that you can keep moving between the different pages seamlessly at any point.

Subframe Audio Adjustments

You don't always have to rely on the precision of the sample-level editing function of the Fairlight page, because the edit page allows you to work with audio at the subframe level—that is, at a far higher level than the individual video frame but not quite to the level of individual samples. Nevertheless, this often allows you to trim audio to a high level of precision without leaving the edit page. It's not quite as precise as the Fairlight page, but for many situations it's more than adequate. The best way to ensure that you're trimming at the subframe level in the edit page is to have snapping and linked selection disabled in the timeline and zoom in on the edit as much as you can.

NOTE If you need to catch up before moving to the next step, open the media pool, select the TIMELINES bin, and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 08 / Timelines / **OMO PROMO MIX CATCHUP 01.drt** and click Open.

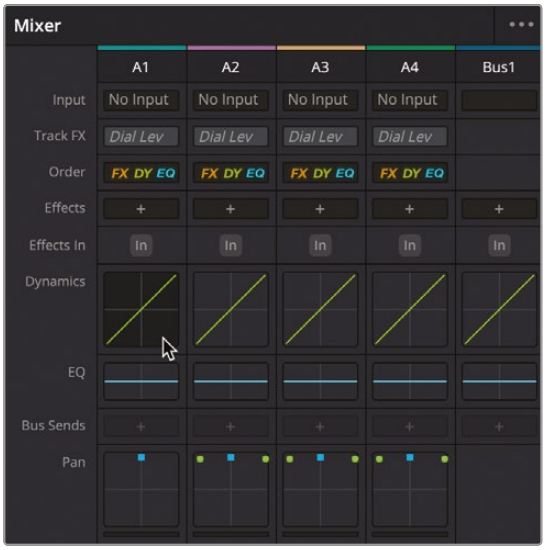
Using Dynamics

As well as giving you a greater level of understanding about how your audio clips and tracks are configured, along with a greater level of precision when it comes to trimming, the Fairlight page has some dedicated tools that you will find useful when it comes to sweetening the audio in your timeline. For this type of work, you can use the Dynamics and EQ controls.

The version of the OMO Promo you're working with in this lesson doesn't have the Noise Reduction plug-in applied, which you added in Lesson 3 to reduce the background noise in the interview. While you could continue trimming and cutting out portions of the audio where Chris isn't speaking to remove this unwanted audio, you will instead address this in Fairlight using one of the Dynamics controls available in the mixer.

1. Click the Mixer button to reopen the mixer panel.
2. Drag the left edge of the mixer to display all the channel strips for each track and press Shift-Z so the timeline fits the window.

3 Double-click the Dynamics box for the first audio track.



The Dynamics control for this track opens in a separate window. Because this control applies to the whole track, any clips on that track will be affected by these controls.

4 Enable the Expander/Gate and select the Gate controls.

Listen back to the clips on the DIALOGUE track to hear the difference. The background noise has been eliminated as if by magic!

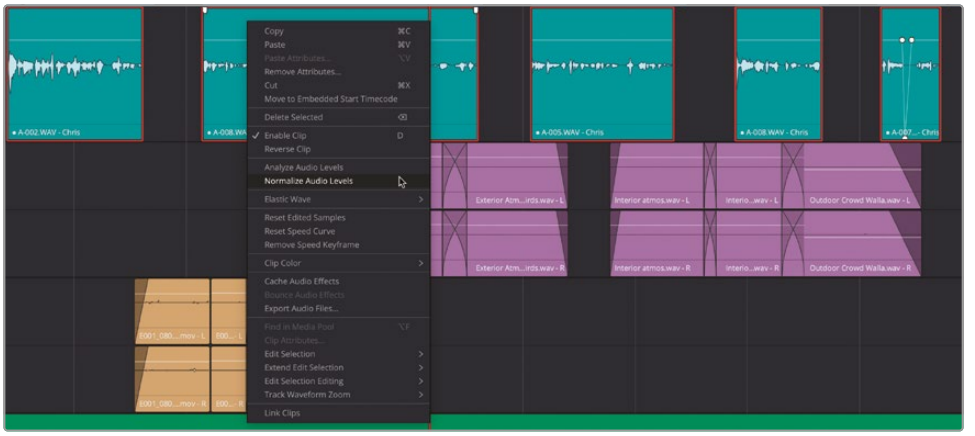
Of course, it's not magic; it's just some clever audio processing. In this case, you have simply applied a Gate, the default settings of which have worked well for this example. The graph in the Dynamics window should give you a good idea of what is happening to your audio as it plays back.

Simply put, the Gate has reduced the parts of the signal that fall below the Threshold by the Ratio amount. So in this example, any part of the signal that falls below -35 dB is reduced by -18 dB, effectively eliminating the noise in the interview audio! Because Chris's voice is higher than -35 dB, it is allowed through the Gate. Clever, eh?

The Dynamics window also has two additional track-level controls: Compressor and Limiter.

The Compressor will reduce the dynamic range of the audio in the track and can help to smooth out variations in audio levels across the track. It is most useful for helping to ensure consistent dialogue levels. You will start by Normalizing the dialogue clips as you did previously when working with audio in the edit page.

5 Close the Dynamics window and, in the Timeline, select all the clips on the DIALOGUE track, right-click them, and choose Normalize Audio Levels.



As before, the same Normalize Audio Levels dialog opens as in the edit page.

6 Leave the Normalization Mode menu set to Sample Peak Program and the Target Level set to -9 dBFS but change the Set Level option to Independent so each clip will be normalized based on its individual peak level.

7 Click Normalize to normalize the clips.

The clips' audio levels are adjusted so the peak of each clip sits at -9 dBFS on the meters.

> **NOTE** Applying Normalization does not remove the audio keyframes previously applied to a clip. The normalization process is applied to a clip considering the level changes made by the keyframes. This can be very useful if you've adjusted the level of a clip with many keyframes but want to normalize it to other clips later.

You may remember that normalizing the clips' levels does not in itself sort out the differences in the levels. Previously, you accomplished that in the edit page by adding multiple keyframes to adjust the levels of the clips over time. This is where the Compressor comes in.

8 In the timeline, play back the first and second clips in the DIALOGUE track, noting their audio levels. You'll probably see that the first clip peaks early and then drops off, while the second clip remains at a more consistent level.

9 In the mixer, double-click the Dynamics control for the DIALOGUE track to reopen the Dynamics window.

10 In the Dynamics window, enable the Compressor.

You will see the top of the graph level off slightly, indicating how the process will affect the audio on this track. Whereas the Gate reduced the signal below a certain Threshold level, the Compressor affects it above its Threshold level.

NOTE You can see the effect the compression is having on the audio levels by the difference between the Input and Output audio levels and by the Gain Reduction indicators.

11 Adjust the Compressor's Threshold to around -28 dB. This ensures that the quietest parts of Chris's dialogue (which are around -24 dB) are affected by the Compressor.

The amount of compression applied to levels above the specified Threshold is controlled by the Ratio. By default, this is "2.0:1," which means that for every 2 dB above the Threshold level, the Compressor will only allow a 1 dB increase.

12 Increase the Ratio to 4.0:1 so that for every 4 dB above the Threshold, the level will only be allowed to increase by 1 dB.

13 Play back the first two clips again.

Notice how the peak levels have been reduced. This might be a bit of an aggressive Ratio value, but you should be able to see how it is affecting the levels of the clips by squeezing the higher levels.

TIP You can adjust the Knee control to adjust the smoothing of the Threshold level on the graph.

14 Change the Ratio to 3.0:1 to reduce the amount of compression being applied.

Finally, because the overall level of the clips on the DIALOGUE track has been reduced due to the compression being applied, you will need to compensate for that by restoring the level back to where you want it.

15 Adjust the Makeup slider to about 6.0.

The Makeup now adds 6 dB back to the compressed signal, placing the peaks back to roughly where their initial normalized levels were, but retaining the compression so that there is less variation between the lower and higher levels of dialogue.

TIP You can add additional keyframes to the individual clips to refine the levels further if required.

16 When you have adjusted the Makeup control to your liking, close the Dynamics window.

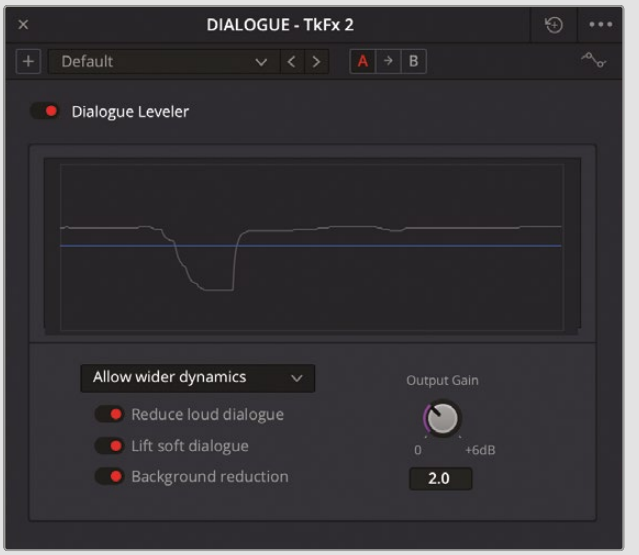
NOTE You can disable the Dynamics applied to a track by single-clicking the Dynamics box in the mixer. Single-click it again to re-enable it.

Introducing the Dialogue Leveler

The Dialogue Leveler is an audio track control to help smooth out dialogue audio levels that may be a bit too low or too high and can help with the often tedious need to adjust multiple clips' levels using numerous keyframes.

Ideally used as part of the Fairlight page's more comprehensive mixing environment, where it is available as a Fairlight FX in the mixer, the Dialogue Leveler is also available in the edit page by opening the track controls for a selected audio clip in the Inspector.

The Dialogue Leveler has some self-explanatory controls for lifting soft portions and reducing loud portions of the dialogue, together with a slider to adjust overall output gain.



Similar to the Normalization process, the Dialogue Leveler is not a solution for wrong audio levels. Instead, think of it as a way of bringing your slightly awry dialogue levels back into line, though the controls are not as comprehensive as those of the Compressor in the Dynamics window.

NOTE If you need to catch up before moving to the next step, open the media pool, select the TIMELINES bin, and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 08 / Timelines / **OMO PROMO MIX CATCHUP 02.drt** and click Open.

Applying EQ

Another set of controls you can use to help sweeten your audio, especially when it comes to dialogue clips, is to apply an adjustment to the EQ. Again, Fairlight has dedicated EQ controls that can be applied to an entire track. EQ is often used to control the "warmth" of the audio signal by increasing or decreasing certain frequencies. You will use the EQ controls to help "warm up" Chris's dialogue audio.

1 Double-click the EQ settings for the DIALOGUE track.

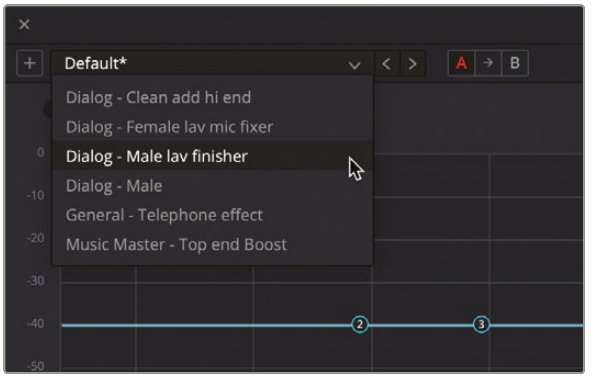
The 6-Band Equalizer settings window opens.

2 Play back the first two clips in the timeline.

As the audio is playing in the timeline, you can see the graph representing the various frequencies of Chris's voice.

Unsurprisingly, since Chris is a man with a reasonably deep voice, most of the frequencies in his voice are grouped in the lower frequency range, up to around the 500 Hz range. You can adjust the EQ by increasing or decreasing the levels of the various frequencies.

3 In the list of presets, select the "Dialog – Male lav finisher" option.



From the controls, you can see that this loads a preset that rolls off the frequencies at the very lower end and increases the frequencies around the 250 Hz range and again at around the 4 kHz range.

4 Play back the first two clips in the DIALOGUE track again to hear the changes.

You should hear that Chris's audio sounds slightly warmer, thanks to the adjustment made to the lower frequencies, while the adjustments to the upper frequencies probably have less of an impact. The original frequencies are represented by the fainter, white-outlined indicators on the graph.

> **NOTE** If you find it hard to discern between the adjusted EQ and the "flat" (non-EQ'd) version, you can enable and disable the EQ as the audio is playing back.

Sometimes EQ adjustments can be quite dramatic.

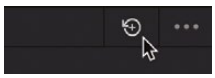
5 Select the "General Telephone effect" preset.

You can tell immediately from the graph that this preset limits the frequencies to between 300 Hz and 3kHz, while slightly reducing the level at around 1 kHz.

6 Play back the first two clips again to hear Chris sounding like he's speaking on the end of a telephone call!

Presets like this are a useful starting point, but sometimes you'll need to adjust the EQ yourself to get the best out of your audio.

7 Click the Reset button at the top right of the EQ controls window.



You will begin by identifying which range of frequencies you want to boost and which you may want to reduce.

8 Once again, play back the first two clips in the timeline and, as the clips are playing, move the control for Band 3, raising it to around the +10 dB line and moving it left over the lower frequencies.

This technique is referred to as sweeping—that is, you are sweeping across the frequencies, boosting the range to better hear that part of the voice. You should notice that Chris's voice is much warmer around the 125 Hz range. These might be frequencies you'll want to emphasize.

Next, you will do the same, but at the upper end of the frequency range.

9 Stop playback and reset the EQ controls.

10 Return the playhead to the start of the dialogue clips and begin playing back.

11 This time, raise the Band 3 control to the 10 dB line and move it to the right to sweep the higher-range frequencies.

You should hear that the frequencies around the 500 Hz mark don't sound as nice as those around the 2 to 4 kHz range. Therefore, using the sweeping technique, you have identified certain ranges of frequency in Chris's voice that you want to boost or reduce. You can use this knowledge to make customized adjustments to the audio of Chris's dialogue clips. You will start by rolling off the very lowest frequencies that don't tend to impact the human voice.

12 Reset the EQ controls window again.

13 Click the Band 1 button to enable Band 1, which by default is set to high pass.

14 Change the Band 2 controls from Low Shelf to Bell.

15 Select the control for Band 2 and increase it by about +5 dB in the 125 Hz range.

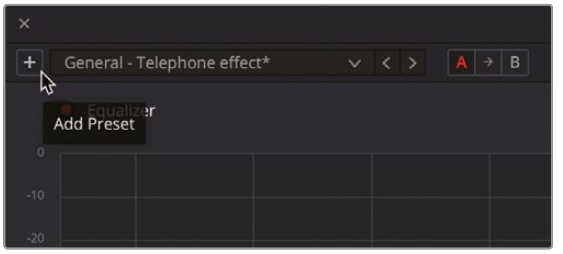
16 Select the control for Band 3, place it over the 500 Hz range, and reduce it by about -5 dB.

17 Finally, select the Band 4 control and raise it to about +5 dB in the 2 kHz range.

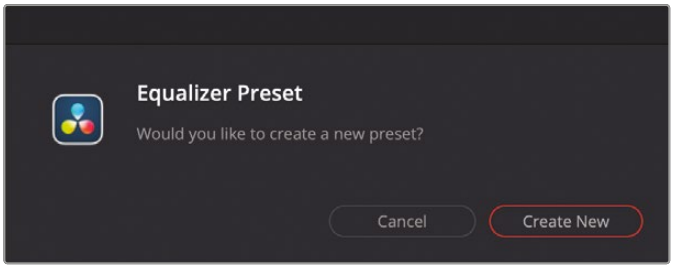
18 Play back the first two soundbite clips to hear the adjustment to the EQ for Chris's dialogue.

Once you are happy with those adjustments, you can save them as your own preset to use in the future.

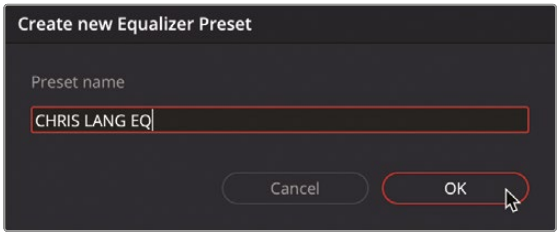
19 At the top left of the EQ window, click the + to create a new preset.



You will be asked if you want to create a new preset.



20 Click Create New and, in the Create new Equalizer Preset dialog, type **CHRIS LANG EQ** and click OK.



The EQ settings are now saved as a preset that can be quickly loaded when needed from the EQ Presets menu.

TIP If you adjust a preset and then choose to create a new preset, you will be prompted as to whether you want to create a brand-new preset or update the existing preset. Click Update to save the changes you've made.

21 Click the Solo button for the DIALOGUE track to unsolo the track.

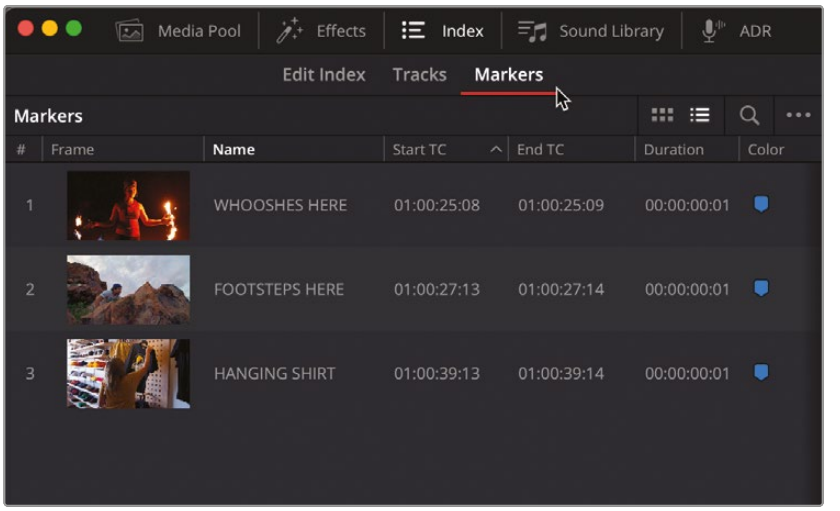
NOTE If you need to catch up before moving to the next step, open the media pool, select the TIMELINES bin, and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 08 / Timelines / **OMO PROMO MIX CATCHUP 03.drt** and click Open.

Adding Sound Effects

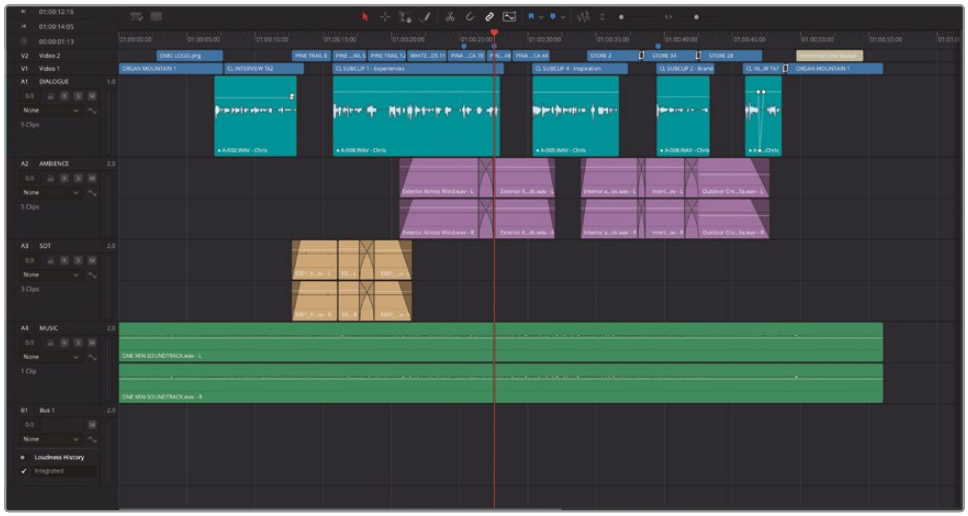
In addition to sweetening the audio in your timeline, the Fairlight page can also be used to help you add, edit, and manipulate audio clips in the timeline. And because the Fairlight interface is solely concerned with audio work, it provides a much more flexible environment than the edit page, and no more so than when it comes to adding and synchronizing sound effects. You will start by adding a new audio track for the types of sound clips you will initially add.

1 Click the Mixer button to hide the mixer.

2 In the top left corner of the interface, click the Index button to open the Edit Index, and click the Markers tab to reveal the list of markers you previously added in the edit page.

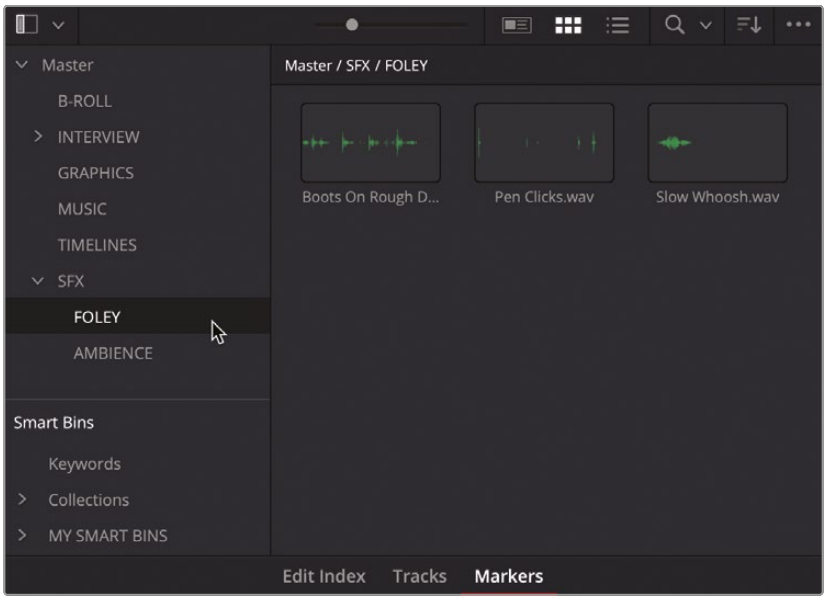


3 Press Shift-Z to zoom the timeline to fit and, in the Markers Index, click the second marker, FOOTSTEPS HERE to jump to that marker in the timeline.



This is the part of the edit where the guy jumps up onto the rocks to look out over the landscape. The original audio recorded with this clip wasn't suitable for use, but you will add some sound that can be used instead.

4 In the top left corner of the interface, click the Media Pool button to reveal the media pool and select the FOLEY bin.

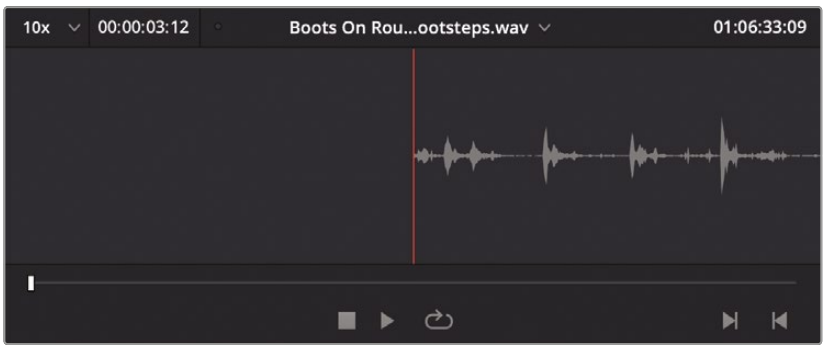


NOTE In filmmaking parlance, *foley* is the term used for any audio added to a film's soundtrack that recreates diegetic sounds, such as footsteps on different surfaces, traffic sounds, the rustle of clothing, or the swish of a lightsaber. Named after Jack Foley, the pioneer of recording and synchronizing such "everyday" sounds for films, it also gives rise to the terms *foley studio*, where such sounds are often created and recorded, and *foley artist*, the person who performs and/or records the sounds.

This bin contains two clips that were taken from the Fairlight Sound Library. For more information on obtaining and using the Fairlight Sound Library, see *The Fairlight Audio Guide to DaVinci Resolve 19*.

NOTE By default, the Fairlight page only shows audio clips and video clips with an audio element to them in the media pool. To see all clips, click the Media Pool Options (...) menu and choose Show All Clips.

5 Select the clip **Boots on Rough Dirt Footsteps.wav** to open it in the preview player.

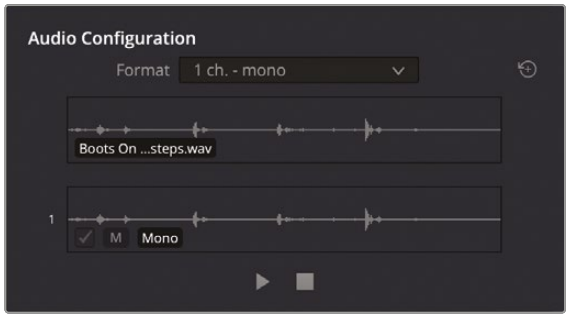


6 Play the clip to listen to it.

You can tell just by looking at the waveform display that this is a single-channel mono clip. To verify this, you can use the Audio Configuration panel in the Inspector.

7 With the clip selected in the media pool, open the Inspector and select the File tab.

In the Audio Configuration panel, you can see that the clip has only one audio channel.

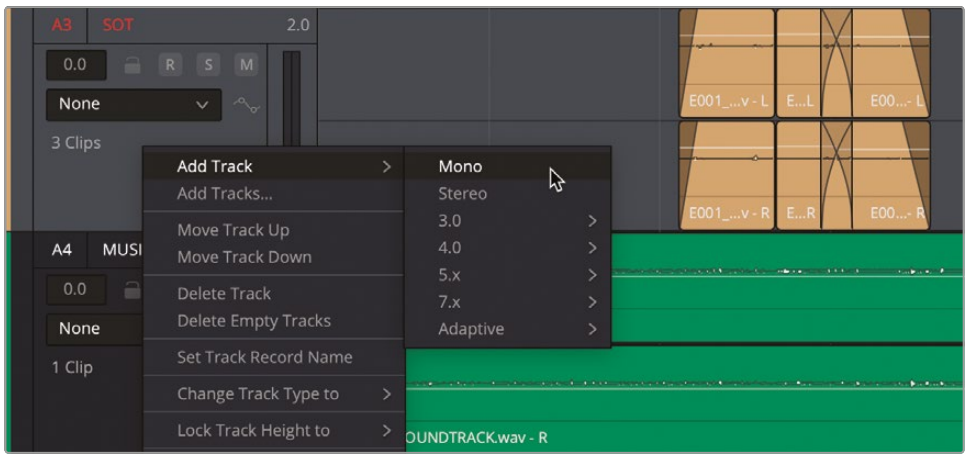


8 Close the Inspector now that your curiosity has been satiated.

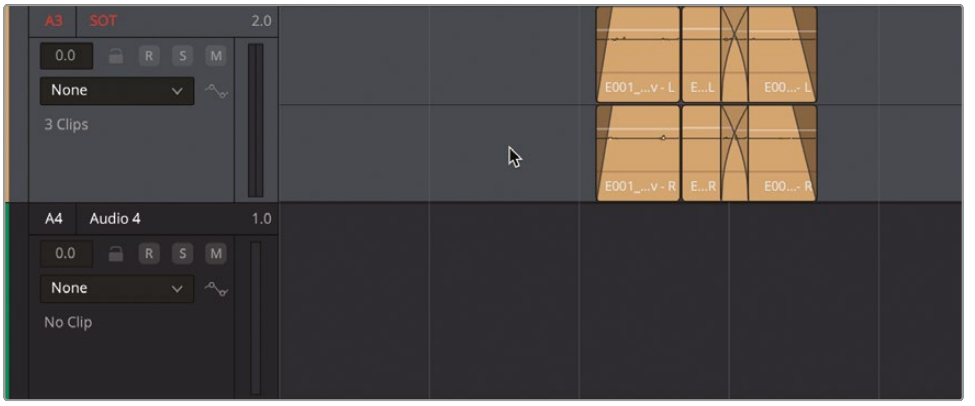
> **NOTE** You can also view the channel configuration of this clip by right-clicking the clip in the media pool and choosing Clip Attributes.

Now that you know you'll be working with a mono audio clip, you know the type of track you'll need in the timeline.

9 Right-click the SOT track controls and choose Add Track > Mono.



A new mono audio track is added below the SOT track.



NOTE New audio tracks are always added below the track for which you right-clicked the controls. You can always reposition a track in the timeline by using the Track Index (see below). To add more than one audio track, or to specify where the track will be placed in the timeline, right-click the track controls and choose Add Tracks.

10 Rename the new track **FOLEY**, right-click the track controls, and choose Change Track Color > Purple.

11 Click the Solo button for the FOLEY track.

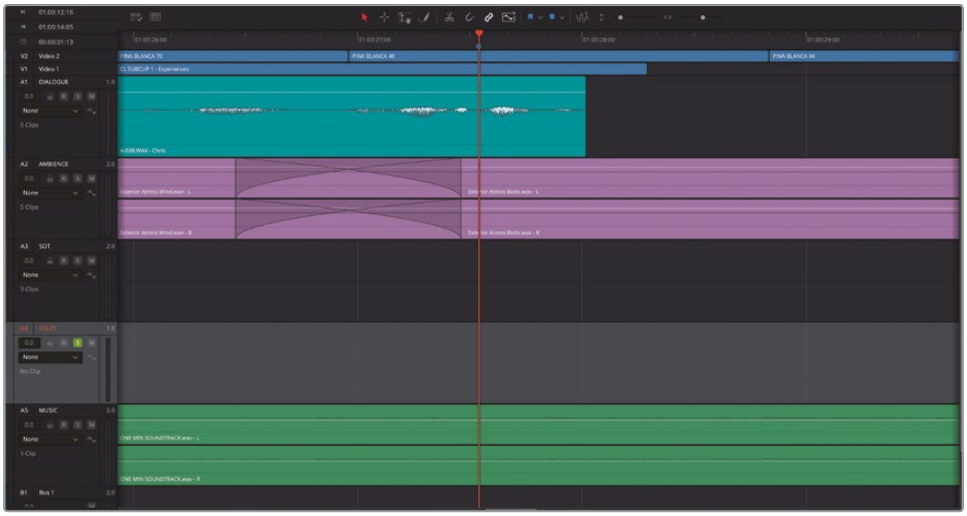
Now you need to add the clip to the track and sync the sound to the onscreen action.

Using Scrollers

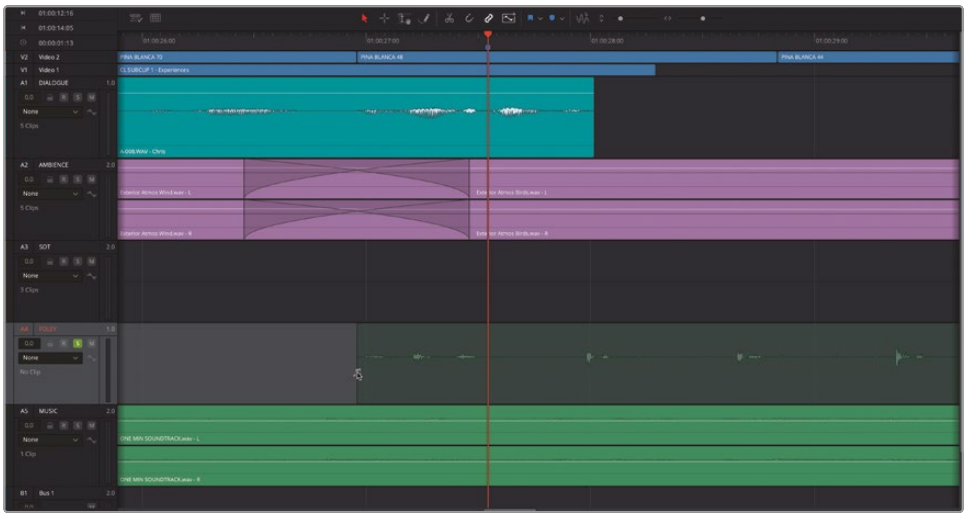
Editing audio clips into the timeline in the Fairlight page is similar to editing audio clips in the edit page, except that there isn't the flexibility you have in the edit page with all the different edits (Overwrite, Insert, Place on Top, Append, etc.). Instead, editing audio clips in

the Fairlight page is as simple as drag and drop. However, you can choose to add In and Out points to a clip in the preview player as you did in the edit page's source viewer.

1 Press Command-= (equals) in macOS or Ctrl-= (equals) in Windows to zoom in on the playhead location in the timeline, which is still on the second marker.

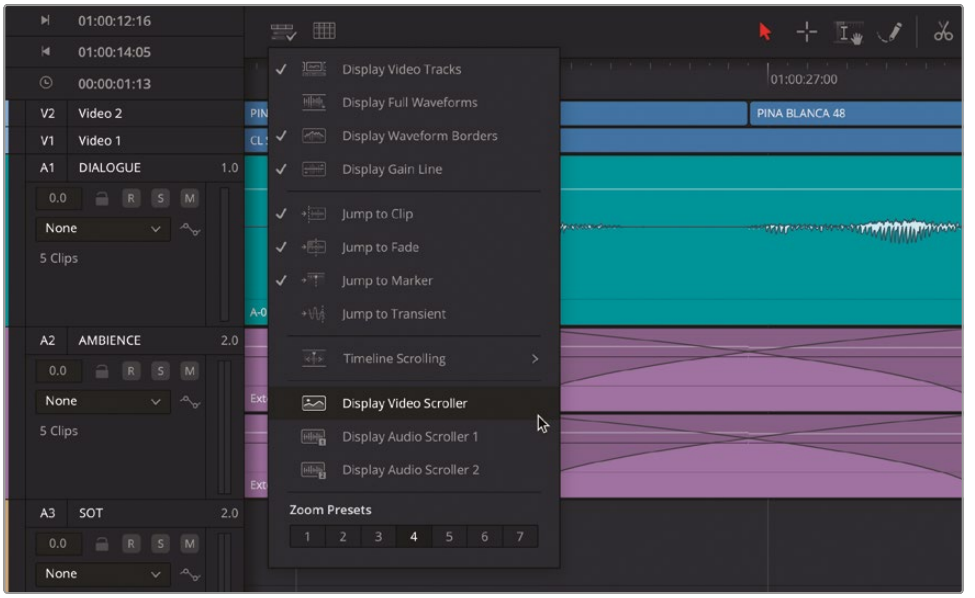


2 In the media pool, select the **Boots on Rough Dirt Footsteps.wav** and drag it from the preview player into the FOLEY track in the timeline. Don't worry about placing it in any particular place at the moment; just line up the start of the clip with the start of the **PINA BLANCA 48** clip in the V2 track above.

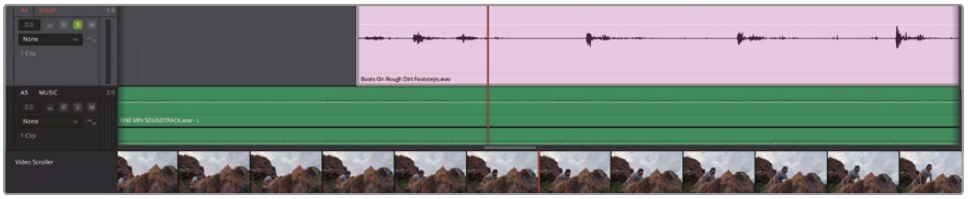


With the clip in the timeline, you'll now need to align the sound effect with the guy's movements. To help you do that efficiently, the Fairlight page has a set of scrollers.

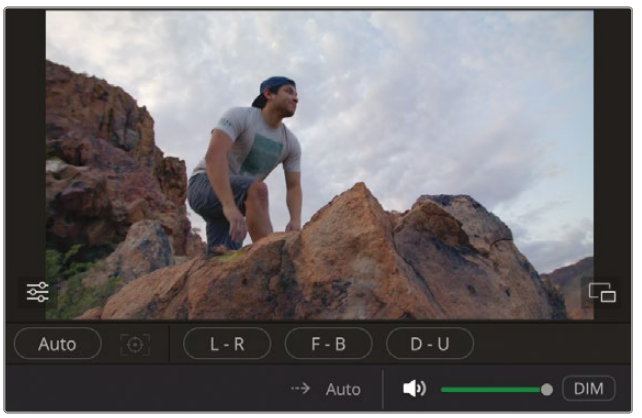
3 Click the Timeline View Options menu and choose Display Video Scroller.



The video scroller opens underneath the timeline and shows the individual video frames in use from the edit page. In the center of the video scroller, you will see a red line indicating the frame currently underneath the playhead in the timeline.

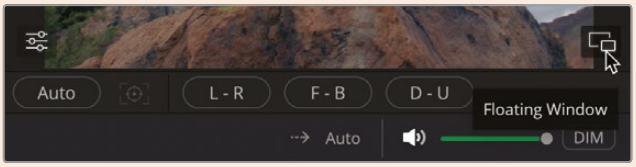


4 In the video scroller, click the frames to the left and right of the current frame to move the playhead to the start of that frame.

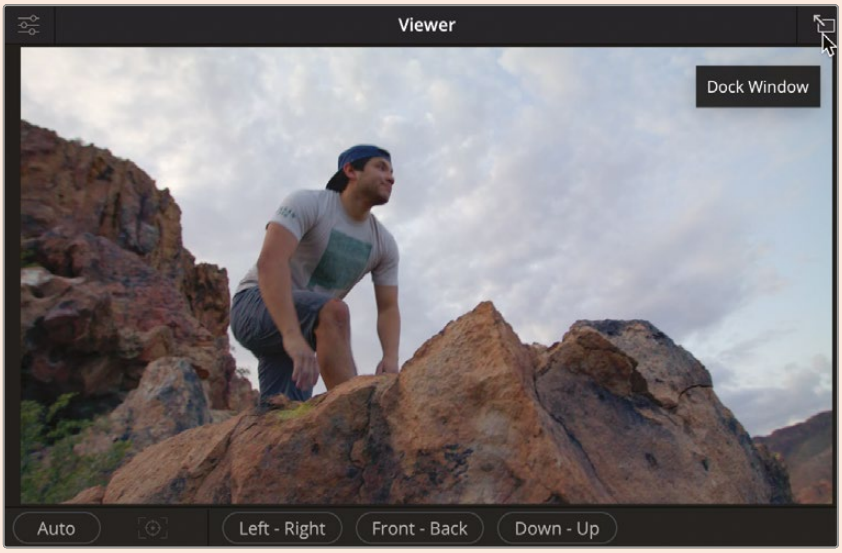


5 Use the video scroller to reposition the timeline playhead to the start of the frame where the guy places his right foot on the rock. (Since you can't see his foot touching the rock, you'll need to use your best judgement.)

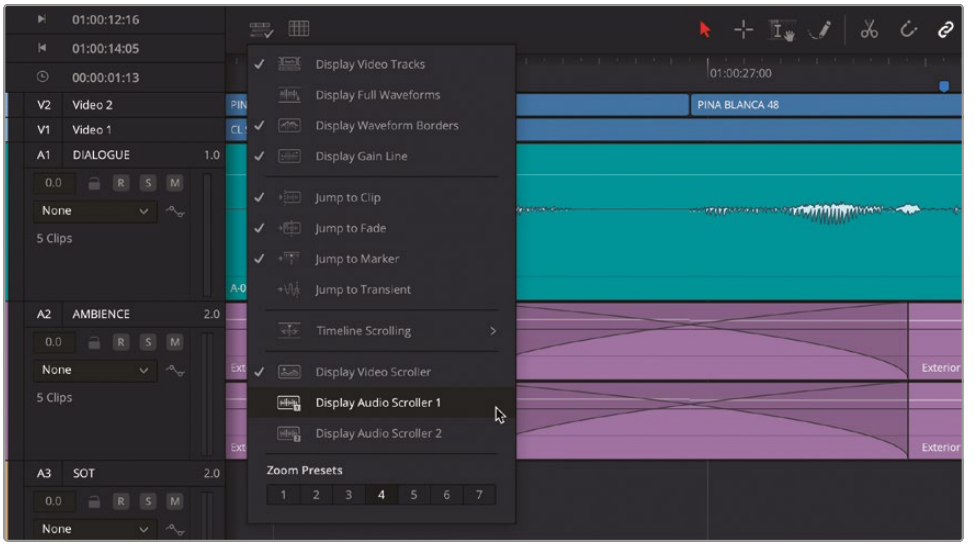
NOTE To help you judge the onscreen action, you can increase the size of the viewer by opening it in its own separate window by clicking the Floating Window button.



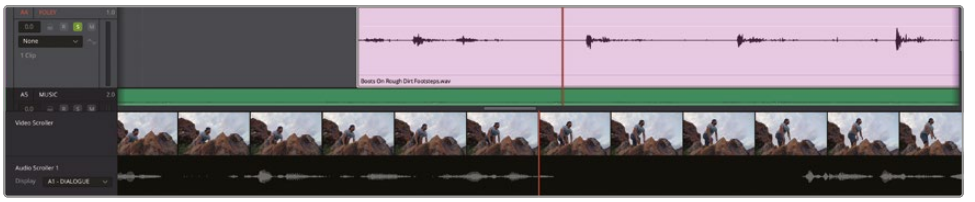
TO RETURN THE VIEWER TO THE METERS PANEL, CLICK THE DOCK WINDOW BUTTON IN THE TOP RIGHT OF THE FLOATING WINDOW.



6 In the Timeline View Options menu, select Show Audio Scroller 1.

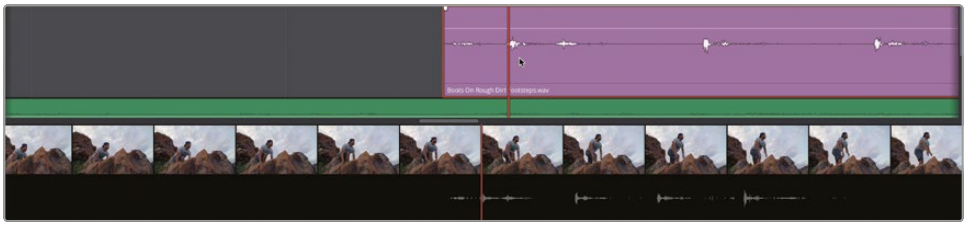


The audio scroller opens below the video scroller, showing the waveform of the chosen audio track.



7 Click the Display menu for Audio Scroller 1 and choose the A4 - FOLEY track to display the waveform of the audio on this track.

8 In the timeline, drag the **Boots on Rough Dirt Footsteps.wav** clip to align the waveform of the first "step" with the start of the frame in the scrollers.



Using the scrollers to align audio to onscreen action like this is much easier that trying to judge it in the timeline

9 Play back the new sound effect in the timeline.

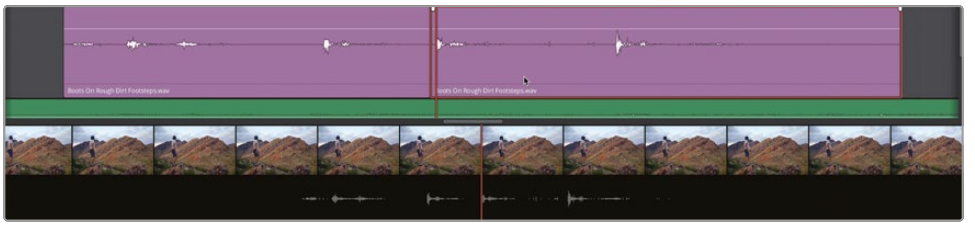
Generally, the sync works well, but the third "step" isn't quite timed right.

10 In the timeline, click the final "step" in the audio scroller to jump to that part of the audio clip and click and drag the waveform to position the playhead accurately just before the waveform.

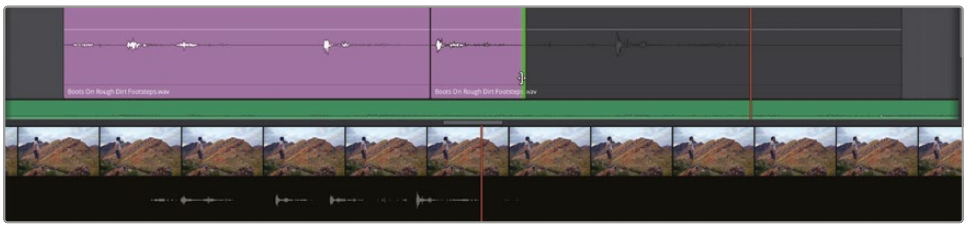
11 With the **Boots on Rough Dirt Footsteps.wav** clip selected in the timeline, click the Razor (Scissors) button in the timeline toolbar, or press Command-B (macOS) or Ctrl-B (Windows) to split the clip.

12 Using the video scroller, move back a few frames to locate where the guy puts his foot down in the wide shot.

13 Once the playhead is at the start of the frame, drag the second part of the split audio clip back to align the waveform with the action.



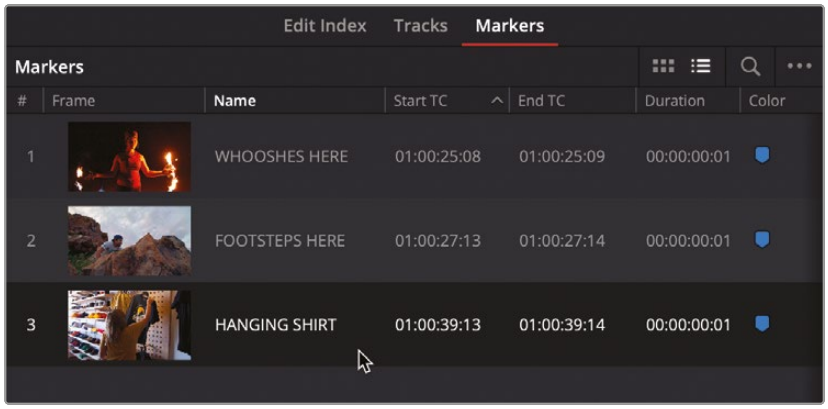
14 Trim off the final "step" in the **Boots on Rough Dirt Footsteps.wav** clip.



15 Play back the two shots and review your synced sound effect.

Sometimes even the tiniest, innocuous piece of sound can help enhance a shot or scene, even if it wasn't actually recorded for that particular purpose.

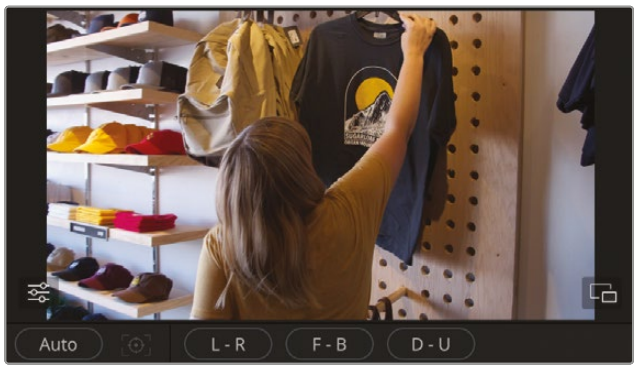
16 In the markers index, click the third marker, HANGING SHIRT to jump to that point in the timeline.



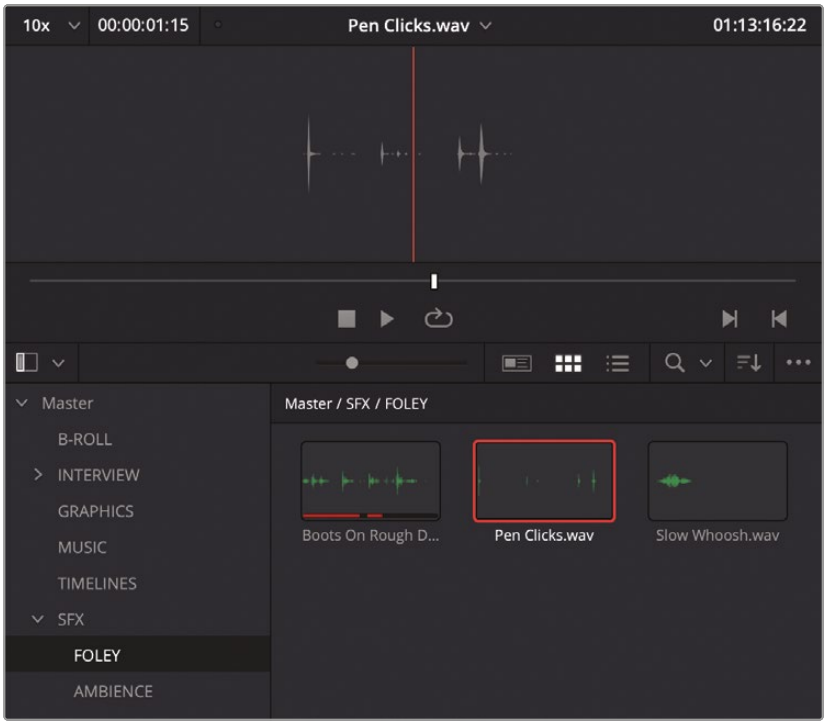
It would be nice to include a small sound effect of the shirt being placed on the hanger.

17 Click the Solo button for the AMBIENCE track and listen to the interior atmosphere clip that's been added to this shot.

18 Using the video scroller, locate the frame where you think the shirt hanger would contact the display hanger. Again, since you can't see the action fully onscreen, your best guess is as good as anything—you can always adjust it later if necessary.



19 From the FOLEY bin, select the **Pen Clicks.wav** clip and listen to it using the preview player.

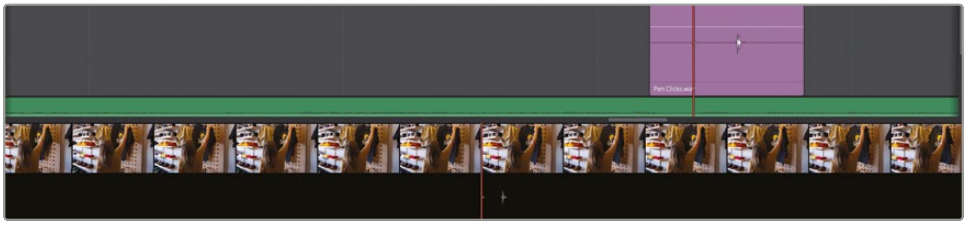


This clip has a few unidentifiable clicks that will serve your purpose.

20 In the preview player, place the playhead at the start of the penultimate click and press I to add an In point.

TIP You can use the familiar playback controls you learned in the edit page lessons to control the playback of audio in the Fairlight preview player, such as the Spacebar or JKL keys.

21 Drag the marked clip from the preview player to the location of the playhead in the FOLEY track, using the audio scroller as a guide to where to place the clip to best align it with the onscreen action.

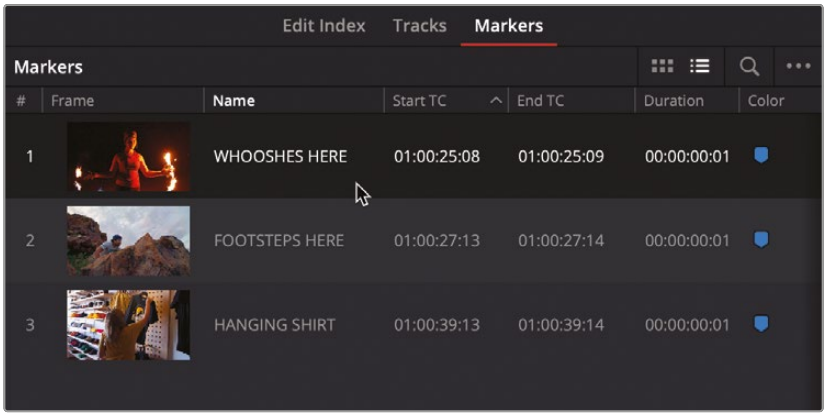


22 Review your new sound effect along with the ambience, changing the alignment of the sound effect to best sell the action.

Aligning Sound Effects

Fairlight has other audio-centric tools that you can use to your advantage when building your sound design elements and enhancing the onscreen action.

1 In the Markers Index, select the first marker, called "WHOOSHES HERE," to move to the shot of the girl with the flaming torches in the timeline.

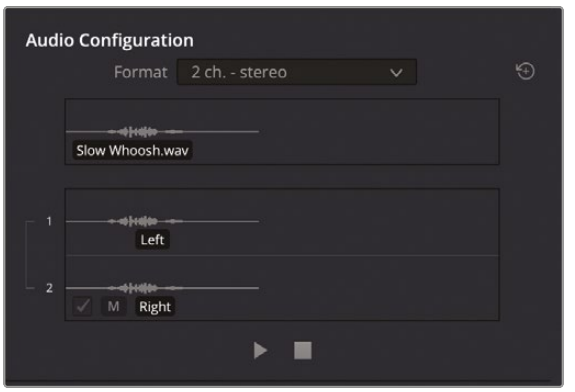


You'll add some sound effects to this to emphasize the movement of the torches.

2 In the media pool, select the **Slow Whoosh.wav** clip and listen to it using the preview player.

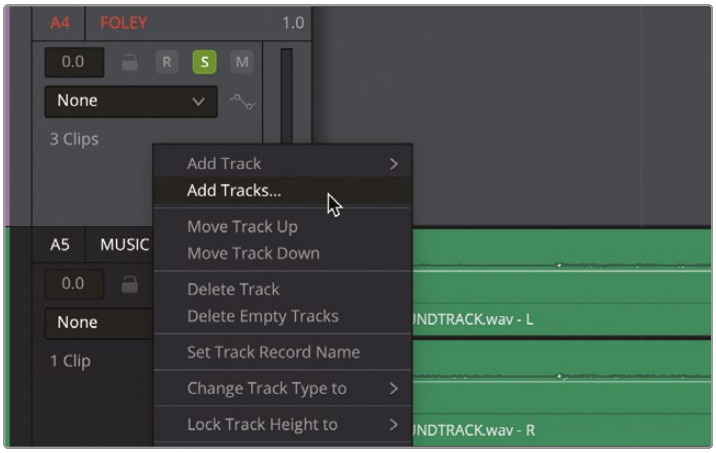
This is the sort of sound effect that's been created rather than recorded, often as part of a sound effect library, and is a good substitute for the sound of flaming torches. You can see that this clip has two audio channels, but that doesn't necessarily tell you how they are configured.

3 Use either the Inspector or Clip Attributes to verify that this clip is a stereo clip (two channels configured as a single stereo track).

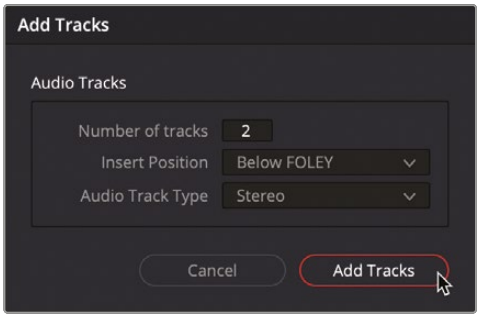


Since this is definitely a stereo clip, you'll want to edit it onto a stereo track; otherwise, you won't get that stereo effect in your speakers.

4 In the timeline, right-click the track controls for the FOLEY track and choose Add Tracks.

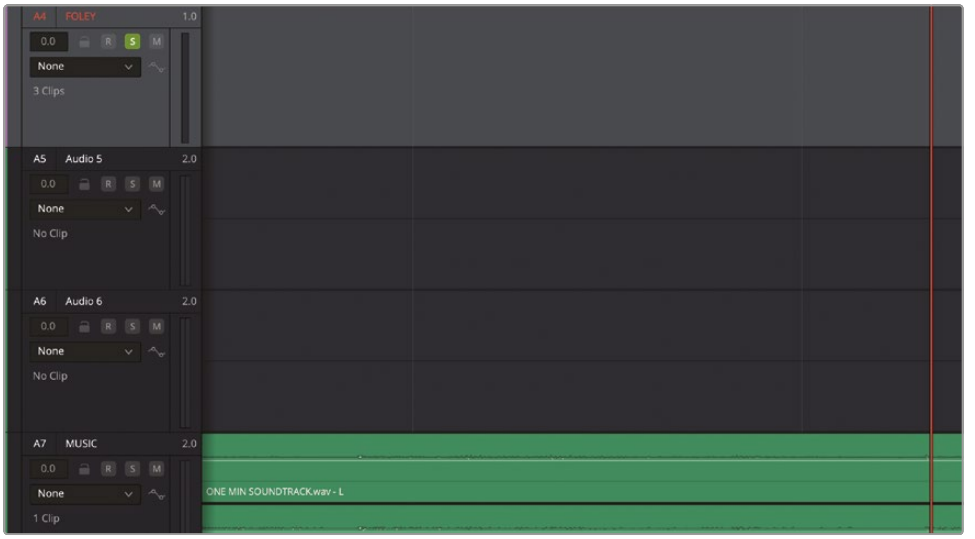


5 In the Add Tracks dialog, change the number of tracks to 2, ensure that the Insert Position is set to Below FOLEY, and change the Audio Track Type to Stereo.



6 Click Add Tracks.

Two new stereo tracks (Audio 5 and Audio 6) are added to the timeline below the FOLEY track.



7 Change the names of Audio 5 and Audio 6 to **SFX1** and **SFX2**, respectively.

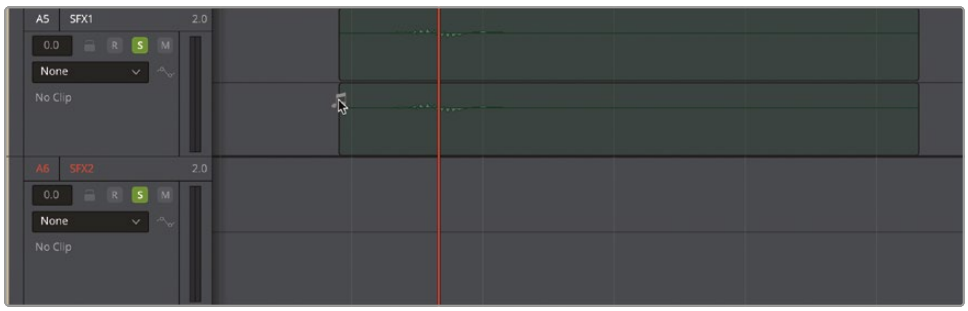
8 Select the track header for SFX1 and Command-click (macOS) or Ctrl-Click (Windows) the track header for SFX2.

9 Right-click the selected tracks and choose Change Track Color > Tan for both of these tracks.

10 Click the Solo control for both of these tracks.

11 Now use the video scrollers to locate the first time in the clip where the flaming torches are closest to the camera.

12 Drag the **Slow Whoosh.wav** clip from the preview player so the playhead intersects the center of the waveform.



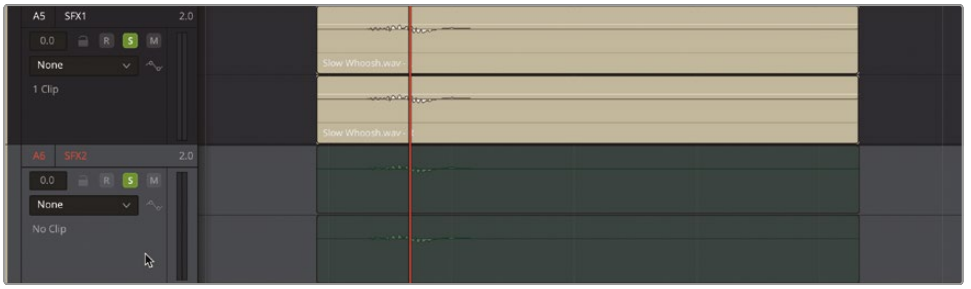
13 Click the track controls for the SFX1 track.

Whenever a track is selected like this in Fairlight, any clips intersecting the playhead are automatically selected.

14 With the clip automatically selected, choose Edit > Copy or press Command-C (macOS) or Ctrl-C (Windows) to copy the clip.

15 Click the track control for SFX2.

A transparent copy of the **Slow Whoosh.wav** clip appears in the SFX2 track.



16 Using the video scroller, locate the next time the flaming torches circle around closest to the camera.

The playhead follows the video scroller to the new position, and the transparent copy of the **Slow Whoosh.wav** clip moves along with it as though it's attached to the playhead!

17 Choose Edit > Paste or press Command-V (macOS) or Ctrl-V (Windows) to paste the copy of the clip into the SFX2 track at this position.

18 Select the SFX1 track and use the video scroller to locate the third time the flaming torches are closest to the camera and press Command-V (macOS) or Ctrl-V (Windows) to paste another copy of the clip.

19 Play back the shot of the flaming torches, along with its newly enhanced audio.

As you can see, the Fairlight page offers several enhancements when it comes to adding and syncing audio clips to onscreen action.

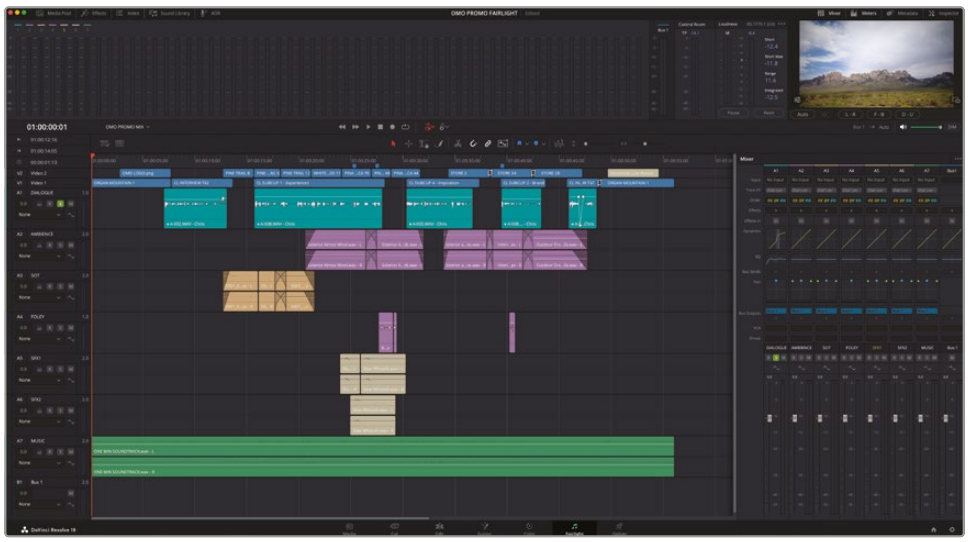
NOTE If you need to catch up before moving to the next step, open the media pool, select the TIMELINES bin, and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 08 / Timelines / **OMO PROMO MIX CATCHUP 04.drt** and click Open.

Mixing the Soundtrack

Now that you've successfully added the sound design elements to the OMO Promo, it's time to bring all the elements together into the final mix. This is where you bring all the separate audio elements together by balancing the levels of the clips on each track so the soundtrack sounds good as a whole.

While you could make these adjustments at an individual clip level, the easiest way to balance the mix is to use the mixer.

1. In the Timeline View Options menu, click the Display Video Scroller and Display Audio Scroller 1 options to turn off the scrollers.
2. Choose Workspace > Reset UI Layout to reset the Fairlight page back to the default layout.
3. Drag the left edge of the mixer so you can see all the channel strips and un-solo all the tracks except A1 – DIALOGUE.
4. Press Shift-Z and adjust the track heights so you can see the whole timeline.



It's time to start listening to the individual elements and setting the track levels so they all sound good together. Since you've already set the dialogue levels using a combination of Normalization and the Dynamics's Compressor, that will be your starting point.

5 Play the timeline, listening to the overall levels of the dialogue track.

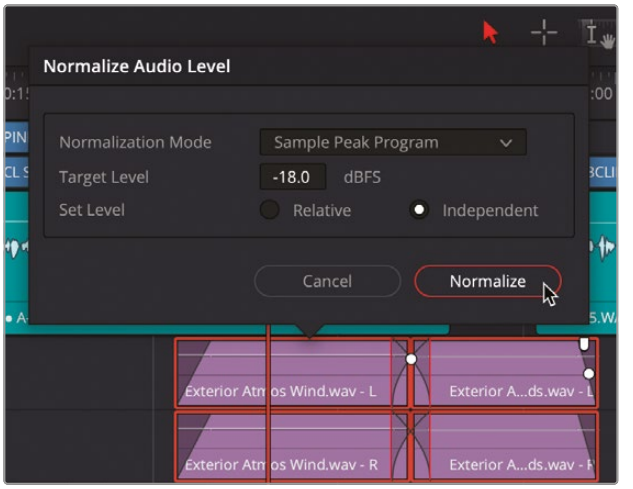
6 Click the Solo button for A3 – SOT to add this track to the overall mix.

The levels of these clips sound fine next to Chris's interview, although you can always change them later if necessary, so you will add the next element into the mix.

7 Click the Solo button for A2 – AMBIENCE.

This track contains general, nonspecific environment sounds, mainly interior and exterior sounds to help establish a location for each of the shots.

8 Normalize all the clips on the AMBIENCE track independently to -18 dBFS.



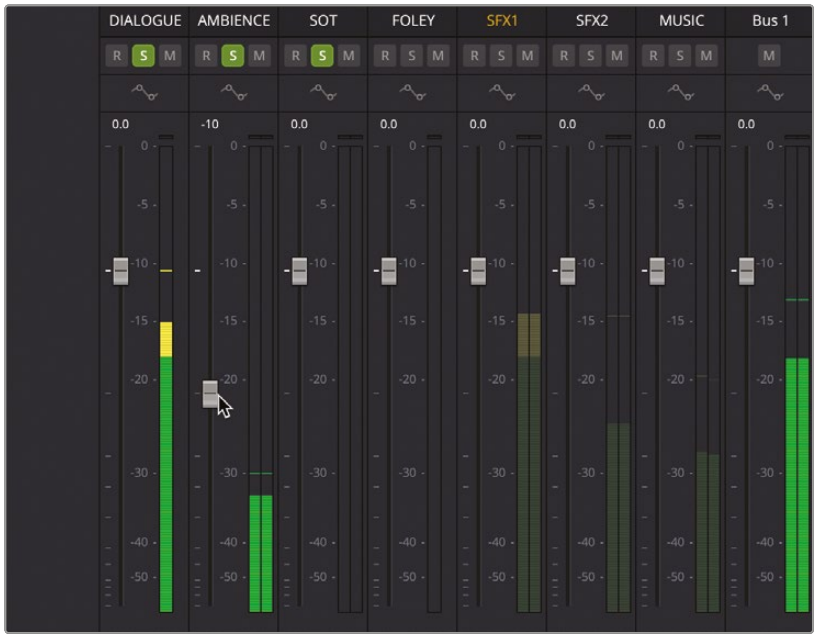
If that sounds like it may be a bit too loud, you're right.

9 Play the part of the timeline where the clips on the AMBIENCE track fade in.

The clips on this track definitely distract from Chris's spoken words because they're too dominant in the mix. Normalization means that the clips have a consistent level (around -20 dBFS, peaking at -18 dBFS of course), but it's too loud for this mix.

You could simply Normalize the clips to a lower level, or adjust each clip's audio level so it's lower, but there's a more efficient way of adjusting the level of the ambience.

10 Play the timeline again and, when the ambience clips start to play, use the control strip in the mixer to lower the level of the whole track.



As you are adjusting the track level in the mixer, try to use your ears to discern where the level should be. If you're unsure, an adjustment of around -10 dB is probably about right (as indicated by the white relative adjustment value at the top of the fader). Don't worry if you're not sure whether it's the right level just yet; there will be plenty of opportunity to refine it.

Next, it's time to add the first track of your sound design elements.

11 Click the Solo button for the FOLEY track to add this to the mix.

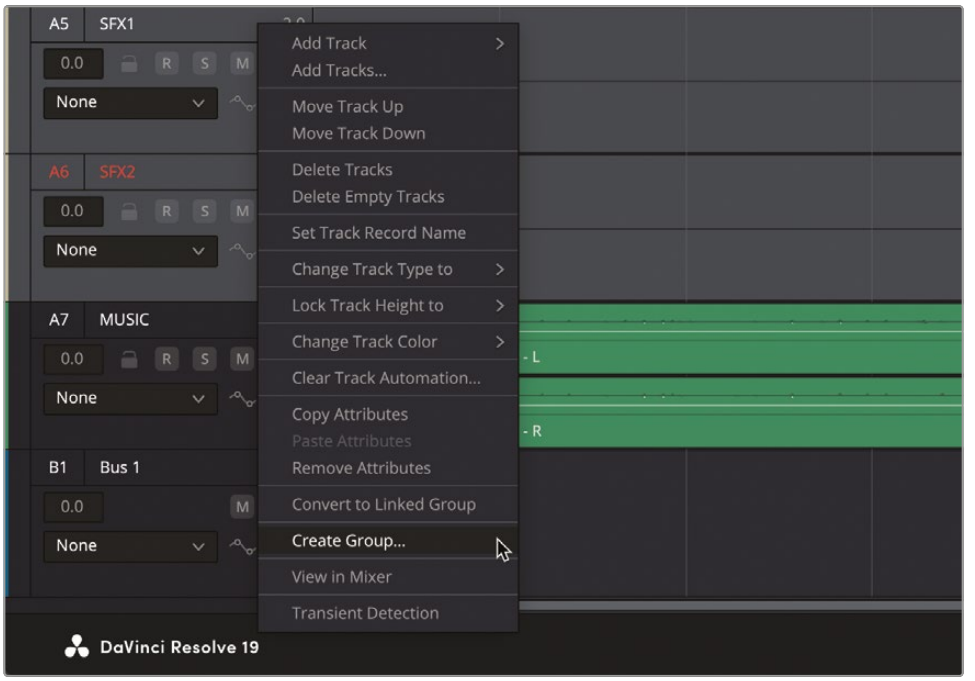
Again, the level of each of the clips on this track is too high.

12 Normalize the level of the clips on this track to -9 dB, and then bring the track's level down in the mixer by around -12 dB.

13 Click the Solo button for the SFX1 and SFX2 tracks.

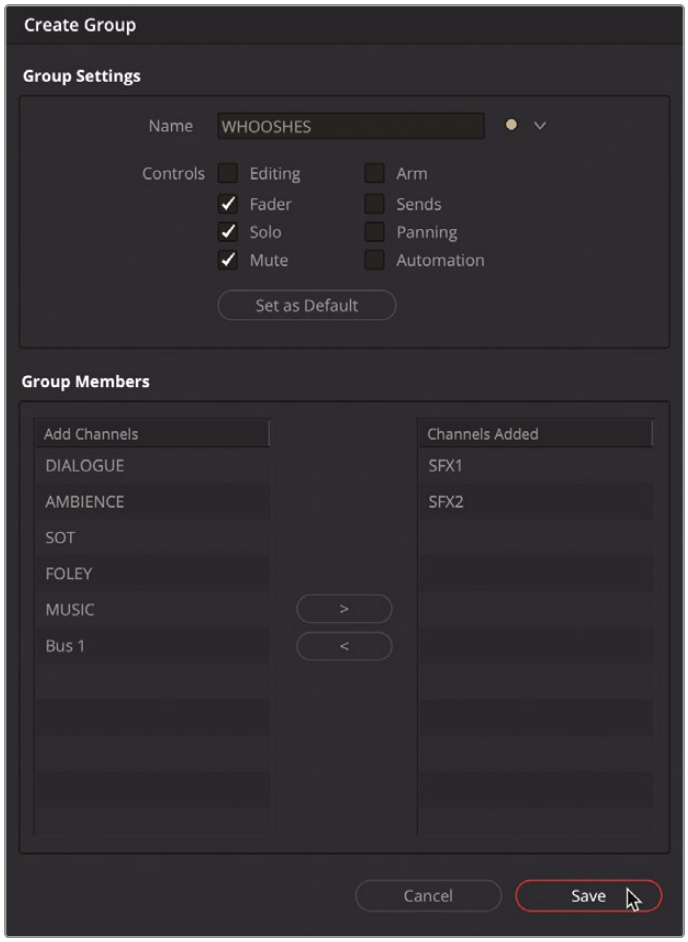
Because these two tracks contain copies of the same clips, there's no benefit to normalizing their levels, since they'll all be normalized by the same amount anyway. However, because the clips are across two tracks, you can make the same change to both tracks by grouping them together.

14 Select both tracks by Command-clicking (macOS) or Ctrl-clicking (Windows) the track control headers, and then right-click the track controls and choose Create Group.



15 In the Create Group window, change the name of the Group to **WHOOSHES** and check the options for Fader, Solo, and Mute.

Choosing these controls means that adjusting one of these controls for one track will adjust the others in the Group at the same time.

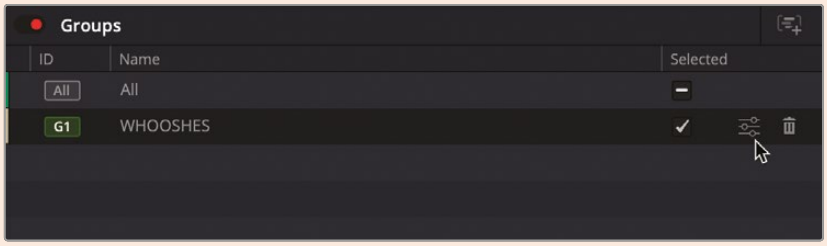


16 Click Save.

In the mixer, you will see that these tracks have been added to the new Group. Now, any change to the faders, solo, or mute controls will affect both tracks simultaneously.

17 Lower the level for either SFX1 or SFX2 by about -3 dB. The other track in the Group will follow suit.

NOTE You can manage the Group in the Groups panel in the Track Index. To make changes to a Group, click the Settings button for the Group to open it in the Modify Group window.



IF YOU DELETE A GROUP, ALL THE ADJUSTMENTS YOU'VE MADE WILL BE RETAINED ON THE TRACKS.

Mixing the Music

The last element to add to the mix is the Music track. Back in Lesson 3, you accomplished this using the Ducker. While the Ducker is still available to you in the Fairlight page as a track effect, because there's much more to the sound design in this timeline, you'll probably want to make the changes yourself using a series of keyframes.

1 In the timeline, deselect all the active Solo controls for the tracks.

TIP You can click and drag across the Solo controls in the timeline track headers to enable/disable the Solo for a set of tracks at once.

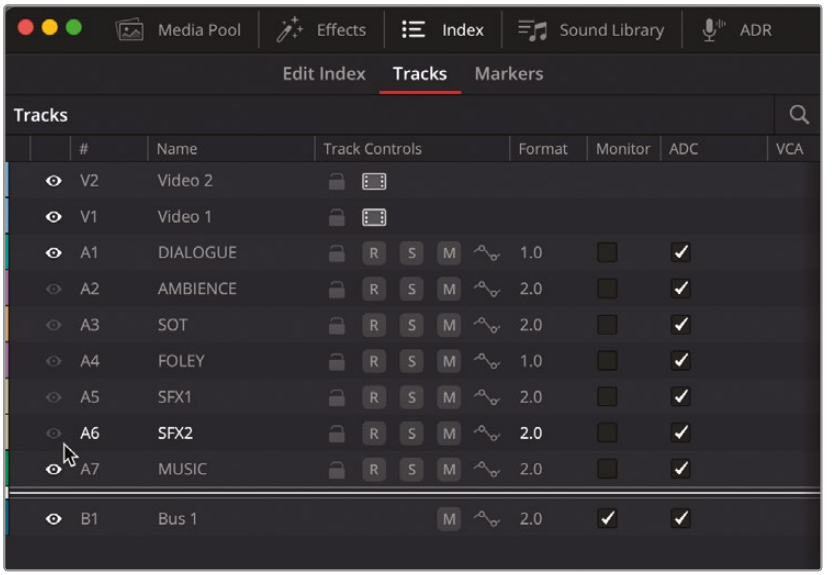
2 Return the playhead to the start of the timeline and begin playing back, listening to the first two dialogue clips.

While the level for the music works over the majority of the timeline, particularly when Chris is speaking, there are "empty" areas in the soundtrack where the music can rise up to become more dominant in the mix. Of course, to help you fix this, the Fairlight page has another trick up its virtual sleeve!

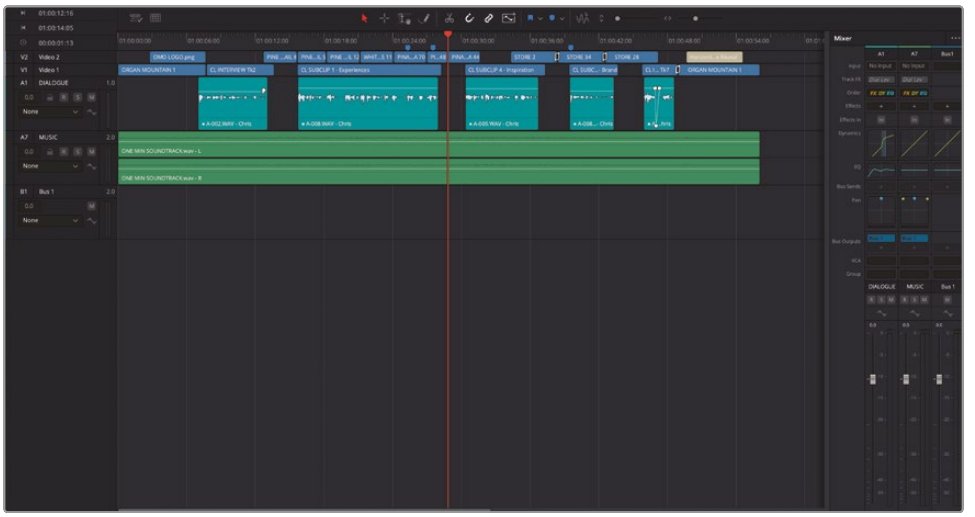
3 Click the Index button and select the Tracks tab.

The Track Index displays a list of all the tracks available in this timeline.

4 Click and drag across the visibility (eyeball) buttons for Tracks A2 to A6—all the tracks apart from the dialogue and music tracks.

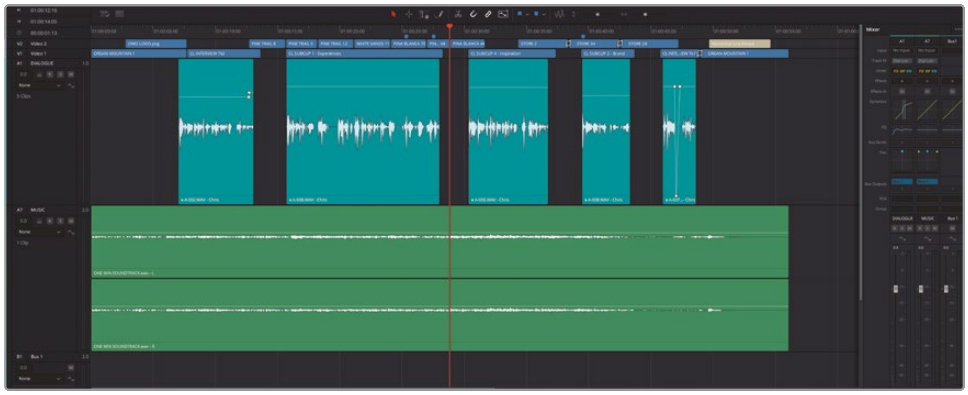


This hides the tracks in the timeline and mixer.



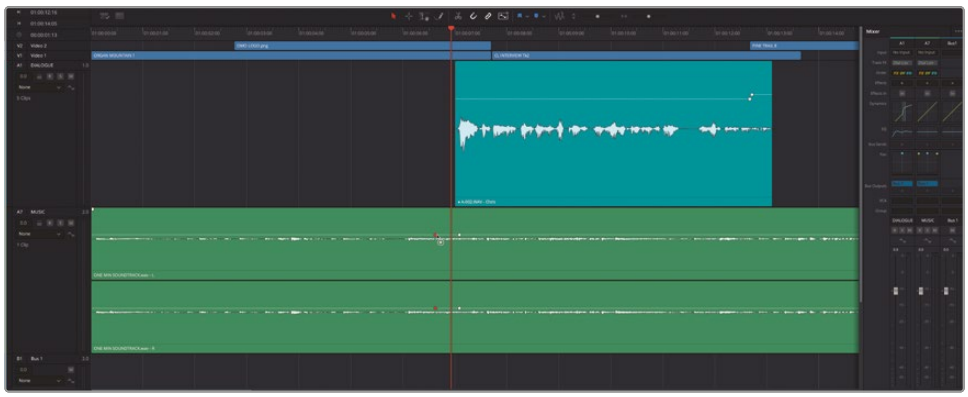
Because they are not muted, you will still hear these tracks, but it helps to simplify the timeline, allowing you to concentrate on the dialogue and music tracks together, without having to work around all the tracks in between.

5 Click the Index button to hide the Track Index and, in the timeline, press Shift-Z and adjust the height of the remaining visible tracks.

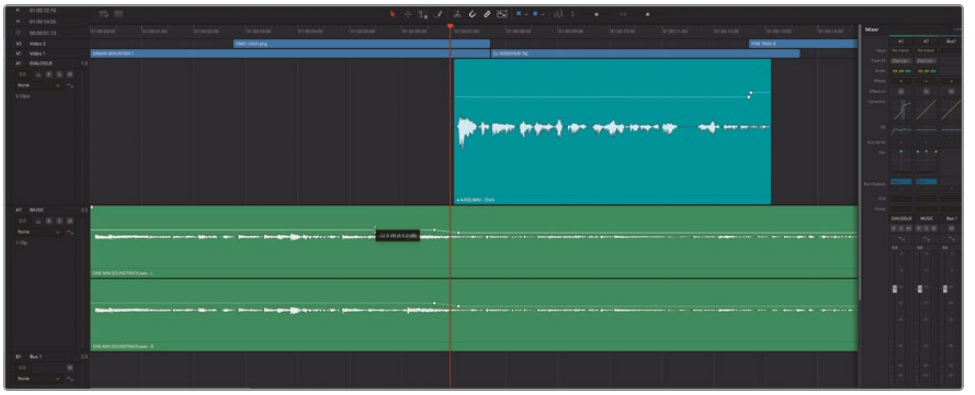


6 Place the playhead at the start of the first clip of dialogue and use Option-scroll (macOS) or Alt-scroll (Windows) to zoom in on the start of the clip.

7 Hold down the Option key (macOS) or Alt key (Windows) and click twice on the gain line of the music clip to add two keyframes around the point where Chris's soundbite starts.

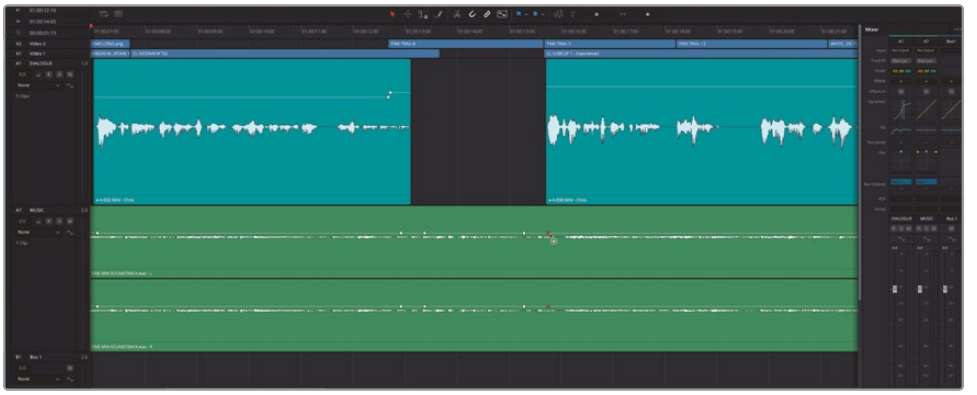


8 Select the gain line before the keyframe on the left and increase the level for that part of the clip to about -12 dB (a Δ adjustment of around 6 dB).

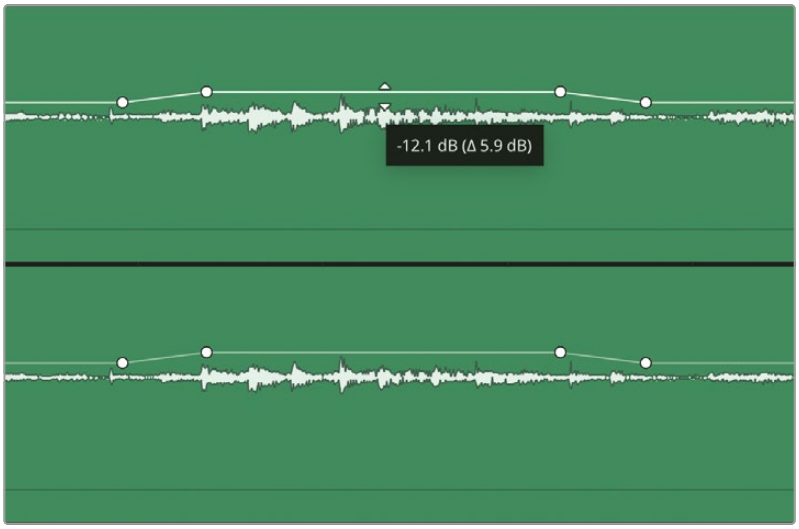


9 Scroll the timeline to the end of the first soundbite clip.

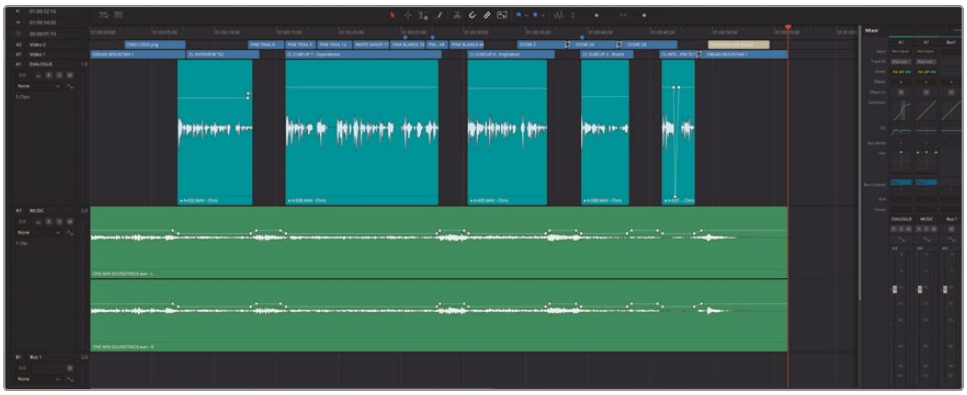
10 Option-click (macOS) or Alt-click (Windows) the music clip's gain line four times: twice as Chris finishes the first soundbite and twice more just before the next soundbite.



11 Grab the volume line between the two middle keyframes and increase the level for this part of the clip by about the same amount, to -12 dB.



12 Repeat the process each time Chris pauses speaking to raise the level of the music between each sound bite.

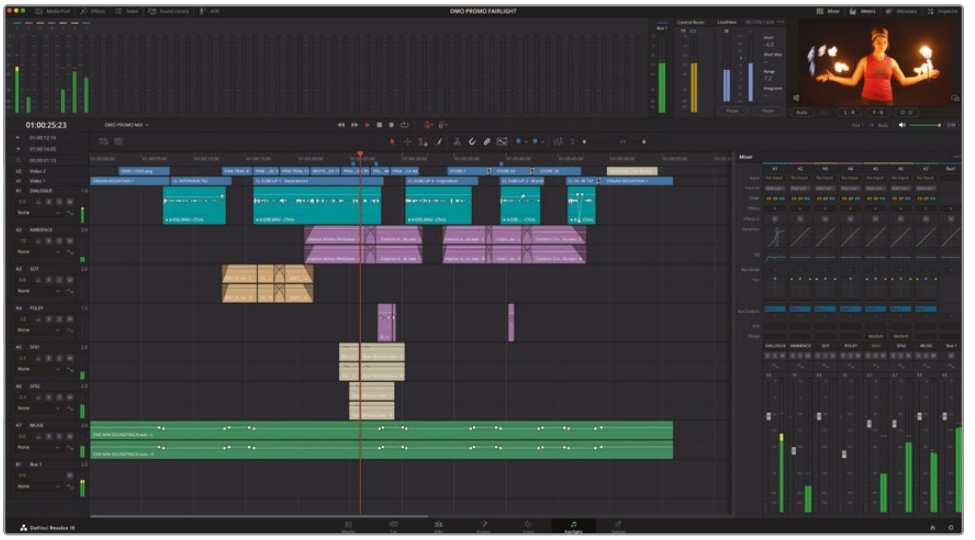


Be careful, though. Don't just blindly follow the numbers; you need to listen to how all the elements of the mix are working together, so some level adjustments may need to be made more carefully than others. You want to make sure your audience has an opportunity to hear all the nuances of the soundtrack you have created!

13 Once the music mix has been completed, reopen the Tracks Index and click and drag across the visibility buttons to show the hidden tracks in the timeline.

14 Press Shift-Z and adjust the timeline track heights so you can see the entire timeline.

15 Return the playhead back to the start of the timeline and play back to enjoy the full mix!



NOTE To import a finished version of the timeline for this lesson, open the media pool, select the TIMELINES bin, and choose File > Import > Timeline, navigate to R19 Beginners Guide / Lesson 08 / Timelines / **OMO PROMO MIX CATCHUP COMPLETED.drt** and click Open.

Of course, if you aren't entirely happy with any part of the mix, you can always continue making further adjustments. Like much of the creative work you undertake in Resolve, you will need to continually refine things to get the results you desire. So feel free to continue adjusting the mix as you see (or hear) fit, whether that's using the mixer or individual clips in the timeline.

Once you are happy with the mix, you can return to the edit page where you will see all the audio changes you've made in Fairlight, once again highlighting the flexibility of working in DaVinci Resolve!

Lesson Review

1. What is the highest level of precision you can work with in the Fairlight page?
   - **a)** Frame level
   - **b)** Subframe level
   - **c)** Sample Level
2. True or False? All audio adjustments you make in the edit page are visible and adjustable in the Fairlight page.
3. Where can you find the built-in Compressor in the Fairlight page?
   - **a)** Track EQ
   - **b)** Dynamics
   - **c)** Track effects
4. How many audio scrollers can be displayed at the same time?
5. True or False? The Fairlight page does not allow you to add audio clips to the timeline.

Answers

1. c). Audio clips can be edited at the sample level, which offers the highest precision in the Fairlight page.
2. True. All audio changes you make in the edit page are visible and adjustable in the Fairlight page.
3. b). The Compressor can be found in the Dynamics controls.
4. Up to two audio scrollers can be displayed at the same time, as well as one video scroller.
5. False. Audio clips can be added to the timeline by dragging them from the media pool or from the preview player.

An Introduction to Visual Effects Compositing

When mutants attack or aliens land spaceships on Earth, filmmakers turn to visual effects artists to make those shots reality. You can use visual effects to create images that cannot be realized with live-action production. Anything that's too difficult, too dangerous, or even too expensive to capture with a camera, you can create with visual effects compositing.

DaVinci Resolve has the full Fusion visual effects and motion graphics toolset built in, which makes it possible for you to create feature film-quality effects without switching between software applications!

While you can create simple visual effects in the edit page, you'll find more advanced tools for building sophisticated, photorealistic effects in the Fusion page. It features a flow graph-style interface, known as a node tree, designed specifically for visual effects and motion graphics work.

As you read through the following lesson, you'll begin to understand the many tasks you might choose to perform using Fusion's complete 3D workspace and over 250 compositing and visual effects tools. Best of all, it's now part of DaVinci Resolve, so you can switch from editing, color grading, and audio post-production to visual effects and motion graphics with a single click!

What Is Visual Effects Compositing?

Compositing is the process of combining two or more images to make a unique, new image. But it's not just about combining images. You can composite many different elements, such as video clips, animations, text, mattes, particles, and graphics. Sometimes these elements are called *layers* because they are layered on top of each other to produce the new image.

Many tasks fall under the umbrella of visual effects. Just as with color and audio post-production, visual effects are a huge and exciting part of the creative filmmaking process. Depending on the type of work you do, you may need to learn some or all of the skills needed to create a finished visual effects shot. Smaller productions often require you to build shots from start to finish, whereas larger studios may have specialized artists dedicated to tasks such as rotoscoping, 3D, particles, lighting, and so on.

Even when you are hired as an editor or a colorist, you will often be asked to produce smaller effects. Like all aspects of post-production, learning the tools and techniques requires practice. Understanding the technology behind the tools will improve your problem-solving skills and efficiency.

As industry deadlines tend to grow shorter, editors and colorists who know how to finish shots quickly and efficiently are in the highest demand. Learning the basics of Fusion visual effects in DaVinci Resolve—along with color correction and audio post-production—will make you a more valuable artist and open up more job opportunities.

Getting Started with Visual Effects

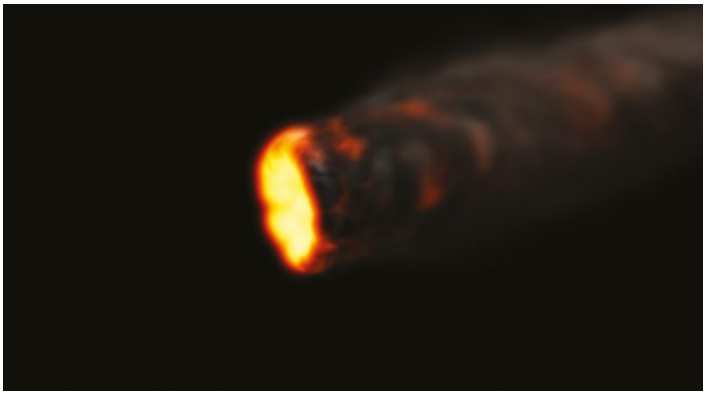
Visual effects were once a luxury reserved only for big-budget feature films. With the power of Fusion built into DaVinci Resolve, you can add feature film–quality visual effects to any program without a massive budget.

If you think visual effects are only about creating aliens, spaceships, and explosions, you are missing out on the many smaller effects that can improve any project. In fact, most visual effects consist of corrective effects, clean-up work, or inserting subtle hidden effects such as sky and window replacements. These effects don't take long to do and can improve everything from poorly framed B-Roll to dull gray skies.

Adding Elements

Weather is unpredictable, and when the story calls for snow, you need snow! That's why creating elements such as snow, rain, fog, and even lightning are essential skills of the visual effects artist. You can use the particle system in Fusion to create realistic weather elements that move, fall, and drift naturally.

Sometimes it's just too dangerous to do things on a real set. For example, smoke, flying debris, and fire are always dangerous when actors and an entire crew are involved. In many cases, these elements can be shot separately, and you can composite them in later as a safer yet realistic-looking alternative.



Animals and Kids

The unpredictable nature of working with animals and children can slow each shooting day to a crawl. Being able to divide and conquer a shot by splitting it up and shooting animals separately from main action can ensure that you get the shot completed without schedule overruns. Through seamless compositing, you can combine each section of a frame to create a realistic split-screen composite that looks like one take.

Sky Replacement

A perfect sunset or a bright blue sky with puffy clouds are great backdrops for any scene, but weather is out of your control. When everyone is on set, the equipment is rented, and the clock is ticking, you've got to get the shot even when the weather isn't cooperating. That's where the (extremely common) art of sky replacement comes in. Fusion's keyers, rotoscoping tools, tracking, and 3D compositing can remove ugly gray skies or salvage overexposed skies. Add in some Fast Noise or volumetric effects and that clear blue sky can include beautiful dramatic clouds that weren't there during the shoot.

With the 3D controls in Fusion, you also can simulate the light direction, atmospheric haze, and realistic parallax camera movement—all elements that can make the difference between a believable sky replacement and a cheap, artificial fake.

Performance/Cosmetic Fixes

Correcting or improving an actor's not-quite-perfect performance can avoid the need for expensive reshoots. This common compositing task is rarely noticed by an audience and can be simple to do, depending on the required fix. For instance, a detail often missed during shooting (but painfully obvious in the screening room) is when an actor portraying a dead body involuntarily moves his eyes. Compositing closed eyes from one frame over an entire shot is a skill that can save the shot and be repurposed for many similar fixes. The removal of scars, tattoos, or uneven tan lines all use similar techniques and can be performed using Fusion's planar tracker, paint tools, and rotoscoping.

Changing Locations

Production budgets always limit where and when you can shoot a scene, but simple environmental enhancements can disguise those limits and change the feel of an entire scene. Such effects can consist of replacing windows in a moving car because you couldn't close Times Square to shoot your scene, or "moving" the ground-floor apartment location you could afford to a penthouse view. These are common tasks for the visual effects artist and can be very quick fixes for editors and colorists to perform.

Wire Removal

Visual effects are also used to add realism to already dangerous stunts. Getting performers to fly across the screen from either explosive force or supernatural powers often requires safety harnesses and wire rigs. You can hide those rigs and wires using Fusion's simple clone tools and tracking, a task that editors and colorists can take on in a pinch when the visual effects artists are busy with larger composites. Plus, the wire removal skills you use in Fusion techniques can also apply to removing lighting stands, telephone wires, and unsightly antennas.

Set Extensions

You can take environment enhancements to the next level to create entire set extensions that visually transport your audience to a specific location (while keeping your production safe at home on a sound stage). Instead of shipping the whole cast and crew to the Himalayan foothills, you can replace the background of your shots with temples and mountains and snow. For period pieces or science fiction, such effects can save enormous amounts of time and money because you don't have to build massive sets. You just construct set fragments around your actors and place green screens in the surroundings. Using the Fusion page during post-production, you can track the camera movement and replace the greenscreen with 3D extensions to your set.

Motion Graphics

Motion graphics, or motion design, is all about animating graphic elements. It's the marriage of visual effects, animation, and graphic design with the goal of presenting onscreen information. Because information in some form is the objective, text often plays a primary role in almost every motion design project. The Fusion page includes both 2D and 3D typography tools along with creative paint, Bézier-shape drawing tools, and incredibly deep spline animation controls. They enable you to create engaging animated designs that communicate, educate, and entertain.

Learning to See

If you want to create high-quality visual effects, you need to be very conscious of how the world appears around you. Visual effects must look and feel real, or your audience will stop believing. The skill to observe the surrounding world in painstaking detail is just as important as mastering the technical and artistic side of visual effects.

To become a skillful visual effects artist, you must start noticing how light, perspective, and depth appear in the real world, and then bring those observations into your composites.

If all the elements that make up a composite are meant to be in the same location, then you must make sure that light hits them all from the same direction. Simulating relative sizes, parallax motion, and depth to a real-world level of detail is essential to the realism of an effects shot.

As you begin creating visual effects, start small. The Fusion page is very deep and incredibly powerful. The beauty of having Fusion built into DaVinci Resolve is that you can jump into creating visual effects with one click; try something out to see if it will work, and then, depending on your skill and the time available, either pass it off to your visual effects artists or finish it yourself.

Visual effects compositing is about a combination of tools rather than any single filter effect. It takes time, patience, and experience to do well, but it's an incredibly exciting activity that you can learn through experimentation and practice. Eventually, you'll create the most thrilling cinematic moments imaginable.

As Walt Disney said, "It's kind of fun to do the impossible."

Lesson 9

An Introduction to Fusion

The Fusion page is where DaVinci Resolve's visual effects and motion graphics capabilities truly shine, offering a powerful node-based compositing system right within your timeline. Editors, colorists, and visual effects artists alike will find Fusion's tools invaluable for creating complex effects with ease. The fully integrated workflow allows you to jump from the edit page directly to your Fusion composition without the need for rendering or transcoding.

Time

This lesson takes approximately 90 minutes to complete.

Goals

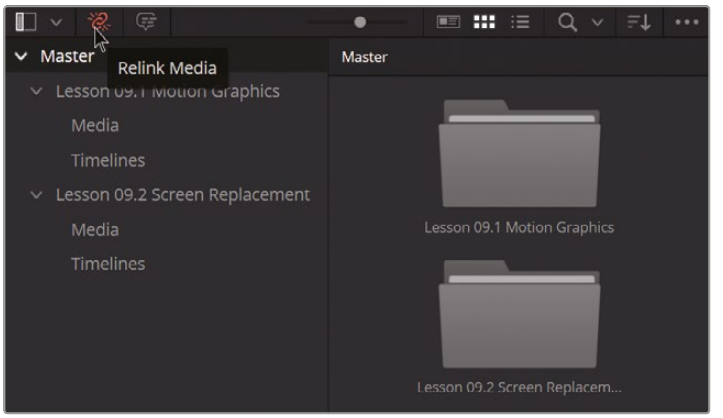
Creating a Fusion Composition 516
The Fusion Interface 518
Adding the First Node 519
The Merge Node 524
Text Creation 528
Keyframes and Animation 532
Quick Changes in the Edit page 539
Creating a Template 542
VFX Compositing 547
Integrating the Elements 554
Lesson Review 563

While Fusion's interface might initially seem complex, mastering its nodes will provide you with a new level of control and efficiency in your projects. In this lesson, you'll dive into Fusion with a motion graphics exercise that will teach you the principles of nodes and animation. Then, you'll work on a real feature film project to integrate a screen into another shot, matching its perspective, reflections, depth of field, noise, color consistency, and other aspects essential to visual effects compositing.

Creating a Fusion Composition

In this first exercise, you'll create a unique animated title that you can transform into your own preset to use in other projects. You will start by importing a DaVinci Resolve Project that contains several copies of this lesson's exercises with different stages of progression so you can load them if you get lost during the lesson.

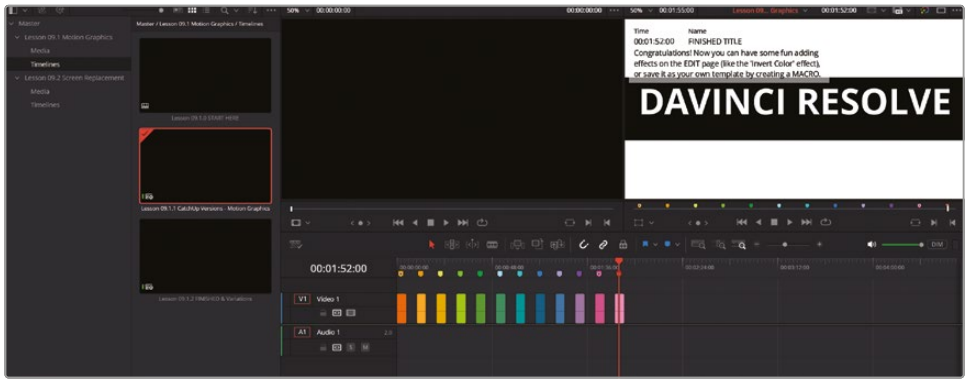
1. Open DaVinci Resolve and, in the Project Manager, click the Import button.
2. Navigate to R19 Beginners Guide / Lesson 09, select the project **DR19_Beginners_Lesson 09_FUSION.drp**, and choose Open. Once the project has been imported into the Project Manager, double-click to open it.
3. Choose Workspace > Reset UI Layout.
4. Press Shift-4 to go to the edit page or click the Edit button at the bottom of the screen.
5. Click the Relink Media button.



6. In the Relink Media dialog, click Locate, navigate to the R19 Beginners Guide folder, and click Open to relink the files.

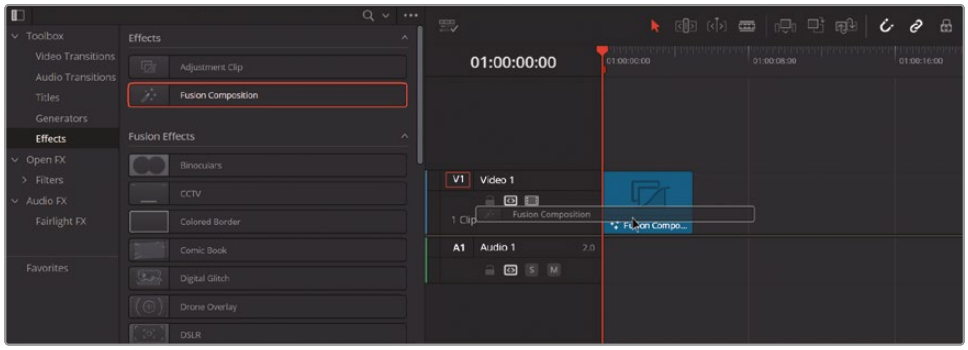
> **NOTE** The media files for this lesson are located in the MEDIA folder.

This lesson is structured in two exercises: Lesson 09.1 Motion Graphics and Lesson 09.2 Screen Replacement. Each exercise has its own clips and bins, which you can find in the media pool. Although you will start the exercises from scratch, you can always use the catch-up timelines, which contain multiple versions of the Fusion compositions you will work on, with every step already included. So if you get lost at any point during this lesson, simply jump into the catch-up timeline and load the Fusion composition you need. For example, in the first exercise, you'll find the Lesson 09.1.1 CatchUp Versions - Motion Graphics timeline in the Master > Lesson 09.1 Motion Graphics > Timelines bin. The finished exercise is located at timecode 00:01:30:00.



7 Ensure that the **Lesson 09.1.0 START HERE** timeline is open. If not, you will find it in the Lesson 09.1 Motion Graphics > Timelines bin.

8 In the top left of the interface, click the Effects button to open the Effects Library, navigate to Toolbox > Effects, and select and drag the Fusion Composition to the beginning of the timeline. By default, it will be 5 seconds long.



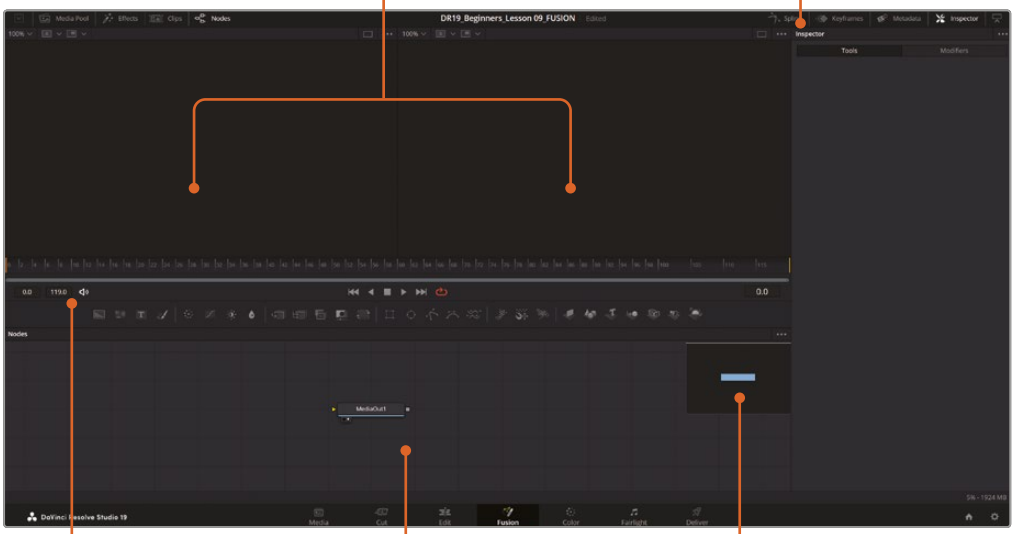
9 Place the playhead over the Fusion Composition you just added to the timeline (it should already be positioned at the start of the timeline), and then press Shift-5 to jump to the Fusion page or click the Fusion button at the bottom of the interface.

The Fusion Interface

Welcome to the Fusion page! Fusion's interface is divided into four main areas: the viewers at the top, where you can preview your work (the one on the left is viewer 1, and the one on the right is viewer 2); the Node Editor at the bottom, where you build and manage your node tree; the Inspector on the right, which lets you adjust the parameters of the selected node; and the media pool and Effects Library on the left, which provide access to a wide range of tools and effects (you need to open them by clicking the Media Pool or Effects buttons at the top left of the screen, just like in the edit page). You can also open the Spline Editor and Keyframes Editor with the buttons at the top right.

The left and right viewers can show different images or effects from your composite.

In the Inspector, you can display and manipulate the parameter of any selected effect or tool in the Node Editor.



The toolbar has buttons for adding commonly used effects or tools to the Node Editor.

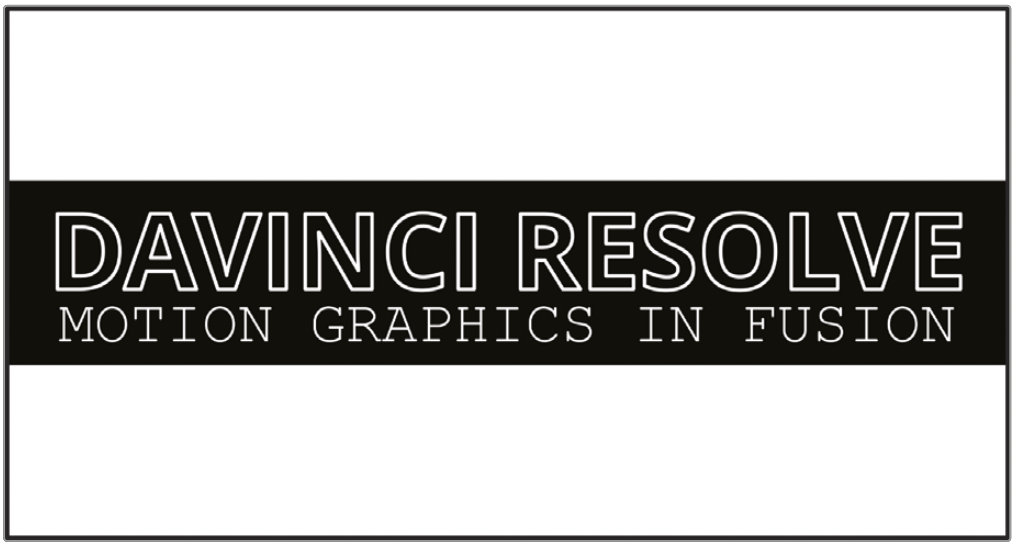
The work area can show any combination of the Node Editor, Keyframes Editor, or Spline Editor.

The Navigator is a miniature representation of the entire node tree (press V to enable it).

In the middle of the interface, you will find the transport controls with the Render Range on the left (from frame 0.0 to 119.0) and the Current Time on the right (starting at frame 0.0). Below these controls is the toolbar, which provides quick access to commonly used tools and effects. In this exercise, you will use the Background, Text+, Merge, Transform, and Rectangle tools; try to locate them.

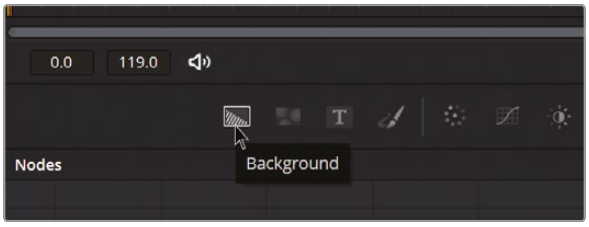
Adding the First Node

At the moment, your composition only has the MediaOut1 node, which determines what gets rendered back to the edit and color pages. Your goal is to create an animated title, so you will first create a rough draft of the background and text, and then move on to the animation of a white background with a black rectangle on top, containing a main title and a second line of text, both in white.

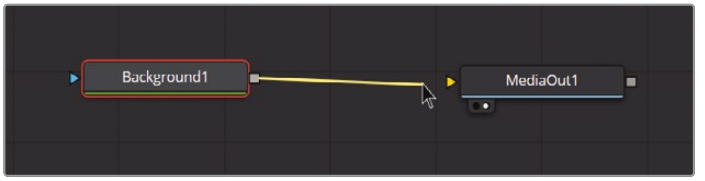


You'll start by adding a Background node, which will serve as the foundation for your composition.

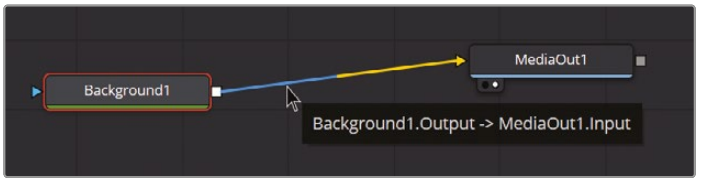
1 Locate the Background tool in the toolbar (it's the first icon on the left), and then click and drag it to the Node Editor.



2 Click the gray square on the right of the Background1 node (node output) and drag with the mouse to connect the pipe to the orange triangle of the MediaOut1 node (node input).

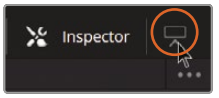


Anything connected to the MediaOut1 node will be rendered out, and that's what you will see in the edit and color pages. If you don't connect anything to MediaOut1, you won't see any image when you return to the edit page.

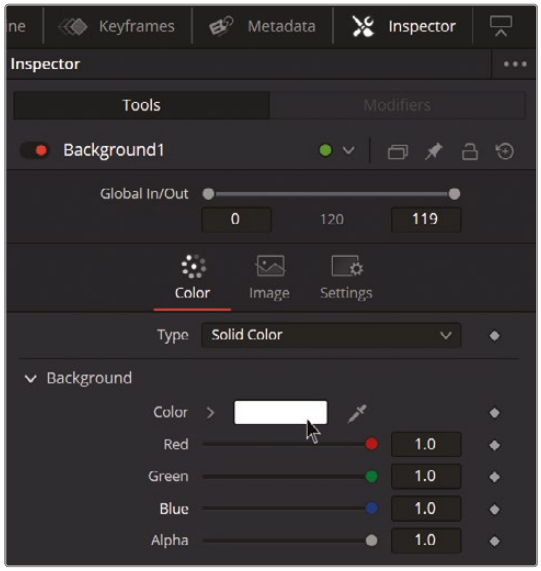


To break the connection, hover your mouse cursor over the pipe (the white connection line). When it changes to blue and yellow, double-click it if you are on the blue side, or click it if you are on the yellow side of the pipe. You can also hold down the Shift key and click and drag the node to disconnect it. Note that when you hover over a node or connection, a small window will appear with information, which is also displayed at the bottom left of the screen.

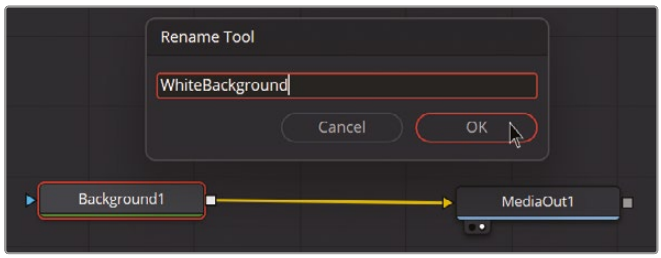
3 The Inspector panel should be open at the right side of the screen. If not, open it by clicking the Inspector button at the top right of the screen. You can expand or shrink the Inspector by clicking the icon to the right of the Inspector button.



4 Select the Background1 node and, using the controls in the Inspector, change the color to white. You can either click the color box and select the color you want or set the Red, Green, and Blue values to **1.0** each.



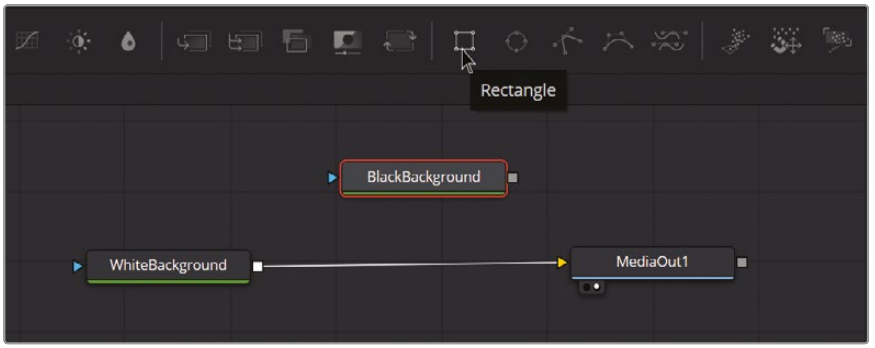
5 Press F2, or right-click Background1 and choose Rename, and rename the Background1 node **WhiteBackground**.



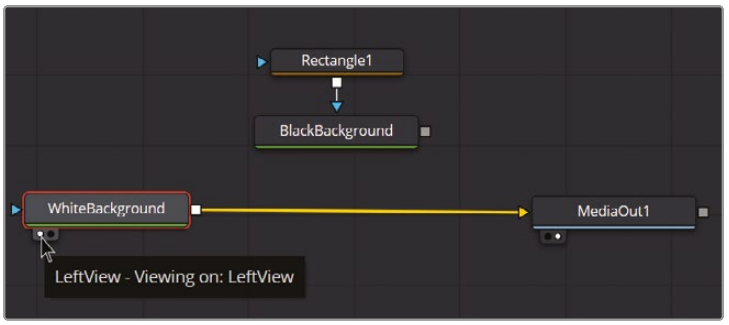
NOTE This exercise uses "camel case" when renaming the nodes, where the first letter of each word is capitalized. In Fusion, names cannot contain spaces, but you can also separate words using a period or other characters.

6 Deselect all by pressing Command-Shift-A (macOS) or Ctrl-Shift-A (Windows). Add a new Background node to the Node Editor and rename it **BlackBackground**.

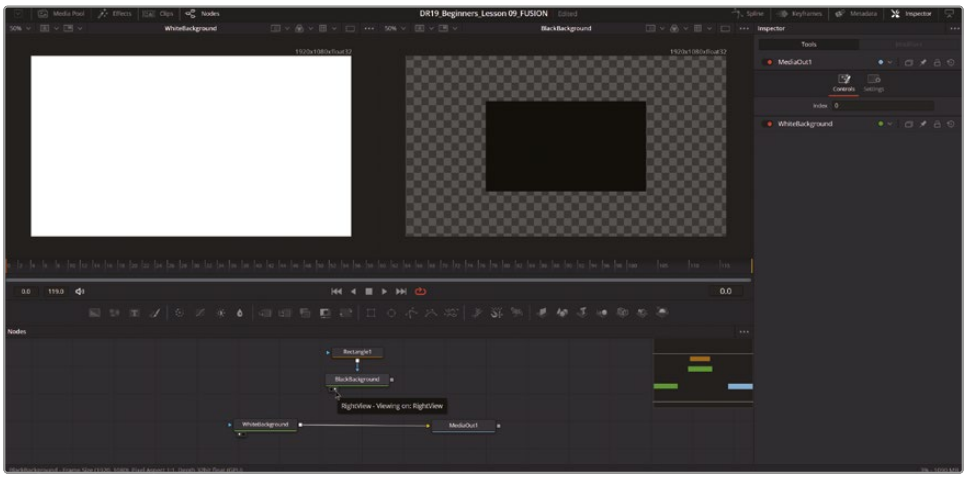
7 With the BlackBackground node selected, locate the Rectangle tool (it's in the middle of the toolbar, the first icon in the fourth segment) and click it.



8 Next, select the WhiteBackground node and click the small left dot under the node to load it into the left viewer. You can also press 1 on your keyboard to load it into the left viewer or simply drag the node there. You'll see the name of the loaded node displayed at the top of the viewer.



9 Select the BlackBackground node and press 2 to load it into the right viewer.



Loading Nodes into the Viewers:

Hover over a node and click the button at the bottom left.

Click the node and press 1 (for the left viewer) or 2 (for the right viewer).

Right-click the node in the Node Editor or its header in the Inspector, and then choose View On > None/Left View/Right View.

Drag and drop the node onto a viewer.

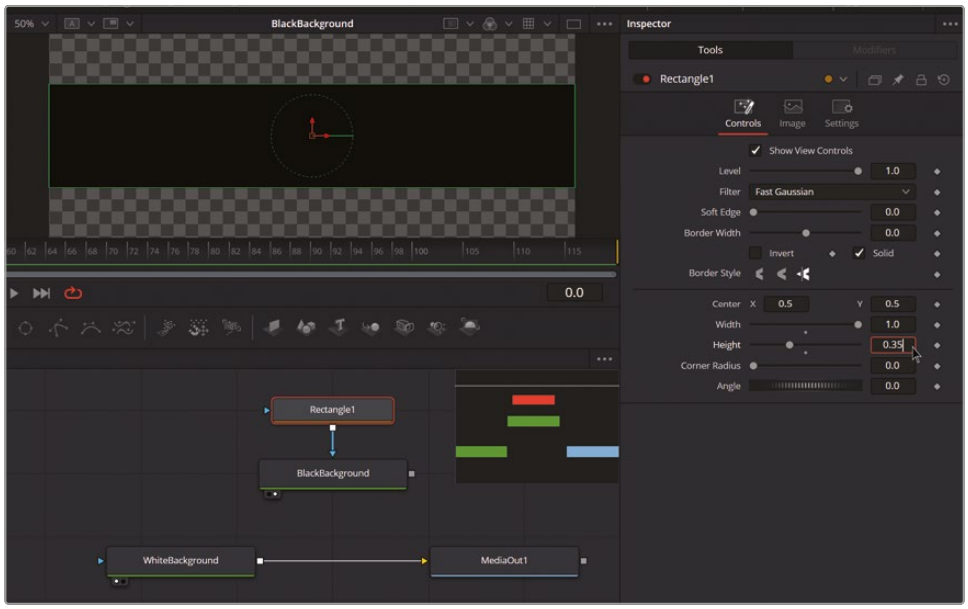
To clear viewers:

— Press 1 or 2 to clear the left or right viewer.

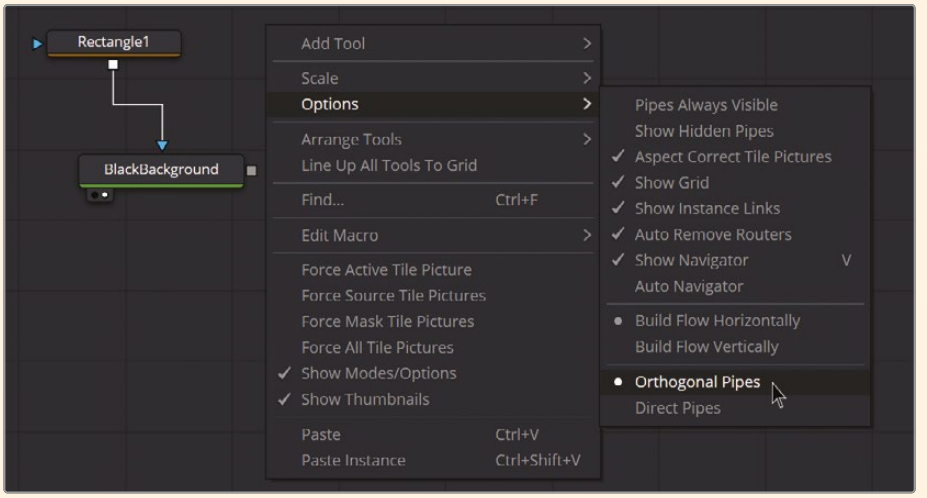
— Press ` (the Accent key) to clear both viewers.

You have masked the BlackBackground node, and now it's a rectangle. The square (node output) of Rectangle1 is connected to the blue triangle (effect mask) of BlackBackground. You should now adjust the shape of the rectangle so that it covers the full width of the screen.

10 Select Rectangle1 and, in the Inspector, set the Width to **1** and the Height to **0.35**.



TIP The pipes can be either direct lines or orthogonal (horizontal and vertical with 90° bends). To make them orthogonal, right-click the background of the Node Editor and select Options > Orthogonal Pipes. In the same menu, you'll also find the option Line Up All Tools to Grid, which can be useful for tidying up your nodes, and Force Source Tile Picture, which adds a small thumbnail to every node that is loading an image in the Node Editor.



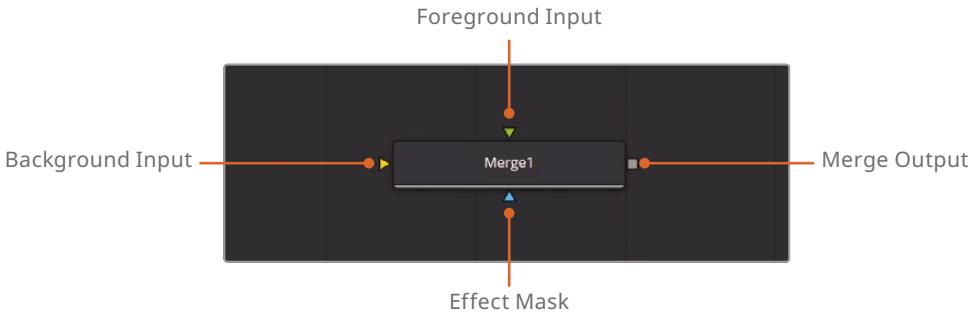
The Merge Node

Now that we have the two basic elements of our background, let's combine them. To do this, we'll add a Merge node, which is the ninth icon in the toolbar.

1 Deselect everything and click the Merge icon to add it to the Node Editor.

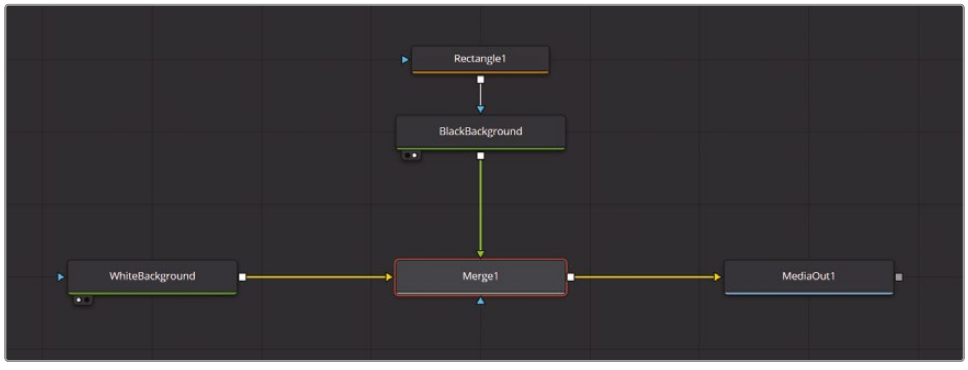
The Merge node is the primary tool used to composite one image over another. It has three inputs:

- Background (orange): The image connected to this input determines the output resolution of the Merge node.
- Foreground (green): This input is for the image you want to be "on top."
- Effect Mask (blue): An optional input for attaching a mask or matte to limit the effect of the Merge node.



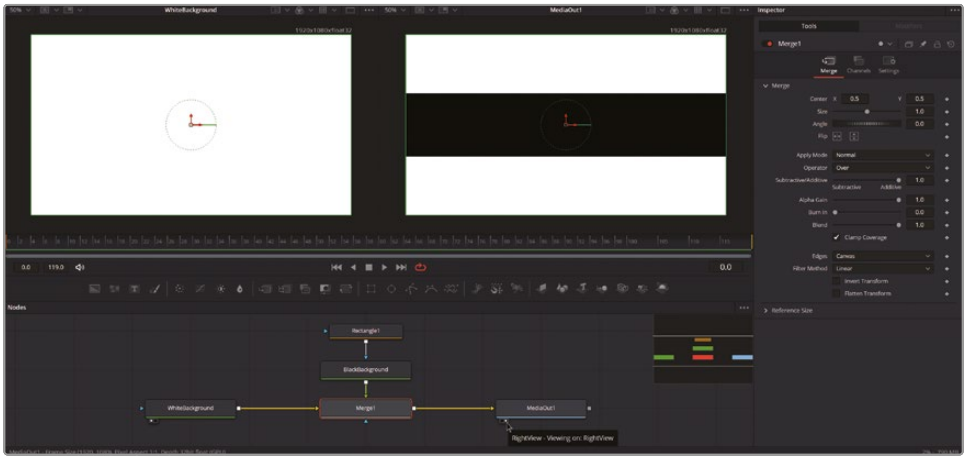
Now you have a WhiteBackground and a masked BlackBackground. Take a moment to think about which element you would connect to each input.

2. Click and drag the output of the WhiteBackground (the small gray square) to the orange input of the Merge1 node.
3. Connect the masked BlackBackground to the green input of the Merge1 node.
4. Finally, connect the output (square) of the Merge1 to the MediaOut1 input.



5 Once you have the nodes connected correctly, load the MediaOut1 node into viewer 2 by selecting MediaOut1 and pressing 2 on your keyboard.

You should see a black rectangle on top of a white background.



TIP If you accidentally connect the nodes the wrong way around (the background clip to the foreground input and the foreground clip to the background input), simply press Command-T (macOS) or Ctrl-T (Windows) to switch them.

In Fusion, it's the color of the connections that matters, not their position. Fusion may adjust the placement of inputs around the node for better organization. For instance, moving the Rectangle1 node to the left of the BlackBackground will shift the blue triangle/arrow to the left side of the node.

You can arrange nodes in any way you prefer. As long as the connections remain the same, your final image won't be affected. However, keeping nodes organized logically helps you understand your work better.

Navigating in the Fusion Page

Now that we have some nodes added to our Fusion composition, let's learn how to navigate the Fusion page. Mouse and keyboard commands in Fusion are context-sensitive, meaning the same inputs can produce different effects depending on where your mouse pointer is located. A three-button mouse is recommended for Fusion, where pressing the scroll wheel functions as a middle click. Alternatively, a pen and tablet can also be a good option.

1. Panning (the Node Editor and viewers):

   Hold the middle mouse button and drag to pan the node tree. You can also press Command-Shift and left-click (Ctrl-Shift and left-click on Windows)

2. Zooming (Node Editor and viewers):

   Hold the left and middle mouse buttons and drag left/right or use Command-scroll wheel (Ctrl-scroll wheel on Windows).

3. Fit Image to viewer:

   Click a viewer and press Command-F (macOS) or Ctrl-F (Windows) to fit the image.

4. Zooming Steps:

   Use the + and – keys to zoom in/out in discrete steps.

   Press Command-1 (macOS) or Ctrl-1 (Windows) to zoom to 100%, and Command-2 (macOS) or Ctrl-2 (Windows) for 200% zoom.

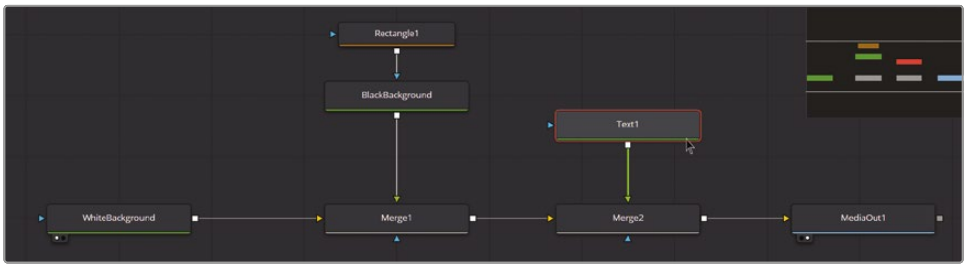
These navigation commands also apply to both viewers, the Spline Editor, and the Keyframes Editor (see below).

Text Creation

It's time to add some text. The Text+ node is the main tool for creating and animating 2D text in the Fusion page and is also available in the edit page. It offers extensive options for text effects, including six tabs of controls for text styling, layout methods, and shading options such as fills, outlines, shadows, and borders. While you'll only scratch the surface here, the Text+ node is an incredibly powerful tool with endless possibilities.

1 Select Merge1, and then click the Text+ icon, which is the third tool in the toolbar.

2 A new Text+ node and a Merge2 node will appear, connecting your Text1 node to the green Foreground Input of the Merge2 node, which will be on top of the background.



NOTE If you select a node in the Node Editor before adding a new tool, the new tool will connect to the selected node. Selecting a node also shows its default parameters in the Inspector and adds a toolbar specific to that node at the top of the viewer.

If the Text1 node appears at the bottom of the node tree, don't worry. The only thing that matters is the connections: Text1 should be connected to the green input of Merge2. To maintain order, we can click and drag the nodes to rearrange them.

3 Press F2 and rename the Text1 node **TitleText**.

4 With the TitleText node selected, type **DAVINCI RESOLVE** into the text box in the Inspector and set the size to **0.18**.

> **TIP** You can turn off (or *pass through*) any node by pressing Command-P (macOS) or Ctrl-P (Windows), or by clicking the node's Enable button in the Inspector.

Next, you'll add another line of text in a different node. To do that, you'll need to move your existing text up to create space for the new line. There are several ways to adjust the text position: by using a Transform node, by adjusting the Center values in the Layout tab, or by modifying the Offset values in the Transform tab of the Text+ node. You can also change the Center value in the Merge2 node. For this exercise, we have minimized the variety of tools used, but you will find that there are many ways to achieve the same result, each with its own pros and cons.

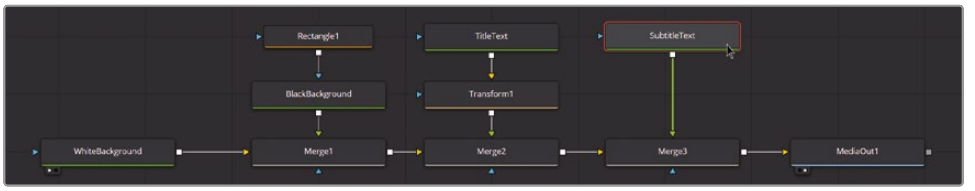
5 As you already have the TitleText node selected, look for the Transform node on the Toolbar and click it.

You should have the Transform node connected between TitleText and Merge2. This way, the Transform will affect everything that is connected to its input. Now you can move the text upward.

6 Select the Transform, go to the Inspector, and change the Center Y value to **0.54**.

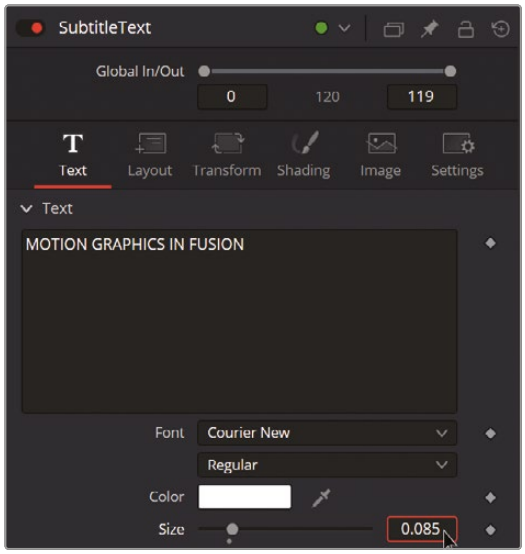
Now you can add a secondary line of text.

7 Select the Merge2 node and add a new Text+ node (click the third icon in the toolbar). This will add a Merge3 and a Text1 node. Rename the Text1 node **SubtitleText**.



TIP You could also copy and paste the TitleText we created earlier and reset some of the values.

8 In the SubtitleText node, type **MOTION GRAPHICS IN FUSION** in the edit box, change the font to Courier New, Regular, and set the size to **0.085**.



The subtitle text is in front of your main TitleText. You'll add a Transform node to correct that.

9 Select the SubtitleText node and click the Transform node icon on the toolbar.

10 Select the new Transform2 node and change the Center Y value to **0.41**.

The Time Ruler and Transport Controls

Now that you've created the design, it's time to start animating. You are about to add keyframes, so you'll need to review your composition in motion. The Time Ruler, located beneath the viewer area, reflects the total duration of the composition. The range displayed on the Time Ruler depends on what's currently selected in the edit or cut page timeline.

The render range determines the range of frames used for interactive playback, disk caches, and previews. Frames outside the render range are not rendered or played, although you can still drag the playhead to these frames to see the unused frames. In this exercise, you've created a 5-second Fusion Composition at 24 frames per second, so it's a total of 120 frames from frame 0 to frame 119.

Underneath the Time Ruler, you'll find the six transport controls that you're already familiar with from the other pages: Composition First Frame, Play Reverse, Stop, Play Forward, Composition Last Frame, and Loop.

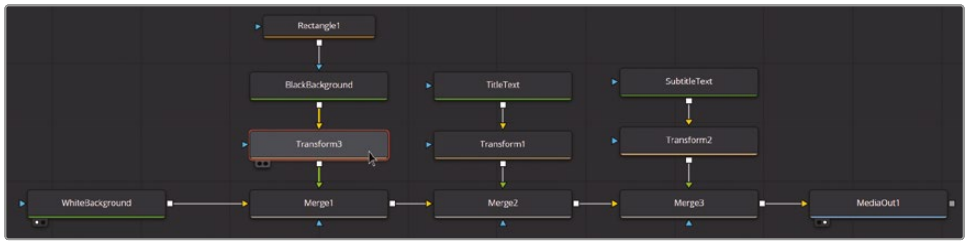
To move the playhead using the keyboard, you can use the same controls as in the edit page (JKL, Left Arrow, Right Arrow), along with these additional commands:

- Shift - Left Arrow: Jumps to the clip's Global Start frame
- Shift - Right Arrow: Jumps to the clip's Global End frame.
- Command - Left Arrow (Ctrl - Left Arrow on Windows): Jumps to the Render Range In point.
- Command - Right Arrow (Ctrl - Right Arrow on Windows): Jumps to the Render Range Out point.

Keyframes and Animation

You'll begin by animating the black rectangle using a Transform node and adding keyframes in the Inspector. Afterward, you'll refine the keyframe curves in the Keyframes Editor panel and then move on to animating the Text nodes. You will start by adding and connecting the Transform node.

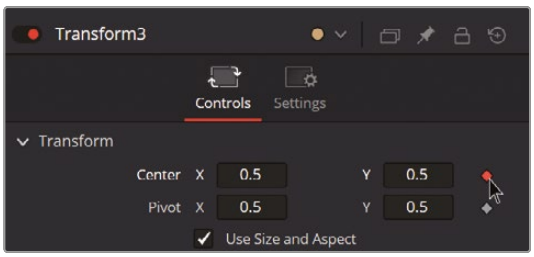
1 Select the BlackBackground node, locate the Transform node on the Toolbar, and click it. It should be added after the BlackBackground.



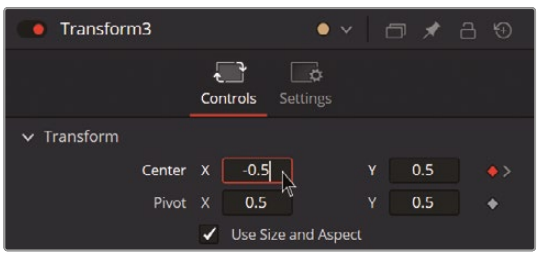
The Transform node will help us move and animate different elements in our composition.

2 Go to frame 24 by entering **24.0** in the Current Time box at the top right of the Time Ruler.

3 Select the new Transform3 node. In the Inspector, click the gray Keyframe button to the right of the Center value (it will turn red).



4 Now, go to frame 0 and change the Center X value to **-0.5**.



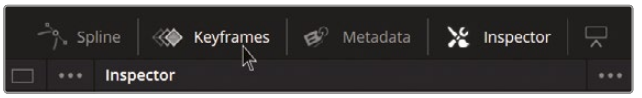
You'll see a white line at frames 0 and 24 indicating the keyframes.

5 Move to frame 107 and click the gray Keyframe button again to the right of the Center value.

6 Go to frame 119 and change the Center X value to **1.5**.

Now, if you click Play on the transport controls or press the Spacebar (JKL playback also works), you'll see the black rectangle entering from the left, staying at the center for a moment, and then exiting to the right. The animation is a bit abrupt, so you'll need to smooth out the keyframes at frames 24 and 107 in the Keyframes Editor.

7 Click the Keyframes button at the top right of the interface.



8 In the Keyframes Editor, click the Zoom to Fit button and click the expand icon to the left of Transform3.

9 Click and drag to select the keyframes at frames 24 and 107 (the ones in the middle). When they are yellow (selected), press F to flatten the curve.

This adjustment will make the rectangle decelerate as it reaches the center and then accelerate from frame 107 to exit the screen.

10 Close the Keyframes Editor.

Animating the Text

Your composition is looking great, but you still need to animate the text. To do this, you'll create keyframes so that the text starts to appear as soon as the black rectangle appears on the screen and disappears just before the rectangle moves off to the right. We'll animate the Write On parameter within the Text+ nodes to achieve this. Additionally, for the main title, we'll change its material once it finishes typing by adjusting the Appearance parameter in the Shading tab. Finally, we'll add a mask to Merge3 and use a Transform node to animate the second line of text, allowing it to drop down behind the main text. Let's get started!

1 In the Node Editor, select the TitleText node.

At the bottom of the Inspector, you'll find the Write On controls, which are used to quickly apply simple Write On and Write Off effects to the text.

2 Go to frame 36 and click the gray Keyframe button to the right of the Write On control.

3 Move to frame 24 and change the Write On End value to **0.0**.

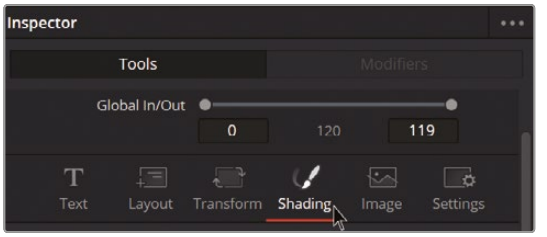
If you play the composition, DAVINCI RESOLVE will be written right after the black rectangle stops in the middle of the screen.

4 Go to frame 84 and again click the gray Keyframe button to the right of the Write On control.

5 Move to frame 107 and change the Write On Start value to **1.0**.

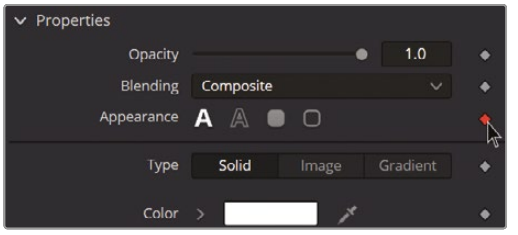
The Text+ node has many options and tabs you can select at the top of the Inspector. We've only worked in the Text tab so far, but now we'll make some changes in the Shading tab.

6 Go to the Shading tab.

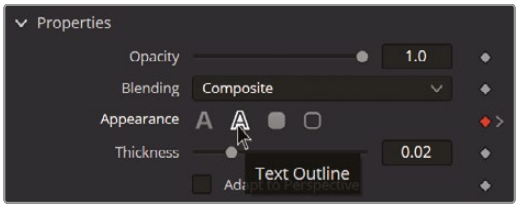


7 Move to frame 44.

8 Locate the Appearance option below Properties and add a keyframe (click the gray keyframe button to the right of Appearance).



9 Move one frame to the left (to frame 43) and select the second icon in the Appearance options: Text Outline.



Now you have your main text that transitions from an outline to a solid color. Let's move on to the second line of text to incorporate some movement and animations.

First, you'll add a Write On animation at the end (like you did with the TitleText node).

10 Select the SubtitleText node.

11 Go to frame 84 and click the gray keyframe button to the right of the Write On control.

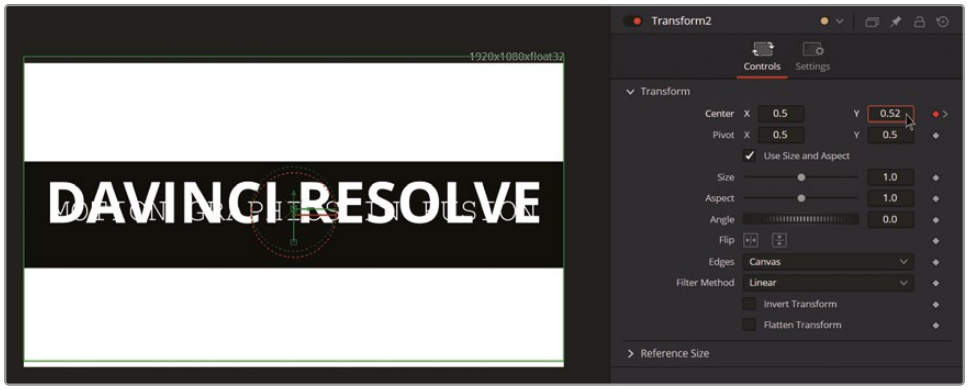
12 Move to frame 107 and change the Write On Start value to **1.0**.

With that animation complete, you'll add keyframes to the Transform2 node so that the SubtitleText appears below the main title.

13 Select the Transform2 (the one that modifies the position of SubtitleText).

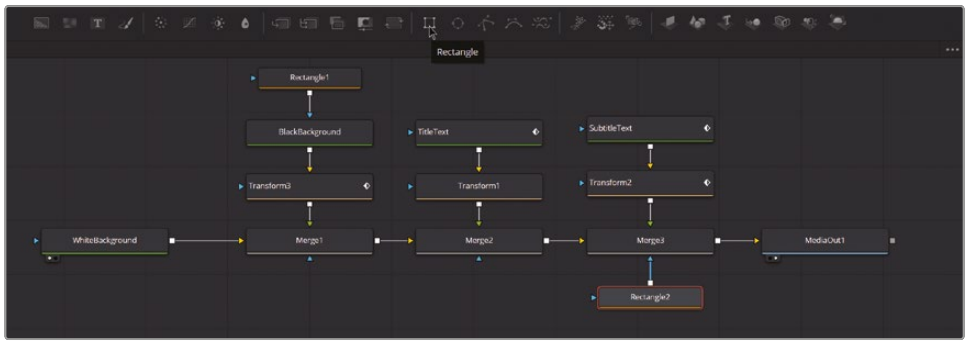
14 Go to frame 60 and add a keyframe to the Center Y value (that should be 0.41) by clicking the gray keyframe button to the right.

15 Go to frame 48 and change the Center Y value to **0.52**.

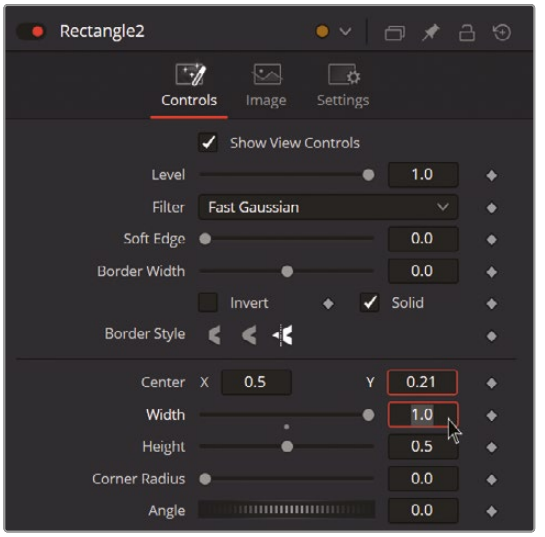


The only thing missing is a way to mask out the SubtitleText before it moves down into its place. You can use another rectangle, but this time you'll apply it to the Merge3 instead.

16 With Merge3 selected, click the Rectangle icon in the toolbar to add a Rectangle2 node connected to the Effect Mask input of the Merge3 node.

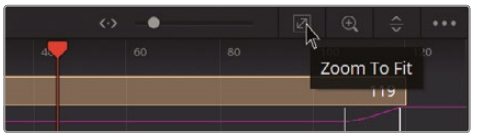


17 Select the Rectangle2 node and change the Width to **1.0** and the Center Y to **0.21**.

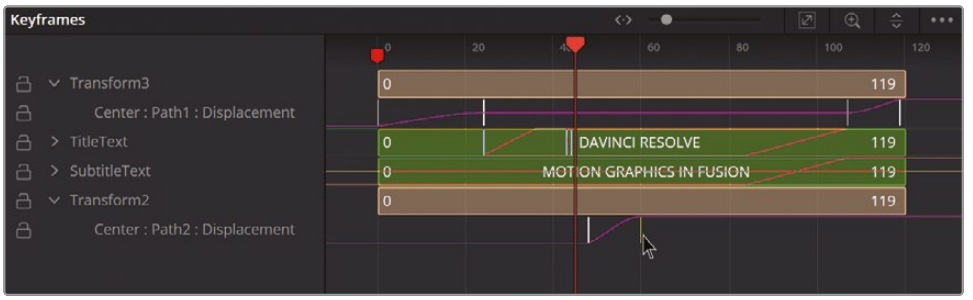


Now the subtitle animates down into its place. You could make the keyframe on frame 60 smoother in the Keyframes Editor, just like you did with the animation in the Rectangle1 node. Want to try it out?

18 Open the Keyframes Editor and click Zoom to Fit.



19 Expand the keyframes for the Transform2 node. Select the second keyframe and press F to flatten the curve.



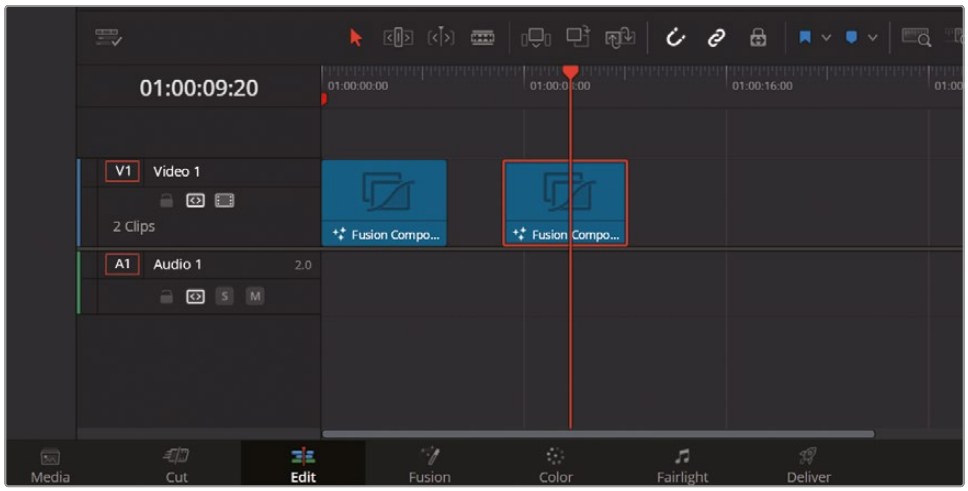
20 Close the Keyframes Editor.

Congratulations, this is your final composition! If you got lost along the way, you can find the final composition in **Timeline Lesson 09.1.1 CatchUp Versions - Motion Graphics** at timecode 00:01:30:00. There is a red marker and a brief explanation. You'll also find every step of the process in this timeline; just read the text in the markers. In the finished composition, you will find some sticky notes with details about the keyframes created.

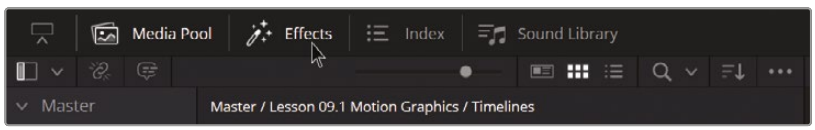
Quick Changes in the Edit page

With this composition, you can quickly create many variations directly in the edit page.

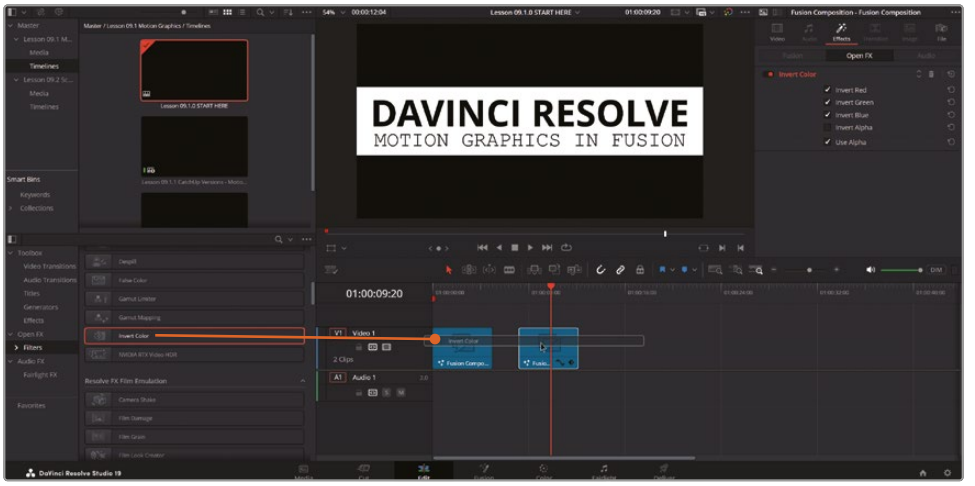
1. Press Shift-4 to go back to the edit page.
2. Duplicate the Fusion Composition in the timeline. On Windows, you can use Ctrl-C to copy and Ctrl-V to paste. On macOS, use Command-C to copy and Command-V to paste. Alternatively, you can hold down the Alt key on Windows or the Option key on macOS, and then click and drag the composition to duplicate it.



3. Click the Effects button at the top left of the interface to open the Effects Library.



4 Navigate to Open FX > Filters > Resolve FX > Resolve FX Color category and select and drag the Invert Color effect onto the copy of your composition.



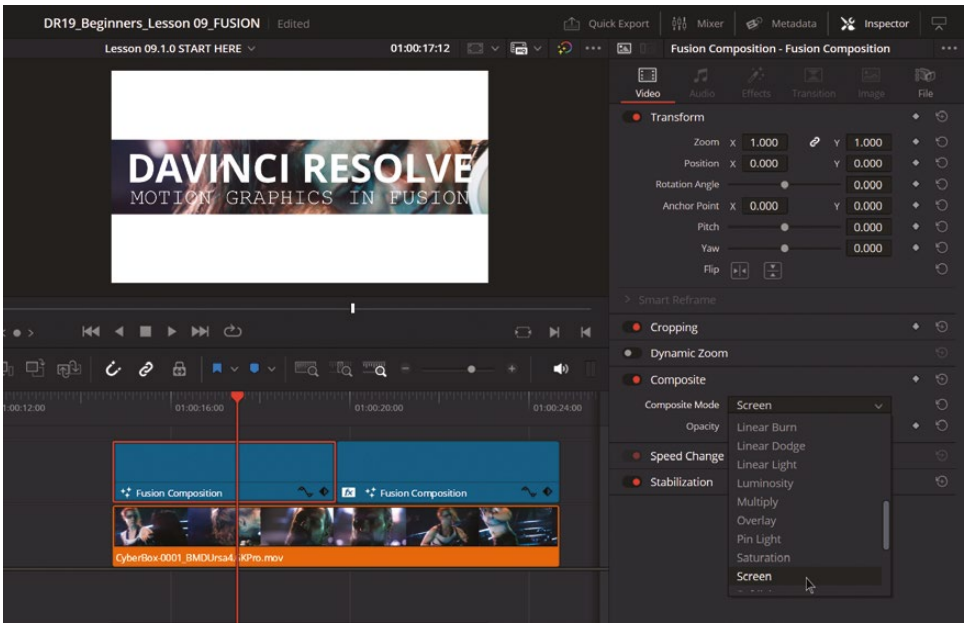
Now you have a variation where what was black is now white, and vice versa. But you can take this a little further and use both versions (normal and inverted) of your title to mask a video!

Inside the Lesson 09.1 Motion Graphics bin, you'll find a 10-second shot of CyberBox, an ICVFX Virtual Production project shot by Nahuel Srnec using a Blackmagic URSA Mini Pro 4.6K G2 in an LED volume. This is not the raw media, but it provides a preview of the capabilities of this cinema camera for Virtual Production, thanks to its dynamic range, resolution, SDI input, SDI output, and Ref/Timecode connections, which are essential for ICVFX work. We can use this clip in combination with the title we've just created.

5 Add the **CyberBox-0001_BMDUrsa4.6KPro.mov** clip to the timeline in the edit page.

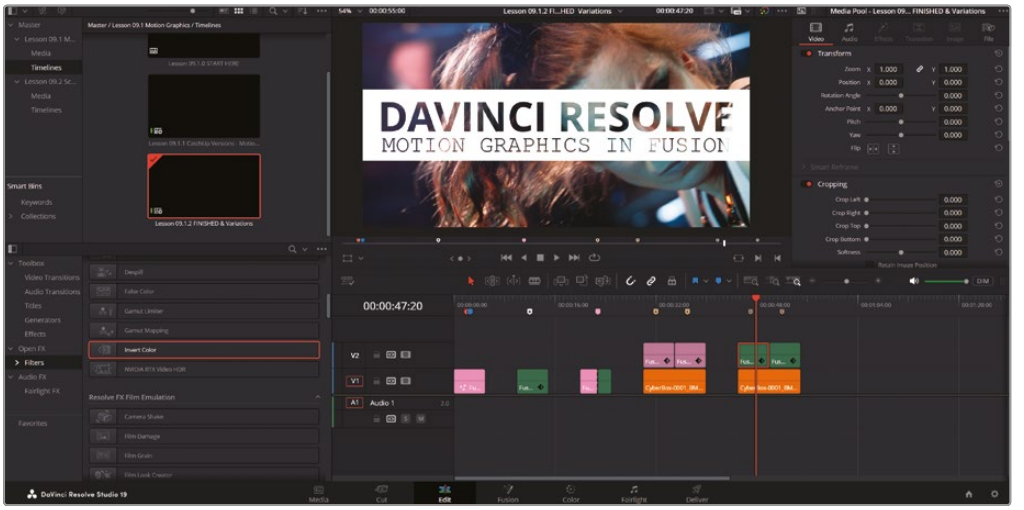
6 Place two copies of your composition right above that clip on a new video track.

7 Select one of those copies of the animated title composition, open the Inspector, and set the Composite Mode to Screen.



8 For the other copy, set it to Multiply.

There are some additional examples for you in the timeline **Lesson 09.1.2 FINISHED & Variations**, which are simple variations of the original composition. If you'd like, you can take a look at them by loading that timeline on the edit page.

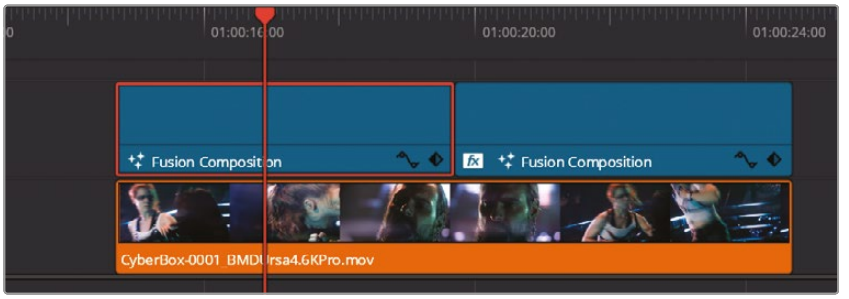


Creating a Template

Now that you have completed your first exercise in Fusion, you will take it a step further by creating a preset that you can reuse in other projects. This will allow you to make changes directly from the edit page without having to return to Fusion every time. You'll do this by creating a macro!

To start, you need to go back to your finished Fusion Composition on the Fusion page. Right now, you might have several copies of that composition and you're currently in the edit page—but don't worry, it's quite simple.

1 In the edit page, place the playhead over the Fusion Composition you created. It doesn't matter if it's the one with the inverted effect or the one using Screen or Multiply composite modes—any version will work the same way.



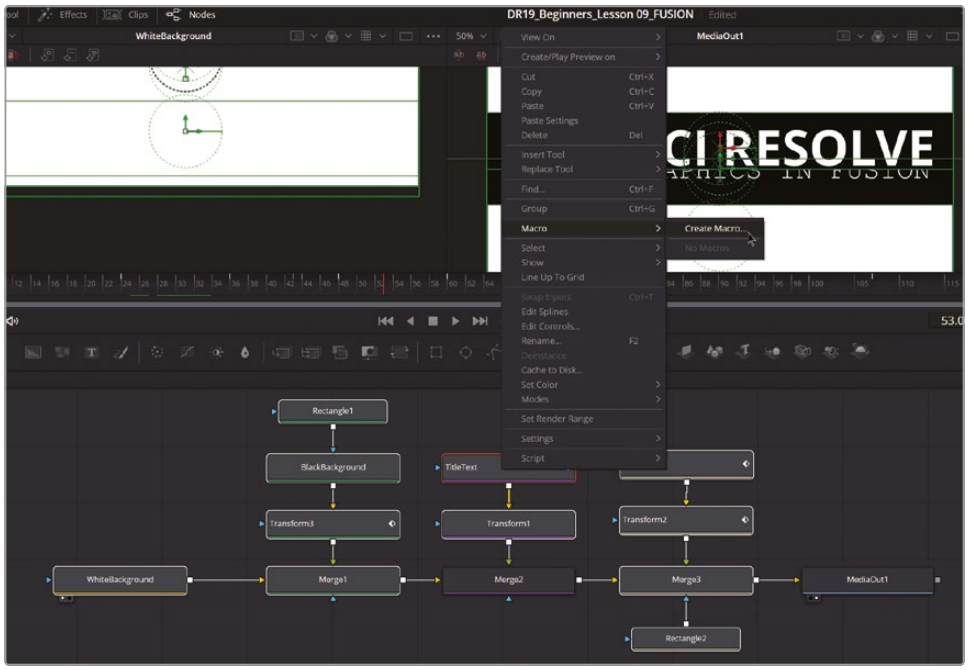
2 Press Shift-5 on your keyboard or click the Fusion page button at the bottom of the screen to return to the Fusion page.

Now you're back in Fusion! You're about to create a macro, which works by selecting a group of nodes, opening them in the Macro Editor, and choosing which values will be editable by the user directly in the edit page. Because we will select a bunch of nodes, and every node has a lot of parameters, the list of options in the Macro Editor can seem quite long and intimidating, but fear not! It's simple to do in just a few minutes. Keep in mind that we can access every single parameter from the nodes, so this is a powerful (and extensive) tool.

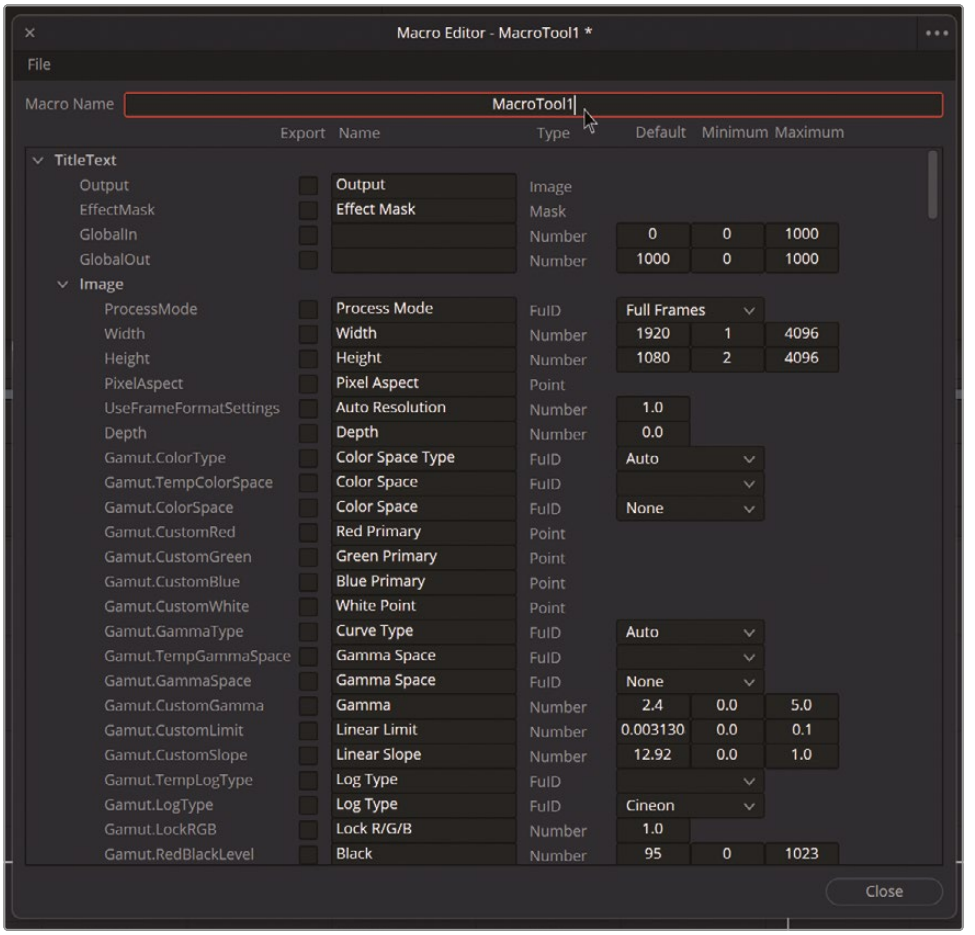
The first step is to select the nodes you want to include in the macro. One important detail to remember is that the order in which you select the nodes will determine the order they appear later on the edit page, so you need to be mindful of that.

3 Command-click (macOS) or Ctrl-click (Windows) the nodes in this order: TitleText, SubtitleText, and then all other nodes.

4 Right-click TitleText and choose Macro > Create Macro.



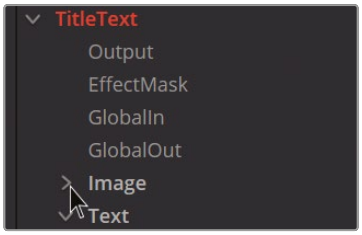
The Macro Editor will open, allowing you to create a template for use in the edit page. Here, you'll select which values from each node will be accessible in the edit page.



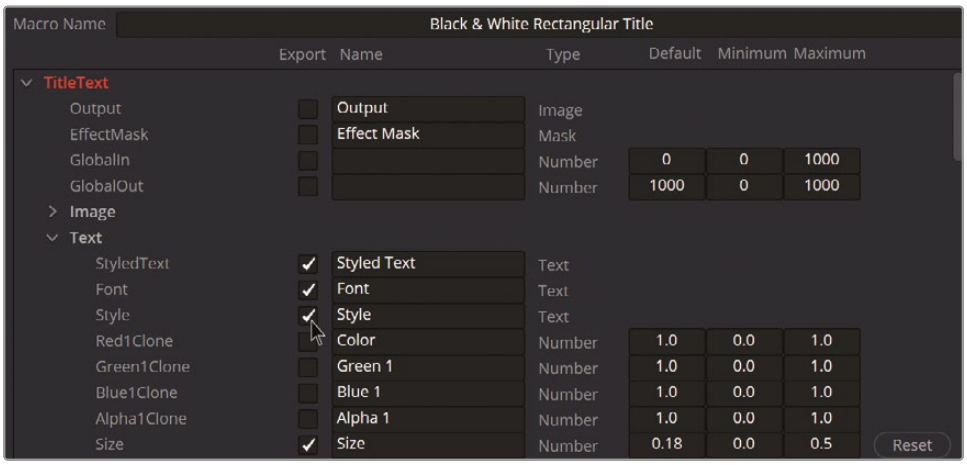
5 At the top of the window, in the Macro Name box, change the name to **Black & White Rectangular Title**.

In this window, you should check the options that will be editable in the edit page. You want the editor to be able to edit the text, font, style, font size, and tracking of the two Text+ nodes.

6 Collapse the settings for all nodes and then expand TitleText > Text.

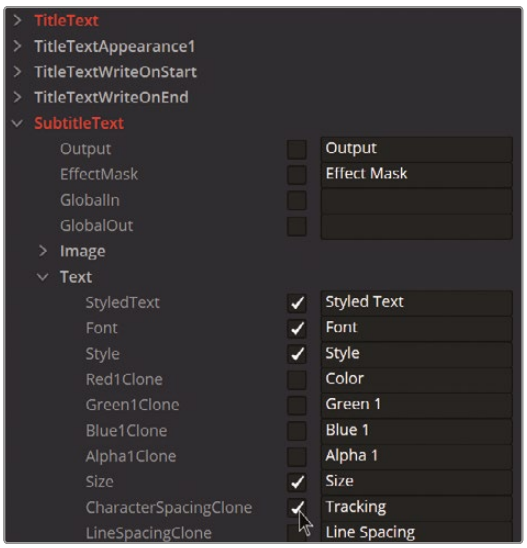


7 Check the boxes next to the following five options: Styled Text, Font, Style, Size, and Tracking.

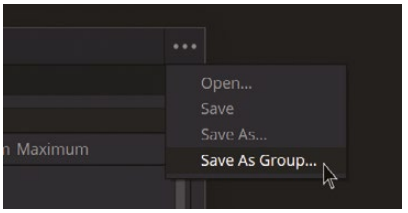


8 Collapse TitleText settings and expand SubtitleText > Text.

9 Check the same five options in SubtitleText: Styled Text, Font, Style, Size, and Tracking.



10 In the top right of the Macro Editor, click the Options (...) menu and select Save As Group.



Where should you save it? It's a bit tricky. You can save it in several locations, and it will appear in different panels of DaVinci Resolve. After clicking the Save button, you'll likely be directed to a folder like this: Blackmagic Design\DaVinci Resolve\Support\Fusion\Macros. But you don't want to save it there!

In this case, we want to create a Title preset to be used in the edit page. To achieve that, follow these steps:

11 Navigate to this folder:

Windows: C:\ProgramData\Blackmagic Design\DaVinci Resolve\Fusion\Templates

macOS: /Library/Application Support/Blackmagic Design/DaVinci Resolve/Fusion/Templates

12 Inside the Templates folder, create a new folder titled **Edit** and open it.

13 Within the Edit folder, create a new folder named **Titles**.

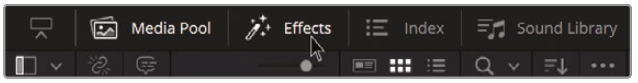
14 Open the Titles folder and save the macro there.

15 Close the Macro Editor.

Now, return to the edit page, and you'll find your new template in the Effects Library under the Fusion Titles category.

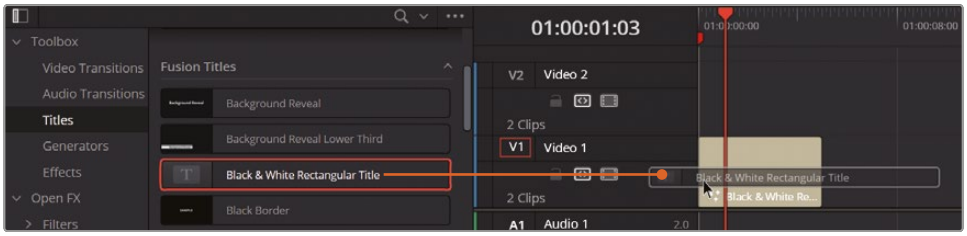
16 Press Shift-4 or click the Edit button to return to the edit page.

17 Open the Effects panel by clicking the Effects button located at the top left of the interface.

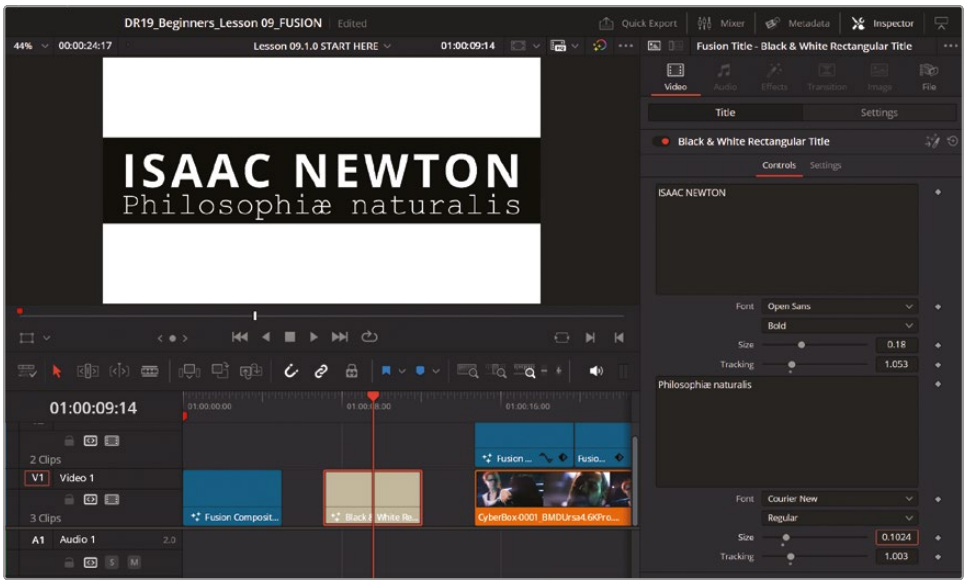


18 Navigate to Toolbox > Titles > Fusion Titles and locate your new Black & White Rectangular Title.

19 Drag the Black & White Rectangular Title to the timeline.



20 Open the Inspector and experiment with changing the settings of your new template!



VFX Compositing

By now, you should have a good understanding of the basics of Fusion. In this next exercise, you will explore more tools and learn how to navigate nodes and viewers more effectively. This second exercise involves a screen replacement and the introduction of new techniques. To integrate the screen content into another image, you'll need to match its perspective, reflections, depth of field, noise, color consistency, and other essential aspects of visual effects compositing.

You'll work with footage from the feature film Machine for the Aura, directed by Ana Monserrat and Nahuel Srnec. The film was shot on a Blackmagic Pocket Cinema Camera 4K and premiered at the Warsaw International Film Festival. You can read a full article about its post-production workflow on the official Blackmagic Design website: https://www.blackmagicdesign.com/media/release/20211221-02

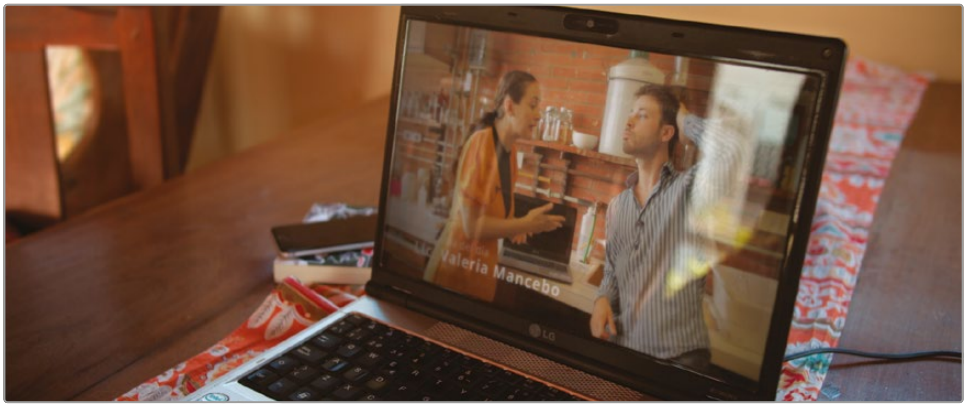
You won't be working with the original camera files but with a proxy version in a different format, with a smaller resolution, lower bit depth, smaller size, and different color space and gamma settings. This is to reduce the load on your system.

1 In the edit page, open the Lesson 09.2 Screen Replacement bin, and load the timeline **Lesson 09.2.1 START Screen Replacement**.

This timeline contains 10 copies of the Fusion Composition, each representing a different step in the process. There is also a marker above each composition with a brief explanation of the corresponding step. If you get lost at any point during this lesson, you can always return to this timeline to find the spot where you want to catch up with the exercise.

The second clip in the timeline requires some VFX work: you need to replace the laptop's screen with the clip in Video Track 2.

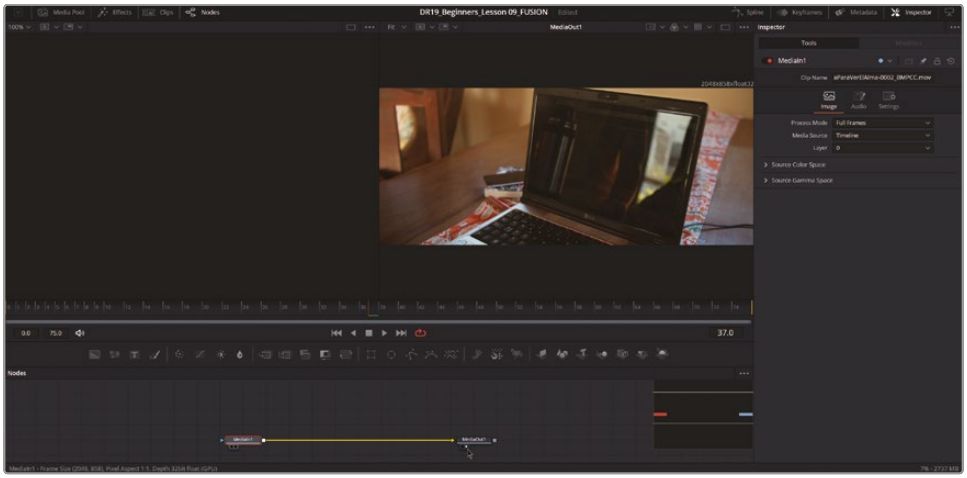
Enable Video Track 2 to view the video that you will composite over the original laptop screen. Once you've done that, disable Video Track 2 again (we'll bring that video from Video Track 2 into the Fusion Composition using a different technique).



You can also go to timecode 01:01:00:00 to get an idea of the final composition we will create.

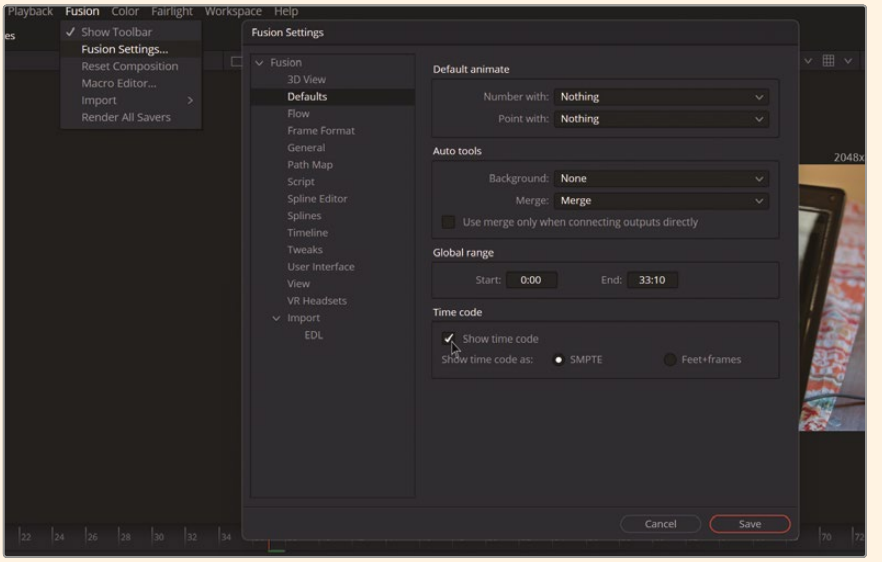
2 Place the playhead over the second clip in the timeline (timecode 01:00:02:18).

3 Go to the Fusion page by pressing Shift-5 or clicking the Fusion button at the bottom of the interface.



When you jump to the Fusion page with a clip under the playhead, Fusion will automatically create a Fusion Composition with the clip as the MediaIn1 node at the clip's resolution. In this case, the clip and the timeline happen to have the same resolution, but that won't always be the case.

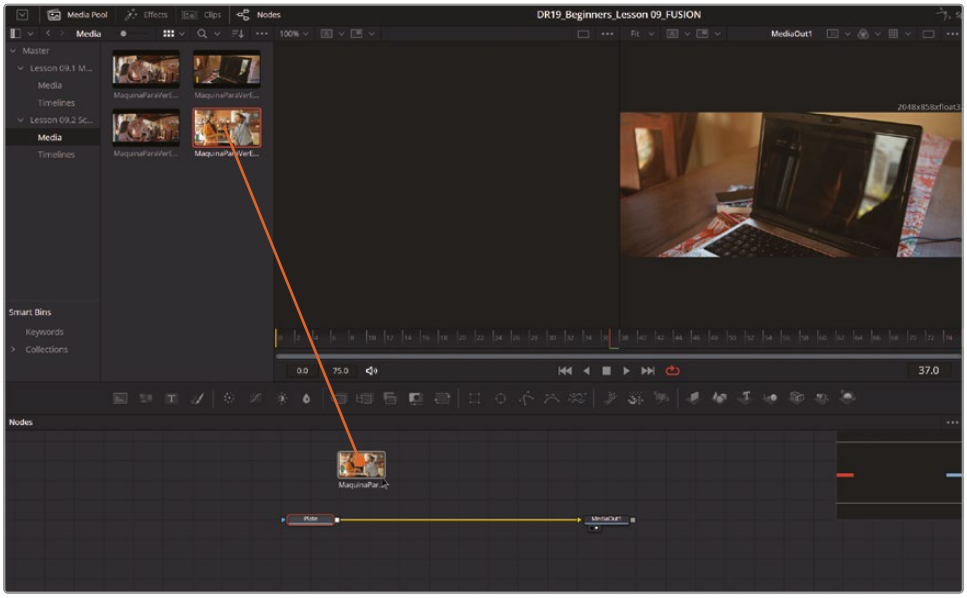
TIP Note that the time ruler in the Fusion page shows frames instead of timecode, as in the other DaVinci Resolve pages. This is because working with frames is the common practice in VFX. If you prefer to use timecode, go to the Fusion menu (at the top of the screen) and select Fusion Settings. In the Defaults tab, you'll find the Show Timecode option.



4 Press F2 (or right-click MediaIn1 and select "Rename...") and rename MediaIn1 **Plate**.

NOTE In visual effects (VFX), the term *plate* is used to refer to the base or background elements of a composition because it historically comes from the use of physical film plates. Originally, a "plate" referred to a piece of film stock used to capture a background scene or base footage. In digital compositing, this term has carried over to denote the foundational layers or background elements that other visual effects are added to. Essentially, the "plate" serves as the starting point or background upon which additional elements, such as CG or effects, are composited.

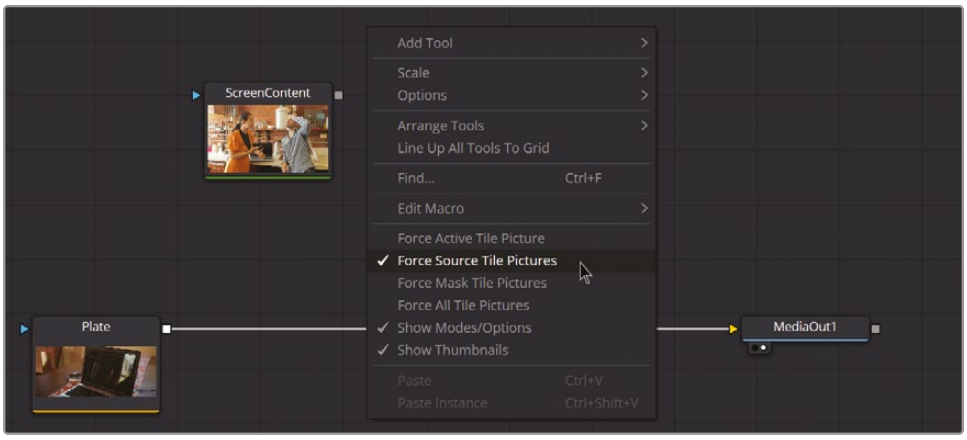
5 Open the media pool by clicking the Media Pool button at the top left of the screen, go to the Lesson 09.2 Screen Replacement bin, and drag the **MaquinaParaVerElAlma-0004_DSLR.mov** clip to the Node Editor.



6 A new MediaIn node will be created. Press 1 to load it in the left viewer and rename it **ScreenContent**.

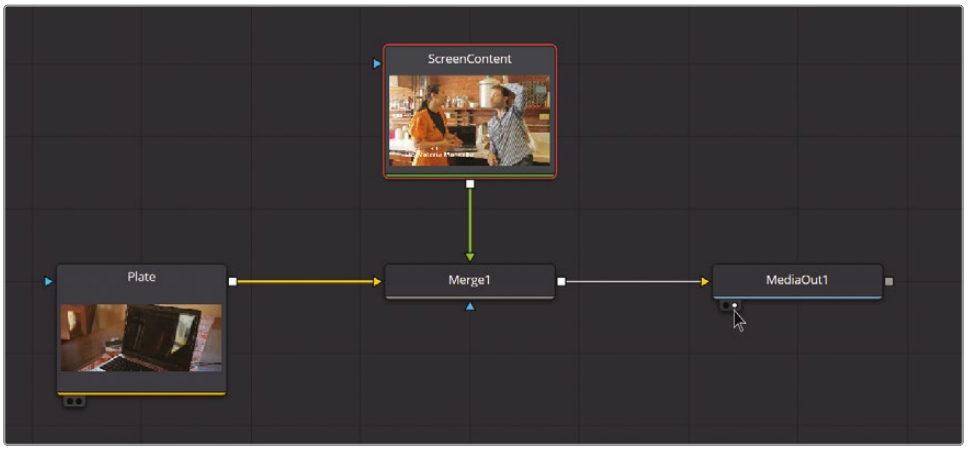
7 Close the media pool.

8 Right-click the gray area of the Node Editor and select Force Source Tile Pictures to enable a thumbnail in each MediaIn node.



NOTE The first time you create thumbnails, they may not display the images. To fix this, select the Plate and ScreenContent nodes, load them into any viewer, and move the playhead to load the images.

9 Add a Merge node to composite the ScreenContent over the Plate. Make sure the ScreenContent is connected to the green (foreground) input.



You will use new tools in this exercise and a new method to add them. Until now, you have only added tools from the toolbar. Now, you will utilize the Select Tool dialog, which is a much faster method, as long as you know the name of the tool you are looking for. In the Select Tool dialog, you can find all the nodes and tools available in Fusion. Since the list is extensive, you'll use the search box to quickly locate what you need.

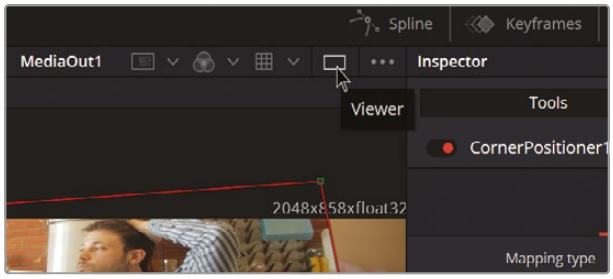
10 Select the ScreenContent node and press Shift-Spacebar to open the Select Tool dialog.

11 Type **corner** in the Select Tool dialog.

12 Select the Corner Positioner and click the Add button.

A CornerPositioner1 node is added after the ScreenContent node.

13 For this composition, it's better to have a single, larger viewer instead of two. To achieve this, press the Viewer button at the top right of the viewer. To re-enable both viewers, simply press it again.



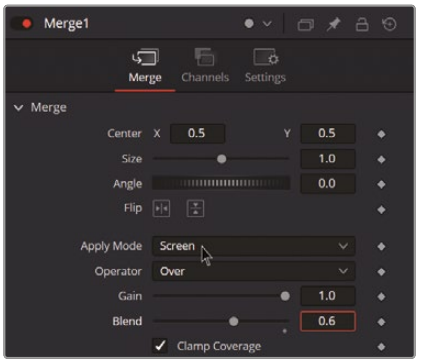
14 Click in the viewer and drag each corner of the Correct Positioner so it matches the laptop screen.

TIP Remember to zoom and reposition the viewer using Command-scroll wheel (macOS) or Ctrl-scroll wheel (Windows) for more control and precision.

Integrating the Elements

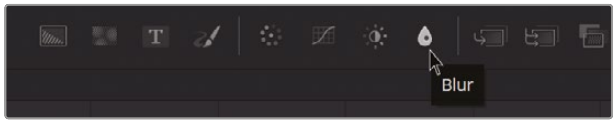
You've lost all the reflections from the original shot, so you'll try a compositing trick to recover them by changing the Apply Mode in the Merge node. This process is similar to changing the Composite Mode in the Inspector on the edit page. You'll also decrease the Blend, so the ScreenContent isn't at 100% opacity, allowing some of the reflections and noise from the Plate to show through.

1 Select the Merge1 node, go to the Inspector, and change the Apply Mode to Screen and the Blend to **0.6**.

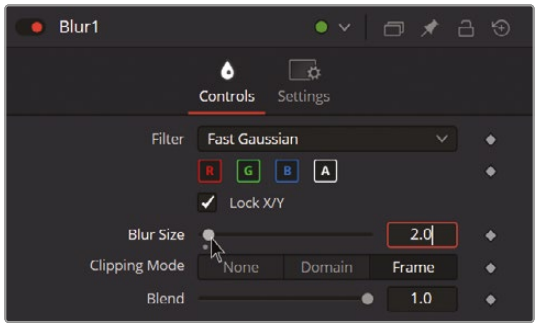


Now that you have recovered the real reflections, there is still a noticeable difference in the definition and depth of field between the Plate and the ScreenContent, which is too sharp. You'll add a blur to soften the ScreenContent, and also mask it so that it's softer at the edges and sharper in the center.

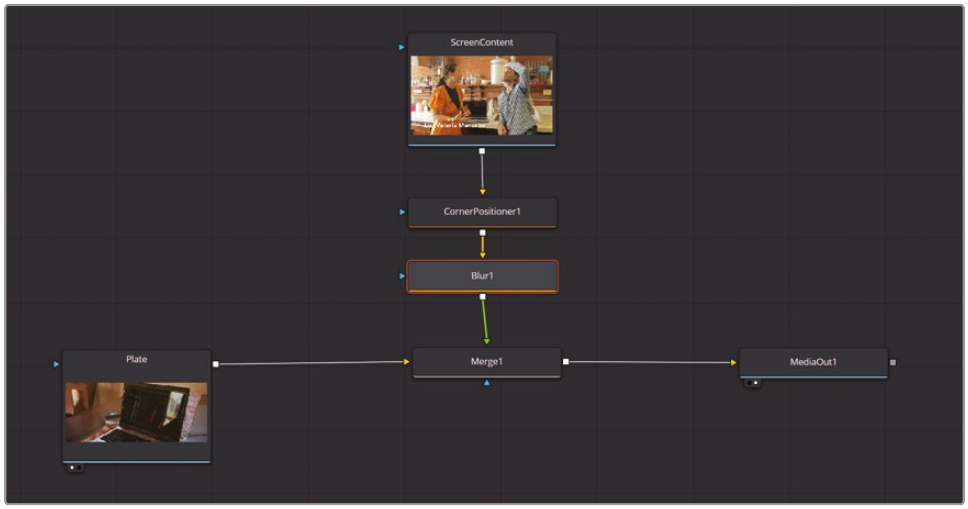
2 Add a Blur node after the Corner Positioner (it's the eighth icon in the toolbar, or search for **Blur** in the Select Tool dialog).



3 Change the Blur Size in the Inspector to **2.0**.



Your Node Editor should display the following:

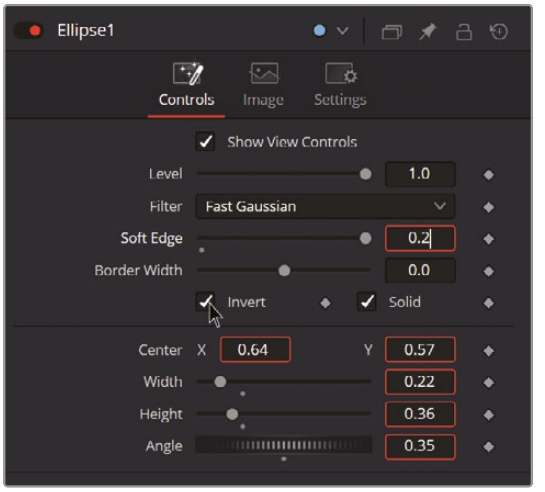


4 With the Blur node selected, add an Ellipse (the icon to the right of the rectangle in the middle of the toolbar).

Now the blur is affecting the image only inside the ellipse, which is the opposite of what you wanted!

5 Select the Ellipse1 node, check the Invert option in the Inspector (to make the blur work outside the circle), and set the Soft Edge to **0.2**.

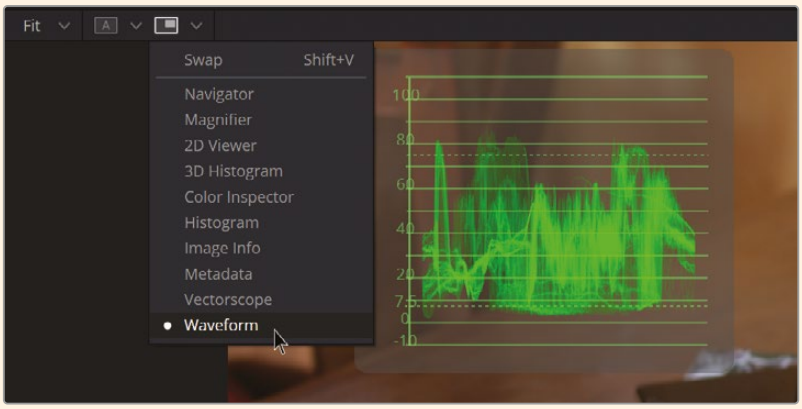
6 Adjust the position and size so that it subtly affects the center of the laptop screen, with more intensity at the edges. If you're unsure, use the following settings as a guide: Center X **0.64**, Y **0.57**, Width **0.22**, Height **0.36**, Angle **0.35**.



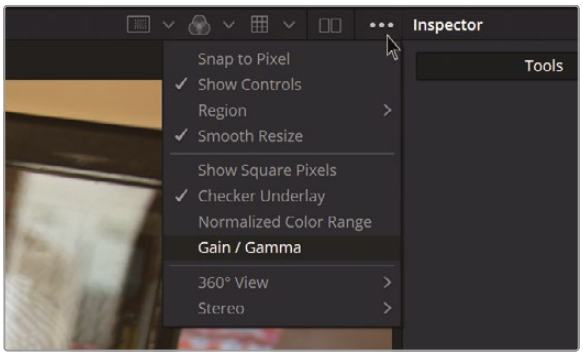
You might think we could apply the Blur node before the Corner Positioner, but if you do that, the edges created by the Corner Positioner when it distorts the image won't be blurred.

Next, you'll correct the white and black levels, saturation, and color of the ScreenContent. You'll use a Color Corrector node. Note that the color grading of the final composition is usually done by a colorist in the color page, but the VFX artist is responsible for correctly matching each element of the composition with each other.

TIP To better evaluate luminance levels, activate the waveform in your viewer by clicking the SubView icon at the top left and selecting Waveform. You can resize it as needed. You can also access the Gain and Gamma controls by clicking the Options (...) menu at the top right of the viewer, which will help with matching.

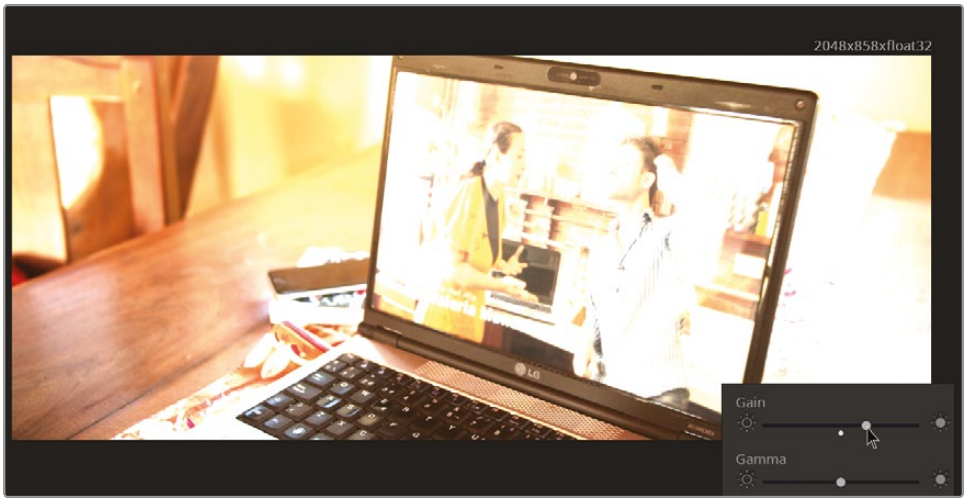


7 Click the Options (...) button at the top right of the viewer and select Gain/Gamma.

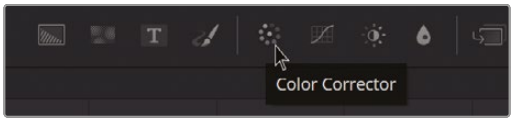


This will open the Gain/Gamma controls, which affect only the visualization and have no impact on the processing or final render. These controls will help you accurately evaluate the integration of elements. You can raise the Gain to better assess the shadows. To deactivate these changes in the viewer, simply return to the Options menu and click Gain/Gamma again.

8 Raise the Gain value to better assess the shadows. Look for similar shadow levels in both the Plate node and the ScreenContent node.



9 After the Blur, add a Color Corrector node (it's the fifth icon in the toolbar).

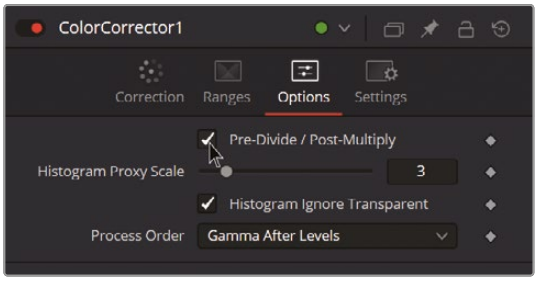


10 In the Inspector, reduce the Saturation to around **0.92** and add a hint of green by clicking and dragging the color wheel toward green.

11 Adjust the Gain and Lift so the SrceenContent blends with the Plate. I used **1.32** for the Gain and **0.03** for the Lift.

Wait! Something strange happened! When you adjusted the Lift value, it also affected the background. This happens because the image uses premultiplied RGB channels, where the color data is already blended with the alpha channel. To correctly adjust the foreground without impacting the background, you need to unmix the RGB values from the alpha channel before applying color correction. After correction, recombine the RGB and alpha channels. This is covered in detail in *The Visual Effects Guide to DaVinci Resolve 19*, but the solution is in the Options tab.

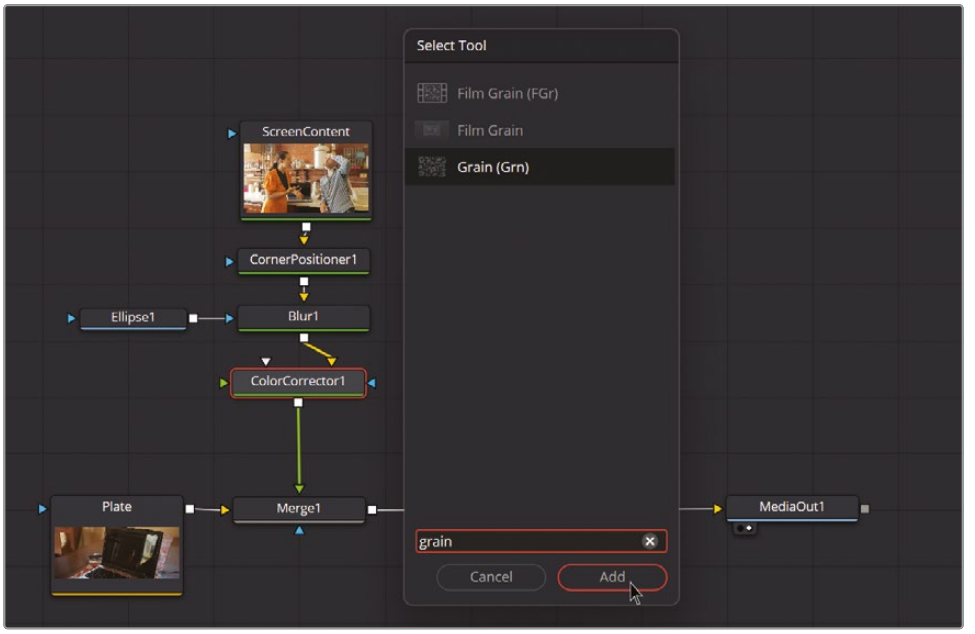
12 Go to the Options tab and check the Pre-Divide / Post-Multiply function.



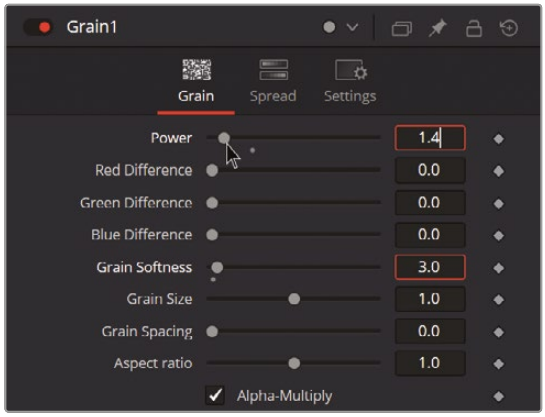
You're almost there! We still need to match the noise levels of the foreground object to those of the background. Noise levels can vary due to factors such as the camera sensor, ISO/gain settings, shadow levels, and even the temperature on the shooting day. To seamlessly integrate the two elements, the noise should match. In this instance, the difference is barely noticeable, especially since we changed the Apply Mode to Screen and lowered the Blend in the Merge node. However, you'll add a bit of noise to make it nearly perfect and to show you this technique for your future projects.

13 Deactivate the Gain/Gamma controls in the viewer by clicking the Options (...) menu and the Gain/Gamma option.

14 Select the Color Corrector node, press Shift-Spacebar, and type **Grn**. Select Grain (Grn) and click Add.



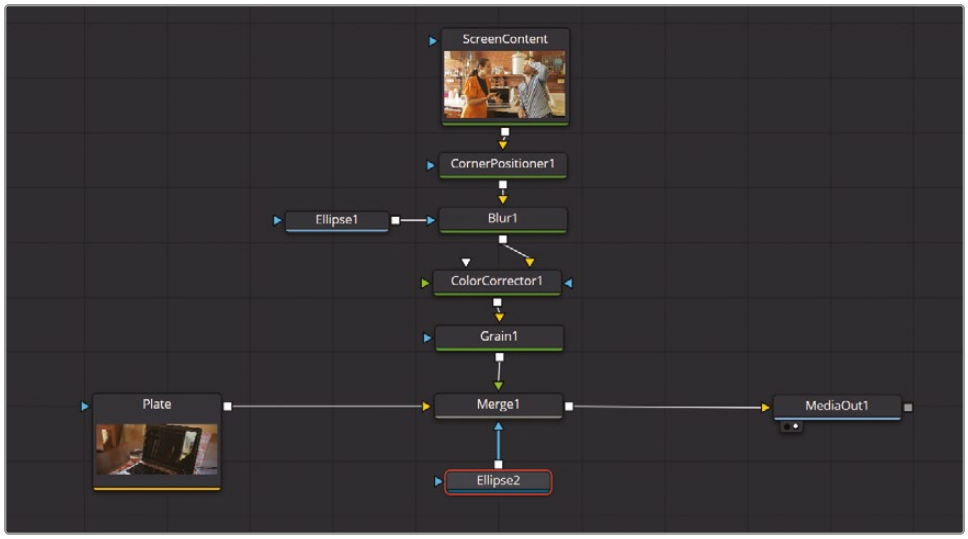
15 Zoom in to the viewer and adjust the Power and Grain Softness of the Grain node in the Inspector in order to match the texture of the ScreenContent with the grain and noise of the Plate. Good values are setting the Power to **1.4** and Grain Softness to **3.0**.



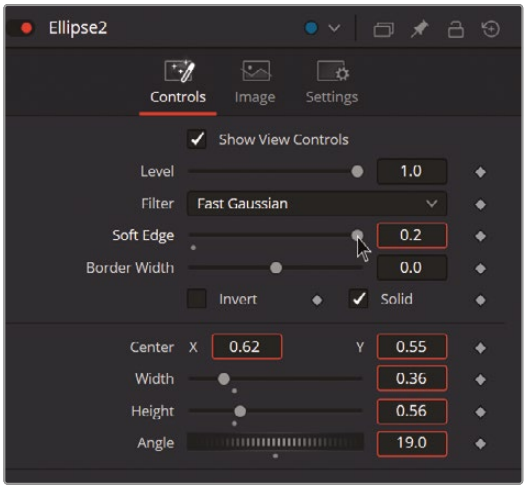
NOTE "Noise" and "grain" are not synonyms. However, we are simplifying the explanations in this training to fully cover the Fusion exercises.

Since this is meant to simulate an old LCD laptop screen, the opacity shouldn't be completely uniform. To achieve this effect, you can add an Ellipse to the Merge1 node so that the screen content becomes less visible in the corners.

16 Select the Merge1 node and click the Ellipse tool in the toolbar to add it connected to that node.



17 Modify the Soft Edge value to **0.2** in the Ellipse2.



18 Modify its size, height, and angle so that the screen content is solid in the middle of the screen but loses a bit of opacity toward the corners.

That's it! You did it! You've successfully completed this chapter and taken your first steps into the world of VFX with Fusion inside DaVinci Resolve. There is so much more to explore, from advanced tracking and 3D compositing to USD integration and beyond. You've only scratched the surface of what Fusion can do, but hopefully this chapter has given you a solid understanding of the power and flexibility of node-based compositing. Fusion is a fantastic tool and, with practice, you can master it to create incredible visual effects. Keep experimenting, keep learning, and let your creativity lead the way!

Lesson Review

1. On the Fusion page, how can you display the output of a node in viewer 1?
2. When clicking a tool in the toolbar, where is the node added?
3. What node would you use to blend two images?
4. What is the orange input on a Merge node?
5. True or False? When on the Fusion page, you can disconnect the MediaOut node because you have no use for it.

Answers

1. On the Fusion page, to display the output of a node in viewer 1, select the node and press the 1 key. You can also drag the node to the viewer or click the small left dot under the node in the Node Editor.
2. The new node is added directly after the selected node in the Node Editor.
3. A Merge node is used to composite two images.
4. The orange input on the Merge node is for the background input.
5. False. The MediaOut node is always the last node connected, and it renders the Node Editor results back to the edit page timeline.

Lesson 10

Delivery and Media Management

In Lesson 3, you used the Quick Export function to easily and quickly output a single video file suitable for uploading to a social media or video sharing site. The Quick Export window is very useful as a way of generating a file that you can use either as a final deliverable or simply as a way of showing the director or client your current progress on an edit with the fewest number of mouse clicks. However, if you want more control over your output files, as well as the ability to batch-process multiple files, then the deliver page is the place to conduct your business.

However, delivery is often much more than exporting a single video file. Once the edit is complete, the grade applied, the VFX shots created, and the mix perfected, you might need to deliver different versions for different platforms, particularly in this age of social media.

Time

This lesson takes approximately 60 minutes to complete.

Goals

Preparing the Project 566
Optimizing Audio Standards 566
Adding Subtitles 570
Importing Subtitles 578
Styling Subtitles 579
Adding Additional Languages 583
Custom Export Settings 585
Saving a Render Preset 589
Creating Vertical Timelines 590
Changing Timeline Settings 596
Reframing Shots 599
Rendering and Reviewing the Jobs 610
Exporting Timelines and Project Files 614
Media Management 615
Creating a Project Archive 619
Creating and Switching Project Libraries 620
Copying Projects Between Project Libraries 623
Backing Up Project Libraries 624
Project Libraries in Blackmagic Cloud 626
Lesson Review 635

In this lesson, you will look at some of the additional considerations you may need to take into account before outputting your final deliverable file(s), including adding subtitles and reformatting an existing timeline to a new aspect ratio and using the flexible options available in the deliver page.

Preparing the Project

For this lesson, you will work with a completed version of the Organ Mountain Outfitters promo you have been working with at various times throughout this book.

1. Launch DaVinci Resolve and, in the Project Manager, click the Import button.
2. Navigate to R19 Beginner Guide / Lesson 10, select the file **OMO PROMO DELIVER.drp** and click Open.
3. Once the project has been imported into the Project Manager, double-click it to open the project.
4. When the project has opened, select the edit page and choose Workspace > Reset UI Layout.
5. Click the Relink Media button at the top of the media pool.
6. In the Relink Media window, click Locate, navigate to the location of the R19 Beginners Guide folder on your system, and click Open to relink the files.

You are now ready to begin this lesson.

Optimizing Audio Standards

One of the advantages of using the deliver page over the Quick Export function is that you have access to many more options, and you can also queue export jobs rather than having to wait for the export to complete before starting the next export job. One of the settings available in the deliver page that's not a part of the Quick Export process is for optimizing your audio to various different standards.

Depending on where you deliver your files, you will no doubt be given a list of requirements for those files. This could be as simple as indicating acceptable video resolutions, frame rates, and codecs. These days, however, it also includes loudness for your audio.

Loudness is a measurement of your audio across its total duration. The general idea behind loudness is making sure that levels are consistent across content, so that one element isn't perceived as being significantly louder than any other—for example, that the advertisements don't deafen you compared to the drama you're watching, or that the

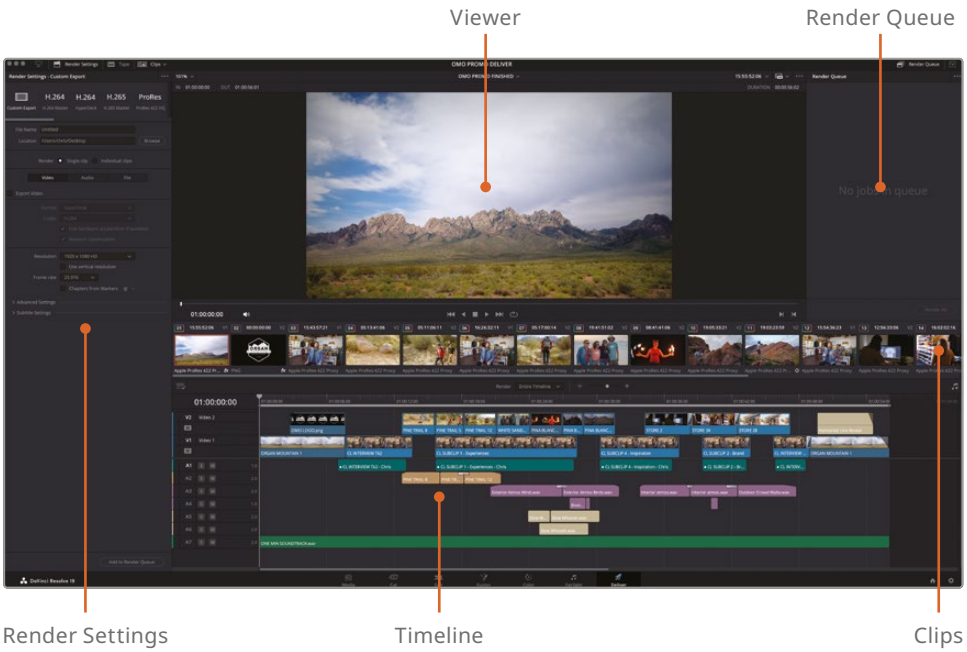
next video you stream doesn't have you reaching for your volume control to turn it up or down!

Thankfully, Resolve has a simple way of ensuring that your audio adheres to the various loudness standards, whether you're delivering your content to YouTube, Netflix, or broadcast TV, by optimizing it on export.

1 In the edit page, ensure that the OMO PROMO FINISHED timeline is open.

2 Click the Deliver button at the bottom of the interface or press Shift-8 to open the deliver page.

The deliver page is divided into five main areas.



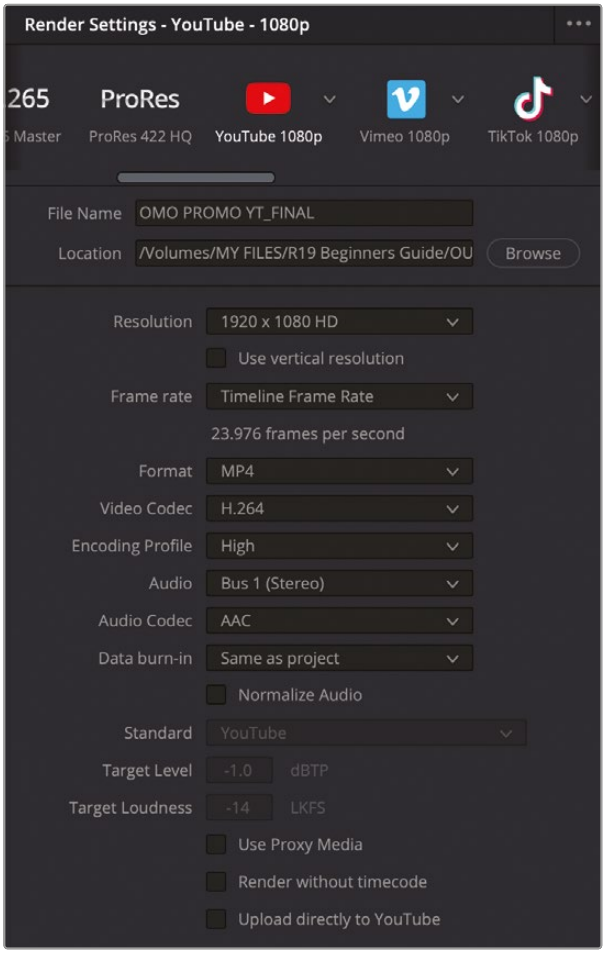
At the top of the Render Settings panel are a series of common render presets. You may recognize many of these from the Quick Export window.

3 From the Render Settings, select the YouTube 1080p preset.

TIP For different delivery resolutions for YouTube up to 2160p, click the downward arrow for a dropdown menu of options.

4 In the File Name field, type **OMO PROMO YT_FINAL**.

5 For the Location, click the Browse button and choose R19 Beginners Guide / OUTPUT / EXPORTS / YOUTUBE and click Save to save the location.

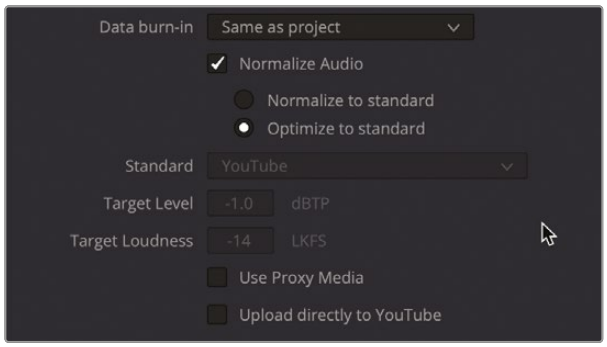


Below the Location field you will see the settings used by this preset to render out a file suitable for uploading to YouTube.

6 Review the settings, ensuring that the Resolution is 1920 x 1080 HD and the frame rate is 23.976.

> **NOTE** Although you can change the resolution of the exported file from the current timeline's settings, you're always advised to choose the same or lower resolution of the timeline. Choosing a higher resolution may result in reduced image quality since rendered images are upscaled from the timeline resolution, which you will be warned about when adding the job to the Render Queue. Similarly, you should not adjust the frame rate of the exported file from the timeline frame rate.

7 Enable the Normalize Audio option and select Optimize to Standard.



This will ensure that the exported audio will be at the correct levels for delivering to YouTube: a target level of -1 dBTP and a target loudness of -14 LKFS. The YouTube preset does not allow you to choose an alternative optimize to standard setting because it's assumed you'll be using this preset to deliver to YouTube, for obvious reasons.

8 Click the Add to Render Queue button at the bottom of the Render Settings panel.

The job is added to the Render Queue in preparation for exporting.

Adding Subtitles

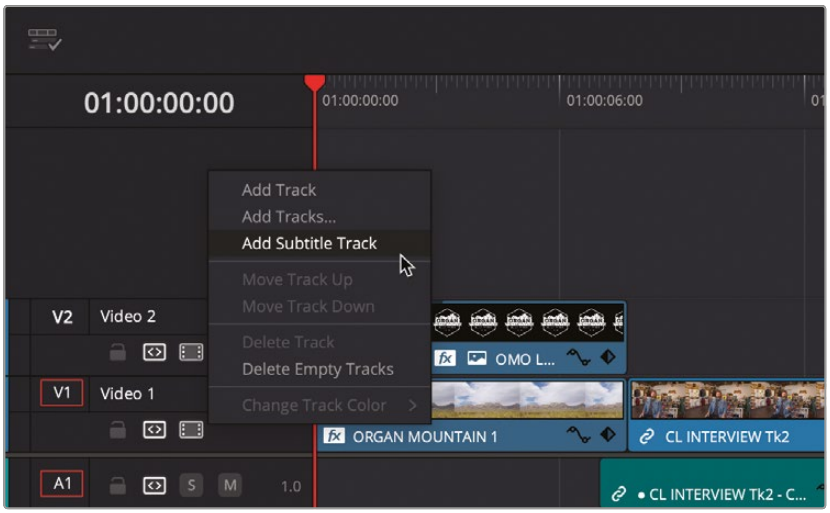
Providing subtitles to accompany your final exported video file is often an important consideration, especially if you want your video to be accessible across different platforms. While you could simply use standard text generators to create onscreen text, these types of titles (often referred to as open captions) cannot be turned off by the viewer. Subtitles (referred to as closed captions), however, can. Alternatively, they allow the user to choose from different language options.

While many video sharing sites can automatically generate the subtitles for you, by creating them yourself in DaVinci Resolve, you have a greater level of control over the subtitles.

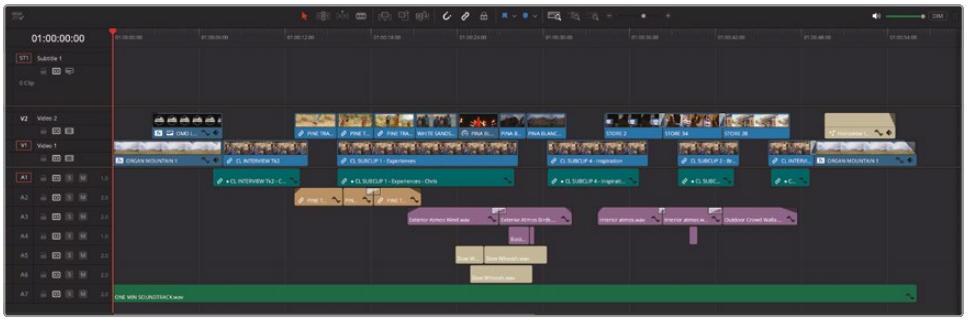
DaVinci Resolve allows you to add subtitles to your timelines in two main ways: you can manually create all your subtitles, or you can import a supported subtitle file. For this exercise, you will start by creating the subtitles for Organ Mountain Outfitters manually, before importing the remaining titles.

> **NOTE** DaVinci Resolve Studio can automatically transcribe your timeline audio into subtitles that you can then edit. You will find more information about how to achieve this in the *DaVinci Resolve Reference Manual* or in *The Editor's Guide to DaVinci Resolve 19*.

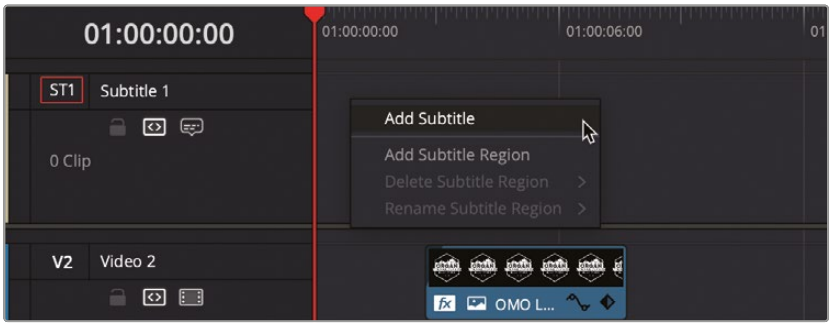
1. Click the Edit button, or press Shift-4, to switch back to the edit page.
2. If necessary, open the Inspector.
3. In the current timeline, right-click in the timeline track controls and choose Add Subtitle Track.



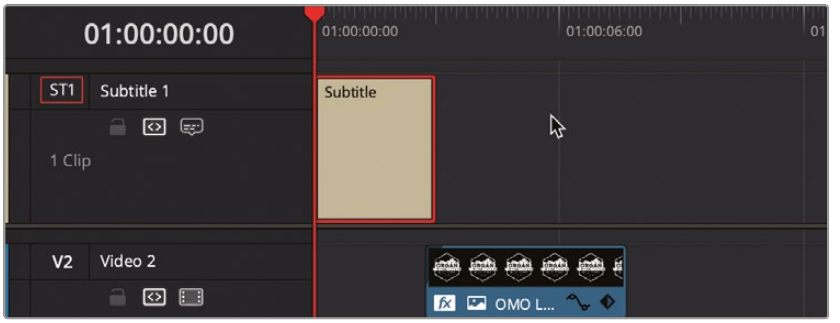
A new type of track—a subtitle track—called “Subtitle 1” is added to the timeline above the current video tracks.



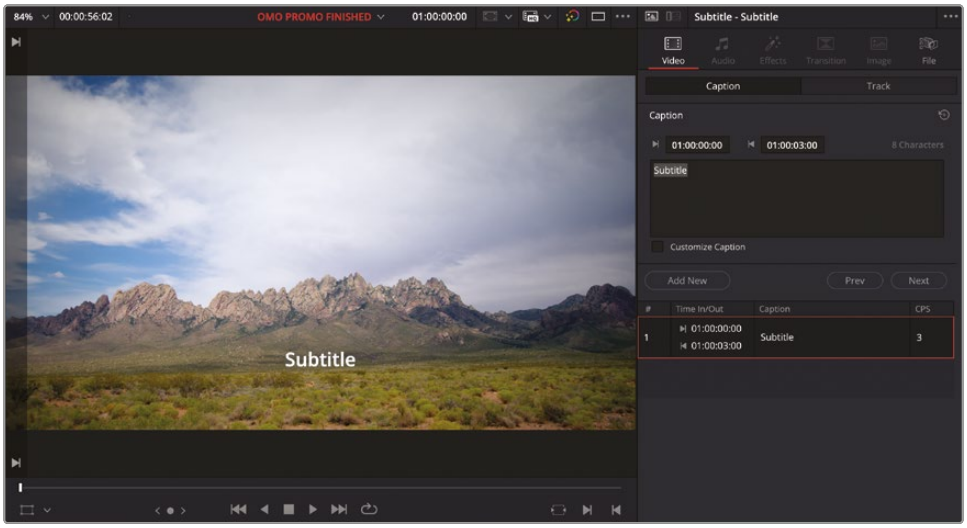
4 Ensure that the timeline playhead is at the start of the timeline, right-click anywhere in the Subtitle 1 tracks, and then choose Add Subtitle.



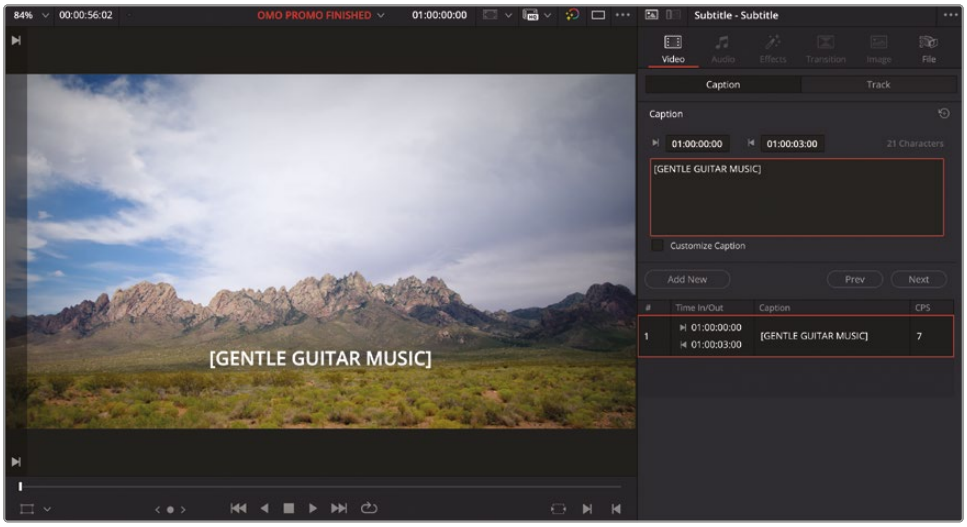
A new subtitle clip is added to the subtitle track, starting at the playhead position.



The subtitle text appears in the timeline viewer and, because the new subtitle clip is selected automatically, the controls are displayed in the Inspector.



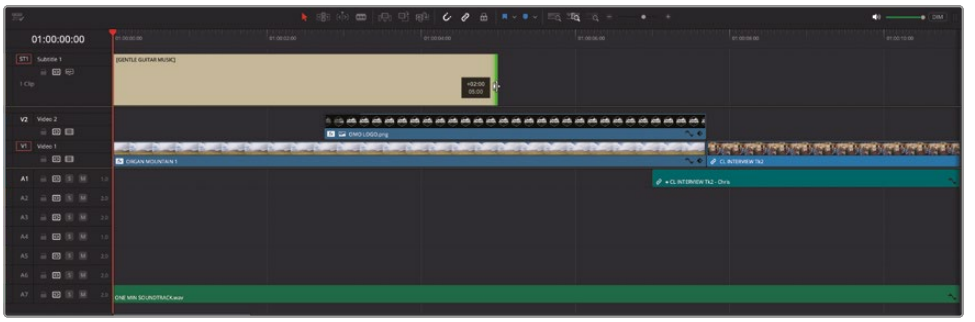
5 In the Inspector, highlight the caption "Subtitle" and type **[GENTLE GUITAR MUSIC]** to indicate the type of music that's playing.



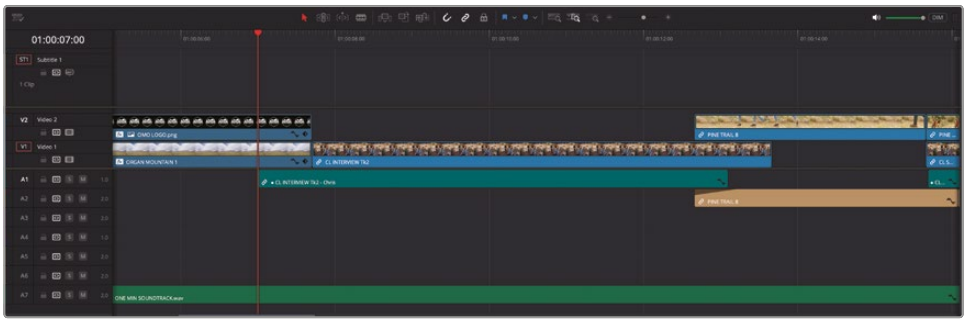
6 Click away from the caption controls in the Inspector and play the timeline to preview the subtitle.

The default duration of a subtitle is 3 seconds, but you can always change this. Because subtitle clips are just like any other timeline clip, you can use the familiar trimming operations to adjust them.

7 Click the Detail Zoom button and trim the end of the subtitle clip to adjust it to 5 seconds (+02.00 in the tooltip).



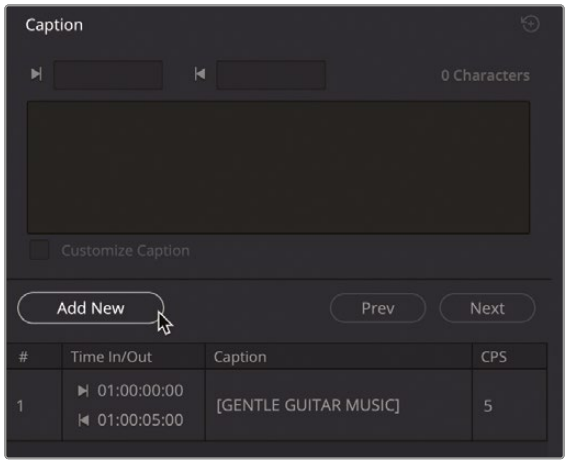
8 Scroll horizontally along the timeline and position the timeline playhead at the start of the first audio clip on Audio 1.



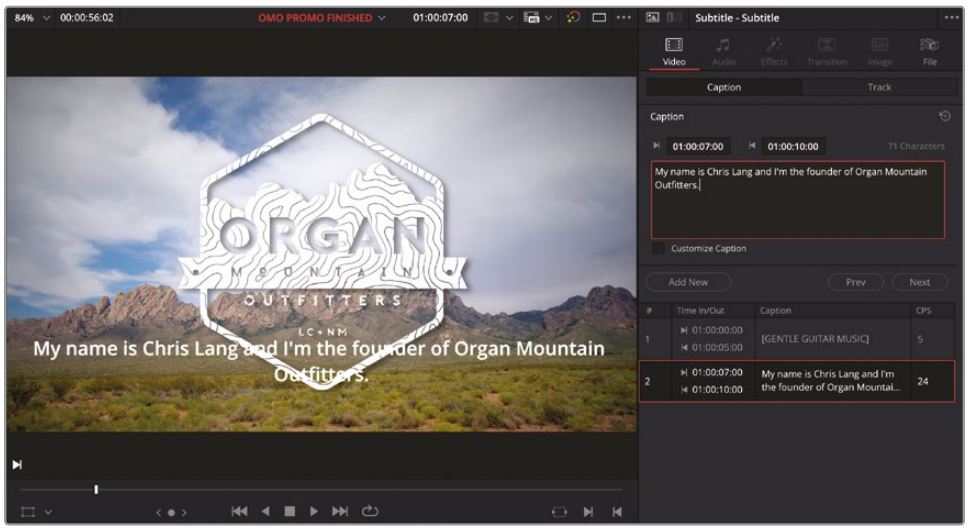
This is the beginning of Chris Lang's first soundbite where he introduces himself.

TIP Snapping is useful to ensure that the playhead is at the start of the clip. Press N to toggle Snapping on/off.

9 Click anywhere in the subtitle track and, in the Inspector, click the Add New button to add an additional subtitle clip at the playhead position.



10 In the Caption box, type **My name is Chris Lang and I'm the founder of Organ Mountain Outfitters.**

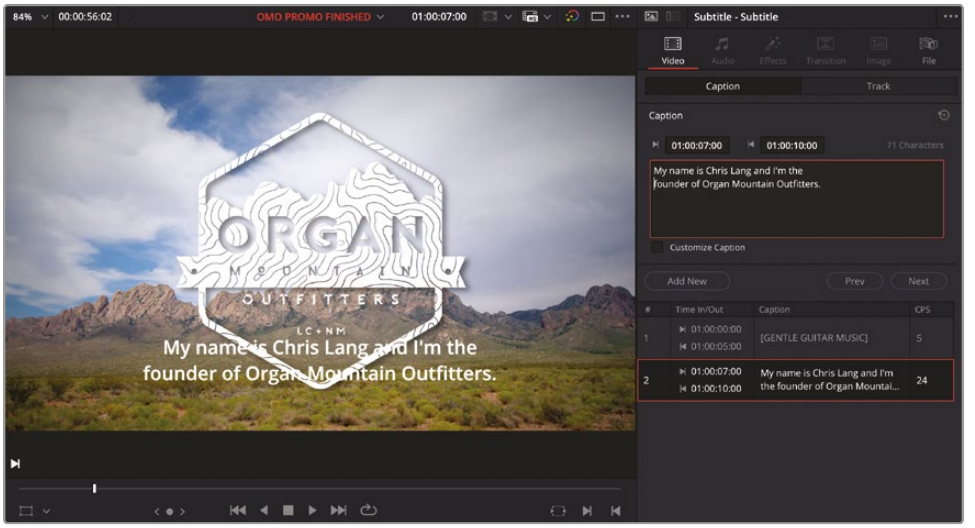


By default, the subtitle text will wrap across onto a new line, but you can always add your own line breaks if you prefer.

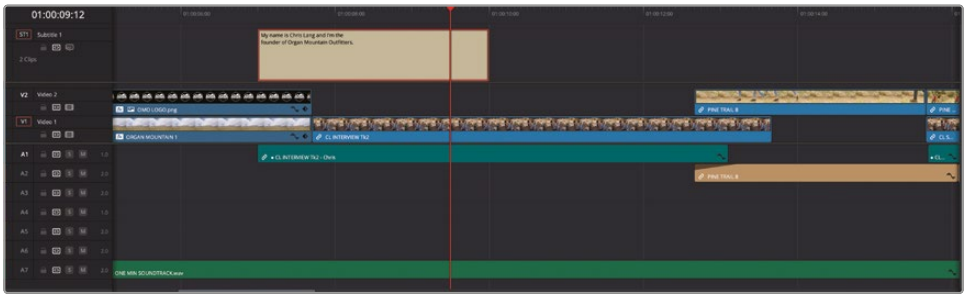
NOTE Settings for the maximum number of characters per line and the minimum duration for each of your captions are designated in the Subtitles panel of the Project Settings window.

11 In the Caption box, place the cursor at the start of the word “founder.”

12 Press Backspace to remove the space between the words “the” and “founder,” and then press Enter (Return) to add a line break so the subtitle is displayed more comfortably across two lines.

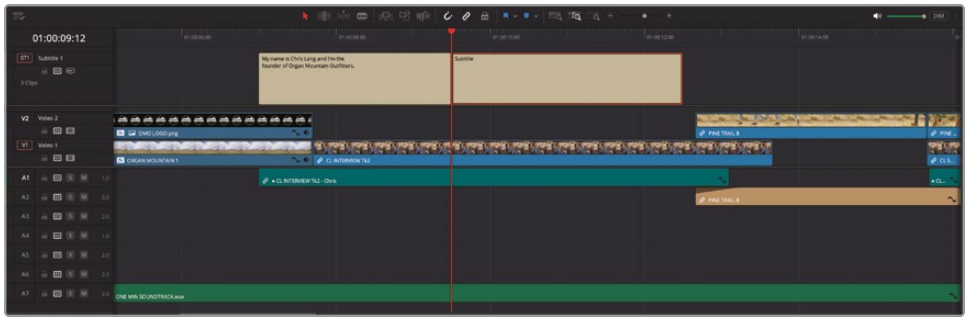


13 Click away from the Caption controls and play the timeline, stopping after Chris says, “Organ Mountain Outfitters.”

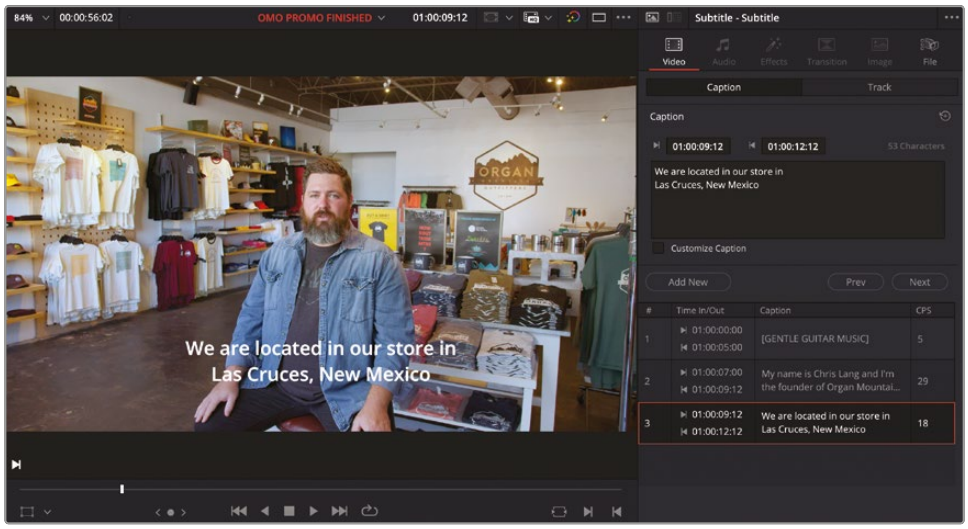


14 In the Caption controls in the Inspector, click the Add New button.

A new caption is added at the playhead position, overwriting the end of the previous caption.



15 In the caption controls in the Inspector, type **We are located in our store in Las Cruces, New Mexico**, with a line break between the words 'in" and "Las."



16 Review the new subtitle and, if necessary, roll the edit point between this and the previous subtitle so the subtitles change in time with Chris's spoken words.

17 Adjust the length of the last subtitle so it ends after Chris says, "New Mexico."

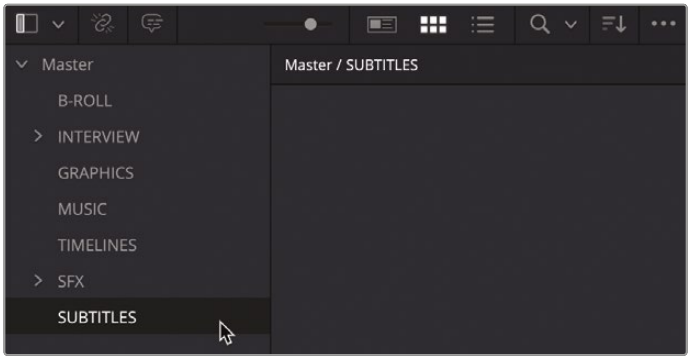
Importing Subtitles

You can continue working through this timeline, adding subtitles for the different lines of dialogue. However, as when you were working with metadata in Lesson 7, it's usually much more efficient and accurate to have someone transcribe the dialogue for you and create a subtitle file that you can import directly.

NOTE DaVinci Resolve supports the importing and exporting of .srt, .vtt, .ttml, and .dfxp subtitle files.

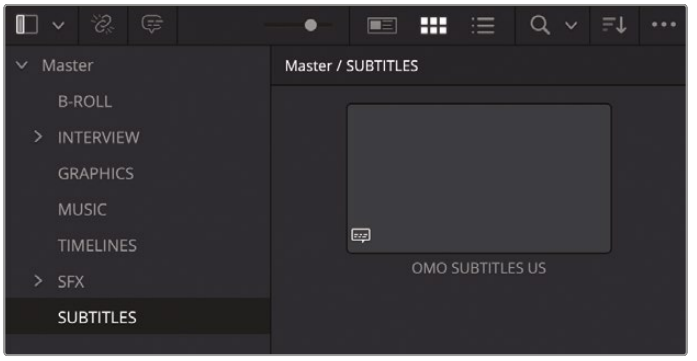
1 In the media pool, select the Master bin and choose File > New Bin or press Shift-Command-N (macOS) or Shift-Ctrl-N (Windows) to create a new bin.

2 Rename the new bin **SUBTITLES** and ensure that it is selected in the bin list.



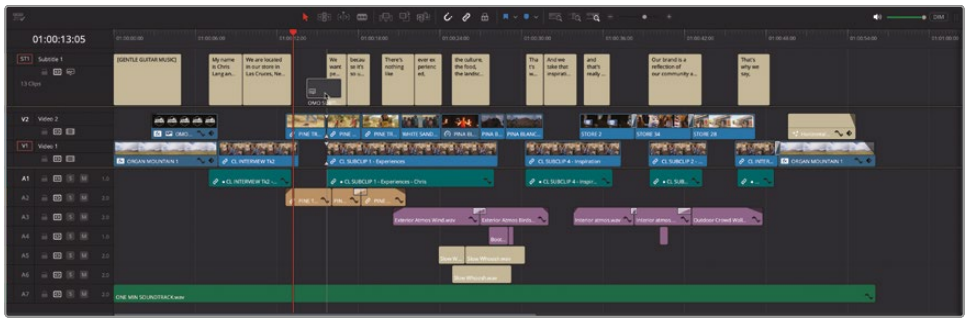
3 Choose File > Import > Subtitle and navigate to R19 Beginner Guide / Lesson 10 / Subtitles and select the file **OMO SUBTITLES US.srt** and click Open.

The .srt file is added to the selected bin as a subtitle clip.



NOTE Importing a subtitle file like this doesn't link to the file in the same way a media file does. Once the subtitle is imported, it is no longer dependent on the original subtitle file.

4 In the timeline, click the Full Extent Zoom button and drag the **OMO SUBTITLE US** subtitle clip from the media pool to the Subtitle 1 track, ensuring that the start of the subtitles snap to the start of Chris's second soundbite clip on Audio 1.



5 Review the new subtitles.

Remember, you can always adjust any of these subtitles, either directly on the timeline to adjust their timing or by selecting an individual subtitle and using the Inspector to change its text.

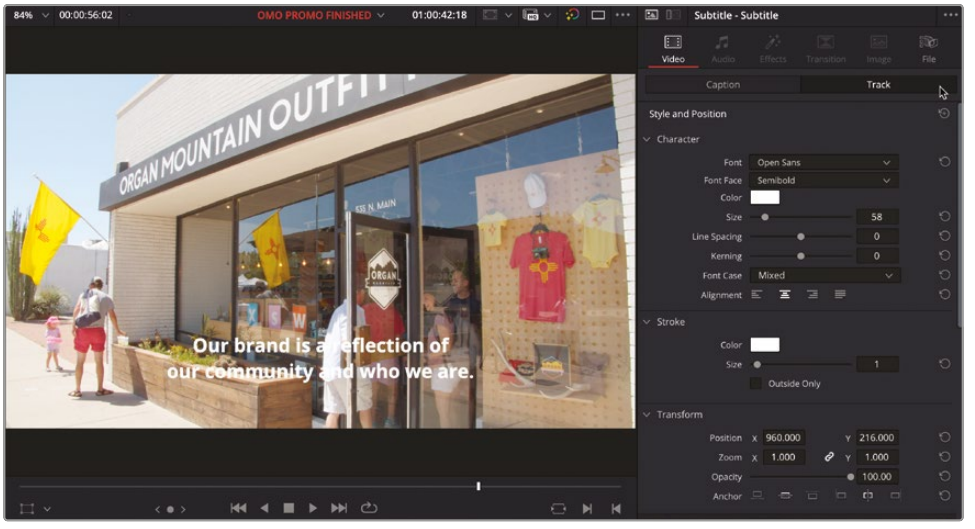
Styling Subtitles

Just as with any other title in Resolve, subtitles have many parameters that allow you to adjust the style and position of your captions. These can be made across the entire subtitle track for consistency or to individual subtitles.

One common style applied to subtitles is a semitransparent box that helps the text stand out against the picture it's displayed over.

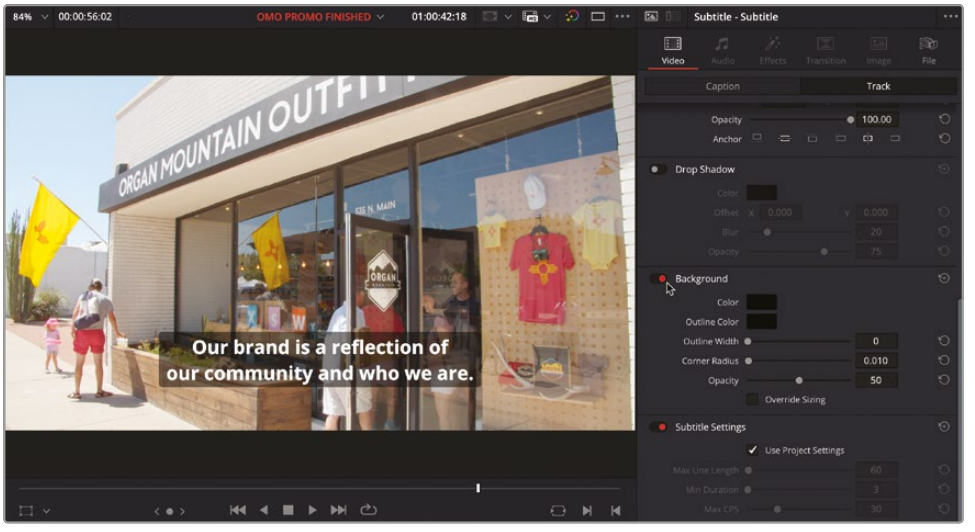
1 In the timeline, select any of the subtitles.

2 In the Inspector, click the Track tab.



As its name suggests, changes made in these controls affect all the subtitles along the same subtitle track in the timeline.

3 Enable the Background controls for the subtitles along the Subtitle 1 track.



Sure enough, a semitransparent box appears around the subtitle in the timeline viewer, helping to make the text easier to read.

And because you made this change in the Track tab, all the subtitles in the Subtitle 1 track now have the same type of background applied. This means that you can adjust any of the track controls and know that the change will be applied to all the subtitles along the same track for consistency.

However, there are times when it may be necessary to adjust the controls of individual subtitles to adjust their font, color, or position, such as with the first subtitle in this track.

Since this subtitle indicates audio that's not spoken, you may want to apply a slightly different style to differentiate it from captions for dialogue.

4 Select the first subtitle clip in the timeline.

5 In the Inspector, select the Caption tab and enable the Customize Caption option in the caption controls.

A new set of Caption Style settings appears, which will be applied only to the selected captions.

6 Change the Font Face to Italic to distinguish this caption from the other dialogue captions.

The changes have been applied to the first subtitle, but the other subtitles in the track have not changed.

Subtitles and Styling

While you may want to spend huge amounts of time customizing and styling your subtitle text, in reality you'd be wasting your time unless you're choosing to export the subtitles as burned-in open captions (see the following section). Subtitles are often displayed differently depending on where they are being viewed, with the viewer often having limited control over how the subtitles are displayed. Therefore, when adding subtitles to your timelines, it's simpler to just focus on the content rather than how they look.

Adding Additional Languages

You can add multiple subtitle tracks in the timeline, which can be particularly useful when you want to supply subtitles in more than one language.

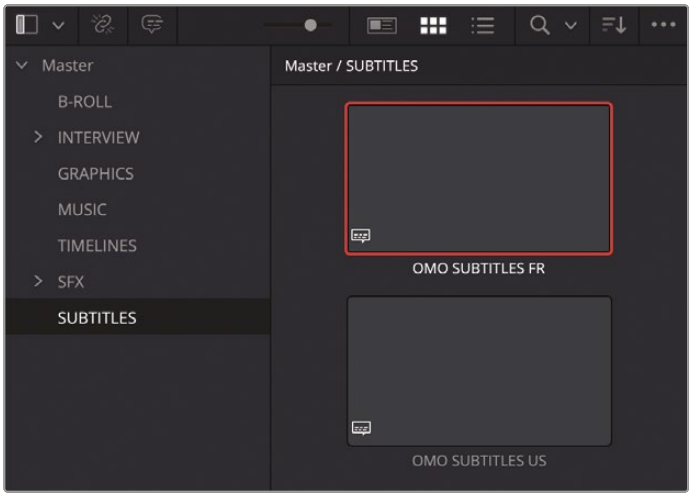
1 In the timeline, right-click the timeline track controls and choose Add Subtitle Track.

A new, empty subtitle track is added called Subtitle 2.

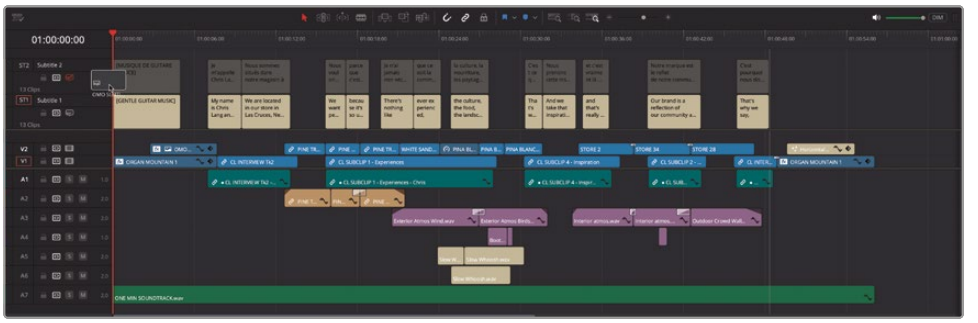
2 Ensure that the SUBTITLES bin is selected in the bin list in the media pool.

3 Choose File > Import > Subtitle.

4 Navigate to R19 Beginners Guide / Lesson 10 / Subtitles, select the file **OMO SUBTITLES FR.srt**, and click Open to import the subtitle into the selected bin.



5 Drag the imported subtitle file, **OMO SUBTITLES FR**, from the media pool into the empty Subtitle 2 track in the timeline, ensuring that it starts at the beginning of the timeline.



The new subtitles are added to the Subtitle 2 track, but you won't be able to see them initially.

6 In the timeline controls, click the Enable Subtitle Track button for Subtitle 2.

The Subtitle 2 track is enabled, and the Subtitle 1 track is automatically disabled, allowing you to review the French versions of the subtitles.

7 Rename the Subtitle 1 track **OMO_ENG** and rename the Subtitle 2 track **OMO_FR** to indicate that these tracks are English and French subtitles, respectively.

NOTE Only one subtitle track can be enabled at any one time. You can disable all subtitle tracks if you don't want to see any subtitles.

Custom Export Settings

Now you will choose your own settings for exporting the Organ Mountain Outfitters promo to a high-quality file.

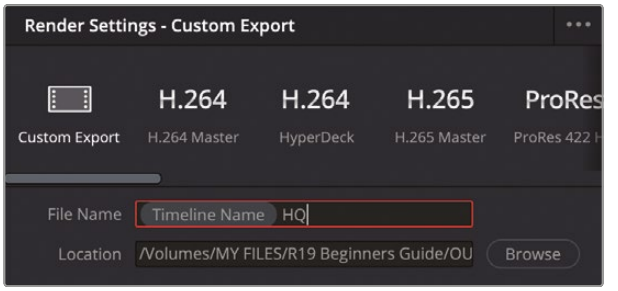
1 Press Shift-8 to switch to the deliver page.

2 In the Render Settings panel, select Custom Export.

The settings from the last selected preset are retained.

This time, instead of manually typing out the whole name for the exported file, you will use a variable based on the timeline's name in the project.

3 In the File Name field, type **%Time**, choose the Timeline Name variable from the list of options, and then add **HQ** to the end.

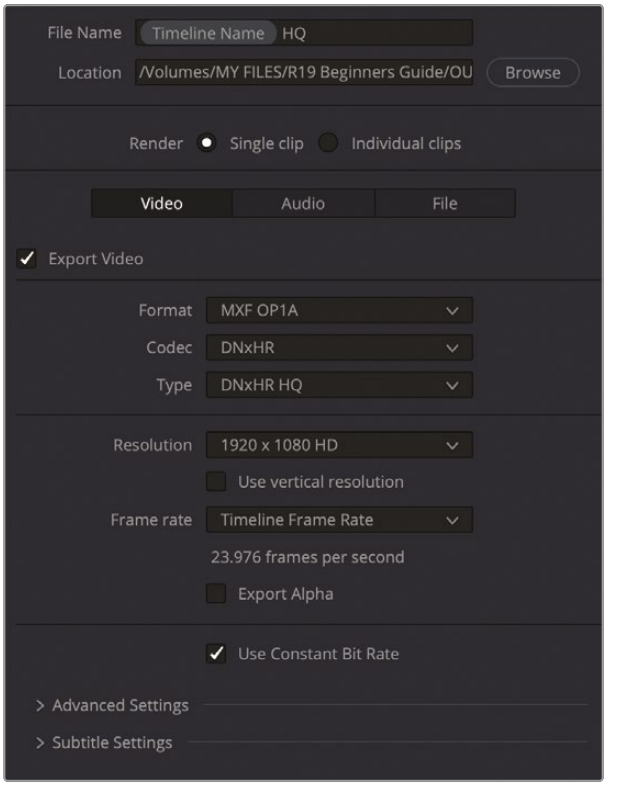


4 In the Location field, click Browse and navigate to R19 Beginners Guide / OUTPUT / EXPORTS / HQ and click Save to update the location for the exported file.

5 Ensure that Render is set to Single Clip and select the Video tab if necessary.

6 For the Format, choose MXF-OP1A.

7 For the Codec, ensure that DNxHR is selected and, from the Type menu, select DNxHR HQ.

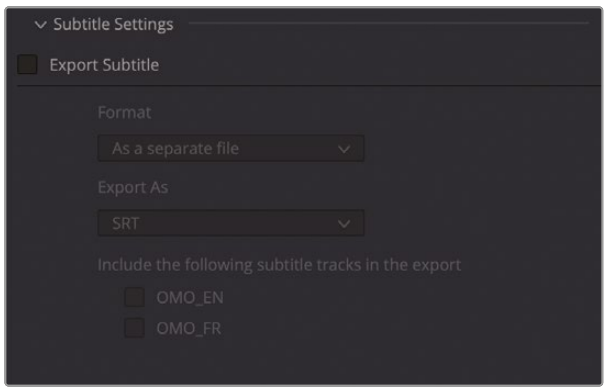


These settings will ensure that you are exporting a high-quality file that you can use as a master file format for the OMO promo in the future.

8 Ensure that the resolution is 1920 x 1080, and the frame rate is 23.976.

> **NOTE** More advanced settings are available in the Additional Settings controls.

9 Click to expand the Subtitle Settings controls.



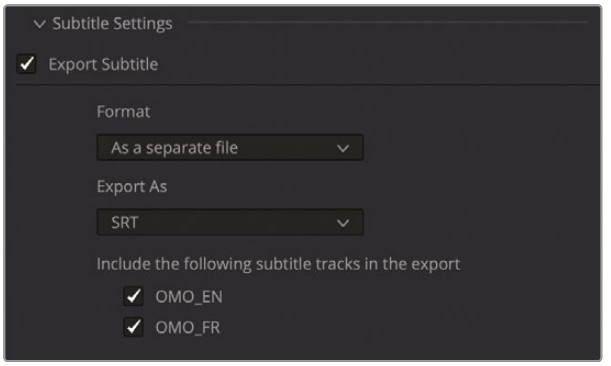
These controls allow you to specify how the subtitles will be exported.

10 Select Export Subtitle to activate the settings.

11 Ensure that the Format menu is set to “As a separate file.”

If you choose the “Burn into video” option, Resolve will burn the currently active subtitles (with their styles) into the final rendered video file, so the subtitles will be permanently included as part of the video content as open captions. Choosing “As embedded captions” will output the currently active subtitle track as an embedded metadata layer within those media formats that support it. DaVinci Resolve supports CEA608 and text captions within MXF OP1A and QuickTime containers.

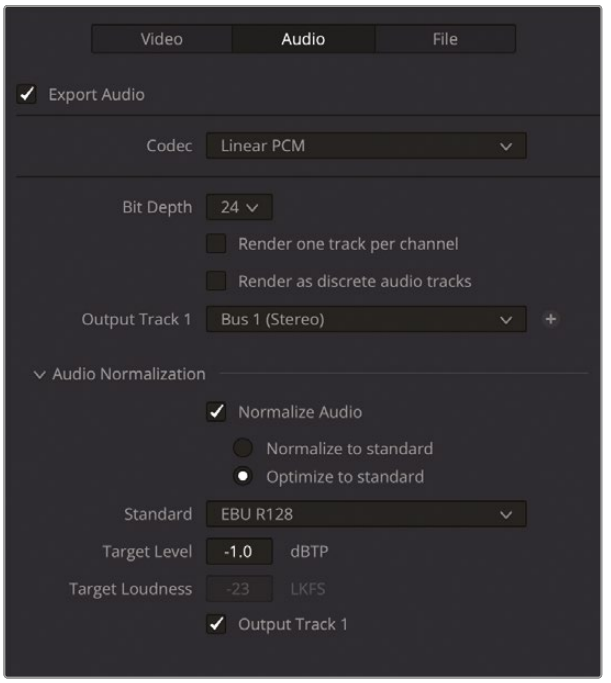
12 In the Export As menu, choose .SRT and select both the OMO_ENG and OMO_FR subtitle tracks to include them both in the export.



13 Click the Audio tab.

14 Reveal the Audio Normalization controls and enable Normalize Audio.

15 Choose Optimize to Standard and choose EBU R128.



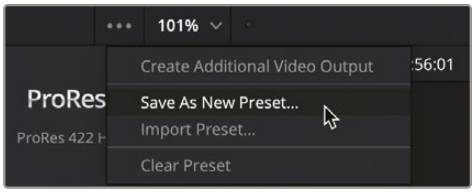
This will optimize your audio to the EBU standard for broadcast with a Target level of -1 dBTP and a Target Loudness of -23 LKFS.

16 Click Add to Render Queue to add this new job to the Render Queue in preparation for exporting.

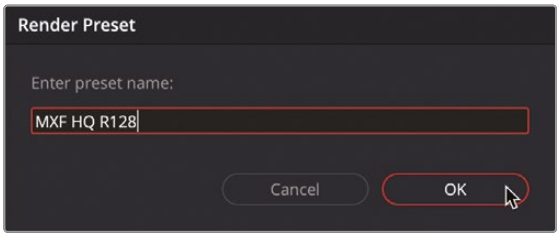
Saving a Render Preset

If you use the same custom settings regularly, you might prefer to save a Custom Render Preset.

1 Click the Render Settings' Options (...) menu and choose Save As New Preset.

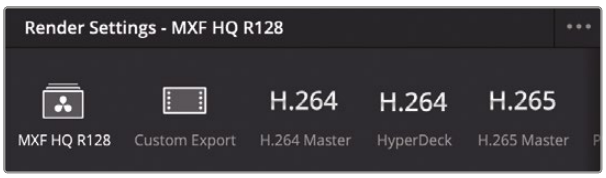


2 In the Render Preset dialog, type **MXF HQ R128** to name your new preset.



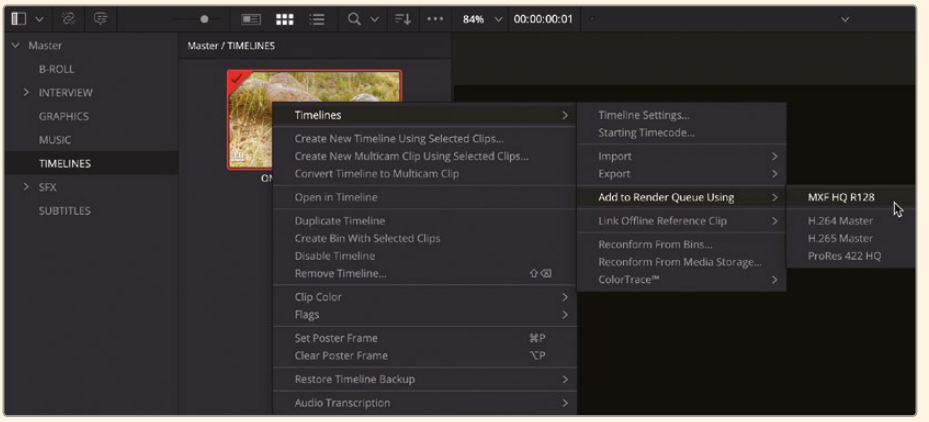
3 Click OK.

The new preset is added to the list of presets in the Render Settings.



4 Click the Render Settings' Options menu again. Here, you can now access options to update (if you've made any changes since it was saved), export, or delete the preset.

TIP Timelines can be quickly added to the Render Queue using a custom preset in the edit page by right-clicking the timeline and choosing Timelines > Add to Render Queue Using > [Your Preset].



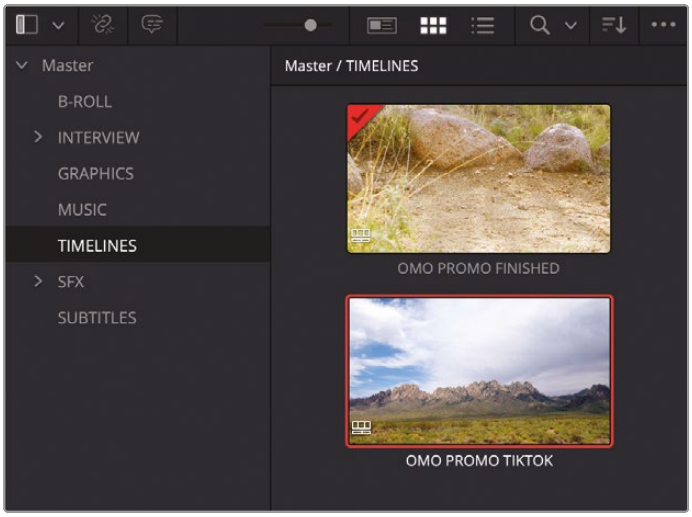
Creating Vertical Timelines

While most modern video cameras still shoot traditional 16:9 aspect video footage, that doesn't necessarily mean you are always required to deliver 16:9 footage. With many videos being watched on mobile devices, many social media content creators prefer an alternative aspect ratio, such as 1:1 (square formats such as those favored by Instagram) or 9:16 (vertical formats that are common on TikTok and YouTube Shorts). DaVinci Resolve allows you to customize your timeline settings for several different aspect ratios. In this next exercise, you'll learn how easy it is to repurpose a timeline to fit a vertical aspect ratio.

To begin, you'll need to duplicate the timeline you've been working with up until now.

1. Click the Edit button, or press Shift-4, to return to the edit page.
2. Choose Timeline > Find Current Timeline in Media Pool (it's at the bottom of the Timeline menu).
3. In the media pool, right-click the selected timeline and choose Duplicate Timeline.

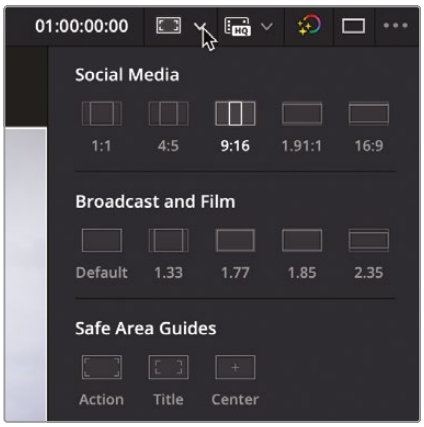
4 Select the duplicated timeline, click the name to highlight it, rename it **OMO PROMO TIKTOK**, and press Enter (Return).



5 Double-click this new timeline to open it, and turn off any active subtitle tracks.

To get a sense of what the footage in this timeline will look like once it's presented in a vertical timeline, you can use the Safe Guides.

6 In the Guides menu, disable the Default guide, and enable the 9:16 Social Media option.



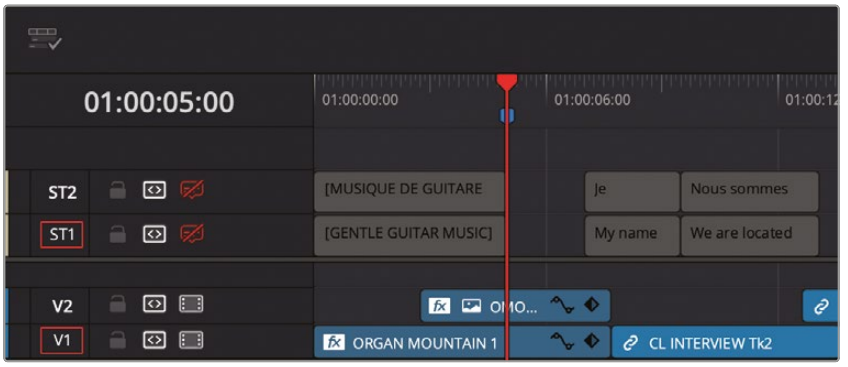
7 Scrub through the timeline to preview which shots work well in a vertical aspect ratio and which might need a bit of attention.

For example, you'll probably notice that the opening graphic doesn't fit, and some of the interview clips will need reframing too, among many others.

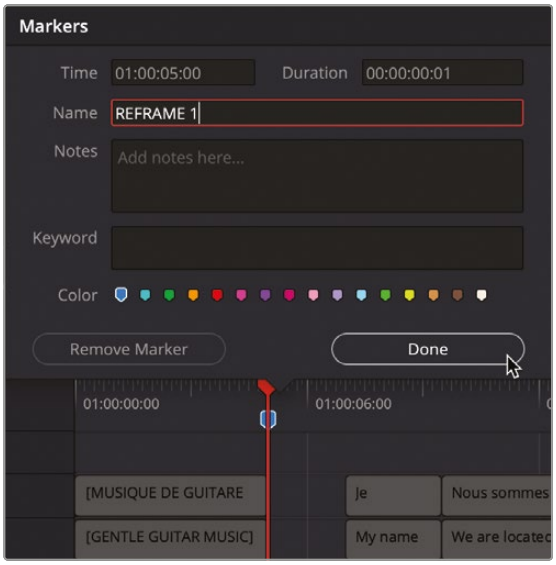
To easily identify and locate these shots later, you can add markers to the timeline.

8 In the timeline, place the playhead over the graphic clip near the start and ensure that no clips are selected.

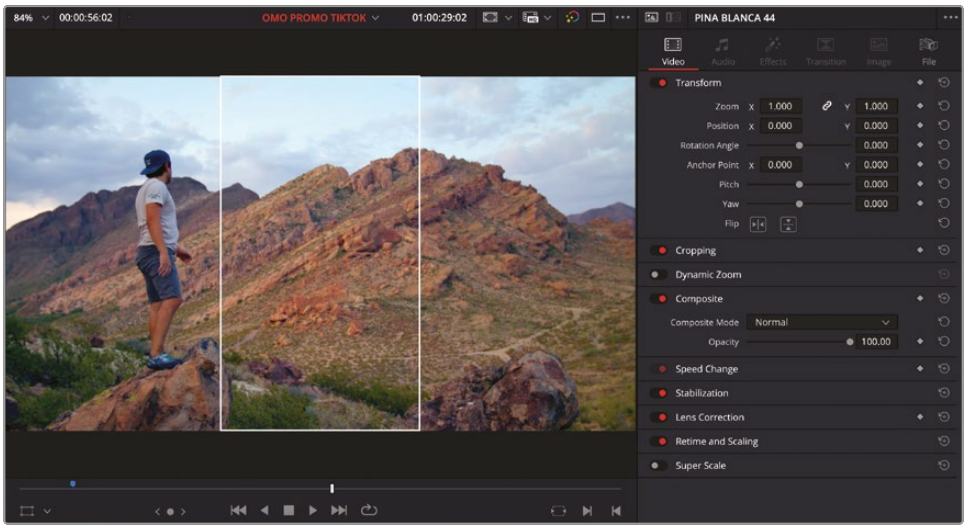
9 In the timeline toolbar, click the Marker button to add a marker at the playhead position. By default, markers are initially blue.



10 Double-click the marker in the timeline to open the Marker dialog. Change the name of the marker from Marker 1 to **REFRAME 1**, and then click Done.



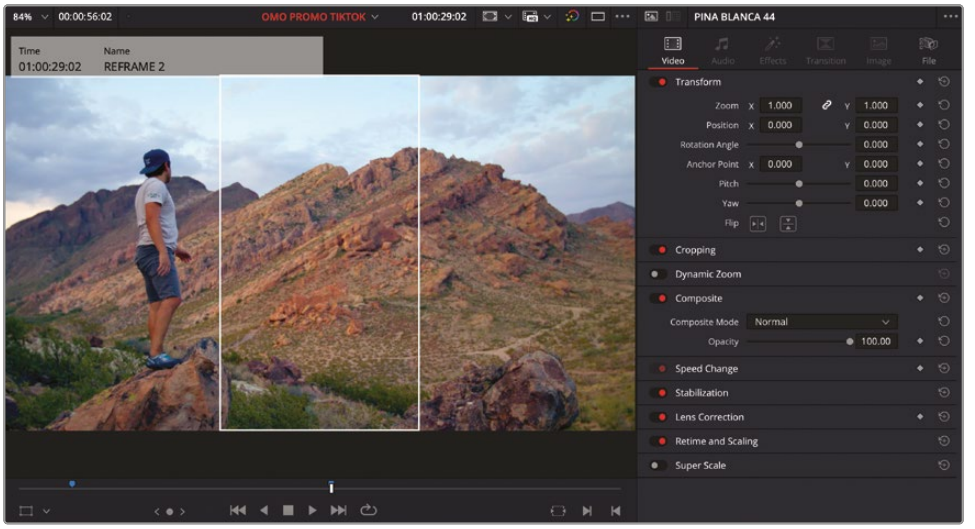
11 In the timeline, move over the clip **PINA BLANCA 44**, the wide shot of the guy looking out over the rocks.



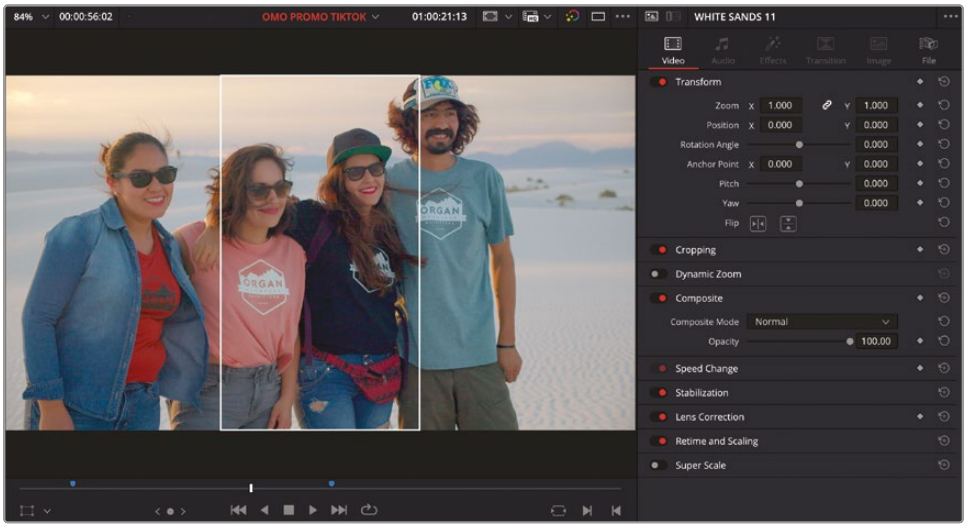
This will be another simple reframe, so you can use the same-colored marker.

12 Click the Marker button again, or press M, to add another blue marker.

13 Double-click the new marker or press M again to open the Marker dialog. Change the name of the marker from Marker 2 to **REFRAME 2**, and then click Done.

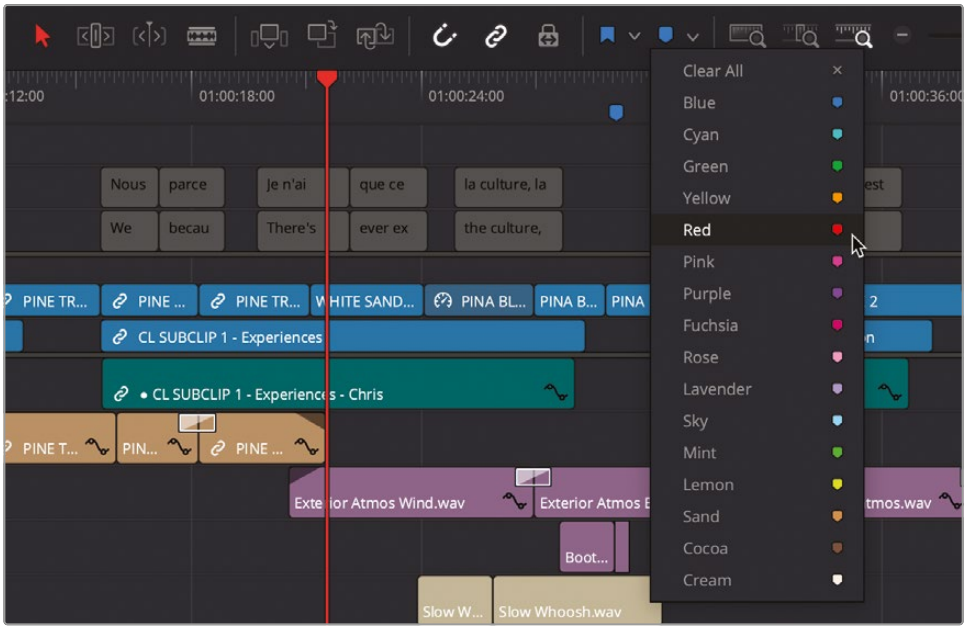


14 Move over the clip **WHITE SANDS 11**.



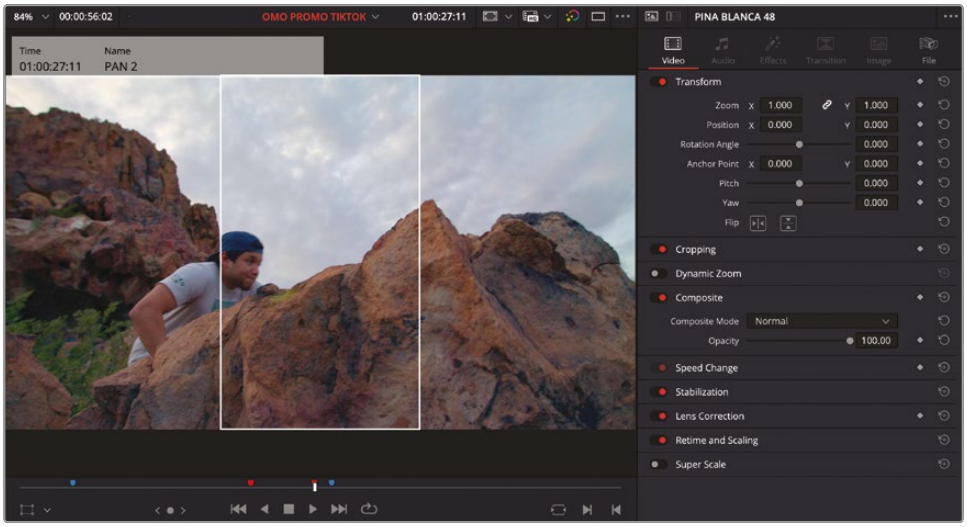
To get all the people in this shot, you will need to create a pan.

15 In the timeline toolbar Marker menu, select Red to add a red marker to the timeline.

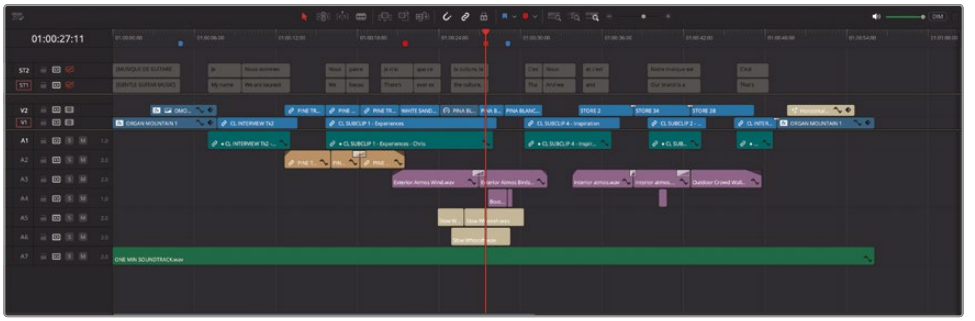


16 Double-click the red marker and rename it from Marker 3 to **PAN 1**.

17 Move to the low-angle shot of the guy jumping on the rocks, PINA BLANCA 48, add another red marker, and rename it **PAN 2**.



18 Click the Guides button in the timeline viewer to turn off the onscreen guides.

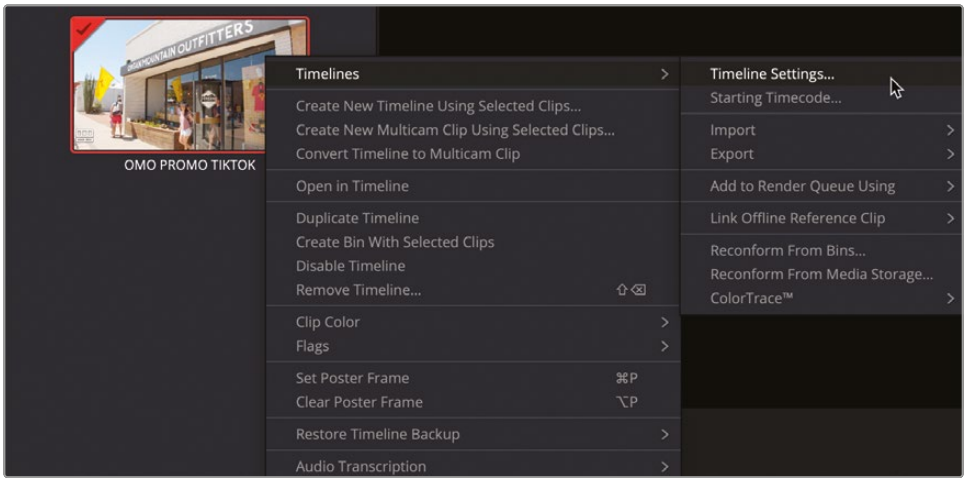


You will use these timeline markers to quickly locate these clips in later steps.

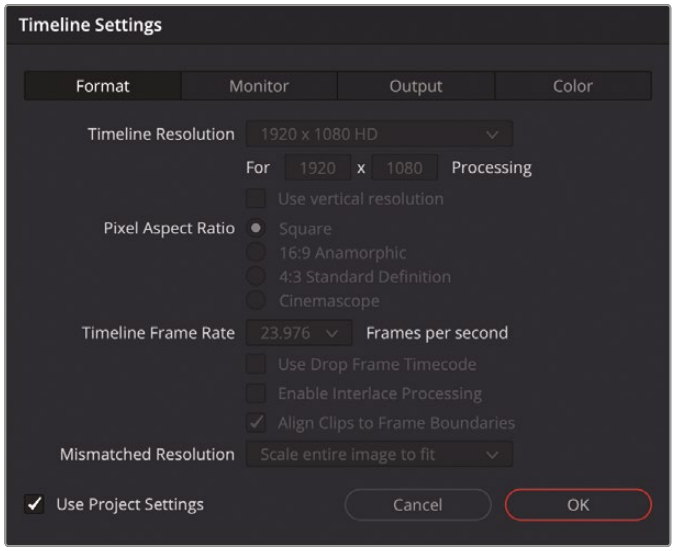
Changing Timeline Settings

Currently, you just have a copy of your original timeline. To make it suitable for uploading to platforms such as TikTok or YouTube Shorts that primarily support vertical video, you'll need to adjust the settings of this timeline.

1 In the media pool, right-click the active timeline and choose Timelines > Timeline Settings.

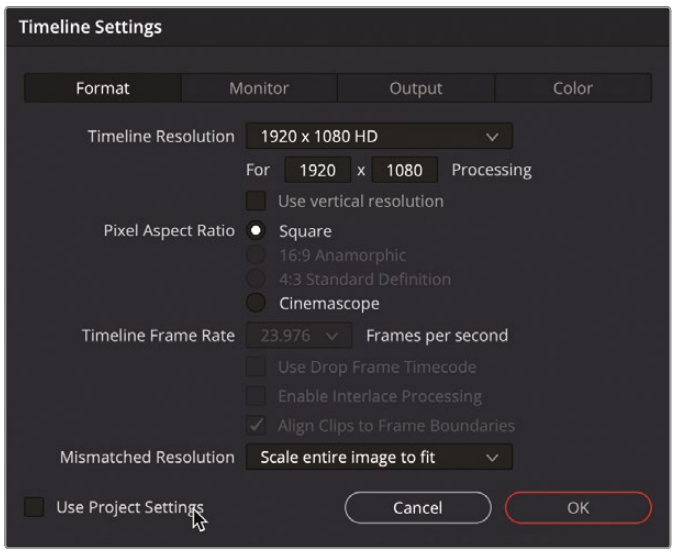


The Timeline Settings window for this timeline opens.



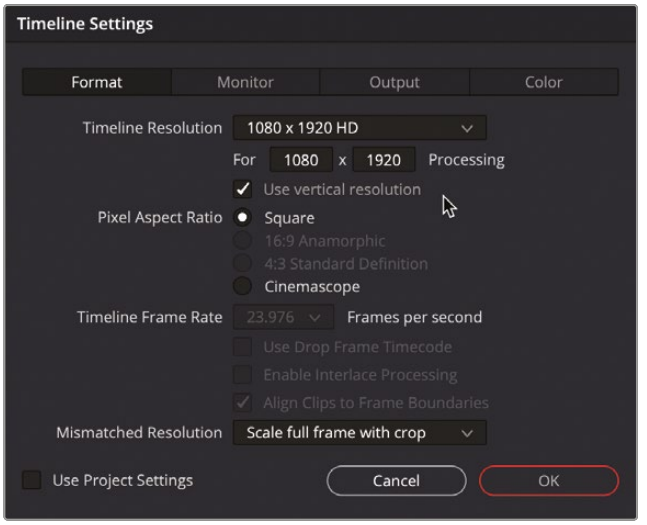
All the options are unavailable because they were set by the Project Settings that you configured in Lesson 7. You'll need to override these settings so that this timeline can have a custom setting independent from the project as a whole.

2 Uncheck Use Project Settings.



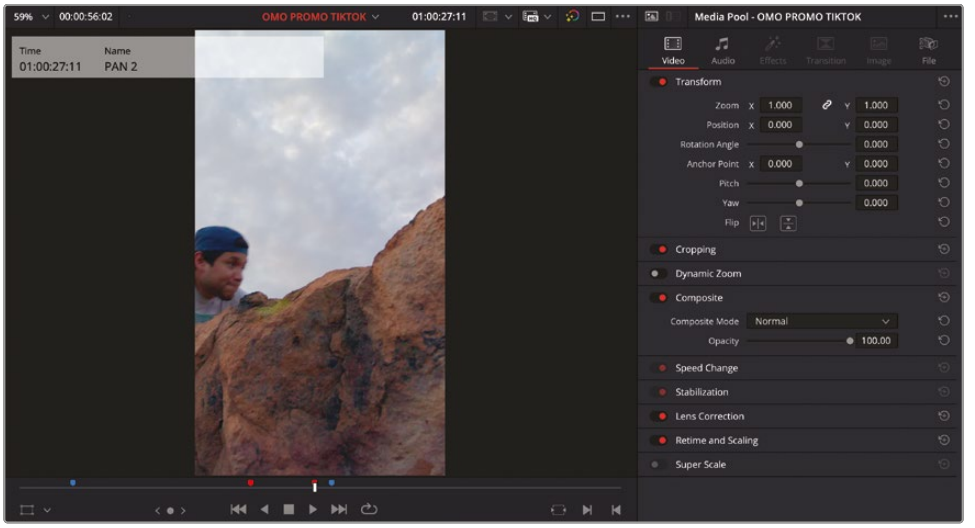
Now all the settings become active, allowing you to make changes.

3 In the Timeline Resolution, select the “Use vertical resolution” option.



This single option not only adjusts the timeline resolution to 1080 x 1920 HD but also changes the Mismatched Resolution option to “Scale full frame with crop.” This is an important setting since it means the footage will fill the new aspect ratio rather than being letterboxed with black lines at the top and bottom of the image, although you will lose footage off the edges of the timeline viewer.

4 Click OK to apply the changes to the selected timeline and then scrub through the timeline to review the changes.



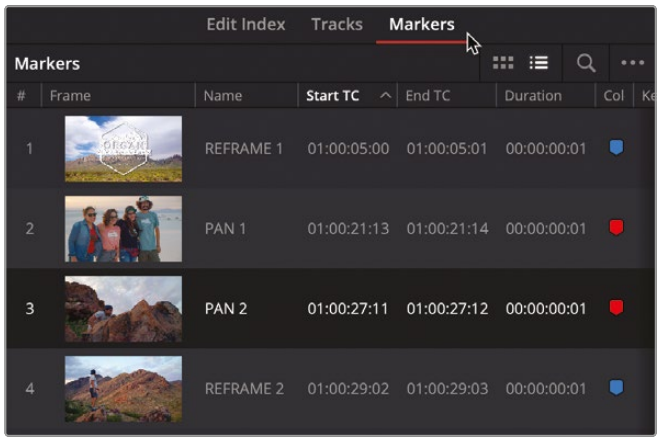
The timeline viewer will now show the original footage framed in the new aspect ratio of the timeline.

Reframing Shots

Unless the director of photography (DP or DoP) had a clear understanding that all or part of the final film would need to be displayed in a 9:16 aspect ratio, it's very likely that you will need to adjust the framing of some of these shots. Thankfully, you always have access to the full picture information, even though it currently appears cropped.

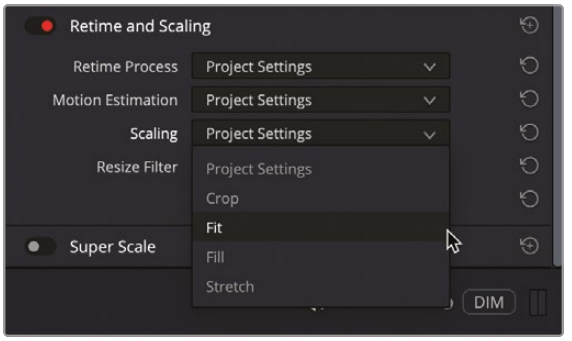
You also know which clips will need your attention most, thanks to the markers you added in earlier steps.

1 Click the Index button in the top left corner of the edit page to open the Edit Index, and click the Markers tab to reveal a list of markers for the current timeline, exactly as you've previously used in the Fairlight page.



2 Click the first marker, **REFRAME 1**, to jump to that marker.

3 With the playhead positioned over the Organ Mountain Outfitters graphic, open the Retime and Scaling controls in the Inspector and, in the Scaling menu, select Fit.



The graphic is now correctly scaled to fit the new aspect ratio, while retaining all the other settings accurately.

4 In the marker index, click the marker, **REFRAME 2**, to place the playhead over the shot of the guy standing and looking out over the rocks.

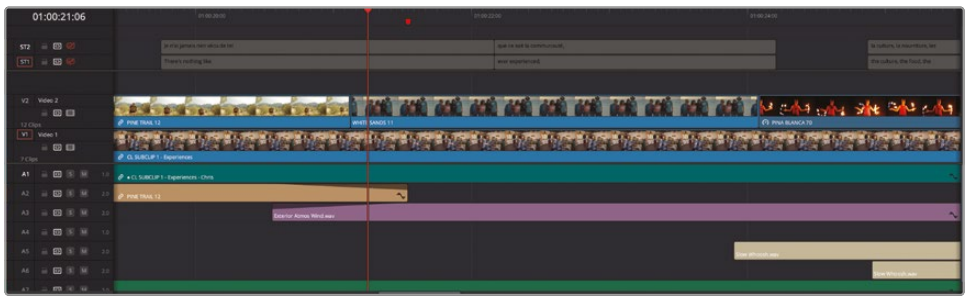
5 Press Shift-` (accent grave) or choose View > Viewer Overlay > Transform to enable the onscreen Transform controls.

6 Hold Shift and drag the image in the viewer to the right to reposition the guy in the frame.

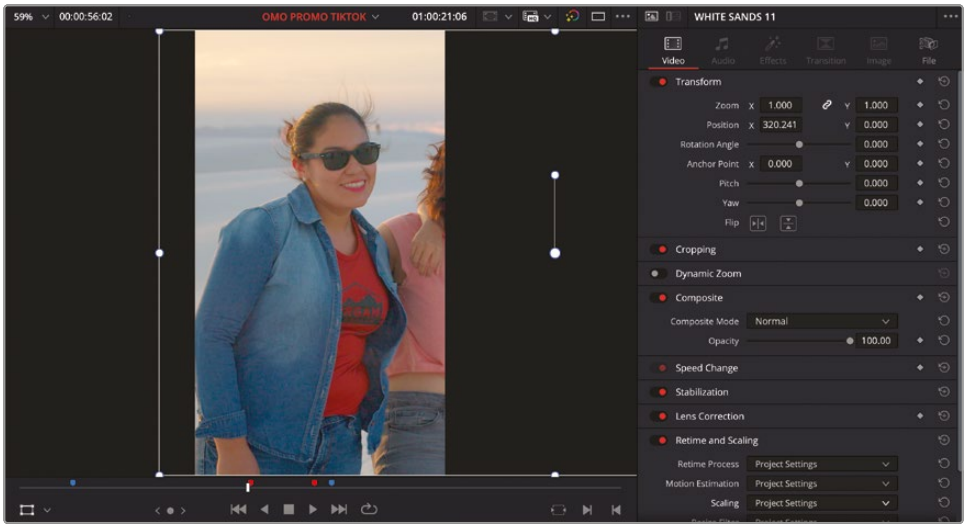
Reframing Shots Using Keyframes

Sometimes you'll need to use keyframes to adjust the framing over time, especially for shots that will never fit the new aspect ratio properly.

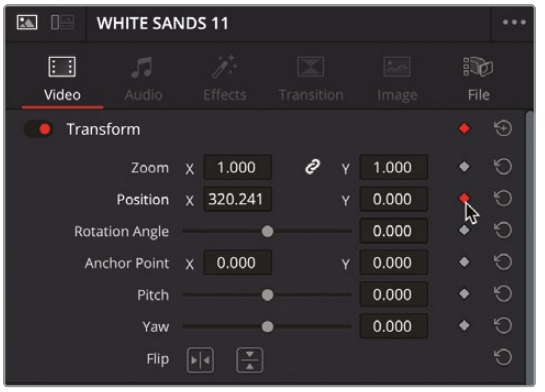
1 In the markers index, click the marker, **PAN 1**, zoom in on the timeline, and place the timeline playhead near the start of the **WHITE SANDS 11** clip.



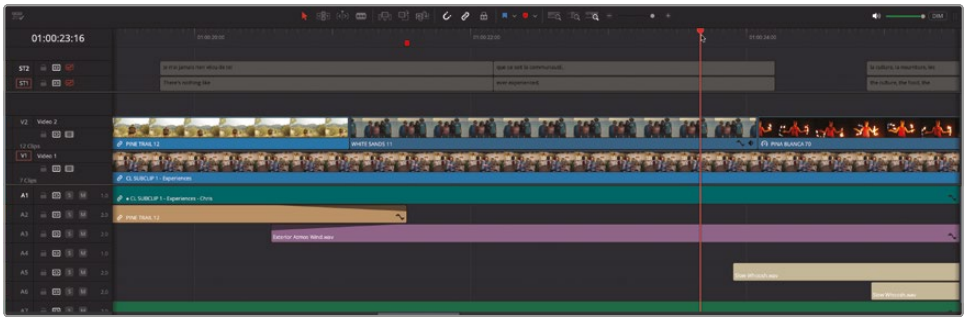
2 In the timeline viewer, use the onscreen controls, or the Position X parameter in the Inspector, to reframe the shot so you can see the girl on the far left of the group.



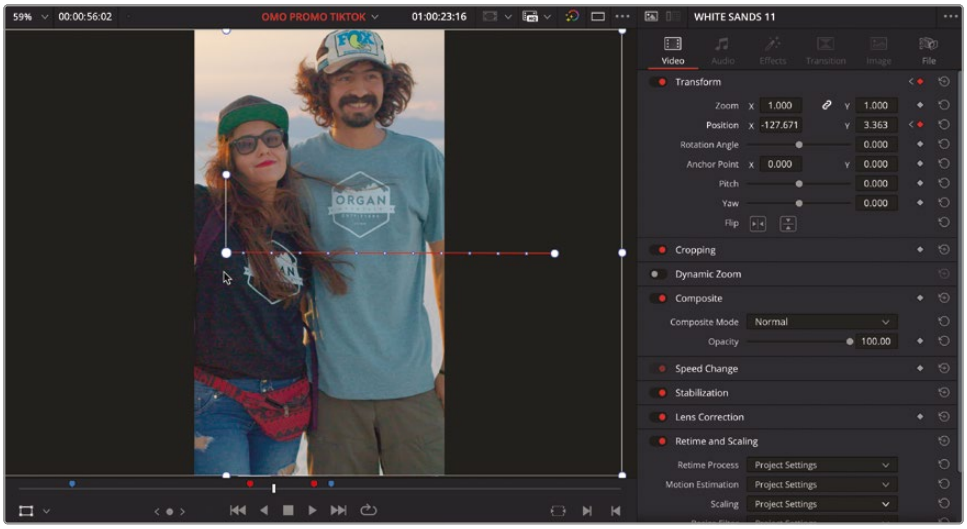
3 In the Inspector, click the Position keyframe button to add a keyframe to this clip at the current playhead position.



4 Move the timeline playhead toward the end of the **WHITE SANDS 11** clip.



5 With the playhead in the new position, adjust the onscreen controls to frame the couple on the right side of the group.



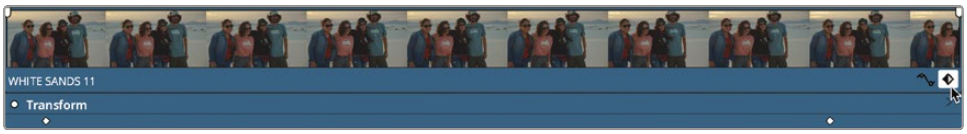
Making this adjustment adds a second keyframe to the clip at the current playhead position with the adjusted Position parameter.

> **NOTE** The red line that appears in the viewer indicates the *motion path* the clip will travel along between the two keyframes.

6 Play back the clip in the timeline to review the "pan" you have added to the shot.

You can use the Keyframes Editor to adjust the timing of the two keyframes.

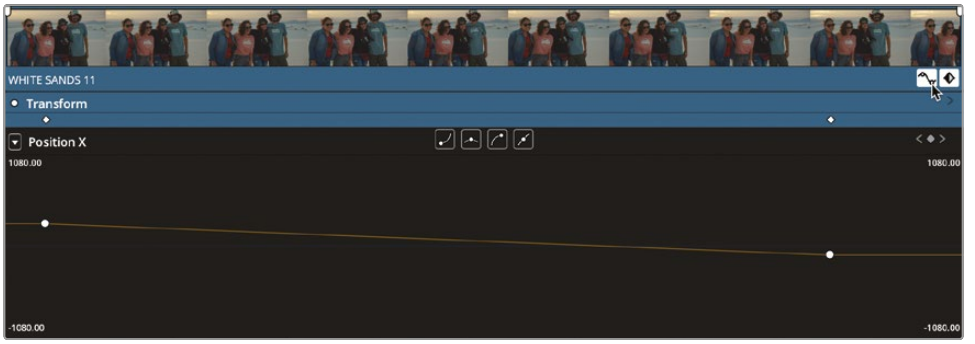
7 In the timeline, click the **WHITE SANDS 11** clip's Keyframes Editor control.



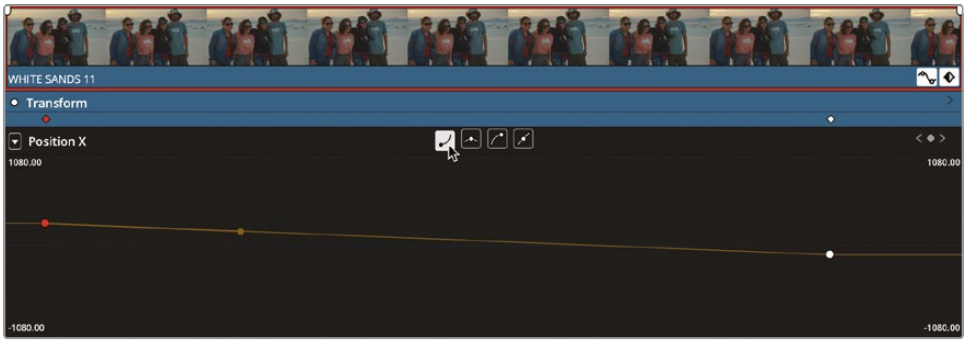
Using the Keyframes Editor, you can adjust the position and timing of the keyframes.

The Curve Editor allows you to adjust the acceleration of the clip along the motion path, similarly to how you adjusted the speed of the animation in the Fusion page using the Spline window.

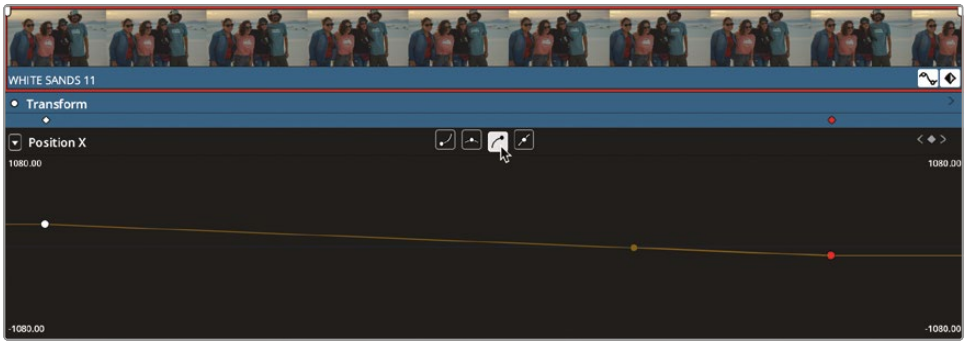
8 Click the clip's Curve Editor control.



9 Select the first keyframe and click the Ease Out button.



10 Select the second keyframe and click the Ease In button.



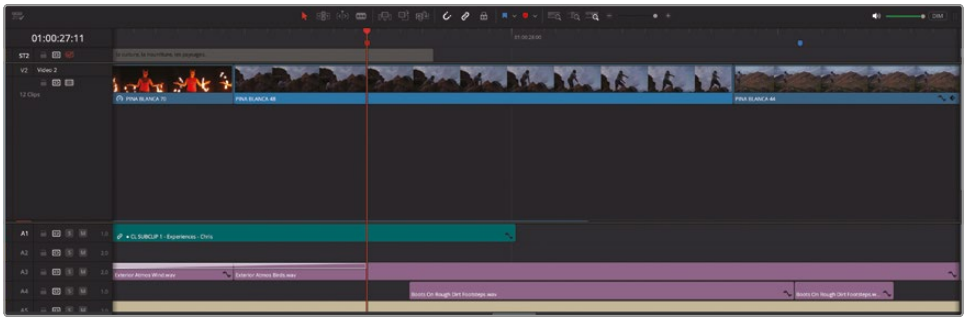
This gives the animation a slightly more natural start and end.

NOTE To ease the end animation further, you can adjust the Bézier handle of the second keyframe to flatten the curve further.

You can use this animation as the basis for other clips with similar issues.

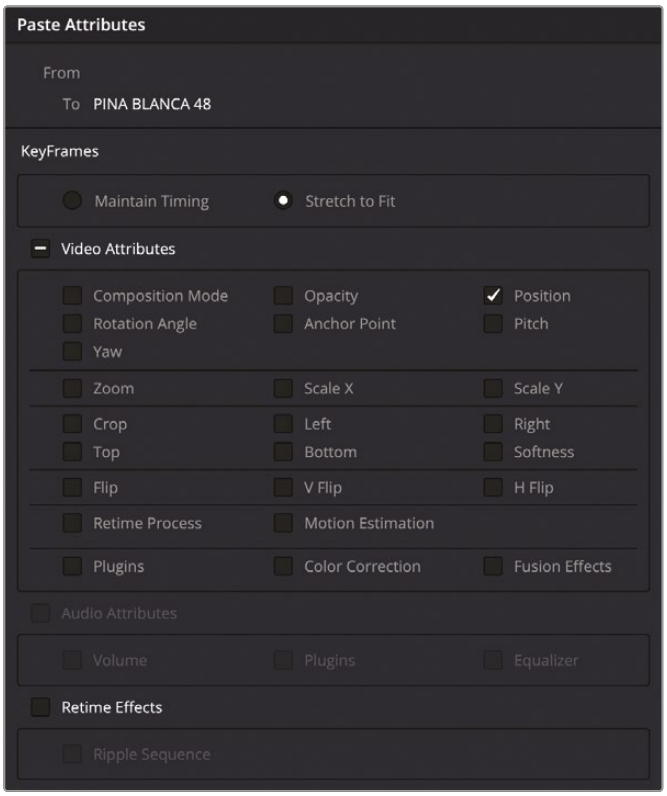
11 In the timeline, select the **WHITE SANDS 11** clip and press Command-C (macOS) or Ctrl-C (Windows), or choose Edit > Copy, to copy the clip.

12 Click the third marker in the markers index, **PAN 2**, to move to the clip **PINA BLANCA 48**.



13 Select the **PINA BLANCA 48** clip and press Option-V (macOS), Alt-V (Windows) or choose Edit > Paste Attributes.

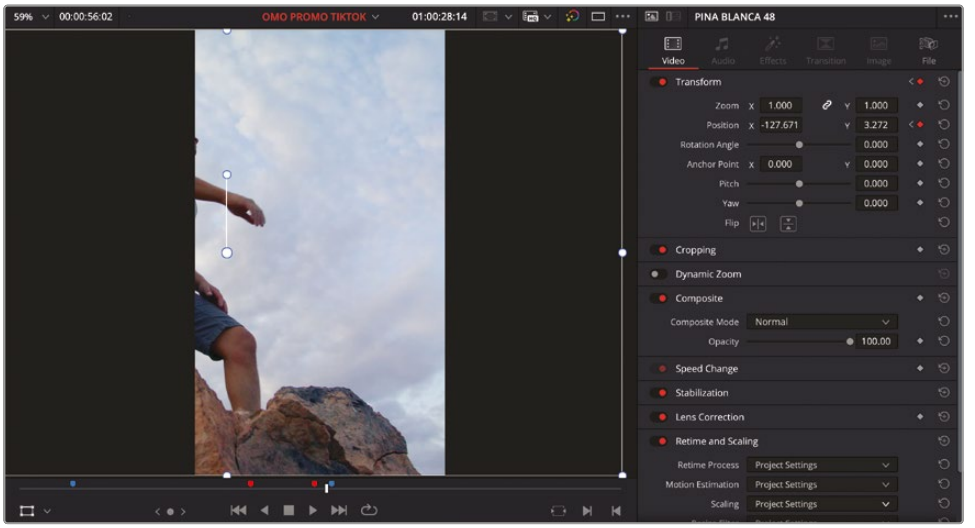
14 Since you need to apply the horizontal movement from the **WHITE SAND 11** clip to this clip, in the Paste Attributes window select the Position control and, from the Keyframes option, choose Stretch to Fit.



This will ensure that the timing of the keyframes is adjusted relative to the duration of the new clip.

15 Click Apply.

You will probably find the pan finishes too far to the right. That's OK, since you can simply refine the X Position of the second keyframe.



16 In the timeline, click the Keyframes Editor for the **PINA BLANCA 48** clip and place the timeline playhead between the two keyframes.

17 In the Inspector, click the Next Keyframe arrow to jump to the second keyframe.

TIP You can also use [(left square bracket) to jump to a previous keyframe and] (right square bracket) to jump to the next keyframe of the currently selected clip.

18 Using either the onscreen Transform controls or the Position X control in the Inspector, adjust the value of the second keyframe so it ends with the guy in the shot.

NOTE DaVinci Resolve Studio has a Smart Reframe function that automates this process of reframing using keyframes. For more information, please refer to *The DaVinci Resolve Reference Manual* or *The Editor's Guide to DaVinci Resolve 19*.

Resizing the Subtitles

With the main shots having been reframed, it's time to impose some order back to your timeline.

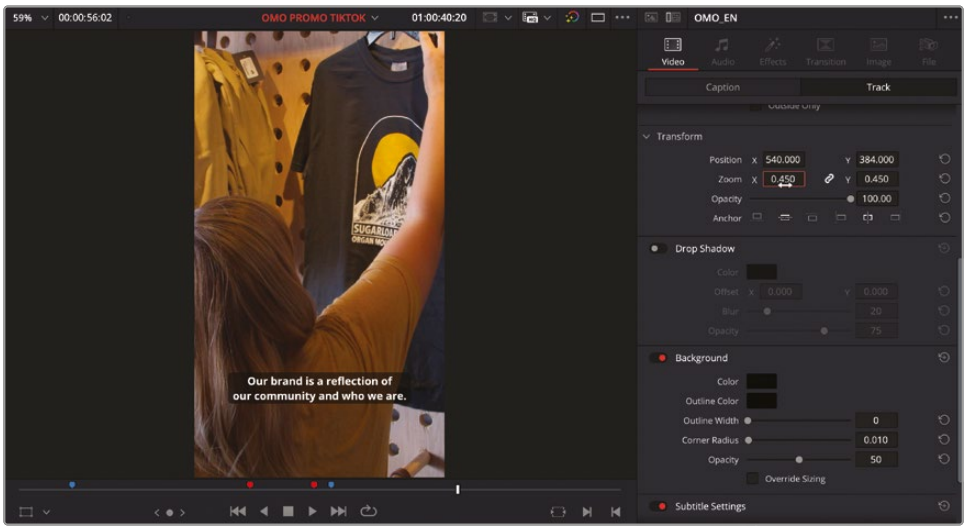
1 Click the Full Extent Zoom button for the timeline, close the Keyframes and Curve Editors for **PINA BLANCA 48** and **WHITE SANDS 11**, and re-enable the OMO_EN subtitle track (ST1).

2 In the timeline viewer, turn off the onscreen control or press Shift-` (accent grave).

At the moment, though, the subtitles don't fit the vertical aspect ratio.

3 Select any of the subtitles in the OMO_ENG subtitle track and, in the Inspector, click the Track tab.

4 In the Transform controls, change the Zoom X and Y values to about 0.45 (by default both the Zoom X and Y parameters are linked, so changing one also changes the other by the same amount).



Excellent! You have successfully reformatted the existing OMO Promo to a new vertical aspect ratio. All you need to do now is to choose a preset and add it to the Render Queue, and then you can render all the final videos out.

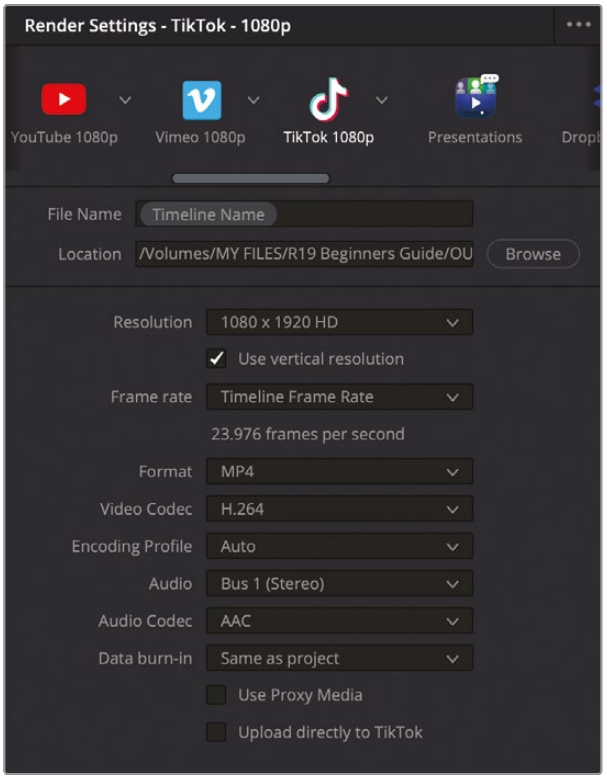
5 Press Shift-8, or click the Deliver button, to move back to the deliver page.

6 From the Render Settings, choose the TikTok 1080p preset.

7 In the File Name field, type **%Timeline** and choose the Timeline Name variable.

8 In the Location field, select R19 Beginners Guide / Lesson 10 / OUTPUT / WEB.

9 Ensure that the Resolution is set to “Use vertical resolution” of 1080 x 1920 HD.



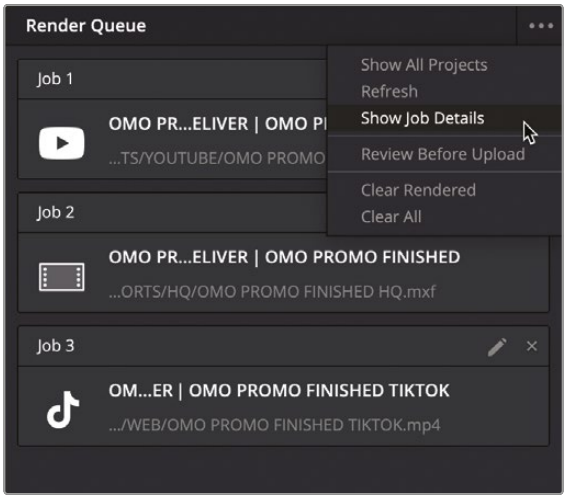
10 Click Add to Render Queue.

You are now ready to export all the jobs you have been adding to the Render Queue.

Rendering and Reviewing the Jobs

Currently, none of the different jobs you have submitted to the Render Queue have actually been rendered to your hard drive. To begin the process, you must start the Render Queue manually.

1 Click the Render Queue's Options (...) menu and choose Show Job Details.

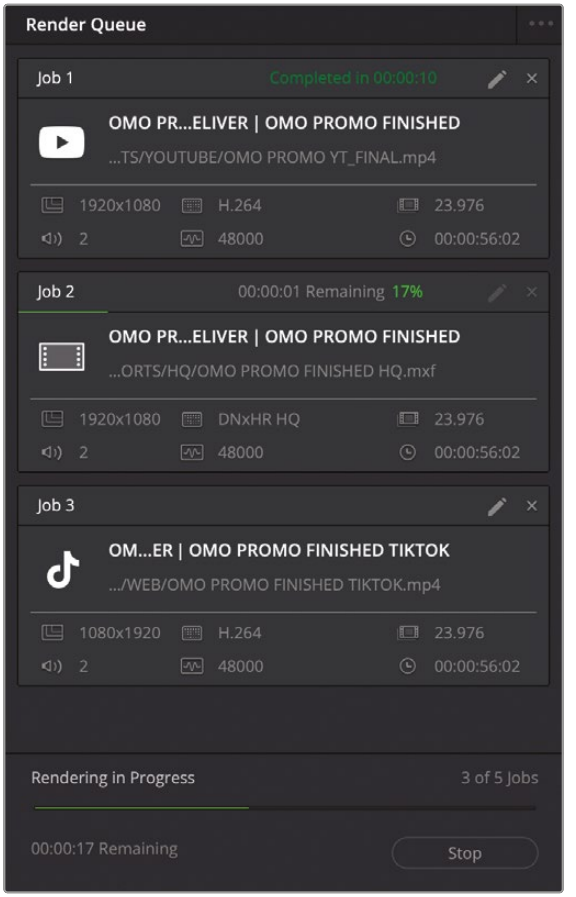


Each job now shows more information about the settings of each file to be rendered.

TIP You can change any of the settings for a job by clicking the pencil icon next to each job number. This will reopen the Render Settings for that job, where you can make changes and update the job.

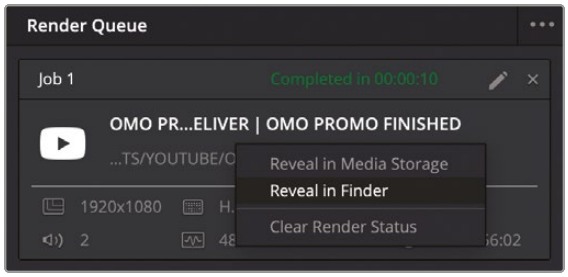
2 In the Render Queue, ensure that none (or all) of the jobs are selected and click Render All.

NOTE You can select specific jobs in the Render Queue if you want to export just those jobs.



Each job is loaded in turn, and the files are rendered out to the destinations. Once the job has been completed, a green “Completed” label is added to the job.

3 Once all the jobs have been completed, right-click the first job and choose Reveal in Finder (macOS) or Open File Location (Windows).



The rendered file is revealed in the Output folder on your hard drive, where you can open it in an appropriate media player and preview the final rendered results.

4 Return to DaVinci Resolve and right-click Job 2 in the Render Queue and choose Show in Finder (macOS) or Open File Location (Windows).

The .MXF file is revealed, together with the two .VTT subtitle files. To preview these files, you can reimport them into a new DaVinci Resolve project. Alternatively, you can use playback software such as the free VLC Media Player, which will allow you to load the subtitle files alongside the media file.

5 Return to DaVinci Resolve and right-click Job 3 in the Render Queue and choose Show in Finder (macOS) or Open File Location (Windows).

6 The final rendered file is shown, which you can preview in an appropriate media player, complete with burned-in open captions.

All these files are now ready to be distributed to the appropriate destinations.

Exporting Timelines and Project Files

Apart from the exported media itself, there are many other elements of a DaVinci Resolve project that you can export for a variety of reasons—the obvious being that you may want to create a backup of your work or you may want to share a part of the project with others.

To start with, you may want to export a timeline file. This can be useful for sharing edited versions of different timelines with other people.

There are a variety of formats that you can choose to do this, from simple EDL (edit decision list) files to more complex XML (Extensible Markup Language) or AAF (Advanced Authoring Format) files. These are useful if you want to share timelines with users of other NLE, grading, or audio systems. However, these types of files have the inherent problem that they can't necessarily translate the timeline information with 100% accuracy between the different systems.

If you wish to manually back up your timelines, or you want to send your timeline to another DaVinci Resolve user, then you're best off using DRT (DaVinci Resolve Timeline) files.

> **NOTE** If you have been using the Catchup timeline files throughout this book, you have already experienced the convenience of using .DRT files.

1. In the edit page, click the timeline viewer and choose to reopen the **OMO PROMO FINISHED** timeline.
2. Choose File > Export > Timeline.
3. In the Export Timeline window, navigate to R19 Beginners Guide / OUTPUT and create a TIMELINES folder.
4. Ensure that the type is set to DaVinci Resolve Timeline Files (*.drt) and click Save.

   The .DRT file is exported for the current timeline and can be imported into any other DaVinci Resolve 19 project by choosing File > Import > Timeline.

   Rather than exporting an individual timeline, you may choose to export the entire project.

5 Choose File > Export Project or press Command-E (macOS) or Ctrl-E (Windows).

6 In the Export Project File window, navigate to R19 Beginner Guide / R19 Beginners Guide / OUTPUT and create a new folder called Projects.

7 Click Save to export the project as a .DRP (DaVinci Resolve Project) file.

The exported .DRP file can be imported into the Project Manager of any other DaVinci Resolve 19 system.

NOTE You can also export a .drp file of your project directly from the Project Manager by highlighting the project and clicking the Export button.

Media Management

Beyond exporting timelines and project files, another important "housekeeping" task you'll need to undertake is managing your source media files. These are all the individual video, audio, and graphics files that you have imported while you have been working on your project. Often, by the end of a project these files are numerous and can be spread across your system. Exporting a .drt or .drp file will not do anything with these files. They will need to be managed separately and carefully.

There are two basic approaches you can take to managing your media files: consolidation and trimming.

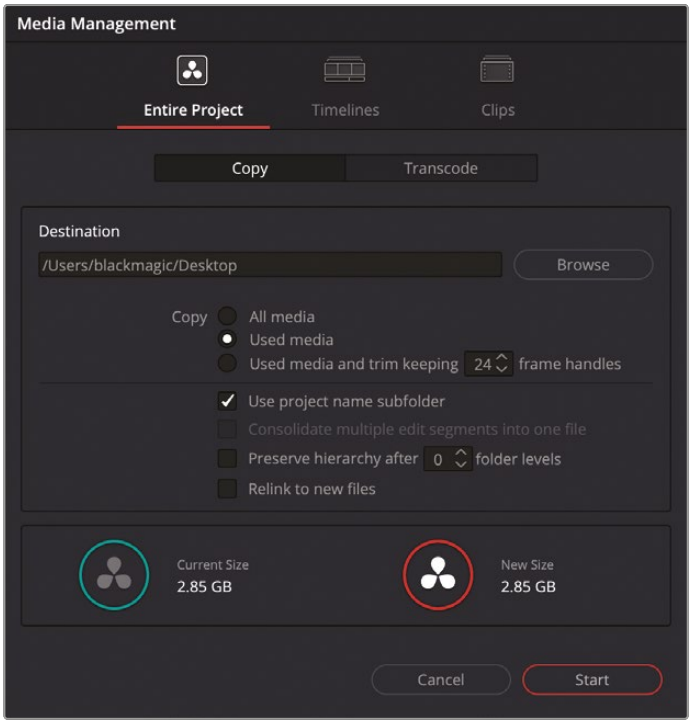
Consolidation is useful when you have many files spread across your system because it will bring copies of all these files together in a single location for easier archiving (see below).

Trimming, on the other hand, copies just the portion of the media files you are using throughout your project. This can be useful since it does not include media that's not being used. As a result, the new media is often much smaller in storage size.

It's important to note that both of these processes create copies of your media files. At no point are your original clips affected by either of these operations.

To consolidate or trim the media files used in your project, you'll need to use the built-in Media Management panel.

1 Choose File > Media Management to open the Media Management panel.



The Media Management panel allows you to manage your media across the whole project, specific timelines, or clips, and will allow you to Copy or Transcode your media files.

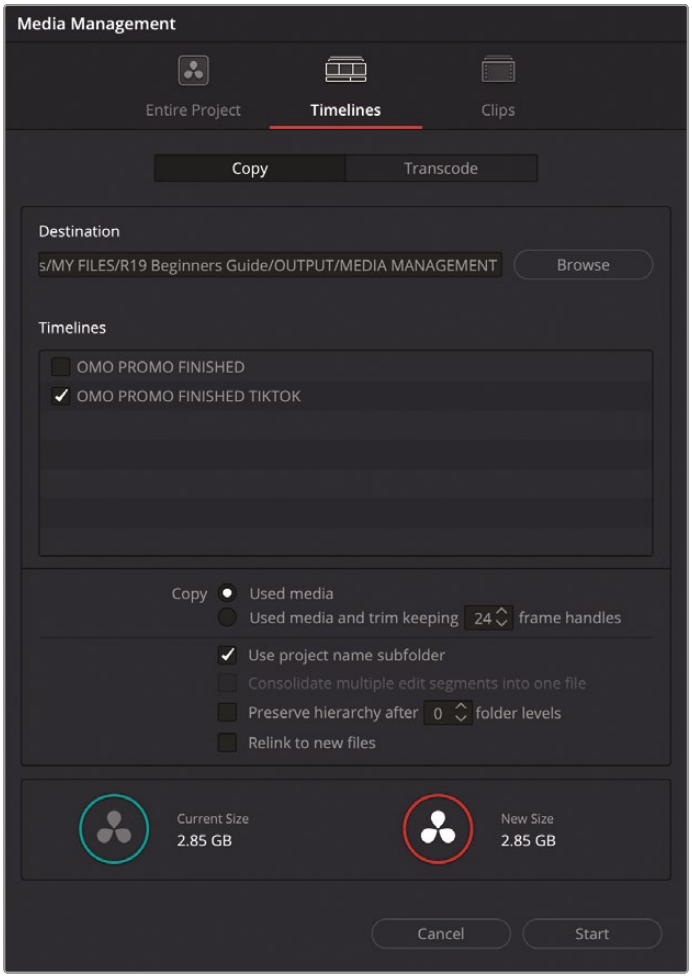
> **NOTE** The steps detailed below only address copying the source media files, not transcoding. Transcoding is a way of converting the source media files into other formats and is used in workflows beyond the scope of this guide. See *The DaVinci Resolve Reference Manual* for more information.

2 In the Media Management panel, ensure that Entire Project and Copy are selected.

3 In the Destination field, click Browse and navigate to R19 Beginners Guide / OUTPUT / MEDIA MANAGEMENT and click Open.

With these settings, all the media within the project will be copied to your chosen location. The Copy function will create a duplicate set of media files in the destination location but leave the original files in place. This allows you to ensure that duplicates are copied safely and without errors before deleting the originals. Indicators at the bottom of the Media Management panel indicate the size of the currently used media and the size of the media that will be copied using the current settings.

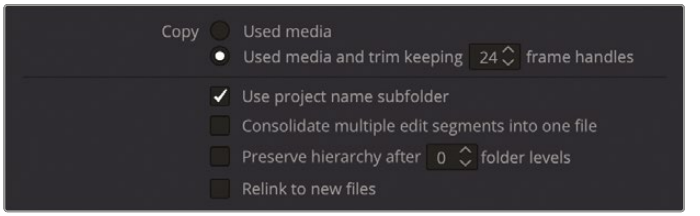
4 Click the Timelines tab.



This part of the Media Management panel allows you to select individual timelines within your project.

5 Select the OMO PROMO FINISHED and OMO PROMO TIKTOK timelines. These are the timelines for which you will manage the media.

6 Choose “Used media and trim keeping 24 frame handles.”



Note that when you make this last selection the New Size indicator changes.

This reflects that, by choosing just the media you’re using in the selected timelines plus the few frames on either side (the handles), you’re drastically reducing the amount of footage needed to be copied.

> **NOTE** Adding 24 frame handles adds 1 second to the start and end of each media file being copied. This will allow you “wiggle room” to make minor changes to the trimmed project in the future.

7 Click Start to begin the media management process. Once completed, the Media Management panel closes.

8 Open a new Finder (macOS) or File Explorer (Windows) window and navigate to R19 Beginner Guide / OUPUT / MEDIA MANAGEMENT / OMO PROMO DELIVER to view the contents of the folder.

This new folder contains all the trimmed media files that have been copied from the original media. Of course, this is just the footage that was used in the specific timelines. The original media hasn’t been touched. However, you will find two .drt files among these files.

9 Return to DaVinci Resolve and choose File > Project Manager, or press Shift-1, to open the Project Manager.

10 Click the New Project button, name the new project **OMO PROMO MM**, and click Create.

11 In the edit page, choose File > Import > Timeline.

12 Navigate to R19 Beginner Guide / OUTPUT / MEDIA MANAGEMENT / OMO PROMO DELIVER, select the **OMO PROMO FINAL.drt** file, and click Import.

13 Click Change when asked to change the project frame rate.

The OMO PROMO FINAL timeline is imported into your new project, including all the appropriate video, audio, and graphics clips, along with the subtitles, markers, and other timeline elements.

14 Choose File > Import > Timeline and select the **OMO PROMO TIKTOK.drt** file to import the vertical timeline into the same project.

Creating a Project Archive

In many ways, managing your media files as detailed in the preceding section is useful since you can now copy the folder and its contents (including the .drt files) to another hard drive that you can use for archiving. However, DaVinci Resolve has another feature for easy archiving of both media and projects together as a .DRA (DaVinci Resolve Archive).

Archiving a project copies all the source files (even if they are on different drives) and places them in the archive folder along with the project file. Because this process does not create trimmed versions of the files, you are advised to media manage your used media files first, and then create the .DRA.

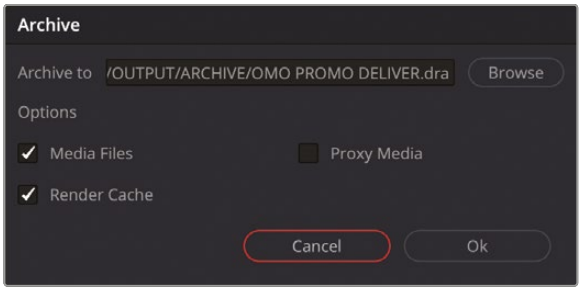
Either way, you can only create a DaVinci Resolve Archive using the Project Manager window.

1 Choose File > Project Manager, or press Shift-1, to open the Project Manager.

2 Right-click the OMO Promo MM project and choose Export Project Archive.

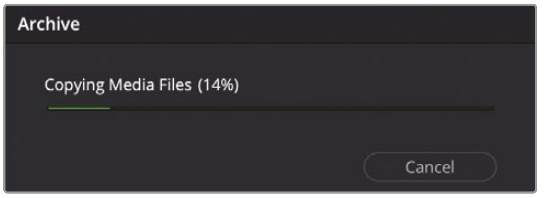
3 In the Archive Project dialog, navigate to R19 Beginners Guide / OUTPUT / ARCHIVE and click Save.

The Archive dialog opens, where you can choose which elements you want to include with your archive.



4 In the Options, deselect the Render Cache since that is easily re-created and generally doesn't need to be archived. Select Proxy Media if you want to archive associated proxy media files, and then click OK.

During the Archive process, all the project's appropriate media files, along with a .drp file of the project itself, are copied into a folder that's given the extension .dra. This folder contains everything you need to open your project on another computer.

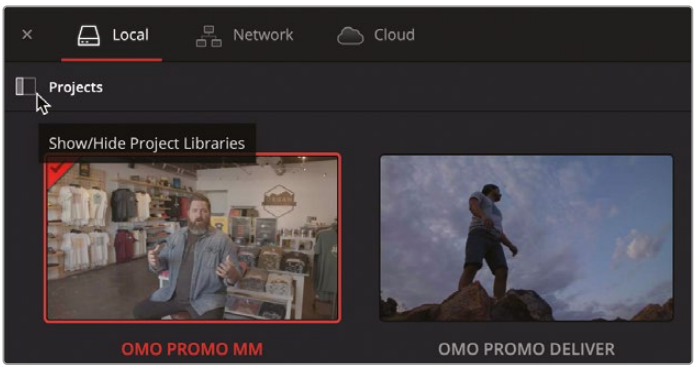


NOTE To restore an archived project, follow the steps in Lesson 4.

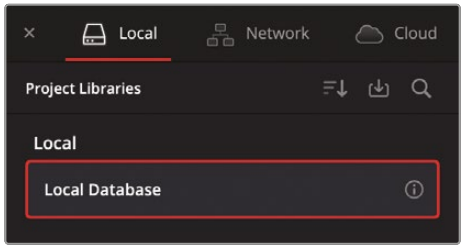
Creating and Switching Project Libraries

Unlike other applications you may be familiar with, your individual DaVinci Resolve projects are not saved to a location of your choosing. Instead, they are contained within a project library. When you first open DaVinci Resolve, it automatically creates a project library, so it may not be immediately obvious that a project library is in use. Nevertheless, at some point you will want to create a new project library, whether that's to manage your own projects or to use project libraries in Blackmagic Cloud to collaborate with people around the world!

1 In the upper left corner of the Project Manager, click the Projects button to open the list of available libraries.

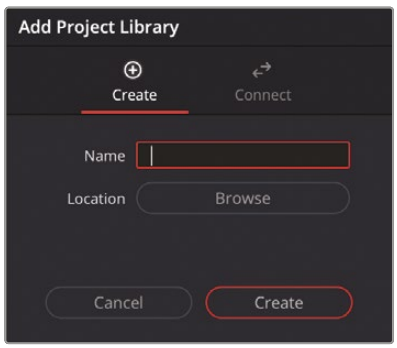


The project library sidebar displays a single Local library by default, called Local Database. It's the current default project library that DaVinci Resolve created when you first opened the application.



NOTE The default project library is called "Local Database" because project libraries in earlier versions of DaVinci Resolve were referred to as "databases." However, the method of working with project libraries is exactly the same.

2 In the Project Libraries sidebar, click the Add Project Library button to open the Add Project Library window.



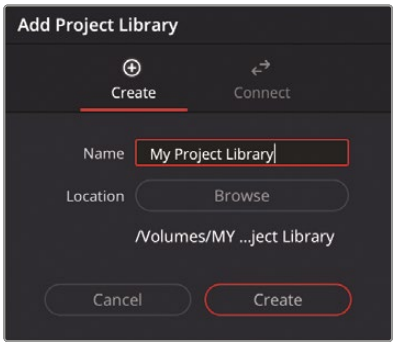
When choosing to add a project library, you can either "Connect" to an existing project library or "Create" a brand new, empty project library. Creating a new project library can be useful for organization; for instance, if you perform several jobs for one client, you might want to assign them their own project library and start a new one for another client.

3 Ensure that Create is selected in the Add Project Library window and, in the Name field, enter **My Project Library**.

4 Click the Browse button to open a Finder (macOS) or File Explorer (Windows) window that allows you to choose the location of your new project library.

A local project library can be stored anywhere on any permanently present storage, such as your main system drive. However, when you are creating a new project library, the folder it's created in must be empty.

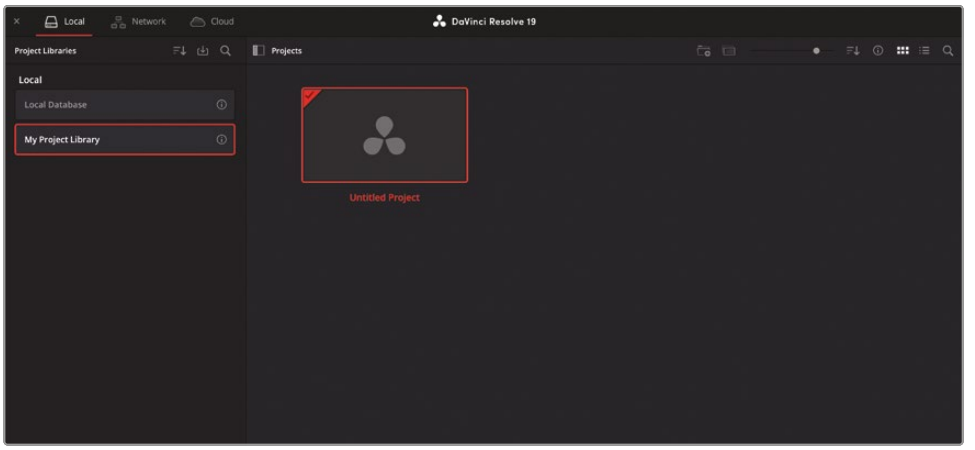
5 Navigate to R19 Beginner Guide / Lesson 10, create a new folder called **My Project Library**, and then click Open.



NOTE The name of the folder containing the project library and the name of the project library listed in the Project Manager do not have to be the same, but it's useful to keep the names consistent so that you know which project library in the Project Manager is referring to which folder on your system.

6 In the Add Project Library window, click the Create button.

A new project library called "My Project Library" now appears alongside the "Local Database" project library. The newly added, empty project library is already selected and ready for your new projects.

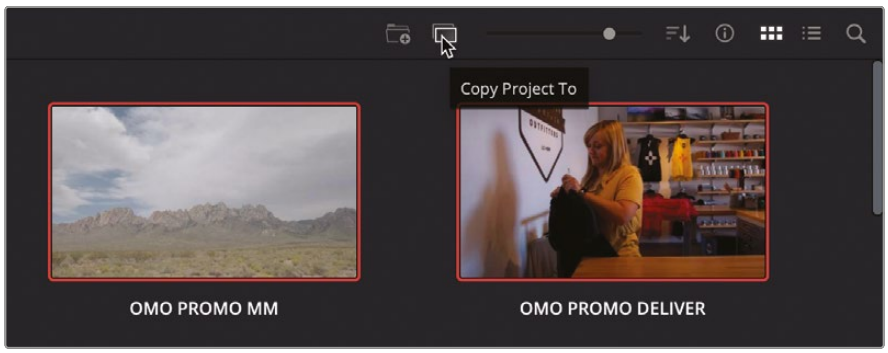


TIP Project libraries with fewer and smaller projects will save and operate faster than project libraries with a greater number of large projects.

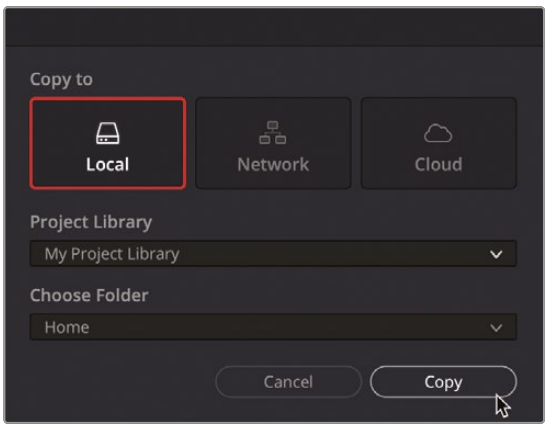
Copying Projects Between Project Libraries

You can easily copy projects from one project library to another.

1. Select the Local Database project library.
2. Click **OMO PROMO** and hold Command (macOS) or Ctrl (Windows) and click **OMO PROMO MM** to select both projects.
3. Click the Copy Project To button.

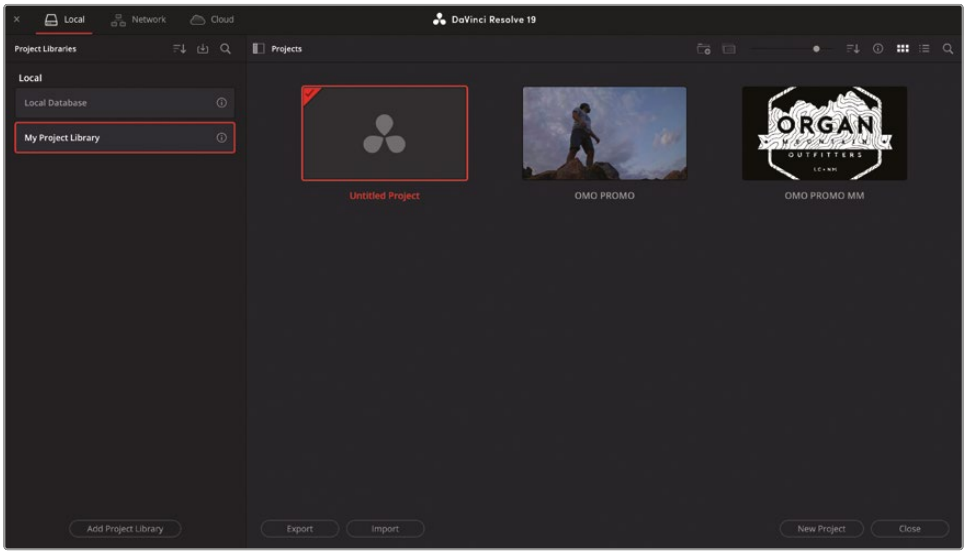


4. In the dialog that opens, select My Project Library from the list of available project libraries and click Copy.



The two selected projects are copied to the new project library.

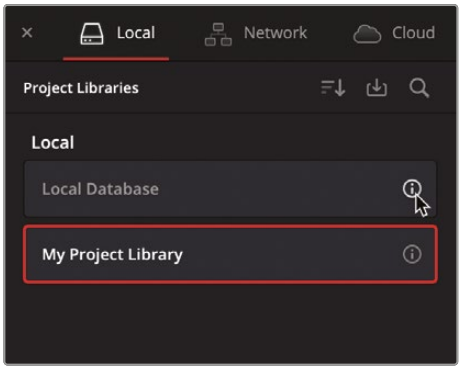
5 Click My Project Library to switch back to your project library to access the copied projects.



Backing Up Project Libraries

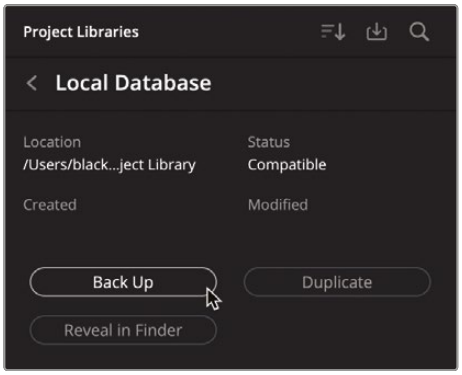
Although it is important to back up a project by exporting it as its own .drp file, you can create a backup of an entire project library. As with project files themselves, the project library does not include your media; however, creating a backup will save every project in the project library.

1 Click the Details button for the Local Database project library.



Generally, project libraries range in size from a couple of hundred megabytes to a couple of gigabytes, but unlike media, they can easily be saved to a cloud backup storage system or a small local hard drive.

2 Click the Back Up button.



3 Navigate to the hard drive or cloud-based storage where you want to back up your library and click Save.

4 Once the save is completed, click the back arrow next to the Project Library name (which in this case is “Local Database”) to go back to the Project Libraries list.

> **TIP** If you are unsure where your database is stored, you can open the Details and choose the option Reveal in Finder to show you the folder the database is stored in.

After saving a backup, a **Local Database.resolve.diskdb** file is created. This file contains the entire Local Database project library, which you can simply copy to another drive if, for instance, you purchase a new computer and want to move your existing projects to the new hard drive. On the new computer, you can click the Restore button in DaVinci Resolve to open and use the database backup.

Project Libraries in Blackmagic Cloud

So far, you have looked at project libraries stored to your local system. There is now an option to put your project libraries into a cloud environment by using Blackmagic Cloud. This means you can access your projects from any system connected to the internet simply by logging in to your cloud account. You can work with your project in Blackmagic Cloud, and it is automatically saved there so you can easily switch between machines without worrying about whether you have the most up-to-date project with you.

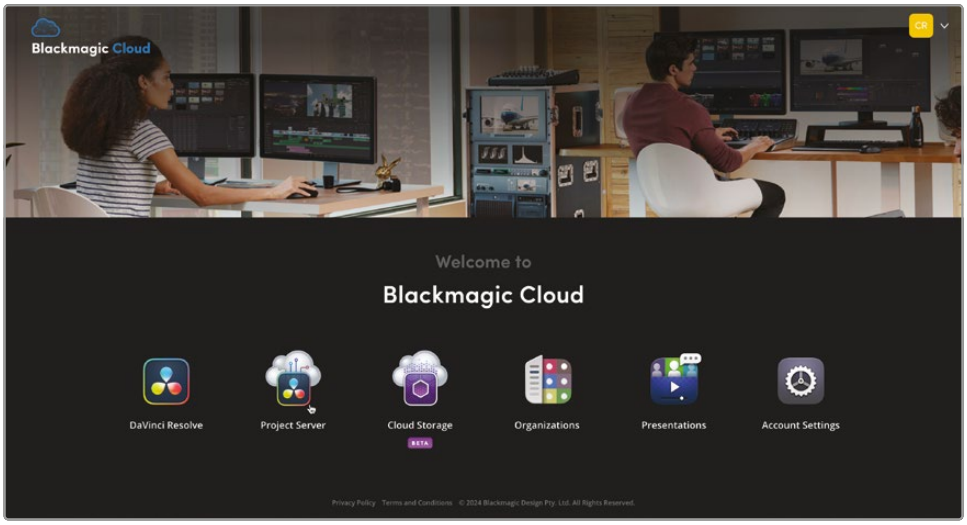
Using the project library this way will also allow you to collaborate with multiple users, and you can all work on the same project at the same time—for example, you could be building a timeline while a colorist is grading the same sequence at the same time.

There is a small cost to having a project library based in the cloud because it must be hosted on a server. This can be canceled at any time. If you do cancel, you will not be locked out of your work. Projects can be copied from Blackmagic Cloud to a local project library at any time. Also, if you are working collaboratively, you only need one person to host the library; up to 10 other users can be invited for no additional cost.

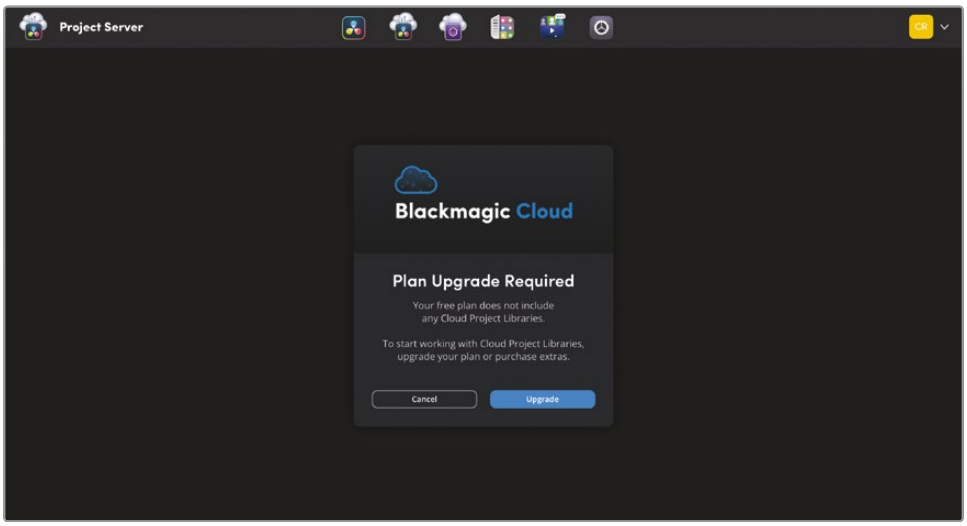
At this stage, you might not know if you need to work with a cloud project library, but you can sign up for a Blackmagic Cloud account for free, so another user could invite you to their project library.

1. Open a browser window and go to https://cloud.blackmagicdesign.com.
2. If necessary, log in to your Blackmagic Cloud account or register for a new account if you haven't already.

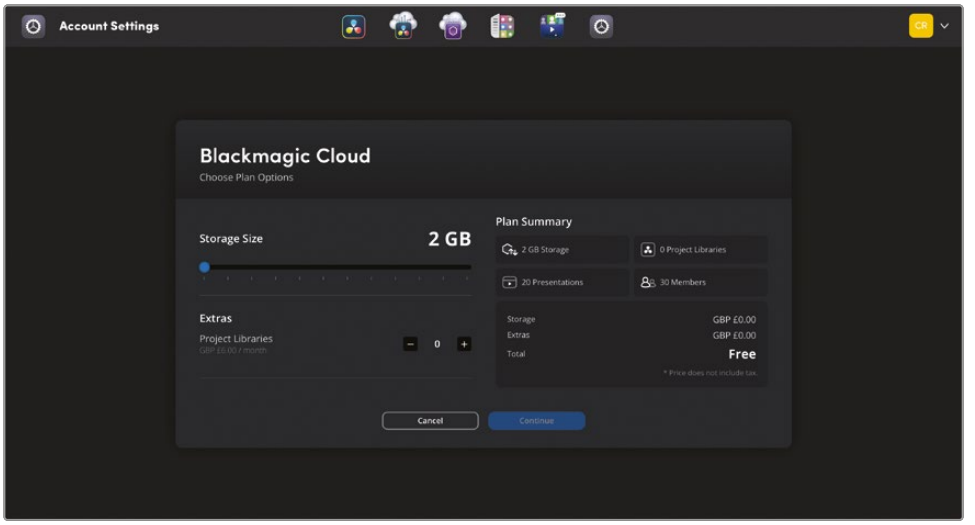
3 On the “Welcome to Blackmagic Cloud” page, click the Project Server button.



A window appears informing you that free plans do not include any project libraries.

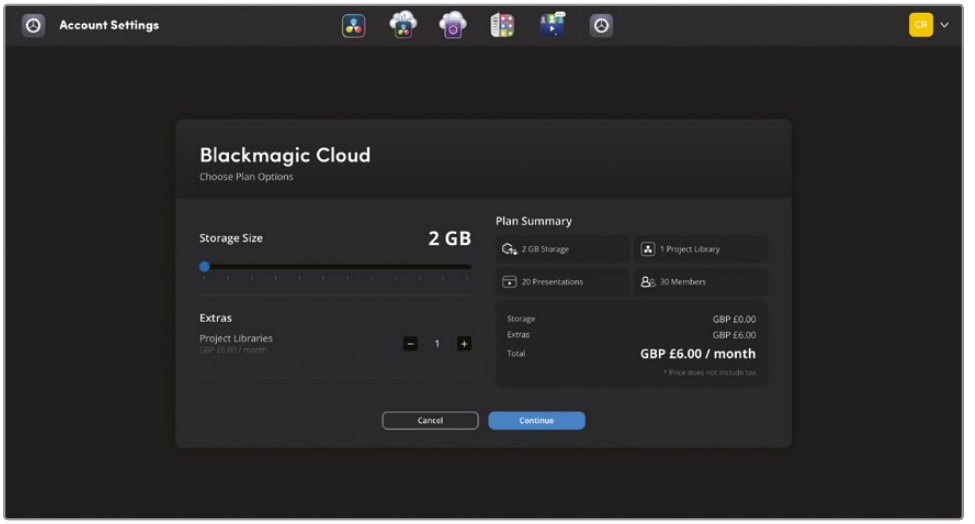


4 Click Upgrade to review your current plan's details (you will not be charged at this stage).



5 In the Extras section, click + to add a project library.

Your Plan Summary will be updated to show the increased cost for hosting the project server.



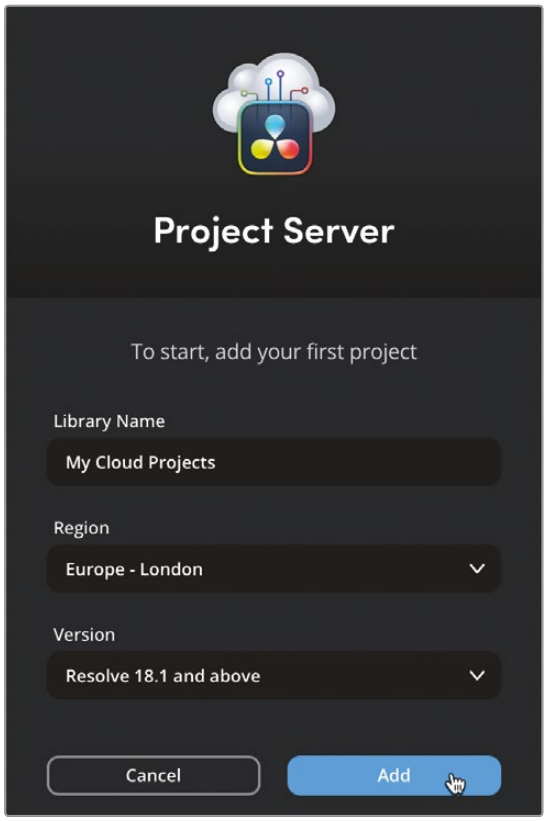
NOTE If you wish to continue, you will be asked to add a credit card (if you haven't already done so) and will be charged the amount detailed. If you don't wish to pay for a project server just yet, you can click Cancel and just read on.

6 Click Continue.

Once your payment has been accepted, you can create your cloud-based project server.

7 Click the Project Server option.

8 If necessary, click Add Project Library; otherwise, give your project server a name, select the location nearest to you, ensure that the version is set to "Resolve 18.1 and above," and then click Add.

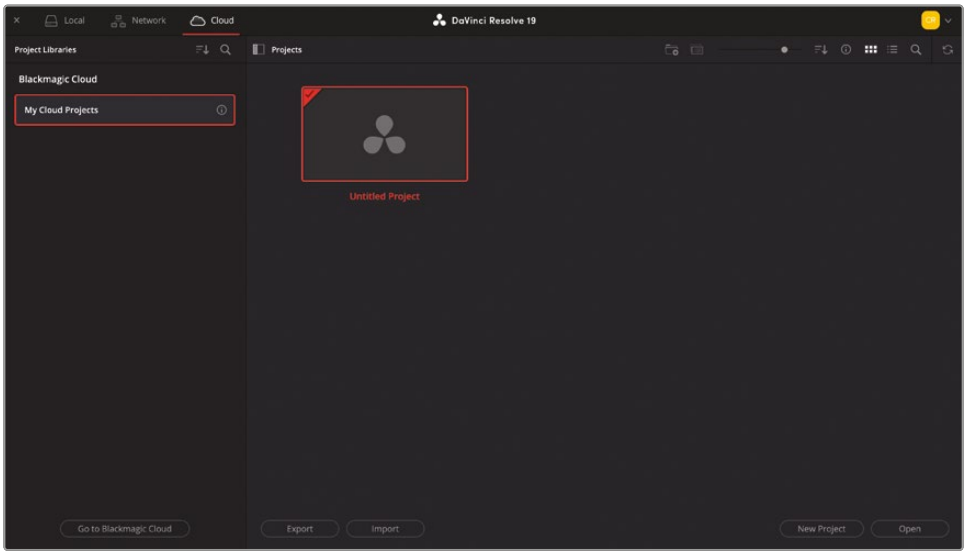


NOTE Project servers for DaVinci Resolve 18.1 are also compatible with DaVinci Resolve 19; however, projects created in Resolve 19 are not compatible with Resolve 18. Similarly, opening any Resolve 18 projects in Resolve 19 will mean they cannot then be reopened in Resolve 18.

Once created, this project library can now be accessed in the Cloud tab of DaVinci Resolve's Project Manager.

9 Return to DaVinci Resolve and choose File > Project Manager, or press Shift-1, to open the Project Manager.

10 In the Project Manager, click the Cloud libraries tab and, if necessary, sign in to your Blackmagic Cloud account to access your new Cloud-based project library.



This project library is not stored locally on your computer but on Blackmagic Design servers, which means it is accessible from any DaVinci Resolve system connected to the internet and logged in to your Blackmagic Cloud account.

11 In the Project Manager, click New Project to create a new project.

The Create New Cloud Project window opens with options specific for cloud-based projects.

12 Give your new project a name and click Create.

The new project is added to the project library on Blackmagic Cloud and opens in DaVinci Resolve. You can now start working on your new cloud-based project as normal.

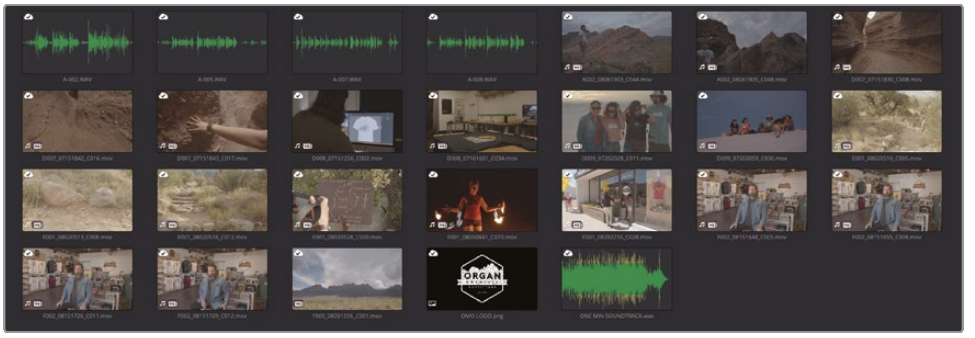
13 Import the media from R19 Beginners Guide / MEDIA / OMO.

By default, cloud projects will automatically create and sync proxy media in the project with your Blackmagic Cloud storage. This will go toward your Storage allowance of your Blackmagic Cloud account (which is 2 GB by default, unless you pay for additional storage). The advantage of synchronizing your proxy files this way means that they will

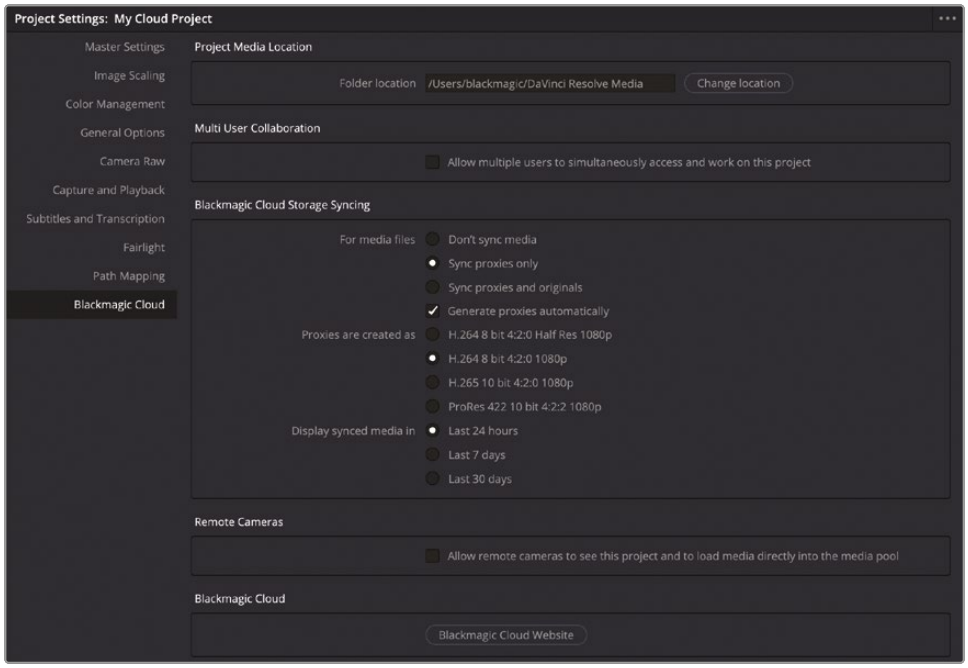
be automatically downloaded to any other DaVinci Resolve system accessing the project from your cloud project library. If you choose the option Don't Sync Media, you will need to manually manage the media files yourself.

14 Click the Cloud button in the bottom right of the interface to monitor the progress of synced media files.

Once the appropriate media files are synced, icons in the media pool indicate the clips that have been uploaded to the cloud.



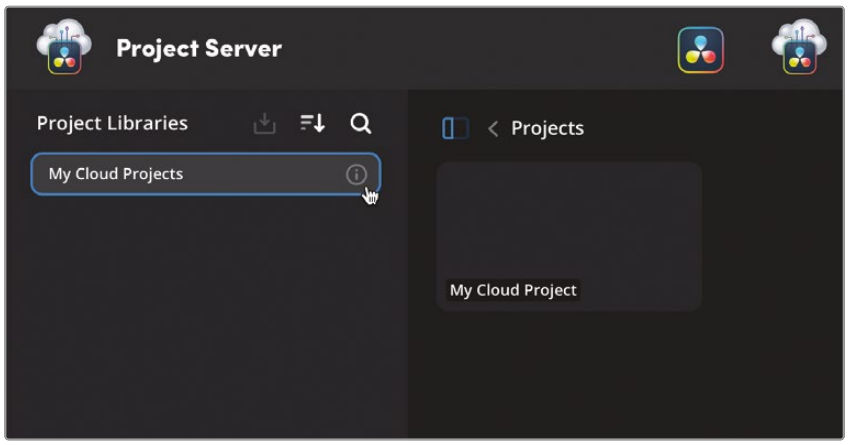
15 Press Shift-9 to open the Project Settings, select the Blackmagic Cloud section to review and, if necessary, change how the project uses Blackmagic Cloud.



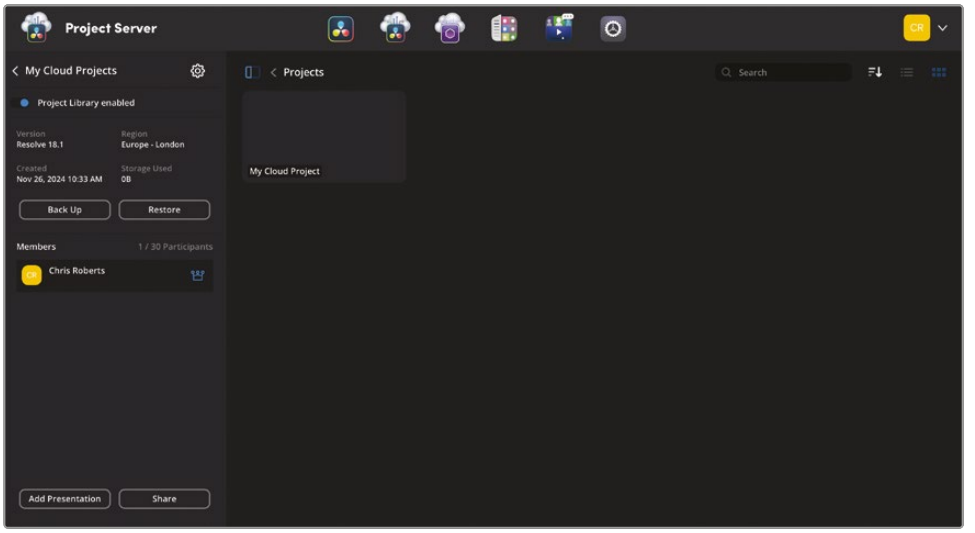
To manage the project library itself, you'll need to return to your Blackmagic Cloud account in a browser.

16 In the Project Settings > Blackmagic Cloud, click the Blackmagic Cloud website button. Alternatively, close the Projects Settings (saving any changes you may have made) and return to your Blackmagic Cloud account in your browser.

17 In the project server, click the "i" button next to your project library.



18 You can now manage the project library's settings in the cloud. This includes backing up, restoring, and sharing the library with other Blackmagic Cloud users.



NOTE To rename or delete a project library from the cloud, click the Settings (cog wheel) button. Projects in deleted project libraries will not be recoverable, so ensure that you copy them to another project library prior to deleting the cloud project library.

As you can see, although DaVinci Resolve uses project libraries to store all your projects in one place, there are many flexible options to save, share, and archive your work. Having projects in project libraries is a big advantage because it allows multiple-user collaboration between editors, colorists, audio engineers, and VFX and motion graphic artists.

Lesson Review

1. True or False? Choosing the Vimeo preset displays the most common options for creating a movie file for that online sharing site?
2. After adjusting the Render Settings, how do you instruct Resolve to output a movie file?
3. True or False? The Media Manager manages clips, timelines, and bins.
4. What is the main difference between exporting a project and a project archive?
5. How do you view the project libraries in the Project Manager?
6. What's the advantage of having a project library in Blackmagic Cloud?

Answers

1. True. Presets provide the most common options. To view all the options available, click the Custom render setting.
2. To output a movie file, click the Add to Render Queue button, and then in the Render Queue panel, click Start Render.
3. False. The Media Manager manages only media; it does not manage bins.
4. A project will simply export a project file that contains no media. A project archive will export a folder and all media required, which will link to the project when opened.
5. To view the project libraries connected to DaVinci Resolve, in the upper left of the Project Manager, click the Show/Hide Project Libraries button.
6. With Blackmagic Cloud, you can access the project library from any machine and work on the project, and it is auto saved to the cloud; you do not need to carry around or use multiple versions of the same project when using different machines.

Congratulations!

You have completed *The Beginner's Guide to DaVinci Resolve 19* and are ready to explore more editing, visual effects, color grading, and audio mixing functionality using the additional certified books in this series. Completing all the lessons in this book has prepared you to become a certified DaVinci Resolve user. You can take the online exam by following the link below to earn your certificate.

We also invite you to become part of the DaVinci Resolve community by joining the web forum on the Blackmagic Design website. There, you can ask further questions about the creative aspects of editing, color correction, motion graphics, visual effects, and audio mixing.

We hope that you have found DaVinci Resolve 19's professional nonlinear editing and world-class color correction tools to be intuitive to learn and a perfect fit to become the hub of your entire creative workflow.

Test your skills by taking the online assessment located on the Blackmagic Design DaVinci Resolve Training page—*The Beginner's Guide to DaVinci Resolve 19* Online Exam: www.blackmagicdesign.com/products/davinciresolve/training.

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Blackmagicdesign

The Beginner's Guide To DaVinci Resolve 19 is a step by step training guide for both new and existing users. Using a project based approach, you will discover how to use the editing tools, grade your film using DaVinci Resolve's legendary color correction tools, enhance your soundtracks with the Fairlight page, and build custom visual effects using the Fusion page. Download the FREE version of DaVinci Resolve 19 and start creating your own Hollywood caliber film and video projects today!

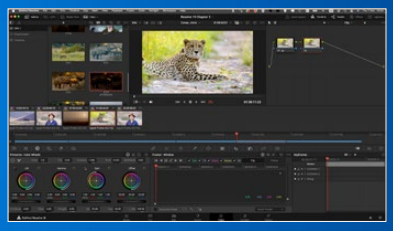
What You'll Learn

- How to edit your own projects using the industry-standard editing tools in the edit page
- Normalize audio levels, add sound effects and automatically mix music using the new Ducker track effect
- How to read video scopes to adjust contrast, color balance and saturation for the perfect grade
- Create secondary corrections using unique intuitive tools such as the Color Warper and Color Slice
- How to add Power Windows™, track objects and add ResolveFX
- How to set up projects, create proxy files for editing, as well as sync and manage audio files
- Enhance your audio editing and mixing using the Fairlight page
- Build your own titles and visual effects using the Fusion page
- How to deliver projects to a variety of formats including those for popular social media sites
- How to work collaboratively using Blackmagic Cloud workflows
- Dozens of tips and tricks throughout the book that will transform how you work!

Who This Book Is For

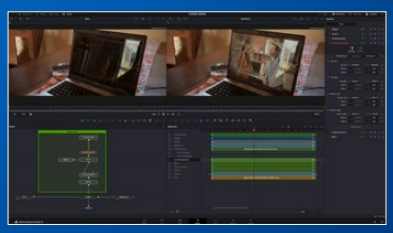
This book is designed for both beginners and professionals. Beginners will find clear and concise lessons to get up and running quickly. If you're a professional switching from another system, you'll find lessons that cover everything from basic editing and trimming to working with audio, adding text, effects and more. You'll also find dozens of pro tips and tricks that will help you make the switch to DaVinci Resolve!

Professional Editing Tools



Legendary Color Correction

Edit and Mix Audio Using Fairlight



Node-Based VFX with Fusion