Blackmagicdesign

Operation Manual
Video Recorder

Mac OS X™

January 2009

2 Contents

Video Recorder Operation Manual

3 Welcome

H.264
ENCODING

Perfect for iTunes.

Thank you for purchasing Video Recorder. We hope you have a lot of fun taking your old videos and turning them into modern digital video and audio. Then share your movies with anyone via iPod™, iPhone™, YouTube™, AppleTV™ or even watch full resolution video on your computer!

Video Recorder can convert your old NTSC, PAL or SECAM videos in to modern digital video using high quality H.264 encoding. Previously H.264 encoding was either a very slow software process or required fast, expensive computer hardware. Video Recorder does all the encoding work in real time so you don't need an expensive computer to convert your precious video archives in to H.264 digital video.
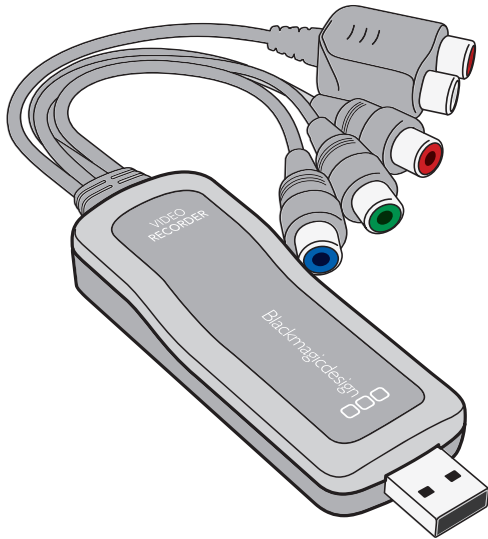
Video Recorder produces stunning quality digital video from the highest quality component analog video as well as regular composite analog video. It can even work with S-Video via a third party S-Video breakout cable (not included).

We think it should take you approximately 5 minutes to complete the installation. Before you install Video Recorder, please check our website at **www.blackmagic-design.com/videorecorder** and click the support page to download the latest updates to this manual and Video Recorder software. Lastly, please register your Video Recorder when downloading software updates. We would love to keep you updated on new software updates and new features for your Video Recorder. We are constantly working on new features and improvements, so we would love to hear your suggestions for improvements to the software!
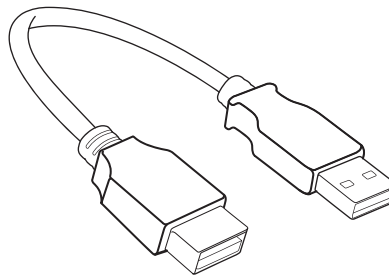
Grant Petty
CEO Blackmagic Design

4 Contents of Package

1. Video Recorder

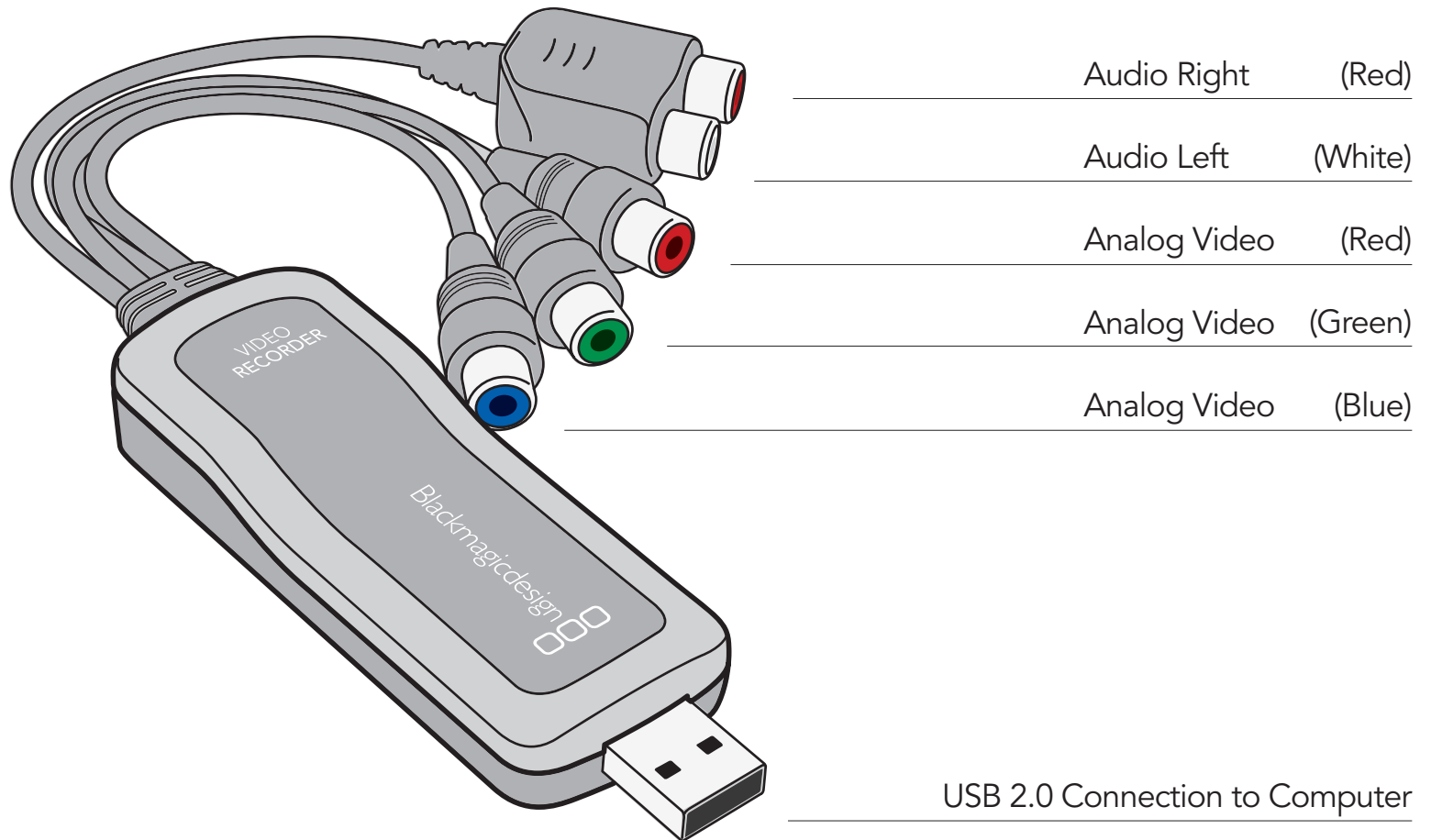2. USB Extension Cable

3. CD Software

5 Video Recorder at a Glance

Audio Right   (Red)

Audio Left   (White)

Analog Video   (Red)

Analog Video   (Green)

Analog Video   (Blue)

VIDEO RECORDER

Blackmagicdesign

USB 2.0 Connection to Computer

6 Software Installation

Please install the Video Recorder software before using your Video Recorder. We always recommend that you visit the support page on our website and download the latest Video Recorder software from **www.blackmagic-design.com/videorecorder/support.** If you don't have Internet access, you can use the Software CD, which is included in the box, but do check for the latest version on the Internet when you can.
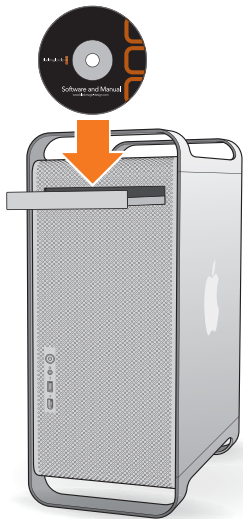
To install the software, open the Software CD or the downloaded disk image.

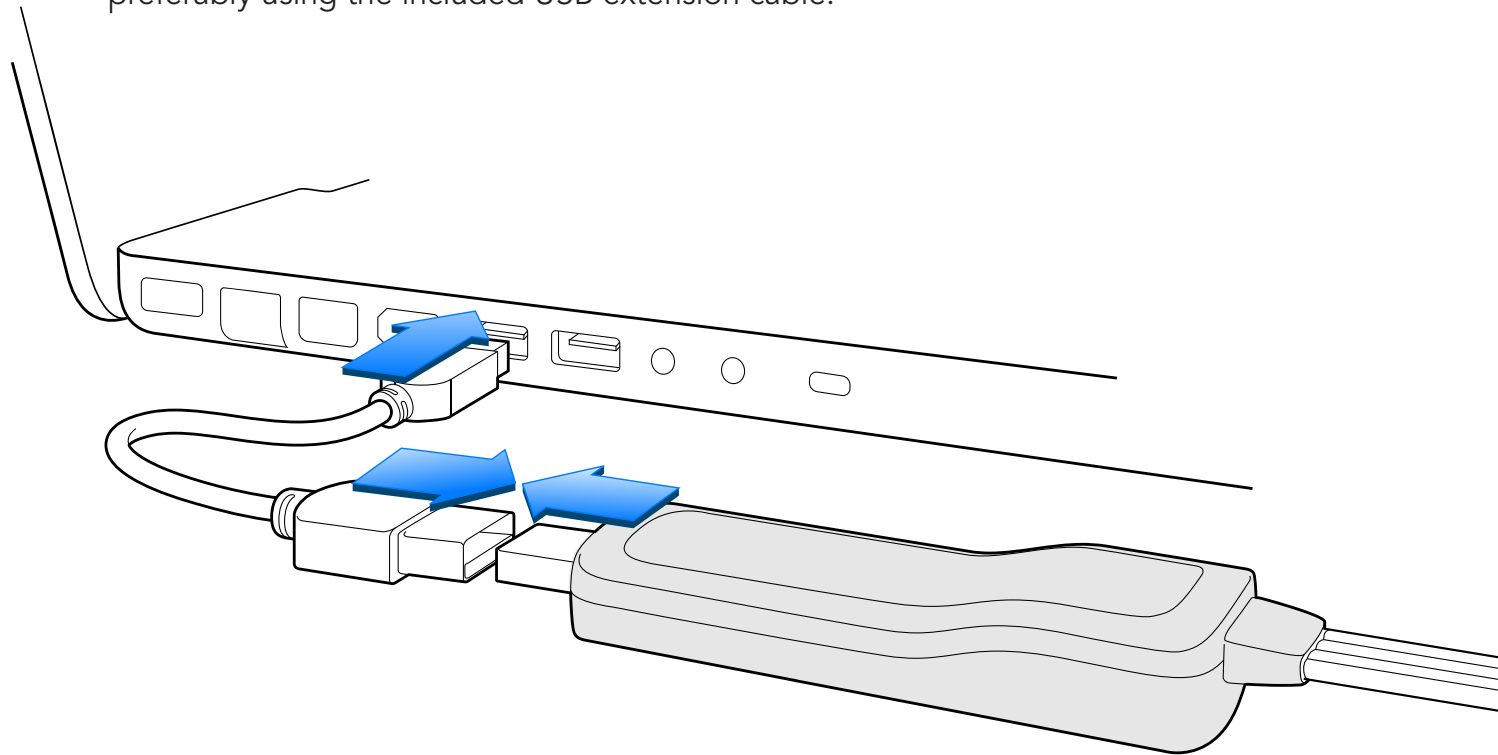Drag the Blackmagic Video Recorder icon …

... to your Applications folder.

7 Hardware Installation

To install the hardware, simply connect Video Recorder to the included USB extension cable and then connect the cable to a USB 2.0 port on your computer. While you can connect the Video Recorder directly to a USB port on your computer, it is safer and more convenient to use the short USB extension cable. This minimizes the possibility of damaging the Video Recorder, or the computer, should the Video Recorder be accidentally bumped.

Video Recorder may not work reliably when connected to a USB hub, especially a hub which is sharing a single USB connection with several USB devices. We recommend the Video Recorder be connected to a dedicated USB 2.0 port on your computer, preferably using the included USB extension cable.

8 Testing the Installation

It's a good idea to test that your Video Recorder is working when you've finished installing the software and hardware. To do so, open the Applications folder and launch the Blackmagic Video Recorder software. If the software and hardware are both installed and working, the Record button should be a bright red color. If the Video Recorder is not connected or not working, the Record button will be a gray color. Try unplugging and reinserting the Video Recorder USB connector and see if the Record button becomes red. If not, try another USB port or test the Video Recorder on another computer. Once the Record button shows red, you're ready to start recording. Congratulations!
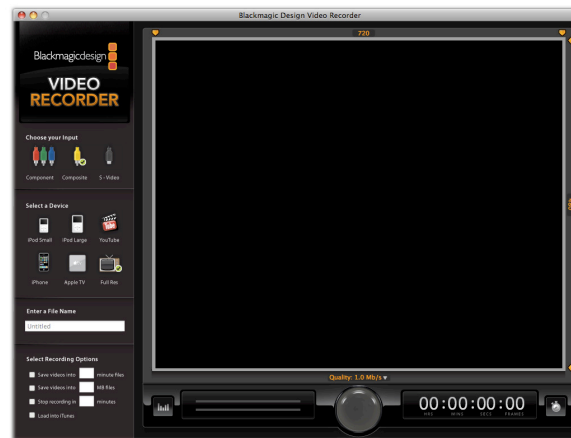
The gray Record button indicates that Video Recorder is not working
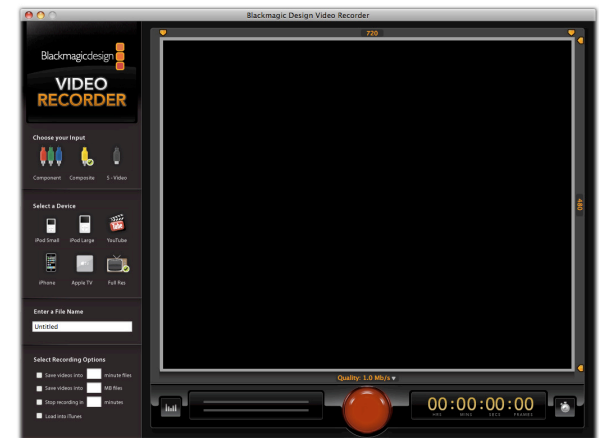
The red Record button indicates that Video Recorder is successfully working

9 Connections

Video Device Compatibility

Video Device Compatibility

- ✓ Video camera — VHS, β, S-VHS, Mini DV, Hi8
- ✓ Video Tape Player — VHS, β, S-VHS
- ✓ DVD Player — DVD
- ✓ Set Top Box

You can connect many different kinds of video devices to your Video Recorder including Hi8, Betamax, VHS, S-VHS and MiniDV video cameras as well as VHS tape players, DVD players and digital set top boxes.

If you have been given a DVD of a special event, such as a wedding or birthday, you can use Video Recorder to capture the movie off DVD for playback on your iPod or to share on the Internet via your own website or even on YouTube. Make sure you have permission to make copies of the DVD. Copy-protected, commercial DVD's should never be copied and most DVD players will prevent you from doing this.

It is also possible to record the analog output of some digital set top boxes. Some channels might be free to copy and others might be copy-protected. You can use Video Recorder to capture the free to copy channels but do ensure you don't copy Copyright material.

No matter from which kind of video device you want to record, the procedure will be the same so it's always easy. There are three kinds of analog video supported by Video Recorder: Composite, S-Video and Component.

In the Video Recorder software, click on the icon for Component, Composite or S-Video to match your video source. Connect the video and audio cables, as shown in the following pages of this manual, and you will be ready to record.

Most video devices include the video and audio cables you will need. They can also be purchased at electronic stores or supermarkets, as well as video and audio resellers.

10 Connections Composite — *Good analog video*

Composite is the oldest and most common analog video format and is often regarded as "regular video". You are likely to find it on almost any video device. Composite video uses a single cable and is usually identified by a single, yellow connector. It should be connected to the green input on Video Recorder.

Composite

AUDIO OUT VIDEO OUT S-VIDEO
R   L
COMPONENT VIDEO OUT
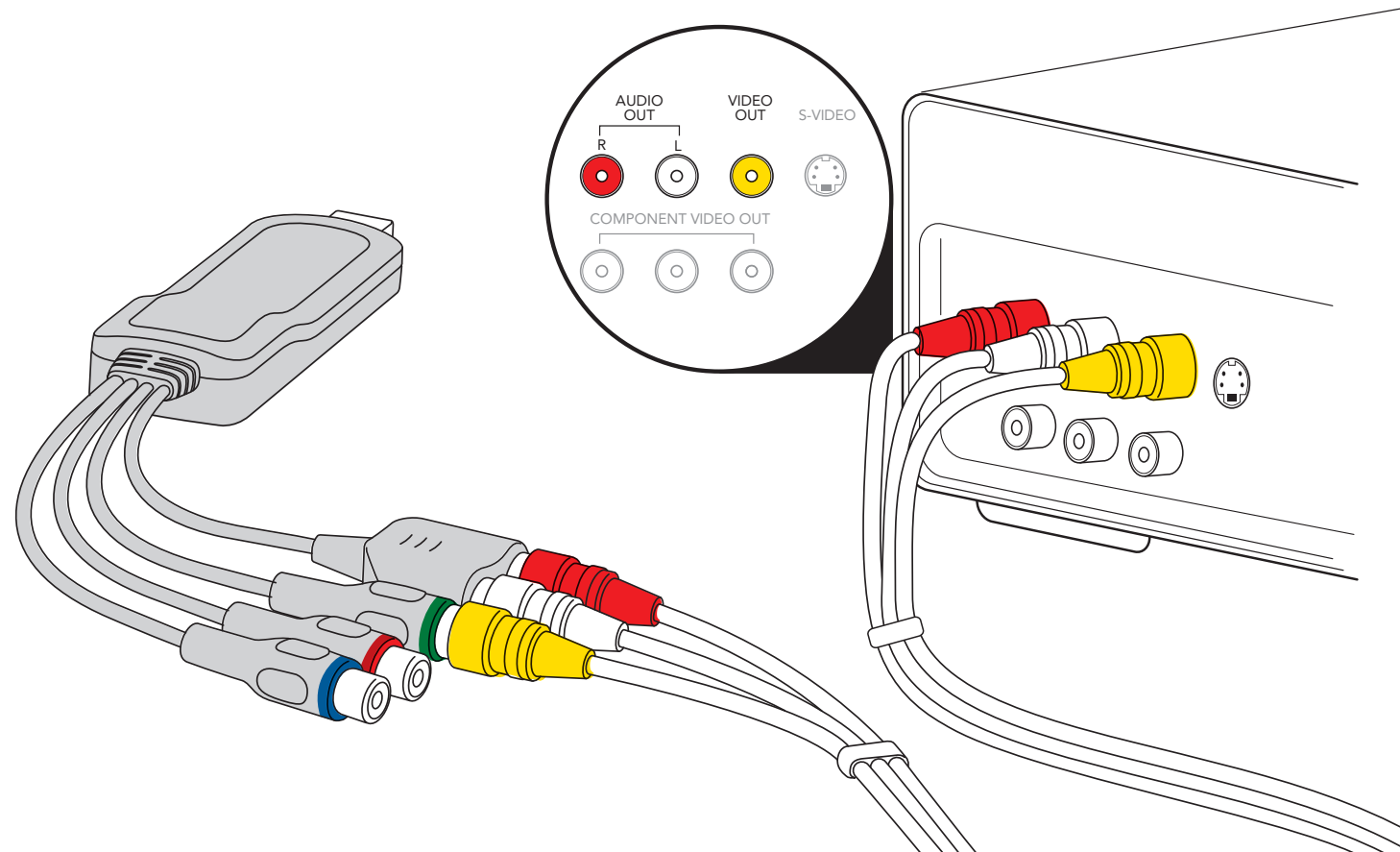
11 Connections S-Video — *Better analog video*

S - Video

S-Video is higher quality than composite video and became popular in homes during the late 1980's and 90's. When connecting S-Video to Video Recorder, an inexpensive, third party, breakout cable (not included) is required. The breakout cable adapts a single, S-Video connector to two RCA connectors which can be connected to the green and blue inputs on Video Recorder. The two RCA connectors are usually white and some other color, typically yellow or red. They should be connected to the blue and green inputs on Video Recorder respectively.
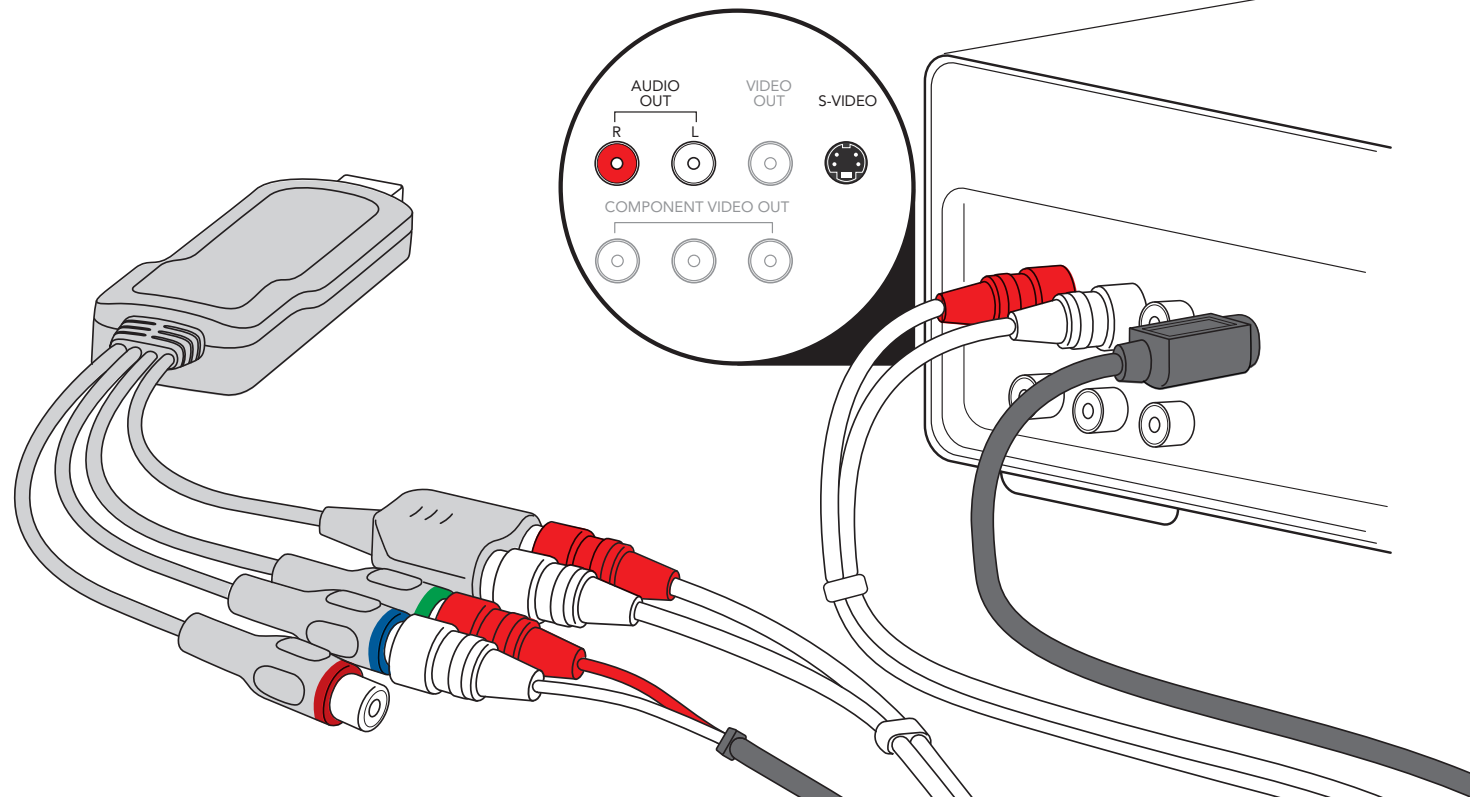
12 Connections

Component — *Best analog video*

Component is the newest and highest quality analog video connection and has become popular in homes during the 2000's. It uses three cables to transmit all of the color information. The connectors on the three cables are usually colored red, green and blue.

Component

AUDIO OUT   VIDEO OUT   S-VIDEO
R   L

COMPONENT VIDEO OUT
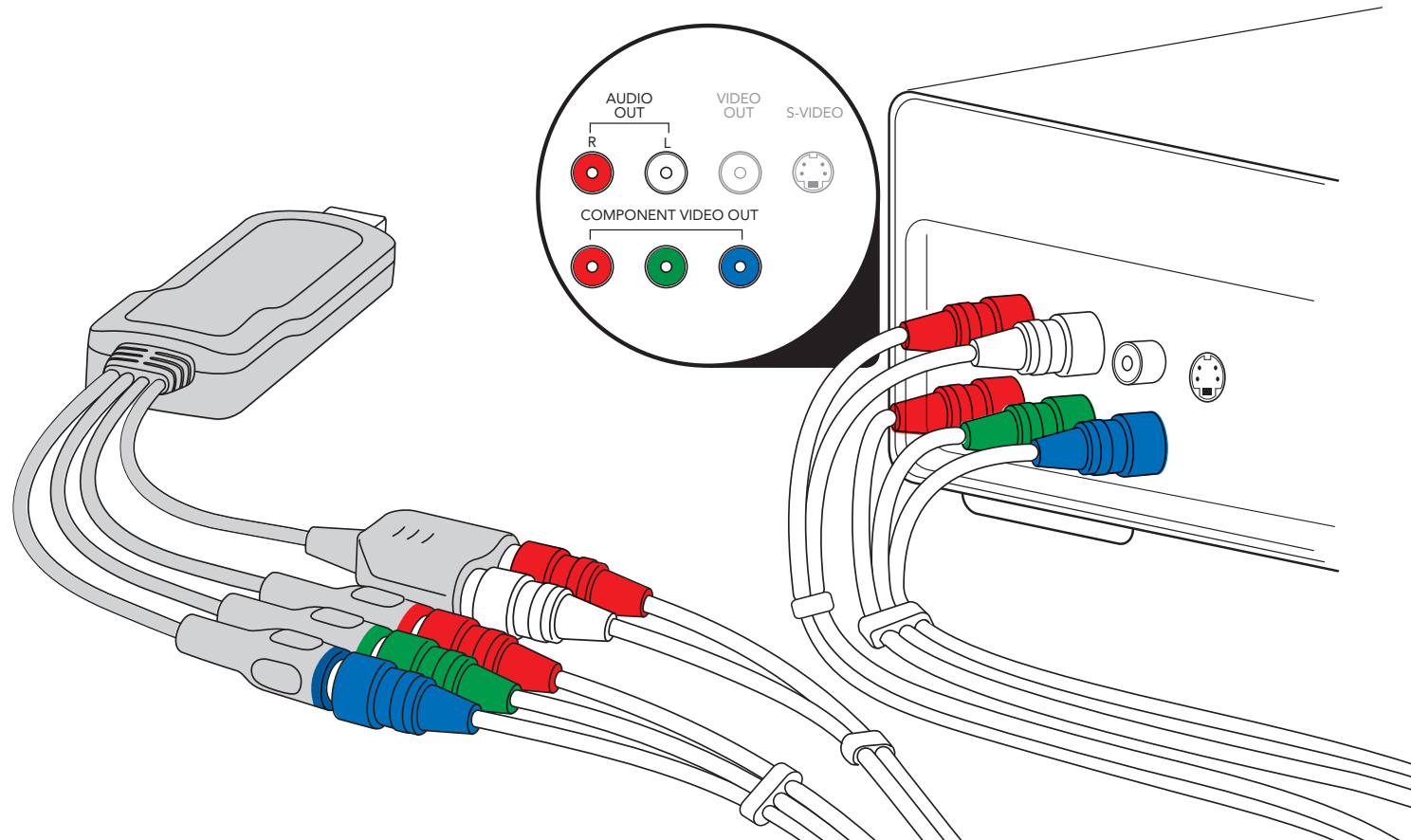
13 Record

Overview

The terms "capture" and "record" have the same meaning when using Video Recorder and both are used in this manual. Before clicking the large, red Record button, there are a few options you might like to choose.

Video Recorder automatically detects if it is receiving a NTSC, PAL or SECAM video signal so you don't have to set these options.

Cropping

You can use the cropping handles around the picture to cut off video you don't want to capture. In the example on this page, the black bars above and below the picture have been cropped so that only the active picture is recorded.
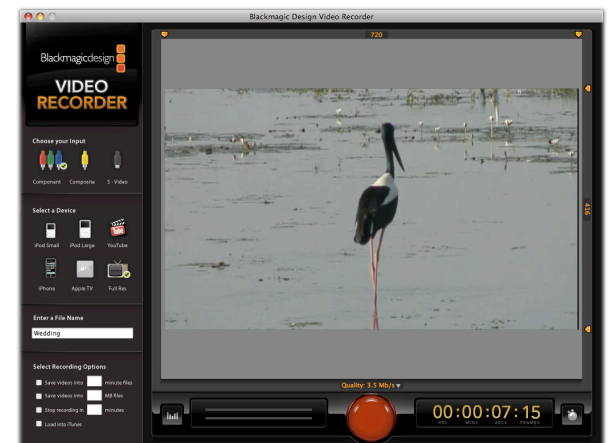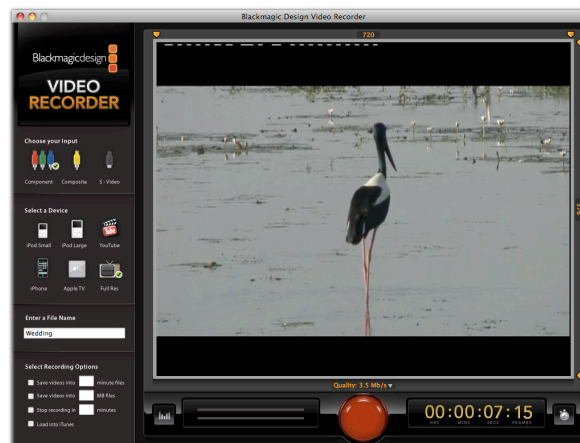
14 Record

Select a Device

iPod Small   iPod Large   YouTube

iPhone   Apple TV   Full Res

Select a Device

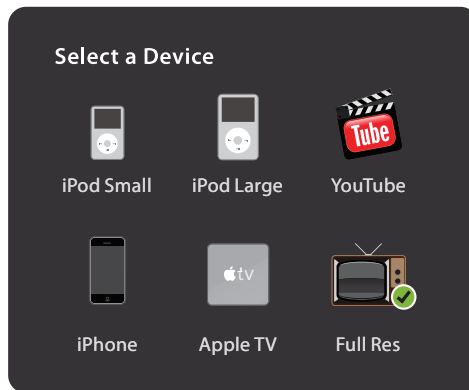Select the device on which you want to play back your video. The Device buttons will then set the resolution at which the movie files will be recorded. You can choose Full Resolution if you want the maximum quality picture to be preserved. Simply click on the icons for iPod Small, iPod Large, YouTube, iPhone, AppleTV or Full Resolution video. The data rate will automatically be set to an appropriate quality for playback on your chosen device. You can manually change the data rate if you prefer.

If you can't see your video device pictured, don't worry! If your iPod has a touchscreen display, click the iPhone icon as it has the same display resolution as the iPod Touch.

All conventional iPods support the iPod Small setting and we recommend you choose this setting so you can fit a lot of movies on your iPod. Newer versions of conventional iPods can play back higher resolution video but there is usually little point in choosing iPod Large as the iPod screens are still the same resolution as earlier iPods.

If you've got both an AppleTV, and one of the newer conventional iPods, choose the iPod Large setting as the one movie file will play on both devices. This is great because you don't have to capture your movie twice to work on the two different devices.

Enter the File Name which you want to give to your captured video. The video will be captured to your desktop.

15 Record

Select Recording Options

You might also wish to "Select Recording Options" but this is entirely optional and you don't have to use them:

✅ Save videos into ☐ minute files

1. Enable this option if you want to upload files to web sites and restrict the length to several minutes. Many files on YouTube have a maximum length of 10 minutes. Video Recorder will split the recording into seperate movie files of the specified number of minutes.

✅ Save videos into ☐ MB files

2. Enable this option if you want to save files which will be copied to removable media such as CD's or DVD's. Video Recorder will split the recording into seperate movie files of the specified file size.

✅ Stop recording in ☐ minutes

3. Enable this option if you want Video Recorder to automatically stop recording after a specified number of minutes. This could be useful if your Video Recorder will be left unattended and you don't want it to record forever!

✅ Load into iTunes

4. Enable this option if you want your captured videos to be copied to your iTunes library for copying to your iPod, iPhone or AppleTV.

If you enable more than one of the "Select Recording Options" 1, 2 or 3, the option which takes priority will be the one which occurs first and produces the smallest files.

16 Record

Click on the A/V Controls button to reveal the A/V Controls window.

Audio/Video Controls

Look at the video preview in Video Recorder and see if your video looks as clear as you would expect. If the picture looks overly dull, vivid, bright or dark, or if the audio is too low or high, click on the A/V Controls button to the left of the audio level meter.

Adjust the sliders for Brightness, Contrast, Color and Audio and you will immediately observe the change in the video preview.

Tip: When recording old VHS tapes, you will often find the colors look overly saturated and noisy. The noise is contained within the color so it can be a good idea to reduce the color until it looks "normal" and the noise will also be reduced in the picture.

17 Record

Recording!

100 kb/s
200 kb/s
300 kb/s
400 kb/s
500 kb/s
✓ 1.0 Mb/s
1.5 Mb/s
2.0 Mb/s
2.5 Mb/s
3.0 Mb/s
3.5 Mb/s

You are almost ready to record your video. If the video preview looks blocky or unclear, click the Quality popup menu above the Record button and increase the Quality setting to a higher data rate. Once you are happy with the quality of the video preview, click the red Record button or alternatively go to the Recording menu and select Start Recording (⌘R). The Record button will change from being a solid, red button to an illuminated, red button. When you want to stop the recording, click the same button again.

Click on the triangle to open the Quality setting popup menu and adjust the data rate if desired. Then click the red Record button.

The Record button becomes illuminated when recording. Push it again to stop recording.

18 Playback

When your recording has finished, you will find the movie files saved to your desktop. They will open in QuickTime Player unless you have changed the default player to another application such as VLC Player or iTunes. If you chose the option to load into iTunes, you will find your movies ready to play from within iTunes and to send to your AppleTV, iPod or iPhone.
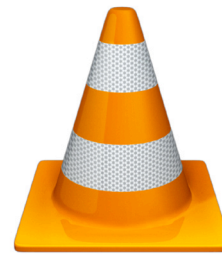
QuickTime Player   VLC Player   iTunes

19 Help

Recording

Start Recording	⌘R
Remove Fields	
✓ Audio output in Background	

Audio output while recording

If Video Recorder is recording, and you then bring some other application to the foreground, you will no longer be able to hear the audio being captured. If you wish to hear audio even when Video Recorder is in the background, go to the Recording menu and select "Audio output in Background".

Avoiding video tearing during playback

If you find that areas of fast movement in your recorded video show horizontal, tearing lines, this will be caused by the interlaced video you are attempting to capture. Most NTSC, PAL and SECAM video is made from two, interlaced fields of video.

Recording

Start Recording	⌘R
✓ Remove Fields	
Audio output in Background	

Go to the Recording menu and enable "Remove Fields". Repeat the capture and see if this helps to avoid the tearing problem.

"Remove Fields" cannot be used with the YouTube setting and so the menu option is grayed out when using the YouTube setting.

20 Help

Blackmagic Video Recorder will not open

If the Blackmagic Video Recorder software will not open, or reports an error while opening, it is possible that a component of the software is missing and there are a range of rare scenarios which could explain this. The quickest and most likely solution is to visit our website at **www.blackmagic-design.com/videorecorder/support** and download the latest Blackmagic Video Recorder software from the software downloads area in the support pages. Install the software and then restart your computer. Blackmagic Video Recorder should now work.

Record button is gray

If you find the Record button is gray, and the Blackmagic Video Recorder software will not record, make sure that Video Recorder is directly connected to a USB port on your computer using the included USB cable. Avoid connecting via a USB hub as Video Recorder might not work correctly.

Try unplugging and reinserting the Video Recorder USB connector and observe if the Record button becomes red. If the Record button remains gray, try another USB port on the same computer or test the Video Recorder on another computer. This test will tell you whether the problem is with the USB port, the computer or the Video Recorder unit itself.

21 Help

Delayed video and audio while previewing

There is a small delay, of less than a second, between the time that video and audio is received by Video Recorder, and the time that it appears in the Blackmagic Video Recorder software on your computer display. The delay occurs regardless of whether video is being recorded to the hard disk or not. The delay is normal and occurs because it takes a moment for the Video Recorder hardware to encode your video and audio into high quality, H.264 compressed movie files. For this reason, it is best to use the video preview window in Blackmagic Video Recorder to determine when to start and stop recording your video. If you were to rely upon the built-in viewfinder in a video camera, you might start and stop the recording a little earlier than desired.

Jerky video preview while recording

On older, slower computers, you might observe that the video preview appears fine before recording starts but looks quite jerky when recording video to the hard drive. This is because older computers may not have enough power to preview the video smoothly at the same time as writing the video to the hard disk.

The jerky preview does not affect the quality of the video recorded to disk. When you open the recorded video, it should play back perfectly smoothly.

22 Help

Strange video colors with component video

If Blackmagic Video Recorder shows strange video colors when connecting with component analog video, refer to the Component connection diagram in the Connections section of this manual. Check which cables have been connected to which ports on the video source device and to Video Recorder. The usual symptoms of this problem are a strange green or magenta color shift. Using the correct cable connections should fix this problem.
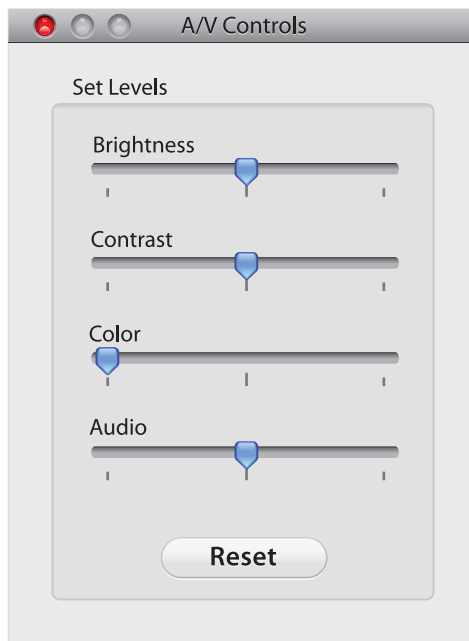
Color artifacts in Black & White video

Sometimes you might notice unwanted color artifacts when you capture your old black and white video. All modern video equipment supports color and will send color information to Video Recorder, including some color, analog "noise", even though your old video may be black and white.

This problem is easily solved by opening the A/V Controls and setting the Color slider all the way to the left. All color information will be eliminated and only black and white video will be recorded. You can also use this method to capture your color video, as black and white video, if you want to give it an old look.

Remember to set this slider back to color when you next want to capture color again!

23 Help

Left and Right Audio are reversed

If you notice the left and right audio channels are reversed when recording with Blackmagic Video Recorder, the audio cable connections are probably the wrong way around. Simply switch the audio cable connections at either the video and audio source device OR at Video Recorder. Do not make this change at both ends of the cable as this will not fix the problem. Using the correct cable connections will fix this problem. The left audio channel is usually represented by a white connector and the right audio channel is usually represented by a red connector.

Unable to record from a HD video source

Video recorder is designed to work with standard definition (SD) video. Most high definition (HD) video devices, especially HD video cameras, provide an option to play back as standard definition analog video. Composite video and S-Video outputs are always standard definition and will always work with Video Recorder. Component video outputs could be HD or SD and must be switched to standard definition for use with Video Recorder. If standard definition is a feature of the HD device, the manual for your HD video device should include information about how to obtain a standard definition video output through the component analog video outputs. If Video Recorder is accidentally receiving a HD signal via component analog video, the video preview in Blackmagic Video Recorder will probably show either a solid blue or black color.

24 Help

Recording from a DVD player or Set Top Box

Many DVD players implement a copy-protection mechanism which distorts the video output so it is unwatchable with video recording devices including VHS tape recorders and Blackmagic Video Recorder. This might seem surprising as the same DVD player may be clearly viewed when connected to a television. Make sure you have permission to make copies of the DVD. Copy-protected, commercial DVD's should never be copied and most DVD players will prevent you from doing this.

Similar results may be experienced when attempting to record copy-protected channels from the analog video output of a digital set top box. You can use Video Recorder to capture the free to copy channels but do ensure you don't copy Copyright material.

Maximum time segment is 12 hours

Due to the way that QuickTime works with audio captured by Video Recorder, very long recordings will be segmented into 12 hour segments. Video Recorder will continue to record but the movie will be segmented at 12 hour intervals.

25 Help

No video seen in the video preview window

If you've checked that your video source (e.g. video camera or VHS player) works with your television, but you still cannot see any video in the preview of Blackmagic Video Recorder, there could be a cabling problem.

Check that your video and audio cables are connected to the correct video source device as it can be easy to mistakenly connect the wrong cables to Video Recorder if you have a busy work area with lots of video and audio cables. It can be easy to confuse the composite video and analog audio cables of a VHS player with the same type of cables for a video camera as they are usually the same color.

Check that you have connected the video and audio cables to the analog video and audio outputs of your video source device. A VHS tape recorder might have both inputs and outputs and they will look exactly the same. It is important to use the outputs of the video device and connect them to Blackmagic Video Recorder.

If you are using component or S-Video connections, carefully check that you have connected each cable to the correct connectors on your video source device and to Video Recorder. No video will appear if the three component cables, or the two connectors from an S-Video breakout cable, are accidentally connected the wrong way around to Video Recorder. Please refer to the component and S-Video connection diagrams, in the Connections section of this manual, for correct cabling instructions.

26 Help

It is possible for some plug and socket connections to slightly move apart, in which case they would visually appear to be connected but might have a poor connection or not be connecting at all. Make sure your cables are long enough, and not too tight, or else they might pull apart. It's always a good idea to have some slack in your cables to avoid this problem. If you suspect a bad cable connection, try unplugging the video and audio connections, at both the video source device and on Video Recorder, and then firmly reconnect them together. Now look at Blackmagic Video Recorder and observe if your video appears.

If video or audio cables become defective, you might see or hear video and audio distortion when using Video Recorder. Try another set of cables and see if this makes the problem go away. If the cables are faulty, discard them (or at least label them as faulty) so they will not cause you any further problems. Faulty cables can be very frustrating so it is best to dispose of them.

Third party application support

QuickTime

The Blackmagic Video Recorder software must be used to record video with the Video Recorder hardware. Third party software applications cannot currently be used to record video with the Video Recorder hardware. Once you have recorded your video with Video Recorder, you should be able to play back your H.264 movies with almost any software which supports QuickTime.

27 Support

Using your Video Recorder to encode your precious video in H.264 movie files is exciting but can be confusing as there are many technicalities with the video and audio devices from which you might capture your video.

This manual should cover most of the basic information you will need to start recording video immediately and hopefully the Help section will answer most of your questions. There are three ways to get more information.

1. Check out the latest support information at the Blackmagic Design website at **www.blackmagic-design.com/videorecorder/support**. We have a huge number of technical notes covering all the common questions we are asked.

2. Call your reseller. Your reseller will be aware of a wide range of video and audio equipment and should have the latest technical updates from Blackmagic Design. Your reseller will often be able to provide you with expert help should be able to give you immediate assistance.

3. The next option is to email us with your questions.
   www.blackmagic-design.com/videorecorder/support

Note: Please provide us with as much information as possible regarding your technical problem and system specifications so that we may try to reproduce your problem quickly. Also please let us know how to reproduce any problem you're having, so we can try it on our test systems before replying to your email.

28 Warranty

12 Month Limited Warranty

Blackmagic Design warrants that this product will be free from defects in materials and workmanship for a period of 12 months from the date of purchase. If a product proves to be defective during this warranty period, Blackmagic Design, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, you the Customer, must notify Blackmagic Design of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. The Customer shall be responsible for packaging and shipping the defective product to a designated service center nominated by Blackmagic Design, with shipping charges pre paid. Customer shall be responsible for paying all shipping changes, insurance, duties, taxes, and any other charges for products returned to us for any reason.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Blackmagic Design shall not be obligated to furnish service under this warranty: a) to repair damage resulting from attempts by personal other than Blackmagic Design representatives to install, repair or service the product, b) to repair damage resulting from improper use or connection to incompatible equipment, c) to repair any damage or malfunction caused by the use of non Blackmagic Design parts or supplies, or d) to service a product that has been modified or integrated with other products when the effect of such a modification or integration increases the time or difficulty of servicing the product. THIS WARRANTY IS GIVEN BY BLACKMAGIC DESIGN IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. BLACKMAGIC DESIGN AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BLACKMAGIC DESIGN'S RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE WHOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER BLACKMAGIC DESIGN OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. BLACKMAGIC DESIGN IS NOT LIABLE FOR ANY ILLEGAL USE OF EQUIPMENT BY CUSTOMER. BLACKMAGIC IS NOT LIABLE FOR ANY DAMAGES RESULTING FROM USE OF THIS PRODUCT. USER OPERATES THIS PRODUCT AT OWN RISK.