

CK-080S: MPEG Howto

§ Introduction

The purpose of this guide is to give the reader a brief introduction into video conversion and provide a list of resources that can provide further information on the subject. Our LCDPhoto frame CK080S series can play MPEG-1 and MPEG-2. Although we do not support directly the software that provide the conversion, we would like to provide a brief primer on how to do this yourself, with either freeware or commercial software. Below is a table explaining the different formats and their data rate requirements. We will briefly touch on how to convert your home video from digital camera, VCD, DVD, DV and VHS to a format that can be played on our digital frame.

	VCD	DVD	SCVD
Compression format	MPEG-1	MPEG-2	MPEG-2
Video resolution	352x240	720x480	480x480
Data rate	1.15 Mbps	7-10.8 Mbps	2.6Mbps
Sound format	MPEG-1 Layer II	MPEG-1 Layer II	MPEG-1 Layer II
Sound sampling frequency	44.1 KHz	48 KHz	44.1 KHz

§ Converting video from digital camera to MPEG-1 or MPEG-2

Different digital camera manufacturers use different compression standards to save video files. Depends on the camera model, the captured video files might already be in either MPEG-1 or MPEG-2 and the LCDPhoto frame will be able to play it directly. However, some require that you find out what format your camera uses and use the appropriate conversion program to convert it to MPEG-1 or MPEG-2. Please contact your camera manufacturer to find out what video format it uses and how to convert it to MPEG-1 or MPEG-2.

§ Converting VCD to MPEG-1

The compression format of VCD is already in MPEG-1 but a lot of headers and extra information were added. To play on the LCDPhoto frame, we need to strip the extra information and revert the content back to pure MPEG-1 format. There are many software that can perform this function but we recommend MPEG Tool, at http://www.digital-digest.com/dvd/downloads/showsoftware_mpegtool_126.html. This software is very straightforward. It will ask you for the source DAT file and the destination folder. You can also choose to convert only portions of your video. When ready, just let it does all the work for you. This is a relatively quick process and should only take a couple of minutes, depending on your computer speed.

§ Converting DVD to MPEG-2

Reverting DVD back to pure MPEG-2 is a little more complicated than converting VCD. A DVD contains many VOB objects with different video and audio streams. You have to know first which VOB, which video and which audio stream you want to convert. This can be best determined with a DVD playing program which displays the chapter and soundtrack number, such as PowerDVD or WinDVD. Once you have determined that, use a program such as SmartRipper to isolate the video and audio streams. Then, TMPGEnc can be used to convert the raw stream to MPEG-2 and combine the audio back together. If there is any time lag in the video and audio stream, AC3 Delay Corrector can be used to correct it. Programs can be downloaded from the following places or do a search for them:

PowerDVD or WinDVD: commercial software, in store or at www.gocyberlink.com or www.intervideo.com

SmartRipper: <http://www.doom9.org/Soft21/Rippers/SR241.rar>

TMPEnc: http://www.tmpegenc.net/e_download.html

AC3 Delay Corrector: http://www.free-codecs.com/AC3_Delay_Corrector_download.htm

§ Converting DV to MPEG-2

This conversion requires that you first “capture” the video from your DV camcorder to the computer. This is best achieved through firewire or IEEE1394 connection. With either software bundled with camcorder or commercial software, you can then save the video as either MPEG-1 or MPEG-2. Some commercial software that can do this are CyberLink’s PowerDirector, Adobe’s Premiere Element, and Pinnacle Studio 8.

§ Converting VHS to MPEG-1 or MPEG-2

Similar to conversion from DV, this also requires that you “capture” the video from your VCR to the computer. This is normally done through a video capture device connected through the USB port. Two popular options are:

http://www.adstech.com/products/USBAV_701/intro/usb701intro.asp?pid=USBAV701

<http://www.pinnaclesys.com/publicsite/us/Products/DazzleHome/>

Resources:

www.doom9.org

www.videohelp.com