MPEG-2 Encoding Specification for the DV series (standard definition) media players

VIDEO

File format:	**.mpg**	
Video type:	MPEG-2 video (program stream)	
Attributes:	**720x480**, 4:3 or 16:9	
Compression:	4:2:0 (not 4:2:2)	
Frame rate:	29.970 Frames/sec	
Date rate:	VBR or CBR	
	MAX 8Mbps for current DV66s (HW1.4),	
	6Mbps for Ver 1.6 and older DV66s (HW1.3)	

AUDIO

Audio type:	MPEG audio
Layer:	**2** (MP2)
Attributes:	**44100** (or 48000) Hz, 16bit, stereo
Bit rate:	**192** kbps or 224kbps

Recommended Closed GOP with an I-fame interval of 15
*** DO NOT EXPORT AS A DVD-MPEG2 ***

MAC

MPEG stream clip settings:
Export to: Apple MP4 (not H264)
Framesize: DVNTSC 720x480

Shareware programs that work great on a MAC for encoding files to either mpeg-2 or mpeg-4:

The easiest (and best quality) is the MPEG4 divx encoder for the DV-68 at:
http://www.divx.com/
You can download and use converter for free

An mpeg-2 converter for the Mac that works is "ffmpegX" at:
http://mac.softpedia.com/get/Video/ffmpegX.shtml
It is a little more complicated to setup, but it will encode mpeg-2 files that the DV-66/68 can read with audio.

PC

.vob to .mpg conversion:
A quick solution is to use a PC shareware program (such as DVDX) and convert the .vob to a MPEG2 file (.mpg) with MP2 audio.
Not only will this solve the audio problem, the resulting file will be much smaller (1/3 of the original size).

http://www.videohelp.com/tools/DVDx
http://www.videohelp.com/tools/SUPER_1

Settings
Using PC software encoder – Canopus Procorder 2 Encode Template:

Storage	MPEG	
Select	MPEG-2 422 Profile NTSC	
Type	422p@ML MPEG 2 Stream	
Settings:		
VIDEO:		
Quality:	Mastering	
Bitrate:	VBR, 2-PASS	
Max. Bitrate:	8000 Kbps	
Min. Bitrate:	6000 Kbps	

AUDIO		
Audio Stream Type:	MPEG Audio Layer 2	
Audio Bitrate:	224 Kbps	
Sample rate:	48 Khz	
Channels:	Stereo	
Bits/Sample	1	

End results were good quality video with good audio.

Troubleshooting
Known Problem Encoders:

- Sorenson Squeeze 3 and 4 compression software produces files which are incompatible with the codec in the DV66 player. Sorenson compressed media, while valid for DVD and Windows playback, does not normally play back in a DV66. The current version of Sorenson creates an .mpg file that has the attributes of a .VOB so that when played back, the MPEG2 layer 1 audio is not played since the DV66 is looking for AC3 audio (as in a .VOB).
- VEGAS 5.0 and 6.0 also had problem with the files playing audio. Pro-Encode, using the same settings as Sorenson, will work fine.