

This tutorial describes how to use the media encoder in Adobe Premier Pro CS4® for Windows to create an MPEG-2 program stream for playback on LEIGHTRONIX MPEG-2 decoders. The “Adobe Media Encoder” can be used to encode files from Premier or any other video files located on your computer. The following procedure assumes that you have already installed the software used in this tutorial and are somewhat familiar with Adobe Premier Pro for Windows and LEIGHTRONIX equipment.

- NOTES:**
- The settings provided in this tutorial are for reference and may have to be tweaked to ensure optimal display of the file on your NEXUS system. Particularly, you may have to change some of the video bit rate settings to get the best video quality. We cannot guarantee the encoded file’s playback quality, as this pertains to the quality of the original file and how much compression occurs during encoding
  - WMV files have been known to lose video and audio sync when encoded.
  - Presets saved from Adobe Premier Pro CS4 may not work on a different version of Premier.

### Software Versions Used in this Tutorial:

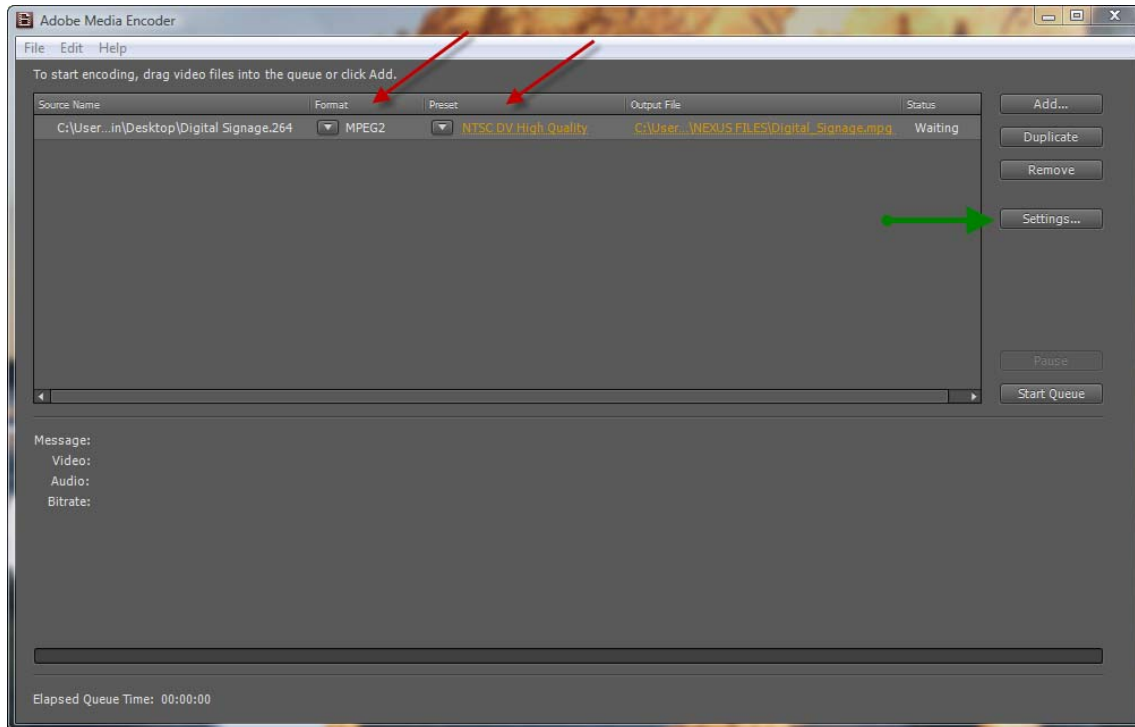
Adobe Premier Pro CS4: Version 4.2.0.006 for Windows

### LEIGHTRONIX MPEG Specifications:

- Acceptable stream types:
  - MPEG-1 System Stream or MPEG-2 Program Stream (consisting of a single elementary video stream with an optional single elementary audio stream)  
**NOTE:** Transport streams must be converted to program streams before using with your LEIGHTRONIX MPEG-2 server.
  - Elementary video stream
- Three video resolutions (pixels) are allowed. Other resolutions are not supported.
  - 352 x 240 (Horizontal x Vertical)
  - 352 x 480
  - 720 x 480
- Picture rate must be 29.97 pictures per second.
- A maximum bit rate of 10 Mb/s is allowed. Higher rates are not supported.
- National TV Standards Committee (NTSC) with 4:3 aspect ratio required.
- 4:2:0 sampling format required. (Main profile at Main or Low level, 10 Mb/s max)
- IBBP group of pictures (GOP) structure recommended for best quality (30 frame maximum GOP size).
- Encode header information in stream every few seconds to aid in error recovery.
- Audio, if present, must be encoded into the MPEG file using MPEG-1 Audio layer II format.
- Audio may be encoded at a 32, 44.1, or 48KHz sampling frequency. LEIGHTRONIX recommends an audio sampling rate of 44.1 KHz for optimal performance.
- MPEG filenames may contain up to 27 characters (no spaces) in addition to the required ".mpg" extension.

1. Open Premier. Under “Files”/”Export,” select “Media” to open the “Adobe Media Encoder” window shown in Illustration 1.

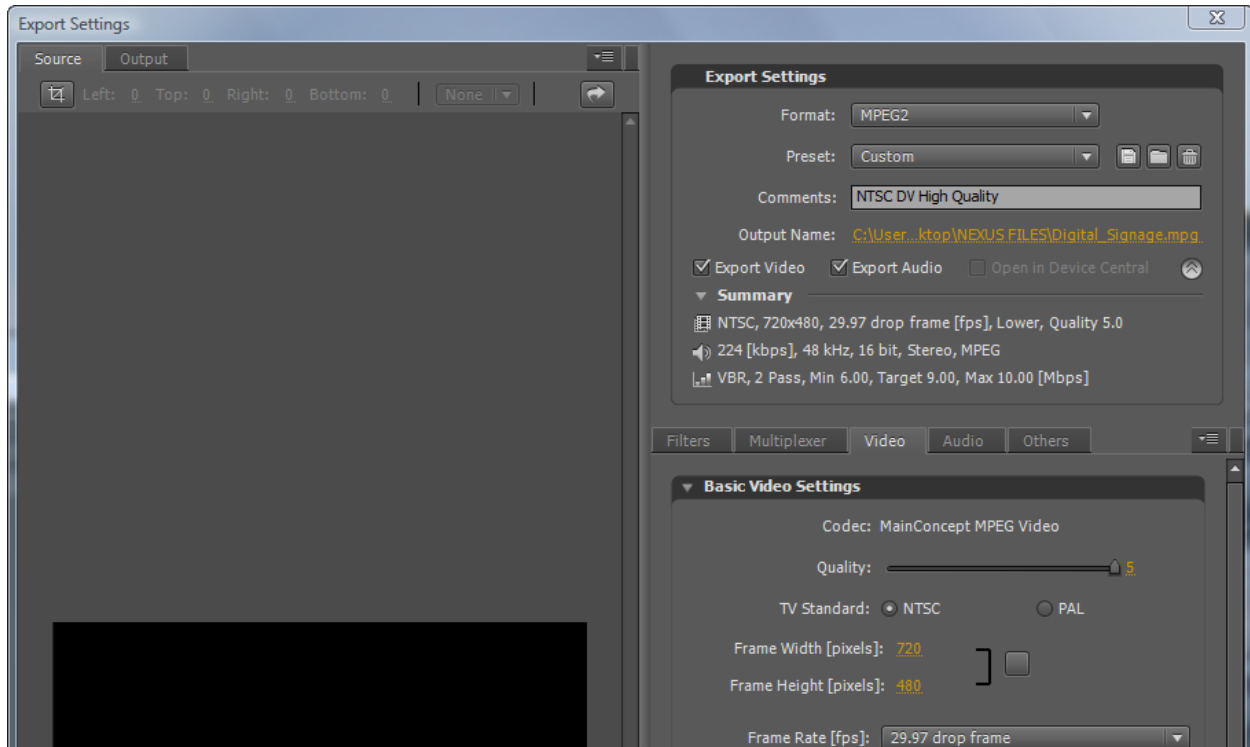
*Illustration 1, Adobe Media Encoder Window*



2. Bring each video file you wish to encode into the media encoder by either dragging the file onto the window or clicking “Add” and navigating to the desired file location.
3. Once you have added your files to the encoder window, you will see two downward arrow buttons in each file’s row. These buttons are indicated on Illustration 1 by the red arrows. Using these buttons, perform the following:
  - Under “Format,” click the downward arrow button and select “MPEG2” from the drop down menu.
  - Under “Preset,” click the downward arrow button and select “NTSC DV High Quality” from the drop down menu.

- Click on the “Setting” button on the media encoder window, as indicated by the green arrow in Illustration 1, to display the “Export Settings” window shown in Illustration 2. Configure the encoder’s export settings according to the following steps:

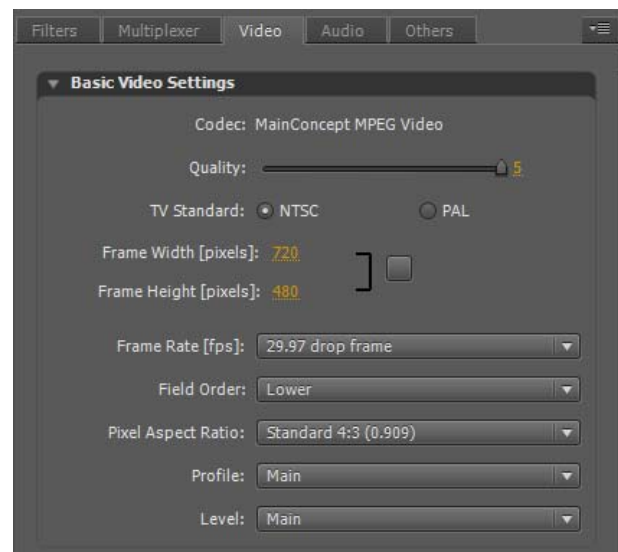
*Illustration 2, "Export Settings" Window*



- If not already selected, click to check the “Export Video” and “Export Audio” boxes.
- Click the “Video” tab and **set your video settings to the following:**
  - **“Basic Video Settings”** subpanel (see Illustration 3):

- “Quality”: set to a value of 3–5
- “TV Standard”: NTSC
- “Frame Width [pixels]”: 720
- “Frame Height [pixels]”: 480
- “Frame Rate”: 29.97 drop frame
- “Field Order”: Lower
- “Pixel Aspect Ratio”: 4:3
- “Profile”: Main
- “Level”: Main

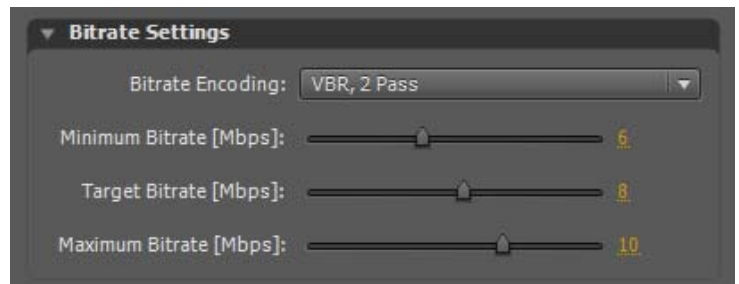
*Illustration 3, "Basic Video Settings"*



➤ **"Bitrate Settings"** subpanel (see Illustration 4):

- "Bitrate Encoding": Any
- "Minimum Bitrate": 4–6
- "Target Bitrate": 8–10
- "Maximum Bitrate": 10

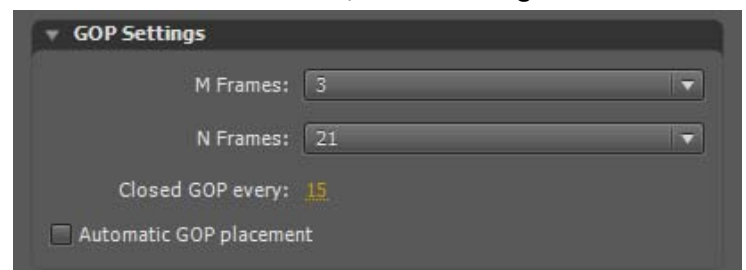
*Illustration 4, "Bitrate Settings"*



➤ **"GOP Settings"** subpanel (see Illustration 5)

- "M Frames": 3
- "N Frames": 21
- "Closed GOP every": 15
- "Automatic GOP placement": leave unchecked

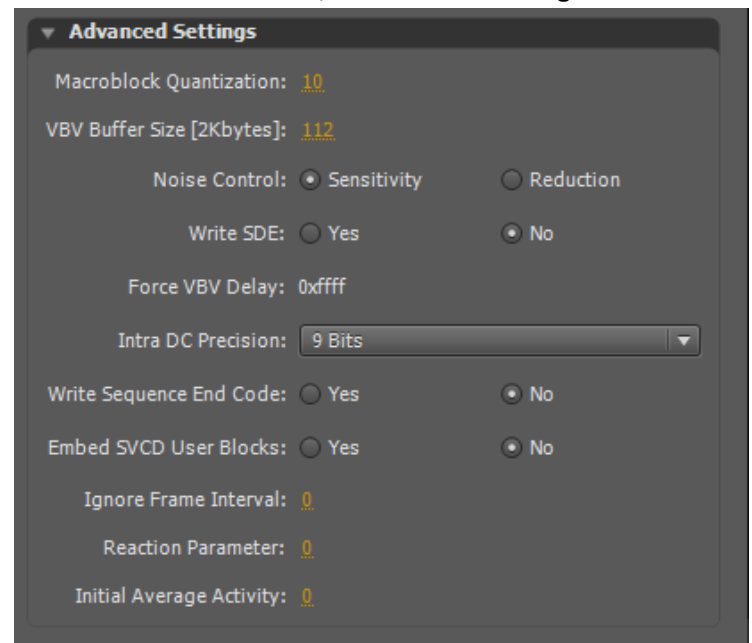
*Illustration 5, "GOP Settings"*



➤ **"Advanced Settings"** subpanel (see Illustration 6)

- "Macroblock Quantization": 10
- "VBV Buff Size [2Kbytes]": 112
- "Noise Control": Sensitivity
- "Write SDE": No
- "Force VBV Delay": 0xffff
- "Intra DC Precision": 9 Bits
- "Write Sequence End Code": No
- "Embed SVCD User Blocks": No
- "Ignore Frame Interval": 0
- "Reaction Parameter": 0
- "Initial Average Activity": 0

*Illustration 6, "Advanced Settings"*

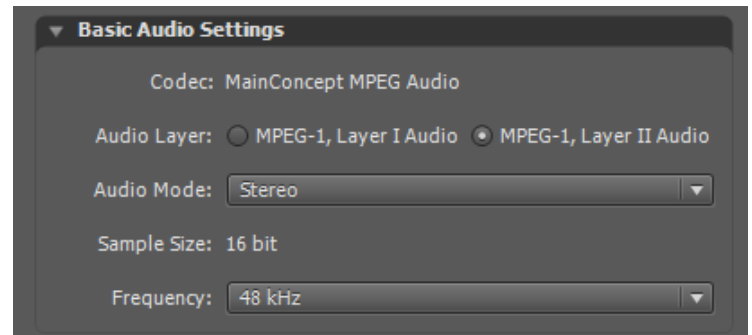


- Click the “Audio” tab and **set your audio settings to the following:**
  - “**Audio Format Settings**” subpanel (see Illustration 7):
    - “Audio Format”: MPEG
  - “**Basic Audio Settings**” subpanel (see Illustration 8):
    - “Codec”: MainConcept MPEG Audio
    - “Audio Layer”: MPEG-1, Layer II Audio
    - “Audio Mode”: Stereo
    - “Sample Size”: 16 bit
    - “Frequency”: 44 kHz or 48 kHz
  - “**Bitrate Settings**” subpanel (see Illustration 9):
    - “Bitrate [kbps]”: 224
  - “**Advanced Settings**” subpanel (see Illustration 10):
    - Do not change any of the advanced settings.

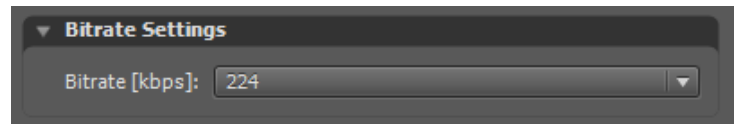
*Illustration 7, "Audio Format Settings"*



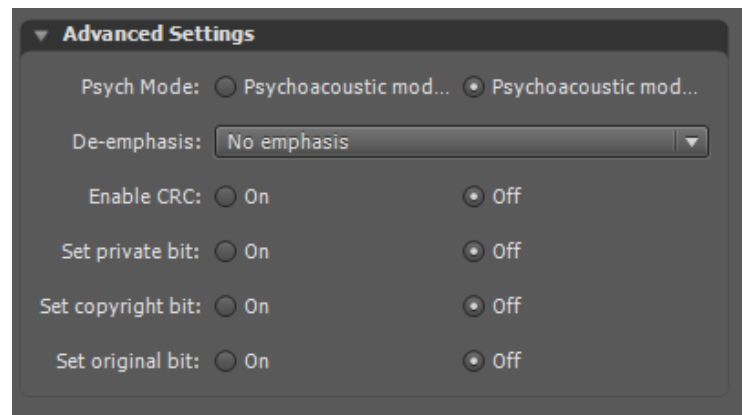
*Illustration 8, "Basic Audio Settings"*



*Illustration 9, "Bitrate Settings"*

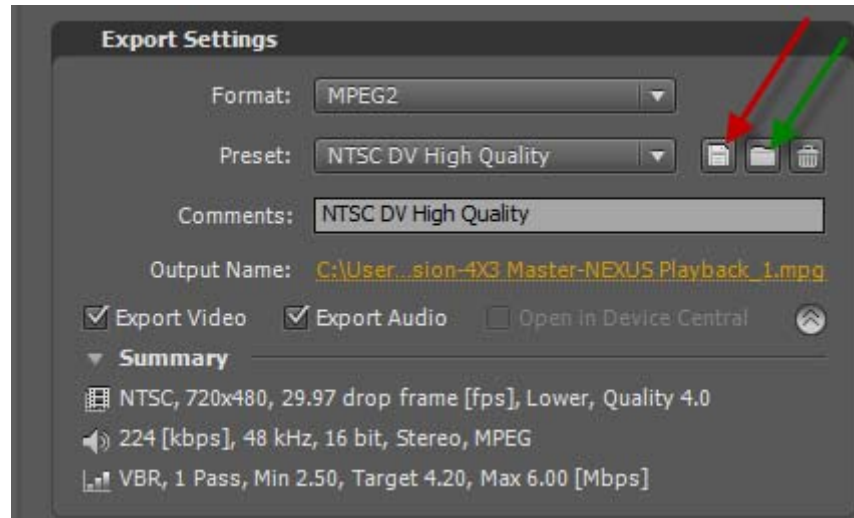


*Illustration 10, "Advanced Settings"*



5. Save a copy of your preset for future use by clicking the disk icon, shown by the red arrow on Illustration 11, next to the “Preset” setting at the top of the “Export Settings” window.

*Illustration 11, "Export Settings" Preset Icons*



Presets are saved in the following locations:

- Windows XP: C:\Documents and Settings\user\Application Data\Adobe\Adobe Media Encoder\4.0\Presets
- Windows Vista: C:\Users\user\AppData\Roaming\Adobe\Adobe Media Encoder\4.0\Presets
- Windows 7: C:\Users\user\AppData\Roaming\Adobe\Adobe Media Encoder\4.0\Presets

To use the same preset for future encoding jobs, when you get to Step 4. of this tutorial, just click the folder icon, indicated by the green arrow on Illustration 11, and select the preset. All of the settings you selected under the “Video” and “Audio” tabs will be automatically entered when you load the preset.

6. When you have encoded your file, you will still have to transfer it to your NEXUS system using the LEIGHTRONIX WinLGX management software’s “Storage Manager” or a third-party FTP program.