

HD /SD Logo Inserter

HD and SD Logo Insertion and Branding

The 7420 is a dual rate logo inserter that can accept either an SD or HD video input and key still logos and animations over program material. The logo insertion capability can be used to add letterbox framing. It can also be used to key sports or event logos, or to source a virtual set background. The on-board memory can play back almost a minute of uncompressed video. Alternately, the 7420 can supply separate fill and key outputs to a production switcher for keying there.

Handy Flash Memory

The 7420 is fitted with a Secure Digital flash memory card in order to provide an extremely fast and easy way to transfer material. This is a particularly convenient method for pre-building material off-line. Simply transfer logos and animations to a Secure Digital flash memory card using a standard card reader, then insert into the 7420.

The 7420's flash memory card can be removed and reinstalled without interrupting logo playback. Alternately, logos can be loaded into one or more 7420s over ethernet. The flash memory card is used for transfer while the actual logo and animation playback comes from the 7420's DDR2 memory.

Linear Keying

The 7420 provides two cascaded, full linear keyers with transparency and a programmable transition rate. Each keyer is independently controllable and each has independent access to up to 2 GB of stored video and sound files.

Standard configuration is Keyer 1 and 2 each populated with 512 MB of DDR2 (SODIMM) memory. Users can upgrade to 2 GB of DDR2.

Features

- » Key still logos and animations with audio
- » HD and SD operation
- » HD Up/Down/Cross converter options
- » Fail-safe bypass in case of power failure
- » Flash memory card for transferring logos
- » Includes Avenue Logo Authoring and Management software
- » Program sequences of logos, animations and transitions
- » Control through RS-232 serial, ethernet, GPI triggers (8), or the Avenue Control System
- » 16 channel audio support, passes embedded audio
- » Program/Preview outputs or Key/Fill outputs
- » Full 10 bit linear keying and processing

Audio Support

Sounds and voice-overs can be associated with logos and clips. Each keying channel can play back a stereo sound file simultaneously with video. Audio is mixed into the user-selected output channel. Faders and unders (audio ducking) are programmable and can be sequenced.

The 7420 supports all sixteen channels of embedded audio. Compensation delay is provided in the audio path when one of the 7490 series options is being used.

Avenue Logo Authoring Environment

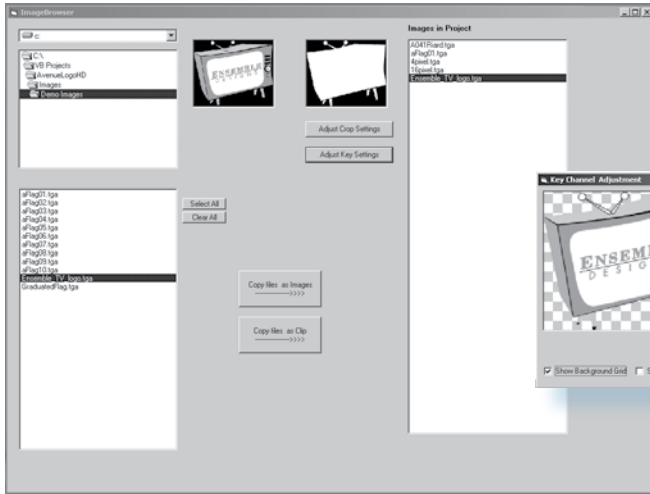
The Avenue Logo authoring environment provides a means to import graphics, animations and sound files. Video files are converted to the appropriate SD or HD color space, adjusted for proper aspect ratio, and organized in a form suitable to download into the 7420. Lossless compression ensures logos, animations and clips look as good in the program output as when they were created. The authoring system allows importing sound files which can be associated with one or more still or animated logos. Video and audio files are associated through the Avenue Logo Playback Sequence interface. Avenue Logo software can be provided to your clients so they can build sports or event logos off-line.

Upconversion and Logo Insertion with One Module

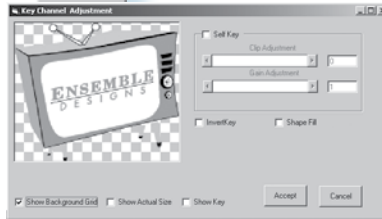
You can bring in SD background material, upconvert to HD, key logos, and output HD – all with one module. The 7490 series submodule options for the 7420 provide HD upconversion, downconversion, cross conversion and aspect ratio conversion. When the 7490 is installed, simply set the 7420 to output the facility's preferred HD or SD standard. The 7420 will accommodate whatever input is provided – any type of SD SDI or HD SDI signal. After setting the output standard, the input will be converted to the correct standard, logos and animations will be keyed, and the program out will be in the correct standard for the facility.

Control

Playback of sequences can be issued through a variety of methods. All Avenue modules can be accessed via ethernet with Avenue Logo software, Avenue PC software, or through third-party support using TCP/IP or SNMP protocols. Automation interfaces can be made through the ethernet port or through a simple ASCII protocol via the RS-232 port specific to the module. Single GPI contact closures can be used to initiate program sequences.



Avenue Logo User Interface



7420 Sub Module Options

7490 Up/Down/Cross Converter

This option offers total flexibility. Simply set the HD or SD output standard desired. Then feed any SD SDI or HD SDI signal to the input. Up, down, cross, or aspect ratio conversion is automatic. Use logo insertion capability to add letterbox framing.

7491 Upconverter

This option provides a very cost-effective, convenient way to handle both branding and upconverting to HD. Feed an SD SDI or HD SDI input to the module and output HD SDI in your selected standard.

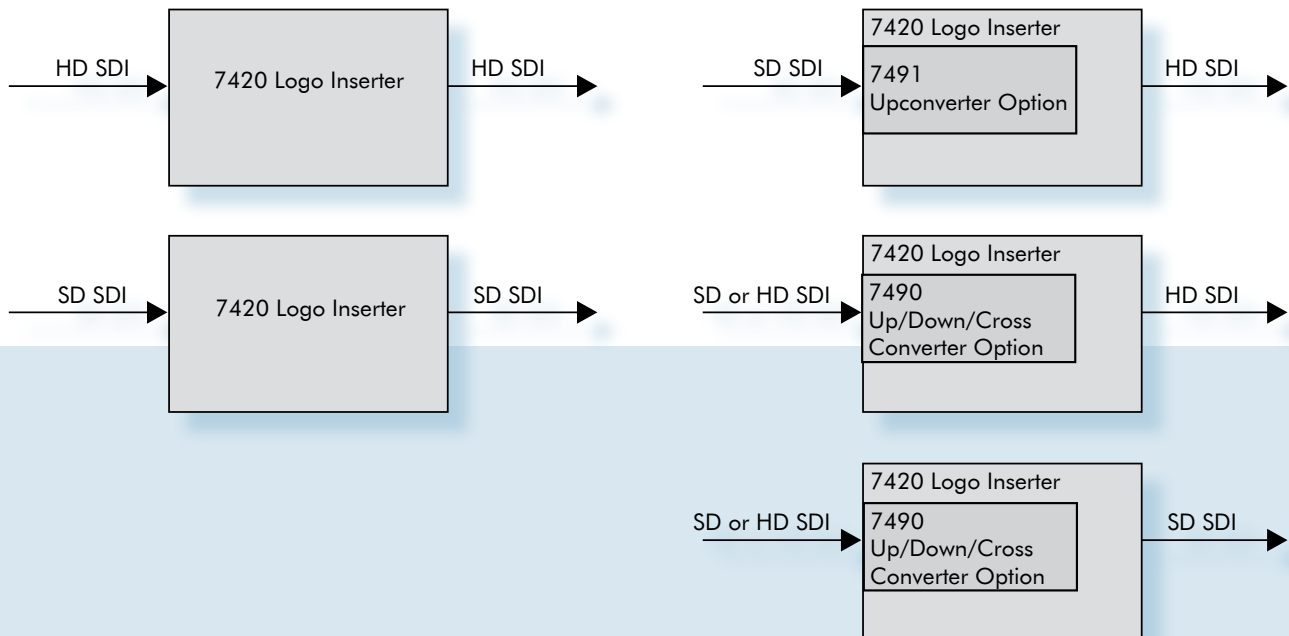
7492 Downconverter

Feed an HD SDI input to the module and get an SD SDI output.

7494 Aspect Ratio Converter

Feed a 4:3 SD SDI signal to the input and get a 16:9 SD SDI output. Or the reverse, 16:9 to 4:3.

Popular Configurations



Serial Digital Input

Number	One
Signal Type	HD Serial Digital 1.485 Gb/s SMPTE 274M, 292M or 296M or SD Serial Digital 270 Mb/s SMPTE 259M
Impedance	75 Ω
Return Loss	>15 dB
Max Cable Length	
270 Mb/s	300 meters Belden 1694A
1.485 Gb/s	100 meters Belden 1694A
Automatic Cable Input Equalization	

Standards Supported

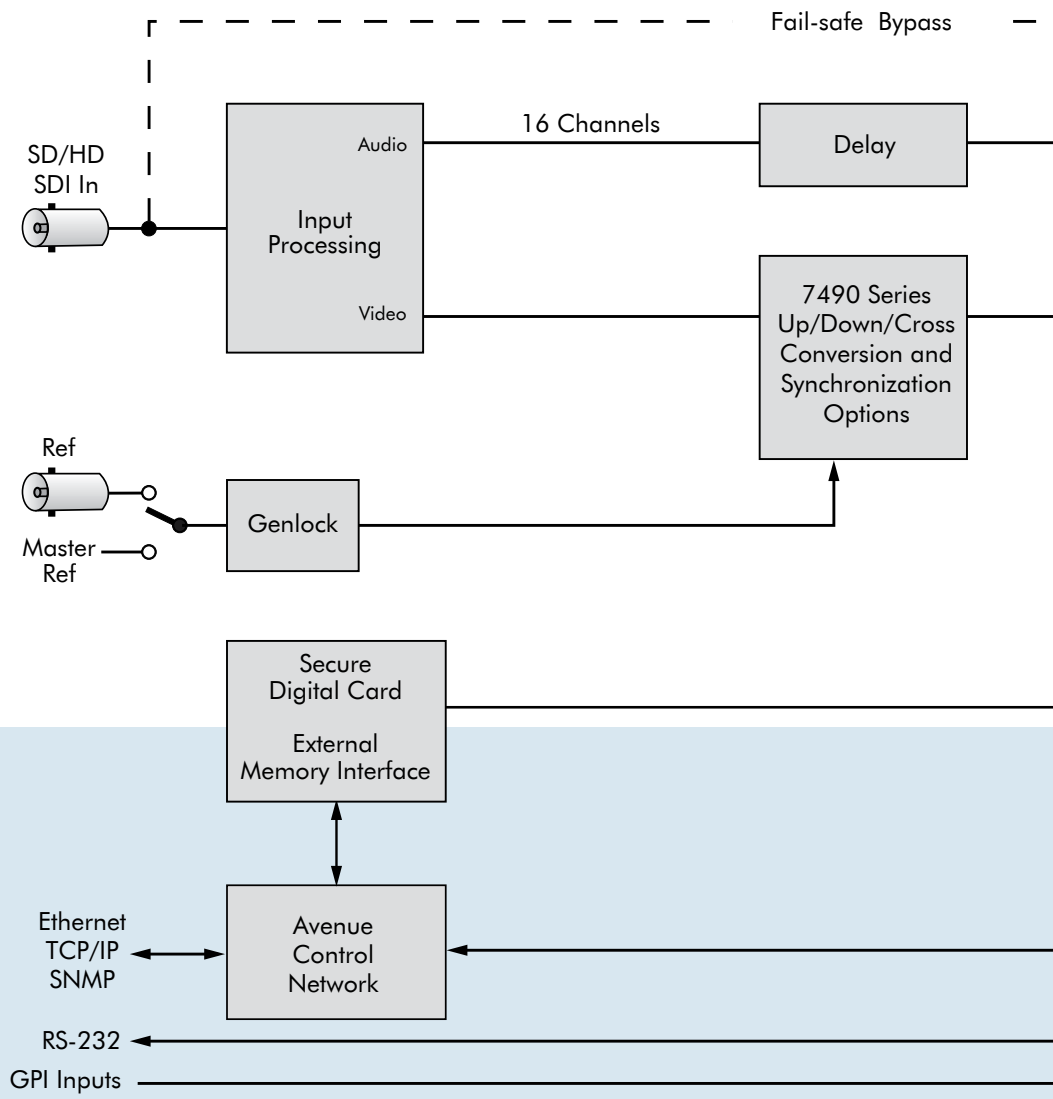
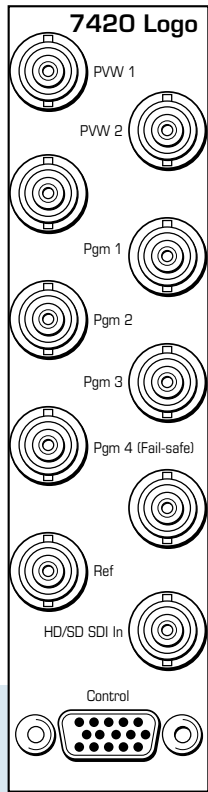
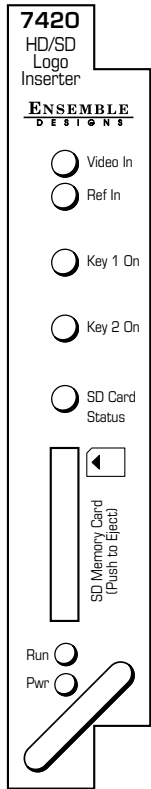
- 1080i (SMPTE 274M -4,5,6) 50, 59.94 or 60 Hz
- 720p (SMPTE 296M -1,2,3) 50, 59.94 or 60 Hz
- 1080p (SMPTE 274M -9,10,11) 23.98, 24, 25 Hz
- 1080sF (RP211 -14,15,16) 23.98, 24, 25 Hz
- 625i 60
- 525i 59.94

Serial Digital Output

Number	Four Program/Fill (includes one fail-safe bypass)
Signal Type	Two Pvw/Key HD Serial Digital 1.485 Gb/s SMPTE 274M, 292M or 296M or SD Serial Digital 270 Mb/s SMPTE 259M
Impedance	75 Ω
Return Loss	>15 dB
Output DC Delay	None (AC coupled) 4 μSec (without 7490 series option installed)

Reference Input

Number	One external (module's BNC) One internal (frame master ref BNC)
Signal Type	PAL or NTSC composite video or HD Tri-Level Sync
Return Loss	>40 dB (applies to external ref input)



Sub Module Options

7490 Up/Down/Cross Converter
7491 Upconverter
7492 Downconverter
7494 Aspect Ratio Converter
Fits onto the 7420 and does not take up a slot in the frame.

Conversion Directions

Up/Down Conversion between
525 (NTSC) and 1080i/59.94, 720p/59.94, 1080p/23.98, 1080sF/23.98
625 (PAL) and 1080i/50, 720p/50, 1080p/25, 1080sF/25
Cross Conversion within frame rate families
525 Derived Family: 1080i/59.94, 720p/59.94, 1080p/23.98, and 1080sF/23.98
625 Derived Family: 1080i/50, 720p/50, 1080p/25, 1080sF/25

Flash Memory

Number	One
Type	Secure Digital SD Flash Memory Card
Size	1 GB card included

Playback/Keyer Memory

Comes standard with 512 MB in Keyer 1 and Keyer 2 positions. Must install equal amount of memory in both Keyer positions.

Number	Two positions max
Type	DDR2 SODIMM, 200 pin Type PC4200 or faster

Memory Capacity with 2 GB DDR2 Installed

One or a combination of the following:

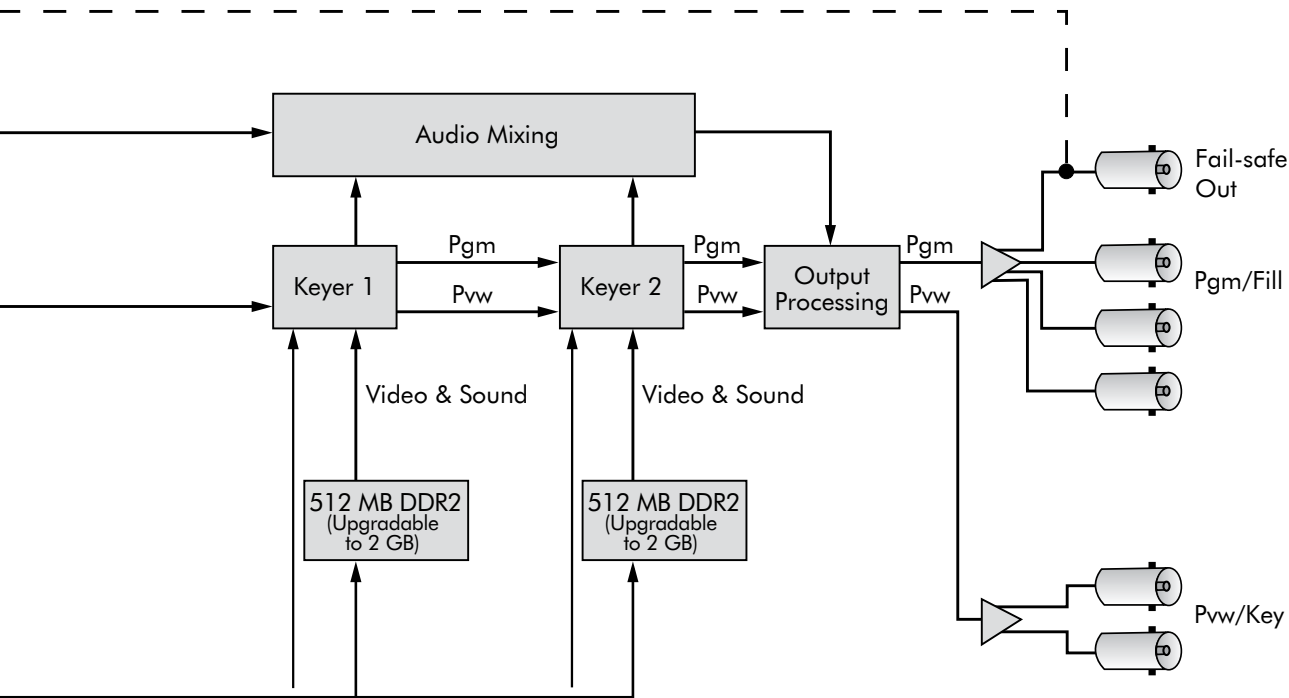
8.5 sec	HD video
53 sec	SD video
256	HD full screen image
1595	SD full screen images
768+	HD lower thirds
4785+	SD lower thirds
3600+	HD still corner bug 300x300 px
18,000+	SD still corner bug 300x300 px
120+ sec	HD animated corner bug 300x300 px
600+ sec	SD animated corner bug 300x300 px

Capacity numbers above calculated at 60 Hz frame rate.

Any combination of logos, animations and audio files can be stored.

File type

Video	.tga
Audio	.wav, .mp3, .wma



General Specifications

Power Consumption	10 watts
Temperature Range	0 to 40°C ambient (all specs met)
Relative Humidity	0 to 95%, noncondensing
Altitude	0 to 10,000 ft

