



Frequently Asked Questions (FAQ)

What type of video files does HD ShowStation play ?

HD ShowStation plays standard and high definition video clip files in the **MPEG-2 Transport Stream** format. This format is the standard for digital television and HDTV broadcasting and is not the same as the **MPEG-2 Program Stream** format, which is commonly used for DVD video. Broadcast HDTV uses a maximum bitrate of 19.2 Mb/s, while HD ShowStation plays files with bitrates of up to 38 Mb/s for double the quality of broadcast HDTV.

Does HD ShowStation record as well as playback ?

HD ShowStation accepts standard and high definition video output from hardware or software MPEG-2 Transport Stream encoders. Software encoding can be utilized to encode clips from computer based editing and animation programs such as Premiere, CineWave, HDBOXX, HDStation, AfterEffects, 3D StudioMax, dpsVelocityHD, etc. Service bureau and other pre-encoded clips files can also be imported to the system from standard data sources such as CD/DVD-ROM, tape backup drives, external Firewire or SCSI hard drives, and from other computers on an Ethernet network. For more information, see "How do I create files for HD ShowStation?".

How do I create media files for HD ShowStation?

Video and graphics are encoded to the MPEG-2 Transport format from analog and digital sources such as

- Computer graphics files (bmp,tif,tga,jpg,avi)
- Computer based SD/HD editing and effects software (CineWave, Premiere, After Effects, etc.)
- Standard definition videotape (Digi-Beta, BetacamSP, DV, etc.)
- High definition videotape (D5, HDCAM, etc.)

Encoding is performed by a real-time standard or high definition hardware encoder (SD/HD videotape or uncompressed DDR source) or by a software encoder (graphics, animation, hard disk video).

High definition video from HDCam or D5 videotape utilizes an external HD hardware encoder. Software encoding can be used if exporting video from computer based video editing system *.

Standard definition video can be recorded using an internal real-time hardware encoder card available for HD ShowStation (less than \$3,000). Most DVD type MPEG2 encoder's output can be used by multiplexing elementary streams with software (\$895).

HD/SD animation files and hard disk based video, software encoding is quick, high quality and inexpensive (\$1200 US).

Computer graphics and digital stills are encoded with the included HDSS Stills to HD Converter (tga,tif,bmp,jpg).

* Software encoding utilizes existing video that has been digitized and/or created on hard drive by an SD/HD editing system or capture board such as CineWave, HDBOXX, HDStation, Premiere, dpsVelocitySD/HD, etc., or from computer animation frames or graphics files (3D StudioMax, AfterEffects, DigitalFusion, Photoshop, etc.)

Contact Electric Image Center for specific hardware and software encoding recommendations based upon your application or video source(s).

How long does software encoding take?

On a 2 GHz Pentium 4 based system, 2.5 minutes of high bandwidth HD encoding is produced per hour, while SD encoding is close to real-time. A faster CPU or dual processor system can be used to speed encoding.

Is there a file size limit for an HD Clip File ?

No, HD ShowStation uses 64-bit file access and a single file can be as large as the hard drive.

What type of video and audio outputs does HD ShowStation have?

HD ShowStation supports software Switchable RGBHV and Component HD outputs, and optionally HD-SDI via a converter. Audio output is on 2 RCA audio connectors with the standard output cable, or on 6 RCA audio connectors with the 5.1 surround Cable.

Storage space

HD ShowStation's internal 120 GB hard drive can store 12 hours of broadcast quality HDTV video (19.2 Mb/s bitrate), or 6 hours at HD ShowStation's double broadcast bitrate (38 Mb/s bitrate). Storage is easily expanded by adding internal drives, or using inexpensive plug and play Firewire drives.

HD ShowStation can play HD video directly from Firewire drives, and they can perform the function of 'removable' digital video cartridges – 24 hours of broadcast quality HD can be added instantly to a system by plugging a 160 GB Firewire drive into HD ShowStation, without a system power down. Up to 63 total Firewire drives can be added for an incredible 63 days (1512 hours) of online HD clips in broadcast quality.

Can I play files from other storage media or from another computer on the network?

Any drive supported in Windows2000 can be used, including SAN network drives, as long as they can provide the sustained data transfer speed required for playback. Multi-channel playback of high bitrate clips demands greater data transfer speed, while single channel playback of broadcast bitrate clips have lower requirements. Clips cannot be played over a 100 Mb/s network, however we currently testing playback over 1000 Mb/s network.

What HD formats does HD ShowStation play?

HD ShowStation handles all 18 of the ATSC defined formats including
1080 @ 24p, 30p, 30i
720 @ 60/p
480 @ 30/i 30/p 60/p

Can I mix HD and SD clips in a Playlist ?

Yes.

Can I import computer graphics ?

Yes. HD ShowStation includes a drag and drop Graphics to HD Converter that supports BMP,TIF,TGA,JPG graphic formats.

Can I use PowerPoint graphics ?

HD ShowStation seamlessly integrates PowerPoint slides by directly controlling file load, slide access, and slideshow display functions of the PowerPoint program, resulting in a single system interface that allows both programmed and on-demand random access of PowerPoint slides and HD or SD video clips.

Slide playback is native PowerPoint, requiring no import, rendering or additional steps to mix PowerPoint slides with HD or SD video clips.

PowerPoint files are added to HD ShowStation's playlist by dragging and dropping a PPT file into the playlist, or using the HDSS File Browser to add individual slides from the PPT file to the playlist. Multiple PPT files can be used in a single HD ShowStation playlist.

Each slide of a PowerPoint presentation is represented by a selectable thumbnail in the HD ShowStation playlist, allowing slides and HD video to be easily intermixed and random-accessed.

When using the supported Folsom ScreenPro switcher, screen switching between PowerPoint and video clips is automated, with programmable effect transitions including superimposing (key) of PowerPoint graphics over HD or SD video clips.

Do I need to have the ScreenPro switcher to use HD ShowStation?

The Folsom ScreenPro switcher provides A/B Roll transitions between HD ShowStation channels, and also provides automated or manual screen switching between HD channels and other video sources such as PowerPoint on VGA, video cameras, live satellite feeds, computers, etc. If your application does not require these capabilities, than you do not need a ScreenPro.

Can HD ShowStation play multiple synchronized channels of HD ?

Yes.

Can HD ShowStation play standard definition video files?

Yes.

Can I start with a 1 or 2 channel system and add more channels later?

Yes. A total of 4 channels can be installed in an HDSS Rackmount, and a total of 2 in the HDSS Portable. If 3 or more channels are installed in system, an additional hard drive and raid controller is required.

What are the advantages of the MPEG-2 Transport Stream format for HD?

While working in uncompressed HD is preferred during post-production of program material for layering and compositing, it presents several disadvantages for use in delivery of HD video for live show, exhibition, presentation or broadcast layout. Uncompressed high definition video uses approximately

185 MB p/second or 11 GB p/minute of drive space. To deliver this huge amount of data bandwidth, an array of up to eight hard drives for real-time recording and playback is required. The MPEG-2 Transport Stream format was developed to reduce the quantity of data required for playback of these files while maintaining extremely high image quality -- virtually indistinguishable from uncompressed at the higher bitrates supported by HD ShowStation.

What are the some of the differences between an MPEG-2 and uncompressed HD system ?

MPEG-2 Based System

Up to 4 Channels per system
Requires 1 hard drive per 2 HD Channels
Greater reliability
Backup 5X faster than real-time play
8 hours on 160 GB Firewire Drive
Plug and Play directly from Firewire Drive
Excellent HD Quality
I-Frame accurate clip trimming
Low cost per channel
Portable and Rackmount Systems

Uncompressed System

1 Channel per system
Requires 8 drives for 1 HD Channel
Greater chance of a drive/system failure
Time consuming backups of huge volumes of data
14 minutes on 160 GB Firewire Drive
1.5 hrs copy from Firewire drive to disk array *
Excellent HD Quality
Frame accurate trimming and editing
Costly
Rackmount with separate disk array enclosure

* rate based on 30 MB/s transfer rate