

# SignStream Tips

## Finding and Creating ATSC Content

The SignStream system broadcasts [ATSC 1080i MPEG-2 Transport Streams](#) as HDTV channels. The question for many is - what does that mean, and how is the content created?

### Broadcasting the Transport Stream

As you may have learned from the Wikipedia links above, an MPEG-2 Transport Stream is closely related to the familiar MPEG-2 Program Stream - the most common type of video displayed on your PC. The standard MPEG-2 file is designed to operate over a short distance, usually right inside a video player. The MPEG-2 Transport Stream file adds more tools that assure integrity of the file when sent over very long distances. The streaming video you see in a Web page is usually a Transport Stream.

An ATSC HDTV channel is like a Web page in that it carries an MPEG-2 Transport Stream inside, although at a much higher data rate. A SignStream Modulator Card operates just like a modern TV station, in miniature:

- Digital ATSC Transport Stream files are streamed from a hard drive
- The Modulator Card accepts the stream and packages it for broadcast
- An internal RF modulator sends the signal within a standard UHF or VHF channel
- An HDTV-equipped display tunes in the channel, and demodulates the signal
- The audio and video packets are arranged for playback in the display's internal "media player"

To estimate hard drive storage needs, assume that every 10 GB will host 60 minutes of content.

### Content Resources

Because ATSC is based on standard MPEG technology, there are many sources for content for the SignStream.

#### Professional

- **Graphic Signage** providers typically produce content in Adobe After Effects, which creates superb motion graphics that can be exported as MPEG or WMV video files. We have successfully used content from the providers below in SignStream applications:
  - **Blue Pony Digital** [www.blueponydigital.com](http://www.blueponydigital.com)
  - **Designs by Mote** [www.thinkdbm.com](http://www.thinkdbm.com)
- **Video Studios.** Most professional studios already know how to create ATSC files, required for broadcast productions.
- **In-House Shops.** Many corporations and colleges have trained staff in After Effects or HDTV video production that can create quality content for SignStream. Also talk with professional graphic shops about creating a template for After Effects signage, very useful for daily event and information channels.

#### Non-Professional

- **PowerPoint to ATSC.** Using PowerVideoMaker Pro 3.0, you can convert any PowerPoint show to a 1280 x 720 HD video file, with animation. View the PowerPoint Movie link on the SignStream Content page to learn how.
- **Flash.** Vector-based applications, such as Flash, cannot be converted to an ATSC movie.
- **DVD-Quality 16:9 Video.** Existing SD (standard definition) 16:9 content can be converted to ATSC 1080i files. This works well with graphics-oriented videos, less so with live video - but still far better than analog broadcasts.

- **SD 3:4 Video.** In general, not recommended. Content is stretched when converted with basic applications such as MainConcepts MPEG Encoder. However, if needed, a local video studio can convert with the typical black bars on each side to maintain aspect ratio.

## Software

- [MainConcept MPEG Reference](#) software converts MPEG-2, AVI, QuickTime, and WMV files to ATSC Transport Streams. Not included with the SignStream Server.
- [Adobe After Effects](#). If you have staff who can create Flash applications, they can easily switch to After Effects - they'll never go back. Apple developers should wait for version 8.0, which will have MPEG output added.