7130
HD DA and Downconverter

The 7130 module has an HD SDI input with HD SDI, SD SDI and composite outputs, serving as both a downconverter and a distribution amplifier. If an SD SDI signal is input to the 7130, SD will pass to the outputs.

The 7130 performs automatic color space and gamma conversion to accommodate the differences between HD and SD. Output aspect ratio is selectable.

Audio Handling

Four channels of analog audio output are provided for monitoring. Any of the sixteen embedded channels can be mapped and mixed to form these outputs.

Embedded audio is safely bypassed around the video with the lip sync preserved. Sixteen channels of embedded audio are supported. Audio processing is performed at 24 bit resolution.

Control

The 7130 can be configured locally or controlled and configured remotely with Avenue Touch Screens, Express Panels, or Avenue PC Software. Alarm generation, configurable user levels, module lock out, and customizable menus are just some of the tools included in the Avenue Control System.

Metadata

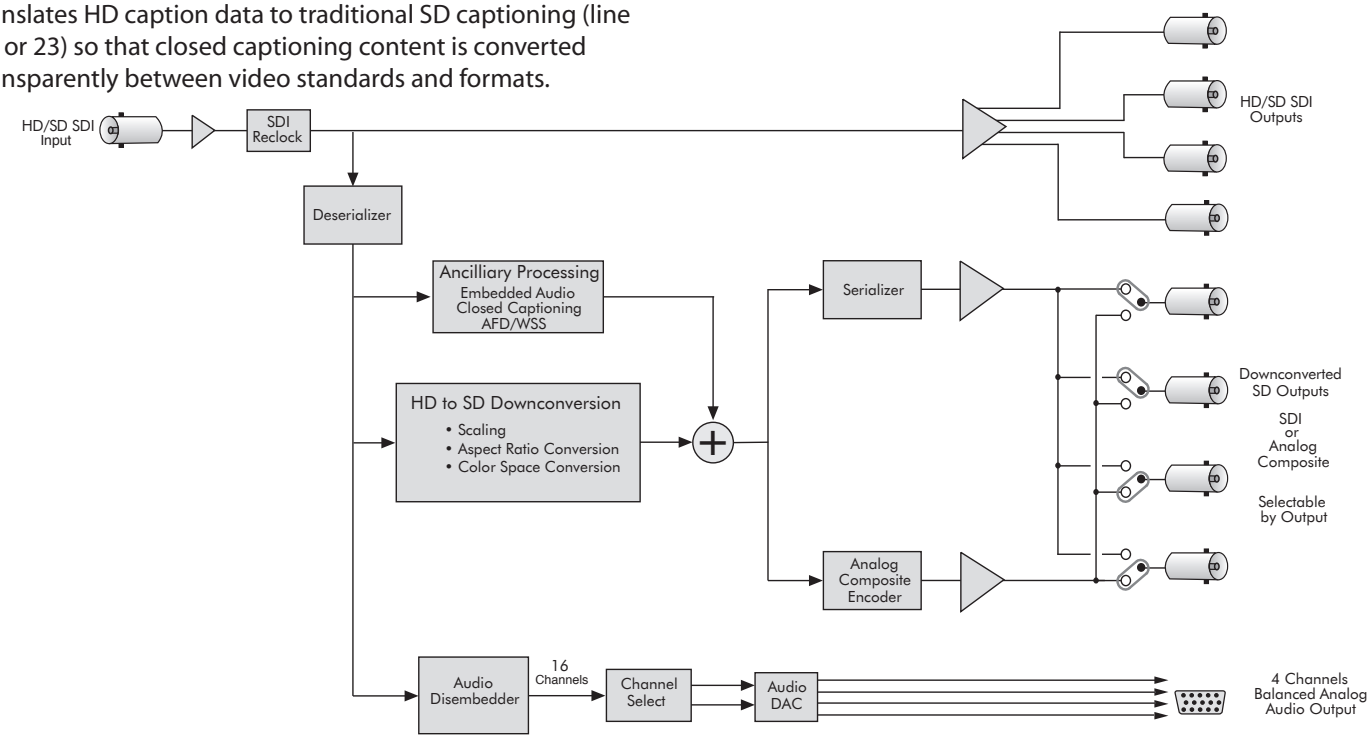
HD closed captioning is carried in data packets in the vertical interval ancillary data space. The 7130 properly translates HD caption data to traditional SD captioning (line 21 or 23) so that closed captioning content is converted transparently between video standards and formats.

Automatic Aspect Ratio Conversion

The 7130 uses AFD (Active Format Description) to mark or identify the aspect ratio of the video content. These flags are read at the input of the module.

Features

- **HD Downconverter and Distribution Amplifier**
- **Up to four processed SD SDI outputs**
- **Four SDI DA outputs**
- **Up to four composite outputs**
- **Downconverts HD 720p or 1080i to SD**
- **Distribution Amplifier for any HD or SD signal**
- **Supports AFD**
- **Translates HD closed captioning to SD closed captioning**
- **Passes 16 channels of embedded audio**
- **4 channels of analog audio for monitoring**
- **Auto detection of input standard and frame rate**
- **Local and remote control**



Serial Digital Input

Number	One
Signal Type	HD Serial Digital 1.485 Gb/s, SMPTE 274M, 292M or 296M SD Serial Digital 270 Mb/s, SMPTE 259M (Both 525 and 625 SD standards)
Impedance	75 Ω, BNC
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

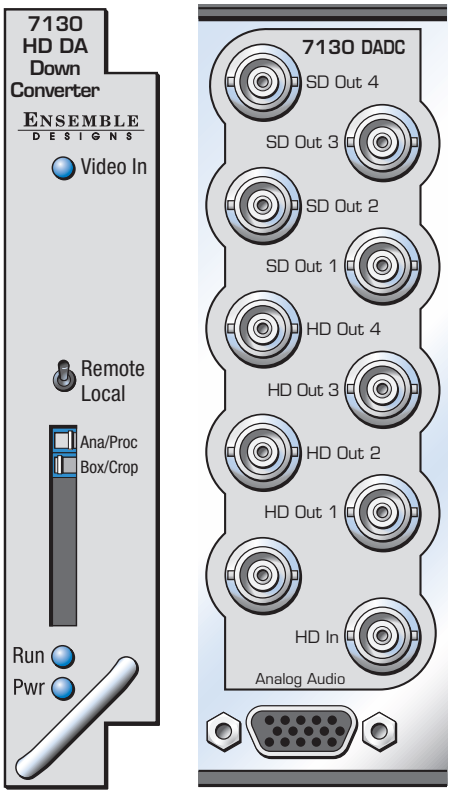
1080i 50, 59.94 Hz, SMPTE 274M -4,5,6
720p 50, 59.94 Hz , SMPTE 296M -1,2,3
525i 59.94, 625i 50

Conversion Directions

Downconversion from
1080i/59.94 or 720p/59.94 to 525 (NTSC) and
1080i/50 or 720p/50 to 625 (PAL)

Serial Digital DA Outputs (unprocessed)

Number	Four
Signal Type	HD or SD, follows input
Impedance	75 Ω
Return Loss	>15 dB
Output DC	None (AC coupled)
Delay	None



SD Serial Digital Outputs (processed)

Number	Four max Zero to four, jumper selectable BNCs shared with composite outputs
Signal Type	SD Serial Digital 270 Mb/s SMPTE 259M
Impedance	75 Ω
Return Loss	>15 dB
Output DC	None (AC coupled)
Delay	Downconverted output in vertical time with input

Analog Video Output

Number	Up to four Zero to four, jumper selectable BNCs shared with SD SDI outputs
Signal Type	Composite, PAL or NTSC
Impedance	75 Ω
Return Loss	>40 dB
Output DC	<50 mV
Resolution	12+ bit processing
Signal to Noise	>65 dB
Frequency Response	±0.1 dB, 0 to 5.5 MHz
K Factor	<1%
ScH Phase error	<±2 degrees
Differential Phase	<1 degree
Differential Gain	<1%
Delay	Downconverted output in vertical time with input

Analog Audio Output

Number	Four (selectable from sixteen)
Signal Type	Balanced, transformerless
Impedance	30 Ω
Maximum Output Level	24 dBu
Resolution	24 bits, 128 x Oversampled
Reference Level	-10 dBu to +4 dBu
Frequency Response	±0.1 dB, 20 Hz to 20 kHz
Crosstalk	<102 dB
Dynamic Range	>106 dB

Embedded Output

Support for all four groups (16 channels) from input to output

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