

The HMX-2040 is a 3G/HD/SD multiplexer which is used in i-MOD series frames. The HMX-2040 multiplexer offers one 3G/HD/SD-SDI (2.97Gbps, 2.97/1.001Gbps, 1.485Gbps, 1.485/1.001Gbps, 270Mbps) digital video input, 1 fiber signal input, four AES3 digital audio inputs and provides 1 fiber signal output and two HD/SD-SDI digital video outputs with audio embedded.

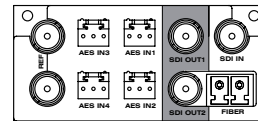
The HMX-2040 multiplexer performs 24-bit A/D conversion of four AES-3id digital video inputs and then embeds them into HD/SD-SDI outputs. Embedding channels are selectable and input audio can be embedded to designated channel. Embedding modes are selectable, including L/R swap, copy and mix. Input audio gain is adjustable within  $\pm 20$ dB. The HD/SD-SDI input signal supports 328 ft (100 m)/984 ft (300 m) cable equalization compensation (Belden 1694A cable or equivalent cables).

Status presence indication and parameters manual adjustment are provided via the LED indicators, selector and paddle switches located on the module edge. 1RU and 2RU back modules are provided for HMX-2040 modules when used in 1RU and 2RU i-MOD series frames, respectively.

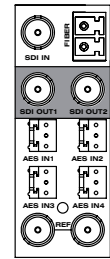
### FEATURES

- Audio embedding into an HD/SD-SDI video stream
- 1 fiber signal input and output selectable
- Four AES3 digital audio inputs
- Audio gain selectable within  $\pm 20$ dB
- Embedding channel selectable, input audio can be embedded to designated channel
- Embedding mode selectable: L & R swap, copy and mixing
- Automatic detection of input video loss
- Automatic cable EQ for up to 328 ft (100 m) (2.97Gbps)/756 ft (200 m) (1.485Gbps)/984 ft (300 m) (270Mbps)
- Stores settings in non-volatile memory
- Hot-swappable
- Computer control supported

### BACK MODULES



1RU



2RU

Note: Fiber connectors selectable.

### SPECIFICATIONS

Specifications are subject to change without notice.

#### DIGITAL VIDEO INPUT

Signal Format.....	1080P/50,1080P/59.94,1080P/60; 1080I/50,1080I/59.94,1080I/60; 720P/23.98,720P/24,720P/25, 720P/29.97,720P/30,720P/50, 720P/59.94,720P/60; 1080P/25, 1080P/29.97,1080P/30; 525i/59.94,625i/50
Signal Standard.....	SMPTE 259M, SMPTE 272M, SMPTE 292M, SMPTE 424M
Connector.....	BNC (x1)
Impedance.....	75 ohms
Return Loss.....	SD > 18 dB @ 270 MHz HD > 15 dB @ 1.485 GHz/2.97 GHz
Cable EQ.....	SD<984 ft (300 m) HD<656 ft (200 m) 3Gbps<328 ft (100 m) (Belden 1694A or equivalent cables)

#### DIGITAL VIDEO OUTPUT

Signal Format.....	1080P/50,1080P/59.94,1080P/60; 1080I/50,1080I/59.94,1080I/60; 720P/23.98,720P/24,720P/25, 720P/29.97,720P/30,720P/50, 720P/59.94,720P/60;1080P/25, 1080P/29.97,1080P/30; 525i/59.94,625i/50
Signal Standard.....	SMPTE 259M, SMPTE 272M, SMPTE 292, SMPTE 424M
Connector.....	BNC (x2)
Impedance.....	75 ohms
Return Loss.....	SD > 18 dB @ 270 MHz HD > 15 dB @ 1.485 GHz/2.97GHz
Amplitude.....	800 mVp-p $\pm 10\%$
Alignment Jitter.....	100 kHz ~ 300 MHz 3Gbps: < 0.3 UI HD/SD: < 0.2 UI
Timing Jitter.....	10 Hz 3Gbps: <2.0 UI HD: < 1.0 UI SD: < 0.2 UI
Rise/Fall Time.....	SD:400~1500ps; HD: <270 ps 3Gbps:<135 ps
Overshoot.....	<10% amplitude

#### DIGITAL AUDIO INPUT

Signal Format.....	AES3
Connector.....	3Pin (x4)
Level.....	2-7Vp-p
Impedance.....	110 $\Omega$
Input Sampling Rate.....	48KHz

#### FIBER INPUT

Connector.....	LC
Signal Format.....	1080P/50,1080P/59.94,1080P/60; 1080I/50,1080I/59.94,1080I/60; 720P/23.98,720P/24,720P/25, 720P/29.97,720P/30,720P/50, 720P/59.94,720P/60;1080P/25, 1080P/29.97,1080P/30; 525i/59.94,625i/50
Signal Standard.....	SMPTE 259M, SMPTE 272M, SMPTE 292M, SMPTE 424M

#### FIBER OUTPUT

Connector.....	LC
Signal Format.....	1080P/50,1080P/59.94,1080P/60; 1080I/50,1080I/59.94,1080I/60; 720P/23.98,720P/24,720P/25, 720P/29.97,720P/30,720P/50, 720P/59.94,720P/60;1080P/25, 1080P/29.97,1080P/30; 525i/59.94,625i/50
Signal Standard.....	SMPTE 259M, SMPTE 272M, SMPTE 292M, SMPTE 424M

#### ELECTRICAL

Power.....	7 W
------------	-----

#### ENVIRONMENTAL

Operating Temperature.....	32 $^{\circ}$ ~ 104 $^{\circ}$ F (0 $^{\circ}$ ~ 40 $^{\circ}$ C)
Relative Humidity.....	10% ~ 90%

# BLOCK DIAGRAM

