AMX-8952 12G-SDI AUDIO EMBEDDER AND FRAME SYNCHRONIZER

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A SIMPLE AND EFFECTIVE UHD 12G-SDI AUDIO SOLUTION

AMX-8952 is a key building block that solves audio embedding and synchronization problems in HD-SDI and UHD 12G-SDI environments. This enables your infrastructure to support the next generation of highquality production with technology that is scalable, easy to deploy, and highly reliable.

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AMX is an openGear card that supports the latest UHD 12G-SDI technology. The AMX-8952 family consists of three variants that support either unbalanced AES, balanced AES or analog audio interfaces. The audio interfaces are bi-directional, so one card is your embedder or de-embedder, making it easy to deploy wherever you need it. The card features useful audio processing such as audio shuffling and per-channel gain and delay, which enables you to make critical corrections to incoming feeds. An optional Frame Synchronizer provides synchronization and adjustable video delay.

AMX also offers a secondary 12G-SDI input, allowing for clean/quiet switching triggered manually or by loss-of-signal detection. This is a great solution for signal path protection switching.

Full control and monitoring of the card are available via the DashBoard control system, which makes it easy to integrate AMX-8952 into your facility's centralized control scheme.



EMBED IN UHD

A key building block in any SDI facility, AMX allows you to embed and de-embed audio into HD and UHD SDI workflows. We make it easy to marry your audio workflow with your video production.



SYNCHRONIZE IN UHD

Take advantage of the remote feeds offered by AMX. The optional Frame Synchronizer with video delay makes AMX a great edge device for your mobile or studio installation.



SWITCH IN UHD

With primary and backup inputs, AMX provides clean/quiet switching wherever you need it. Additionally, ensure your critical paths are protected with loss-ofsignal failover.





BLOCK DIAGRAM



APPLICATIONS

AMX-8952 bridges separate audio and video production islands through embedding and de-embedding for up to 16 channels of AES audio or 8 channels of analog audio, which is ideal for incoming and outgoing feeds. When combined with the optional Frame Synchronizer, this makes for a great gateway to your facility or mobile.



When utilizing the secondary input, the AMX-8952 can provide clean/quiet switching between paths. With loss-of-signal detection, the AMX-8952 can automatically fail over to a backup signal path. This can easily be controlled via DashBoard, RossTalk, or GPI with status monitoring via DashBoard or SNMP.



SPECIFICATIONS

GENERAL

Video Interface:

• HD-BNC: 1 in, 1 out, 1 bidirectional **Standards:**

- HD-SDI (SMPTE ST 274)
- 3G-SDI (SMPTE ST 424)
- 12G-SDI (SMPTE ST-2081-1) Format Support:
- 720p 50/59.94
- 1080i 50/59.94
- 1080p 23.98/25/29.97/50/59.94
- 2160p 50/59.94

Video Delay:

- HD/3G: 0 160 frames
- UHD: 0 40 frames

Reference: via openGear frame

Power Consumption: 20W

SDI Inputs

Cable Length (Belden 1694a):

- HD-SDI: 150m
- 3G-SDI: 120m
- 12G-SDI: 50m

Input Return Loss:

- >15dB to 1.5GHz
- >10dB to 3GHz
- >4dB to 12GHz

Impedance: 75Ω

SDI Outputs

- >15dB to 1.5GHz
- >10dB to 3GHz
- >4dB to 12GHz

Rise/fall Time:

- <270ps @ 1.485Gbps
 <135ps @ 2.97Gbps
 <45ps @ 11.88Gbps
 Alignment Jitter:

 1.485Gbps: <0.2 UI
 2.97Gbps: <0.3 UI
 11.88Gbps: <0.3 UI
 0utput Level: 800mV ± 10%
 DC Offset: 0V ± 50mV

 Overshoot:

 <10% @ 1.485 Gbps
 <10% @ 2.97 Gbps
- <15% @ 11.88Gbps

AES I/O (AMX-8952-A)

Physical: 8 bidirectional HD-BNC Standards: AES3id-2001

AES Inputs

Impedance: 75Ω Input Level: 50mV - 2.5V p-p @ 48kHzSampling Rate: 32kHz - 96kHzMinimum Audio Delay: 0.37msCable Length: 800m @ 48kHz

AES Outputs

Impedance: 75Ω Input Level: 1V p-p Sampling Rate: 48kHz

*Specifications subject to change without notice.

AES I/O (AMX-8952-B)

Physical: 8 bidirectional WECO Standards: AES-3id-2001 **AES Inputs** Impedance: 110Ω Input Level: 100mV – 10V p-p @ 48kHz

Sampling Rate: 32kHz – 96kHz Minimum Audio Delay: 0.37ms Cable Length: 450m @ 48kHz AES Outputs

Impedance: 110Ω Input Level: 4V p-p Sampling Rate: 48kHz

ANALOG I/O (AMX-8952-C)

Physical: 8 bidirectional WECO Sampling Rate: 48kHz

Analog Inputs

Impedance: >12kΩ Maximum Input Level: +24dBu Frequency Response: ±0.1dB 20Hz – 20kHz Signal-to-noise Ratio: -98dBA THD: < -90dB (0.003%) Crosstalk: < -95dB Amplitude Linearity: < 0.6dB @ -100dBFS

Analog Outputs

Maximum Output Level: +24dBu Frequency Response: ±0.1dB 20Hz – 20kHz THD: < -90dB (0.003%) Crosstalk: <-80dB 20Hz-20kHz Amplitude Linearity: < 0.5dB @ -100dBFS







ORDERING INFORMATION

AMX-8952-A AMX-8952-B AMX-8952-C AMX-8952-FS-LICENSE AMX-8952-UHD-LICENSE 12G-SDI* Audio Embedder with unbalanced AES 12G-SDI* Audio Embedder with balanced AES 12G-SDI* Audio Embedder with analog audio Adds Frame Synchromizer to AMX-8952 Adds Support for UHD video formats to AMX-8952

*The AMX-8952 includes standard support for the HD and 3G video formats, with optional support for UHD / 12G-SDI formats via the AMX-8952-UHD-LICENSE.



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