

9371-EMDE • SDI – AES – MADI Embedder/De-embedder



The **9371-EMDE** offers a comprehensive solution for digital audio transport conversion and embedding/de-embedding. A full unrestricted audio crosspoint provides channel routing between any channels on an SDI stream, discrete AES-3id, and AES-10 MADI interfaces.

The card MADI interface supports a 64-channel payload at the industry standard 48 kHz sampling rate, and can reliably receive from 1694A cable runs up to 250m, thereby allowing longer MADI cable runs without resorting to fiber cabling. All SDI embedding and SDI output timing is timed in common to a selected timing source. A convenient 2-channel analog confidence monitor output allows monitoring of any selected input or output. The line-level output pair directly interfaces with audio monitoring units or powered monitors.

Utilizing the openGear® open-architecture platform, the 9371 offers scalable incorporation and the easy-to-use DashBoard™ setup and control operator interface. Full user remote and card-edge monitor/control allows full card status and control access locally or across a standard Ethernet network.

Alternate Base Model

- **9371-EM** SDI-AES-MADI Embedder
- **9371-DE** SDI-AES-MADI De-Embedder

FEATURES

Unrestricted de-embed/embed from multiple digital audio sources – embedded SDI audio, MADI, and discrete AES-3id (BNC) – all on the same card

De-embed, route, channel swap, and embed between SDI streams and discrete digital streams

Built-in flexible general-purpose cross-routing between any audio channels from any input to any card output

Up to 250m 1694A MADI receive capability

DashBoard PPM meters for all inputs and outputs helps in easily locating and assessing channel content and line-up

Built-in 2-channel analog audio confidence monitor outputs provide instant pushbutton routing of any input/output pair to playout monitors

Built-in multi-frequency configurable tone generators

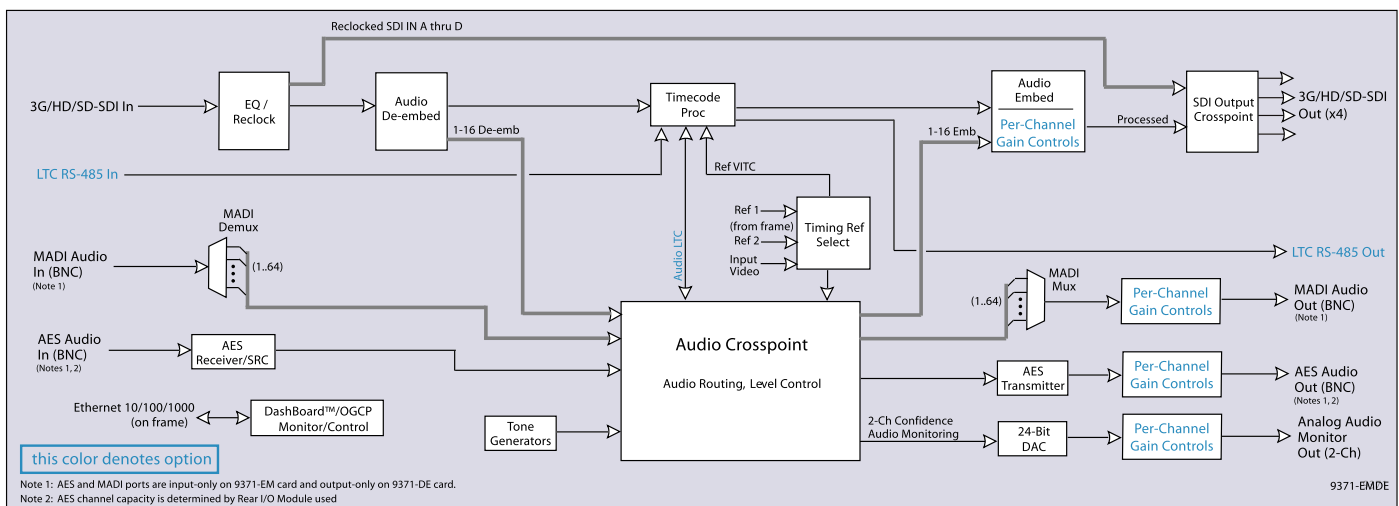
Remote monitoring via DashBoard™ software

Five year warranty

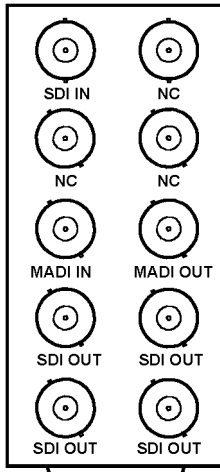
OPTIONS

LTC In/Out (+LTC)

Output Gain Controls (+GAIN)

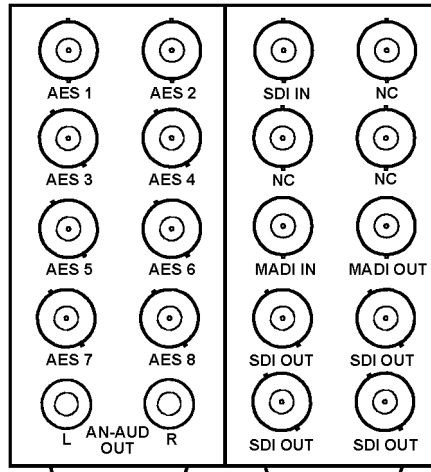


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Note: MADI IN and OUT ports only on respective -EM, -DE or -EMDE card models.

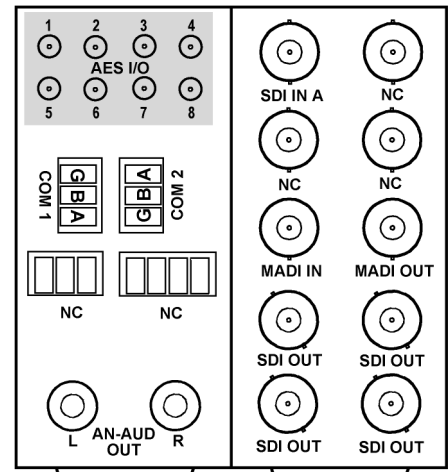
RM20-9371-C



Note: AES ports are GUI-configurable as inputs or outputs on 9371-EMDE card. AES ports and MADI ports are input-only on 9371-EM card and output-only on 9371-DE card.

RM20-9371-E

Note: This rear module is shown here for reference, but is no longer available. RM20-9371-F DIN or RM20-9371-F-HDBNC can provide the same functionality and can be used instead.



Note: AES ports are GUI-configurable as inputs or outputs on 9371-EMDE card. AES ports and MADI ports are input-only on 9371-EM card and output-only on 9371-DE card.

RM20-9371-F-DIN
RM20-9371-F-HDBNC

SPECIFICATIONS

Note: Inputs/outputs are a function in some cases of rear I/O module used.

Power

< 20 Watts (maximum)

SDI Input/Output

Capacity: 1 In, 1 Out
Standards: SMPTE 259M, SMPTE 292M, SMPTE 425 A and B
Cable Length: 3G/HD/SD: 120/180/320 m (Belden 1694A)
Return Loss: >15 dB up to 1.485 GHz
>10 dB up to 2.970 GHz
Alignment Jitter: 3G/HD/SD: < 0.3/0.2/0.2 UI
Timing Jitter: 3G/HD/SD: < 2.0/1.0/0.2 UI
Latency:
SD: approx 4.0 us (55 pixels)
720p: approx 2.0 us (155 pixels)
1080i: approx 1.8 us (132 pixels)
3G 1080p: approx 1.0 us (145 pixels)

Timing Reference Input

Sources: Selectable from frame-supplied external reference REF1 or REF2 or any of four SDI video inputs. Timing source provides output PLL common timing
External Reference Signal: SMPTE 170M/318M "Black Burst"
SMPTE 274M/296M "Tri-Level"
Return Loss: >35 dB up to 5.75 MHz

AES-3id Audio Input/Output

Capacity: Up to 8 BNC ports (user selectable as input or output). Practical capacity determined by Rear I/O Module used.
Physical Interface: BNC per AES3-id
Input Level: 0.2 to 2 Vp-p
Output Level: 1.0 Vp-p
Impedance: 75Ω
Return Loss: >15 dB up to 6.144 MHz
Input SRC Range: 32 to 96 kHz
Input SRC Performance: >130 dB THD+N

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SPECIFICATIONS (cont.)

MADI (AES10-2003) Input/Output

Number of Inputs/Outputs: 1 BNC Input, 1 BNC Output
 Supported Sample Rate: 48 kHz only
 Input/Output Impedance: 75Ω
 Input Data Rates: 125 Mbps
 Input Level: 0.15 – 0.6 Vp-p
 Output Level: 0.3 – 0.6 Vp-p
 Output Jitter: 0.1 UI

Analog Audio Confidence Monitor Output

Channel Complement: L and R, user-assigned sources direct from any input channel or mixed channels comprising a 2-channel mix
 Output Type: 2-channel unbalanced, consumer line-level

ORDERING INFORMATION

9371-EMDE SDI - AES - MADI Embedder/De-embedder

9371-EM SDI - AES - MADI Embedder

9371-DE SDI - AES - MADI De-embedder

RM20-9371-C 20-Slot Frame Rear I/O Module (Standard Width) (1) 3G/HD/SD-SDI Input BNC, (4) 3G/HD/SD-SDI Output BNCs (x4 DA), (1) MADI BNC Input, (1) MADI BNC Output

RM20-9371-E (Discontinued – No longer available) 20-Slot Frame Rear I/O Module (Double Width) (1) 3G/HD/SD-SDI Input BNC, (4) 3G/HD/SD-SDI Output BNCs (x4 DA), (8) AES I/O BNCs, (1) MADI BNC Input, (1) MADI BNC Output, (2) Stereo Unbalanced Analog Audio Outputs (RCA)

RM20-9371-F-DIN 20-Slot Frame Rear I/O Module (Double Width) (1) 3G/HD/SD-SDI Input BNC, (4) 3G/HD/SD-SDI Output BNCs (x4 DA), (8) AES I/O (DIN 1.0/2.3), (1) MADI BNC Input, (1) MADI BNC Output, (2) Stereo Unbalanced Analog Audio Outputs (RCA), (2) RS-485 COMM ports

RM20-9371-F-DIN 20-Slot Frame Rear I/O Module (Double Width) (1) 3G/HD/SD-SDI Input BNC, (4) 3G/HD/SD-SDI Output BNCs (x4 DA), (8) AES I/O (HD-BNC), (1) MADI BNC Input, (1) MADI BNC Output, (2) Stereo Unbalanced Analog Audio Outputs (RCA), (2) RS-485 COMM ports

+LTC LTC In/Out Option

+GAIN Output Gain Controls Option