COBALT

9374-EMDE ⟩⟩ QUAD-STREAM SDI – AES – MADI EMBEDDER/DE-EMBEDDER
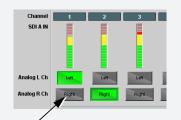
The 9374 offers our most comprehensive solution for digital audio transport conversion and embedding/de-embedding. A full unrestricted audio crosspoint provides channel routing between any channels on up to four SDI streams, discrete AES-3id, and AES-10 MADI interfaces.

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 9374 offers scalable incorporation and the easy-to-use DashBoard™ setup and control operator interface. Full user remote monitor/control allows full card status and control access locally or across a standard Ethernet network.

DashBoard PPM meters for all input/output audio channels assist in rapidly locating and assessing content and line-up on any group of channels

Direct Monitor buttons provide direct routing of any channel pair to a confidence monitor analog audio output pair

Alternate Base Models

9374-EM
Quad-Stream SDI – AES – MADI Embedder

9374-DE
Quad-Stream 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, mix, and embed between up to four discrete SDI streams and discrete digital streams

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

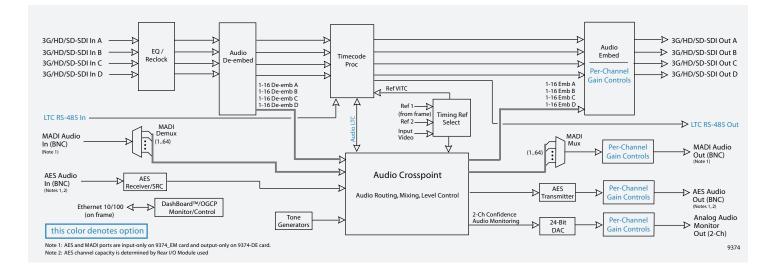Built-in flexible general-purpose mixing between any audio channels from any input to any card output

Up to 250m 1694A MADI receive capability

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
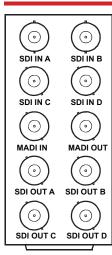
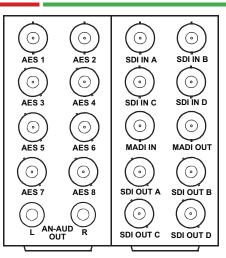Remote control/monitoring via DashBoard™ software

Five-year warranty

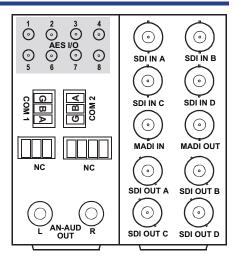Note 1: AES and MADI ports are input-only on 9374_EM card and output-only on 9374-DE card.
Note 2: AES channel capacity is determined by Rear I/O Module used

9374

9374-EMDE

SDI IN A **SDI IN B**
SDI IN C **SDI IN D**
MADI IN **MADI OUT**
SDI OUT A **SDI OUT B**
SDI OUT C **SDI OUT D**

Note: MADI IN port only on 9374-EM card and MADI OUT port only on 9374-DE card.

RM20-9374-C

AES 1 **AES 2** | **SDI IN A** **SDI IN B**
AES 3 **AES 4** | **SDI IN C** **SDI IN D**
AES 5 **AES 6** | **MADI IN** **MADI OUT**
AES 7 **AES 8** | **SDI OUT A** **SDI OUT B**
L AN-AUD OUT R | **SDI OUT C** **SDI OUT D**

Note: AES ports are GUI-configurable as inputs or outputs on 9374-EMDE card. AES ports and MADI ports are input-only on 9374-EM card and output-only on 9374-DE card.

RM20-9374-E

1 2 3 4
AES I/O
5 6 7 8
COM 1 G B A **COM 2** G B A
NC **NC**
L AN-AUD OUT R

SDI IN A **SDI IN B**
SDI IN C **SDI IN D**
MADI IN **MADI OUT**
SDI OUT A **SDI OUT B**
SDI OUT C **SDI OUT D**

Note: AES ports are GUI-configurable as inputs or outputs on 9374-EMDE card. AES ports and MADI ports are input-only on 9374-EM card and output-only on 9374-DE card.

RM20-9374-F-DIN-HDBNC

›› ORDERING INFORMATION

9374-EMDE Quad-Stream SDI - AES - MADI Embedder/De-Embedder

9374-EM Quad-Stream SDI - AES - MADI Embedder

9374-DE Quad-Stream SDI - AES - MADI De-Embedder

RM20-9374-C 20-Slot Frame Rear I/O Module (Standard Width) (4) 3G/HD/SD-SDI Inputs, (4) 3G/HD/SD-SDI Outputs, (1) MADI BNC Input, (1) MADI BNC Output

RM20-9374-E 20-Slot Frame Rear I/O Module (Double Width) (4) 3G/HD/SD-SDI Inputs, (4) 3G/HD/SD-SDI Outputs, (8) AES I/O BNCs, (1) MADI BNC Input, (1) MADI BNC Output, (2) Stereo Unbalanced Analog Audio Outputs (RCA)

RM20-9374-F-HDBNC 20-Slot Frame Rear I/O Module (Double Width) (4) 3G/HD/SD-SDI Input BNCs, (4) 3G/HD/SD-SDI Output BNCs, (1) MADI Input BNC, (1) MADI Output BNC, (2) RS-485 LTC Inputs, (2) Analog Audio Out (unbalanced RCA), (8) AES I/O (AES connectors are HD-BNC)

RM20-9374-F-DIN 20-Slot Frame Rear I/O Module (Double Width) (4) 3G/HD/SD-SDI Input BNCs, (4) 3G/HD/SD-SDI Output BNCs,(1) MADI Input BNC, (1) MADI Output BNC, (2) RS-485 LTC Inputs, (2) Analog Audio Out (unbalanced RCA), (8) AES I/O (AES connectors are DIN 1.0/2.3)

+LTC LTC In/Out Option

+GAIN Output Gain Controls Option

›› SPECIFICATIONS

Power
<20 Watts (maximum)

SDI Input/Output
Capacity: 4 In, 4 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

Note: All inputs must be synchronous (e.g., all frame synced to same reference) to assure clean audio cross-routing between SDI streams. Multiple simultaneous formats are supported on a limited basis (e.g., HD on SDI Inputs A/B and SD on SDI Inputs C/D). AES-3id and MADI should also be synchronous with selected SDI stream(s) to ensure clean audio cross-routing.

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

MADI (AES10-2003) Input/Output
Number of Inputs/Outputs: 1 BNC Input, 1 BNC Output
Supported Sample Rate: 48 kHz only
Input/Output Impedance: 75 Ω
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

Note: Analog audio output available only in conjunction with Rear I/O Module equipped with analog audio outputs