Eclipse HX Interface Modules

Digital Matrix Systems

Eclipse HX CCI-22, FOR-22 and RLY-6 Interface Modules

Key Features and Benefits

Specialty Interface Modules

For use with MVX-16A Interface Card

- Audio - Line-Level Isolated
- Partyline - Unbalanced
- Telephony - POTS*
- Audio - Digital AES6*

For use with Eclipse CPU Card

- Control - GPIO Isolated*

Interface Module Options

- CCI-22
- FOR-22
- RLY-6
- GPI-6*
- TEL-14*
- AES-6*

Interface Frame Options

- Median
- Delta
- Delta-Lite
- IMF-102
- IMF-3 with PSU-101

Eclipse Digital Matrix System

- Advanced Intercom System
- Scalable, Modular & Redundant
- Flexible Connectivity
- Effortless Networking
- Self-Contained System

Eclipse® HX Matrix Intercom Systems, powered by EHX configuration software, deliver a redundant, modular, and scalable communications solution. The self-contained intercom system offers advanced workflow capabilities designed for both local and global operations.

Description

Eclipse HX specialty Interface Modules seamlessly connect Eclipse HX intercom systems to external communication, audio, and control systems—including generic 4-wire audio, 2-wire Partylines, two-way radios, telephone lines, and contact closures. Audio interface modules are supported by the MVX-16A Interface card, while the contact closure modules daisy-chain from the Eclipse frame's CPU card. These auto-discovering interface modules mount within matrix or interface frames to simplify installation and ensure robust interoperability.

Frames

Interface Modules can be housed directly in Eclipse HX Median, Delta, and Delta-Lite frames, or within dedicated external interface frames. The high-density IMF-3 (3RU) holds up to 11 modules and utilizes the PSU-101 power supply, with support for a second unit for redundancy. For compact requirements, the IMF-102 (1RU) hosts two modules and combines an internal power supply and external redundancy connections into a single chassis.

CCI-22 - 2-Wire Partyline

Connects two 2-wire full-duplex partyline circuits to the matrix. This interface supports Clear-Com signaling, features fully adjustable levels and nulling, and is powered directly by the external partyline circuit. It ensures compatibility with both Clear-Com and third-party 2-wire systems.

FOR-22 - 4-Wire Audio

Connects two external 4-wire circuits to the matrix, making it ideal for integrating camera intercoms, two-way radios, IFBs, and microwave links. The module ensures signal integrity through impedance matching, transformer isolation, and level adjustments, while also supporting external relay activation and call-sense circuitry.

TEL-14* - Digital POTS Telephone Hybrid

A two-line digital hybrid telephone interface featuring onboard DSP for superior audio quality. It offers >40dB trans-hybrid loss and automatic echo cancellation for high intelligibility. Features include auto-answer/disconnect, making it ideal for IFB connections to trucks, linking remote intercoms, or direct dialing from user stations.

AES-6* - Digital Audio Interface

Provides AES-3 digital audio conversion for all Eclipse matrices. The AES-6 can be deployed alongside standard interface modules like the FOR-22 and TEL-14.

*Compatible Legacy Product

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GPI-6* - Logic Input

Provides six general-purpose logic inputs, enabling external sources to trigger routing changes and matrix events. The module connects via the frame's CPU card, allowing for logic control without consuming standard audio I/O ports.

RLY-6 - Relay Output

Provides six fully programmable SPDT relay outputs to handle dedicated external switching functions. The module connects via the frame's CPU card, allowing for logic control without consuming standard audio I/O ports.

Technical Specifications

CCI-22: 2-Wire Interface

Input & Output: 2

Audio Specifications
Frequency Response: 100 Hz – 15 kHz (+0/-3 dB)
Audio Level (Clear-Com): -15 dBu nominal
Audio Level (Other): -10 dBu nominal*
Call Signal Level (Clear-Com): 4 – 11 VDC
Bridge Impedance: > 10 kΩ (bridging)

Nulling Capability
Line Length: 0 – 4,000 feet (0-1200m)
Line Impedance: 120 – 350Ω
Depth of Null: > 30 dB (200 Hz – 8 kHz)
Nulling Tone: Via 1/8" (3.5 mm) front panel jack

Rear Panel Connectors
To Matrix Frame: (2) RJ-45 - AES-72 Type3M Pinout 1: In, 2:Out
Interface I/O: (2) DB9-M

Power Requirements
Module Power: 0 mA from frame
Partyline Power: 40 mA per channel @ 20 – 30 VDC (from PL)

Dimensions

1.38 x 5.06 x 9.16in (WxHxD)
(35 x 129 x 233mm)

Weight

0.78lbs (0.35kg)

FOR-22: 4-Wire Interface

Input & Output: 2

Audio Specifications
Frequency Response: 20 Hz – 15 kHz (+/-3 dB)
Audio Level (Clear-Com): 0 dBu nominal
Input Impedance: > 10 kΩ (Transformer Balanced)
Audio Output Level: 0 dBu, -15 dBu, or -55 dBu (Jumper Selectable)
Maximum Output: +20 dBu
Output Impedance: 150Ω nominal (Transformer Balanced)

Control & Signal
Call Signal Input: 4 – 50 VDC
Relay: SPDT, 24 VDC @ 1 A

Rear Panel Connectors
To Matrix Frame: (2) RJ-45 - AES-72 Type3M Pinout 1: In, 2:Out
Interface I/O: (2) DB9-M

Power Requirements
Module Power: 150 mA (max) from frame

Dimensions

1.38 x 5.06 x 9.16in (WxHxD)
(35 x 129 x 233mm)

Weight

0.78lbs (0.35kg)

TEL-14* Telephone Interface

Input & Output: 2

Audio Specifications
Frequency Response: 300 Hz – 3.4 kHz
Send/Receive Gain: +/- 12 dB
Ring Detect: Compatible with most international standards
Auto-Mode Levels:
-12 dBu (Intercom) for -9 dBm (Tel Line)
-27 dBm (Tel Line) for -12 dBu (Intercom)

Tone Specifications
Dial Tone: 350 Hz + 440 Hz (Continuous)
Busy Tone: 480 Hz + 620 Hz (0.5s ON / 0.5s OFF)
Reorder Tone: 480 Hz + 620 Hz (0.25s ON / 0.25s OFF)
Loop Current Interruption: > 5 ms
DC Isolation: > 10 MΩ (Line to Frame)

Rear Panel Connectors
To Matrix Frame: (2) RJ-45 - AES-72 Type3M Pinout 1: In, 2:Out
Interface I/O: (2) DB-9M (Telephone line & Relay contacts)
Relays: Type "A1" (Dry), Normally Open (when on-hook)

Power Requirements
Module Power: +370 mA / -130 mA (max) from frame

Dimensions

1.38 x 5.06 x 9.16in (WxHxD)
(35 x 129 x 233mm)

Weight

0.78lbs (0.35kg)

*Compatible Legacy Product

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Technical Specifications (cont.)

AES-6* Digital Audio Interface

Input & Output: 6

Audio Specifications
Format: AES-3
Sample Rate: 44.1 kHz – 96 kHz
Resolution: 24-Bit
Frequency Response: 30 Hz – 22 kHz (+/- 3 dB)
Signal to Noise: < -65 dB (22 Hz – 22 kHz)
Crosstalk: < -75 dB @ 1 kHz
Distortion: < 0.1% @ +18 dBu (300 Hz – 10 kHz)

Rear Panel Connectors
To Matrix Frame: (6) RJ-45 - AES-72 Type3M Pinout 1: In, 2:Out
Interface I/O: (6) RJ-45 - - AES-72 Type3M Pinout 1: In, 2:Out
Stereo or Mono

Power Requirements
Module Power: 250 mA (max) from frame

Dimensions
1.38 x 5.06 x 9.16in (WxHxD)
(35 x 129 x 233mm)

Weight
0.78lbs (0.35kg)

GPI-6* Contact Closures

Input: 6
Style: Optically isolated
Input Voltage Range: 4 - 30 V (DC or AC)
Input Current: ~5 mA required

Rear Panel Connectors
From Matrix Frame: (1) RJ-45
To Next Module: (1) RJ-45
Interface I/O: (2) DB9-M

Power Requirements
Module Power: 0 mA (max) from frame

Dimensions
1.38 x 5.06 x 9.16in (WxHxD)
(35 x 129 x 233mm)

Weight
0.78lbs (0.35kg)

RLY-6 Relay Interface

Relays: 6
Style: SPDT / Power Relay
Normalized: Open or Closed, separate pins
Switching Voltage (Max): 24 V DC
Switching Current (Max): 1A

Rear Panel Connectors
From Matrix Frame: (1) RJ-45
To Next Module: (1) RJ-45
Interface I/O: (2) DB9-M

Power Requirements
Module Power: 150 mA (max) from frame

Dimensions
1.38 x 5.06 x 9.16in (WxHxD)
(35 x 129 x 233mm)

Weight
0.78lbs (0.35kg)

*Compatible Legacy Product

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Technical Specifications (cont.)

IMF-102 Interface Module Frame

Interface Module Capacity: 2

Rear Panel Connectors
AC Power Input: (1) IEC C14
Redundant DC Input: (1) 10-pin Jones (optional for PSU-101)

Power Requirements
Frame Power Requirements: 200 mA (frame only)

AC Input Specifications
Input Voltage Range: 100 – 240 VAC
Input Frequency Range: 50 – 60 Hz
Input Power (Max): 20 W (load dependent)
BTU (Max): 69 BTU/hr

Dimensions
19 x 1.75 x 13.75in (WxHxD)
(483 x 44 x 345mm)

Weight
6.25lbs (2.8kg)

IMF-3 Interface Module Frame

Interface Module Capacity: 11

Rear Panel Connectors
External DC Input: (2) 10-pin Jones (from PSU-101)

Power Requirements
Frame Power Requirements: 200 mA (frame only)

Dimensions
19 x 5.25 x 13.75in (WxHxD)
(483 x 483 x 345mm)

Weight
10lbs (4.5kg)

PSU-101 Frame Power Supply

Two 9-volt switching supplies with audible failure alarm

Rear Panel Connectors
AC Power Input: (1) IEC C14
DC Power Output: (2) 10-pin Jones (to IMF frames)
Alarm: SPST Relay @ 1 A DC maximum

DC Output Specifications
Module & Frame Output: 3 A
Indicators: (2) Power supply LEDs

AC Input Specifications
Input Voltage Range: 100 – 240 VAC
Input Frequency Range: 50 – 60 Hz
Input Power (Max): 125 W (load dependent)
BTU (Max): 427 BTU/hr

Dimensions
19 x 1.75 x 7.75in (WxHxD)
(44 x 483 x 197mm)

Weight
4.5lbs (2kg)

*Compatible Legacy Product

Notice About Specifications While Clear-Com makes every attempt to maintain the accuracy of the information contained in its documentation, that information is subject to change without notice. Performance specifications included in this document are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.

WARNING: Cancer and Reproductive Harm - **www.P65Warnings.CA.Gov**

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