trilogy
A CLEAR-COM COMPANY

Radio Interface Board (RIB)

Key Features

- Radio over IP (RoIP) and analog radio interfacing solution for Mercury Interface Units (MIUs)

- Provides a standard interface for up to 8 radio connections on each RIB

- Up to four Radio Interface Boards per MIU

- Port-specific input and output level adjustments

- Audio buffering when connecting to higher power transmitters

- Provides independent Push-to-Talk (PTT) and COR (Carrier Operated Relay) signaling for each port

- Control signaling can be actuated by any local or remote Mercury operator connected over any IP network

- RJ45 connectors for simple cable construction

- Ideal for extending radio communications over IP

The Radio Interface Board (RIB) is an optional card that interfaces with up to eight half-duplex and/or full-duplex radios.

Description

The Radio Interface Board (RIB) is an optional interface board that provides a standard interface for up to eight full duplex and/or half duplex radios from a wide range of manufacturers.

Operation

The RIB can be used to seamlessly communicate with radios from intercom-enabled workstations, laptops, telephones, VoIP telephones, or other types of voice communication equipment. Users can create talk groups between radios that are graphically dispersed, or they can achieve radio interoperability between different radio types, such as those with varying frequencies or manufacturers. The RIB can also enable radios with DTMF dialpads to make telephone calls to conventional or VoIP telephones, as well as establish Radio-over-IP (RoIP).

Technical Specifications

Audio Interface
Number of ports: 8 per card. Max of 4 RIBs per MIU
Type: Balanced audio on RJ45

Audio Input
Input impedance: > 10kΩ
Nominal input level: 0dBu
Input level adjustment: Via software from -10.5dB to +12dB with additional +20dB boost feature
Frequency response: 20Hz to 20kHz (16kHz sampling)
Distortion: <0.05% when routed locally
Noise: < -60dB un-weighted
Audio delay: Independent software adj. on each channel. 0-2000ms in 20ms steps.
Filters: Audio inputs have selectable filters giving 3, 6 or 9dB cut/boost at 3kHz.

Audio Output
Type: Electronically balanced on RJ45 connector
Output impedance: <60Ω
Output level adjustment: Via software from -34.5dB to +12dB in steps of 1.5dB. Mute option
Frequency response: 20Hz to 20kHz (16kHz sampling)
Distortion: <0.05% when routed locally
Noise: < -60dB un-weighted

COR (GPI input from radio)
Type: Grounding contact - external equipment must provide ground closure.
Polarity: Software selectable
Input voltage range "on": -2V to +2V (nominal) with respect to MIU 0V
Input voltage range "limits": >-50V, <+60V
Attack (de-bounce) time: Adjustable 0-1999ms in 1ms steps

PTT (GPO output to radio)
Type: Solid state relay - RIB provides ground closure
Polarity: Software selectable
Absolute maximum voltage: +60V peak (AC or DC)
Max Current: 500mA
Hold time: 0-5000ms in 1ms steps

VOX
General: All audio inputs can use PTT or VOX triggering, software selectable
Attack: time Software adjustable 10-5000ms in 1ms steps
Release time: Software adjustable 750-5000ms in 1ms steps
Threshold: Software adjustable -10 to 50dBu

RJ45 Connector Pinout
Pin 1: COR (GPI) Input
Pin 2: COR/PTT Ground
Pin 3: PTT (GPO) Output
Pin 4: Audio In- (May be grounded if unbalanced audio is used)
Pin 5: Audio In +
Pin 6: Audio Ground
Pin 7: Audio Out +
Pin 8: Audio Out- (Must be grounded if unbalanced audio is used)

Environmental
Operating Temperature: 32 to 122°F (0 to 50°C)
Storage Temperature: -4 to 185°F (-20 to 85°C)
Operating Humidity: 0 to 90%, non-condensing, relative humidity

Dimensions
5.5 x 0.67 x 8.1 in (WxHxD) (140 x 17 x 212mm)

Weight
7.1 oz (200 g)

Reliability
MTFB: 121,000 hours

Radios Supported

Conventional Radios
- Simplex
- Duplex
- UHF
- VHF
- 800 MHz

Military Radios
- SINCGARS
- MIDS
- AN/ARC-210
- Others

Amateur Radios

Fixed Radios

Public Safety or Civilian Radios (LMRs)

Mobile Radios

Order Code
700-16-03