EF-701M Four-Wire Interface

Analog Partyline Solutions

Linking People Together

EF-701M Front Panel

Key Features and Benefits

- High quality party-line to four-wire audio conversion
- Maintains hybrid null with multiple units on a channel
- Converts call signals to RS-422 data with selectable baud rate
- Connect intercom w/call signal over ber-optic systems
- Clear-Com and RTS® compatible
- Built-in test tone and jack for nulling
- Multi-mode Data status LED
- Powered by intercom line
- Connects with standard XLR's and RJ45 or DB-15
- Rugged, compact package can fit up to three across on standard 1-RU rack shelf CC/TW

Clear-Com Encore® is a 2-wire analog partyline system with intuitive plug-and-play design and superior "Clear-Com Sound."

Description

The EF-701M interface converts a single channel of standard or TW party line intercom to four-wire audio, while also converting call signals to RS-422 data (and back). The resulting four-wire audio plus RS-422 data can then be sent to a Clear-Com Matrix port, ber-optic converter (modem) or connected to another EF-701M over twisted-pair cable such as CAT-5E. When used with a Matrix system, the EF-701M allows a party-line channel to be connected to the frame with up to 5000 feet of cable. With its excellent hybrid null and wide-range level controls the unit may also be used as a best-quality stand-alone two-to-four-wire converter.

For travelling systems that require long connecting runs between stations or systems, EF-701M's can quickly recover their cost in space and weight savings, as ber-optic and UTP cables are lighter and more compact than standard shielded mic cable. Two EF-701M's can be connected directly to each other over low-cost four-pair, unshielded, twisted-pair cable (UTP). The EF-701M 's low prole and compact size add to its portability. It can easily be mounted on a utility rack shelf and up to three units will t across in a standard 1-RU rack space. No additional power connection is required, as the EF-701M obtains its DC operating current through the party-line connection on pin-2 of the XLR connector.

Matrix

For systems where only one or two of part-line channels are needed, the EF-701M is ideal. Simply run UTP cable from the Matrix frame to the EF-701M, which is connected to and powered by the party-line system. A rear panel dip- switch on the EF-701M selects connection for the four-wire audio and data as the RJ45 jack, instead of the DB-15, simplifying set-up.

Call Signaling

In addition to its acting as a visual indicator, call signaling can be used to trigger relays or functions in other intercom equipment. An amber data LED provides the user with continuous status on the data link between two EF-701M's and will indicate whether or not a proper link has been established. The EF-701M also includes internal jumpers to select dierent baud rates for the RS-422 data.

Nulling Circuitry

The superior hybrid nulling circuitry of the EF-701M allows multiple units to be used together on a single party-line channel. Wide-range controls are provided for audio level adjustments along with three front-panel trim pots for complete hybrid null adjustments.

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Technical Specifications

dBu is an absolute measurement. 0dBu is referenced to 0.775 volts RMS

Clear Comm Format

Line Characteristics
Max Level Before Clipping : >=20dBu
Impedance: >=10kΩ

Signalling
Receive: <=4V DC
Send: >=11V DC

RTS Format

Line Characteristics
Max Level Before Clipping : >=20dBu
Impedance: >=10kΩ

Signalling Tone
Send frequency: 20kHz ±1kHz
Receive frequency: 20kHz ±500Hz
Send level: >=-6dBu
Receive level: <=-20dBu

General Characteristics

Frequency response
Partyline - Partyline: 200-10kHz ± 3dB
Matrix - Partyline: 200-10kHz ± 3dB

Distortion
Partyline - Matrix: <=0.5%
Matrix - Partyline: <=0.5%

Noise
Partyline - Matrix: <=-50dBu
Matrix - Partyline: <=-70dBu

Max Gain
Partyline - Matrix
(CC setting): 20dB ± 3dB
Partyline - Matrix
(RTS setting): 16dB ± 3dB
Matrix - Partyline
(CC setting): -5dB ± 3dB
Matrix - Partyline
(RTS setting): -1dB ± 3dB

Min Gain
Partyline - Matrix (CC setting): -7dB ± 3dB
Partyline - Matrix (RTS setting): -12dB ± 3dB
Matrix - Partyline (CC setting): -33dB ± 3dB
Matrix - Partyline (RTS setting): -29dB ± 3dB

Power Requirements
Input Voltage Range: 20-30V DC
Quiescent Current: <=70mA
Max Current: <=80mA

Rear Panel Connectors and Controls
Party Line: (1) XLR3F
RTS: (1) DB-15F
Matrix: (1) RJ45 (2) Mode Switches

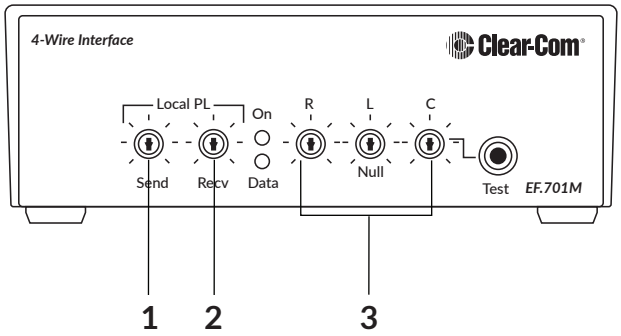
Front Panel Connectors and Controls
TS1 Earphone: (1) 3.5mm Jack Socket
Level Adjust: (2) Rotary Control
Null Adjust: (3) Rotary Control
Power Indicator: (1) Green LED
Data Indicator: (1) Amber LED

Dimensions
Height: 1.62 x 5.94 x 4.80in (HxWxD)
(41 x 151 x 122mm)

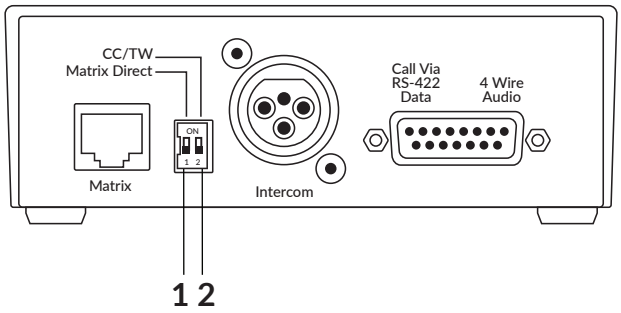
Weight
1.75lbs (0.794kgs)

Accessories
Wiring diagram, adhesive backed
TS-1 testing earphone

EF-701M Front Panel



EF-701M Back Panel



Legend

Front

1. Local send
2. Local receive
3. Sidetone null adjustment

Back

1. Mode-switch 1
2. Mode-switch 2

Order Code

EF-701M

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