Clear-Com Encore™

EF-701M Four-Wire Interface





EF-701M Front Panel

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, fiber-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' 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 fiber-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 profile and compact size add to its portability. It can easily be mounted on a utility rack shelf and up to three units will fit 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 RJ-45 jack, instead of the DB-15, simplifying set-up.

Call Signalling

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 different 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.

Features:

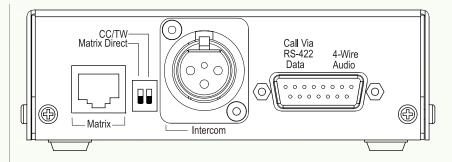
- High quality party-line to four-wire audio conversion
- Maintains hybrid null with multiple units on a channel
- Converts call signals to RS-422 data with selectable baud rate
- Connect intercom w/call signal over fiber-optic systems
- Clear-Com and RTS ° compatible
- Built-in test tone and jack for nulling
- Multi-mode Data status LED
- Powered by intercom line
- Connects with standard XLR's and RJ-45 or DB-15
- Rugged, compact package can fit up to three across on standard 1-RU rack shelf CC/TW

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EF-701M Back Panel

Technical Specifications:

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

Clear-Com Format

Line Characteristics

Max Level Before Clipping: >=20dBu Impedance: >=10KΩ

Signalling

<=4 VDC Receive: >=11VDC Send:

RTS Format

Line Characteristics

Max Level Before Clipping: >=20dBu >=10KO Impedance:

Signalling Tone

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

General Characteristics

Frequency response

200-10KHz ± 3dB Party Line - Matrix: Matrix - Party Line: $200-10KHz \pm 3dB$

Distortion

Party Line - Matrix: <=0.5% Matrix - Party Line: <=0.5%

Noise

<=-50dBu Party Line - Matrix: Matrix - Party Line: <=-70dBu

Max Gain

Party Line - Matrix 20dB + 3dB(CC setting): Party Line - Matrix 16dR + 3dR(RTS setting): Matrix - Party Line (CC setting): $-5dB \pm 3dB$ Matrix - Party Line (RTS setting): $-1dB \pm 3dB$

Min Gain Party Line -

Matrix (CC setting): $-7dB \pm 3dB$

Party Line -

Matrix (RTS setting): $-12dB \pm 3dB$

Party Line (CC setting): -33dB + 3dB

Matrix -

Party Line (RTS setting): -29dB ± 3dB

Power Requirements

Input Voltage Range: 20-30VDC **Quiescent Current:** <=70mA Max Current: <=80mA

Rear Panel Connectors and Controls

(1) XLR3F Party Line: RTS: (1) DB-15F Matrix: (1) RJ-45 (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 in. H x 5.94 in. W x 4.80 in D (41 mm x 151 mm x 122 mm)

Weight

1.75 lbs (.794 kgs)

Accessories

Wiring diagram, adhesive backed TS-1 testing earphone

Notice About Specifications

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

Applications:

- Broadcast facilities, theme parks, campuses, sports complexes, large research and test facilities with fiberoptic infrastructure
- Portable systems requiring long cable runs
- Extend connection lengths between stations or systems up to a mile with standard UTP*cable
- Connect a Clear-Com channel to a channel of RTS-TW with fiber or UTP in between
- · Connect Clear-Com PL or RTS-TW to a Matrix Plus 3
- Utilize existing, installed UTP to connect intercom locations



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