



TW-12B Front Panel



TW-12B Back Panel

FEATURES

- **Eliminates grounding problems between intercom systems**
- **Matches gain between systems**
- **Provides system isolation for: Clear-Com to Clear-Com; Clear-Com to RTS; RTS to RTS**
- **Passes through and translates signaling**
- **Provides superior hybrid nulling—up to 40 dB**
- **Setup tone allows adjustment during operation**
- **Powered from connected systems**
- **Uses just one rack space**

DESCRIPTION

Clear-Com's TW-12B intercom system interface is designed for connecting one intercom system to another, without compromising the audio quality of either system. The TW-12B solves all problems that can arise when connecting, for example:

- a mobile production unit's intercom system to an intercom in a nearby building
- same-type systems located in two different buildings
- to any "unknown" interface, such as a TV camera
- concert hall's intercom to touring group's intercom

TRANSPARENT ISOLATION BETWEEN SYSTEMS

The unique TW-12B completely eliminates hums and buzzes caused by ground loops (which occur when you interface two systems that use different power supplies or grounds). The TW-12B compensates not only for level differences between systems, but for varying impedances caused by transformers and capacitance on the lines.

The completely transparent TW-12B provides an electrically isolated interface between the two intercom systems. Either "side" of the interface can connect to a Clear-Com intercom system or an RTS intercom system, allowing Clear-Com-to-Clear-Com, Clear-Com-to-RTS, and RTS-to-RTS combinations. In addition, the TW-12B passes through and translates "call" signals, Clear-Com-to-RTS and vice versa.

The interface consists of two identical, 2-wire-to-4-wire hybrid networks which break the ground loops that occur when two systems are run from separate power sources. The audio paths are transformer-coupled, and the signaling circuits are opto-isolated.

FAST, EASY & ACCURATE SETUP

The operator can quickly set up the TW-12B by using a standard intercom headset and the TW-12B's built-in setup tone. The TW-12B is capable of a range of null adjustments, allowing it to adapt to a wide variety of line conditions, line lengths, and impedances.

Clear-Com's innovative, nulling system provides up to 40 dB null. The TW-12B provides each side of the system with null adjustment controls that allow adjustment even when the system is operating.

SPECIFICATIONS**LINE CHARACTERISTICS, CLEAR-COM**

Level: -13 dBv nominal, 0 dBv max.

before clipping*

Clipping Level: +3 dBv min.

Impedance: >10 k Ω bridging

LINE CHARACTERISTICS, RTS

Level: 0 dBv nominal

Clipping Level: +5 dBv min.

Impedance: >10 k Ω bridging

SIGNALING, CLEAR-COM

Receive: 4 VDC min. on audio line

Send: 11 VDC min. on audio line

SIGNALING, RTS

Send Frequency: 20 kHz, +/-100 Hz

Receive Frequency: 20 kHz, +/-500 Hz

GENERAL CHARACTERISTICS

Frequency Response: 200 Hz - 10 kHz, +/-3 dB

Nulling Capability (2-wire & 4-wire),

Line Length: 0 to 4,000 feet

Line Impedance: 120 - 600 Ω

Low Frequency: L&C of the 2-wire line

Depth of Null: >30 dB, 200 Hz - 8 kHz

Isolation,

Side to side: >10 M Ω

Either Side to Chassis: >10 M Ω

Power Consumption:

\approx 50 mA at 20 - 30 VDC

Connectors,

Front panel: headset, (1) 4-pin male, D4M

Rear panel: (4) 3-pin XLRs (2 male, 2 female)

Each side has one each male and female
for loop-through

Dimensions:

1.75" H x 19" W x 6" D (44 x 483 x 152 mm)

Weight: 4.0 lb (1.8 kg)

Specifications subject to change without notice.

**0 dBv is referenced to 0.775 volts RMS.*

The rear panel of the TW-12B contains a pair of 3-pin XLR connectors (one male, one female) for each side of the interface.

CALL SIGNAL TRANSLATION

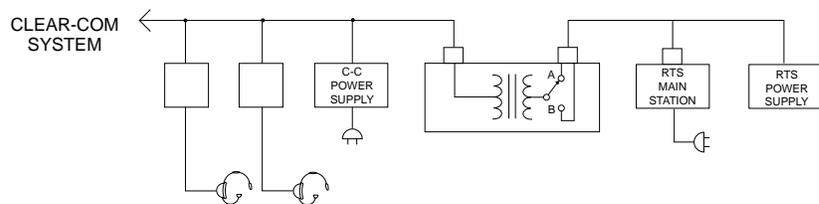
The TW-12B interface receives "Call" signaling in the appropriate form (DC level for Clear-Com, tone for RTS), decodes it, and passes it to the other side of the interface, via an optical coupler. The receiving side of the interface sends the signal appropriate for the connected intercom.

GAIN

A recessed Send Gain control allows an adjustment of \pm 6 dB for each side of the interface, if necessary.

POWER

Each side of the TW-12B is powered directly by the intercom system to which it is connected. The unit draws about the same amount of power as a belt-pack. If either system is disconnected, the power loss immediately shuts down the associated electronics, eliminating any unwanted noises on the operating intercom side. The TW-12B front panel provides an LED power indicator for each side of the interface.

TYPICAL TW-12B APPLICATION**BLOCK DIAGRAM**