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Find the *Clear-Com RLY-6* at our website: *Click HERE*



Top: The IMF-102 interface frame with optional TEL-14 and CCI-22 interfaces
Bottom: The IMF-3 interface frame with various optional interfaces

FEATURES

- Connect digital matrix systems with a host of other communications systems
- Two sizes of interface frames: 3 RU x 11 interfaces and 1 RU x 2 interfaces
- Seamless interfacing with telephone, two-way radio, cameras, party-line intercom, IFB systems, other communications systems and control devices
- Interfaces are compatible with Matrix Plus, MicroMatrix, and other digital intercom systems
- Specialty panels for transformer isolation, interfacing with IFB receivers, and connections between Matrix Plus II and Matrix Plus 3 systems

DESCRIPTION

Clear-Com's sophisticated modular interface system is optimized for use with intercom systems. Interfacing permits Matrix Plus, MicroMatrix™, and other digital intercom systems to connect to and communicate via other types of communications systems.

The modular interfaces are mounted into interface frames, which provide the necessary connectors, communications busses, and power. The IMF-3 frame holds up to 11 modules, and the IMF-102 holds two. The frames also provide the capability for redundant power supply, for fail-safe reliability.



IMF-3 Interface Frame, Rear View

When an interface is connected to a port of the matrix frame, the system recognizes and auto-configures it - easing installation and operations. Interfaces are available to connect telephones, party-line and camera intercoms, two-way radios, and other 4-wire audio circuits. Other interfaces enable control functions via the matrix.

INTERFACE FRAMES

The IMF-3 is a 3-RU interface frame that holds up to 11 modules. Modular rear-mounted connector panels feature two RJ-45 connectors to the matrix ports and two DB-9's attaching the connected devices. The frame is used in conjunction with the PSU-101 rack-mountable power supply, providing power to the enclosed interfaces. A second PSU-101 may be attached for redundancy.

The IMF-102 interface frame combines an internal power supply, connection for a second redundant supply, a rear input/output connector panel, and slots for two modular interfaces — all in a 1-RU chassis. The compact frame offers a practical way to add a small quantity of interfaces to a MicroMatrix, Matrix Plus, or other digital intercom system.

Matrix Plus 3
DIGITAL INTERCOM

by Clear-Com

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TEL-14 CCI-22 FOR-22 RLY-6 GPI-6 Rear Panel

INTERFACES

TEL-14

The TEL-14 is a two-line, auto-nulling digital hybrid telephone interface module. Onboard DSP processors provide greater than 40-dB of trans-hybrid loss, as well as automatic echo-cancellation for the highest intelligibility and audio quality. Enable or disable auto-answer and auto-disconnect. The interface is perfect for establishing IFB connections between the main intercom and remote production trucks, linking intercom communications between remote systems, and enabling telephone calls directly to or from any intercom station in a Matrix Plus or other system.

CCI-22

The CCI-22 connects two 2-wire full-duplex party-line circuits with the matrix. The interface supports Clear-Com signaling to and from the matrix system, deriving its power from the external party-line circuit. Levels and nulling are completely adjustable. The CCI-22 functions with Clear-Com and other two-wire intercom systems.

FOR-22

The FOR-22 connects two external 4-wire circuits to the matrix. Camera intercoms, two-way radios, microwave and satellite links, IFB's, and program audio in and out are candidates for the FOR-22. The module provides proper impedance matching, transformer isolation, and level adjustments between systems. It also supports external relay activation and call-sense circuitry.

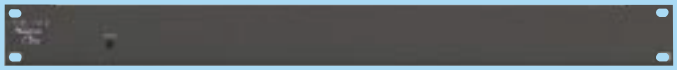
RLY-6

The RLY-6 provides six fully programmable SPDT (single pole, double throw) relay outputs, to support dedicated switching functions external to the matrix system. The relay interfaces connect to a separate accessory data connector on the matrix card frame, and are programmed and activated through that connector. It is not necessary to use audio I/O ports from the matrix to trigger relays and other logic control devices.

GPI-6

The GPI-6 provides six general-purpose logic inputs into the matrix, allowing external sources to trigger routing changes and other events through the matrix system. Like the RLY-6, this interface is also connected through the separate accessory data connector on the matrix frame. All of the RLY-6 and GPI-6 interfaces in the system are daisy-chained from the accessory connection, and the matrix system will automatically identify both the type and "addresses" of every relay output and logic input. The Matrix Plus system supports a combination of up to 10 GPI-6 and RLY-6 interfaces.

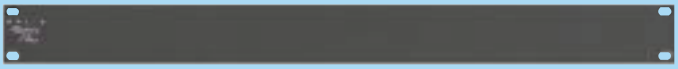
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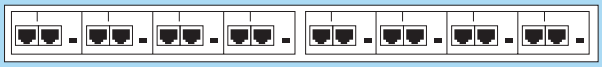
IFB-104



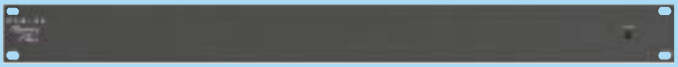
IFB-104 Rear Panel



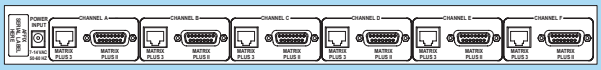
BAL-8



BAL-8 Rear Panel



PIA-32



PIA-32 Rear Panel



PSU-101



PSU-101 Rear Panel

IFB-104 IFB ROUTING PANEL

The IFB-104 is a 1-RU panel that directly connects up to four IFB feeds to the ports of a digital matrix system. Individual or multiple IFB earbuds or headphones may be powered directly from each connected matrix port. Alternately, an intercom power supply may be connected, allowing the use of active personal IFB receivers, such as the Clear-Com TR-50 or TR-532.

The IFB-104 does not require external power to drive its circuitry. Each channel has a rear-mounted wet/dry switch, allowing either direct connection or powering via a party-line intercom power supply. The signal from the matrix port is transformer-coupled to the XLR-connector output.

BAL-8 EIGHT-PORT GROUND ISOLATION INTERFACE

The BAL-8 is a 1-RU interface containing eight 4-pair, transformer-isolated ports. Each port handles two audio signals and two RS-422 data lines. The unit isolates the connection between Matrix Plus 3 ports and peripheral devices such as two-way radios.

Each set of input/output connectors has its own slide switch, allowing the port to be placed into Normal or Interface mode. In normal mode, the data pairs are unaffected, while in interface mode they are connected to indicate to the system software that a direct connection is being made. Each channel has a pair of RJ-45 connectors for input and output.

PIA-32 PERIPHERAL INTERFACE ADAPTER

The PIA-32 is a stand-alone, one-rack-space translator that converts Matrix Plus 3 ports to Matrix Plus II ports. It allows existing Matrix Plus II systems, interfaces, and accessories to be used with Matrix Plus 3 systems without modification. Each unit connects six Matrix Plus II ports, interfaces, or accessories to the Matrix Plus 3 frame.

The PIA-32 translates the different call-signal protocols used by Matrix Plus 3 and II, allowing trunking between systems. It also enables connections between the Matrix Plus 3 frame and the outputs of existing IMF-1 interface frames, and permits interface ID. Further, it enables the connection of third-party telephone interfaces and of the Clear-Com AB-100 On-Air Announcer's Console to Matrix Plus 3 without any modifications.

PSU-101 POWER SUPPLY

The PSU-101 is the power supply for the IMF-3 interface frame. The one-rack-space unit may be connected with a second unit for fully redundant operation. It has both an audible failure alarm and failure relay contacts to activate a remote signal. A single PSU-101 will power a minimum of two interface frames, depending on the type of interfaces and their individual power requirements. Additional power supplies may be added in installations with a large quantity of interfaces, to provide both sufficient power and redundancy.

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SPECIFICATIONS

IMF-3 FRAME

Plug-in Module Capacity: 11
Rear Panel Connectors:
(2) 10-pin Jones (for PSU-101 power supply)
To Matrix Frame: (22) RJ-45
(when all interface modules are installed)
Interface I/O: (22) DB9-M
(when all interface modules are installed)
Power Requirements:
200 mA from PSU-101 power supply
Size: 5.25" H x 19" W x 13.75"
(133 x 483 x 345 mm)
Weight: 10 lbs (4.5 Kg)

IMF-102 FRAME

Plug-in Module Capacity: 2
Rear Panel Connectors:
(1) 3-pin EIA (for internal power supply)
(1) 10-pin Jones
(for PSU-101 redundant power supply)
To Matrix Frame: (4) RJ-45
(when all interface modules are installed)
Interface I/O: (4) DB9-M
(when all interface modules are installed)
Power Requirements,
+9 V Analog: 200 mA (frame only)
-9 V Analog: 200 mA (frame only)
AC Requirements: 90 - 250 VAC, 20 W
Size: 1.75" H x 19" W x 13.75" D
(44 x 483 x 345 mm)
Weight: 6.25 lbs (2.8 Kg)

CCI-22 2-WIRE INTERFACE (2 CH)

Frequency Response:100 Hz - 15 kHz, +0/-3 dB
Impedance:>10K Ohms (bridging)
Audio Level,
Clear-Com or compatible:-15 dBv nominal
Other: -10 dBv nominal
Call Signal Level (Clear-Com or compatible only): 4 -11 VDC
Nulling Capability,
Line Length: 0 - 4,000 feet
Line Impedance:120 - 350 Ohms
Depth of Null: >30 dB, 200 Hz - 8 kHz
Nulling Tone: Via 1/8" phone jack
Power Consumption(maximum each channel):
40 mA @ 20 - 30 VDC
(Power is supplied by external party-line)
Power Requirements:
0 mA from PSU-101 power supply

FOR-22 4-WIRE INTERFACE (2 CH)

Frequency Response:20 Hz -15 kHz, +0/-3 dB
Audio Input Level: 0 dBv nominal
Input Impedance:>10K Ohms,
transformer balanced
Audio Output Level,
Nominal: 0 dBv, -15 dBv, or -55 dBv,
jumper selectable
Maximum: +20 dBv
Output Impedance:150 Ohms nominal,
transformer balanced
Call Signal Input: 4 - 50 VDC
Relay: SPDT, 24 VDC @ 1 Amp
Power Requirements:150 mA max from
PSU-101 power supply

TEL-14 TELEPHONE INTERFACE (2 CH) AUDIO

Frequency Response:300 Hz - 3.4 kHz
Send Gain Control Range: +/-12 dB
Receive Gain Control Range: +/-12 dB
Ring Detect Sensitivity: Operates with most international telephone ring signal standards.
Auto-Mode Levels:-12 dBv on intercom line for -9 dBm on telephone line; -27 dBm on telephone line for -12 dBv on intercom line.

TELEPHONE DISCONNECT
Dial Tone: 350 Hz + 440 Hz, continuous
Busy Tone: 480 Hz + 620 Hz,
0.5 sec on / 0.5 sec off
Reorder Tone: 480 Hz + 620 Hz,
0.25 sec on / 0.25 sec off
Loop Current Interruption: >5 ms
DC Isolation: >10M Ohms between each telephone line and the IMF interface frame.

POWER REQUIREMENTS
Supplied by the PSU-101 power supply
Voltage Required:Between +/-8 and +/-12 Volts DC unregulated
Current Required: +370 mA /-130 mA

CONNECTORS (VIA IMF FRAME)
To Matrix Frame: (2) RJ-45
DB-9M Connector:
(2) telephone line connections
(2) for relay contacts
Relay Contacts: Type "A1", "Dry", normally open when TEL-14 is on-hook

CONTROLS & INDICATORS (2 EACH)
Hook switch and LED; Send Volume control and LED; Receive Volume control; Auto Gain switch and LED; Auto Answer switch and LED; Auto Nulling reset switch.

SIZE & WEIGHT
Size: 5.0625"H x 1.375"W x 9.16"D
(129 x 35 x 233 mm)
Weight: 0.78 lbs (0.32 Kg)

RLY-6 RELAY INTERFACE

Relays: Six SPDT 24 VDC @ 1 Amp
Power Requirements:150 mA max from PSU-101 power supply

GPI-6

Input Type: Opto-isolated 4 - 30 DC or AC
Power Requirements:0 mA from PSU-101 power supply

IFB-104 IFB ROUTING PANEL

Indicators: "Power-on" LED

CONNECTORS
Program Input: (4) 3-pin XLR female
To Matrix Frame: (4) RJ-45
Talent: (4) 3-pin XLR male
DC Power: (1) 3-pin XLR male
(1) 3-pin XLR female

PROGRAM INPUT
Type: Transformer isolated
Impedance:600 Ohms bridging
Level: 0 dBv

HEADPHONE TALENT RECEIVER OUTPUTS
Impedance:600K Ohms transformer balanced
Power: 1 mW into 600 Ohms

LINE INPUT
(2-PAIR TALK TO MATRIX)
Type: Transformer balanced
Impedance:600K Ohms
Level: 0 dBv nominal
Frequency Response:100 Hz-15 kHz, +/-2 dB

SIZE & WEIGHT
Size: 1.75" H x 19" W x 2" D
(44 x 483 x 51 mm)
Weight: 1.8 lb. (.82 Kg)

BAL-8 TRANSFORMER-BALANCED PANEL

Connectors,
Output: (8) RJ-45 (to interfaces)
Input: (8) RJ-45 (from Matrix)
Indicators: "Power-on" LED
Isolation: All balanced audio pairs (2 per port connection) are transformer isolated
Frequency Response:100 Hz - 15 kHz
Max Level: +10 dBm
Size: 1.75" H x 19" W x 2" D
(44 x 483 x 51 mm)
Weight: 5 lb. (2.3 Kg)

PIA-32 INTERFACE ADAPTER

Connectors,
Output: (6) RJ-45 (to the Matrix Plus 3 frame)
Input: (6) DB-15F
Indicators: "Power-on" LED
Electrical Requirements:90 to 260 VAC,
50 - 60 Hz @ 12 watts (in-line power supply)
Size: 1.75" H x 19" W x 6.5" D
(44 x 483 x 165 mm)
Weight: 5 lb. (2.3 Kg)

PSU-101 POWER SUPPLY

Two 9-volt switching supplies with audible failure alarm
Output Current: 3 Amps
Indicators: 2 power supply LEDs
Rear Panel Connectors,
Alarm Out: SPST relay @ 1 amp DC rating
Mains Connector: IEC 3-pin connector
AC Power Input,
Voltage:90 - 260 VAC
Power: 125 Volt-Amps maximum
Frequency:50 - 60 Hz
Size: 1.75" H x 19" W x 7.75" D
(44 x 483 x 197 mm)
Weight: 4.5 lbs (2 Kg)

All specifications are subject to change without notice.

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