

IMF-102 INTERFACE MODULE

INSTRUCTION MANUAL

Matrix Plus 3 System Operational Manual
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Part Number 810262 Rev. A

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OPERATION

DESCRIPTION

The IMF-102 Interface Module Frame is one rack-unit in height and is intended to house one of two modules. The module contains a panel with two green LEDs, which represent the positive and negative analog power supplies some interfaces use to indicate the presence of power.

For operation instructions for the individual interfaces, refer to the appropriate chapters in *Matrix Plus 3 Operation Manual*.

REAR PANEL

The IMF-102 rear panel has two slots to accommodate the rear panels of the installed interfaces and a connector for a redundant power supply.

Interface identification is supported by electronic circuitry that translates the interface ID jumpers on each interface to a serial signal that the MTX-A8 matrix card can read. The interface ID is passed from the matrix card to the configuration computer so that the configuration computer has feedback as to the physical interface connected to the port.

INTERFACES SUPPORTED

The following interfaces are supported in the IMF-102 frame:

- **FOR-22**— a two-channel, universal 4-wire interface with transformer isolation, opto-isolation for logic input, and relay contacts for logic out.
- **CCI-22** – a two-channel, isolated translator of 4-wire audio from the matrix to two-wire intercom circuits, such as Clear-Com Party line products.
- **TEL-14**— allows two standard 2-wire POTS telephone lines to be connected to Matrix ports.
- **TEL-12A**—a single-channel interface of 4-wire audio to a 2-wire standard analog POTS telephone line.
- **RLY-6** – provides six relays that can be wired for general purpose use and controlled directly by the matrix frame.
- **GPI-6** – provides a method to read external switch closures and control voltages and translate them to operations in the matrix frame.

MATRIX PLUS II INTERFACE COMPATIBILITY

The rear-panel circuitry of the IMF-102 is not completely compatible with all Matrix Plus II interfaces. The following outlines the extent of compatibility for various interfaces.

- **FOR-22** – completely compatible.

- *The IMF-102 provides an interface between a Matrix frame and as many as two interfaces.*

- *The IMF-102 has an internal power supply.*

- **CCI-22** – completely compatible.
- **TEL-14**—completely compatible.
- **TEL-12A**—completely compatible.
- **RLY-6** – not supported and can not be modified to operate in the IMF-102. The RLY-6 replaces the RLY-8 and is designed specifically to operate in the IMF-102.
- **GPI-6**—not supported and can not be modified to operate in the IMF-102. The RLY-6 replaces the RLY-8 and is designed specifically to operate in the IMF-102.

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INSTALLATION

CONNECTING INTERFACES

Each interface is shipped with an associated connector panel that is mounted on the rear of the IMF-102 to provide the input and output connectors. Because most of the interfaces were originally designed for older Clear-Com matrix systems (Matrix Plus I and Plus II), some call-signal and connector-type translation is necessary to use these interfaces in a Matrix Plus 3 system. Each rear panel has circuitry to perform this translation.

Note: Because the rear panels of all interfaces are universal, the IMF-102 will be shipped with two interface rear panels.

- *Interfaces are shipped with their rear panels.*

POWER-SUPPLY REQUIREMENTS

The IMF-102 has an internal power supply and a rear-panel connector to provide redundant power.

For example, a PSU-101 can be plugged in directly for redundant operation.

STEP-BY-STEP INSTALLATION

To install the IMF-102:

- *The IMF-102 has an internal power supply.*
1. Remove the IMF-102 from its shipping carton.
 2. Remove the blank plates from each slot in which an interface module will be installed.
 3. Install the interface modules in the front and rear panels on the back of the IMF-102.
 4. Install the IMF-102 in the 19-inch rack.
 5. If redundant power supply is required, connect the IMF-102 to a PSU-101 Power Supply.
 6. Install the rear panel modules that came with the interface.
 7. Connect a redundant PSU-101 if necessary.

Note: If the IMF-102 is ordered separately from a complete Matrix Plus system, the IMF-102 frame is shipped without any interface modules installed. A blank cover is provided for the unused interface slots.

3 MAINTENANCE

Following are the bill of materials and schematic for the IMF-102 PCB:

BILL OF MATERIALS

IMF-102 PCB

CAPACITOR

Value	Type	Volts	Tol.	Part#	Designator
.1 uF	Monolithic	50V	10%	150035	C1-C4

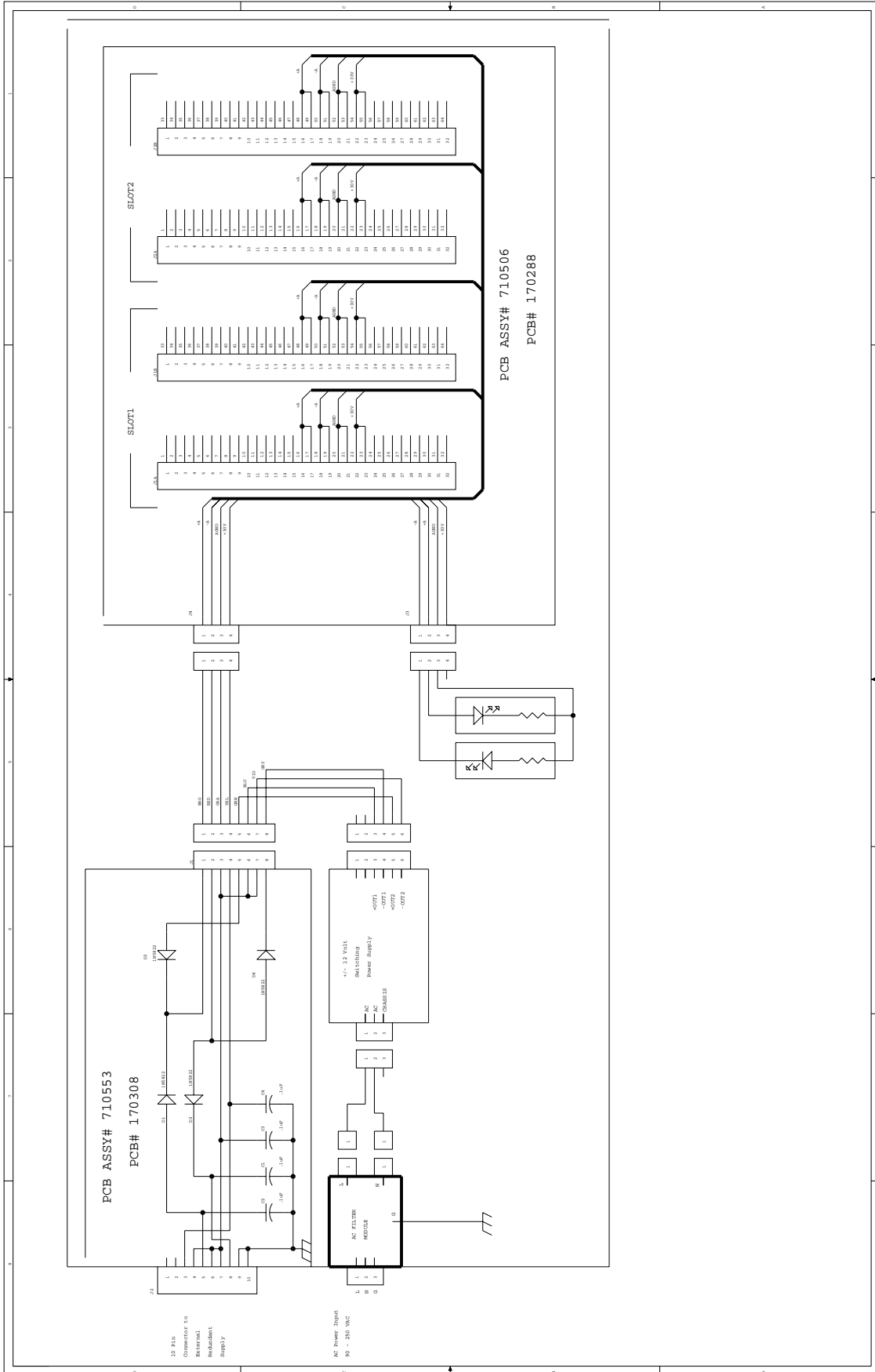
DIODE

Device	Description	Part#	Designator
Diode	1N5822	480100	D1-D4

MISCELLANEOUS

Type	Description	Part#
Cover Kit	Blank	820079
Power Supply	Dual +/- 12v, 40W	400023
Card Guide	.075 Deep 7.0"L	640072

IMF-102 SCHEMATIC



4 SPECIFICATIONS

- *The IMF-102 can accommodate one or two interface modules.*

- *The interface has an internal power supply.*

PLUG-IN MODULE CAPACITY

Quantity Two

CONNECTORS (REAR PANEL)

10 Pin Jones One redundant power input connectors
IEC Power Connector One

POWER REQUIREMENTS

+ 9 V Analog 0.2 A (frame only; no modules)
- 9 V Analog 0.2 A (frame only; no modules)
AC Requirements 90 VAC to 250 VAC, 20 W

OPERATING ENVIRONMENT

Temperature 32° to 122° F (0° to 50° C)
Humidity 40% to 90% relative humidity (non-condensing)

DIMENSIONS

Width 19 in. (48.26 cm)
Height 1 RU 1.75 in. (13.3 cm)
Depth 13.56 in. (34.44 cm)
Weight 6.25 lbs (2.8 kg) (no modules installed)

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CLEAR-COM LIMITED WARRANTY

The Clear-Com warranty does not cover any defect, malfunction, or failure caused beyond the control of Clear-Com, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in the manual, defective or improperly associated equipment, attempts at modification and repair not authorized by Clear-Com, and shipping damage. Products with their serial numbers removed or defaced are not covered by this warranty.

This warranty is the sole and exclusive express warranty given with respect to Clear-Com products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose.

- *Return Authorization Numbers are required for all returns.*

Any and all implied warranties, including the implied warranty of merchantability are limited to the duration of this express limited warranty. Neither Clear-Com nor the dealer who sells Clear-Com products is liable for incidental or consequential damages of any kind.

For your own records fill in the information below:

Model No. _____ Serial No. _____
Date Purchased _____
Purchased from (dealer) _____
Address _____
City _____ State _____ ZIP _____

FACTORY SERVICE

Do not return any equipment to the factory without first obtaining a Return Authorization Number.

- *Warranty and non-warranty repairs are available. Contact the factory.*

All equipment returned for repair must be accompanied by documentation stating the return address, telephone number, date of purchase, and a description of the problem.

Send equipment to be repaired to:

Customer Service Department
Clear-Com Intercom Systems
4065 Hollis Street
Emeryville, CA 94608-3505
Telephone: (510) 496-6666
Fax: (510) 496-6610
Web site: www.clearcom.com

WARRANTY REPAIR

If in warranty, no charge will be made for the repairs. Equipment being returned for warranty repair must be sent prepaid and will be returned prepaid.

NON-WARRANTY REPAIR

Equipment that is not under warranty must be sent prepaid to Clear-Com. If requested, an estimate of repair costs will be issued prior to service. Once repair is approved and repair of equipment is completed, the equipment will be shipped freight collect from the factory.