AMP Rack User Manual

Publication 372000-96 Rev G

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Introduction

This manual contains information for the AMP Rack from Forney Corporation, 16479 Dallas Parkway, Suite 600, Addison, Texas. www.forneycorp.com

All personnel should become thoroughly familiar with the contents of this manual before attempting to use the Forney AMP Rack. Because it is virtually impossible to cover every situation that might occur during operation and maintenance of the equipment described in this publication, personnel are expected to use good engineering judgment when confronted with situations that are not specifically mentioned herein.

Proprietary Notice

Revisions

Revision	Date	Comments
A	6/2005	Initial Release
B	7/2007	
C	11/2009	Update spares part numbers
D	11/2011	Update reference to amplifier manuals
E	01/2015	Add RM-IDD9000
F	01/2017	Remove DC power options / update RMA section
G	01/2017	Add Power Consumption

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Section 1 General Information

The Forney AMP Rack has 8 slots that can accommodate the RM-IDD, RM-DR6101E and/or RM-IDD9000 amplifiers. The AMP Rack is available with either a single, redundant AC input power supplies, or without power supplies. See Figure 1 below.

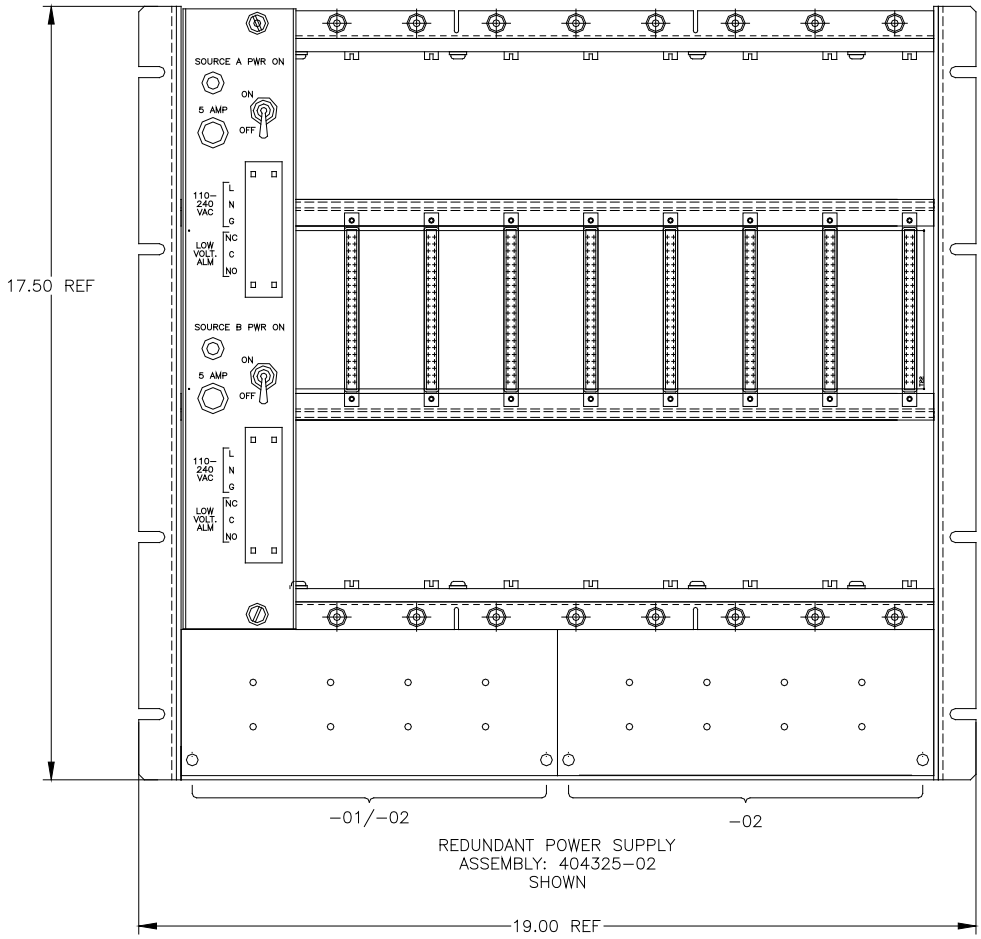

Figure 1 Typical AMP Rack Assembly

1.1 Equipment Description

The AMP Rack will fit into any standard 19” EIA rack mounting hardware and is 10 units high.

AMP Rack Component	Weight
Empty Rack	18 lbs
Power Supply Module	6 lbs
Power Bezel	1 lb
Assembled rack w/2 PS	31 lbs

1.2 Power Requirements

If only one external AC power source is to be used, the second slot is supplied with a cover. A second power supply module and a second voltage monitoring board may be added at any time for redundancy. If the DC power is external and a model without power supplies is used, two covers for the power supplies, and a cover power bezel will be provided.

1.2.1 Input Power

The external power source connection is to a dedicated power distribution bezel on the left side of the AMP rack.

The power module internals are self-regulating and will accept 90 – 250 VAC 50/60 Hz power sources.

Power consumption is 200 VA per power supply. Each power module is supplied with a 5-amp fuse.

Inrush current: 115VAC/ 230 VAC : 75 Amp / 150Amp
Rated load current: 115 / 230 VAC : 4.5 Amp / 2.75 Amp

1.2.2 Output Power

Each power supply module provides an output of 8.3 volts @12 amps, +15 volts @ 4.2 amps, and –15volts @ 3 amps.

1.2.3 Power Distribution Bezel

The power distribution bezel includes:

- Green LED to indicate Power On
- OFF-ON toggle switch
- 5-amp fuse (replacement part number 71311-00)
- L, N, and G power terminals
- NC, C, and NO dry contact terminals (used by BMS to monitor AMP Rack logic voltage level)

The terminal block for both the power and dry contact is 6-position rated for 300V and 20 amperes. It can accept #12-22 AWG wire.

1.2.4 Voltage Monitoring Circuit

The power distribution bezel has one dry contact output per source for monitoring logic level voltage. If the logic level voltage is above 5.5 VDC, a relay is energized changing the state of its contact. If the logic level is below the 5.5 VDC threshold, the relay drops out. This form C contact is available at the power bezel terminals labeled NO, C, and NC. This contact is rated for 240 VAC and 5 amps.

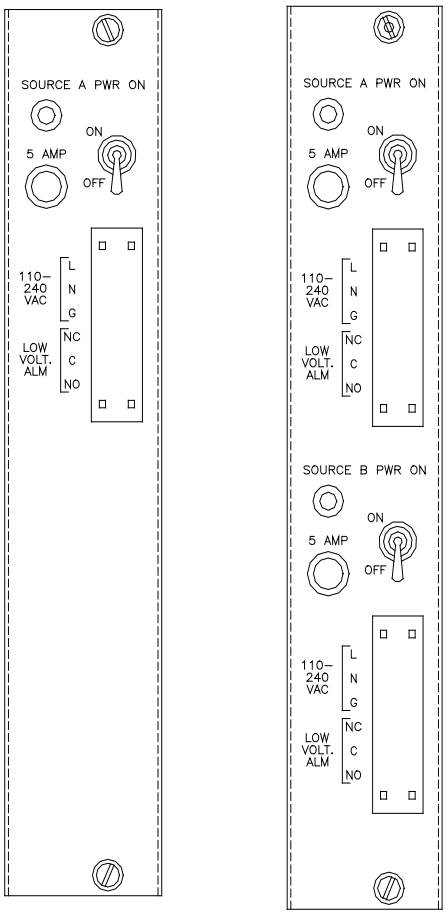

Figure 2 Bezel with Single and Redundant Power Source

1.3 Detectors, Amplifiers and Bezels

Each AMP Rack accepts up to (8) amplifiers. Any combination of the following may be used.

AMP Rack Amplifier Selection			
Amplifier	**AMP Part Number**	**Bezel Part Number**	**Detectors**
RM-IDD	358317-01	364740-01	IDD-II IDD-IIU IDD-IIL
RM-DR 6101E	388056-01	384817-01	IDD-II IDD-IIU IDD-IIL UV-4 DR6.1
RM-IDD9000	408120-01	Bezel included with Amp	IDD-II IDD-IIU IDD-IIL IDD-Ultra IDD-IICEX IDD-IIU CEX IDD-UV CEX IDD-Ultra CEX

Field wiring from flame detector to amplifier bezel is located in the technical literature for the amplifier. Please refer to the appropriate publication for your system (RM-IDD Publication #372000-93, RM-DR6101E Publication #372000-45 or RM-IDD9000 Publication #372001-09).

1.4 Retrofit and V-Rack Replacement

The AMP Rack can replace any AC powered V-rack (380375-xx). See table below.

V-Rack to AMP Rack Cross Reference		
OLD V-Rack Part #	**NEW AMP Rack Part #**	**Power Source A / Power Source B**
380375-01	404325-01	120 VAC / none
380375-02	404325-02	120 VAC / 120 VAC
380375-04	404325-01	240 VAC / none
380375-05	404325-02	240 VAC / 240 VAC

- The AMP Rack has only 8 slots compared to 9 in the V-Rack. If the existing V-rack has 9 amplifiers installed, two (2) AMP Racks will be required.
- If an AMP Rack is used to replace an existing V-rack, the existing amplifiers and bezels may be re-sued. The small power distribution board required on the back of each amplifier by the V-rack is no longer required.
- The AMP Rack is smaller (in height only) than the V-rack. If a V-rack is removed, the AMP Rack will fit in its space.
- A quantity of 4 AMP Racks will fit in one (1) “side” of a 200mm (79”) x 800 mm (31”) x 800 mm (31”) Rittal style cabinet. The standard TS880B cabinet will hold 8 racks total (4 per side) if power distribution is installed on the side.

Section 2 Storage and Handling

To preserve the quality of the equipment during storage and handling, follow the below requirements.

2.1 Storage

All equipment shall be placed in a storage facility that provides protection from outside weather and controls the inside environment. Using an inadequate storage facility creates the potential for exposing the equipment to extremes of temperature, humidity, vibration, and shock. Any of these conditions can render the equipment unreliable or inoperable under normal operating conditions.

To preserve the reliability of electrical components, store within the following ranges at all times:

- Absolute minimum-maximum temperature range: -50º C to +70º C (-58º F to +158º F)
- Recommended minimum-maximum temperature range: +10º C to +20º C (+50º F to +68º F)
- Relative humidity: 5% to 95% non-condensing
- Maximum allowable shock conditions: 25 g for 30 ms.

CAUTION: The storage facility shall be free from rodent or insect infestation. Rodents will chew through wiring and plastic.

In the event the equipment cannot be stored inside and is to be stored outside, all crates shall be protected from weather and moisture. Crates to be set on the ground shall be stored as follows:

- Set 4- x 4-inch spacers on the ground.
- Cover the spacers with 10 mil polyethylene tarp (or equivalent).
- Set the crate on the tarp-covered spacers.
- Staple the tarp so that the bottom of the crate is protected against moisture.

All crates shall be covered with a 10-mil polyethylene tarp (or equivalent) that is stapled down the sides to within 6 inches of the bottom.

2.2 Handling

When handling equipment, follow the guidelines provided in the following paragraphs.

2.2.1 Stacking and Lifting

- When lifting or storing crates, ensure that the crate orientation is as marked. Do **not** orient the crates other than as the crates are marked.
- Stack only similar size crates. Spacers shall be inserted between crates to allow strapping access.
- Crated material may be stacked no more than two high. Non-crated material may not be stacked.

2.2.2 Unpacking

When unpacking equipment, observe the following guidelines.

CAUTION: Lift from all four corners, and maintain a level lift.

- Do not drop any crate or package. Any mishap may void performance warranties.
- Do not bump any crates. Damage to the integrity of the crate may damage the equipment or the protective equipment packaging.
- Do not push any crates with a tow motor, fork truck, or any other device. Damage to the integrity of the crate may damage the equipment or the protective equipment packaging.
- Use caution when unpacking crates. Do **not** dislodge item tagging.

Section 3 Installation

The AMP Rack is a standard 19” width rack assembly. Attach with 4 bolts per side. The side flanges can be removed and installed in the back of the assembly for panel mount installations.

1. Install the wiring according to the electrical schematics.
2. Refer to the Bill of Material for item descriptions and quantities.

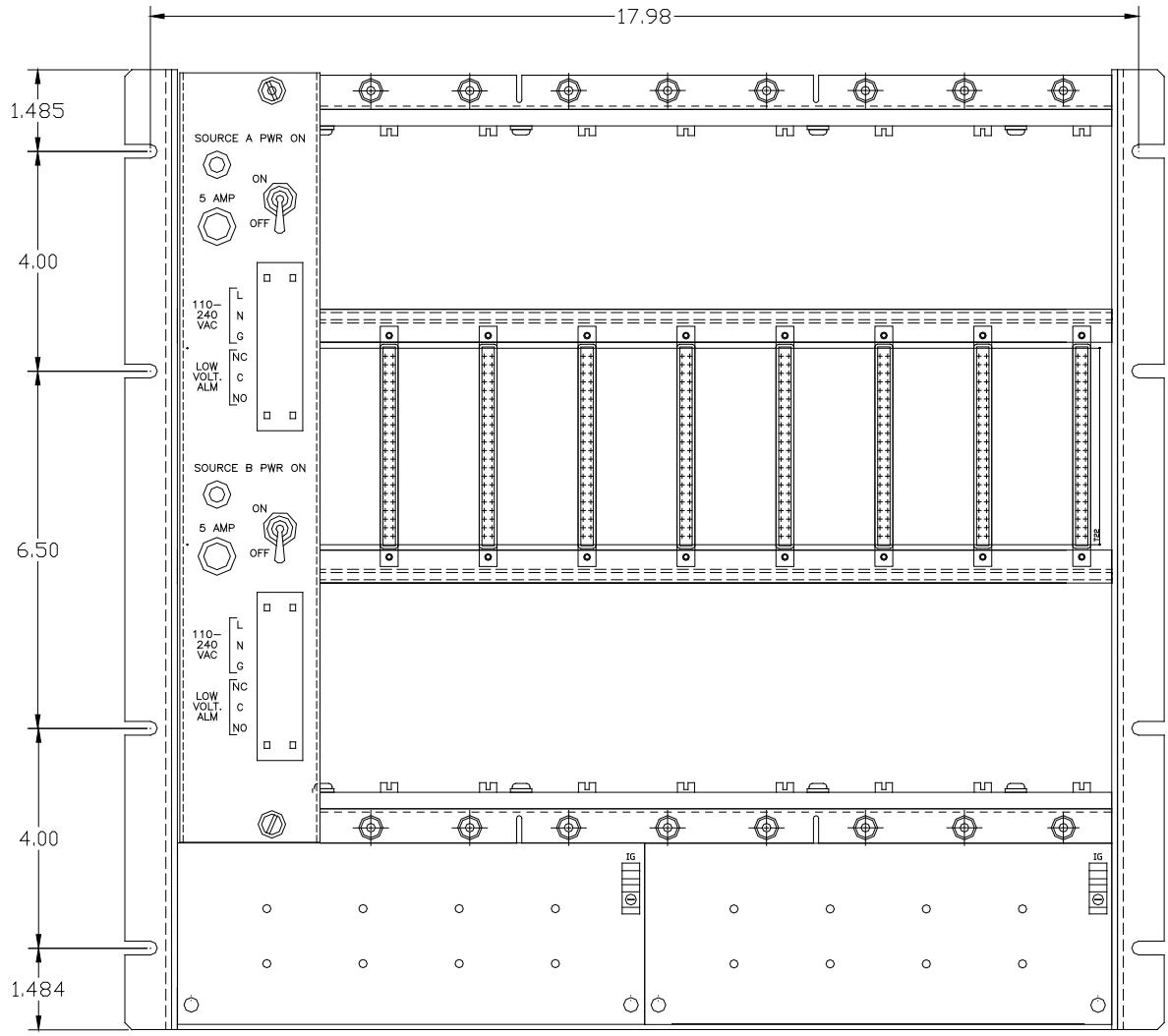

Figure 3 Installation Hole Pattern

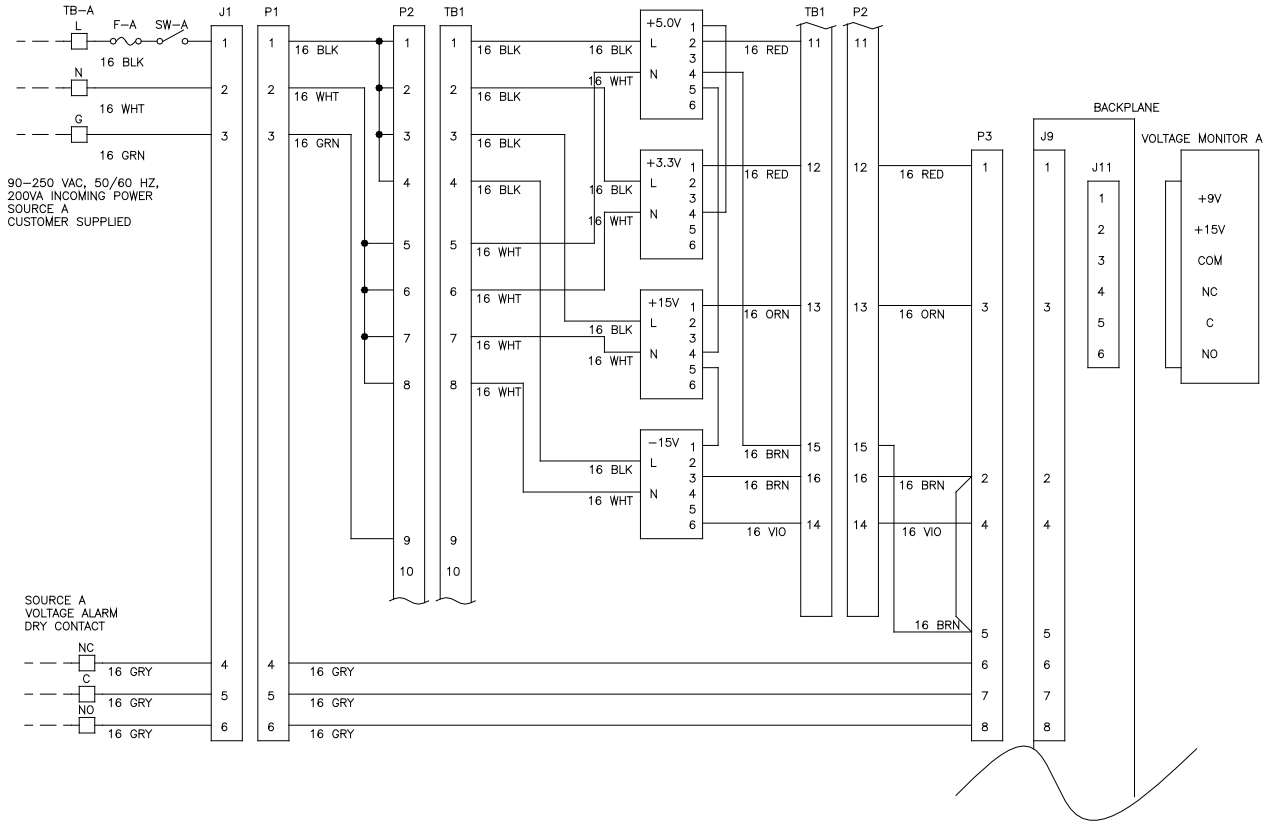

Figure 4 Internal Wiring Diagram (reference)

Section 4 RMA / Warranty

Forney Corporation warrants this product to be free of defective material and workmanship. Forney will replace this equipment as long as it is being used for its intended use and is found to be defective upon receipt up to the expiration of the warranty period.

Prior to returning any material to Forney, please contact your Forney customer service representative and provide the contract number or the customer purchase order number.

Section 5 Spare Parts

When ordering spare parts, contact Forney's Spares Department via any one of the following methods and furnish the following information.

Mail	Phone	Fax
Attn: Spare Parts Forney Corporation 16479 North Dallas Parkway Suite 600 Addison, TX 75001	(972) 458-6100 or (972) 458-6142 or 1-800-356-7740 (24-hour direct line)	(972) 458-6600

- Contract number
- Customer purchase order number
- For each part ordered, provide the following information:
  - Part number
  - Part description
  - Quantity required

5.1 Recommended Spare Parts

Spare part numbers for the AMP Rack assembly are listed in the following table.

Part Number	Description
404325-01	AMP Rack with Single AC Power Source, 120 – 220 VAC
404325-02	AMP Rack with redundant AC power source, 120 – 220 VAC
404325-03	AMP Rack with NO power supplies
404358-02	Power Supply module*
404345-01	Voltage Monitoring Board

* The power supply is only available as a plug-in assembly; internal parts are NOT available for separate purchase.