

McCurdy

ADA-700  
AUDIO DISTRIBUTION AMPLIFIER  
User's Manual

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AUDIO DISTRIBUTION AMPLIFIER  
User's Manual



*Molex mini-fit jr  
- 165"*

McCurdy Radio Industries Limited

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August, 1987

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PREFACEWarranty

McCurdy Radio Industries Limited warrants to the original purchaser, that this product is free from defects in materials and workmanship, under normal use, for a period of one year from the date of shipment.

In the event that McCurdy Radio Industries Limited determines, in its sole discretion, that the product is defective within the warranty period-- and provided that the purchaser returns the product, properly packaged and freight prepaid, to a designated McCurdy Radio Industries Limited service and repair facility--McCurdy will, at its option, repair or replace the product. The repaired product will be returned (F.O.B. Toronto), as directed by the customer.

No warranty is implied or expressed as to the suitability of this product for a particular usage and McCurdy Radio Industries Limited is not liable for any consequential damages however caused.

Inquiries

All inquiries regarding discrepancies in equipment received, service under warranty, or procurement of replacement parts, should be addressed to:

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108 Carnforth Road,  
Toronto, Ontario, Canada  
M4A 2L4

Telephone: (416) 751-6262, or (212) 772-0719

Telex: 06-963533

Facsimile: (416) 751-6455



Safety Summary

Power source

This equipment is designed to operate from either a 117 V or 220 V AC 50/60 Hz power source.

Grounding

This product is grounded through the grounding pin of the line cord. To avoid electrical shock, plug the line cord into a properly wired receptacle before making any input or output connections with other devices. A protective ground connection, by way of the grounding conductor of the line cord, is essential for safe operation.

Power line cord

Use only the line cord and connector specified for your unit. Ensure that the line cord is in good condition and free of kinks.



ADA-700 AUDIO DISTRIBUTION AMPLIFIER

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ADA-700 AUDIO DISTRIBUTION AMPLIFIERDESCRIPTION

A rugged and reliable performer, the McCurdy ADA-700 consists of two, independent, distribution amplifiers and a self-contained power supply within a sturdy housing. The compact housing, of standard width, requires only one unit of rack height.

The distribution amplifier, for custom applications in broadcast and professional audio equipment, is almost noise- and distortion-free. In stereo service, ADA-700 supplies amplified power to eight outputs. Each output can be individually adjusted by the convenient front-panel controls within a range of 34 dB.

The space and power requirements for the ADA-700 are minimal. The unit, only 1.75" high fits a standard 19" (483 mm) rack. An AC power-entry module, with a built-in fuse and voltage selector switch, can be easily switched to either 117 V, 60Hz or 220 V, 50Hz service.

The compact ADA-700 has other features; these, apparent only to those who have reason to examine the interior of the unit, include;

- o miniaturized, solid-state circuitry. The circuitry is assembled on a high-quality, glass epoxy printed circuit board.
- o quiet, toroidal-transformer power supply,
- o reliable, Molex "Mini-fit" Jr(<sup>1</sup>)connectors,
- o 150/600 ohm input termination that, by means of jumpers, can be readily inserted.

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<sup>1</sup>Reg'd TM.

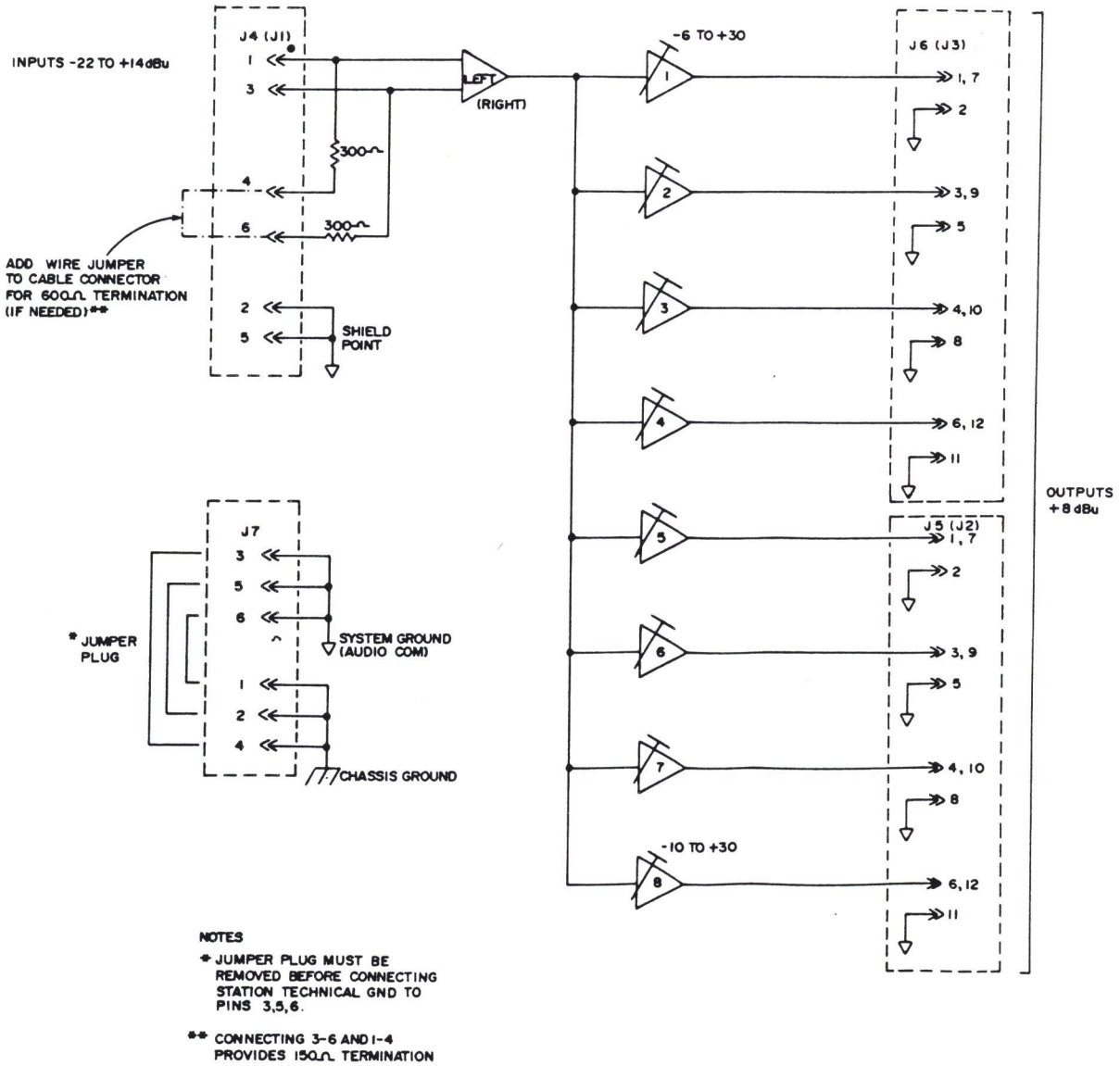


Fig.1 ADA-700 AUDIO FUNCTIONAL



SPECIFICATIONS

Amplifiers	Two; in stereo service, they are used to drive eight outputs from one input.
Input level	-22 to +14 dBu nominal for +8 dBm output. Maximum +28 dBu.
Input impedance	>20 K ohms active, balanced.
Output level	+28 dBm, maximum; 600 ohm (minimum) terminated outputs.
Output source impedance	60 ohm, active balanced.
Output isolation	>80 dB, 20 Hz to 20 kHz.
Output dc offset	<±50 mV
Gain adjustment	Each output split can be adjusted independently within a range of 34 dB.
Frequency response	+0,-0.2dB, 20 Hz to 20 kHz.
Noise	124 dB below maximum output at unity gain. 20 Hz to 30 kHz.  Nominally 114dB below +18dBu terminated (600 ohm) output unity gain (20 Hz to 30 KHz) Typically 104 dB below +8dBm
Total harmonic distortion	<0.01% (20 Hz to 20 kHz) at unity gain. Up to +28 output level with 600 ohm outputs.
Inter-modulation distortion	<0.008% at unity gain. Up to +28dBm output level 600 ohms terminated (4:1 ratio) Typically <0.001% at +8 dBm.

Common-mode rejection	>80 dB, 20 Hz to 20 kHz. Typically 96 dB at 1 kHz
Common mode voltage.	100 V peak-to-peak, maximum.
Power Consumption	18 W. Maximum 117 Vac or 230 Vac nominal, ±10%, 50/60 Hz
Temperature range operating	0° to 50°C
Dimensions	
Width	19" (483 mm)
Height	1.718" (44 mm)
Depth	8.5" (213 mm)
Weight	9 lbs.(4.1 kg)
Finish	
Front Panel	- Light grey splatter enamel paint
Enclosure	- Copper flash, nickel dipped



INSTALLATIONUnpacking

Unpack the ADA-700 Audio Distribution Amplifier and verify that you have received these parts in apparent good order.

- ADA-700.
- Mounting hardware and mating connectors.
- AC line cord.
- Instruction manual.

NOTE

It is important that all articles be immediately and thoroughly inspected upon receipt. Any damage discovered should be cause for a damage claim against the carrier.

Preparation

The ADA-700 is a self-contained system, 1.75" (44 mm) high, that fits industry standard E.I.A. 19" (483 mm) equipment consoles and turrets.

Prepare the equipment rack for installation of the ADA-700 and locate a suitable power source.

REAR-PANEL

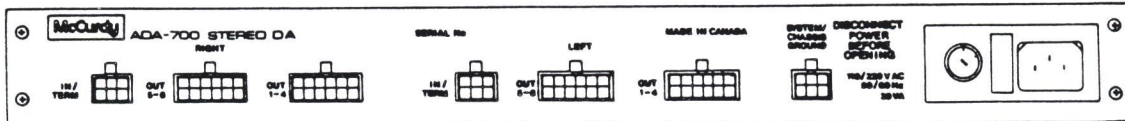


Fig. 2 - Rear-panel layout

1. RIGHT, IN/TERM, "Input and Termination", connector.
2. RIGHT, OUTPUT 5-8, connector.
3. RIGHT, OUTPUT 1-4, connector.
4. LEFT, IN/TERM, "Input and Termination", Connector.
5. LEFT, OUTPUT 5-8, connector.
6. LEFT, OUTPUT 1-4, connector.
7. SYSTEM/CHASSIS GROUND, connector.
8. POWER ENTRY MODULE, with voltage selector switch, fuse and line cord receptacle.

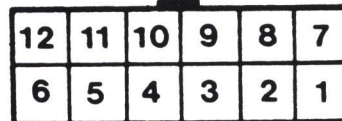


Connections

The following pin-out descriptions apply to both LEFT and RIGHT channel connectors. All pinouts are viewed from wiring side of mating connector.

Fig.3 IN/TERM connector

Pin	Function
1	+Audio input
3	-Audio input
4	If Audio input requires 600 ohm termination, install a jumper across Pins 4 and 6 (For 150 ohm termination- Jumper pin 3 to 6 and pin 1 to 4)
6	
2	Shield
5	Shield

Fig.4 OUTPUT 1-4 connector

Pin	Function
1	+Output, Amplifier 1
7	-Output,
2	Shield
3	+Output, Amplifier 2
9	-Output,
5	Shield
4	+Output, Amplifier 3
10	-Output,
8	Shield
6	+Output, Amplifier 4
12	-Output,
11	Shield

Fig.5 OUTPUT 5-8 connector

12	11	10	9	8	7
6	5	4	3	2	1

Pin	Function
1	+Output, Amplifier 5
7	-Output,
2	Shield
3	+Output, Amplifier 6
9	-Output,
5	Shield
4	+Output, Amplifier 7
10	-Output,
8	Shield
6	+Output, Amplifier 8
12	-Output,
11	Shield

Fig.6 SYSTEM GROUND/CHASSIS GROUND connector<sup>(2)</sup>

6	5	4
3	2	1

Pin	Function
1	Chassis ground
2	Chassis ground
4	Chassis ground
3	System ground, audio common
5	System ground, audio common
6	System ground, audio common

<sup>2</sup> To connect system ground with chassis ground, install a dummy plug with the following pins jumpered; pins 1 and 3, 2 and 5, and pins 4 and 6.



Power Connection

The unit may be operated on a supply voltage of either;

105/125 V, ac, 50/60 Hz, or  
210/250 V, ac, 50/60 Hz.

Before plugging the unit to a power supply verify that the unit is switched to receive the correct voltage. A line voltage switch forms part of the power entry module on the rear panel of the unit. Rotate the switch, with a flat screwdriver, to align the white dot with '110' or '220'; depending on your supply voltage requirements.  
[Refer to Fig. 2]

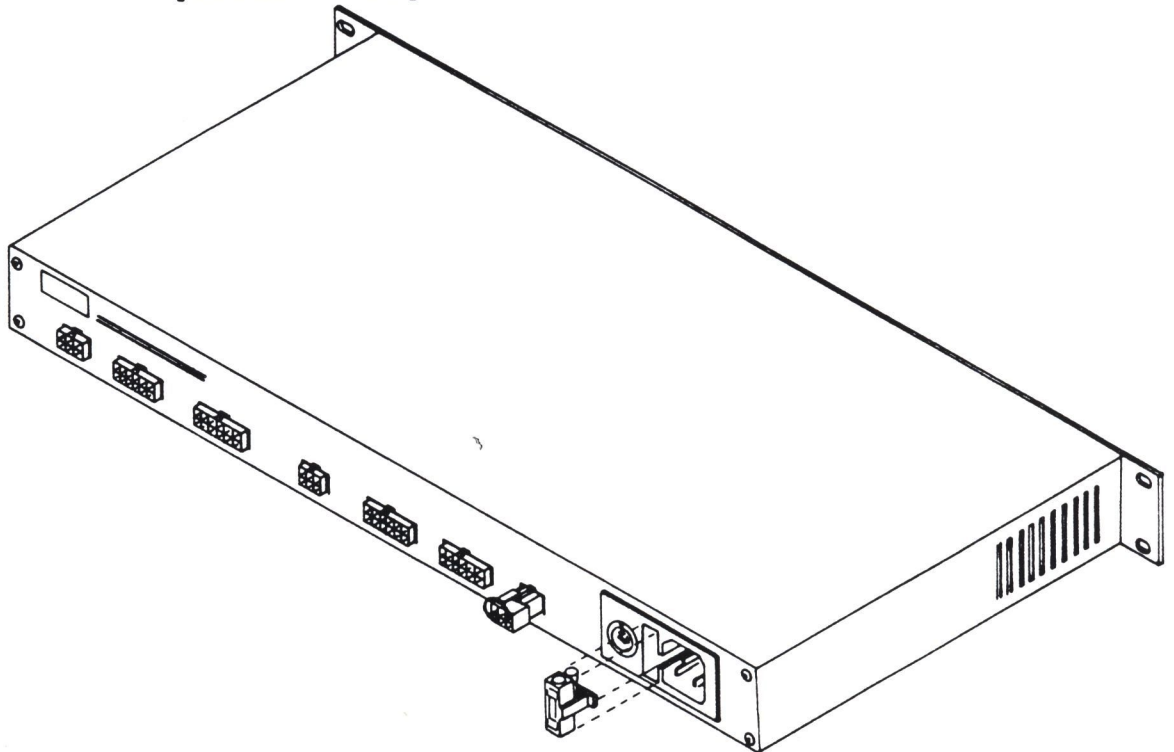
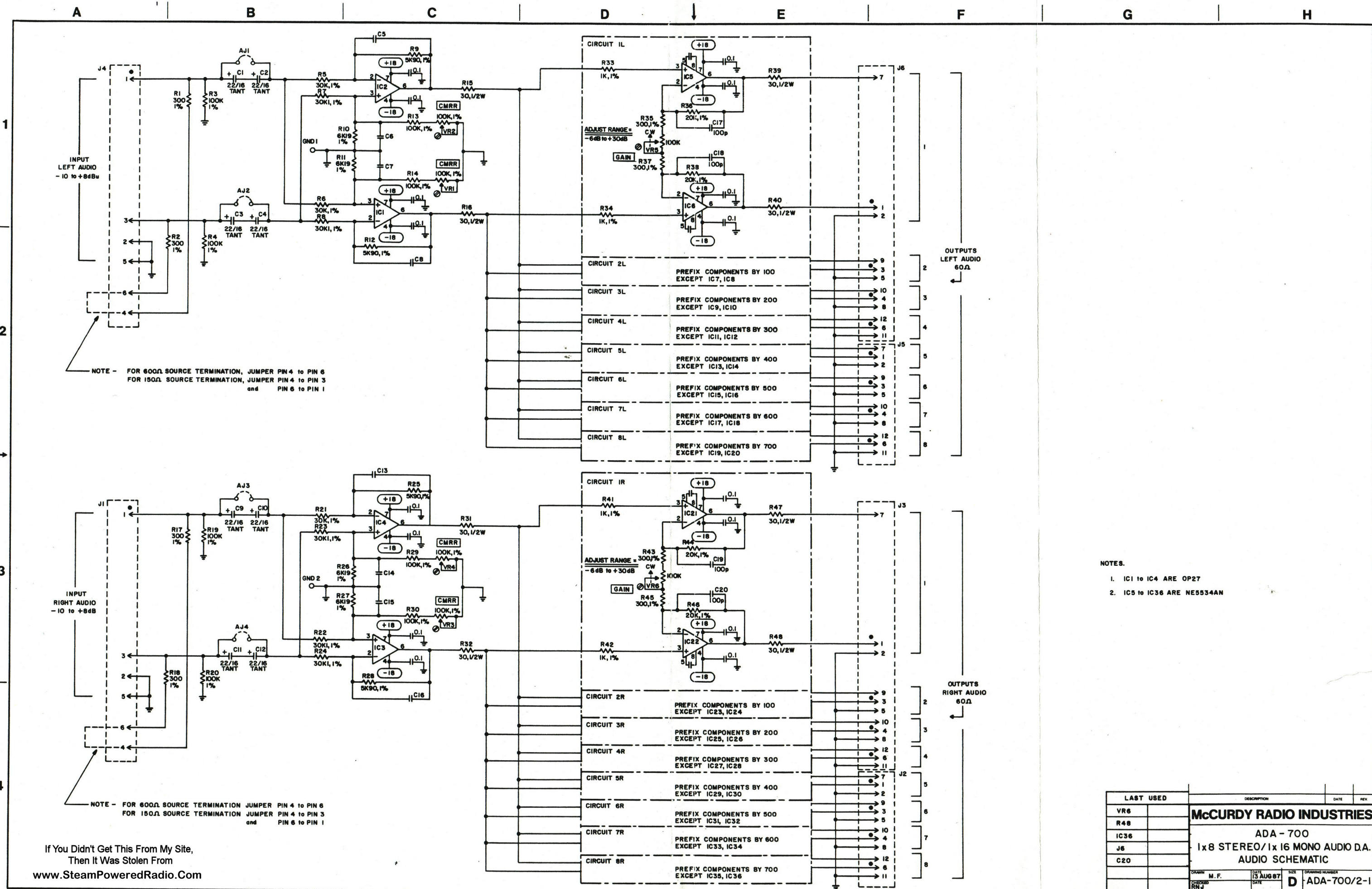


Fig. 7 -- Rear panel, Line voltage switch and fuse holder.

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NOTE - FOR 600Ω SOURCE TERMINATION, JUMPER PIN 4 to PIN 6  
 FOR 150Ω SOURCE TERMINATION, JUMPER PIN 4 to PIN 3  
 and PIN 6 to PIN 1

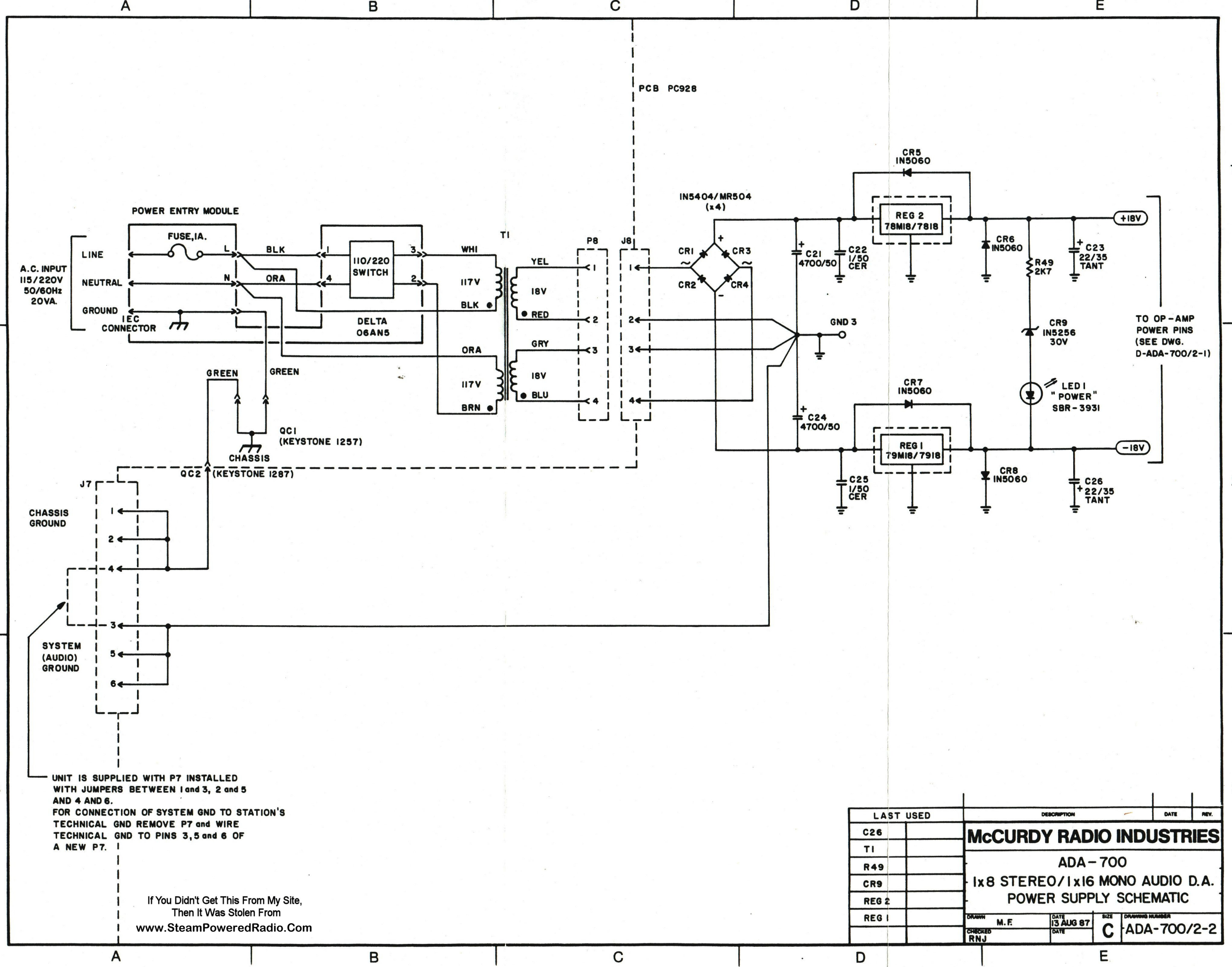
NOTE - FOR 600Ω SOURCE TERMINATION JUMPER PIN 4 to PIN 6  
 FOR 150Ω SOURCE TERMINATION JUMPER PIN 4 to PIN 3  
 and PIN 6 to PIN 1

- NOTES.
- IC1 to IC4 ARE OP27
  - IC5 to IC8 ARE NE5534AN

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LAST USED	DESCRIPTION	DATE	REV.
VR6	<b>McCURDY RADIO INDUSTRIES</b>  ADA - 700 1x8 STEREO/1x16 MONO AUDIO D.A. AUDIO SCHEMATIC		
R48			
IC36			
J6			
C20			
DRAWN M.F. R.N.J.	DATE 13 AUG 87	SIZE D	DRAWING NUMBER ADA-700/2-1





1

2

3

1

2

3

**POWER ENTRY MODULE**  
 FUSE, IA.  
 L  
 N  
 GROUND  
 IEC CONNECTOR

110/220 SWITCH  
 3  
 2  
 DELTA 06AN5

T1  
 WHI 117V  
 BLK  
 ORA 117V  
 BRN  
 YEL 18V  
 RED  
 GRY 18V  
 BLU

P8  
 1  
 2  
 3  
 4  
 J8  
 1  
 2  
 3  
 4

IN5404/MR504 (x4)  
 CR1  
 CR2  
 CR3  
 CR4

REG 2  
 78M18/7818  
 CR5 IN5060

C21 4700/50  
 C22 1/50 CER

R49 2K7  
 C23 22/35 TANT

CR9 IN5256 30V

LED1 "POWER" SBR-3931

REG 1  
 79M18/7918  
 CR7 IN5060

C24 4700/50  
 C25 1/50 CER

C26 22/35 TANT  
 CR8 IN5060

GREEN GREEN  
 QC1 (KEYSTONE 1257)  
 CHASSIS  
 QC2 (KEYSTONE 1287)  
 J7  
 1  
 2  
 3  
 4  
 5  
 6  
 SYSTEM (AUDIO) GROUND

UNIT IS SUPPLIED WITH P7 INSTALLED WITH JUMPERS BETWEEN 1 and 3, 2 and 5 AND 4 AND 6.  
 FOR CONNECTION OF SYSTEM GND TO STATION'S TECHNICAL GND REMOVE P7 and WIRE TECHNICAL GND TO PINS 3, 5 and 6 OF A NEW P7.

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LAST USED	DESCRIPTION	DATE	REV.
C26			
T1			
R49			
CR9			
REG 2			
REG 1			
<b>McCURDY RADIO INDUSTRIES</b>			
<b>ADA-700</b>			
<b>1x8 STEREO/1x16 MONO AUDIO D.A. POWER SUPPLY SCHEMATIC</b>			
DRAWN	M.F.	DATE 13 AUG 87	SIZE C
CHECKED	RNJ	DATE	DRAWING NUMBER ADA-700/2-2

A

B

C

D

E

F

G

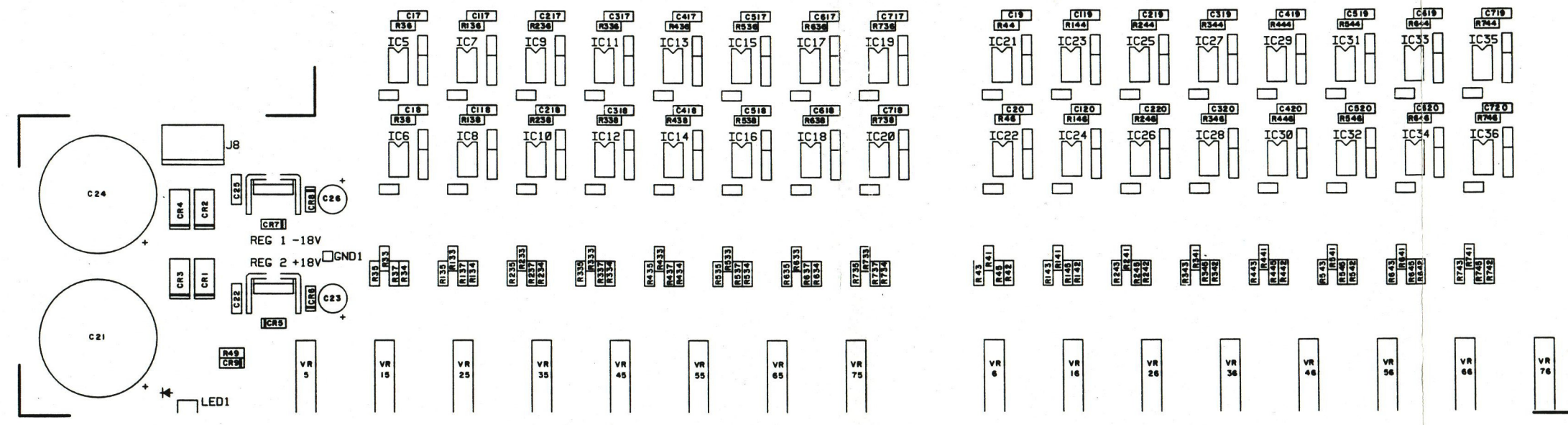
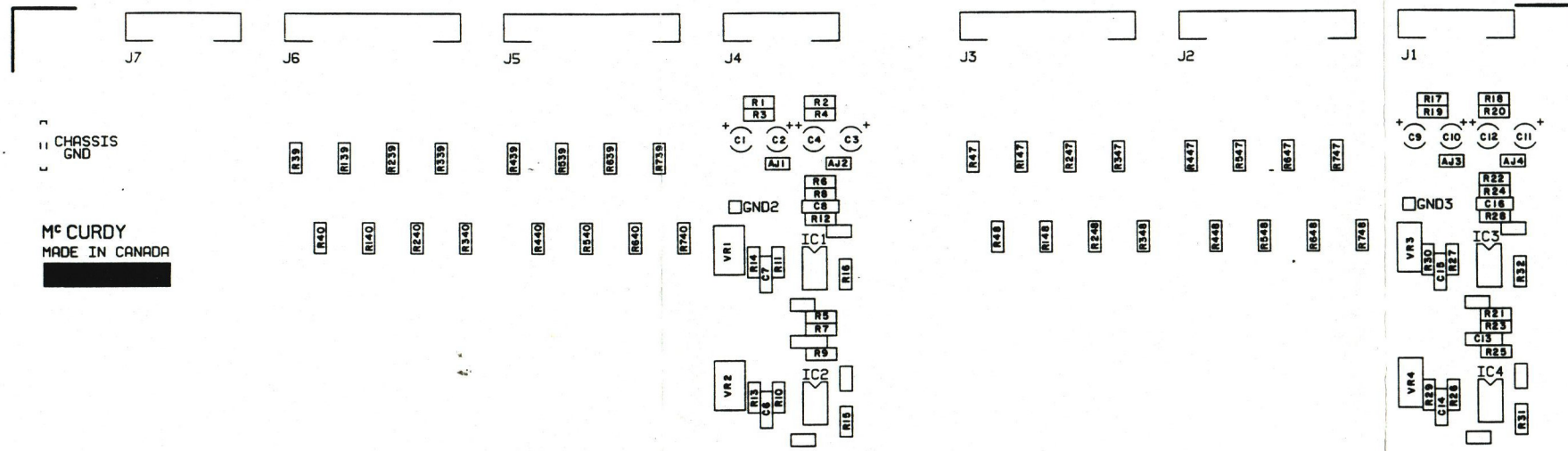
H

1

2

3

4



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DESCRIPTION	DATE	REV.
<b>McCURDY RADIO INDUSTRIES</b>		
ADA - 700 COMPONENT LAYOUT		
DESIGNED M. F.	DATE 24 AUG 87	SIZE D
CHECKED RNJ	DATE	DRAWING NUMBER ADA-700/8-1

A

B

C

D

E

F

G

H



A

B

C

D

E

F

G

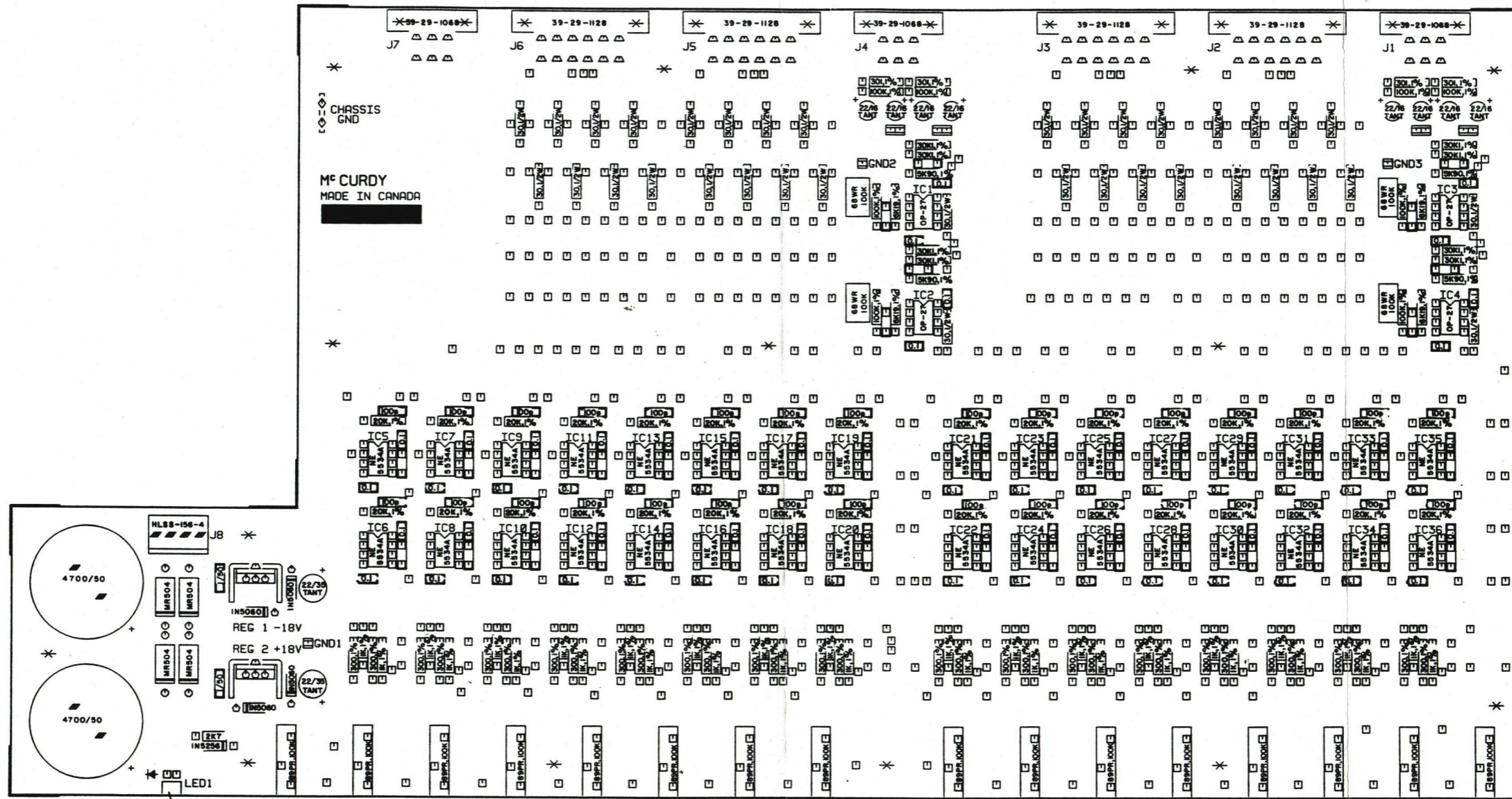
H

1

2

3

4



- NOTES.
1. ALL RESISTORS ARE 1/4W 1% UNLESS OTHERWISE SPECIFIED.
  2. GND 1, GND 2 and GND 3 HAVE CAMBION PINS INSTALLED. (P/N 460-2470-01-03-00)
  3. AJ1 to AJ4 ARE BERG (DUPONT) 2 POSITION PIN HEADERS (P/N 65500-102)
  4. CHASSIS GND IS A .250 QUICK DISCONNECT TAB. (P/N 1257)

DESCRIPTION		DATE	REV
<b>McCURDY RADIO INDUSTRIES</b>			
ADA - 700			
ASSEMBLY DRAWING			
DRAWN	M. F.	DATE	SIZE
CHECKED	RNJ	DATE	D
			DRAWING NUMBER
			ADA-700/8-2

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A

B

C

D

E

F

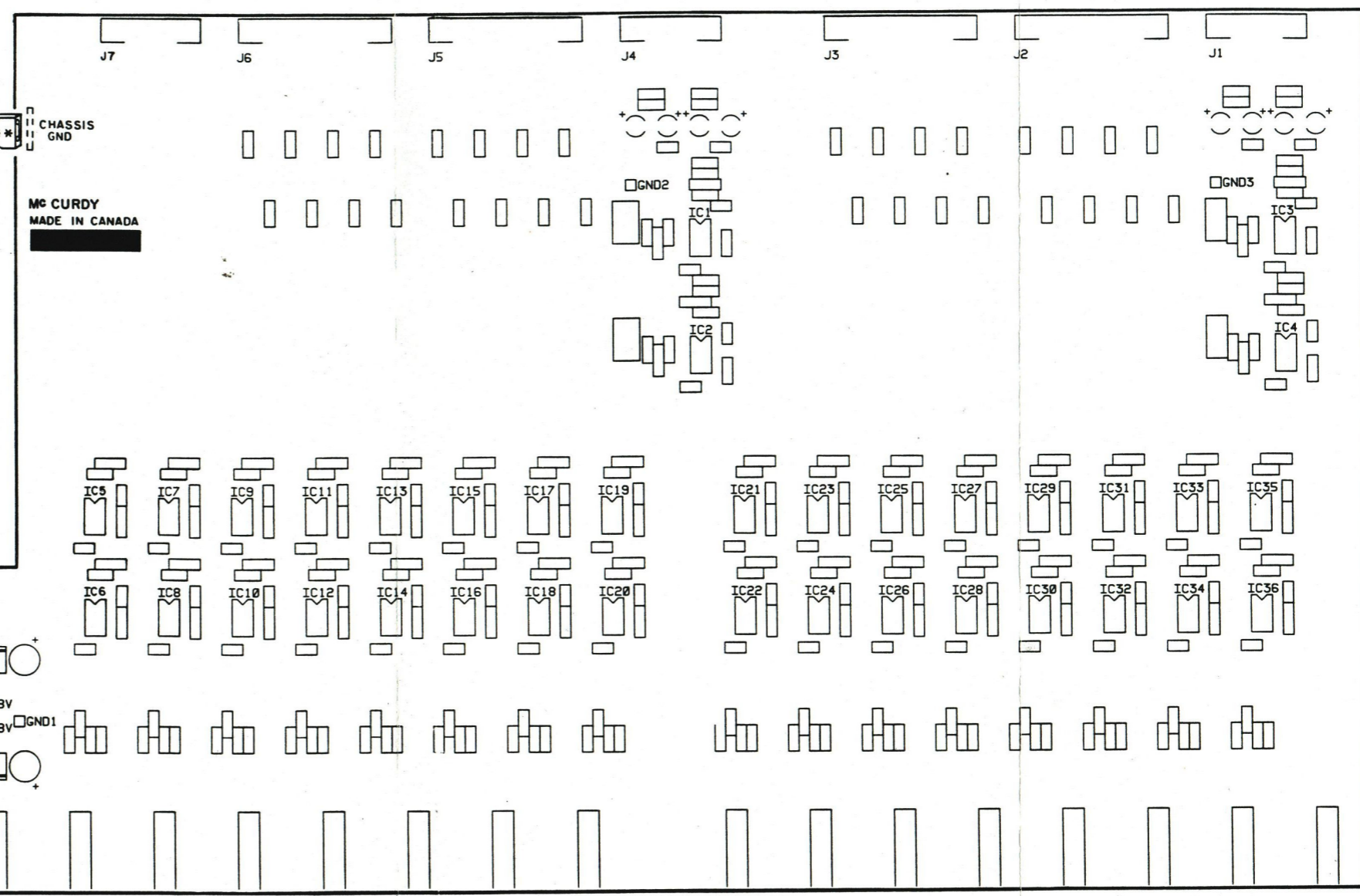
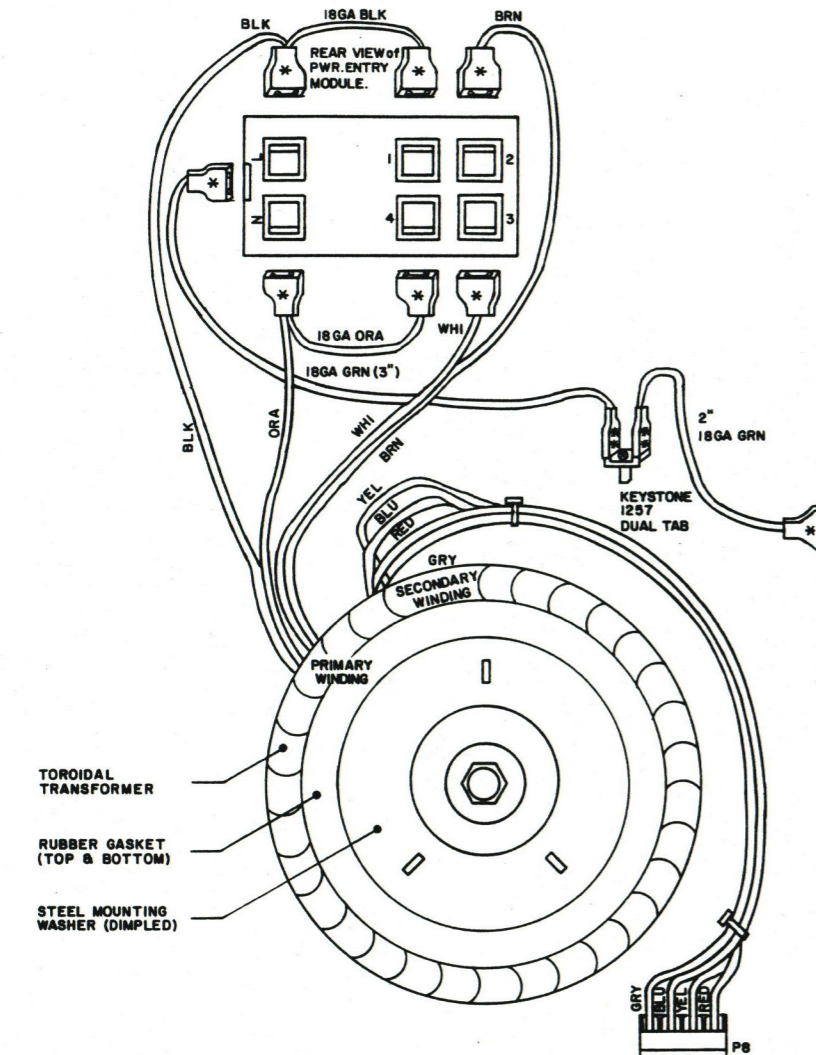
G

H



A B C D E F G H

1  
2  
3  
4



- NOTES.
- \* QUICK DISCONNECT (FEMALE)  
(P/N DV18-250FI, PINK)  
\*\* QUICK DISCONNECT (FEMALE)  
(P/N DV18-25)
  - P8 IS A PANDUIT CE-156-F-18-4

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DESCRIPTION		DATE	REV
<b>McCURDY RADIO INDUSTRIES</b>			
ADA-700 EXTERNAL COMPONENT ASSEMBLY DRAWING			
DRAWN M. F.	DATE 25 AUG 87	SIZE D	DRAWING NUMBER ADA-700/8-3
CHECKED RNJ	DATE		

A B C D E F G H



