

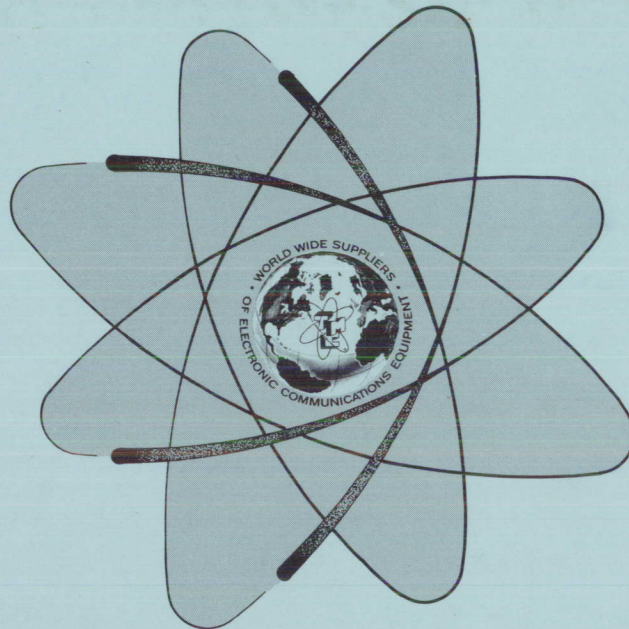
MASTER
COPY

TECHNICAL MANUAL for

TRANSPORTABLE
TRANSMITTER/RECEIVER SYSTEM
MODEL SYM5204

s/o 523467 Manual divided into two sections
Transmitting Section containing
HFTA-1KJ2/1P, HFLA-1K, MMXA-2,
TFP-1K, ATSA-3

Receiving section containing
ITT3020A, N/R 174/3
SYM3202



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MAMARONECK, N.Y. OTTAWA, ONTARIO

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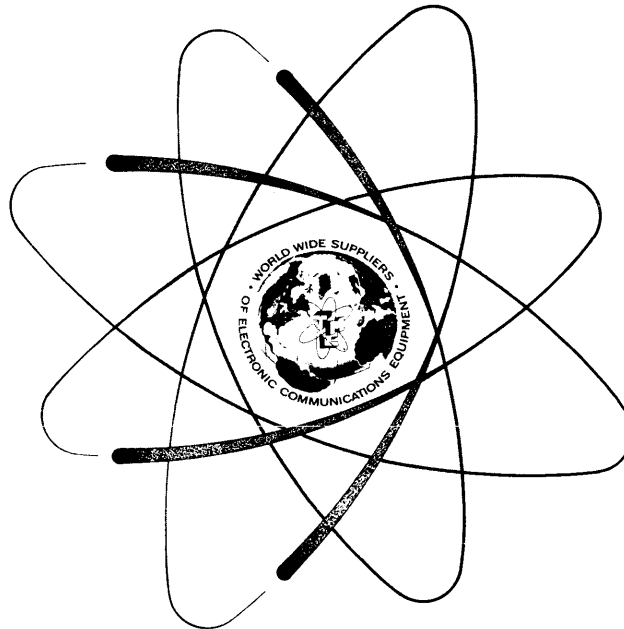
TECHNICAL MANUAL

for

TRANSPORTABLE

TRANSMITTER/RECEIVER SYSTEM

MODEL SYM5204



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MAMARONECK, N.Y.

OTTAWA, ONTARIO

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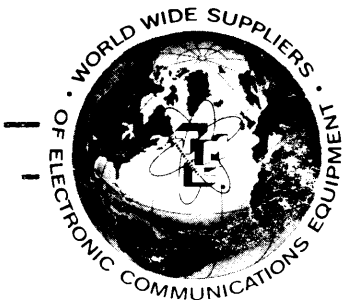
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IN 5204

Issue Date: OCTOBER 1975

NOTICE

THE CONTENTS AND INFORMATION CONTAINED IN THIS INSTRUCTION MANUAL IS PROPRIETARY TO THE TECHNICAL MATERIEL CORPORATION TO BE USED AS A GUIDE TO THE OPERATION AND MAINTENANCE OF THE EQUIPMENT FOR WHICH THE MANUAL IS ISSUED AND MAY NOT BE DUPLICATED EITHER IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER WITHOUT THE WRITTEN CONSENT OF THE TECHNICAL MATERIEL CORPORATION.



THE TECHNICAL MATERIEL CORPORATION

C O M M U N I C A T I O N S E N G I N E E R S

700 FENIMORE ROAD

MAMARONECK, N. Y.

W a r r a n t y

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes, *fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes *furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

*Electron tubes also include semi-conductor devices.

PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

PROCEDURE FOR ORDERING REPLACEMENT PARTS

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

THE TECHNICAL MATERIEL CORPORATION
Engineering Services Department
700 Fenimore Road
Mamaroneck, New York

Transportable
High Frequency Transmitting/Receiving System
Model SYM5204

The SYM5204 System is a transportable high frequency transmitting and receiving system, consisting of the Model HFTA-1KJ radio transmitter, and the SYM3202 Dual Diversity RTTY Receiving System, which are modified for transportable operation.

Installation of the system is shown in the following illustrations.

Operation and service instructions are contained in the individual modular manuals.

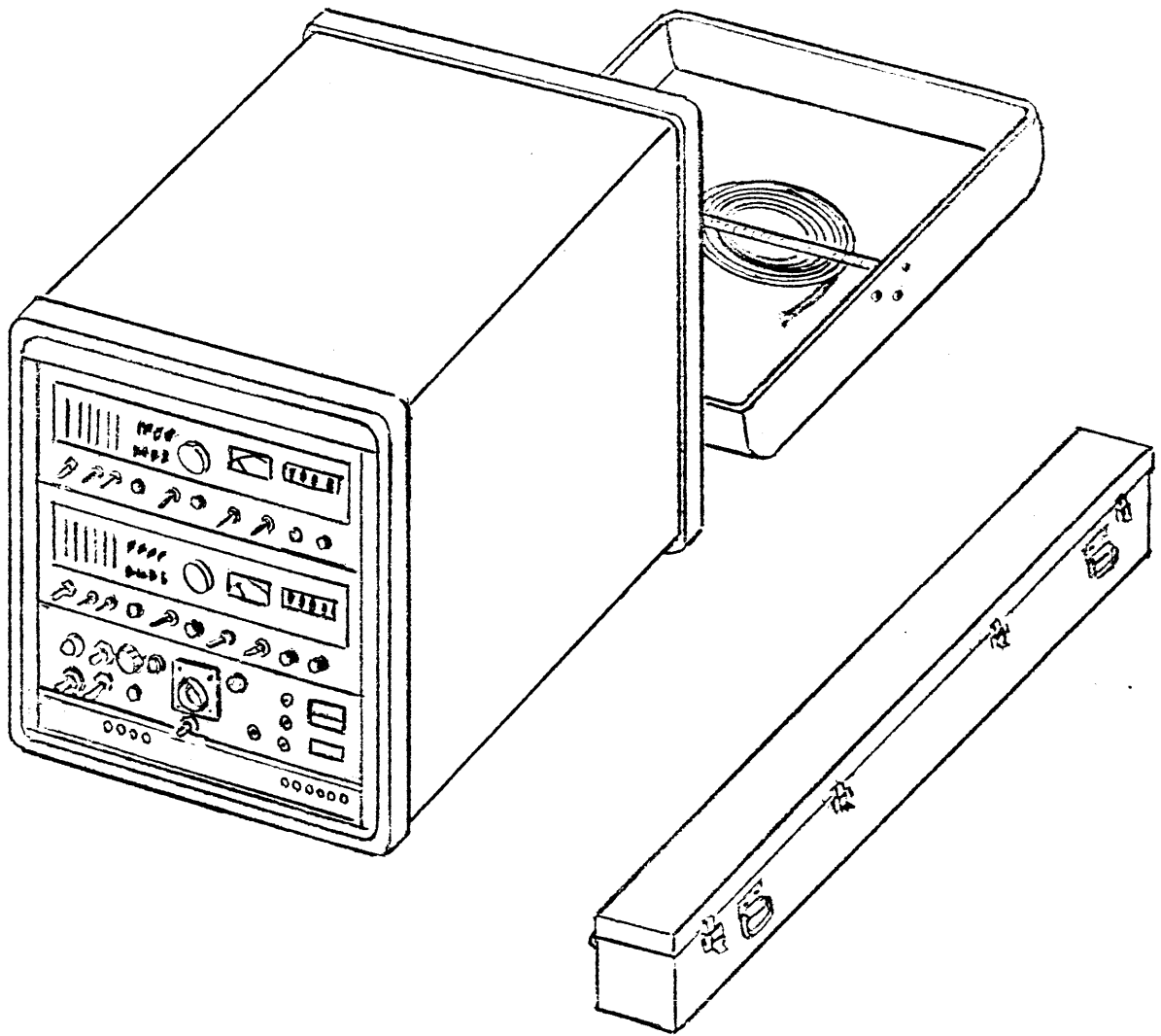


Figure 2. SYH5204 Receiving Components

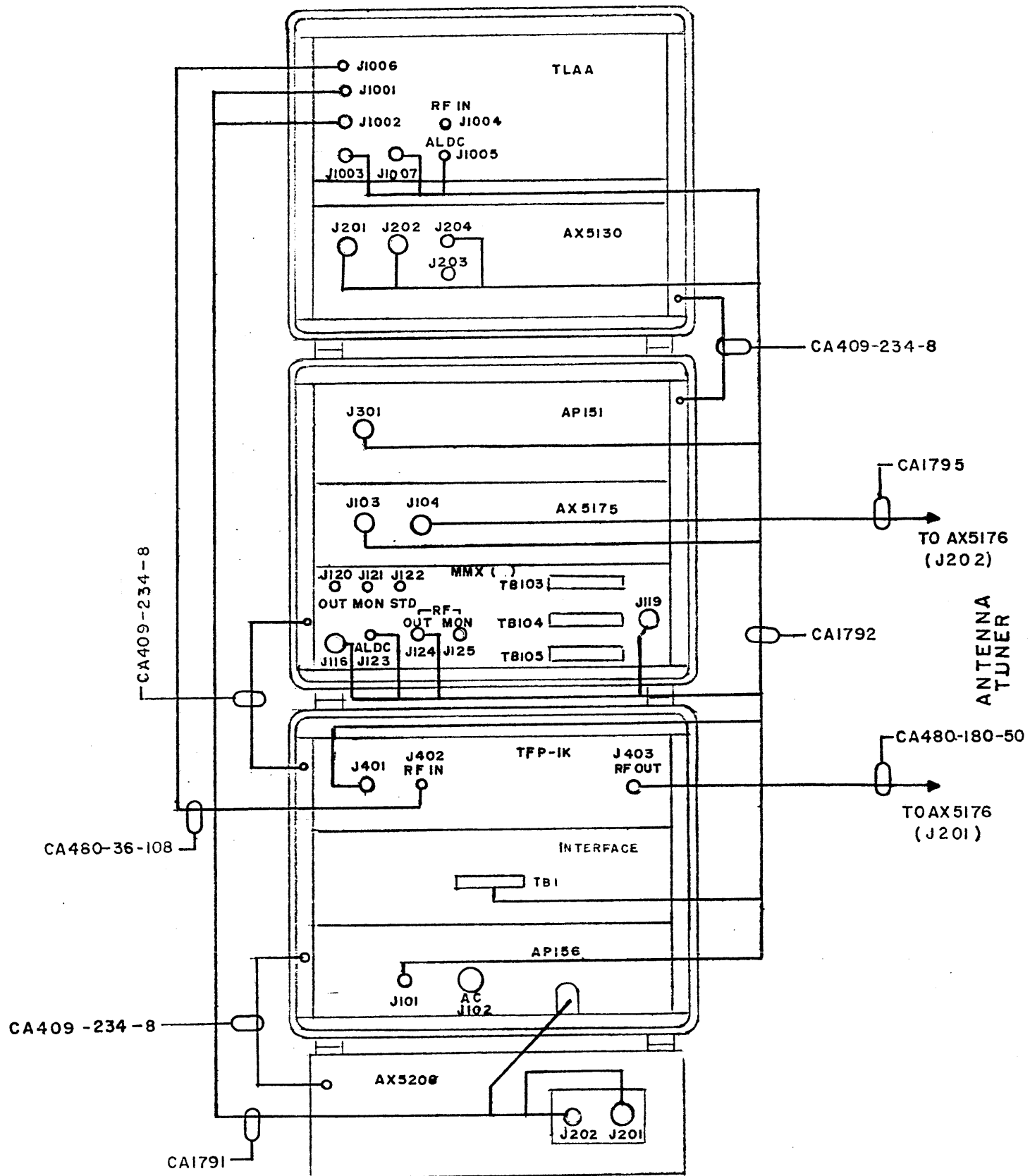


Figure 3. Transmitter Intercase Cabling

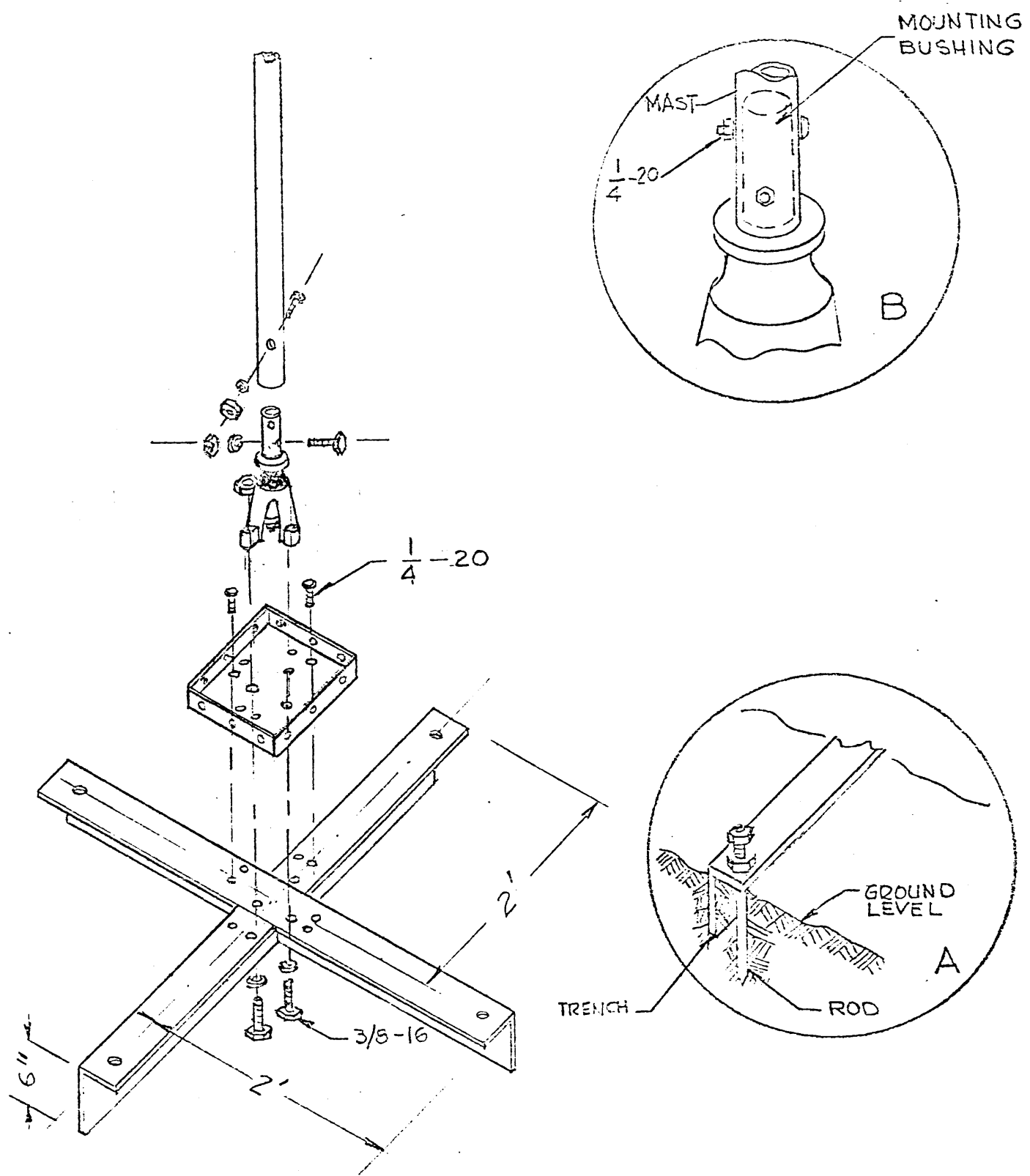


Figure 4. Antenna Assembly

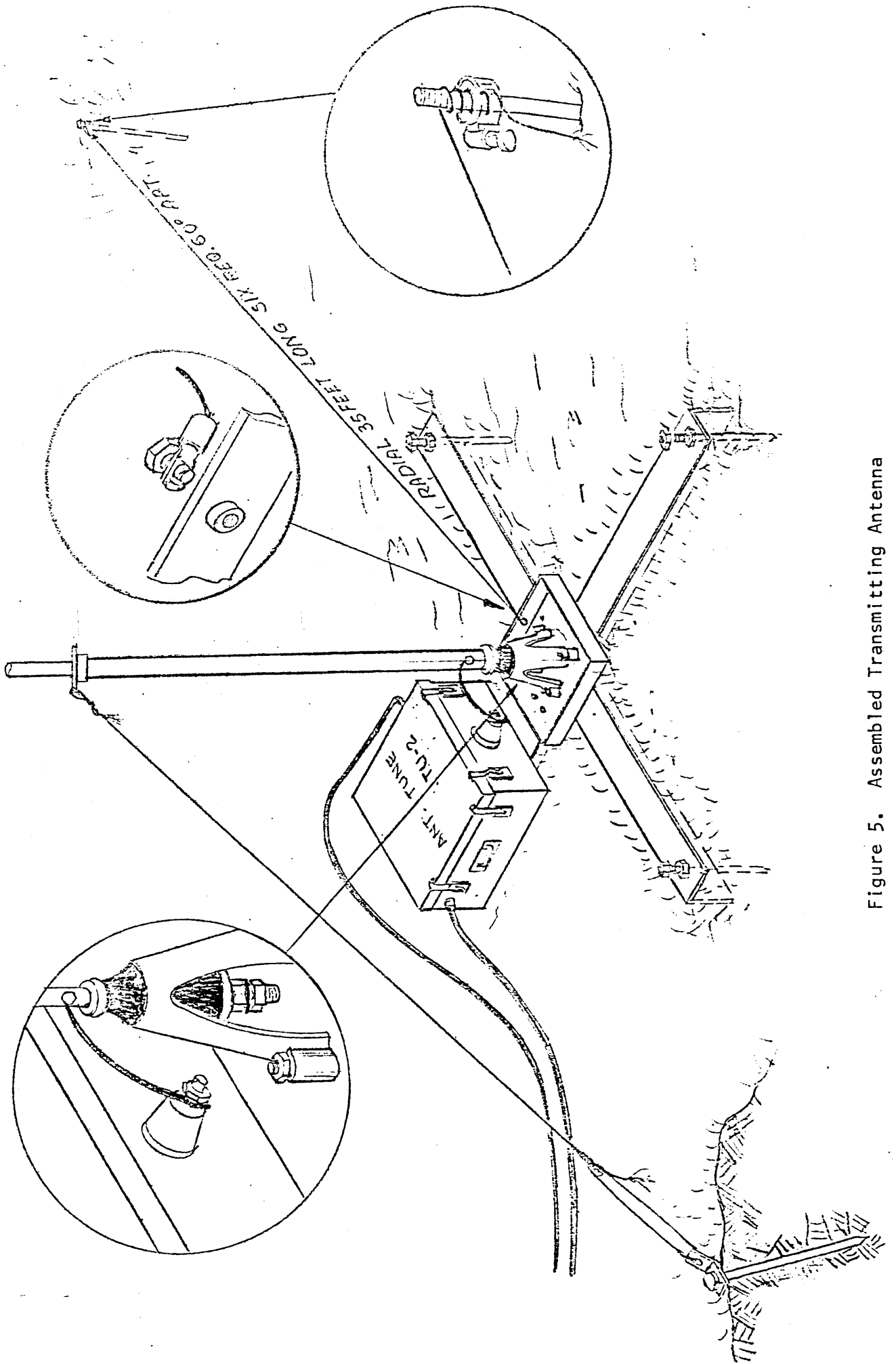


Figure 5. Assembled Transmitting Antenna

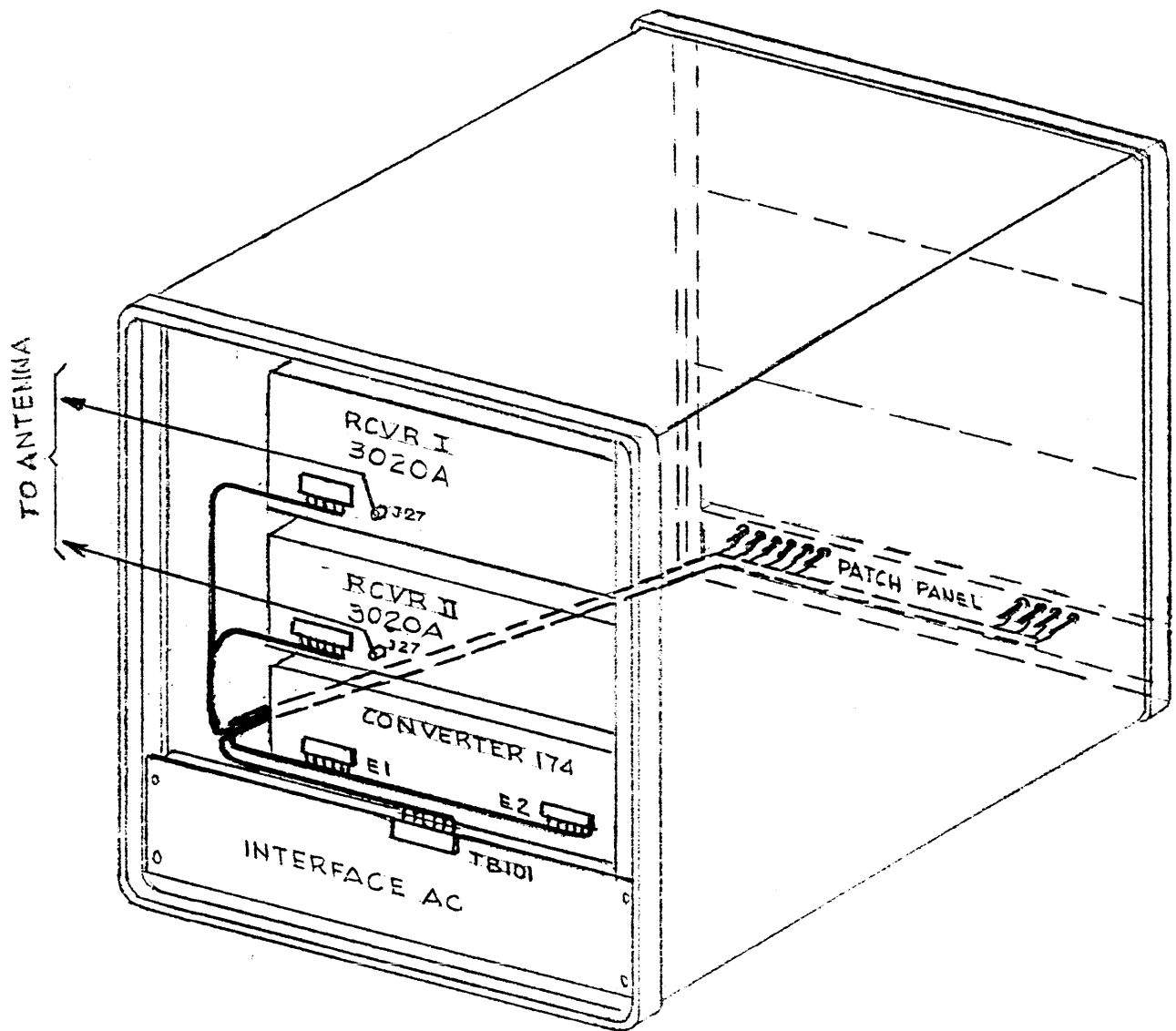


Figure 6. Receiving Components Rear View

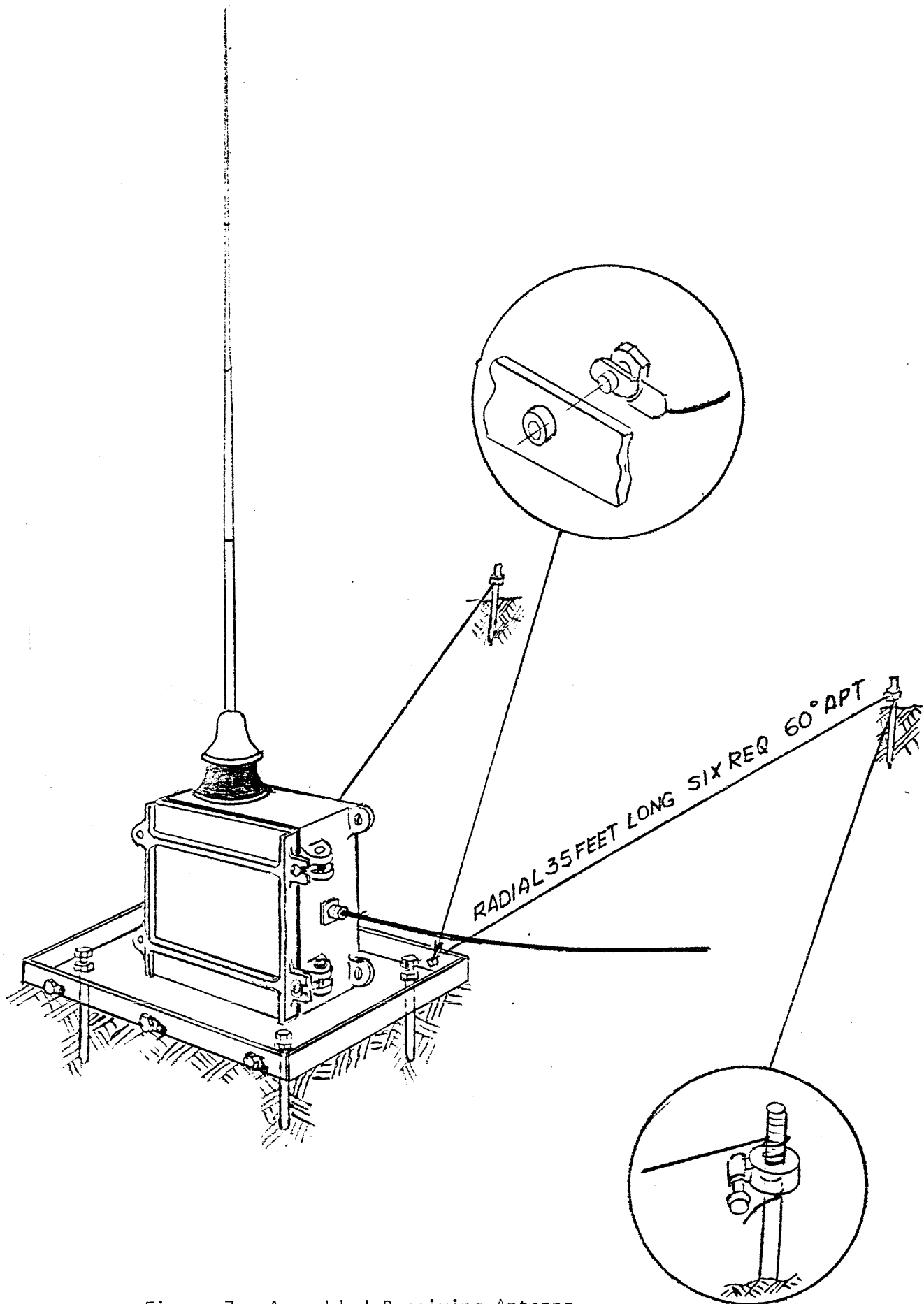


Figure 7. Assembled Receiving Antenna

D

C

B

AX5207

○ AC INPUT
J104

J103

J102

J101

P/OF RECEIVER

TBI01

600Ω

1

2

600Ω

3

4

GND

5

GND

6

J21-1

J21-5

J20-1

J20-5

NOTE:
AX5207 (INTERFACE PANEL)
MUST HAVE JUMPERS FROM TBI-1 & 2
TBI-3 & 4 WHEN EXTERNAL
EQUIPMENT IS NOT USED

AX5207 TBI-1

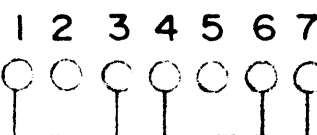
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AX5207 TBI-2

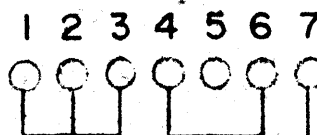
AX5207 TBI-3

AX5207 TBI-4

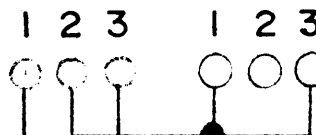
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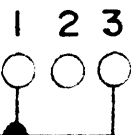
J21



J20



J19

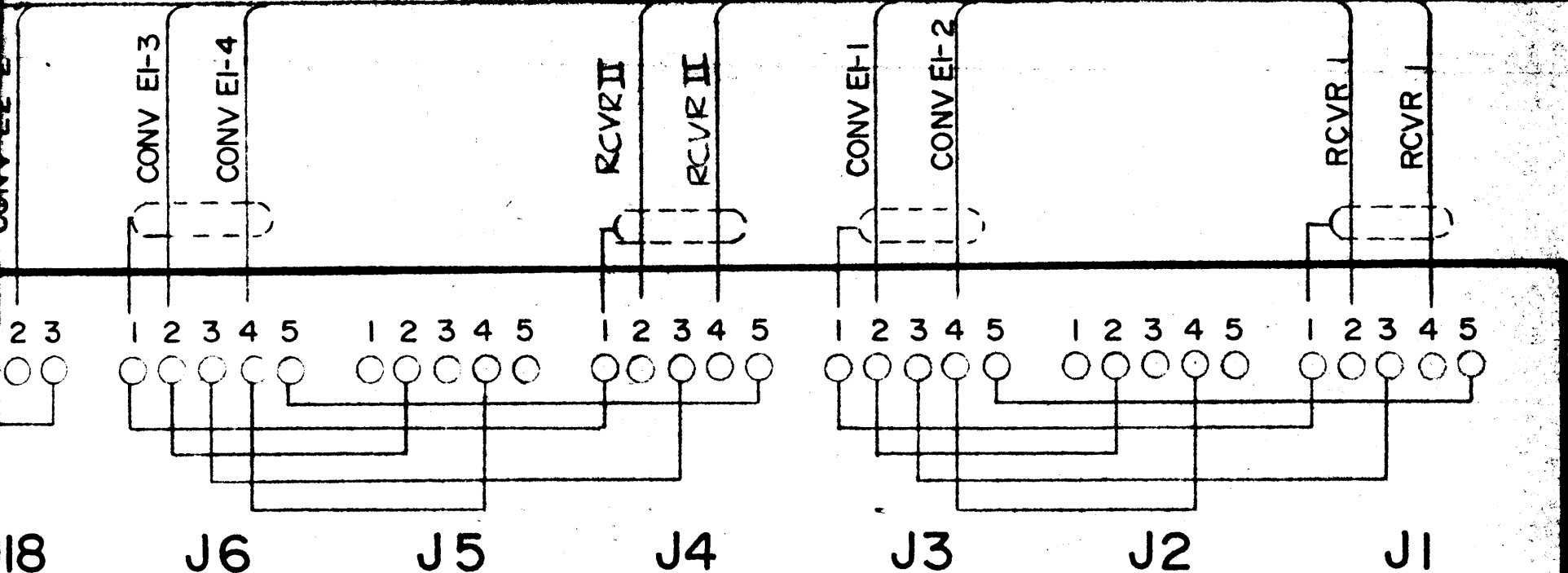
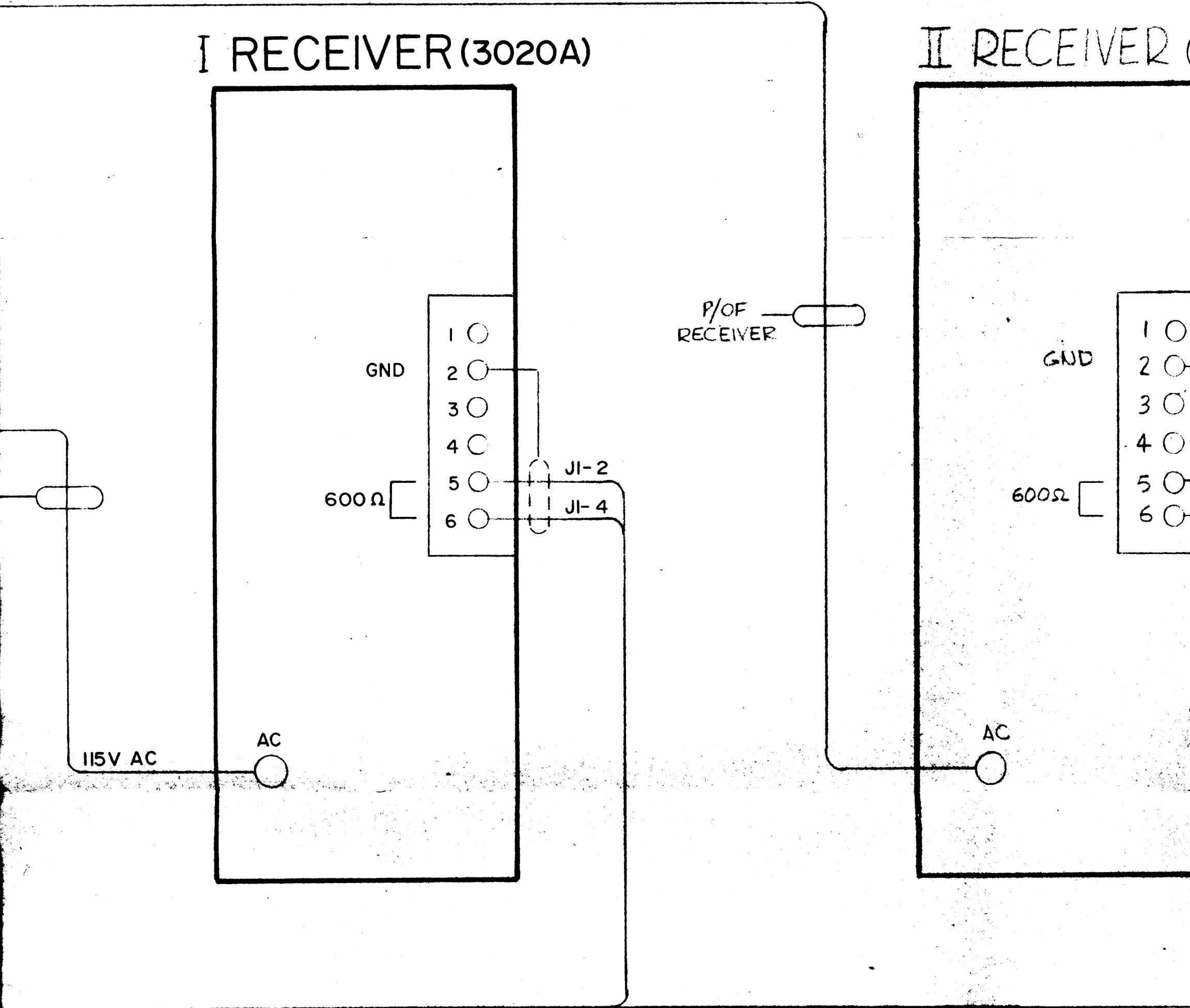


J18

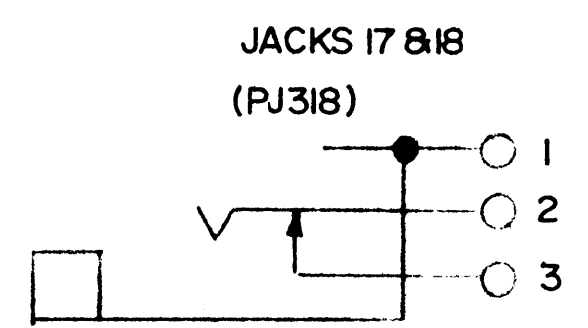
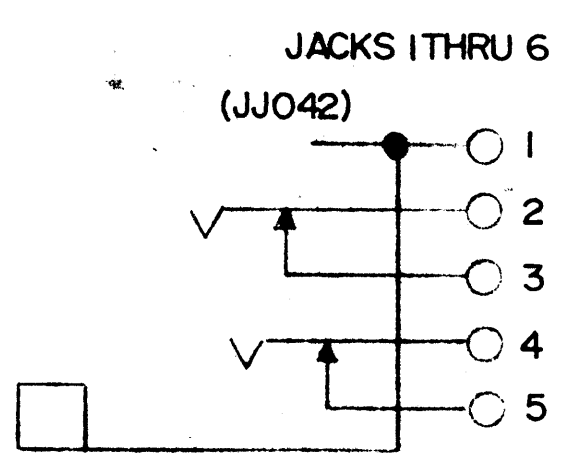
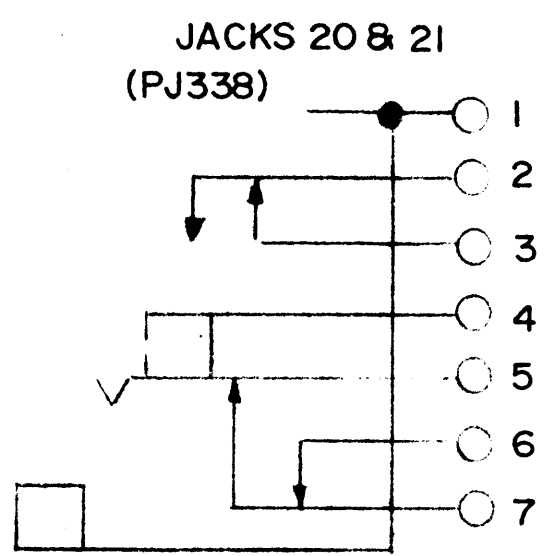
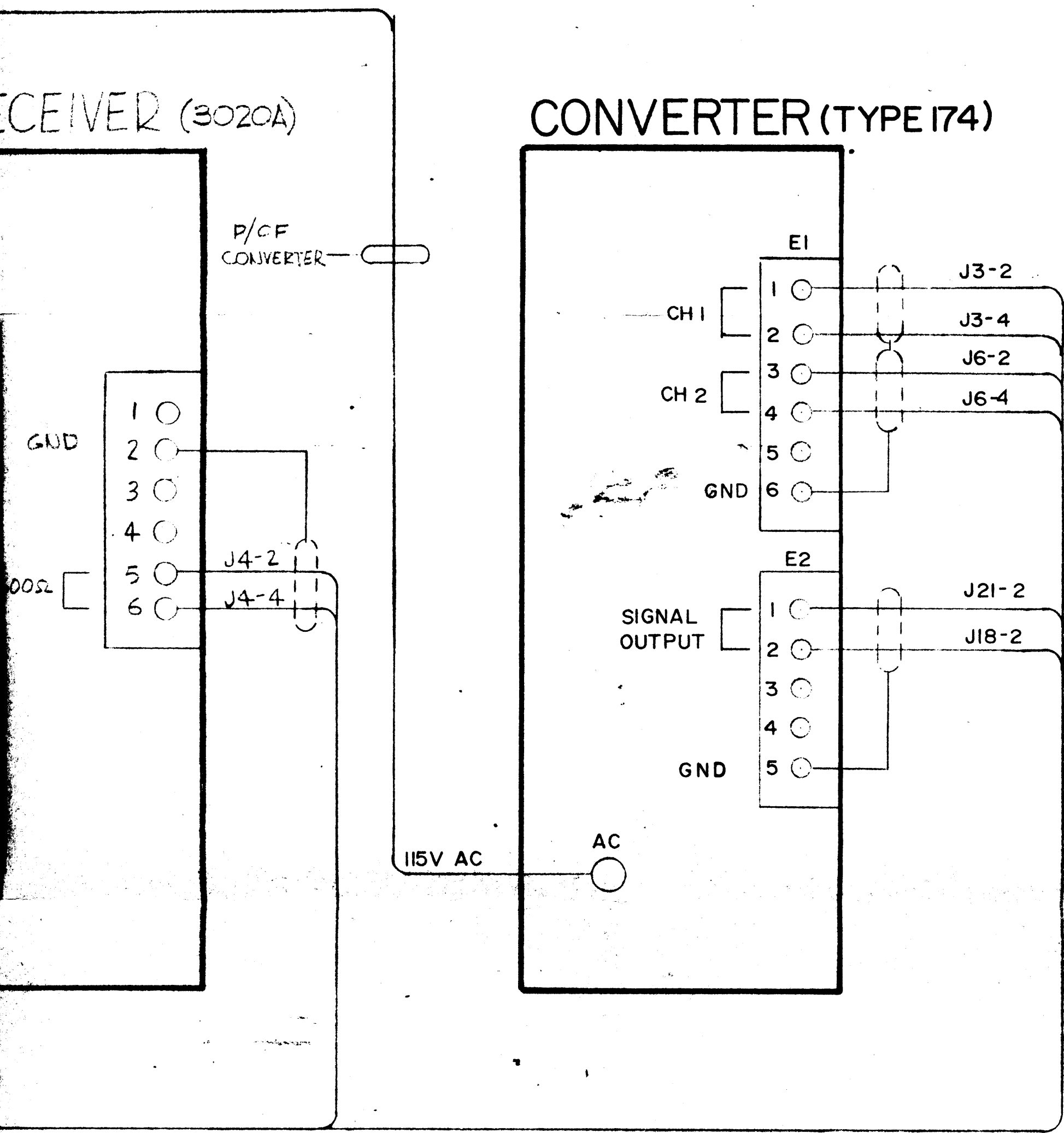


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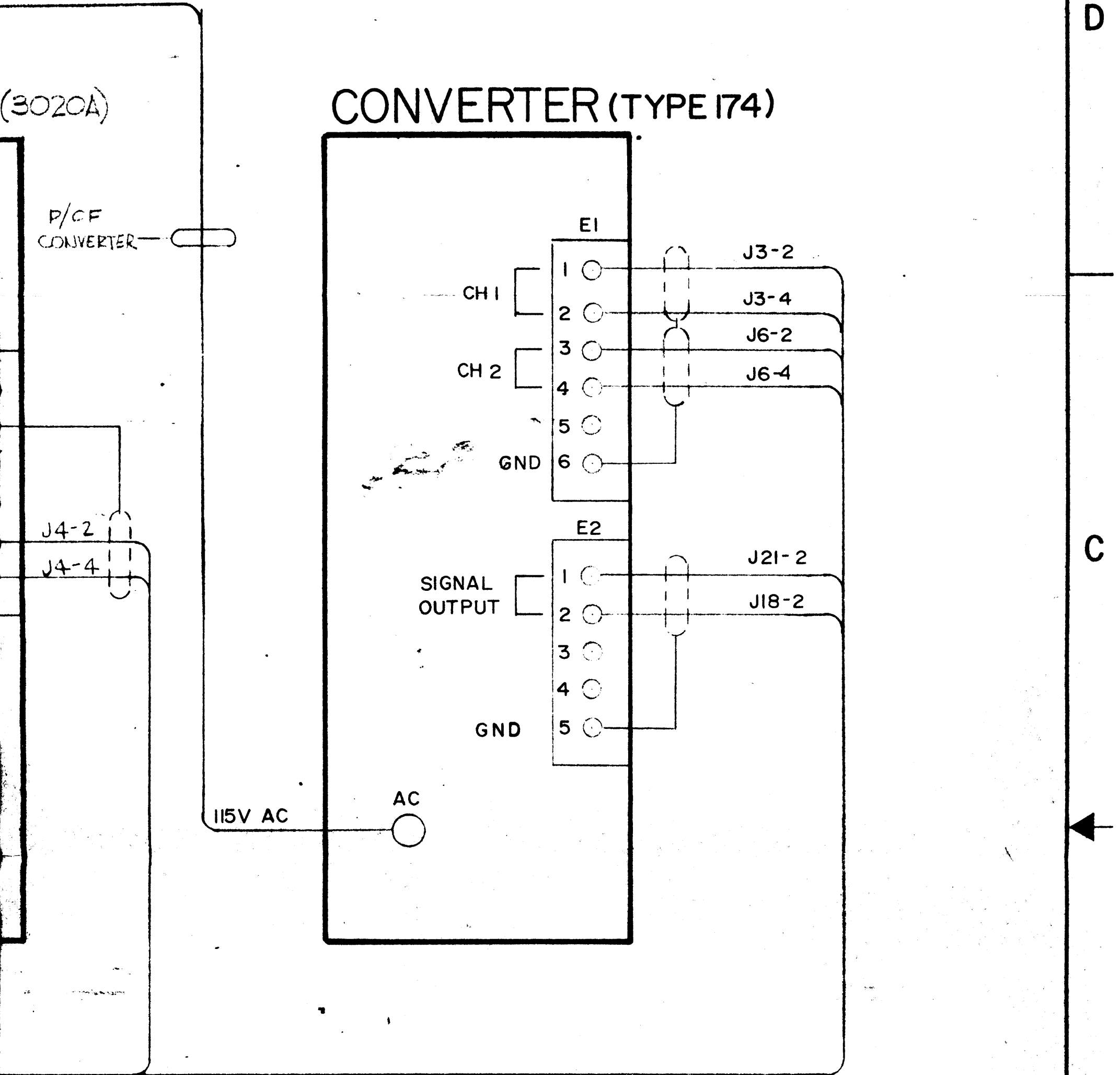
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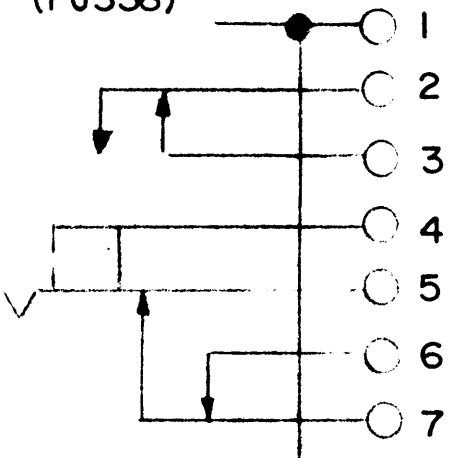
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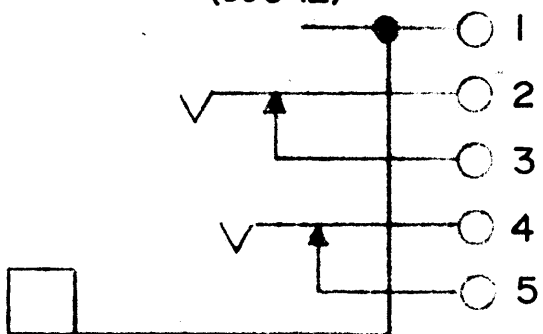
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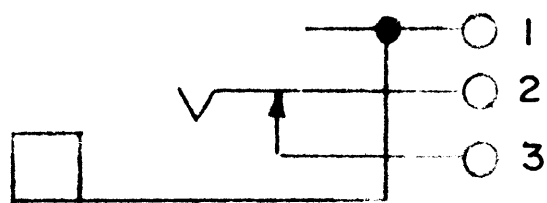
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(PJ338)



JACKS 1 THRU 6
(JJ042)



JACKS 17 & 18
(PJ318)

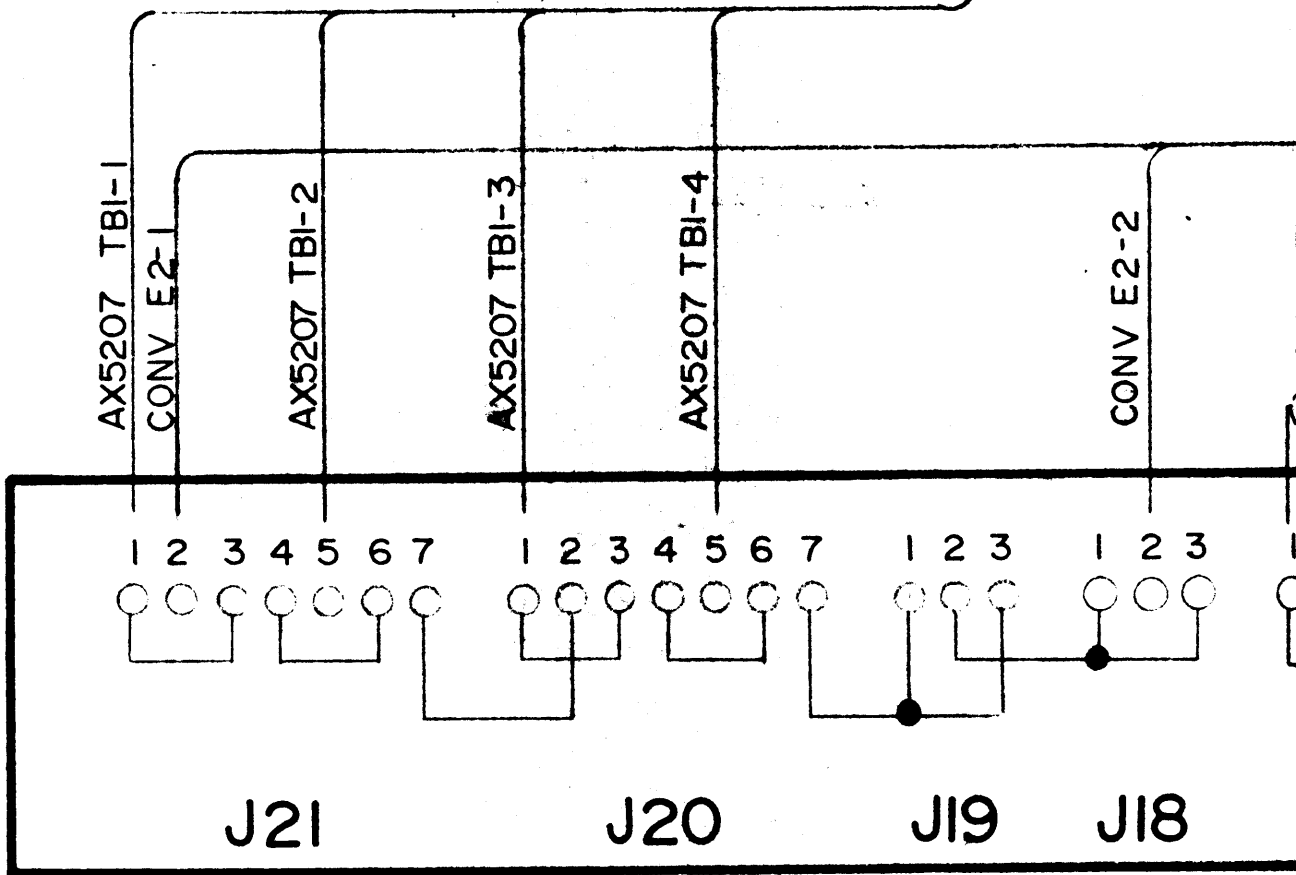


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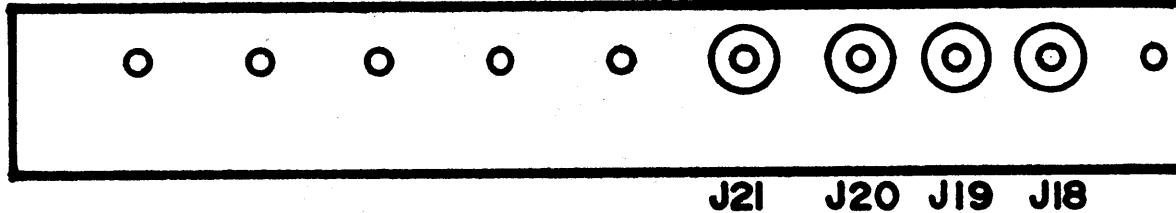
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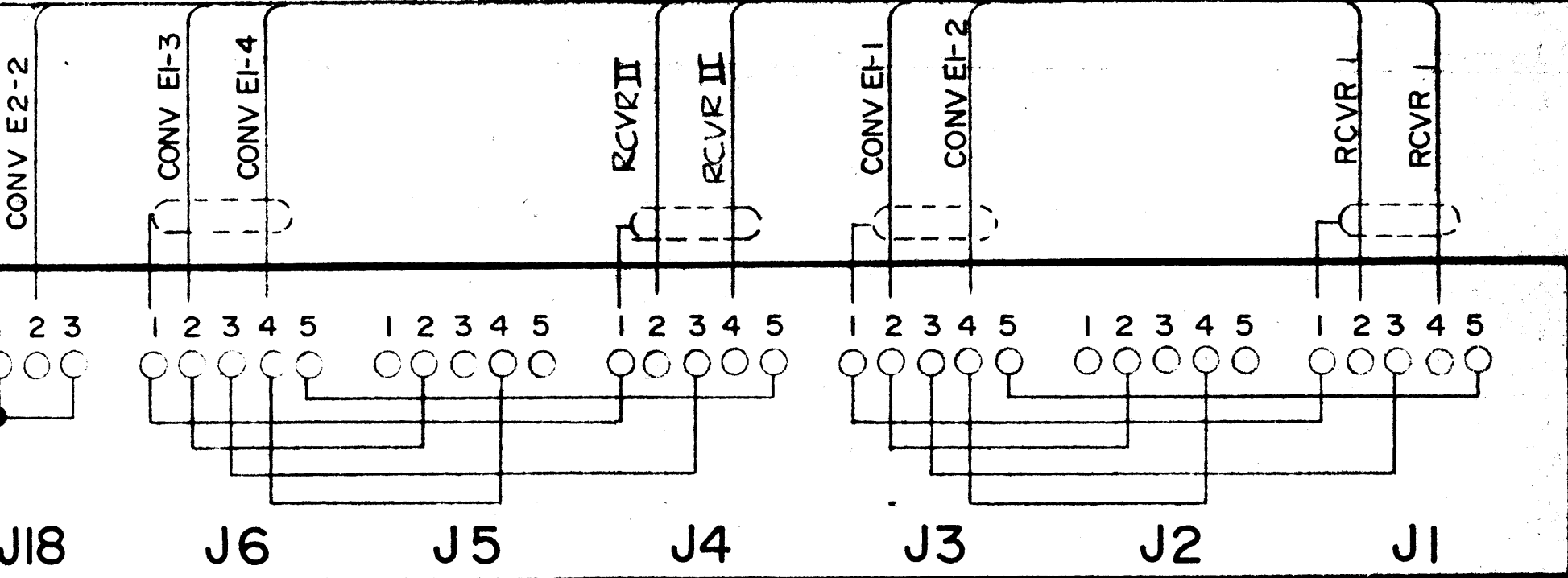
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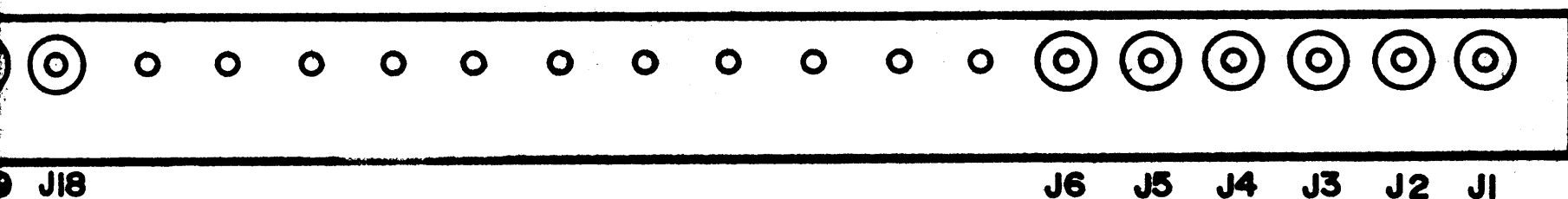
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JACK PANEL



QTY / UNIT	MODEL USED ON	ASS'Y NO.
APPLICATION		
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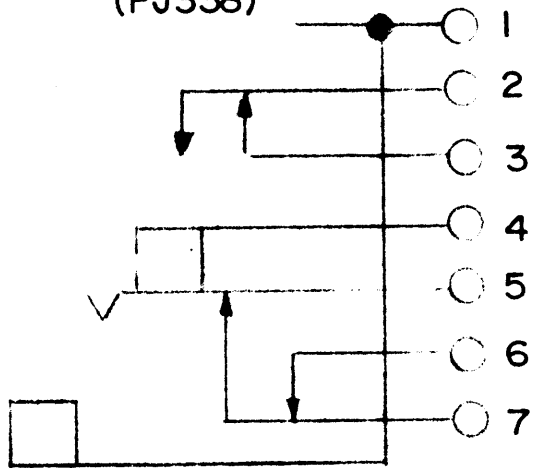
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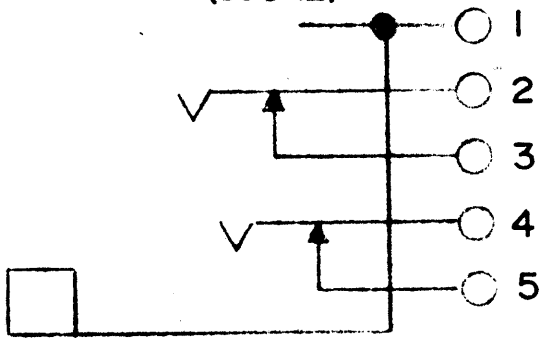


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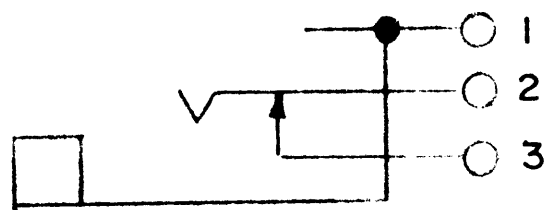
JACKS 20 & 21
(PJ338)



JACKS 1 THRU 6
(JJO42)



JACKS 17 & 18
(PJ318)



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TOLERANCES ON		MECH. DES.	DATE	
DECIMALS	FRACTIONS	ELECT. DES.	DATE	
.X ± .05	± 1/64	CHECKED	DATE	
.XX ± .01	ANGLES	DRAWN	DATE	
.XXX ± .005	± 0° -30'			
ASS'Y NO.	MATERIAL	SIZE	CODE IDENT NO.	DWG NO.
	FINISH	D	82679	CK2119
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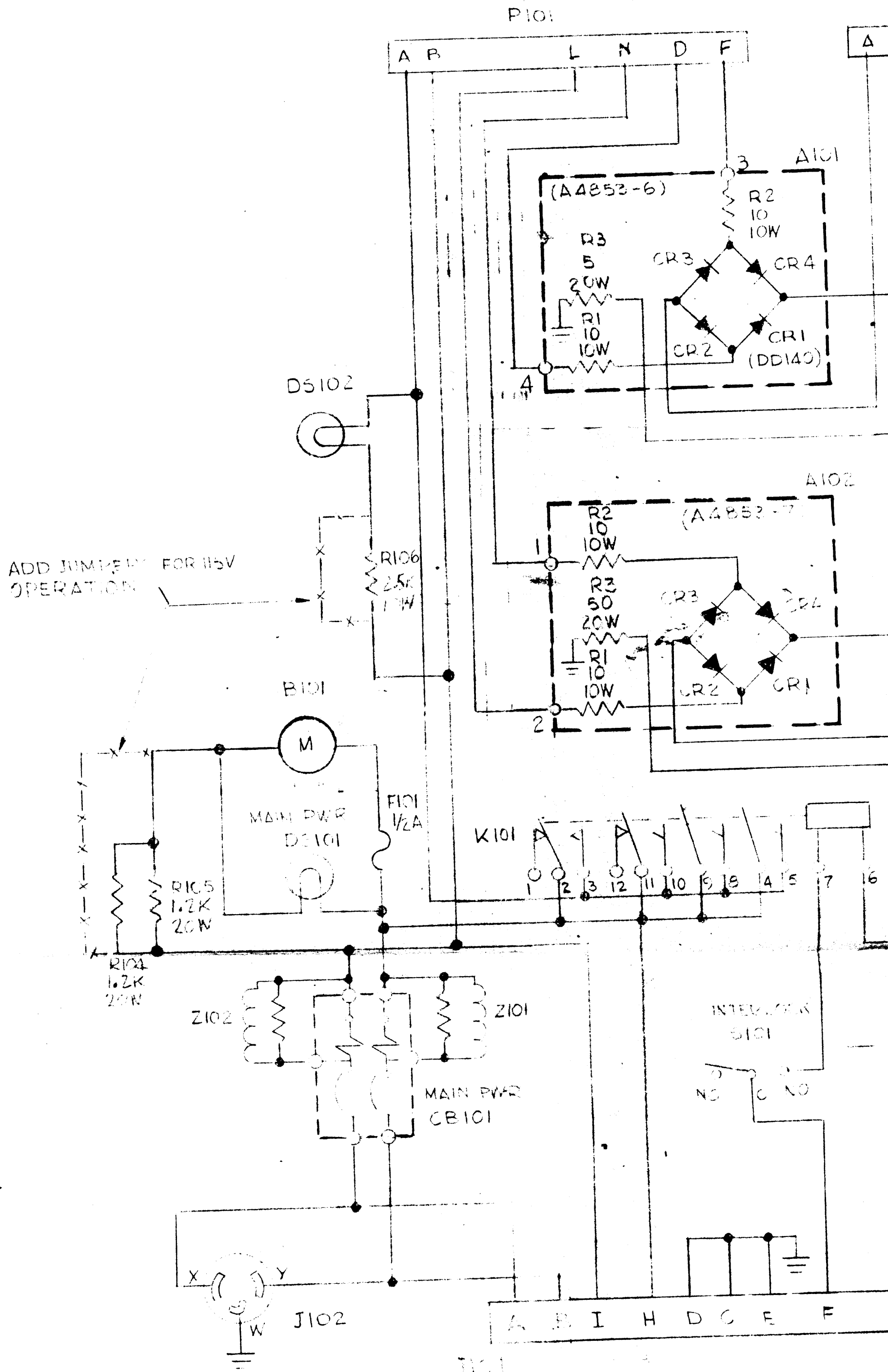
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NOTES:

P102

A C D B

A101

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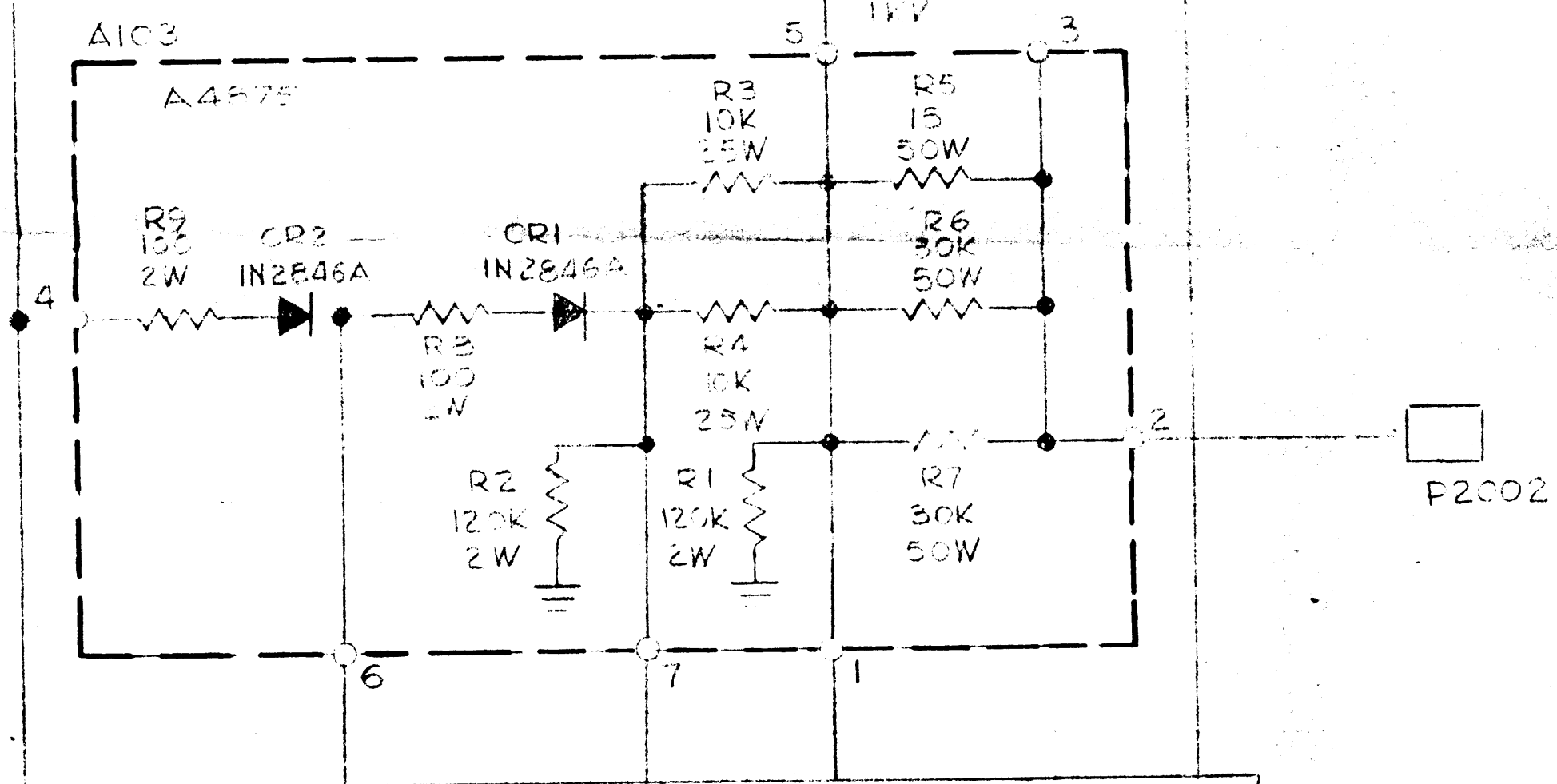
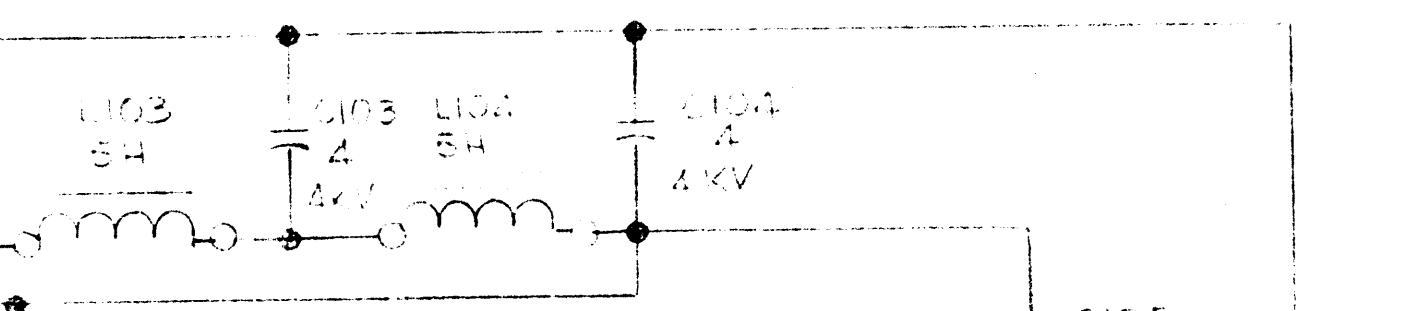
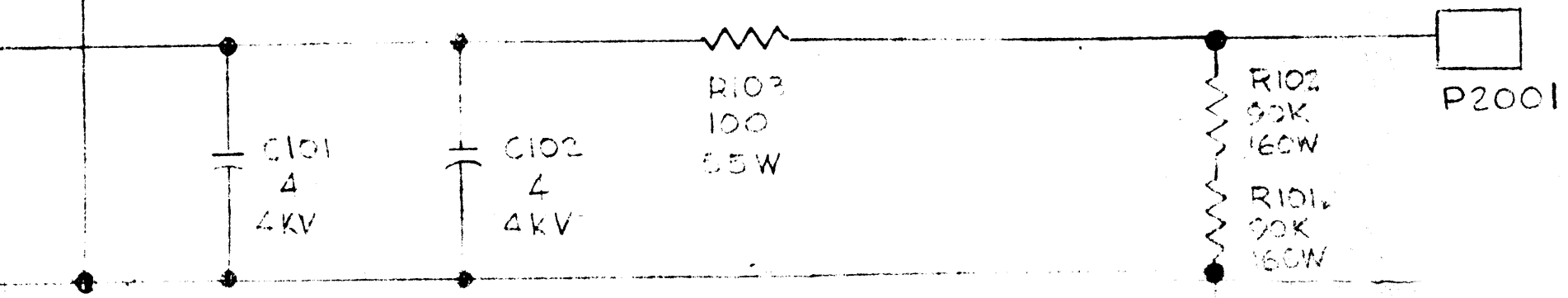
2KV

200V

400V

800V

-4KV



MISSING SYMBOLS

REVISIONS

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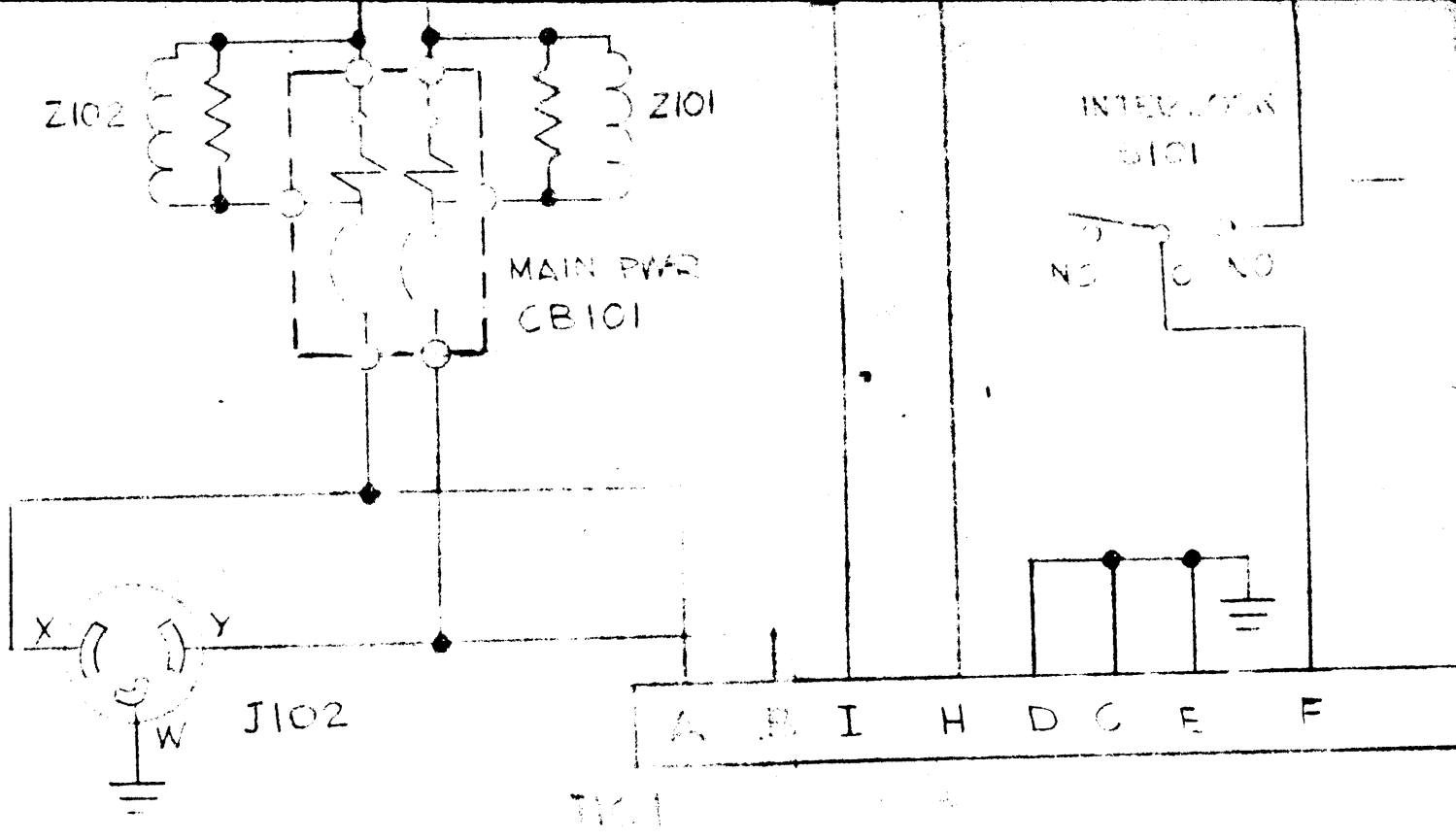


P2001



P2002

R101
1.2K
20W

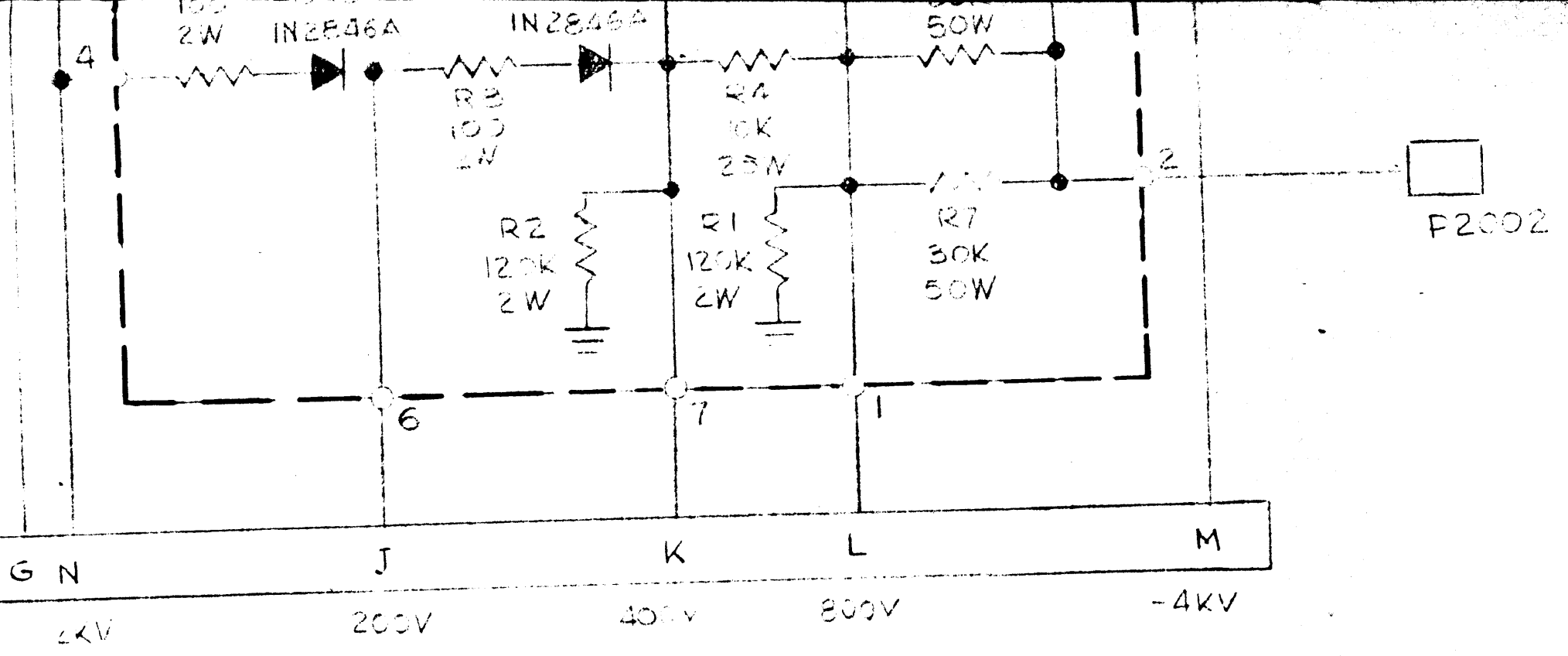


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LAST SYMBOL			
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B101			20B
C105			20B
F101			
K101	50A		
L104			
R100			
D3101			
Z102			
S101			
T101			
P101	P2002		

- NOTES:
UNLESS OTHERWISE SPECIFIED
- 1- ALL RESISTANCE VALUES ARE IN OHMS
 - 2- ALL DECIMAL CAPACITANCE VALUES ARE IN MICROFARADS
 - 3- ALL WHOLE NUMBER VALUES ARE IN FARADS
 - 4- ALL INDUCTANCE VALUES ARE IN HENRYS



MISSING SYMBOLS
 L101 L102

		AP156
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APPLICATION		
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INATION

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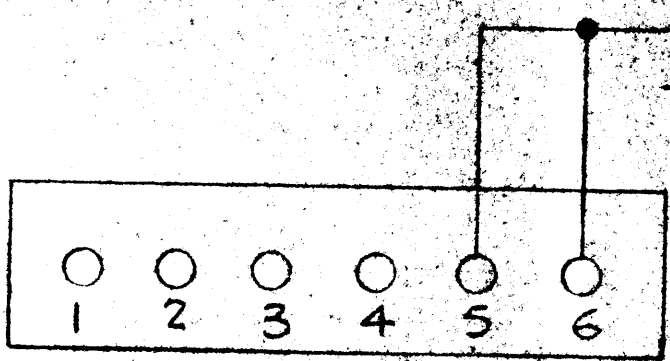
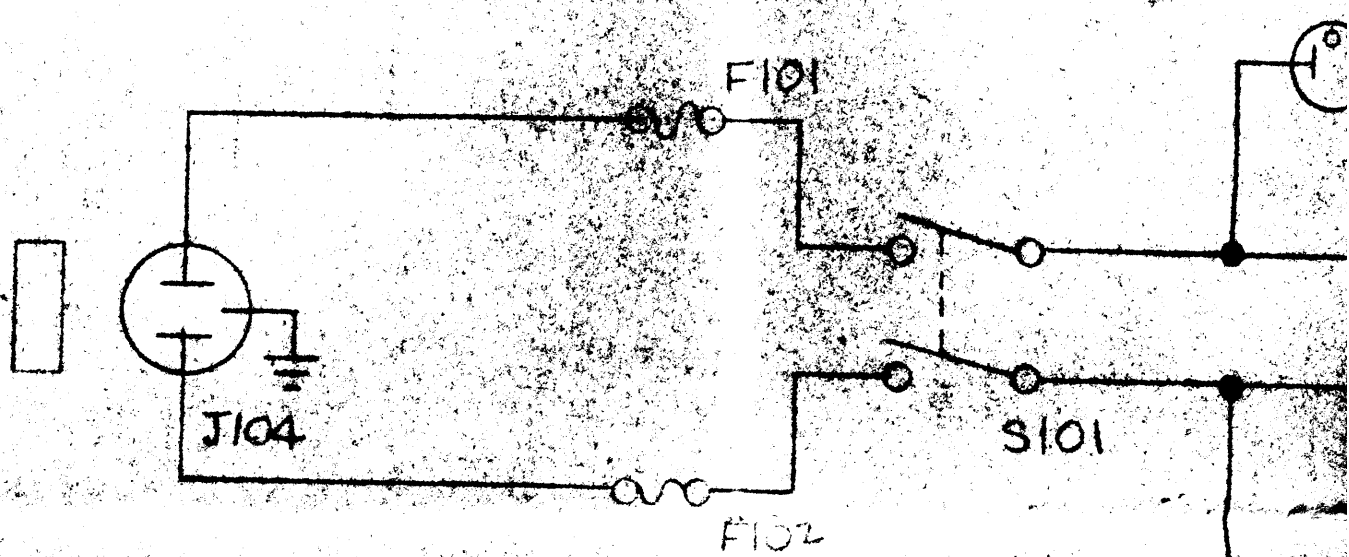
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TB101

UNLESS OTHER DIMENSIONS AND INCLUDE C OR PLAT

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DECIMALS
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XX ± .01
XXX ± .005

MATERIAL

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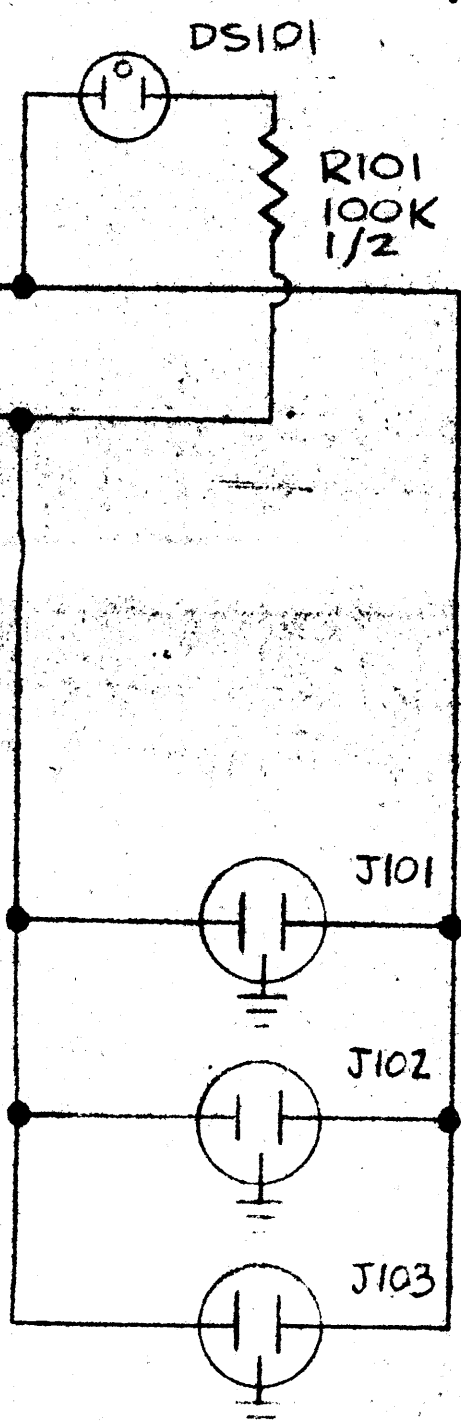
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QTY / UNIT	MODEL USED ON	ASSY NO.
APPLICATION		
CODE		

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4

3

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QTY. REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		FINAL APPROVAL	DATE	THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK DIAGRAM SCHEMATIC, AX5207
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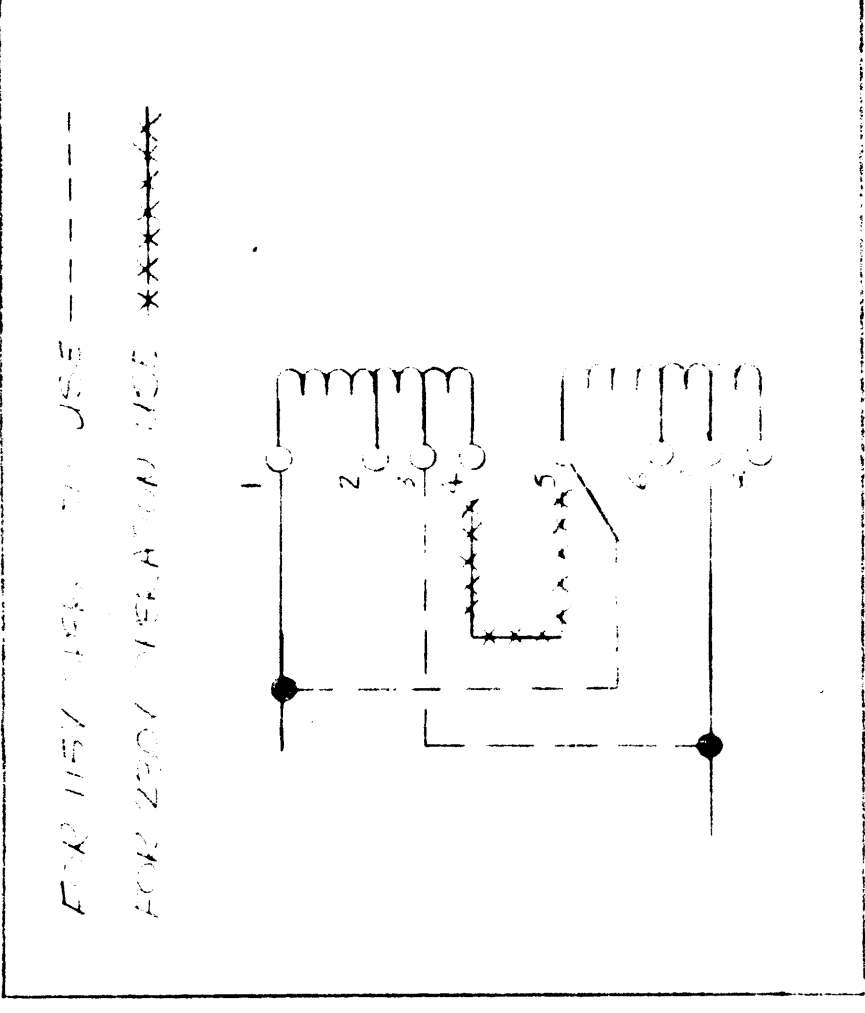
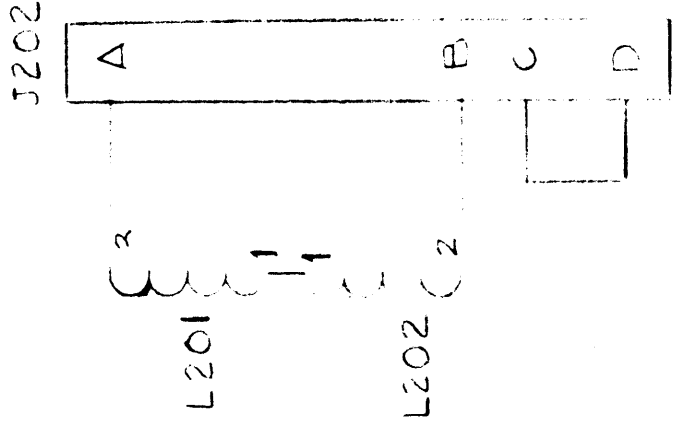
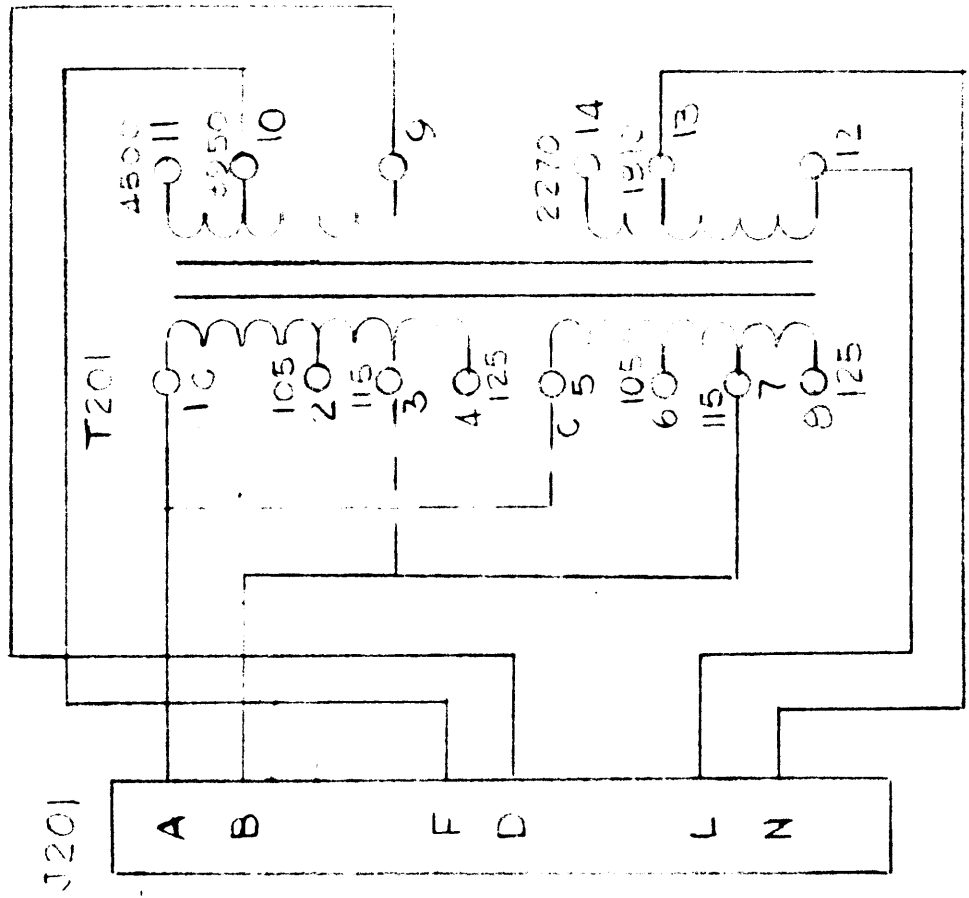
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EMN NO	DRAFT	CHKD	ZONE	LTR	DESCRIPTION	DATE	APPROVED
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SHOWN CONNECTED
FOR 115 VAC



FOR 115V AC USE ---
FOR 230V ISOLATION USE *****

QTY / UNIT	SYM 5204	MODEL USED ON	ASSY NO.
		APPLICATION	
		CODE	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES	DECIMALS .X ± .05 .XX ± .01 .XXX ± .005	FRACTIONS 1/64	ANGLES 0°-30'
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MECH. DES.	DATE
ELECT. DES.	DATE
CHECKED	DATE
DRAWN	DATE

REQ'D ITEM	PART NUMBER	DESCRIPTION	SYM.
LIST OF MATERIAL			
THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK			
DIAGRAM SCHEMATIC, HV AX5206			

SIZE	CODE IDENT. NO.	DWG NO.	ISSUE
B	82679	OK 2115	X
SCALE	SHEET	OF	
	2	1	

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