TECHNICAL MANUAL

for

GENERAL PURPOSE TRANSMITTER

MODEL GPT-350D

APPENDIX

RACK WIRING

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y. OTTAWA, ONTARIO

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IN-290-A ISSUE DATE: 14 APRIL 1964

NOTICE

THE TECHNICAL MATERIEL CORPORATION
COMMUNICATIONS ENGINEERS
700 FENIMORE ROAD MAMARONECK, N. Y.

Warranty

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

CHANGE NO. 1 GPT-350D Appendix

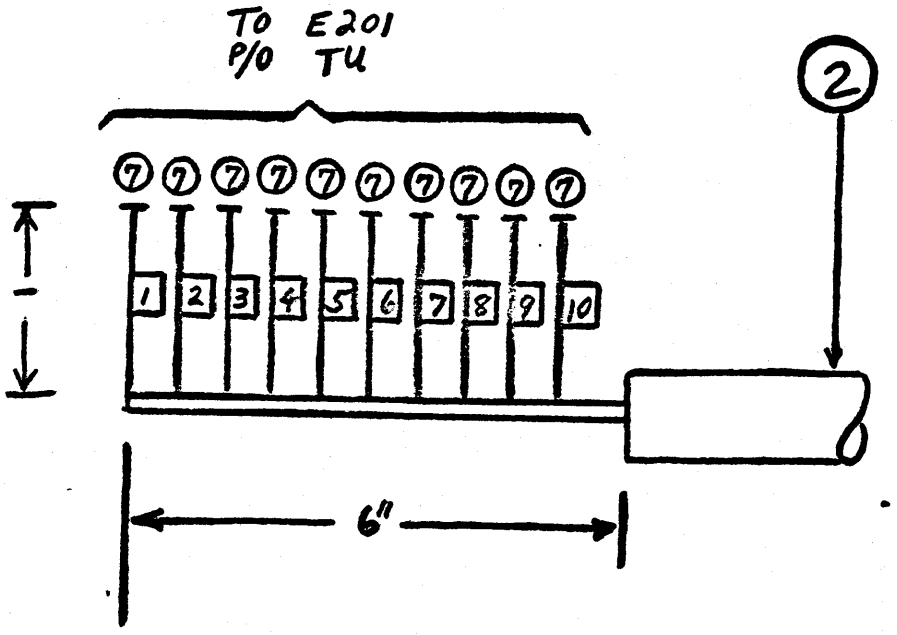
INSTRUCTION BOOK CHANGE NOTICE

Date Nov. 18, 1965

Manual affected: General Purpose Transmitter IN -290-A
Model GPT-350D, Appendix
(Issue Date: 14 April 1964)

Figure G. CA-541 Cable Assembly and Wiring Diagram

Change figure G as indicated below.



SHOULD ADDITIONAL C PIES OF THIS CHANGE NOTICE BE RE UIRED, PLEASE C NTACT:
THE TECHNICAL MATERIEL CORP., 700 Fenimore Road, Mamaroneck, N w York
Attn.: Director f Eng. Services.

RECORD OF CORRECTIONS MADE

Change No.	Date of Change	Date Entered	Entered By

APPENDIX

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GPT-350D RACK DESCRIPTION

TMC Model RAK-23D is a standard type of rack for mounting 19-inch wide components. It has a hinged rear door and comes equipped with 4 sets of drawer slides for mounting the RFA-1, VOX-5, GPE-1A and PSP-350A units. Interconnecting cabling, as shown in figure C, is included as part of the RAK-23D rack assembly. Figure A is an outline drawing of the basic RAK-23 structure and includes overall dimensions. The main structure is of 13-guage steel, finished with TMC RCAF blue-grey smooth enamel. Special finishes are available on order.

There are two types of rack----for base-mounted and shock-mounted transmitters. The base-mounted rack (as depicted in figure 1-1 in the GPT-350D System Manual) consists of the basic RAK-23 rack plus MS-1901 base. The shock-mounted rack is the basic RAK-23 structure with 4 shock-mounts installed in the 2 bottom channels and 2 shock-mounts in the rear rack wall near the top.

A reel-mounted retraction cable, see figure B, is provided for retracting the GPE-1A wiring cable to prevent cable snagging when the GPE-1A is drawn in and out on its drawer slides.

Two TMC #BL-106-2 intake blowers for the rack forced-air cooling system are installed in the lower inside surface of the rear door (see figure B). Removable air filter (TMC # AD-103-9) is inserted in front of the blowers on the outside of the door. Air exhausts through the ceiling of the rack (see figure A) through removable air filter TMC #AD-103-5.

The four large cutouts with cover plates located at the bottom of the rack structure are for passing out external wiring. The four 5/8-inch diameter knockout holes located near the top of the rack are for bringing antenna cable out of the rack.

An a-c power strip is located on the right inside rack wall towards the rear for distribution of line voltage to the components. The receptacles in the strip are TMC # JJ-294 connectors. The 3-prong mating plugs (for the JJ-294 connectors) are TMC #PL-218 and are installed on the individual component power cables. TMC #PL-133-NG receptacle, shown in figure B under the door at the left, is for line voltage input to the GPT-350D. The smaller receptacle, TMC #JJ-100 located on the right, is for a separate utility line input; the outputs for this line are on the front face of the APP-5 panel. TMC #PL-134-NG plug mates with #PL-133-NG receptacle and TMC #PL-100 mates with #JJ-100 receptacle. Both plugs are supplied in the original GPT-350D shipment.

The safety interlock switch mounted inside the lower door frame is a TMC #SW-230 push-pull microswitch. Its function is to shut off the high voltages in the transmitter when the door is opened.

TABLE A. PARTS LIST, APP-5 AUXILIARY POWER PANEL

Sym	Description	Function	TMC Part No.
C501	CAPACITOR, fixed: ceramic dielectric, 1000 uuf ±20%, Char. A.	RF bypass	CK70A102M
C502 thru C520	Same as C502	RF bypass	
C521	CAPACITOR, fixed: mica dielectric, .01 uf ±10%, Char. B.	RF bypass	CM35B103K
C522	Same as C521	RF bypass	
C523	Same as C521	RF bypass	
C524	Same as C521	RF bypass	
CB501	CIRCUIT BREAKER: dual type, calibrating tap, 15 amps, 60 cycle, 230 VAC.	GPT-350D MAIN POWER switch	SW-283
E501	TERMINAL BLOCK: Barrier type, 16 terminals, 16 #6-32 binder head screws.	GPT-350D external connections	TM-100-16
E502	Same as E501	GPT-350D external connections	
F501	FUSE, cartridge: hi-rating, 15 amps, 250 max. voltage, medium blow time.	UTILITY POWER fuse	FU-103-15
F502	Same as F501	UTILITY POWER fuse	
I501	LAMP, incandescent: 120 volts, 3 watts, S-6 clear bulb, bayonet base.	MAIN POWER indicator	BI-102-3
J501	CONNECTOR, receptacle: MIL type MS3102A28-22S, female	Main APP-5 Connector	MS3102A28-11S

TABLE A. PARTS LIST, APP-5 AUXILIARY POWER PANEL (Cont'd)

Sym	Description	Function	TMC Part No.
J502	CONNECTOR, receptacle: A-C power, grounding type.	UTILITY OUTLET	JJ-173
J503	Same as J502	UTILITY OUTLET	
L501	COIL, fixed: RF, 150 uh ±10%, 100 ma	Choke, RF	CL-140-2
L502 thru L520	Same as C501	Choke, RF	
L521	COIL, fixed: RF, 2 uh ±o.1 uhy, Q-200 or more at 7.9 mc	Choke, RF	CL-269
L522	Same as L521	Choke, RF	
R501	SHUNT ASSEMBLY: consists of shunt, .011 ohm +5%-1%, max. current 10 amps, and fixed resistor, TMC# RW-109-28, W.W., 2K, 10W.	115 to 230 V conversion	AR-134
R502	Same as R501	115 to 230-V	
R503	RESISTOR, fixed: wirewound, 5K, 10 watts	Voltage dropping	RW-109-32
XF501	HOLDER, fuse: extractor post, for 1/4-inch X 1-1/4-inch fuse cartridge.	F501 socket	FH-100-1
XF502	Same as XF501	F502 socket	
XI501	SOCKET, lamp: for S-6 bayonet base bulb, with red lens.	I501 socket	TS-124-1

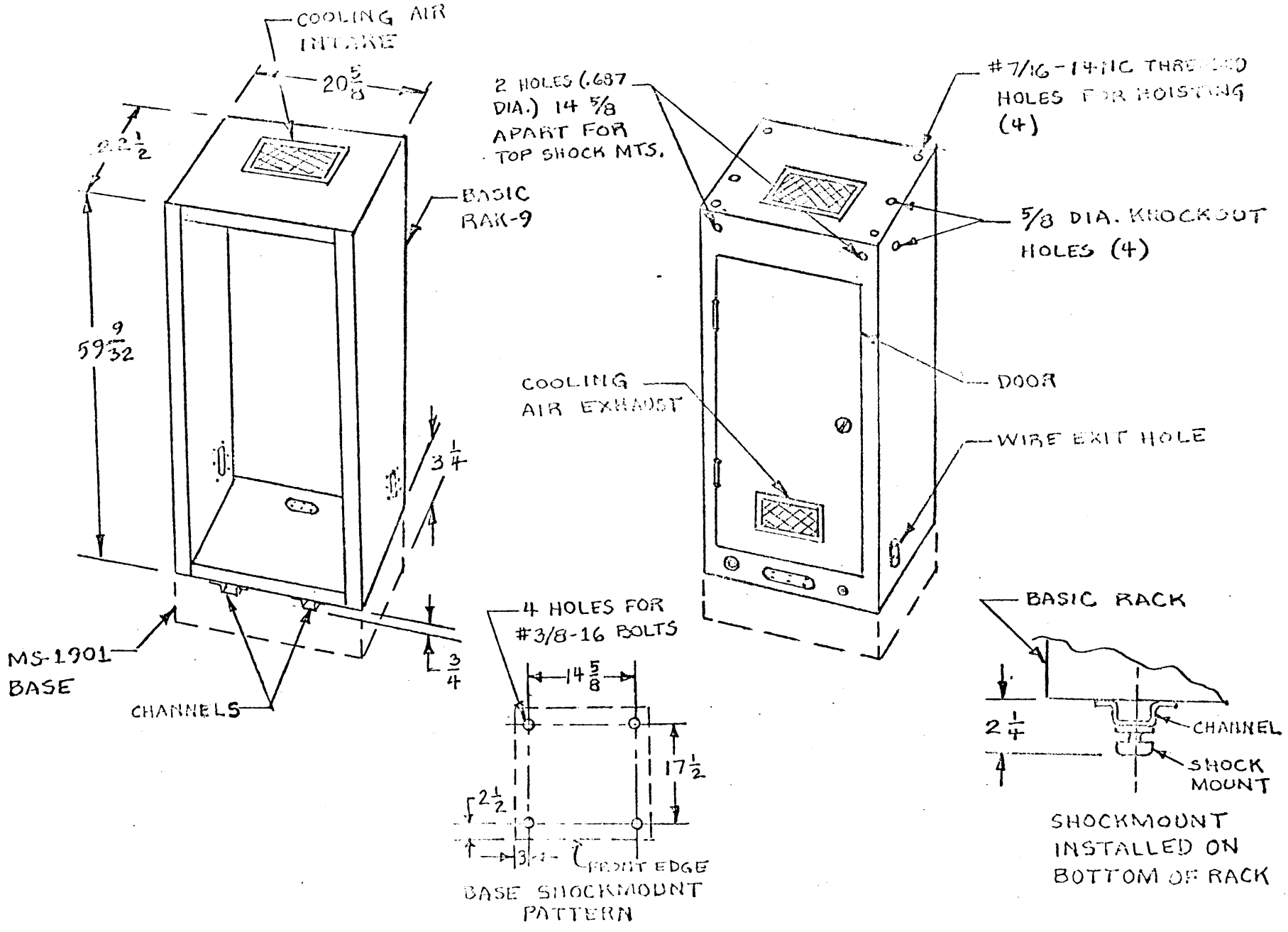


FIGURE A. GPT-350D EQUIPMENT RACK, MODEL RAK-23

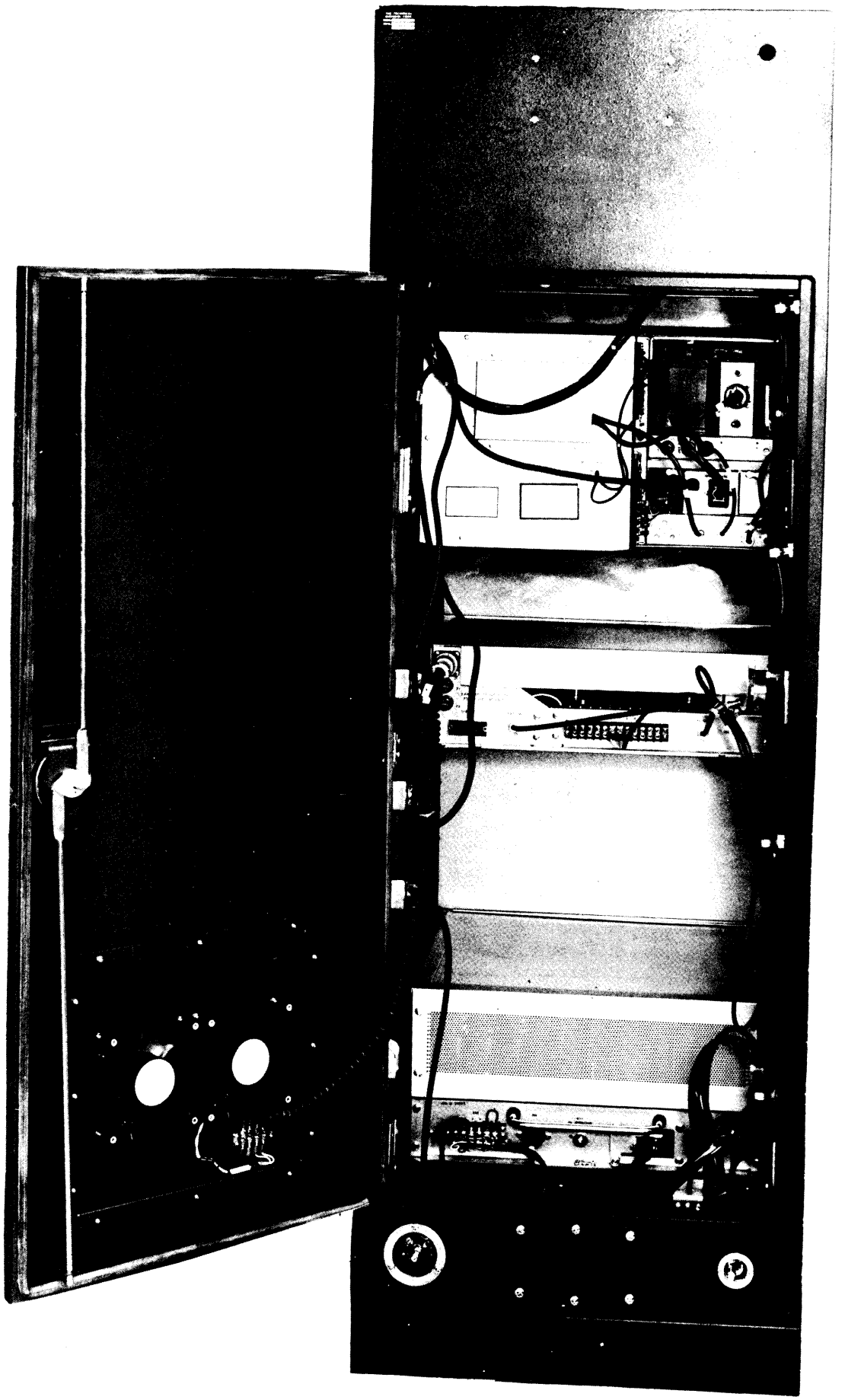


Figure B. Rear View of GPT-350D with Door Open

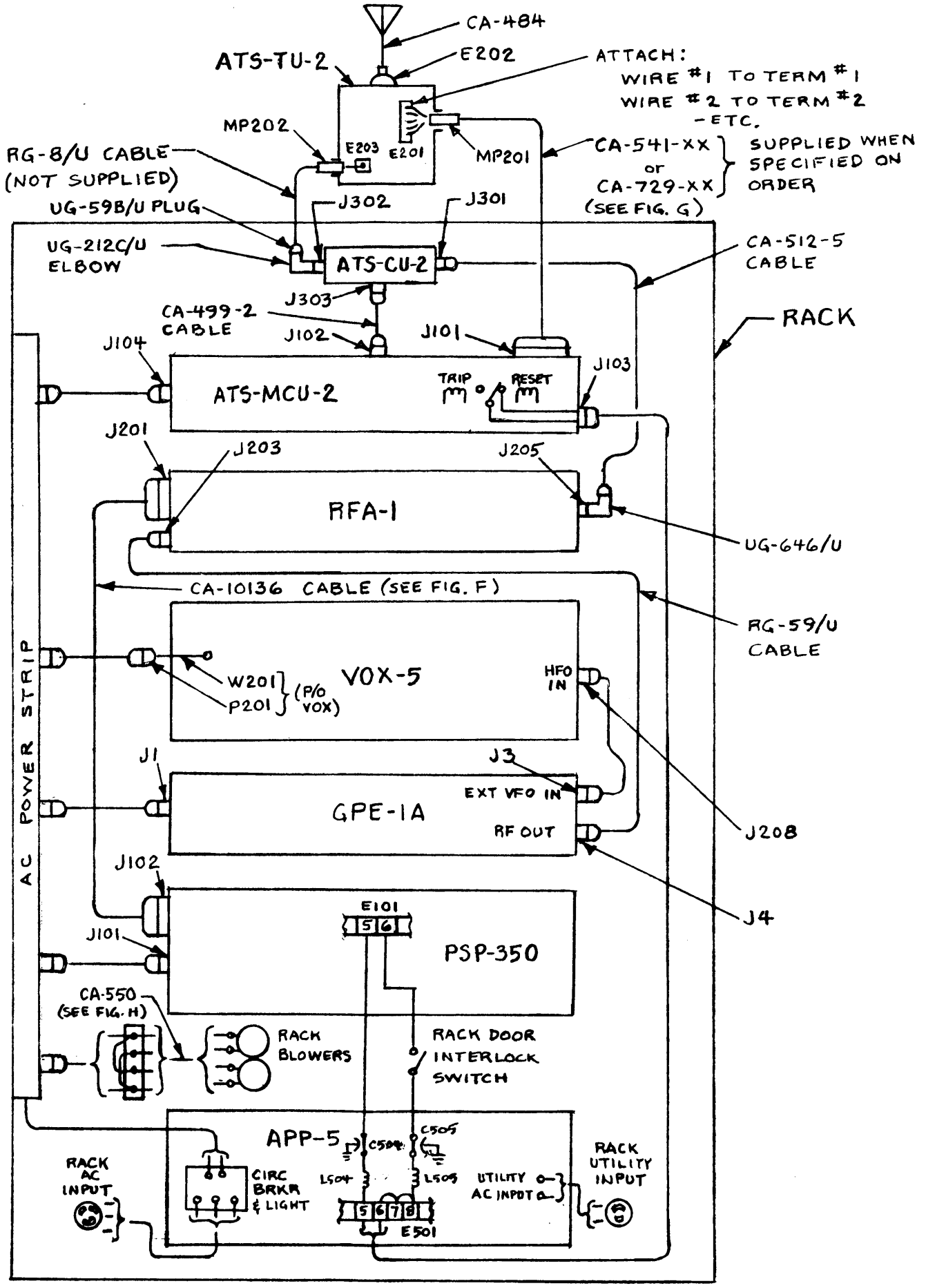


FIGURE C. CABLE CONNECTION DIAGRAM, GPT-350D

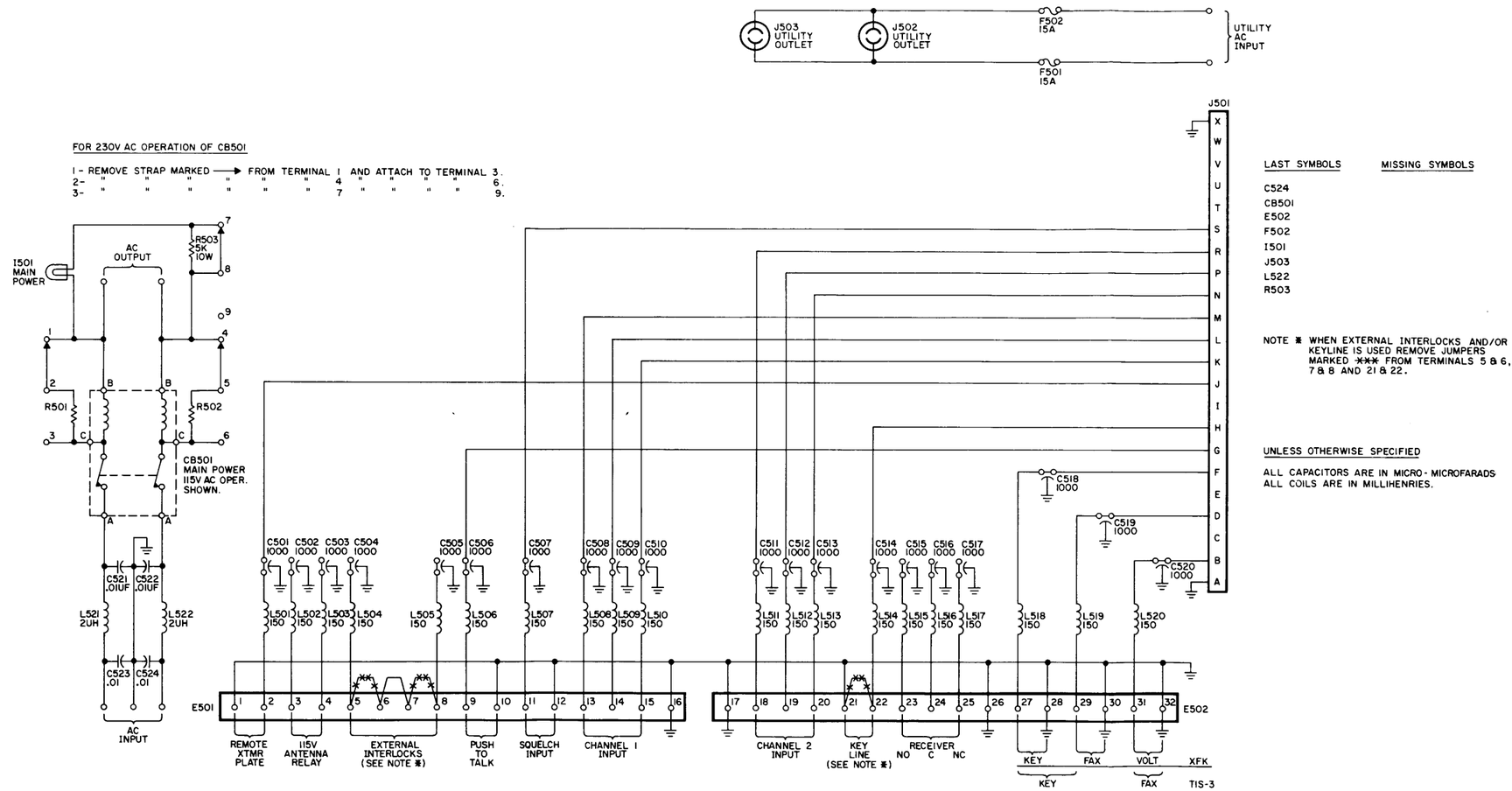


Figure D. APP-5 Schematic Wiring Diagram

HOLES	REQ.
A ~ 25/64 (.390) DIA. MTG. HOLES	4

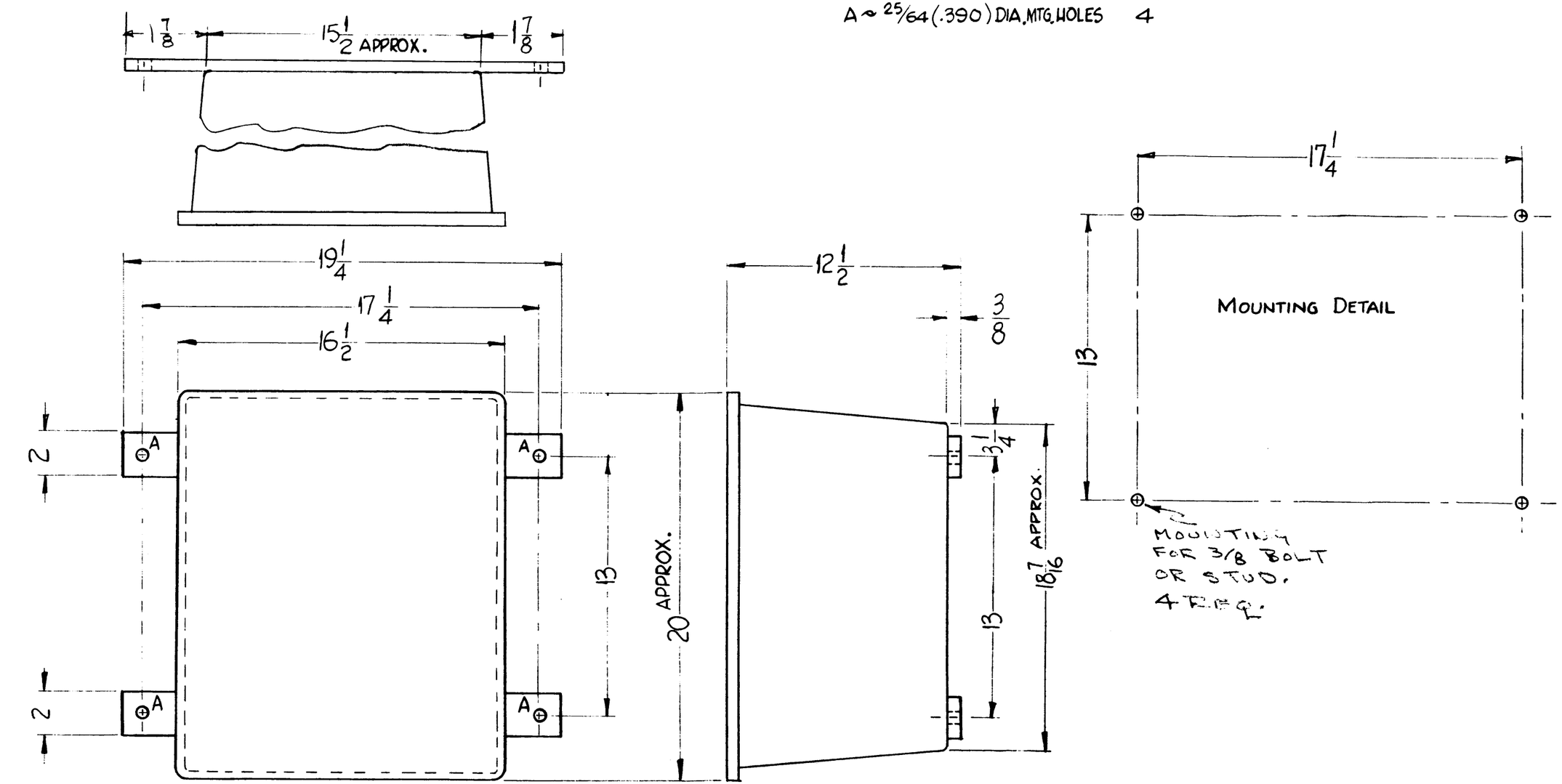
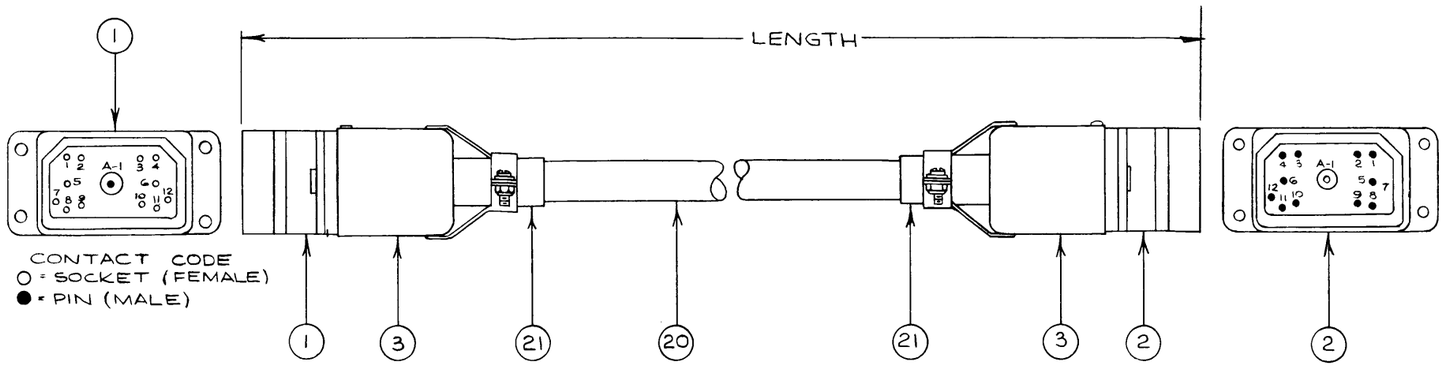
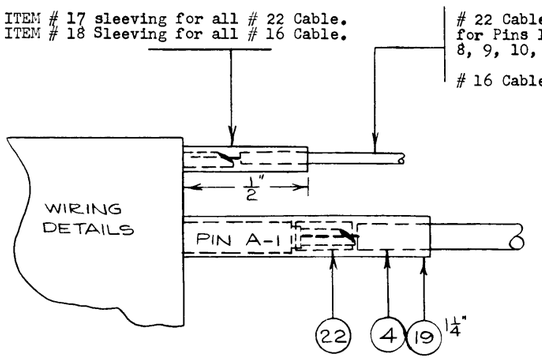


Figure E. ATS-TU-2 Tuner Dimensional Outline (ID-233)





ITEM # 17 sleeving for all # 22 Cable.
ITEM # 18 Sleeving for all # 16 Cable.

22 Cable (as per Chart) for Pins 1, 3, 4, 5, 6, 8, 9, 10, 11, 12,

16 Cable for Pins 2&7.

WIRING CHART	
ITEM NO	CONNECT PINS
4	A-1 to A-1
5	1 to 1
6	2 to 2
7	3 to 3
8	4 to 4
9	5 to 5
10	6 to 6
11	7 to 7
12	8 to 8
13	9 to 9
14	10 to 10
15	11 to 11
16	12 to 12

NOTE: After soldering, wind three turns of tape (item 22) around connection, then slip sleeving (item 19) on as shown. (PIN A-1 ONLY)
After taping, there will be NO BARE WIRE showing.

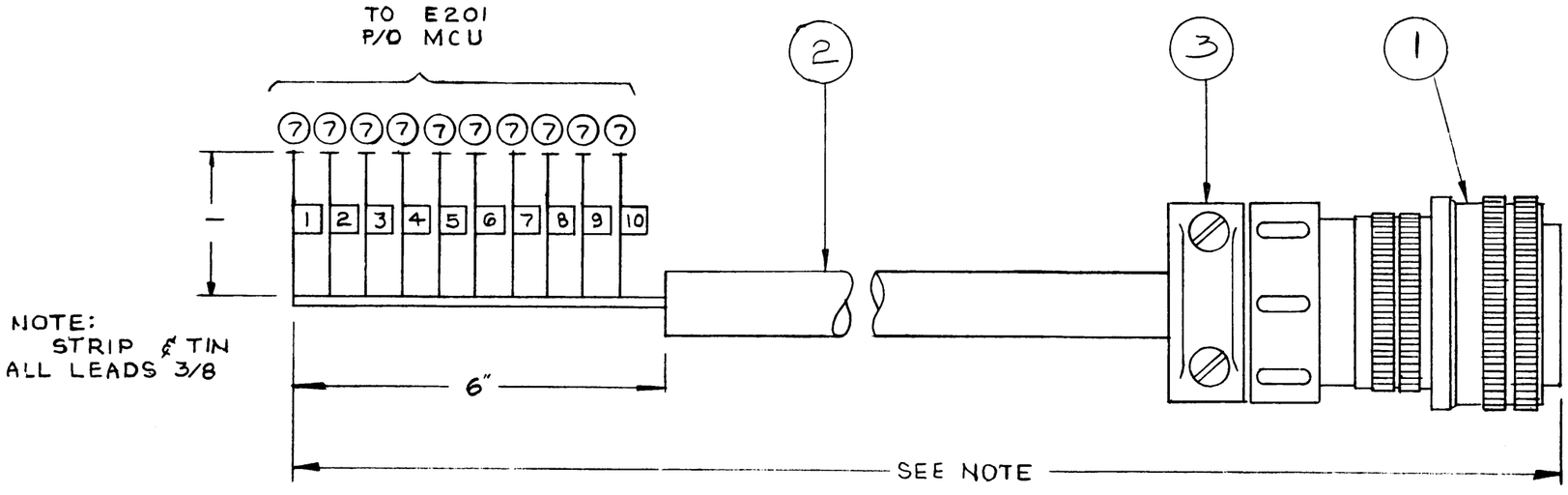
TYPE DESIGNATION TO BE AS FOLLOWS

CA10136-72

TMC DRAWING NO. — REQUIRED LENGTH (INCHES)

(Length will always be expressed to the nearest inch.)

Figure F. CA-10136 Cable Assembly & Wiring Diagram



NOMENCLATURE TO BE AS FOLLOWS

CA-541-XXX

TMC DWG NO. — LENGTH REQ (FEET)

CONNECT ITEM 1 WIRE COLOR	LABELS ITEM 6	TO ITEM 1 PIN #s.
BLACK	7	A
WHITE	4	B
RED	8	C
GREEN	1	D
YELLOW	5	E
BLUE	3	F
BROWN	9	G
ORANGE	10	H
VIOLET	2	J
GRAY	6	K

NOTE:
ITEM 2 LENGTH
DEPENDS UPON
CA-541 LENGTH

Figure G. CA-541 Cable Assembly & Wiring Diagram

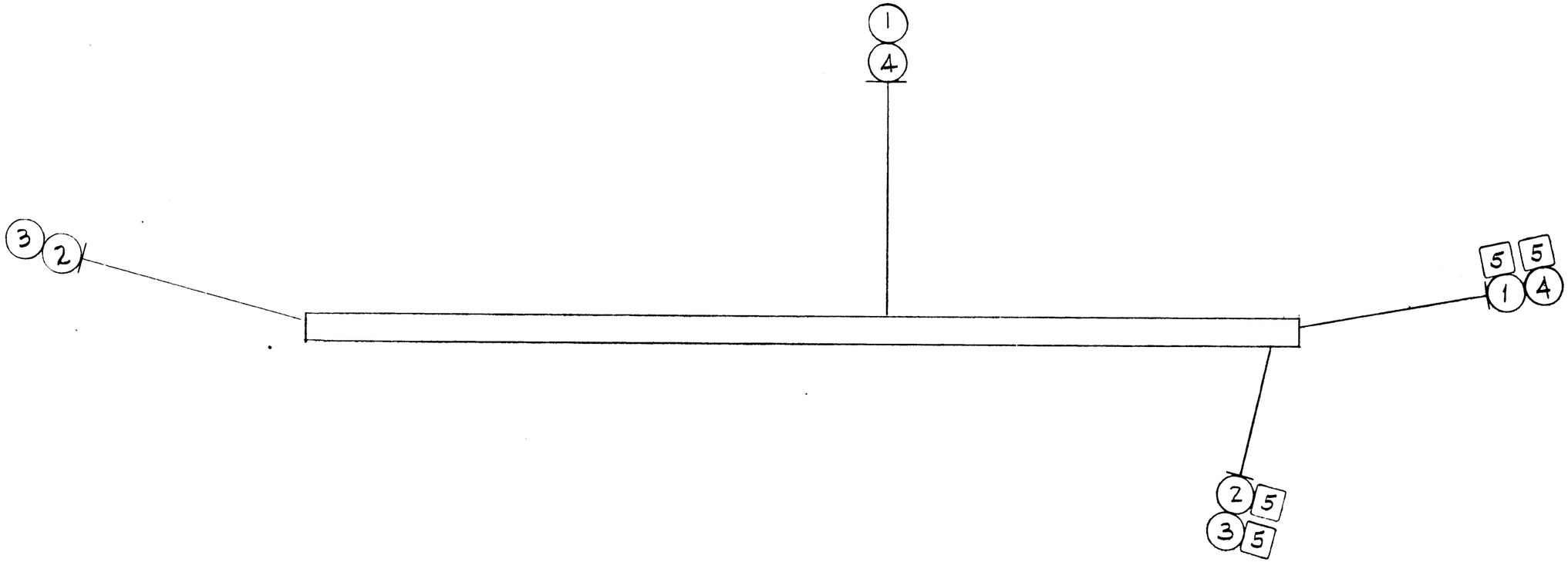


Figure H. CA-550 Cable Assembly & Wiring Diagram