

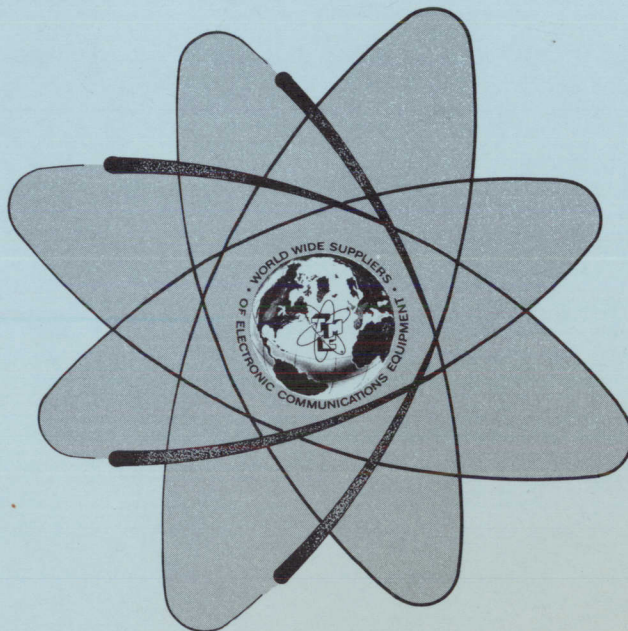
TECHNICAL MANUAL  
*for*

SERVICE MANUAL

for

ANTENNA SWITCHING

AX5212



THE TECHNICAL MATERIEL CORPORATION  
MAMARONECK, N. Y.

OTTAWA, ONTARIO

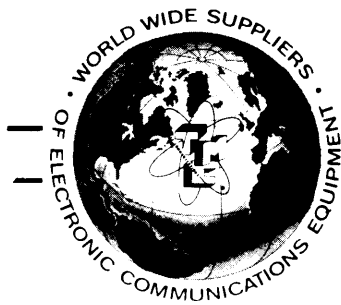
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# THE TECHNICAL MATERIEL CORPORATION

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.

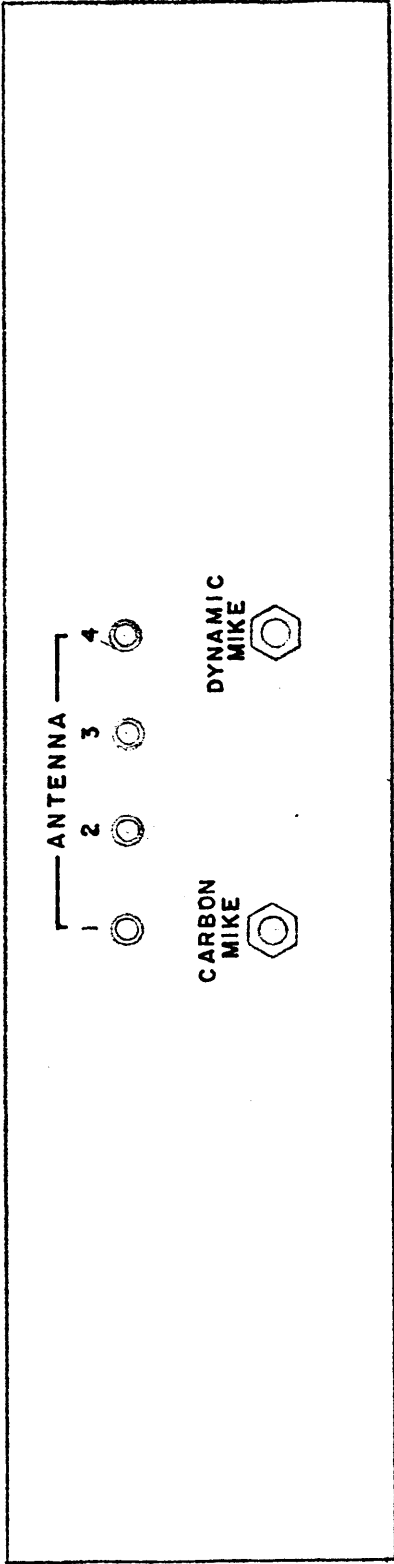
### *PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT*

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





ANTENNA SWITCHING UNIT

AX5212

SECTION 1  
GENERAL INFORMATION

1-1. AX5212 ANTENNA SWITCHING UNIT

FUNCTIONAL DESCRIPTION

AX5212 is a Ledex controlled 4 channel (outputs) switching unit. It takes the RF output of GPTR-1KC and by means of 4 position switching allows 4 separate RF outputs to be used for multi-antenna operation.

By proper programming of diodes CR1, CR2, CR3, CR4, and combinations of antenna selection can be achieved. (Example: by tying CR1 and CR2 to E1. Both channels 1 and 2 will programmed to antenna output).

The front panel has antenna switching indicators DS1, DS2, DS3, and DS4 carbon mike and dynamic mike inputs. Microphone inputs are connected to SME-5C and are used for local operation. PTT operation is also brought to this panel. 24 volt Ledex control voltage is derived from TMA-1KC power supply. Channel information 1, 2, 3, 4, and TB101 are connected to channel inputs on TMA. A voltage fed to TB101 results in notch homing waffer S101 programming bandswitching to proper output. Q101 SCR firing sequence is accomplished by this trigger voltage and S101 contacts.

Output connectors are S0239 (4).

Input connectors are UG 496/U.



## PARTS LIST

AX5212

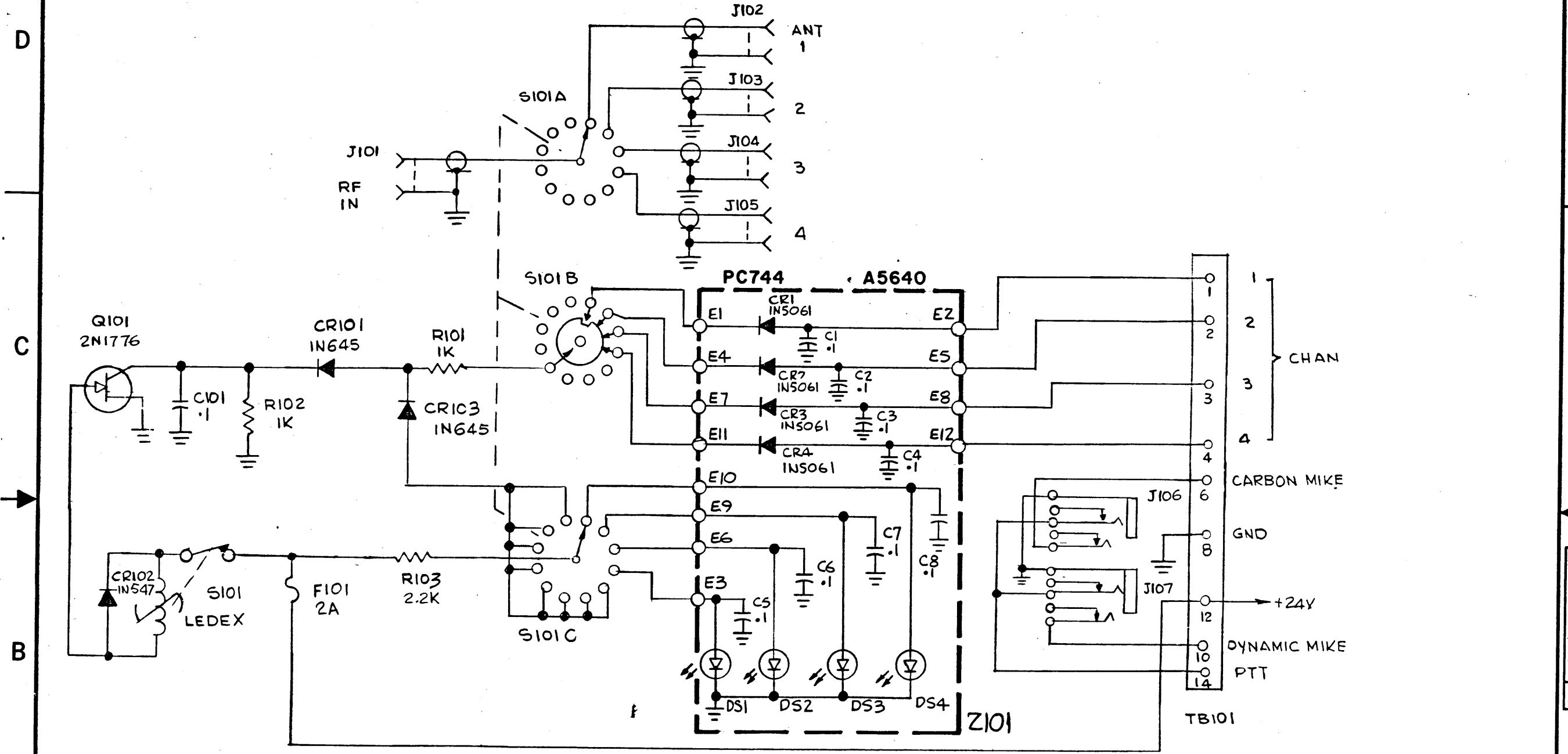
REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C101	CAP, FIXD, CER	CC131-39
CR101 CR102 CR103	SCOND, DEV, DIO. SCOND, DEV, DIO. SAME AS CR101	1N645 1N547
F101	TWO AMP FUSE	FU100-2
J101 J102 J103 J104 J105 J106	RF CONNECTOR ANT. CONNECTOR SAME AS J102 SAME AS J102 SAME AS J103 JACK TELEPHONE	UG496/U S0239A  JJ083
R101 R102 R103	RES, FIXED, COMP. SAME AS R101 RES, FIXD, COMP.	RC07GF102J RC07GF222J
Q101	TRANSISTOR	2N1776

## PARTS LIST

Z101

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1 C2 C3 C4 C5 C6 C7 C8	CAP, FIXD, CER, SAME AS C1 SAME AS C1 SAME AS C1 SAME AS C1 SAME AS C1 SAME AS C1 SAME AS C1	CC131-39
CR1 CR2 CR3 CR4	SCOND, DEV, DIO SAME AS CR1 SAME AS CR1 SAME AS CR1	1N5061
DS1 DS2 DS3 DS4	INDICATOR, LED SAME AS DS1 SAME AS DS1 SAME AS DS1	B1132

REVISIONS							
ZONE	LTR	DESCRIPTION	DATE	E.M.N.NO	DRAFT	CHKD	APPD
	Ø	ORIGINAL RELEASE FOR PRODUCTION	1-26-77			G.D.L.	*



- UNLESS OTHERWISE SPECIFIED
- 1- ALL DECIMAL CAPACITANCE VALUES ARE IN MICROFARADS
  2. ALL WHOLE NUMBER ARE IN PICO FARADS
  - 3- ALL RESISTANCE VALUES ARE IN OHMS 1/4W

AX5212		GPTR-1KC	
QTY / UNIT	MODEL USED ON	ASSY NO.	
APPLICATION			
CODE			

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES	
TOLERANCES ON	
DECIMALS	FRACTIONS
.X ± .05	± 1/64
.XX ± .01	ANGLES
.XXX ± .005	± 0°-30'
MATERIAL	
FINISH	

QTY. REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL
LIST OF MATERIAL				
FINAL APPROVAL: <i>G.B.</i>				
MECH. DES. <i>EW</i>				
ELECT. DES.				
CHECKED				
DRAWN: G.D.L.				
CK2130 SCHEMATIC, DIAGRAM RF OUTPUT SWITCHING				

CK2130

5

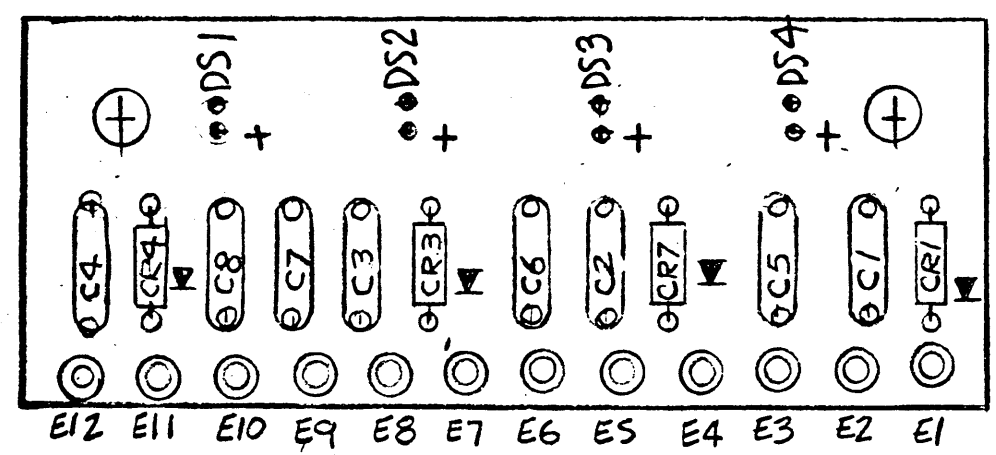
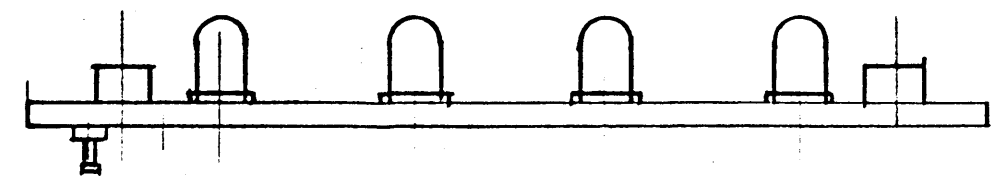
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REVISIONS							
EM.N. NO.	DRAFT	CHKD	ZONE	LTR	DESCRIPTION	DATE	APPROVED
	<i>HW</i>				EN's Clarified	11-3-76	
	<i>R.V.</i>			0	ORIGINAL RELEASE FOR PRODUCTION	1-26-77	*



(PC744)

ASSEMBLY NOTES

1. TO MOUNT COMPONENTS INSERT LEADS THROUGH HOLES.
2. CAUTION, WHEN APPLYING HEAT & SOLDER TO LEAD & FOIL.
3. CLEAN & INSPECT AS PER SPEC S676.
4. FOR ELECTRICAL COMPONENT PART NUMBERS REFER TO NPL A
5. USE SYMBOL NUMBERS FOR ASSY. REF.

(CK2130)

REQ'D	ITEM	PART NUMBER	DESCRIPTION	SYM.
X	2	BS100	SOLDER TIN ALLOY	
1	1	PC744	PRINTED CIRCUIT BD	

LIST OF MATERIAL

A5640  
SCHEMATIC, DIAGRAM  
ASSY P.C. INDICATOR

1	AX5212	GPTR-1KC
QTY / UNIT	MODEL USED ON	ASS'Y NO.
APPLICATION		
CODE		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES	
DECIMALS	FRACTIONS
.X ± .05	1/64
.XX ± .01	TOLS. ANGLES
.XXX ± .005	0° - 30'
MATERIAL	
FINISH	

FINAL APPROVAL <i>JB</i>	DATE <i>11/5/72</i>
MECH. DES. <i>HW</i>	DATE <i>10-3-76</i>
ELECT. DES.	DATE
CHECKED	DATE
DRAWN <i>R. UZZO</i>	DATE <i>10-3-76</i>

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