



A 3278

REVISIONS					
SYM	DESCRIPTION	DATE	E.M.N. NO.	DRAFT	CHKD APPD
J	SEE SHEET 2 OF 2 REV "J"	6-9-63	14222	JC	

HOLE	DIA	PAD DIA	REQD	PLATE THRU
UNMARKED	.060	.120	62	YES
A	.078 $\pm .002$.160	18	NO
B	.034	.120	12	YES
C	.140	NONE	1	NO
D	.078 $\pm .002$	NONE	1	YES
E	5/32	NONE	4	NO
F	.089	.172	4	YES

← ORIGINAL ART WORK TO BE REMOVED FROM PROTECTIVE POCKET WHEN PHOTOGRAPHING.

← A 3278-1 ETCHING

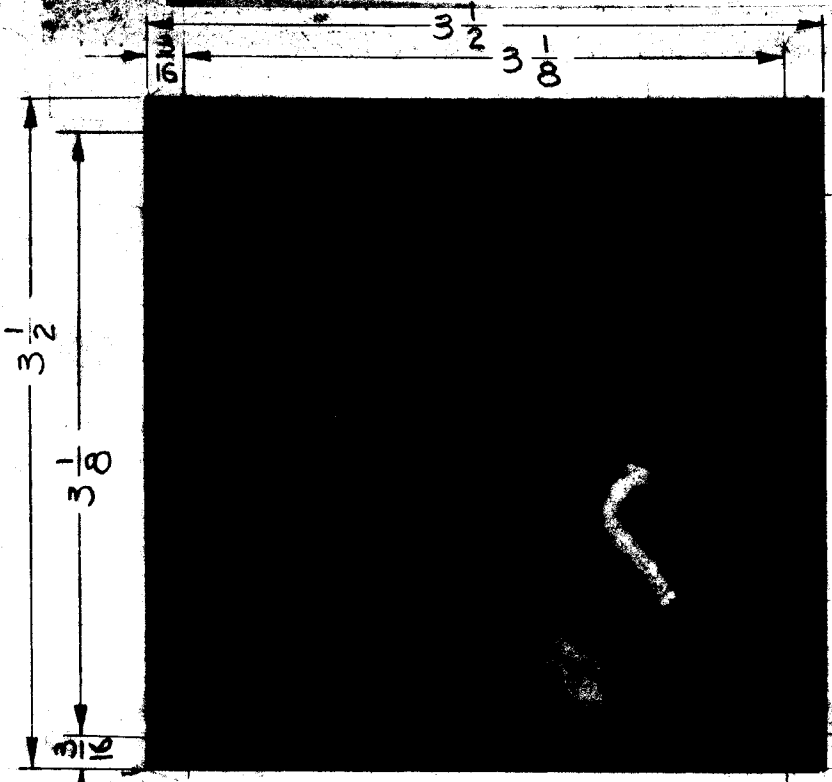
~ SPECIFICATIONS ~

BASE MATERIAL — EPOXY G-10, 3/32 THK
 FINISH — SEAL ALL EDGES
 COPPER FOIL — .0027 MIN. THK (2oz.)
 PLATING — TIN LEAD, ALL CONDUCTORS MIN. THK. .0008

~ NOTES ~

- LETTER DESIGNATIONS SHOWN ON CIRCUIT DENOTE HOLE SIZE — DO NOT PRINT —
- HOLE AS NOTED ON CHART ARE TO BE PLATED THRU. ALL PLATED THRU HOLES MUST HAVE A MINIMUM COPPER THICKNESS OF .0015 AT ANY POINT WITHIN THE HOLE.
- SOLDER PLATING TO BE AS PER TMC SPEC. S-735.

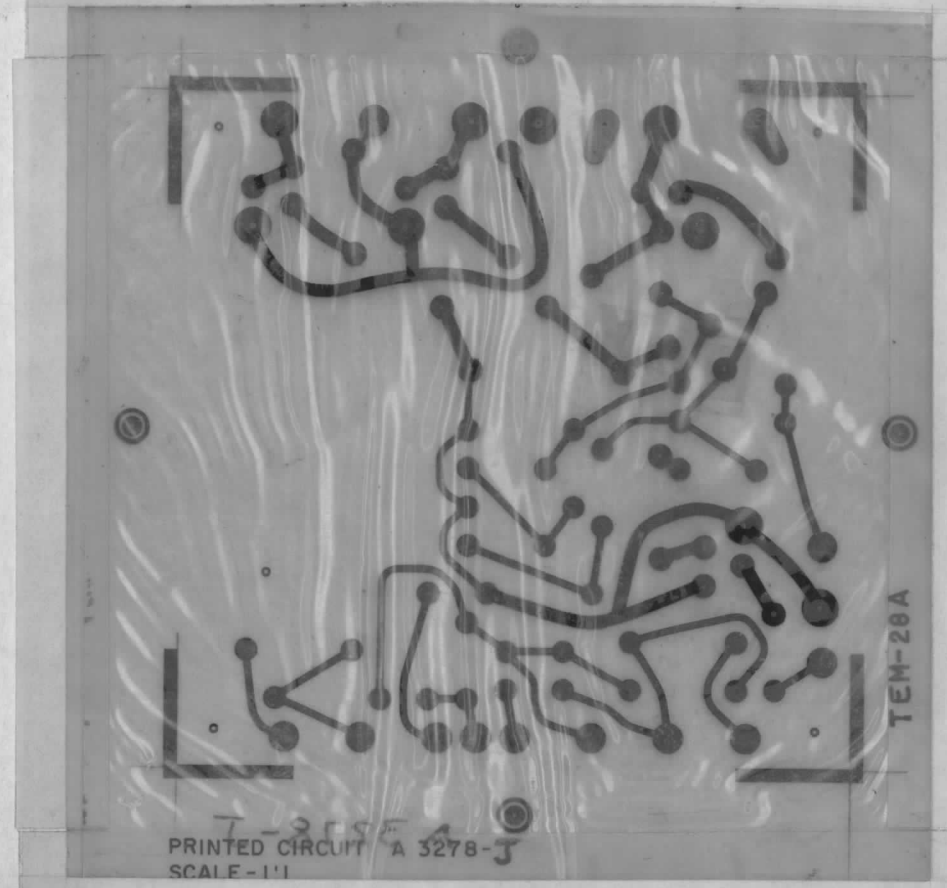
THE ORIGINAL ART WORK TO BE SUPPLIED BY TMC FOR PHOTOGRAPHING (SCALE 1:1)



A 3278-2 MACHINING

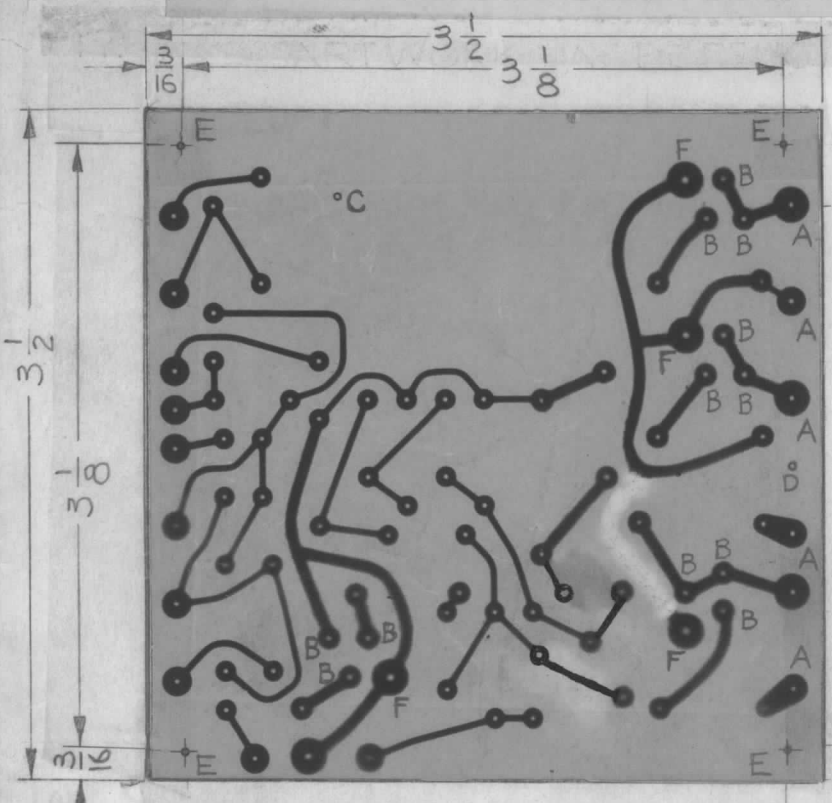
REQ'D.	ITEM	PART NUMBER	DESCRIPTION	SYMBOL
KOHN LIST OF MATERIAL				
MATERIAL		SEE NOTES	THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
FINISH		SEE NOTES	TITLE PRINTED CIRCUIT BD. ASSY CW OSCILLATOR	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		DRAWN <i>Adami</i>	DATE 8-29-63	FINAL APPROVAL <i>BP</i>
		CHECKED <i>Joe</i>	DATE 9-11-63	
		ELECT. DES. R. KOHN	DATE 9-11-63	A 3278
		MECH. DES. R. KOHN	DATE 9-11-63	SHEET 1 OF 2

1	TTR-10	
Q'TY./UNIT	MODEL USED ON	ASS'Y. NO.
SCALE NONE	CODE A	
THE CONTENTS OF THIS DRAWING ARE THE EXCLUSIVE PROPERTY OF THE TECHNICAL MATERIEL CORP. ITS UNAUTHORIZED USE OR REPRODUCTION IN WHOLE OR IN PART IS STRICTLY FORBIDDEN.		
DECIMALS .X ± .05 .XX ± .01 .XXX ± .008	TOLERANCES	FRACTIONS ± 1/64 ANGLES ± 0° 30'



← ORIGINAL ART WORK TO BE REMOVED FROM PROTECTIVE POCKET WHEN PHOTOGRAPHING.

← A 3278-1 ETCHING



A 3278-2 MACHINING

A 3278 J

REVISIONS

SYM	DESCRIPTION	DATE	E.M.N. NO.	DRAFT	CHKD	APPD
J	SEE SHEET 2 OF 2 REV "J." 2 OF 2	6-9-66	14222	JC		
B	ARTWORK REX HOLES AFTER B HOLE REV, UNMARKED HOLES WAS 62 REQ'D	8-22-64	11492	NP		
C	ARTWORK MODIFIED	8-22-64	11999	NP		
D	SEE SHEET 2 OF 2 REV "D"	9-2-64	12293	NP		
E	SEE SHEET 2 OF 2 REV "E"	10-27-64	12713	NP		
F	SEE SHEET 2 OF 2 REV "F"	2-12-65	13298	NP		
G	SEE SHEET 2 OF 2 REV "G"	3-10-65	13699	NP		
H	SEE SHEET 2 OF 2 REV "H"	4-1-65	14222	NP		

HOLE	DIA	PAD DIA	REQD	PLATE THRU
UNMARKED	.060	.120	62	YES
A	.078 $\pm .002$.160	18	NO
B	.034	.120	12	YES
C	.140	NONE	1	NO
D	.078 $\pm .002$	NONE	1	YES
E	5/32	NONE	4	NO
F	.089	.172	4	YES

~ SPECIFICATIONS ~

- BASE MATERIAL — EPOXY G-10, 3/32 THK
- FINISH — SEAL ALL EDGES
- COPPER FOIL — .0027 MIN. THK (2 oz.)
- PLATING — TIN LEAD, ALL CONDUCTORS MIN. THK. .0008

~ NOTES ~

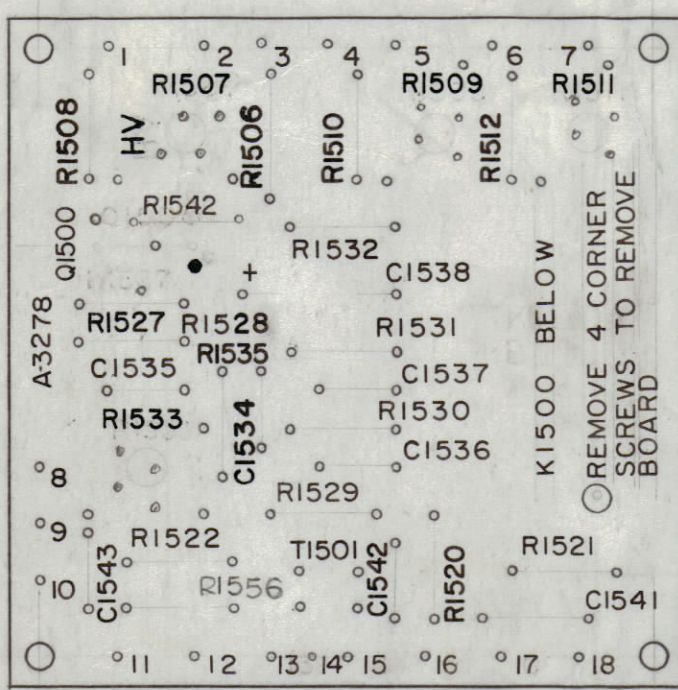
1. LETTER DESIGNATIONS SHOWN ON CIRCUIT DENOTE HOLE SIZE — DO NOT PRINT —
2. HOLES AS NOTED ON CHART ARE TO BE PLATED THRU. ALL PLATED THRU HOLES MUST HAVE A MINIMUM COPPER THICKNESS OF .0015 AT ANY POINT WITHIN THE HOLE.
3. SOLDER PLATING TO BE AS PER TMC SPEC. S-735.

THE ORIGINAL ART WORK TO BE SUPPLIED BY ITMC FOR PHOTOGRAPHING (SCALE 1:1)

REQ'D.	ITEM	PART NUMBER	DESCRIPTION	SYMBOL
KOHN LIST OF MATERIAL				
MATERIAL		THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK		
FINISH		TITLE PRINTED CIRCUIT BD. ASSY CW OSCILLATOR		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		DRAWN <i>Adams</i> CHECKED <i>Jole</i> ELECT. DES. <i>R. KOHN</i> MECH. DES. <i>R. KOHN</i>	DATE <i>8-29-63</i> DATE <i>9-11-63</i> DATE <i>9-11-63</i> DATE <i>9-11-63</i>	FINAL APPROVAL <i>BP</i> A 3278 SHEET 1 OF 2
DECIMALS .X ± .05 .XX ± .01 .XXX ± .005		FRACTIONS ± 1/64 ANGLES ± 0° 30'		J REV. LTR.

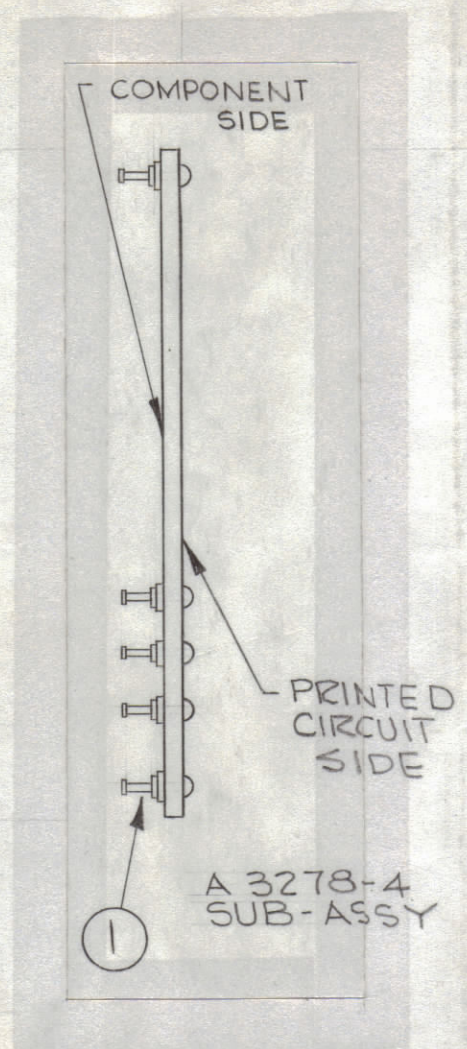
1	TTR-10	A
Q'TY./UNIT	MODEL USED ON	ASS'Y. NO.
SCALE NONE	CODE A	
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REVISIONS						
ZONE	SYM	DESCRIPTION	DATE	E.M.N. NO.	DRAFT	CHKD
C2	A	IT.20 DELE. IT.19 WAS IREQ. RC20GF 153J	5.7.64	11340	WFB	JCS
7H1	B	IT. 28,27,26,25,20 DELE, IT. 19 WAS IREQ, IT. 3,2 P/N REV, LETTERING REV.	5.22.64	11442	NP	@
G,C.7	C	R.1527 RELOCATED	8.12.64	11999	WFB	WFB
C3	D	IT.15 WAS IREQ & SYM R1521 ADD. IT. 36 IT.16 WAS IREQ & SYM R1521 DELE. IT. 36 * ADD. TO FINAL ASSY. * NOTE ADD. TO A3278-5	9.2.64	12298	WFB	WFB
C2	E	IT.13 WAS RC 20GF 222J, IT.31 ADD.	10.27.64	12719	WFB	WFB
	F	B/M: IT.30 WAS SCBP0632BN4; IT.34 WAS NTH0440BN8.	2.12.65	13300	WFB	WFB
	G	IT. 4 WAS RL156-3; IT. 8 WAS CM15B390K; IT. 9 WAS CM15B391K; U/O BLOCK ADDED & UPDATED.	3.15.65	13699	WFB	WFB
	H	CLERICAL CHANGE	3.30.65		WFB	WFB
	J	ITEM #9 WAS CM15F301J	6.9.65	14222	WFB	WFB



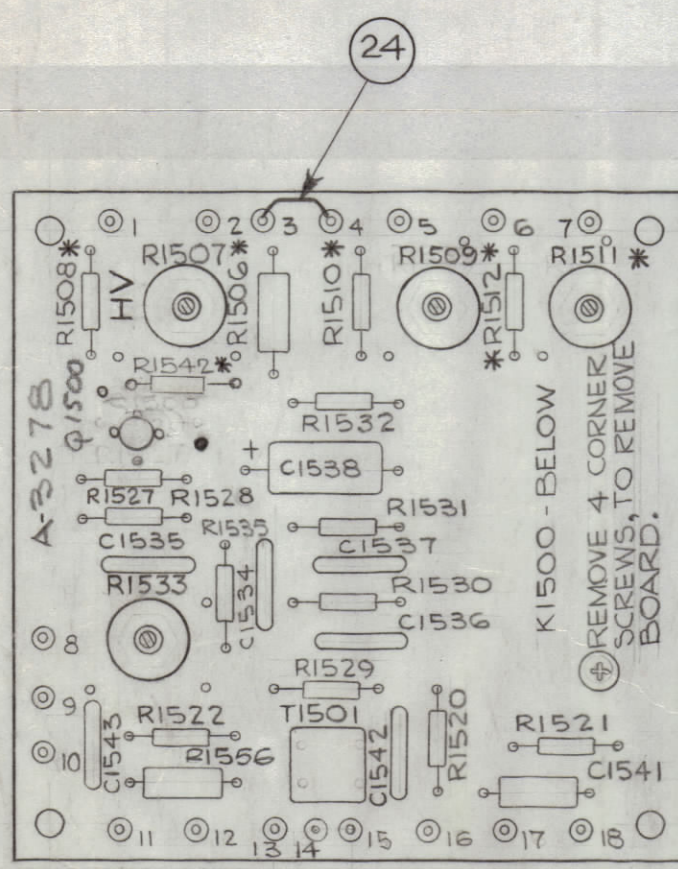
A 3278-3 LETTERING

UNLESS OTHERWISE SPECIFIED~
 1. ALL LETTERING TO BE 3/32 HIGH WHITE GOTHIC.
 2. MARKING PROCESS AS PER TMC SPEC. 5727 LOCATE APPROX. AS SHOWN

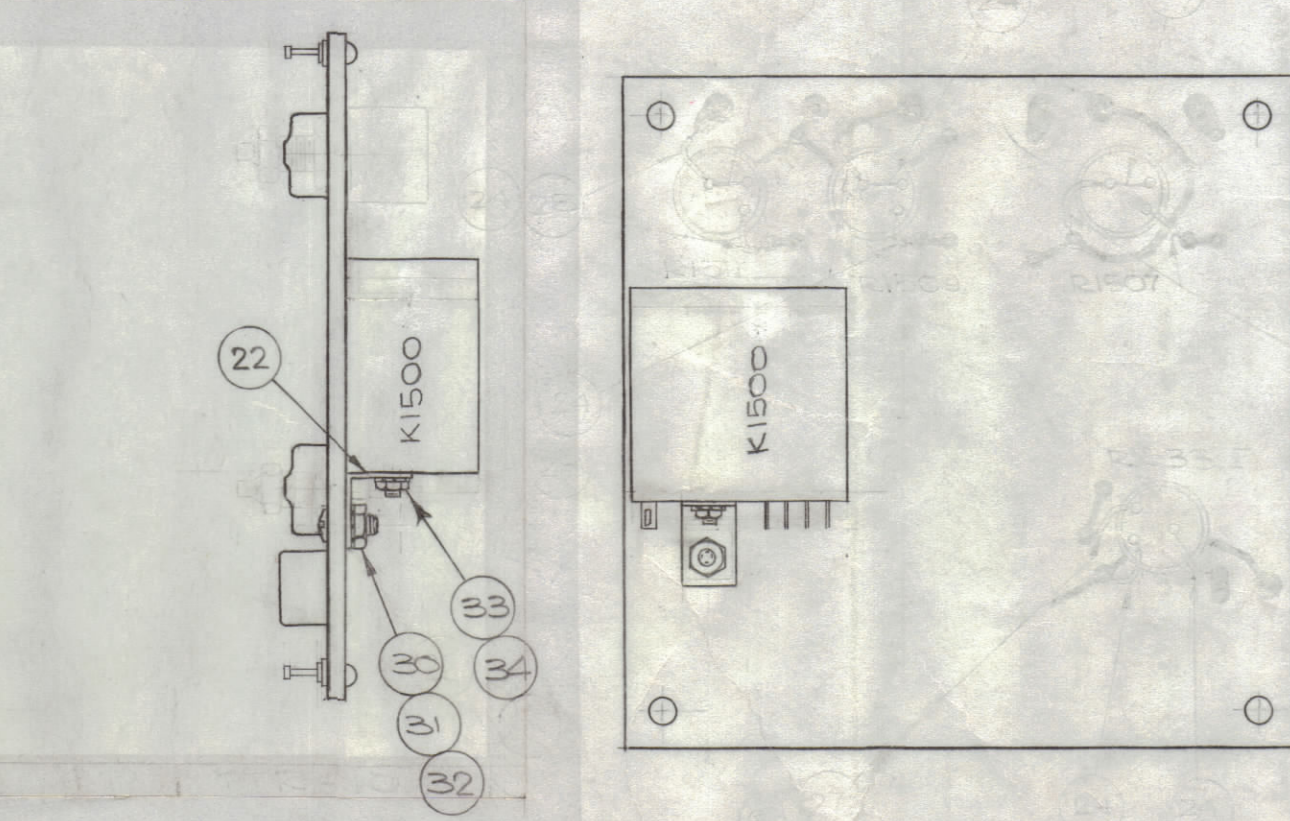


A 3278-4 SUB-ASSY

QTY	ITEM	PART NUMBER	DESCRIPTION	SYMBOL
2	37	RVIIIU254A	RESISTOR, VARIABLE, COMP.	R1509
1	36	PX829-1	PAD, TRANSISTOR	R1511
1	35	RC20GF105J	RESISTOR, FIXED, COMPOSITION	R1542
1	34	NTH0440BN6	NUT, HEX	
1	33	LWEO4MRN	WASHER, LOCK, EXT	
1	32	NTH0632BN8	NUT, HEX	
1	31	LWEO6MRN	WASHER, LOCK, EXT	
1	30	SCBP0632BN5	SCREW, MACHINE	
X	29	BS 100	SOLDER, SOFT	
	28			
	27			
	26			
	25			
0-01	24	WL100-8	WIRE, BUSS, SIZE 24	
2	23	CC 100-33	CAPACITOR, FIXED, CERAMIC, DISC	
1	22	TE 200	BRACKET, ANGLE	
1	21	RC20GF 273 J	RESISTOR, FIXED, COMPOSITION	R1508
	20			
	19	RC20GF 102 J		R1506
1	18	RC32GF 100J		R1535
1	17	RC 20GF 473 J		
1	16	RC20GF 103J		
2	15	RC20GF 680J		R1521, R1520
1	14	RC20GF 433J		R1527
1	13	RC20GF 182 J		R1532
4	12	RC20GF472 J	RESISTOR, FIXED, COMPOSITION	
1	11	CC 100-15	CAPACITOR, FIXED, CERAMIC, DISC	C1542
3	10	CC 100-16	CAPACITOR, FIXED, CERAMIC, DISC	
1	9	RC20GF104J	RESISTOR, FIXED, COMP	R1556
1	8	CM15E390J	CAPACITOR, FIXED, MICA	C1541
1	7	2N1308	TRANSISTOR	Q1500
1	6	CE 105-50-15	CAPACITOR, FIXED, ELECTROLYTIC	C1538
1	5	TF 24G-6X	TRANSFORMER, AUDIO	T1501
1	4	RL 156-6	RELAY, ARMATURE	K1500
1	3	RVIII B103A	RESISTOR, VARIABLE COMP.	R1533
1	2	RVIII U503A	RESISTOR, VARIABLE COMP.	R1507
18	1	TE 127-3	TERMINAL, STUD	

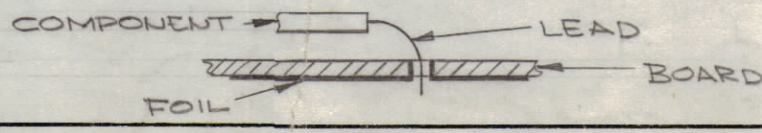


A3278-6 FINAL ASSY.



A 3278-5 ELECTRICAL ASSY. LESS COMP. MARKED * R1508, R1507, R1506 R1510, R1509, R1512 R1511

ASSEMBLY NOTICE
 1. TO MOUNT COMPONENTS, INSERT LEAD THRU PLATED THRU HOLES AND BEND 1/16 OF LEAD OVER COPPER FOIL AS SHOWN
 2. APPLY HEAT AND SOLDER TO LEAD & FOIL.
 CAUTION: TOO MUCH HEAT WILL CAUSE FOIL TO SEPARATE FROM BOARD
 3. CLEAN & INSPECT AS PER 5676



NOTES

QTY/UNIT	PC BD. ASSY.	MODEL, U/O	ASSY. NO.
1	A3278-5	SME-1	A3770
1	A3278-5	STE-1	A3273
1	A3278-6	TTR-10	AX418

SEE CHART	SEE CHART	ASSY. NO.
QTY/UNIT	MODEL USED ON	
SCALE	CODE	
DO NOT SCALE	A	

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LIST OF MATERIAL			
MATERIAL		THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
FINISH		TITLE PRINTED CIRCUIT BOARD ASSY CW OSCILLATOR	
DRAWN	DATE	FINAL APPROVAL	DATE
Checked	8/29/63	WFB	
ELECT. DES.	DATE	A 3278	
RON KOHN	10/16/63		
MECH. DES.	DATE		
RON KOHN	10/16/63		