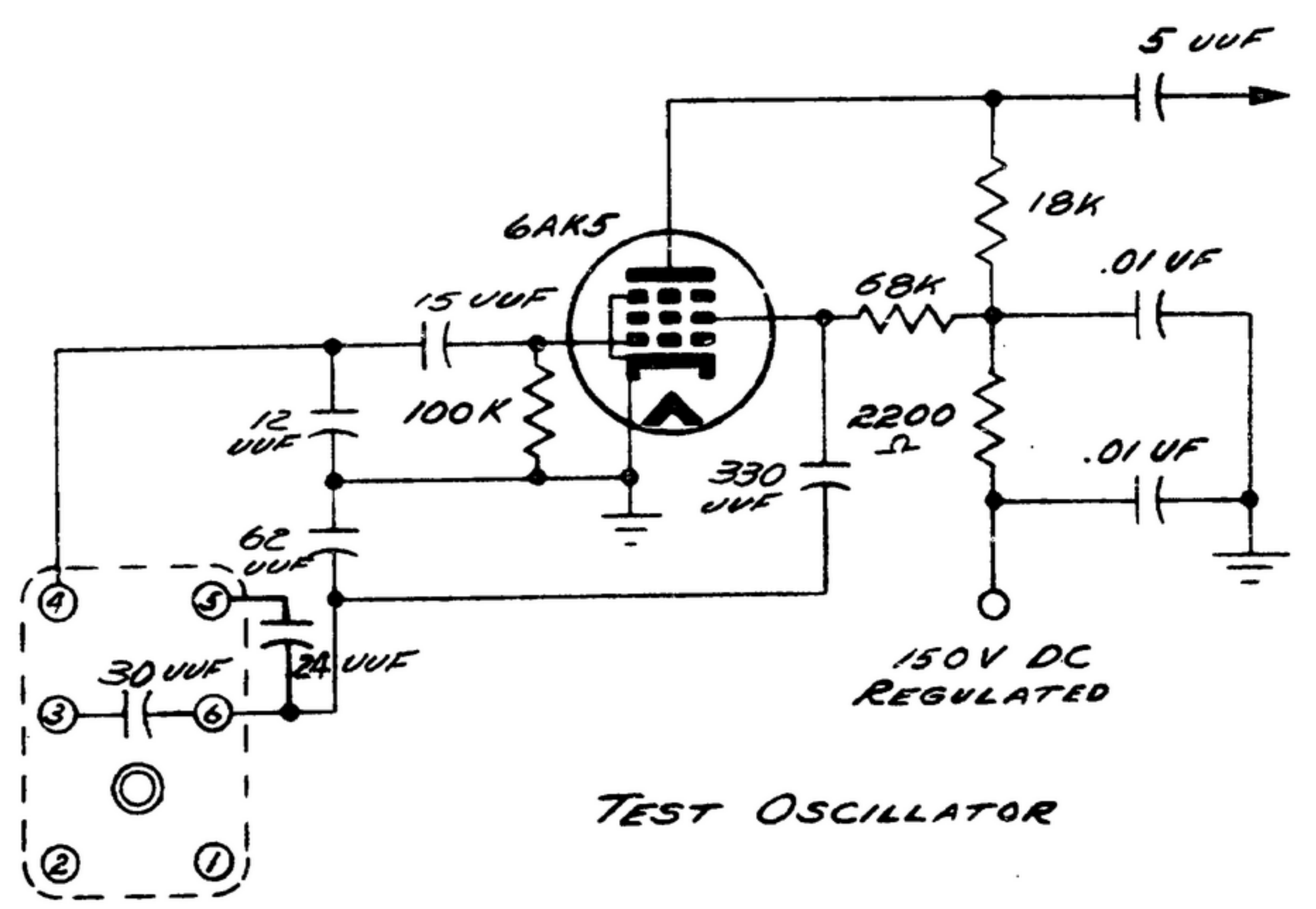
DR 94

EQUIP. TYPE R390A/URR EXP. NO.

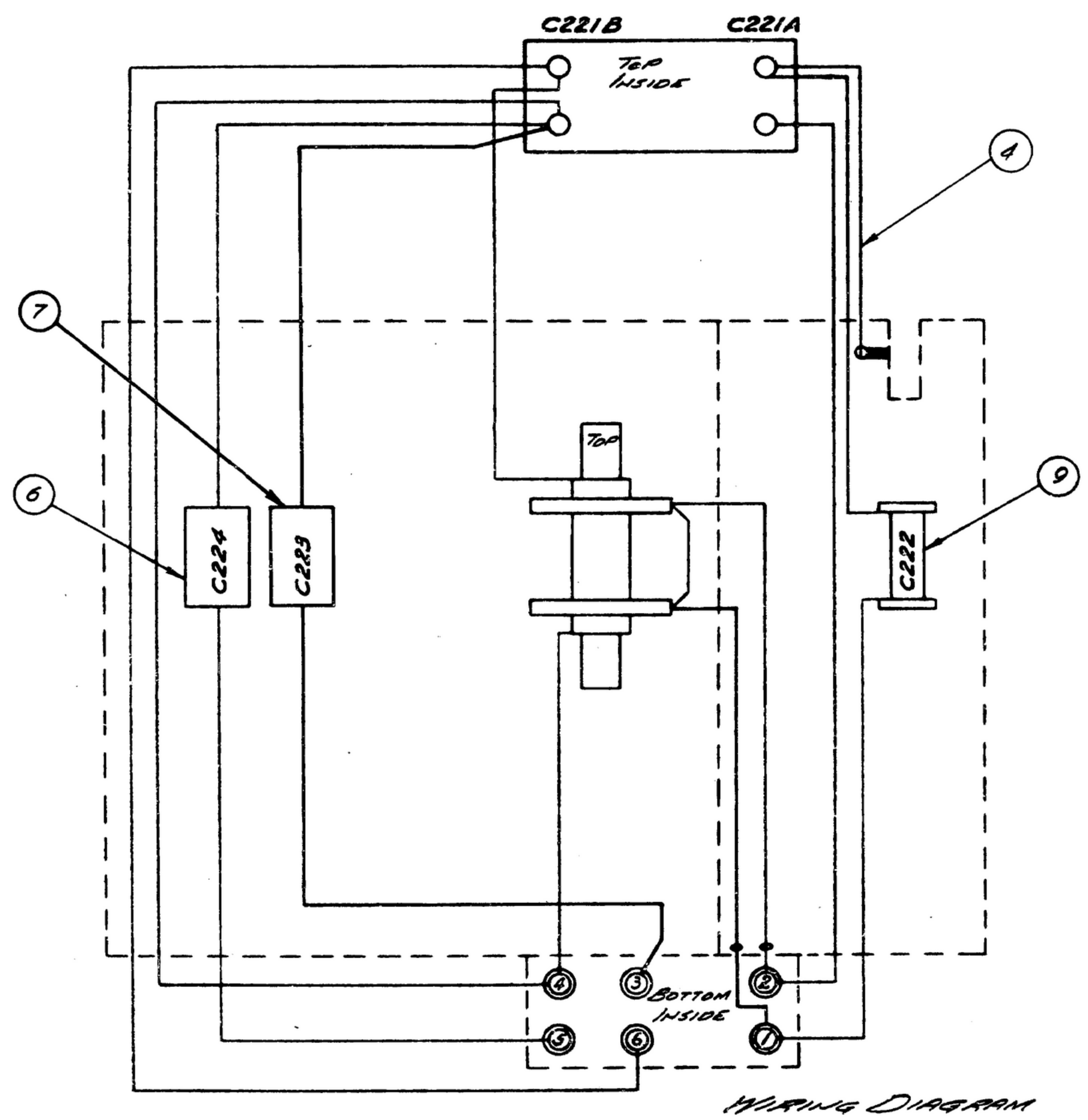
Col. 549 7898 094

*FOR INFORMATION ONLY. CONTRACTOR MAY AT HIS OPTION DEVIATE FROM THESE PROCESS DETAILS.

* SWE APPROVAL		REVISIONS			
SYM	PR10042-13	SYM	DESCRIPTION	DATE	APPROVAL
		A_6	A_1-ADDED ITEM 11. A_2-DELETED ITEM 5 & NOTE 4; A_3-CAN-MARKED WAS CAN-ANT. A_4-SWE. PART NO. REPLACED COLLINS PART NO. COL. A_5-MIL-C-20 WAS JAN-C-20; A_6-ADDED NEW APPL.	20 NOV 59	42428-PC-59-A1-51 REV'D. PME
B_2	CA84674	B_2	B_1-NOTE 6, 2 µµf WAS 4 µµf. B_2-ITEM 9 DESCRIPTION WAS CAPACITOR-VARIABLE;	20 APRIL 60	42428-PC-59 REV'D. PME
C	CA 84960	C	C_1-ADDED NOTE 13	16 NOV. 60	42428-PC-59 REV'D PME
		D_1	(1) NOTE 13, REF WAS SM-C-249249	30 NOV 62	R.B.P. E.D.B.
		E_3	(1) FREQ TOL 300 WAS 150; 200 WAS 100; (2) NOTE 6 2000 CPS WAS 1000 CPS; (3) ± 1% WAS ± .1%	26 MAR 1965	21582-PC-61 REV'D PME

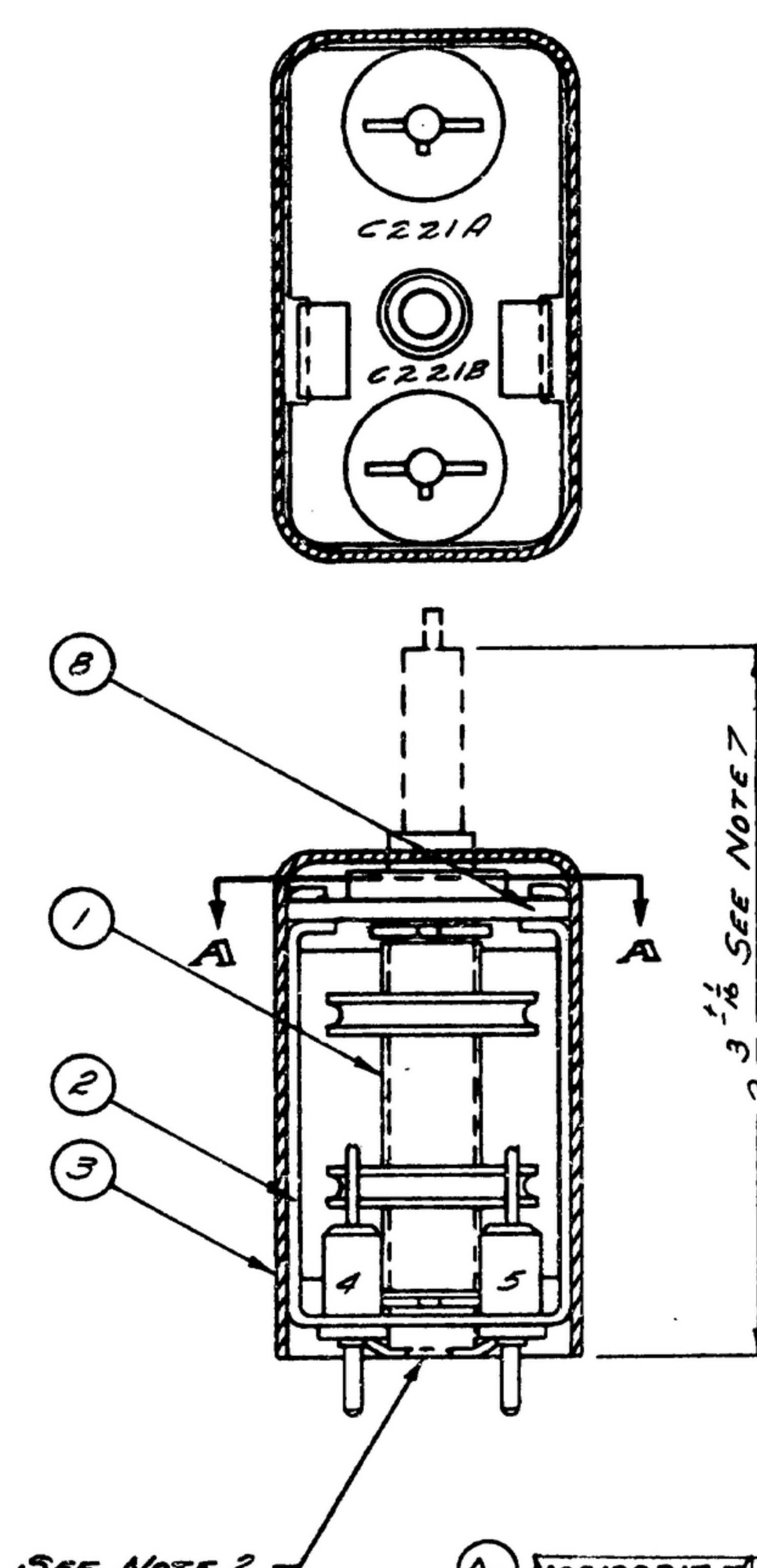


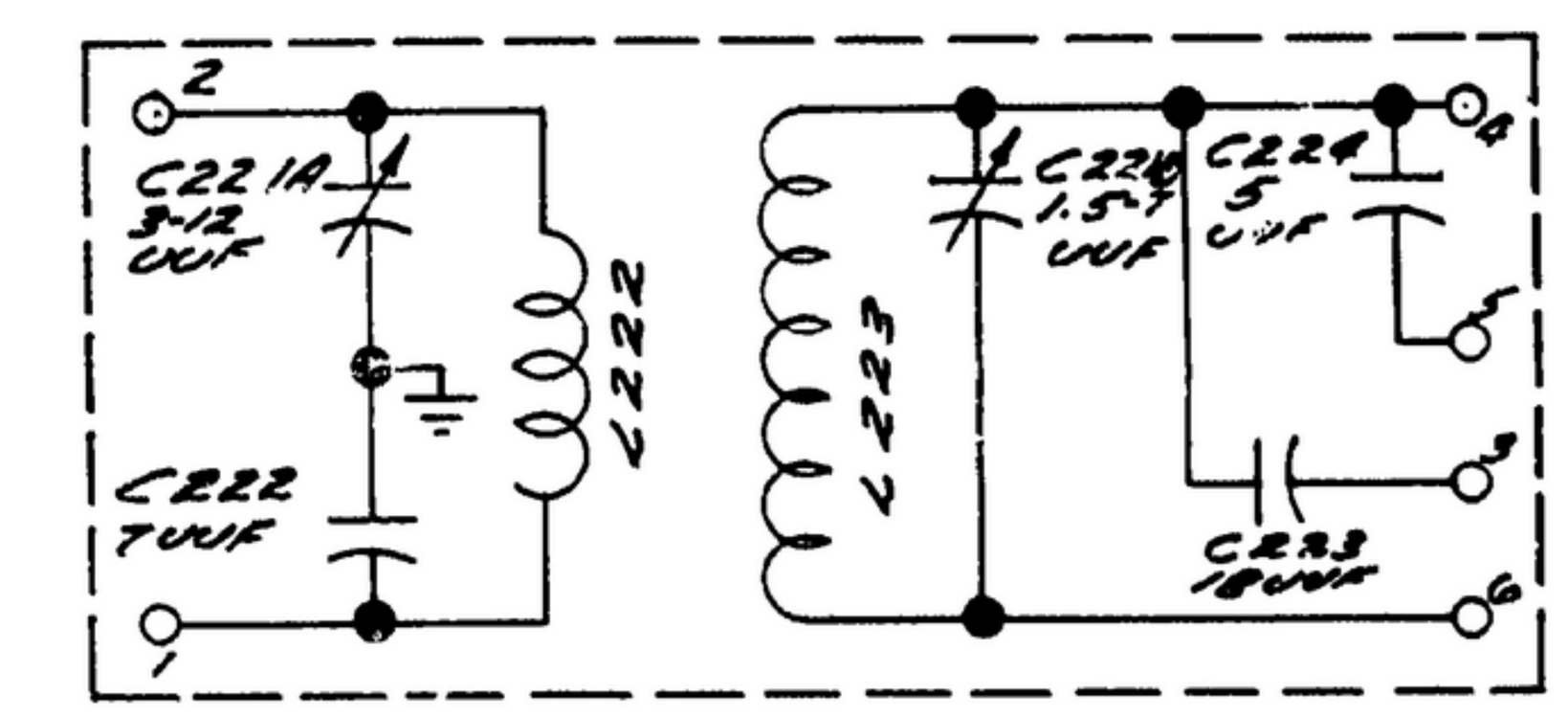
TEST OSCILLATOR



WIRING DIAGRAM

SECTION A-A





SCHEMATIC DIAGRAM FOR COIL WINDING

(E_1)

CORE POSITION INCHES ±.0002	TEST OSC FREQ MC	FREQ TOL KC	EFFECTIVE PARALLEL RESISTANCE (OHMS) ±25%
-0.0300	32.6	300	
0.0000	32.0	200	18000
‡ 0.0800	30.4	‡	
0.1600	28.8	200	
0.2400	27.2	200	
0.3200	25.6	200	
0.4000	24.0	200	14000
0.4800	22.4	200	
0.5600	20.8	200	
0.6400	19.2	200	
‡ 0.7200	17.6	‡	
0.8000	16.0	200	18000
0.8300	15.4	300	

‡ ALIGNMENT POINTS SEE NOTE 6

(D_1) NOTES:

1. SOFT SOLDER PER SPEC MIL-S-6872 USING ROSIN CORE SOLDER (11) COMP SN60.
2. COIL FORM OF COIL ASSY (1) TO BE CONCENTRIC WITH .190 DIA HOLE IN FRAME (2) WITHIN .020 T.I.R.
3. MOUNTING POSITION OF CAPACITORS OPTIONAL, PROVIDING NO CAPACITOR COMES WITHIN 1/16 OF COIL WINDING.

(A_2)

5. TYPE S, #22 DRAWN & ANNEALED, TIN COATED.
6. ALIGNMENT: WITH COIL ASSY IN TEST JIG, AND STANDARD POWDERED IRON TUNING CORE POSITIONED IN THE COIL, ADJUST SECTION "B" OF VARIABLE CAPACITOR (8), UNTIL TEST OSCILLATOR FREQUENCY IS WITHIN (B_1) (E_2) 2000 CPS OF THE VALUE SHOWN IN TABLE AT THE TWO ALIGNMENT POINTS. THE FINAL SETTING OF THE VARIABLE CAPACITOR (8), SHALL LEAVE A RESERVE ADJUSTMENT OF 2 µµf.
7. BROKEN LINES INDICATE OUTLINE OF STANDARD POWDERED IRON TUNING CORE OF TEST JIG. DIMENSION APPLIES TO THE CORE IN 0.0800 ALIGNMENT POSITION AFTER ELECTRICAL ALIGNMENT PER NOTE 6.
8. TRACKING: TEST OSCILLATOR FREQUENCY SHALL BE WITHIN THE TOLERANCE OF TABLE AT SPECIFIED CORE INSERTIONS AT 25°C.
9. STABILITY: THE RESONANT FREQUENCY OF THE TUNING COIL SHALL VARY NO MORE THAN 40 PPM/°C FROM THE 25°C VALUE OVER THE SPECIFIED TEMPATURE RANGE.
10. TEMPERATURE RANGE -40°C TO +85°C OPERATING, -62°C TO +85°C STORAGE.
11. THE COIL ASSY SHALL BE BONDED TO THE BASE PLATE AND TO THE VARIABLE CAPACITOR BOARD TOP (8) WITH BONDING AGENT (10) #R-313 AS SUPPLIED BY CARL H. BIGGS CO, LOS ANGELES, CALIF, OR EQUAL.
12. HUMIDITY: UNIT SHALL BE CAPABLE OF OPERATION AFTER EXPOSURE TO 5 HUMIDITY CYCLES CONDUCTED IN ACCORDANCE WITH THE LATEST VERSION OF SIGNAL CORPS DRAWING SC-D-16286. UPON COMPLETION OF THE HUMIDITY CYCLES THE UNIT SHALL BE ALLOWED TO DRY AT 25°C AMBIENT FOR A PERIOD OF 1 HOUR.

(C_1) 13. TUNING CORE REFERRED TO IN NOTE 7 SHOULD BE SM-C-249245 AND MUST BE WITHIN ± 1% (E_3) OF NOMINAL PERMEABILITY.

* SWE. PART NO.	ITEM	REQD	PART NO.	DESCRIPTION	MATL	MATL SPEC	NOTES
(A_1) 10S130317-7	11	AS REQ'D		SOLDER - SOFT		QQ-S-571	1
11S130318-7	10	AS REQ'D		BONDING AGENT			11
(B_2) (A_5)	9	1	CC20CH070C	CAPACITOR - FIXED		MIL-C-20	
	8	1	SM-C-283229-4	CAPACITOR - VARIABLE			11
	7	1	SM-C-283226-4	CAPACITOR - FIXED			
	6	1	SM-C-283226-1	CAPACITOR - FIXED			
(A_2)	~~5~~	~~AS REQ~~	~~SM-B-249214~~	~~TUBING~~			~~4~~
30S110663-39	4	AS REQ	SM-D-249091-1	WIRE		MIL-W-3861	5
(A_3)	3	1	SM-B-249162	CAN - MARKED			
	2	1	SM-B-249071	FRAME ASSY			11
	1	1	SM-B-283209	COIL ASSY			11

(A_4) LIST OF MATERIAL — ~~COLLINS PART NO.~~ ~~550 0442 004~~

(A_6)		SM-D-343629	
~~558 0453 004~~	1	SM-D-248859	SC-DL-248775
~~COLLINS NO.~~	~~QTY~~	NEXT ASSY	USED ON
APPLICATION			

DRAWN R C HILL — CHECKED — APPROVED

UNLESS OTHERWISE SPECIFIED:
DECIMAL DIMENSIONS INCLUDING HOLE SIZES MAY VARY ±.005
FRACTIONAL DIMENSIONS INCLUDING HOLE SIZES MAY VARY ±1/64
MACHINED ANGLES MAY VARY ±1°
SHEARED ANGLES MAY VARY ±.50°
BROKEN ANGLES MAY VARY ±1°
ECCENTRICITY BETWEEN ANY DIAMETERS ON THE SAME CENTERLINE SHALL NOT EXCEED .010 TOTAL INDICATOR READING.
ALL DIMENSIONS ARE FINISH DIMENSIONS INCLUDING APPLIED FINISH AND ARE GIVEN IN INCHES.

~~COLLINS RADIO CO. CEDAR RAPIDS, IOWA~~

14214-PH-51-93

SIGNAL CORPS

REVIEWED PME

APPROVED HLY PME

DATE 20 FEB 56 — SCALE 2/1

COIL ASSY-ANT

DEPARTMENT OF THE ARMY
SIGNAL CORPS ENGINEERING LABORATORIES
FORT MONMOUTH NEW JERSEY

SM-D-249 091

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE SYMBOL, IF ANY, AND DATE