Step	Band	Adjust Signal Source To:	Set Gen. Cov. Dial at:	Set Bandspread Dial at:	Adjust to Receive Test Signal	Adjust for Maximum Output
1	A	53 Mc.	6 (198 on linear scale)	53 Mc.	C-67	C-16, C-7, C-1
2	A	50 Mc.	6	50 Mc.	L-16	L-11, L-6
3	A	53 Mc.	6	53 Mc.	C-67	Check Step 1. Repeat Steps 1, 2 and 3 if necessary.
1	B	30.0 Mc.	30.0 Mc.	Set Mark	C-69	C-17, C-9, C-1
2	B	14.0 Mc.	14.0 Mc.	Set Mark	L-17	L-12, L-7, L-2
3	B	30.0 Mc.	30.0 Mc.	Set Mark	C-69	Check Step 1. Repeat Steps 1, 2 and 3 if necessary.
1	C	11.0 Mc.	11.0 Mc.	Set Mark	C-71	C-18, C-10, C-1
2	C	5.0 Mc.	5.0 Mc.	Set Mark	L-18	L-13, L-8, L-3
3	C	11.0 Mc.	11.0 Mc.	Set Mark	C-71	Check Step 1. Repeat Steps 1, 2 and 3 if necessary.
1	D	4.0 Mc.	4.0 Mc.	Set Mark	C-73	C-19, C-11, C-1
2	D	1.8 Mc.	1.8 Mc.	Set Mark	L-19	L-14, L-9, L-4
3	D	4.0 Mc.	4.0 Mc.	Set Mark	C-73	Check Step 1. Repeat Steps 1, 2 and 3 if necessary.
1	E	1.5 Mc.	1.5 Mc.	Set Mark	C-76	C-20, C-12, C-1
2	E	1.0 Mc.	1.0 Mc.	Set Mark	L-20	
3	E	0.6 Mc.	0.6 Mc.	Set Mark	C-74	
4	E	1.5 Mc.	1.5 Mc.	Set Mark	C-76	Check Step 1. Repeat Steps 1, 2, 3 and 4 if necessary.

Note: Inductance adjustments (indicated by 'L') consists of a loop of wire inside coil form -- bending the loop one way or the other adds or subtracts to the inductance. L-20 inductance is adjusted by shorted turn loop on outside of coil form.

The Set Mark referred to above is located at 180 on the linear scale.

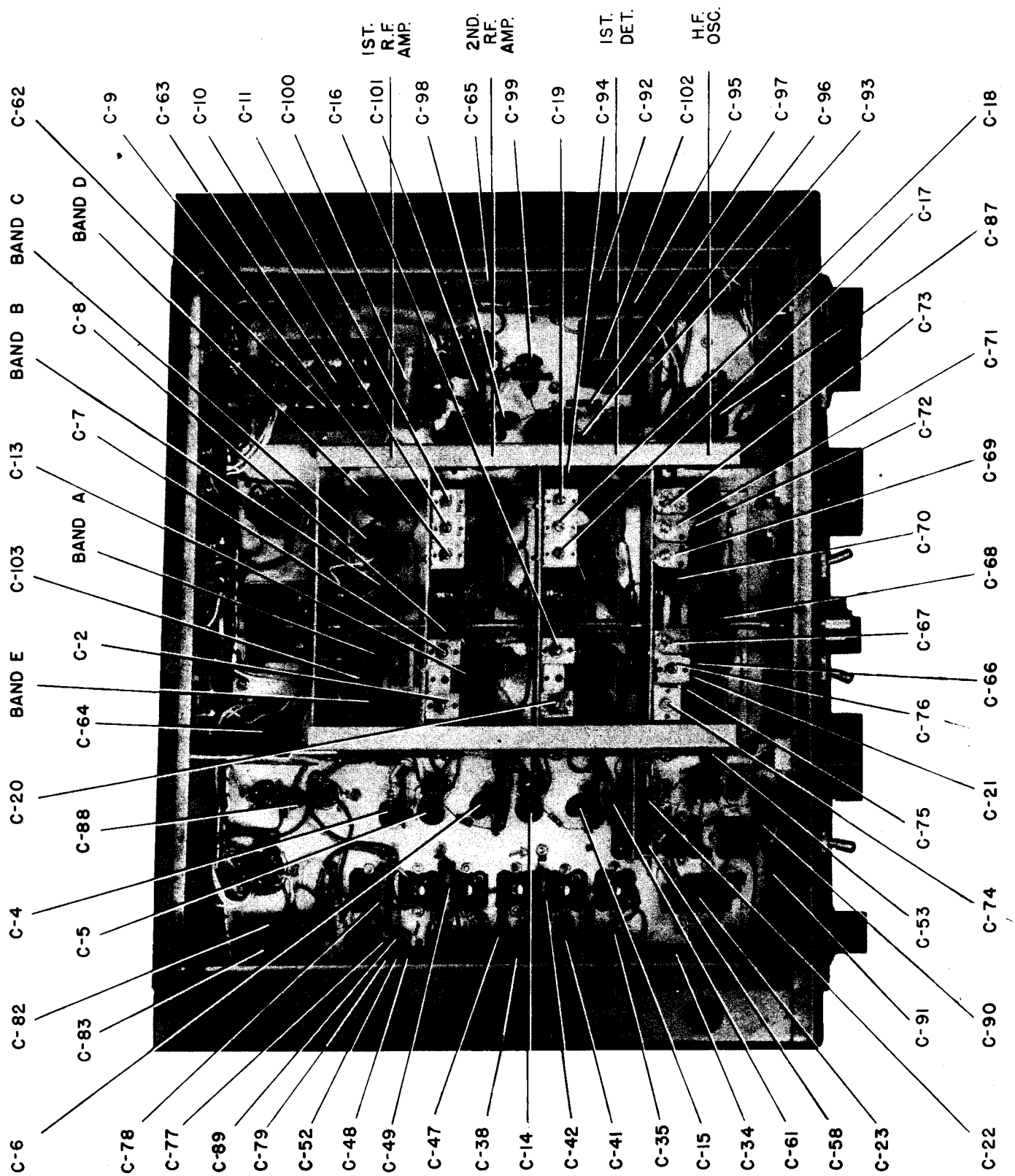


Figure No. 10. Capacitor Locations, Bottom View of Receiver

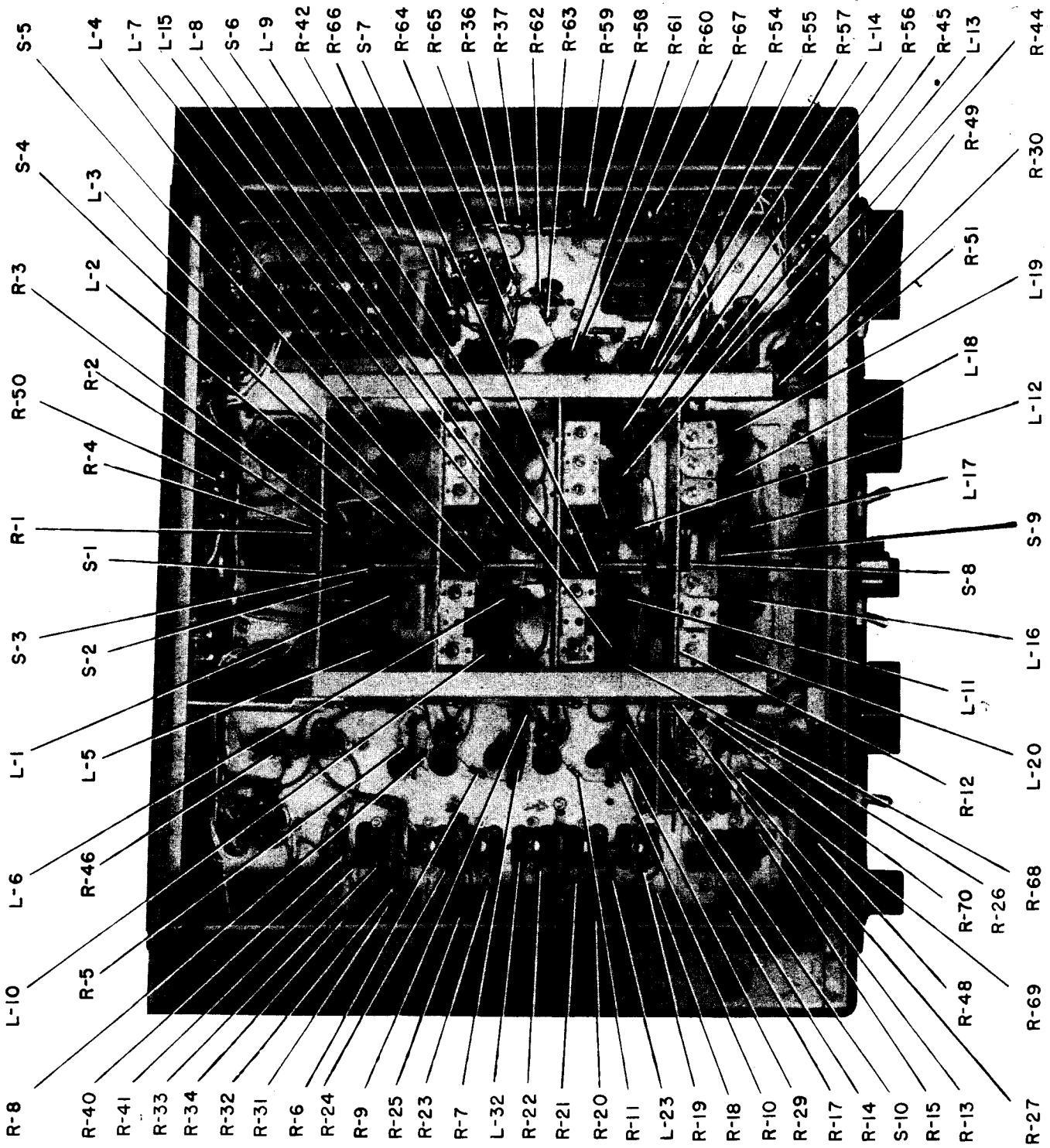


Figure No. 11. Resistor and Miscellaneous Component Locations, Bottom View of Receiver

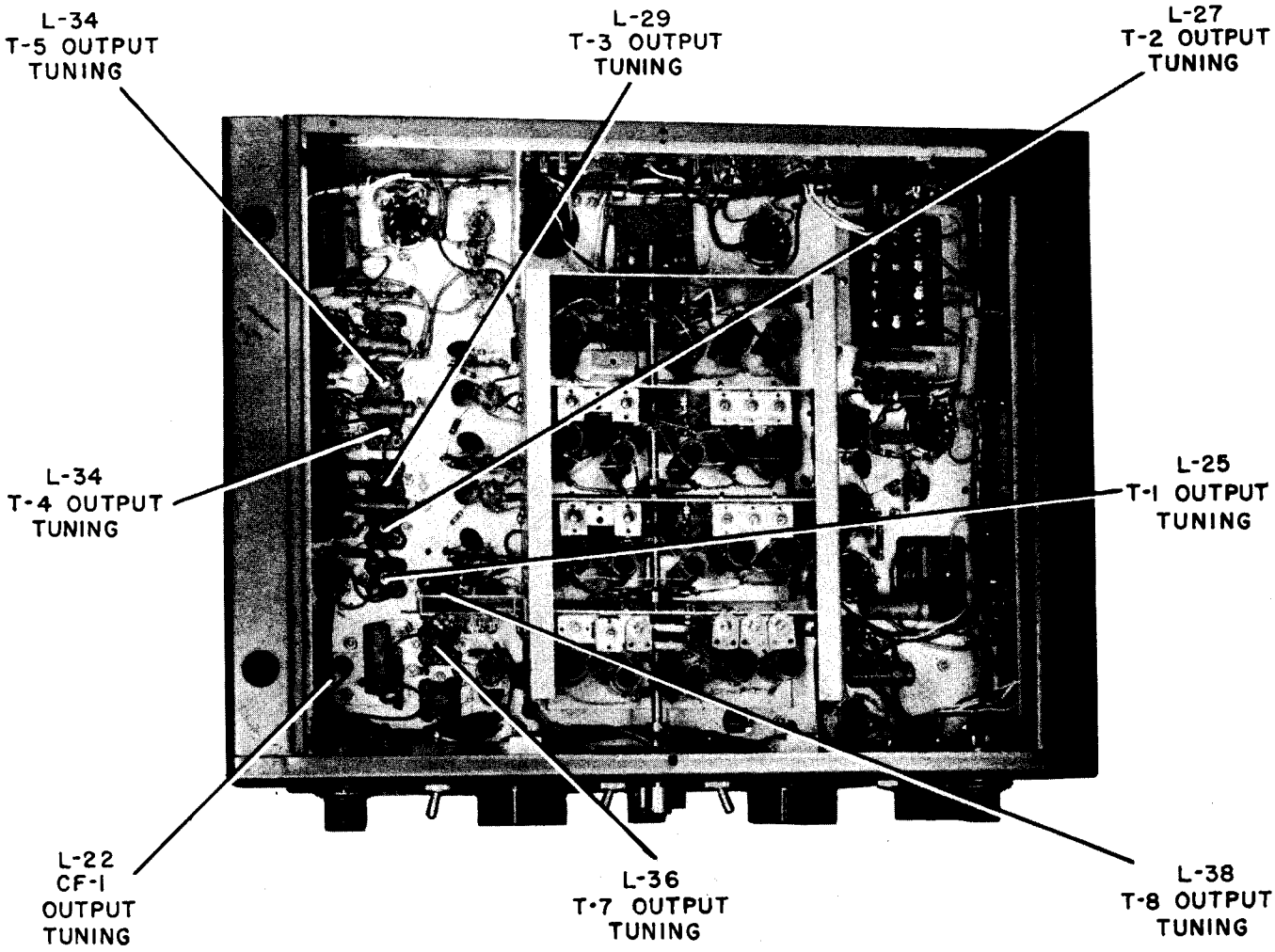
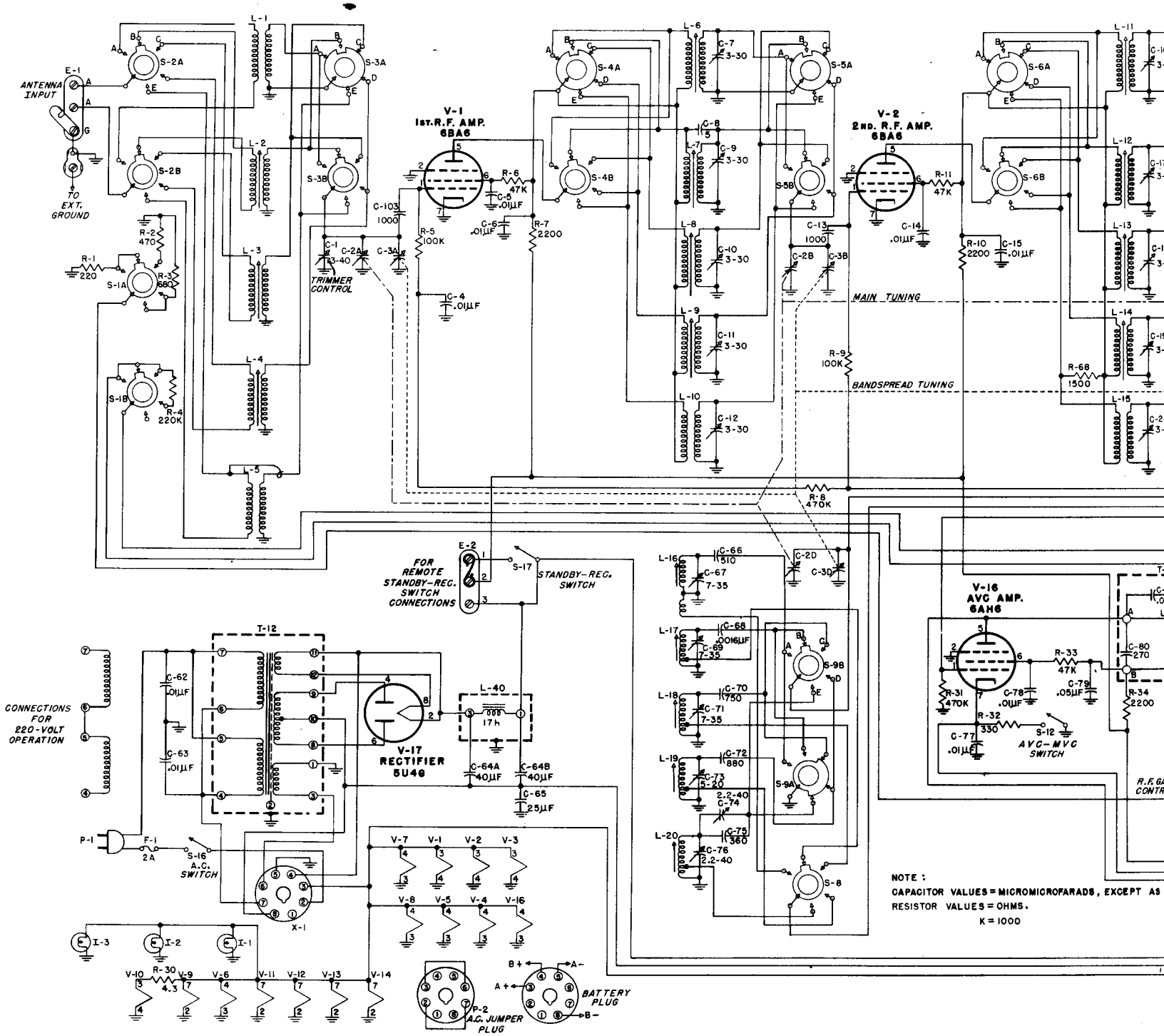


Figure No. 12. Alignment Locations, Bottom of Receiver


ANTENNA INPUT
E-1
TO EXT. GROUND
S-1A
S-1B
S-2A
S-2B
S-3A
S-3B
L-1
L-2
L-3
L-4
L-5
R-1 220
R-2 470
R-3 680
R-4 220K
C-1 3-40
TRIMMER CONTROL
C-2A
C-3A
C-103 1000
R-5 100K
C-4 .01μF
V-1 1st. R.F. AMP. 6BA6
C-5 .01μF
R-6 47K
C-6 .01μF
R-7 2200
S-4A
S-4B
S-5A
S-5B
L-6
L-7
L-8
L-9
L-10
C-7 3-30
C-8
C-9 3-30
C-10 3-30
C-11 3-30
C-12 3-30
V-2 2nd. R.F. AMP. 6BA6
R-11 47K
C-14 .01μF
C-13 1000
C-2B
C-3B
R-9 100K
R-8 470K
MAIN TUNING
BANDSPREAD TUNING
S-6A
S-6B
L-11
L-12
L-13
L-14
L-15
R-10 2200
C-15 .01μF
R-68 1500
E-2
FOR REMOTE STANDBY-REC. SWITCH CONNECTIONS
S-17
STANDBY-REC. SWITCH
L-16
L-17
L-18
L-19
L-20
C-66 510
C-67 7-35
C-68 .0016μF
C-69 7-35
C-70 1750
C-71 7-35
C-72 880
C-73 5-20
C-74 2.2-40
C-75 360
C-76 2.2-40
C-2D
C-3D
S-9A
S-9B
S-8
V-16 AVC AMP. 6AH6
R-33 47K
C-78 .01μF
C-79 .05μF
R-31 470K
R-32 330
S-12
AVC-MVC SWITCH
C-77 .01μF
C-80 270
R-34 2200
T-12
C-62 .01μF
C-63 .01μF
L-40 17h
V-17 RECTIFIER 5U4G
C-64A 40μF
C-64B 40μF
C-65 25μF
CONNECTIONS FOR 220-VOLT OPERATION
P-1
F-1 2A
S-16 A.C. SWITCH
X-1
I-1
I-2
I-3
R-30 4.3
V-1
V-2
V-3
V-4
V-5
V-6
V-7
V-8
V-9
V-10
V-11
V-12
V-13
V-14
V-16
P-2 A.C. JUMPER PLUG
B+
A+
A-
B-
BATTERY PLUG
NOTE :
CAPACITOR VALUES = MICROMICROFARADS, EXCEPT AS
RESISTOR VALUES = OHMS.
K = 1000

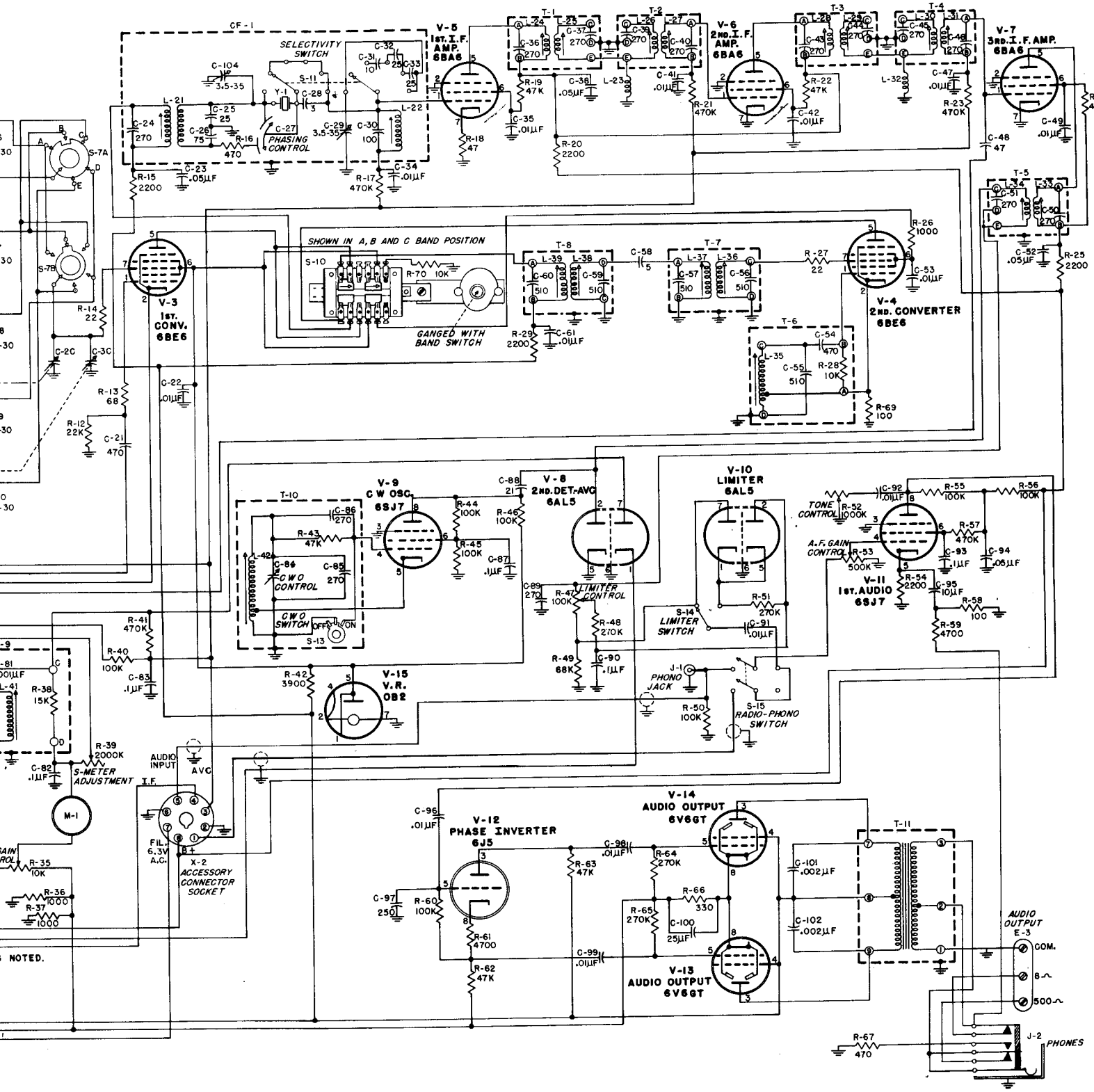


Figure No. 13. NC-183D Receiver, Schematic Diagram

PARTS LIST

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
		CAPACITORS	
C-1	Trimmer Control	Variable, air dielectric, 3-40 mmf.	K351-4
C-2	Main Tuning Control	Variable, air dielectric, 4 section	SA:9342
C-2A	1st. R.F. Amp. Tuning	Part of C-2	
C-2B	2nd. R.F. Amp. Tuning	Part of C-2	
C-2C	1st. Det. Tuning	Part of C-2	
C-2D	H.F. Osc. Tuning	Part of C-2	
C-3	Bandspread Tuning	Variable, air dielectric, 4 section	Part of C-2
C-3A	1st. R.F. Amp. Bandspread Tuning	Part of C-3	
C-3B	2nd. R.F. Amp. Bandspread Tuning	Part of C-3	
C-3C	1st. Det. Bandspread Tuning	Part of C-3	
C-3D	H.F. Osc. Bandspread Tuning	Part of C-3	
C-4	A.V.C. Filter	Ceramic, .01 mfd. 450 vdcw	K946-2
C-5	V-1 Screen Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-6	V-1 Plate Filter	Ceramic, .01 mfd. 450 vdcw	K946-2
C-7	A Band 2nd. R.F. Trimmer	Variable, mica dielectric, 3-30 mmf.	J619-2
C-8	B Band 2nd. R.F. Coupling	Ceramic, 5 mmf. 500 vdcw	D825D-401
C-9	B Band 2nd. R.F. Trimmer	Variable, mica dielectric, 3-30 mmf.	J612-1
C-10	C Band 2nd. R.F. Trimmer	Variable, mica dielectric, 3-30 mmf.	Part of C-9
C-11	D Band 2nd. R.F. Trimmer	Variable, mica dielectric, 3-30 mmf.	Part of C-9
C-12	E Band 2nd. R.F. Trimmer	Variable, mica dielectric, 3-30 mmf.	Part of C-9
C-13	V-2 Grid Coupling	Mica, .001 mfd. 300 vdcw	J665-71
C-14	V-2 Screen Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-15	V-2 Plate Filter	Ceramic, .01 mfd. 450 vdcw	K946-2
C-16	A Band 1st. Det. Trimmer	Variable, mica dielectric, 3-30 mmf.	J619-1
C-17	B Band 1st. Det. Trimmer	Variable, mica dielectric, 3-30 mmf.	J612-1
C-18	C Band 1st. Det. Trimmer	Variable, mica dielectric, 3-30 mmf.	Part of C-17
C-19	D Band 1st. Det. Trimmer	Variable, mica dielectric, 3-30 mmf.	Part of C-17
C-20	E Band 1st. Det. Trimmer	Variable, mica dielectric, 3-30 mmf.	Part of C-17
C-21	V-3Grid Coupling	Mica, 470 mmf. 500 vdcw	J665-56
C-22	V-3 Screen Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-23	V-4 Plate Filter	Paper, .05 mfd. 600 vdcw	D827-3
C-24	L-21 Primary Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-25	L-21 Secondary Tuning	Ceramic, 25 mmf. 500 vdcw	D825D-411
C-26	L-21 Secondary Tuning	Ceramic, 75 mmf. 500 vdcw	D825C-301
C-27	Crystal Filter Phasing	Variable, air dielectric	SA:9190
C-28	V-5 Grid Coupling	Ceramic, 3 mmf. 500 vdcw	D825D-449
C-29	Crystal Filter Compensating	Variable, mica dielectric, 3.5-35 mmf.	D832-2
C-30	L-22 Tuning	Mica, 100 mmf. 500 vdcw	H500-4
C-31	Selectivity Adjusting	Ceramic, 10 mmf. 500 vdcw	D825D-426
C-32	Selectivity Adjusting	Ceramic, 25 mmf. 500 vdcw	D825D-411
C-33	Selectivity Adjusting	Ceramic, 25 mmf. 500 vdcw	D825D-411
C-34	V-5 Grid Filter	Paper, .01 mfd. 600 vdcw	D827-7
C-35	V-5 Screen Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-36	L-24 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-37	L-25 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-38	V-5 Plate Filter	Paper, .05 mfd. 600 vdcw	D827-3
C-39	L-26 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-40	L-27 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-41	V-6 Grid Filter	Ceramic, .01 mfd. 450 vdcw	K946-2
C-42	V-6 Screen Bypass	Paper, .01 mfd. 600 vdcw	D827-7

PARTS LIST (CONT'D)

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
C-43	L-28 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-44	L-29 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-45	L-30 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-46	L-31 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-47	V-7 Grid Filter	Ceramic, .01 mfd. 450 vdcw	K946-2
C-48	V-7 Grid Coupling	Ceramic, 47 mmf. 500 vdcw	J695-1
C-49	V-7 Screen Bypass	Paper, .01 mfd. 600 vdcw	D827-7
C-50	L-33 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-51	L-34 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-52	V-7 Plate Filter	Paper, .05 mfd. 600 vdcw	D827-3
C-53	V-4 Screen Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-54	V-4 Grid Coupling	Mica, 470 mmf. 500 vdcw	J665-56
C-55	L-35 Tuning	Mica, 510 mmf. 500 vdcw	H500-5
C-56	L-36 Tuning	Mica, 510 mmf. 500 vdcw	H500-5
C-57	L-37 Tuning	Mica, 510 mmf. 500 vdcw	H500-5
C-58	T-7 to T-8 Coupling	Ceramic, 5 mmf. 500 vdcw	K940-7
C-59	L-38 Tuning	Mica, 510 mmf. 500 vdcw	H500-5
C-60	L-39 Tuning	Mica, 510 mmf. 500 vdcw	H500-5
C-61	V-3 Plate Filter	Ceramic, .01 mfd. 450 vdcw	K946-2
C-62	A.C. Line Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-63	A.C. Line Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-64		Elect., 40 + 40 mfd. 475 vdcw	K945-3
C-64A	Power Supply Filter	Part of C-64	
C-64B	Power Supply Filter	Part of C-64	
C-65	B-Minus Bypass	Elect., 25 mmf. 50 vdcw	E338-4
C-66	A Band H.F. Osc. Padder	Mica, 510 mmf. 500 vdcw	H500-5
C-67	A Band H.F. Osc. Trimmer	Variable, ceramic dielectric 7-35 mmf.	E311-4
C-68	B Band H.F. Osc. Padder	Mica, .0016 mfd. 300 vdcw	J819-8
C-69	B Band H.F. Osc. Trimmer	Variable, ceramic dielectric, 7-35 mmf.	E311-4
C-70	C Band H.F. Osc. Padder	Mica, 750 mmf. 300 vdcw	J819-5
C-71	C Band H.F. Osc. Trimmer	Variable, ceramic dielectric, 7-35 mmf.	E311-4
C-72	D Band H.F. Osc. Padder	Mica, 880 mmf. 300 vdcw	J819-7
C-73	D Band H.F. Osc. Trimmer	Variable, ceramic dielectric, 5-20 mmf.	E311-2
C-74	E Band H.F. Osc. Padder	Variable, mica dielectric, 2.2-40 mmf.	D832-6
C-75	E Band H.F. Osc. Padder	Mica, 360 mmf. 500 vdcw	L479-1
C-76	E Band H.F. Osc. Trimmer	Variable, mica dielectric, 2.2-40 mmf.	D832-6
C-77	V-16 Cathode Bypass	Ceramic, .01 mfd. 450 vdcw	K946-2
C-78	V-16 Screen Bypass	Paper, .01 mfd. 600 vdcw	D827-7
C-79	V-16 Plate Filter	Paper, .05 mfd. 600 vdcw	D827-3
C-80	L-41 Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-81	A.V.C. Coupling	Mica, .001 mfd. 300 vdcw	J665-71
C-82	S-Meter Bypass	Paper, .1 mfd. 400 vdcw	D827-12
C-83	A.V.C. Filter	Paper, .1 mfd. 400 vdcw	D827-12
C-84	C.W.O Control	Variable, air dielectric	SA:3639
C-85	C.W.O. Tuning	Mica, 270 mmf. 500 vdcw	H500-6
C-86	V-9 Grid Coupling	Mica, 270 mmf. 500 vdcw	J665-47
C-87	V-9 Screen Bypass	Paper, .1 mfd. 400 vdcw	D827-12
C-88	V-9 to V-8 Coupling	Ceramic, 21 mmf. 500 vdcw	D825D-410
C-89	V-8 Load	Mica, 270 mmf. 500 vdcw	J665-47
C-90	V-10 Plate Filter	Paper, .1 mfd. 400 vdcw	D827-12
C-91	Audio Coupling	Paper, .01 mfd. 600 vdcw	D827-7
C-92	Tone adjusting	Ceramic, .01 mfd. 450 vdcw	K946-2

PARTS LIST (CONT'D)

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
		CAPACITORS (CONT'D)	
C-93	V-11 Screen Bypass	Paper, .1 mfd. 400 vdcw	D827-12
C-94	V-11 Plate Filter	Paper, .05 mfd. 600 vdcw	D827-3
C-95	V-11 Cathode	Elect., 10 mfd. 50 vdcw	E338-9
C-96	V-12 Grid Coupling	Ceramic, .01 mfd. 450 vdcw	K946-2
C-97	V-12 Grid Filter	Ceramic, 250 mmf. 500 vdcw	D825C-315
C-98	V-14 Grid Coupling	Ceramic, .01 mfd. 450 vdcw	K946-2
C-99	V-13 Grid Coupling	Ceramic, .01 mfd. 450 vdcw	K946-2
C-100	V-13 and V-14 Cathode	Elect., 25 mfd. 50 vdcw	E338-4
C-101	T-11 Audio Compensating	Mica, .002 mfd. 500 vdcw	J666-60
C-102	T-11 Audio Compensating	Mica, .002 mfd. 500 vdcw	J666-60
C-103	V-1 Grid Coupling	Mica, .001 mfd. 300 vdcw	J665-71
C-104	Selectivity Compensating	Variable, mica dielectric, 3.5-35 mmf.	D832-2
		RESISTORS	
R-1	Voltage Divider	Fixed, 220 ohms 1/2 W	J569-17
R-2	Voltage Divider	Fixed, 470 ohms 1/2 W	J569-21
R-3	Voltage Divider	Fixed, 680 ohms 1/2 W	J569-23
R-4	Voltage Divider	Fixed, 220,000 ohms 1/2 W	J569-53
R-5	V-1 Grid	Fixed, 100,000 ohms 1/2 W	J569-49
R-6	V-1 Screen Filter	Fixed, 47,000 ohms 1/2 W	J569-45
R-7	V-1 Plate Filter	Fixed, 2,200 ohms 1/2 W	J569-29
R-8	A.V.C. Voltage Divider	Fixed, 470,000 ohms 1/2 W	J569-57
R-9	V-2 Grid	Fixed, 100,000 ohms 1/2 W	J569-49
R-10	V-2 Plate	Fixed, 2,200 ohms 1/2 W	J569-29
R-11	V-2 Screen Filter	Fixed, 47,000 ohms 1/2 W	J569-45
R-12	V-3 Osc. Grid Leak	Fixed, 22,000 ohms 1/2 W	J569-41
R-13	V-3 Osc. Grid	Fixed, 68 ohms 1/2 W	J569-11
R-14	V-3 Signal Grid Filter	Fixed, 22 ohms 1/2 W	J569-5
R-15	V-4 Plate Filter	Fixed, 2,200 ohms 1/2 W	J569-29
R-16	Crystal Filter Bridge Resistance Balancing	Fixed, 470 ohms 1/2 W	J569-21
R-17	V-5 Grid Filter	Fixed, 470,000 ohms 1/2 W	J569-57
R-18	V-5 Cathode	Fixed, 47 ohms 1/2 W	J569-9
R-19	V-5 Screen Filter	Fixed, 47,000 ohms 1/2 W	J569-45
R-20	V-6 Plate Filter	Fixed, 2,200 ohms 1/2 W	J569-29
R-21	V-6 Grid Filter	Fixed, 470,000 ohms 1/2 W	J569-57
R-22	V-6 Screen Filter	Fixed, 47,000 ohms 1/2 W	J569-45
R-23	V-7 Grid Filter	Fixed, 470,000 ohms 1/2 W	J569-57
R-24	V-7 Screen Filter	Fixed, 47,000 ohms 1/2 W	J569-45
R-25	V-7 Plate Filter	Fixed, 2,200 ohms 1/2 W	J569-29
R-26	V-4 Screen Filter	Fixed, 1,000 ohms 1/2 W	J569-25
R-27	V-4 Signal Grid Filter	Fixed, 22 ohms 1/2 W	J569-5
R-28	V-4 Osc. Grid Filter	Fixed, 10,000 ohms 1/2 W	J569-37
R-29	V-3 Plate Filter	Fixed, 2,200 ohms 1/2 W	J569-29
R-30	V-10 Filament Dropping	Fixed, W.W., 4.3 ohms 1 W	K098-48
R-31	V-16 Grid Leak	Fixed, 470,000 ohms 1/2 W	J569-57
R-32	V-16 Cathode Bias	Fixed, 330 ohms 1/2 W	J569-19
R-33	V-16 Screen Filter	Fixed, 47,000 ohms 1/2 W	J569-45
R-34	V-16 Plate Filter	Fixed, 2,200 ohms 1/2 W	J569-29

PARTS LIST (CONT'D)

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
		RESISTORS (CONT'D)	
R-35	R.F. Gain Control	Variable, W.W., 10,000 ohms	K349-3
R-36	Voltage Divider	Fixed, 1000 ohms 2 W	J572-25
R-37	Voltage Divider	Fixed, 1000 ohms 2 W	J572-25
R-38	A.V.C. Load	Fixed, 15,000 ohms 1/2 W	J569-39
R-39	S-Meter Adjustment	Variable, 2,000,000 ohms	J705-1
R-40	A.V.C. Voltage Divider	Fixed, 100,000 ohms 1/2 W	J569-49
R-41	A.V.C. Voltage Divider	Fixed, 470,000 ohms 1/2 W	J569-57
R-42	V-15 Plate Dropping	Fixed, 3,900 ohms 10 W	E959-12
R-43	V-9 Grid	Fixed 47,000 ohms 1/2 W	J569-45
R-44	V-9 Screen Filter	Fixed, 100,000 ohms 1/2 W	J569-49
R-45	V-9 Screen Bleeder	Fixed, 100,000 ohms 1/2 W	J569-49
R-46	V-9 Plate Filter	Fixed, 100,000 ohms 1/2 W	J569-49
R-47	Limiter Control	Variable, 100,000 ohms	J681-1
R-48	Limiter Plate Filter	Fixed, 270,000 ohms 1/2 W	J569-54
R-49	V-8 Load	Fixed, 68,000 ohms 1/2 W	J569-47
R-50	Phono. Terminating	Fixed, 100,000 ohms 1/2 W	J569-49
R-51	V-10 Load	Fixed, 270,000 ohms 1/2 W	J569-54
R-52	Tone Control	Variable, 1,000,000 ohms	K424-2
R-53	A.F. Gain Control	Variable, with switch 500,000 ohms	K347-1
R-54	V-11 Cathode	Fixed, 2,200 ohms 1/2 W	J569-29
R-55	V-11 Plate Load	Fixed, 100,000 ohms 1/2 W	J569-49
R-56	V-11 Plate Filter	Fixed, 100,000 ohms 1/2 W	J569-49
R-57	V-11 Screen Filter	Fixed, 470,000 ohms 1/2 W	J569-57
R-58	Inverse Feedback Voltage Divider	Fixed, 100 ohms 1/2 W	J569-13
R-59	Inverse Feedback Voltage Divider	Fixed, 4,700 ohms 1/2 W	J569-33
R-60	V-12 Grid	Fixed, 100,000 ohms 1/2 W	J569-49
R-61	V-12 Cathode Bias	Fixed, 4,700 ohms 1/2 W	J569-33
R-62	V-12 Cathode Load	Fixed, 47,000 ohms 1/2 W	J569-45
R-63	V-12 Plate Load	Fixed, 47,000 ohms 1/2 W	J569-45
R-64	V-14 Grid	Fixed, 270,000 ohms 1/2 W	J569-54
R-65	V-13 Grid	Fixed, 270,000 ohms 1/2 W	J569-54
R-66	V-13 and V-14 Cathode Bias	Fixed, 330 ohms 2 W	J572-19
R-67	Head Phone Load	Fixed, 470 ohms 2 W	J572-21
R-68	E Band 1st. Det. Loading	Fixed, 1500 ohms 1/2 W	J569-27
R-69	V-4 Cathode	Fixed, 100 ohms 1/2 W	J569-13
R-70	V-15 Bleeder	Fixed, 10,000 ohms 2 W	J572-37
		MISCELLANEOUS	
CF-1	Crystal Filter	455 Kc.	SA:9195
E-1	Antenna Input Terminal Panel	3 terminal-screw type	E261-3
E-2	Remote Standby-Rec. Switch Terminal Panel	3 terminal-screw type	E259-1
E-3	Audio Output Terminal Panel	3 terminal-screw type	E259-2
F-1	A.C. Line Fuse	2 amp., 250 volts	F135-4
I-1	S-Meter Lamp	6.8 V., .15 Amp.	F136-6
I-2	Dial Lamp	6.8 V., .15 Amp.	F136-6
I-3	Dial Lamp	6.8 V., .15 Amp.	F136-6
J-1	Phono Jack	Tip jack type	J993-1
J-2	Headphone Jack	Multi-circuit	F316-1
L-1	A Band 1st. R.F. Amp. Inductor		SA:9320

PARTS LIST (CONT'D)

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
		MISCELLANEOUS (CONT'D)	
L-2	B Band 1st. R.F. Amp. Inductor		SA:3759
L-3	C Band 1st. R.F. Amp. Inductor		SA:9219
L-4	D Band 1st. R.F. Amp. Inductor		SA:9316
L-5	E Band 1st. R.F. Amp. Inductor		SA:9321
L-6	A Band 2nd. R.F. Amp. Inductor		SA:9323
L-7	B Band 2nd. R.F. Amp. Inductor		SA:3754
L-8	C Band 2nd. R.F. Amp. Inductor		SA:9324
L-9	D Band 2nd. R.F. Amp. Inductor		SA:9325
L-10	E Band 2nd. R.F. Amp. Inductor		SA:9322
L-11	A Band 1st. Det. Inductor		SA:9323
L-12	B Band 1st. Det. Inductor		SA:9327
L-13	C Band 1st. Det. Inductor		SA:4353
L-14	D Band 1st. Det. Inductor		SA:9328
L-15	E Band 1st. Det. Inductor		SA:9326
L-16	A Band H.F. Osc. Inductor		SA:9333
L-17	B Band H.F. Osc. Inductor		SA:9334
L-18	C Band H.F. Osc. Inductor		SA:9335
L-19	D Band H.F. Osc. Inductor		SA:9336
L-20	E Band H.F. Osc. Inductor		SA:9332
L-21	CF-1 Input Tuning	Inductor	SA:9197
L-22	CF-1 Output Tuning	Inductor	SA:9201
L-23	T-2 Coupling	R.F. choke, 1.1 microhenries	SA:6072
L-24	T-1 Input Tuning	Variable iron core tuning	SA:7611
L-25	T-1 Output Tuning	Variable iron core tuning	Part of L-24
L-26	T-2 Input Tuning	Variable iron core tuning	SA:7611
L-27	T-2 Output Tuning	Variable iron core tuning	Part of L-26
L-28	T-3 Input Tuning	Variable iron core tuning	SA:7611
L-29	T-3 Output Tuning	Variable iron core tuning	Part of L-28
L-30	T-4 Input Tuning	Variable iron core tuning	SA:7611
L-31	T-4 Output Tuning	Variable iron core tuning	Part of L-30
L-32	T-4 Coupling	R.F. choke, 1.1 microhenries	SA:6072
L-33	T-5 Input Tuning	Variable iron core tuning	SA:7611
L-34	T-5 Output Tuning	Variable iron core tuning	Part of L-33
L-35	T-6 Tuning	Variable iron core tuning	SA:9216
L-36	T-7 Output Tuning	Variable iron core tuning	SA:9118
L-37	T-7 Input Tuning	Variable iron core tuning	Part of L-36
L-38	T-8 Output Tuning	Variable iron core tuning	SA:9118
L-39	T-8 Input Tuning	Variable iron core tuning	Part of L-38
L-40	Filter Choke	17 henries	SA:1694-2
L-41	T-9 Tuning	Variable iron core tuning	SA:9218
L-42	T-10 Tuning	Variable iron core tuning	SA:3634
M-1	S Meter	0-1 Ma. D.C. range	K382-1
P-1	A.C. Line Cord and Plug	Rubber covered, 2 contact	E544-1
P-2	A.C. Jumper Plug	8 Prong octal	J674-1
S-1		D.P. 5 position	J587-1
S-1A	Gain Adjustment	S.P. 5 position	
S-1B	S Meter Adjustment	S.P. 5 position	
S-2	1st. R.F. Amp. Bandswitch	D.P. 5 position	J587-1
S-2A		S.P. 5 position	
S-2B		S.P. 5 position	

PARTS LIST (CONT'D)

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
		MISCELLANEOUS (CONT'D)	
S-3	1st. R.F. Amp Bandswitch	D.P. 5 position	J586-1
S-3A		S.P. 5 position	
S-3B		S.P. 5 position	
S-4	2nd. R.F. Amp Bandswitch	D.P. 5 position	J586-1
S-4A		S.P. 5 position	
S-4B		S.P. 5 position	
S-5	2nd. R.F. Amp Bandswitch	D.P. 5 position	J586-1
S-5A		S.P. 5 position	
S-5B		S.P. 5 position	
S-6	1st. Det. Amp. Bandswitch	D.P. 5 position	J586-1
S-6A		S.P. 5 position	
S-6B		S.P. 5 position	
S-7	1st. Det. Amp. Bandswitch	D.P. 5 position	J586-1
S-7A		S.P. 5 position	
S-7B		S.P. 5 position	
S-8	H.F. Osc. Bandswitch	D.P. 5 position	R047-1
S-8A		S.P. 5 position	
S-8B		S.P. 5 position	
S-9	H.F. Osc. Bandswitch	S.P. 5 position	L147-1
S-10	Double Conversion Switch	Sliding type	R027-2
S-11	Selectivity Switch	D.P. 6 position	E195-1
S-12	A.V.C.-M.V.C. Switch	Toggle, S.P.S.T.	E230-2
S-13	C.W.O. Switch	S.P.D.T. rotary	F191-2
S-14	Limiter Switch	S.P.D.T.	Part of R-47
S-15	Radio-Phono Switch	D.P.D.T. toggle	E706-1
S-16	A.C. Line Switch	S.P.S.T.	Part of R-53
S-17	Standby-Receive Switch	S.P.S.T. toggle	E230-2
T-1	2nd. I.F. Transformer (V-5 Plate)	455 Kc.	SA:9123
T-2	2nd. I.F. Transformer (V-6 Grid)	455 Kc.	SA:9123
T-3	3rd. I.F. Transformer (V-6 Plate)	455 Kc.	SA:9123
T-4	3rd. I.F. Transformer (V-7 Grid)	455 Kc.	SA:9123
T-5	2nd. Det. Input	455 Kc.	SA:9123
T-6	2nd. Conv. Osc. Transformer	1265 Kc.	SA:9215
T-7	I.F. Transformer	1720 Kc.	SA:9122
T-8	I.F. Transformer	1720 Kc.	SA:9122
T-9	A.V.C. Amp. Transformer	455 Kc.	SA:9217
T-10	C.W.O. Transformer	455 Kc.	SA:3638
T-11	Audio Output Transformer	8 and 500 ohm output impedance	SA:3897
T-12	Power Transformer	115-230 Volts	SA:5649
V-1	1st. R.F. Amp.	6BA6	
V-2	2nd. R.F. Amp.	6BA6	
V-3	1st. Converter	6BE6	
V-4	2nd. Converter	6BE6	
V-5	1st. I.F. Amp.	6BA6	
V-6	2nd. I.F.	6BA6	
V-7	3rd. I.F.	6BA6	
V-8	2nd. Det. A.V.C.	6AL5	
V-9	C.W. Osc.	6SJ7	
V-10	Limiter	6AL5	
V-11	1st. Audio	6SJ7	

PARTS LIST (CONT'D)

SYMBOL	FUNCTION	DESCRIPTION	DRAWING NO.
		MISCELLANEOUS (CONT'D)	
V-12	Phase Inverter	6J5	
V-13	Audio Output	6V6GT	
V-14	Audio Output	6V6GT	
V-15	Voltage Regulator	OB2	
V-16	A.V.C. Amp.	6AH6	
V-17	Rectifier	5U4G	
X-1	Battery Socket	Octal	J625-1
X-2	Accessory Socket	Octal	J625-1
Y-1	Crystal Resonator	455 Kc.	E979-1

DESCRIPTION	DRAWING NO.
MECHANICAL PARTS	
Power cord lock	K172-1
Main tuning dial	SA:9308
Bandspread tuning dial	SA:9309
Pinch drive (2)	SA:9310
Detent mechanism for bandswitch	J593-2
1st. R.F. coil compartment	SA:9311
2nd. R.F. coil compartment	SA:9312
Detector coil compartment	SA:9313
Oscillator coil compartment	SA:9314
Double conversion slideswitch	R027-2
Insulated couplings on antenna trimmer and bandswitch shafts	SA:22
Coupling on selectivity control shaft	D964-2
Non-insulated coupling on bandswitch shaft	SA:3592
Fuse extractor post	E510-1
Dial light socket (2)	J721-1
Main tuning dial window	M967-2
Bandspread tuning dial window	M967-3
Antenna trimmer control knob	SA:4404
Phasing and C.W.O. pitch control knobs (2)	SA:6868
Main and bandspread tuning knobs (2)	SA:8456
R.F. Gain and tone control knobs (2)	SA:6867

DESCRIPTION	DRAWING NO.
MECHANICAL PARTS	
A.C. switch and A.F. Gain control knob	SA:6871
Selectivity control knob	SA:6869
Bandswitch control knob	SA:8642
Limiter control knob	SA:6870
C.W.O. Off-On knob	SA:8460
Shield for remote standby connections	SA:9194
Shield for speaker connections	SA:9337
MECHANICAL PARTS USED ON TABLE MODEL ONLY	
Cabinet wraparound	SA:9338
National Company insignia	J791-4
Cabinet back	J719-9
Cabinet cover	J701-8
Cover hinge (2)	J825-2
MECHANICAL PARTS USED ON RACK MODEL ONLY	
National Company insignia	J791-3
Side plate (right)	SA:9461
Side plate (left)	SA:9462
Chassis bottom plate	K749-2
Dust Cover	SA:9463

INSTRUCTIONS FOR THE NATIONAL NFM-83-50 NARROW-BAND F.M. ADAPTOR

INSTALLATION

The NFM-83-50 is installed in the NC-183D receiver by plugging the adaptor unit into the Accessory Connector Socket, X-2, on top of the chassis. A mounting bracket is furnished to hold the adaptor unit securely in position. The adaptor unit is aligned at National Company laboratories and realignment is not necessary.

OPERATION

The instructions given in Section 3, Operation, of this Instruction Book are applicable for the reception of narrow-band F.M. signals except for the following modifications:

1. Set the Radio-Phono switch at Phono.
2. The A.V.C.-M.V.C. switch must be at the A.V.C. position.

It is recommended that when the operator is scanning a band for signals that the Radio-Phono switch be set at Radio, the A.M. position. An F.M. signal is usually indicated by the presence of an audio null in the center of the signal carrier. When an F.M. signal is encountered the Radio-Phono switch should then be set at Phono and the signal tuned for maximum S-meter reading.

ALIGNMENT

The NFM-83-50 is carefully aligned before shipment and no realignment is required unless the adaptor is accidently misaligned. The necessity of realignment can be determined by the A·M. rejection capabilities of the adaptor unit. Proper alignment will be indicated when the maximum A.M. rejection occurs at the center of the A.M. carrier. Maximum S-meter reading will indicate the center of the carrier.

The equipment required for alignment is a high-impedance vacuum tube voltmeter and an A.M. signal generator. The signal generator used should have an output reasonably free of any frequency modulation. The use of a broadcast station as a signal source, in place of a signal generator, would provide a test signal meeting the above requirements. In any case, the signal strength of the test signal should be of the order to provide an S-meter reading of from 2 to 5 S-units when the NC-183D is correctly tuned to the test signal.

The preliminary alignment procedure is as follows:

1. Connect the high-impedance voltmeter between the adaptor test point jack, J-1, and chassis. The polarity of the voltage will depend on the alignment of the adaptor, connect the voltmeter to obtain an up-scale reading.
2. Connect a signal source to the antenna terminals, A and A, at the rear of the NC-183D. If a signal generator is used make the connection through a 300 ohm dummy load and select a frequency in the standard broadcast band.
3. Set the C.W.O. switch at Off and turn the C.W.O. control to 0.
4. Set the Selectivity switch at Off.
5. Set the Limiter control at Off.
6. Turn the Bandspread dial knob to the SET mark at 180 on the linear scale of the Bandspread dial.
7. Set the Bandswitch at E.
8. Set the Standby-Receive switch at Rec.
9. Set the A.V.C.-M.V.C. switch at A.V.C.
10. Set the Radio-Phono switch at Phono
11. Turn the R.F. Gain control at 10.
12. Turn the A.F. Gain control from A.C. Off to 5.
13. Tune the test signal by adjustment of the Main Tuning knob. The correct tuning point is the setting that produces maximum S-meter reading.

Alignment of the NFM-83-50 is effected as follows:

1. Detune both primary, L-1, and secondary, L-2, I.F. trimmers by rotating the screw adjustments until they are withdrawn from the shield can as far as possible. The adjustment with the dot of red paint opposite it is the primary trimmer L-1.
2. Tune primary trimmer L-1 for maximum reading on the voltmeter. If two peaks in output are observed, the correct peak will be the first one encountered when rotating the screw adjustment into the shield can.
3. Tune secondary trimmer L-2 for a zero reading on the voltmeter. It will be noted that there is a cross-over in the polarity of the test voltage at this point.
4. Adjust capacitor C-9 for a null in the audio output. This capacitor is accessible after removal of the button plug on the side of the adaptor unit.
5. Adjustment of capacitor C-9 may affect the zero voltage reading obtained by adjustment of the secondary

trimmer L-2. Retrim L-2 and C-9, as necessary, until both a zero reading on the voltmeter and a null in the audio output are obtained.

PARTS LIST

SYMBOL	DESCRIPTION	DRAWING NO.
C-1	Ceramic,10 Mmf, 500 vdcw	D825D-402
C-2	Ceramic, 38.5 Mmf, 500 vdcw	D825D-414
C-3	Mica, 0.01 Mfd, 300 vdcw	J666-56
C-4	Mica, 0.001 Mfd, 300 vdcw	J665-71
C-5	Mica, 100 Mmf, 500 vdcw	H500-7
C-6	Mica, 180 Mmf, 500 vdcw	H500-3
C-7	Mica, 180 Mmf, 500 vdcw	H500-3
C-8	Ceramic, 38 Mmf, 500 vdcw	D825D-424
C-9	Ceramic, Variable, 7–35 Mmf.	E311-4
C-10	Elect. 1 Mfd, 450 vdcw	E338-10
C-11	Mica, 0.01 Mfd, 300 vdcw	J666-56
C-12	Mica, 470 MMf. 500 vdcw	J665-56
C-13	Mica, 0.01 Mfd, 300 vdcw	J666-56
R-1	Fixed, 1 Megohm, 1/2 W.	J569-61
R-2	Fixed, 1,000 Ohms, 1/2 W.	J569-25
R-3	Fixed, 47,000 Ohms, 1/2 W.	J569-45
R-4	Fixed, 47,000 Ohms, 1/2 W.	J569-45
R-5	Fixed, 15,000 Ohms, 1/2 W.	J569-39
R-6	Fixed, 15,000 Ohms, 1/2 W.	K379-39
R-7	Fixed, 4,700 Ohms, 1/2 W.	J569-33
J-1	Tip Jack, Bakelite	K421-1
L-1	Adjustable Iron-Core	SA:4892
L-2	Adjustable Iron-Core	SA:4891
P-1	8 Prong Octal	K783-1
T-1	Ratio Type 455 Kc.	SA:4890
V-1	6SK7	
V-2	6H6	

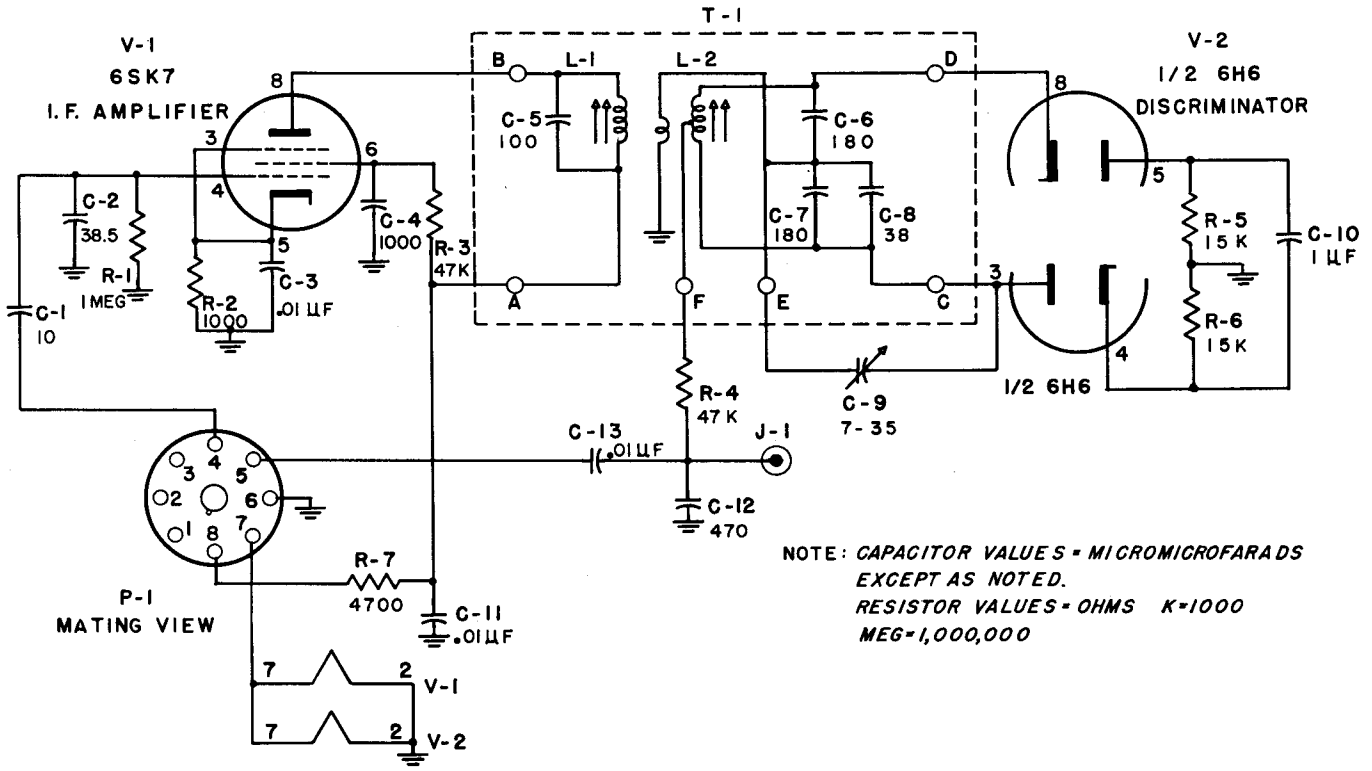


Figure No. 14. Schematic Diagram, NFM-83-50 Adaptor

INSTRUCTIONS FOR THE NATIONAL SOJ-3 SELECT-O-JECT

1. GENERAL

The type SOJ Select-O-Ject is an audio frequency device designed to work into the audio circuits of an associated radio receiver. Properly adjusted, it will reject or boost any audio frequency selected at will between the limits of approximately 80 to 10,000 cycles. Its capabilities in this application are graphically illustrated on Figure No. 16. The unit will also serve as an audio oscillator and is excellent for code practice use. As an audio oscillator, it will deliver approximately two volts of audio output at any frequency in the 80 to 10,000 cycle range.

The many advantages to be realized by the use of this device are pointed out in an article entitled 'The Select-oject' in the November 1949 issue of QST. This article also contains a very informative theoretical discussion.

2. INSTALLATION

The SOJ-3 Select-O-Ject has a cable terminated in an octal plug for direct connection to the accessory socket of the NC-183D receiver. To connect the SOJ-3 to the accessory socket of the receiver, punch out the circular knock-out hole stamped out on the rear panel of the cabinet, insert the cable and plug from the SOJ-3 through this hole and seat the plug firmly into the accessory socket.

The required input voltages for the Select-O-Ject are supplied directly by the accessory socket i.e., 6.3 volts at 0.6 amperes for the heaters and 230 volts at 4 milliamperes for the B-plus circuits.

3. OPERATION

To use the Select-O-Ject set the Radio-Phono switch of the receiver at Phono. When the phono input jack is used for Phono operation, disconnect the Select-O-Ject from the receiver. When it is desired to use the radio circuits without the Select-O-Ject, set the Radio-Phono switch at Radio, the Select-O-Ject need not be disconnected.

The following explanation of the function of each control on the Select-O-Ject will enable the operator to realize the full benefits of this accessory.

The Reject-Boost switch adjusts the unit to reject or boost, respectively, a particular audio frequency. In the Reject position, the Reject control is operative and is adjusted to provide maximum attenuation of the undesired audio frequency. It will be found that the correct setting of the Reject control will occur at approximately 2 o'clock on the control dial. Its adjustment is critical and it must be set carefully while simultaneously adjusting the Pitch control to the undesired frequency. After the initial adjustment of the Reject control is made, it need not be adjusted again over the entire frequency range. Adjustment of the Pitch control will then provide maximum attenuation of the undesired audio frequency.

With the Reject-Boost switch in the Boost position, the Boost control is operative. As the Boost control is advanced in a clockwise direction the circuit becomes more regenerative, finally breaking into oscillation. Beyond this point the circuit operates as an audio oscillator. For maximum boost of an incoming audio frequency, the Boost control should be set as close as possible to the oscillation point without producing sustained oscillation. The Pitch control is used to select the frequency to be boosted.

To use the receiver circuits without the boosting or rejecting effects on the signal, set the Reject-Boost switch at Reject and set the Pitch control at the extreme counterclockwise limit of its rotation.

PARTS LIST

SYMBOL	DESCRIPTION	DRAWING NO.
C-1	Paper, .05 mfd. 400 vdcw	D827-1
C-2	Mica, .001 mfd. 500 vdcw	J666-13
C-3	Elect. 20 mfd. 450 vdcw	E338-16
C-4	Mica, .001 mfd. 500 vdcw	J666-13
C-5	Paper, .05 mfd. 400 vdcw	D827-1
C-6	Paper, .05 mfd. 400 vdcw	D827-1
C-7	Paper, .05 mfd. 400 vdcw	D827-1
R-1	Fixed, 330,000 ohms 1/2 W	J569-55
R-2	Fixed, 1,000,000 ohms 1/2 W	J569-61
R-3	Fixed, 1,800 ohms 1/2 W, paired within 2% of R-4	P469-1
R-4	Fixed, 1,800 ohms 1/2 W, paired within 2% of R-3	P469-1
R-5A and B	Variable, dual section, 2,500,000 ohms each	M879-2
R-6	Fixed, 10,000 ohms 1/2 W	J569-37
R-7	Fixed, 3,900 ohms 1/2 W, paired within 2% of R-8	P469-2
R-8	Fixed, 3,900 ohms 1/2 W, paired within 2% of R-7	P469-2
R-9	Fixed, 10,000 ohms 1/2 W	J569-37
R-10	Fixed, 22,000 ohms 1/2 W	J569-41
R-11	Fixed, 5,600 ohms 1/2 W	J569-34
R-12	Fixed, 22,000 ohms 1/2 W	J569-41
R-13	Fixed, 22,000 ohms 1/2 W	J569-41
R-14	Fixed, 470,000 ohms 1/2 W	J569-47
R-15	Variable, 500,000 ohms	J533-9
R-16	Variable, 500,000 ohms	J533-9
R-17	Fixed, 1,800 ohms 1/2 W	J569-28
R-18	Fixed, 3,900 ohms 1/2 W	J569-32
S-1	DPDT, Wafer	K440-3

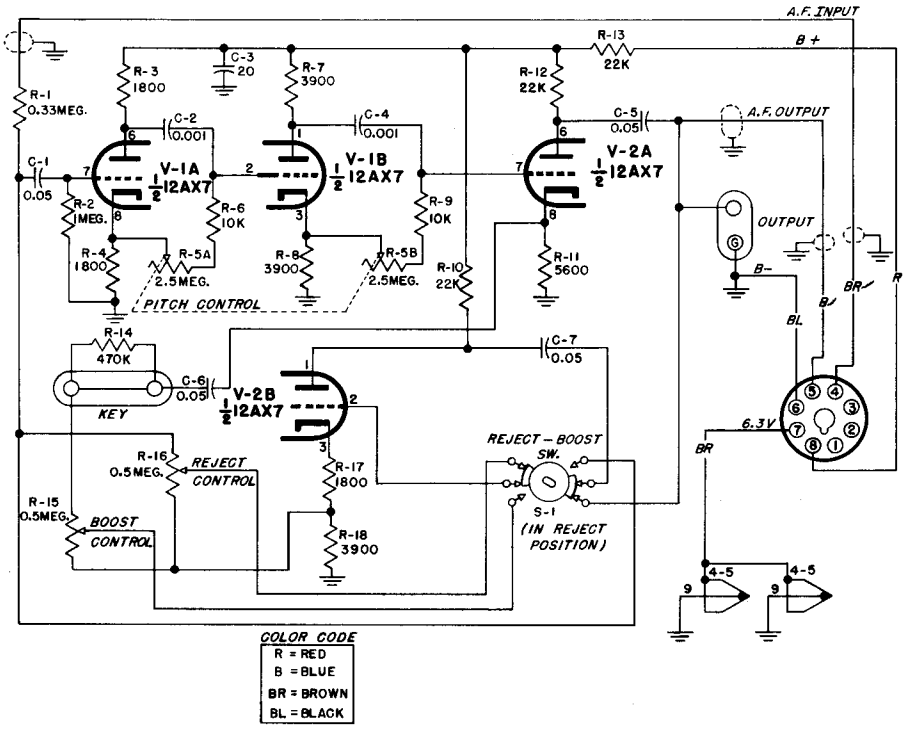


Figure No. 15. Schematic Diagram of Select-O-Ject

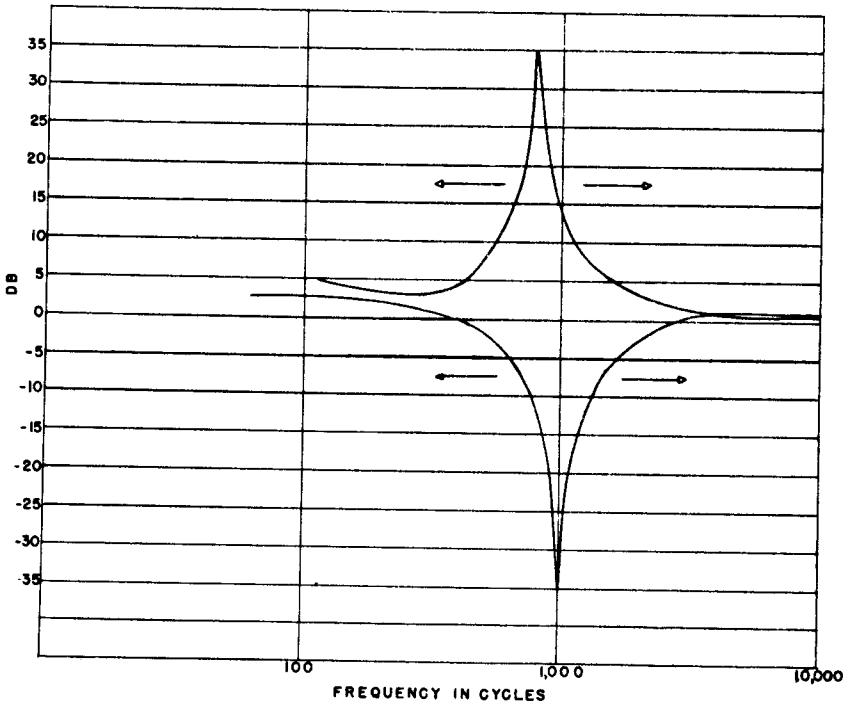


Figure No. 16. Characteristic Curve of Select-O-Ject Performance

Standard Form Warranty

Adopted by the Radio Manufacturers Association, Inc.

This equipment is warranted to be free from defective material and workmanship and repair or replacement will be made of any part which under normal installation, use and service discloses defect, provided the unit is delivered by the owner to the manufacturer or through the authorized radio dealer or wholesaler from whom purchased, intact, for examination, with all transportation charges prepaid to the factory, within ninety days from the date of original shipment from the factory, and provided that such examination discloses in the manufacturer's judgment that it is thus defective.

This warranty does not extend to any radio products which have been subjected to misuse, neglect, accident, incorrect wiring, improper installation, or to use in violation of instructions furnished by the manufacturer, nor extend to units which have been repaired or altered outside of the factory, nor to cases where the serial number thereof has been removed, defaced or changed, nor to accessories used therewith of other manufacture.

Any part of a unit approved for remedy or exchange hereunder will be remedied or exchanged by the authorized radio dealer or wholesaler without charge to the owner.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for the manufacturer any other liability in connection with the sale of their radio products.

National Company, Inc. reserves the right to make any change in design or to make addition to, or improvements in, its products without imposing any obligations upon itself to install them in its products previously manufactured.

NOTES

THE NATIONAL NC-183D RECEIVER

Equipment List

NC-183DT RECEIVER, table mounting gray finish, complete with tubes, crystal filter, noise limiter, 115 and 230 volt, 50/60 cycle built-in power supply.

NC-183DTS 10″ PM Loudspeaker in matching cabinet for the above Receiver.

NC-183DR RECEIVER, same as table model but mounted on ⅛″ aluminum standard rack panel, 10½″ high, gray finish.

NC-183DRS 10″ PM Loudspeaker mounted on ⅛″ aluminum standard rack panel, 10½″ high, gray finish.

NFM-83-50 Narrow-Band F.M. Adaptor.

SOJ-3 Select-O-Ject.

Prices on Application

National ©

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