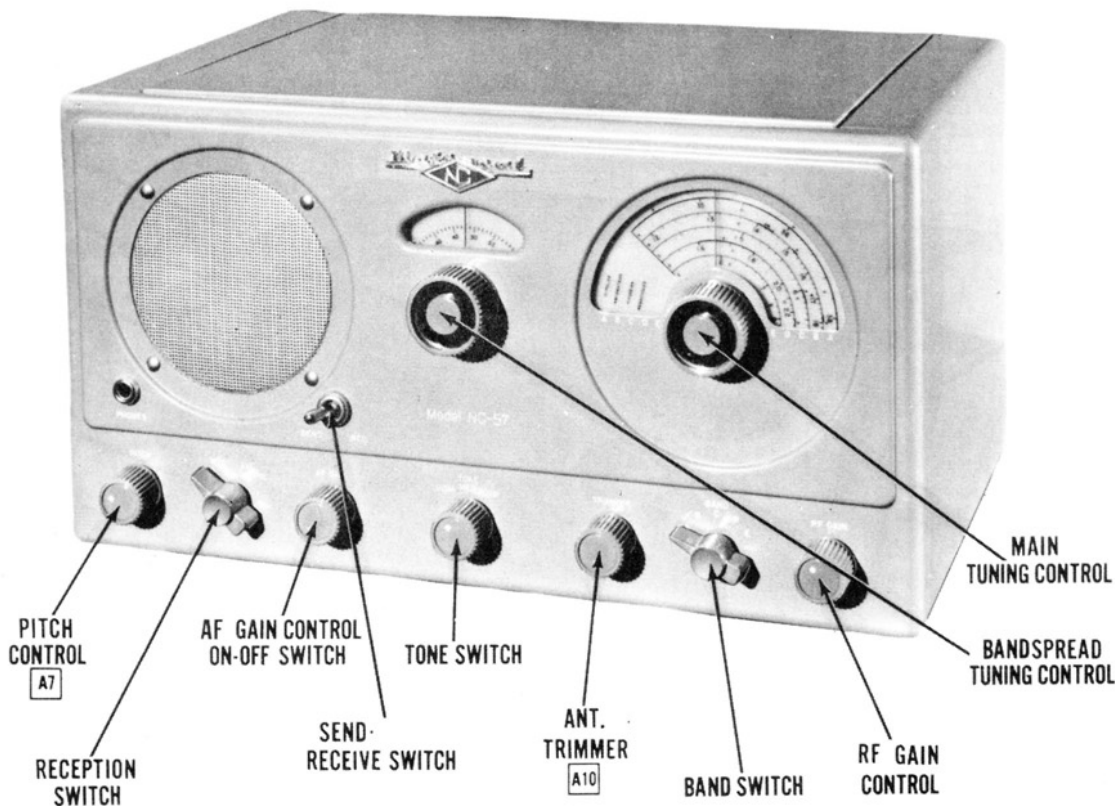


NATIONAL MODEL
NC-57



NATIONAL MODEL NC-57

TRADE NAME	National, Model NC-57
MANUFACTURER	National Co., Inc., 61 Sherman St., Malden, Mass.
TYPE SET	AC or Battery Operated Multi-Band Commercial Type Superheterodyne Receiver
TUBES (NINE)	Types, 6SG7 RF Amp., 6SB7Y Converter, 6SG7 1st IF Amp., 6SG7 2nd IF Amp., 6H6 Det.-AVC-ANL, 6SL7GT AF Amp.-BFO, 6V6GT Power Output, OD3/VR-150 Voltage Reg., 5Y3GT Rectifier.
POWER SUPPLY	105-130 Volts AC or 6.3 Volts & 250 Volts DC RATING .67 Amp. @ 117V AC
TUNING RANGE-BROADCAST	560-1550KC SHORT WAVE Band "A" 35.0-54.0MC, Band "B" 12.0-35.0MC, Band "C" 4.4-12.0MC, Band "D" 1.55-4.4MC

DISASSEMBLY INSTRUCTIONS

1. Remove the top and back piece of the cabinet by releasing the ten drive screws at the back which fasten the piece to the chassis and cabinet wrap around.
2. Remove the bottom cover of the receiver which is held in place by four drive screws.
3. Remove the four mounting feet at the bottom of the receiver. These feet are fastened by means of a screw and speed nut arrangement.
4. Unsolder the two loudspeaker leads to the output tube (6V6GT/G). A red lead is soldered to Pin 4 and a blue lead to Pin 3.
5. Remove all knobs from the front of the Receiver. All knobs, with the exception of the main tuning and bandspread tuning knobs, are mounted on flatted shafts by set screws. Replacing the knobs to their original position is assured by use of the flatted shafts.
6. Remove the retaining nuts on the control switch, BAND switch, bandspread tuning control, main tuning control and the SEND-REC switch.

After completing the six steps above, the chassis can be withdrawn from the cabinet. Reassembly of the receiver can be accomplished by following the disassembly procedure in reverse order.

HOWARD W. SAMS & CO., INC.

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."

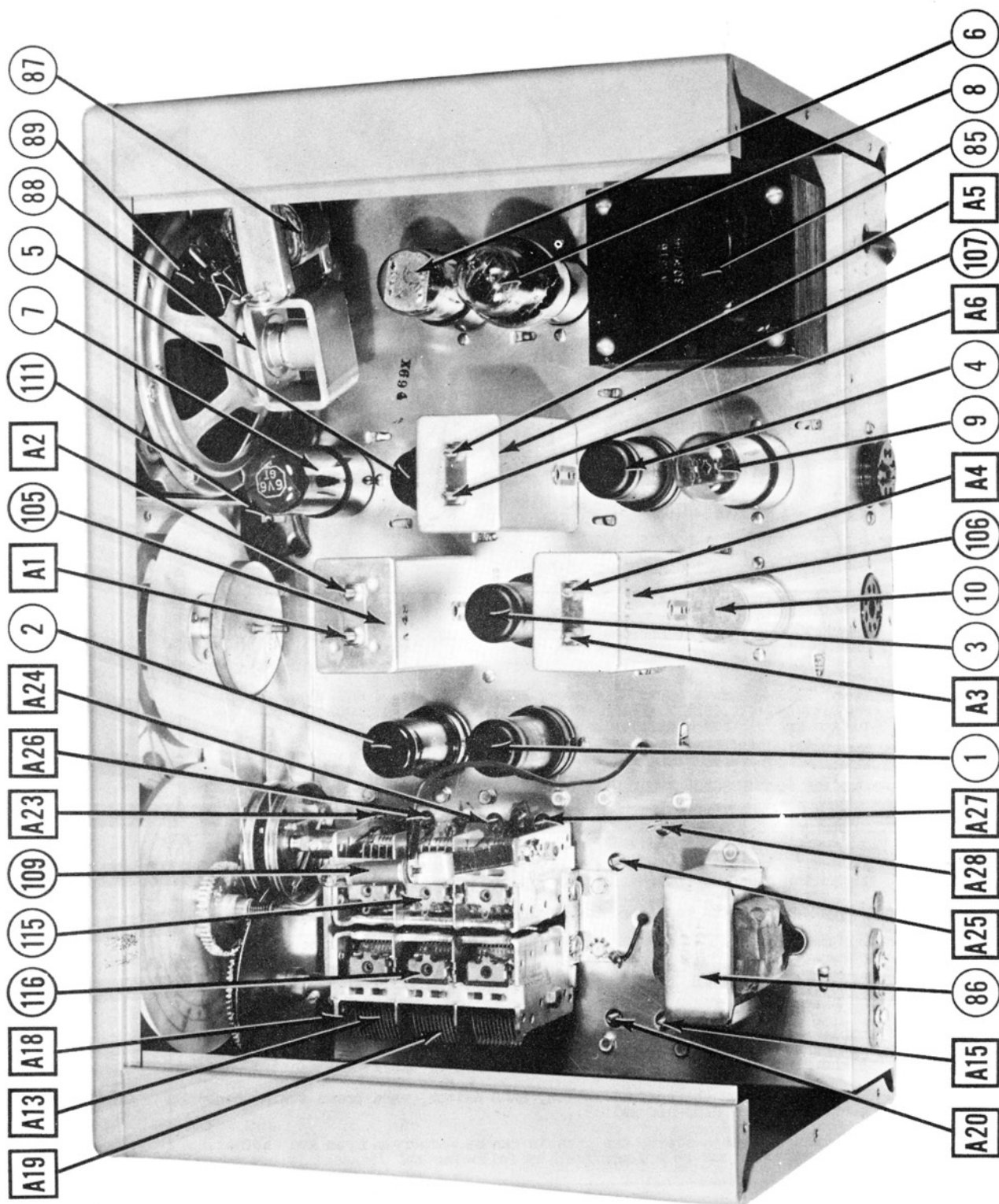
"Reproduction or use, without express permission, of editorial or pictorial con-

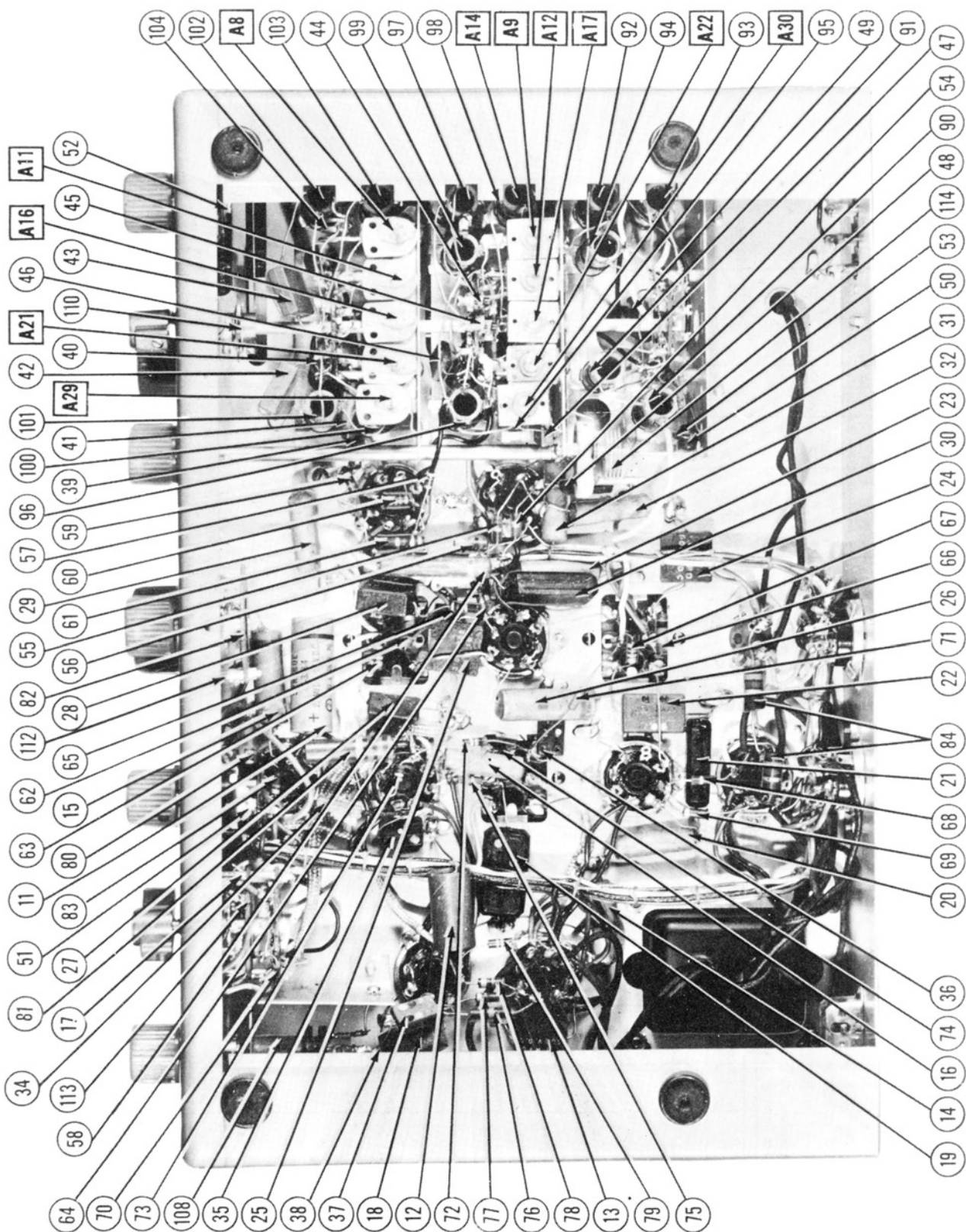
Indianapolis Indiana

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1947 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. A. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

DATE 10/48-#4818-14 SET #48-FOLDER #14

NATIONAL MODEL
NC-57





PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		INSTALLATION NOTES
		NATIONAL PART No.	RMA BASE TYPE	
1	RF Amp.	6S37	8" K	
2	Converter	6S37Y	6R	
3	1st IF Amp.	6S37	8BK	
4	2nd IF Amp.	6S37	8BK	
5	Det.-AVC-AML	6H6	7Q	
6	AF Amp.-BFO	6SL7GT	8BD	
7	Power Output	6V6GT	7AC	
8	Voltage Reg.	013/VR-150	4AJ	
9	Rectifier	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REPLACEMENT DATA			IDENTIFICATION CODES AND INSTALLATION NOTES
		NATIONAL PART No.	AEROVOX PART No.	CORNING DUBILIER PART No.	
10A	10 CAP.	AF22J	AF22J	UP1145	A Filter
10B	10 450				
11	25 50	PR50/25	PR50/25	BR255	TA-525
12	20 25	FR25/25	FR25/25	BR202A	TA-25
13	.01 500	634-01	634-01	DPH-6-01	TC-11
14	.01 400	484-1	484-1	DPH-6-01	TC-11
15	.1 400	484-1	484-1	DPH-6-01	TC-11
16	.01 400	484-01	484-01	ST-4-01	TC-11
17	.01 500	684-01	684-01	ST-6-01	TC-11
18	.01 300	484-01	484-01	ST-4-01	TC-11
19	.1 400	484-01	484-01	ST-4-01	TC-11
20	.01 400	484-01	484-01	ST-4-01	TC-11
21	.1 400	484-01	484-01	ST-4-01	TC-11
22	.01 400	484-01	484-01	ST-4-01	TC-11
23	.01 600	684-01	684-01	ST-6-01	TC-11
24	.01 600	684-01	684-01	ST-6-01	TC-11
25	.01 600	684-01	684-01	ST-6-01	TC-11
26	.1 400	684-01	684-01	ST-6-01	TC-11
27	.01 600	684-01	684-01	ST-6-01	TC-11
28	.01 600	684-01	684-01	ST-6-01	TC-11
29	.01 600	684-01	684-01	ST-6-01	TC-11
30	.1 400	484-1	484-1	ST-4-01	TC-11
31	.01 400	484-01	484-01	ST-4-01	TC-11
32	.01 400	484-01	484-01	ST-4-01	TC-11
33	2200 500	1467-002	1467-002	IM-5-22	TC-11
34	1000 500	1467-001	1467-001	IM-5-21	TC-11
35	300 500	1468-003	1468-003	MO-5-33	TC-11
36	100 500	1468-0001	1468-0001	MO-5-31	TC-11
37	270 500	1468-0001	1468-0001	MO-5-325	TC-11
38	220 500				TC-11
39	100 500	1468-0001	1468-0001	MO-5-31	TC-11
40	100 500	1468-0001	1468-0001	MO-5-31	TC-11
41	510 500				TC-11
42	1300 500				TC-11
43	4300 500				TC-11
44	5 300	1468-000005	1468-000005	MO-5-55	TC-11
45	5 300	1468-000005	1468-000005	MO-5-55	TC-11
46	100 500	1468-0001	1468-0001	MO-5-31	TC-11
47	1000 500	1467-001	1467-001	IM-5-21	TC-11
48	100 500	1468-0001	1468-0001	MO-5-31	TC-11
49	100 500	1468-0001	1468-0001	MO-5-31	TC-11
50	1000 300	1467-01	1467-01	IM-3-11	TC-11

Note-Not used in all models.

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA		INSTALLATION NOTES
		NATIONAL PART No.	CLAROSTAT PART No.	
51A	500K2			AF Gain Control
51B	500K2			Attach to 51A per instructions
51C	500K2			SW-A
52	10K2			RF Gain Control

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	REPLACEMENT DATA		MEISSNER PART No.
		DC RES.	NATIONAL PART No.	
90	Ant. Coil	2.52		
91	"	1.52		
92	"	1.52		
93	"	1.52		
94	"	1.52		
95	RF Coil	5.22		
96	"	26.22		
97	"	52		
98	"	2.22		
99	"	1.52		
100	Osc. Coil	2.22		
101	"	1.52		
102	"	1.52		
103	"	1.52		
104	"	1.52		
105	1st IF	2.22		
106	2nd IF	2.22		
107	3rd IF	2.22		
108	B.F. Osc. Coil	4.88		

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	REPLACEMENT DATA		INSTALLATION NOTES
				BEAD COLOR	NATIONAL PART No.	
109	Mayonet	0-8	0.15	Brown		Type #47

MISCELLANEOUS

ITEM No.	PART NAME	NATIONAL PART No.	NOTES
110	Switch		Hand
111	"		Send-Receive
112	"		Tone
113	"		Control
114	Var. Cap.		ALO
115	3 Gang Var. Cap.		Hand Spread
116	"		Rein Tuning

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	NATIONAL PART No.	IRC PART No.	
53	1 Meg.		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network	
54	150K Ω		BTS-150K	Br.-Grn.-Yl. RF Grid	
55	220 Ω			Red-Red-Br. RF Cathode	
56	100K Ω		BTS-1000	Br.-Blk.-Red RF Screen	
57	4700 Ω		BTS-4700	Yl.-Vi.-Red RF Plate Decoup.	
58	68K Ω		BT-2-68K	Blue-Gray-Or. Voltage Drooping	
59	33 Ω			Or.-Or.-Blk. Parasitic Suppressor	
60	47K Ω		BTS-47K	Yl.-Vi.-Or. Osc Grid	
61	5900 Ω		BTS-5900	Or.-White-Red Conv. Screen	
62	100K Ω		BTS-1000	Br.-Blk.-Red Conv. Plate Decoup.	
63	470K Ω		BTS-470K	Yl.-Vi.-Yl. AVC Network	
64	1200 Ω		BTS-1200	Yl.-Red-Red 1st IF Cathode	
65	470K Ω		BTS-470K	Yl.-Vi.-Yl. 1st IF Screen	
66	100K Ω		BTS-1000	Br.-Blk.-Red 1st IF Plate Decoup.	
67	470K Ω		BTS-470K	Yl.-Vi.-Yl. AVC Network	
68	220 Ω		BTS-2200	Red-Red-Br. 2nd IF Cathode	
69	2200 Ω		BTS-2200	Red-Red-Red 2nd IF Screen	
70	2.2 Meg.		BTS-2.2 Meg.	Red-Red-Red Series "S" Meter	
71	100K Ω		BTS-100K	Red-Red-Grn. AVC Network	
72	220K Ω		BTS-220K	Br.-Blk.-Yl. Diode Load	
73	1 Meg.		BTS-1 Meg.	Red-Red-Yl. " " Network	
74	10K Ω		BTS-10K	Br.-Blk.-Grn. ANL Network	
75	10K Ω		BTS-10K	Br.-Blk.-Or. CMO Osc. Plate	
76	10K Ω		BTS-10K	Br.-Blk.-Or. CMO Osc. Grid	
77	100K Ω		BTS-100K	Red-Vi.-Red AF Cathode	
78	100K Ω		BTS-100K	Br.-Blk.-Yl. AF Plate Load	
79	470K Ω		BTS-470K	Yl.-Vi.-Yl. Output Grid	
80	330 Ω		BW-2-330	Or.-Or.-Br. Output Cathode	
81	4700 Ω		Yl.-Vi.-Red Tone Comp.		
82	4700 Ω		Red-Red-Or. Output Trans. Primary Shunt		
83	22K Ω			Output Trans. Voltage Drooping-See Note	
84	3300 Ω		AB-4000		

Note-Some models use two 1800 Ω 2 w. resistor in series in this application.

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA		
	PRI.	SEC. 1	SEC. 2	NATIONAL PART No.	STANCOR PART No.	MERIT PART No.
85	117V AC 620W CT 5.3V AC 6.8V AC @ .67A 1A DC @ 2.0A @ 2.35A		SEC. 3	K-316	P-6335	T22R04

#Drill new mounting holes

FILTER CHOKE

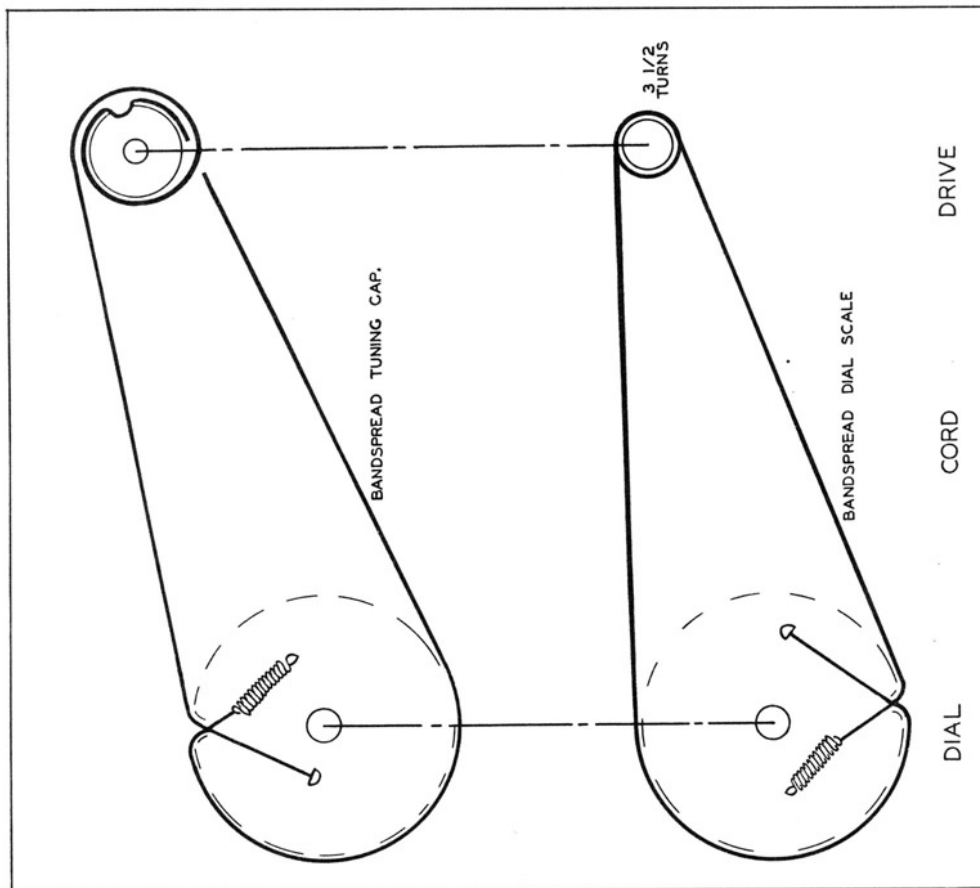
ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	TOTAL DC RES. CURRENT	D. C. RESISTANCE	NATIONAL PART No.	STANCOR PART No.	
86	.1 A.	255 Ω	8 Henriess K-317	C-1705	

TRANSFORMER (OUTPUT)

ITEM No.	RATING			REPLACEMENT DATA		
	IMPEDANCE	DC RES.	NATIONAL PART No.	STANCOR PART No.	MERIT PART No.	INSTALLATION NOTES
87	4000 Ω	3.4 Ω	500 Ω	4.2	NE-169	A-3850 T22S45 A-2330

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	FIELD	VC IMP.	NATIONAL PART No.	JENSEN PART No.	
88	PM	3.4 Ω		ST-107	
89	4-S/8"	9/18"		Mod. FS-V	5A15





NATIONAL MODEL
NC-57 **PAGE 7**

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Controls should be set as follow, except where otherwise noted: Bandsread dial to "Set". Control switch to "MVC", RF Gain at maximum, Tone switch to "High", & AF Gain at "Maximum". Attenuate output of sign. gen. to just obtain an output reading. Use an insulated alignment screwdriver for all adjustments.
To set dial turn tuning cap. fully closed and loosen the set screw in coupling on tuning cap. shaft. Turn dial until last line at low frequency end of dial is under the pointer and tighten set screw.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1 Direct	High side to center stator of tuning cap. Low side to chassis.	455KC	Band "E"	Tuning cap. fully open.	Across voice coil	A1, A2, A3, A4, A5, A6.	Adjust for maximum output.
2 "	"	455KC (Unmodulated)	"	"	"	A7	Control switch to "CWO". Loosen set screw on collar of "Pitch" control shaft, and remove knob and shaft from cabinet. Adjust A7 for zero beat thru hole in cabinet. Replace knob with white dot at midscale. Place collar with set screw directly opposite stop and tighten making certain that position of pitch control does not change from midscale.
3 300Ω carbon res.	High side to left ant. terminal. Low side to center ant. terminal with link disconnected.	54.0MC	Band "A"	54MC	"	A8	Adjust for maximum output. Tune sig. gen. to 53.1MC. If signal is not heard retune sig. gen. to 54MC and close A8 to next peak. Adjust for maximum output and recheck for image.
4 "	"	"	"	Tune for maximum output.	"	A9, A10	Rock tuning cap. and adjust for maximum output.
5 "	"	34.0MC	Band "B"	34MC	"	A11	Adjust for maximum output. Tune sig. gen. to 33.1MC. If signal is not heard, retune sig. gen. to 34MC and close A11 to next peak. Adjust for maximum output and recheck for image.
6 "	"	"	"	Tune for maximum output.	"	A12, A10	Rock tuning cap. and adjust for maximum output.
7 "	"	12.0MC	"	12MC	"	A13, A14, A15	Adjust for maximum output. Repeat Steps 5, 6 & 7 until no further improvement can be made.
8 "	"	"	Band "C"	"	"	A16	Adjust for maximum output. Tune sig. gen. to 12.9MC. If signal is not heard, retune sig. gen. to 12MC and open A16 to next peak. Adjust for maximum output and recheck for image.
9 "	"	"	"	Tune for maximum output.	"	A17, A10	Rock tuning cap. and adjust for maximum output.
10 "	"	4.4MC	"	4.4MC	"	A18, A19, A20	Adjust for maximum output. Repeat Steps 8, 9 and 10 until no further improvement can be made.
11 "	"	"	Band "D"	"	"	A21	Adjust for maximum output. Tune sig. gen. to 5.3MC. If signal is not heard, retune sig. gen. to 4.4MC and open A21 to next peak. Adjust for maximum output and recheck for image.
12 "	"	"	"	Tune for maximum output.	"	A22, A10	Rock tuning cap. and adjust for maximum output.
13 "	"	1.6MC	"	1.6MC	"	A23	Adjust for maximum output.
14 "	"	"	"	Tune for maximum output.	"	A24, A25	Bandsread dial to "Zero". Adjust A24 & A25 for maximum output. Return bandsread dial to "Set". Repeat Steps 11, 12, 13 & 14 until no further improvement can be made.
15 "	"	.6MC	Band "E"	.6MC	"	A26, A27, A28	Bandsread dial to "Zero". Adjust A26, A27 & A28 for maximum output. Return bandsread dial to "Set".
16 "	"	1.5MC	"	1.5MC	"	A29	Adjust for maximum output.
17 "	"	"	"	Tune for maximum output.	"	A30, A10	Rock tuning cap. and adjust for maximum output. Repeat Steps 15, 16 & 17 until no further improvement can be made.

STAGE GAIN MEASUREMENTS

ANTENNA TO RF GRID	2X	600KC
RF GRID TO CONVERTER GRID	5X	600KC
CONVERSION GAIN	14X	IN 600KC OUT 455KC
1st IF TRANSFORMER	.4X	455KC
1st IF TUBE	30X	455KC
2nd IF TRANSFORMER	.5X	455KC
2nd IF TUBE	150X	455KC
3rd IF TRANSFORMER	.7X	455KC
AUDIO	25X	400 ~
OUTPUT	12X	400 ~

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by connecting negative (-) 3 volts to the AVC line.