OPERATING INSTRUCTIONS

for

TYPE CKB-50142

NOISE PEAK LIMITER

FOR USE WITH MODEL RAS RADIO EQUIPMENT

MANUFACTURED FOR

NAVY DEPARTMENT BUREAU OF SHIPS

by

MISSION BELL RADIO MANUFACTURING CO., INC.

LOS ANGELES, CALIFORNIA

(Serial Numbers of Equipment 1-2280)

CONTRACT NXss-31380

I GENERAL DESCRIPTION

1-1.—The Type CKB-50142 Noise Peak Limiter is an accessory to the Model RAS Radio Receiving Equipment.

1-2.—The addition of this accessory to a Model RAS Radio Receiving Equipment will reduce the noise peaks, and consequently, improve reception.

1-3.—This unit is complete and ready for installation which is accomplished by replacing the V-107 tube in the RAS Receiver with the Noise Peak Limiter. The action of this accessory is entirely automatic and requires no adjustment.

1-4.— No external connections or adjustments are required. When the unit is plugged into the circuit, the power detector is converted to a half wave diode detector, by tube V-101.

The D.C. voltage developed by the diode detector appears across the limiter portion of V-102 resulting in current flow through R-104, R-105 and R-107 returning to the V-101 cathode.

The audio voltage is applied to this network through C-106 where it modulates the D.C. voltage appearing on the plate V-102. When the peak of the audio exceeds the negative voltage on the cathode of this tube, it will cease to conduct. (All audio voltage peaks are negative as a result of half wave detection.) This action prevents the noise peaks from exceeding the signal peaks.

The audio signal voltage is taken from the noise peak limiting network by C-104 to triode section of V-101.

The power A.V.C. circuit of the RAS Receiver remains undisturbed since the triode section of V-102 replaces the power A.V.C. of the receiver.

1-5.—The net weight of the unit is 1.15 lbs.

II CIRCUIT

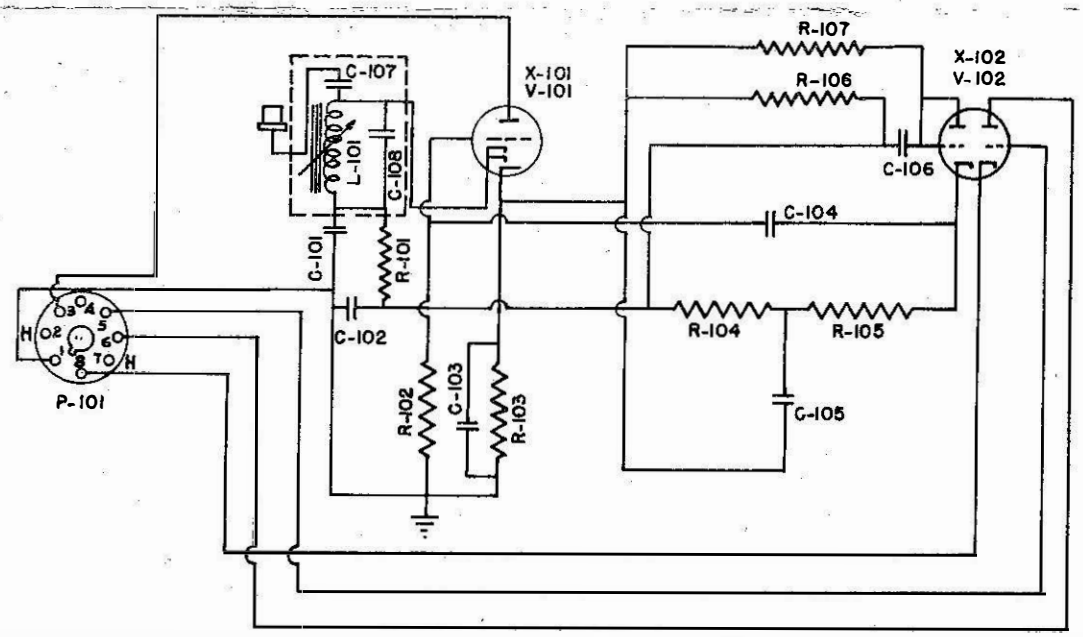

FIGURE 1

III TUBE COMPLEMENT

3-1.— The tubes employed in the CKB-50142 Noise Peak Limiter are as follows:

SYMBOL	NAVY TYPE	COMMERCIAL TYPE	FUNCTION
V101	.....	6SQ7	Diode—Half wave detector. Triode—Audio amplifier
V102	6SN7GT	6SN7GT	1st Triode—Diode Limiter 2nd Triode—Power AVC

IV INSTALLATION

4-1.—Installation of unit must be made with all voltages off.

4-2.—Remove second detector tube V107 AB and plug the noise limiter into the socket and replace grid cap (A) on the stud protruding through coil shield.

4-3.—Tighten clamp (B) on the base of the Noise Peak Limiter around the base of the tube shield.

4-4.—Fig. 2 shows Noise Peak Limiter mounted in a RAS Receiver.

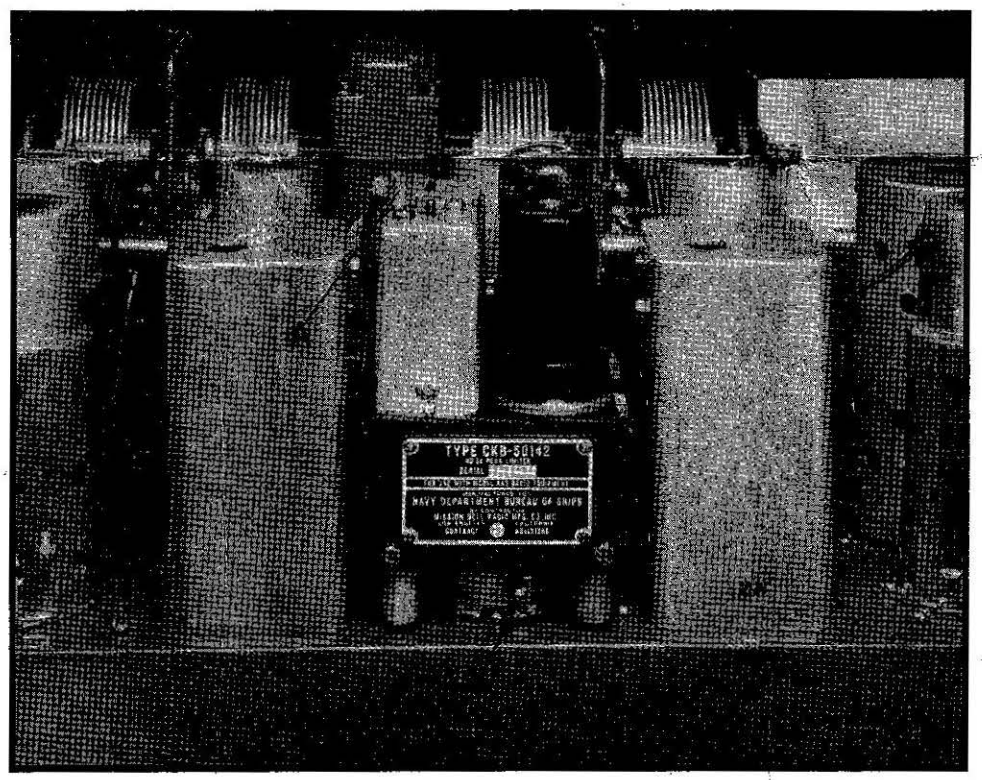

FIGURE 2

V OPERATING INSTRUCTIONS

5-1.—The operation of the Type CKB-50142 Noise Peak Limiter is automatic, and therefore, does not change the normal operation of the receiving equipment.

TABLE I
PARTS LISTED BY SYMBOL DESIGNATION FOR MODEL RAS NOISE PEAK LIMITER

Symbol Desig.	*Function*	*Description*	*Navy Type No.*	*Navy Dwg. or Spec. Number*	*Mfr.*	*Mfr's. Design.*	*Mission Bell Dwg. No.*
		CAPACITORS					
C-101	R. F. Filter	100 Mmfd ±10% 500V DCW Mica	48674-B10	RE 13A 389M	5	MW-1216-10	15-A3018-1
C-102	R. F. Filter	Same as C-101	48674-B10	RE 13A 389M	5	MW-1216-10	15-A3018-1
C-103	Cathode By Pass.	25 Mfd 25VCW Electrolytic	.....	RE 13A 549A	2	.....	17-A3002-1
C-104	Grid Coupling	.04 Mfd ±10%-3% 200V DCW paper	48430	RE 13A 488E	2	HC-507-3	15-A3006-1
C-105	AVC Filter	.1 Mfd ±10% 200V DCW paper	.....	.....	8	.....	17-A3001-1
C-106	Coupling	Same as C-104	48430	RE 13A 488E	2	HC-507-3	15-A3006-1
C-107	Coupling	25 Mmfd ±10% 500V DCW mica	.....	RE 48A 154	5	CD-5W5-5Q25	15-A3009-1
C-108	Tuning	100 Mmfd ±2% Silver Mica	.....	RE 13A 389M	5	MWS-100-2	17-A3003-1
		RESISTORS					
R-101	R. F. Filter	10,000 ohm ±10% ⅓W Comp. Pigtail	.....	RE 13A 340C	6	.....	17-A1002-1
R-102	Grid	500,000 ohm ±10% ⅓W Comp. Pigtail	.....	RE 13A 340C	6	.....	17-A1023-1
R-103	Cathode Bias	2000 ohm ±10% ⅓W Comp. Pigtail	.....	RE 13A 340C	6	.....	17-A1003-1
R-104	Filter	Same as R-102	.....	RE 13A 340C	6	.....	17-A1023-1
R-105	Filter	Same as R-102	.....	RE 13A 340C	6	.....	17-A1023-1
R-106	Diode Load	Same as R-102	.....	RE 13A 340C	6	.....	17-A1023-1
R-107	Plate Load	1 Megohm ±10% ½W Comp. Pigtail	63360	RE 13A 340C	6	.....	15-A1029-1

TABLE II
LIST OF MANUFACTURERS

Code No.	Mfr. Prefix	Name	Address
1	CPH	American Phenolic Corp.	Chicago, Illinois
2	CD	Cornell Dubilier Electric Corp.	So. Plainfield, New Jersey
3	.....	Precision Radio Products	Los Angeles, California
4	CRC	RCA Radiotron Division	Harrison, New Jersey
5	CSL	Solar Manufacturing Co.	Bayonne, New Jersey
6	CSA	The Stackpole Carbon Co.	St. Marys, Pennsylvania
7	CKB	Mission Bell Radio Mfg. Co., Inc.	Los Angeles, California
8	CIE	Industrial Cond. Corp.	Chicago, Illinois