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**SBE Service Bulletin #7
25 Watt SSB Modification**

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LINEAR SYSTEMS INC.

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SERVICE BULLETIN #7

TO: ALL SBE REPRESENTATIVES AND
CERTIFIED SERVICE STATIONS

January 11, 1974

SUBJECT: 25 WATT SSB MODIFICATION

Effective November 23, 1973 F. C. C. rules permit 12 watts P. E. P. power output on SSB. This means the power input for SSB CB transceivers can rise from 15 to 25 watts P. E. P. Attached to this bulletin are instructions for modifying the SBE-12CB, SBE-16CB and SBE-18CB to meet the new 25 watt SSB power input capability.

This modification may be performed at any of the SBE authorized service stations or units may be returned directly to the factory service department for modification. This modification is a product improvement made possible by the new F. C. C. rules, therefore, costs involved in this modification will not be covered by the factory warranty. A flat rate charge of \$12.00 per unit has been established for those units which are returned to the factory. An important fact to remember is that transmitter section adjustment in any of these units must be performed by a qualified technician holding a valid first or second class F. C. C. radiotelephone license.

Listed below are the part numbers under which modification kits for SBE SSB transceivers may be ordered. These modification kits contain the necessary parts, instructions and new F. C. C. model labels which will be required on the units in order to meet F. C. C. type acceptance.

8000-00012-300	Mod Kit, SBE-12CB	\$3.75	\$2.50
8000-00012-301	Mod Kit, SBE-16CB	5.25	4.00
8000-00012-302	Mod Kit, SBE-18CB	4.25	3.00

Yours truly,

LINEAR SYSTEMS, INC.

R A Baker
R. A. Baker,
Factory Service Manager

RAB/del

SBE-12CB 25W SSB MODIFICATION

- A. Change R-311 to 220 ohm, 1/2W.
- B. Add 3 1N2071 diodes shown in figure 1. (Caution: Observe polarity)
- C. Turn ALC control (VR-1) off.
- D. Select channel 17, LSB.
- E. Inject a 2.5 KHz audio signal @ .03 VAC at microphone audio pin.
- F. Key transmitter and adjust T12, L5, L6, L7 and L8 for maximum output. Repeat adjustments.
- G. Adjust VR-1 for 12 watts output.
- H. Adjust VR-2 for full scale RFO indication.

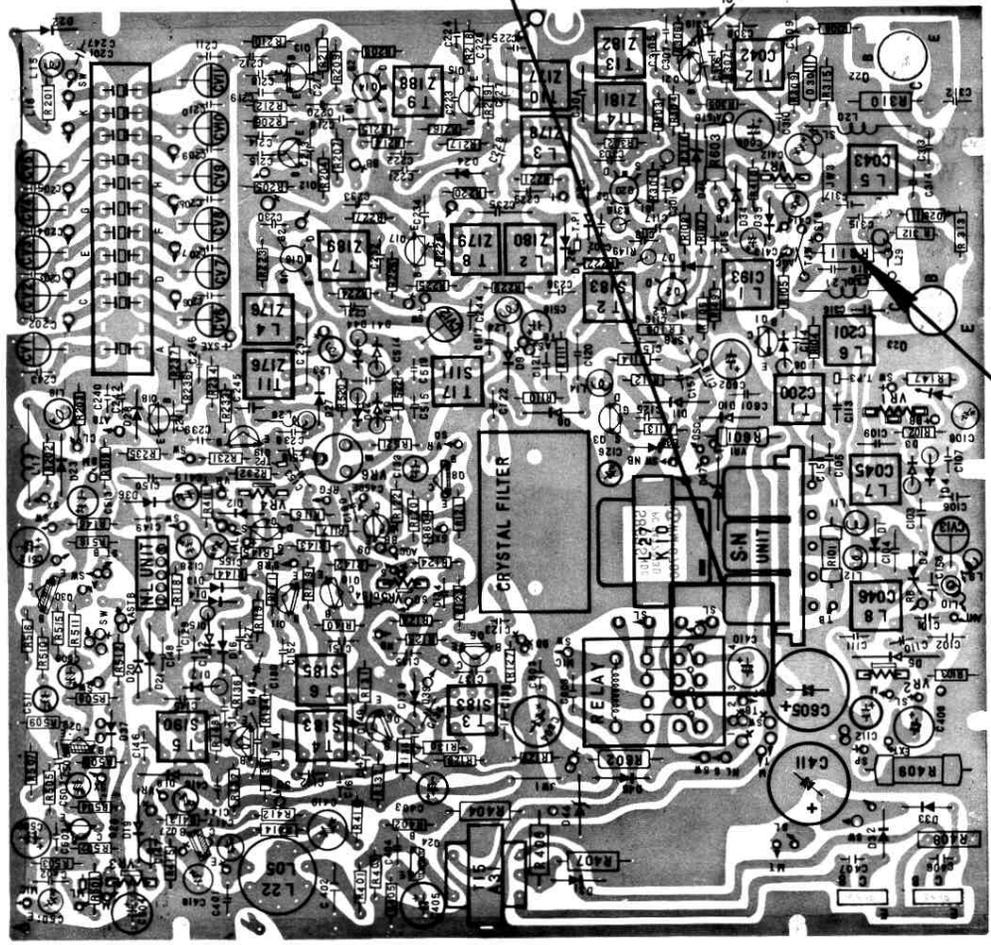
SBE-16CB 25W SSB MODIFICATION

- A. Modification and alignment of the SBE-16CB Console II is identical with that of the SBE-12CB Sidebander II with the exception of the power supply regulator modification shown in figure II. Also, the .01mfd capacitor shown in figure 1 must be removed.

WARNING!! THE THREE DIODES SHOWN IN FIGURE I FOR THE SBE-12CB AND SBE-16CB MUST BE INSTALLED AS SHOWN. IF NOT, AM TRANSMITTER OUTPUT POWER WILL EXCEED 5 WATTS.

TRANSMITTER SECTION ADJUSTMENTS MUST BE PERFORMED BY A QUALIFIED TECHNICIAN HOLDING A VALID FIRST OR SECOND CLASS F. C. C. RADIOTELEPHONE LICENSE.

REV	DESCRIPTION OF CHANGE	APPD	DATE
A	PERMANENT	ES	1-7-74



CUT 3 TRACES AND ADD
3 DIODES AS SHOWN

CUT 1

CUT 3

CUT 2

REMOVE .01

CHANGE R311 TO 220~

FIG 1

NO.	PART NO.	DESCRIPTION	QTY
	1-7-79		



LINEAR SYSTEMS, INC.
WATSONVILLE, CALIFORNIA

P.C.A.
SIDE BANDER II

DRAWING NO:
9201-00102

CODE IDENT. NO.
C

SCALE: 1 OF 1
SHEET

DR	APPD	APPD	APPD	APPD	MATL	FINISH

DO NOT SCALE DRAWING
UNLESS OTHERWISE
NOTED:

- ALL DIMENSIONS ARE IN INCHES.
- REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
- TOLERANCES:
X ±
XX ±
XXX ±

TYPE-12CCB
USED ON: 93C4-62
NEXT ASSY

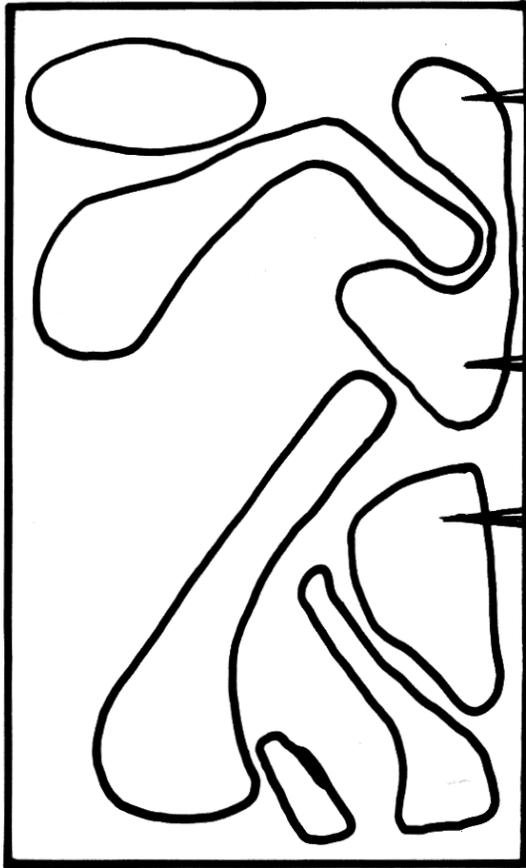
APPLICATION

HIGHEST:
NOT USED:

DESIGNATIONS

INSTALLATION OF REGULATOR DRIVER TRANSISTOR

REGULATOR PCB

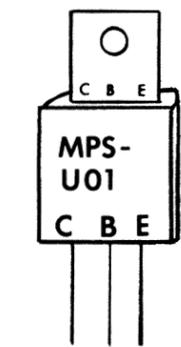


1. Remove green wire

2. Connect base lead here

3. Connect collector lead here

4. Connect emitter lead to green wire



MOTOROLA



MITSUBISHI

Approved Types

FIG 2

SBE-18CB 25 W SSB MODIFICATION

- A. Remove C315.
- B. Remove C318.
- C. Change R309 to 22 ohm.
- D. Install a jumper wire across C321.
- E. Install a 120 pfd capacitor in series between L2 and D1.
- F. Install a 47 pfd capacitor from the junction of L2 and 120 pfd capacitor to PC board ground.
- G. Change C102 from 170pfd to 100pfd.
- H. Change C103 from 330pfd to 200pfd.
- I. Add a heat sink to Q18.
- J. Change the in-line fuse from 2 amp to 3 amp.
- K. Turn ALC Control off.
- L. Select channel 17, LSB.
- M. Inject a 2.5 KHz audio signal @ .03 VAC at microphone audio pin.
- N. Key transmitter and adjust L1, L2, L3 and L4 for maximum output. Repeat adjustments.
- O. Adjust ALC control for 12 watts output.
- P. Adjust RFO control for full scale meter indication.

TRANSMITTER SECTION ADJUSTMENTS MUST BE PERFORMED BY A QUALIFIED TECHNICIAN HOLDING A VALID FIRST OR SECOND CLASS F.C.C. RADIOTELEPHONE LICENSE.