

December 4, 1975

HW-104
Solid State Transceiver

Bulletin No:
HW-104-1

Receiver Inoperative

Check for and remove the shorting wire at FET's Q701 and Q704. These part number 417-274 FET's are now being shipped with a shorting wire on the leads.

January 29, 1976

HW-104
Solid State Transceiver

Bulletin No:
HW-104-2

Low Sensitivity and Spurious Products

Complaints of low sensitivity and/or spurious products may be due to [PN 56-56] diodes being supplied in the kit instead of the [PN 56-24]. The [PN 56-24] diode is Blue, and may have "56-24" stamped on the diode body. The [PN 56-56] is Orange-Red and usually has "1N4149" stamped on the diode body, or a small "H".

A quick inspection of the receiver front-end board can determine if incorrect diodes were supplied in the kit; all the diodes on the board should be Blue [PN 56-24].

This problem may occur in other kits, and should be watched for.

February 23, 1976

HW-104
Solid State Transceiver

Bulletin No:
HW-104-3

AC Hum with AF Gain at Minimum

The hum coming from the speaker with the AF gain control at minimum can be reduced by removing the blue and violet wires from the wiring harness to the ON-OFF switch, and repositioning them as shown.

//illustration shows blue and violet wires broken out of the wiring harness approx 3" from the ON-OFF switch. The Blue wire is positioned going to the right where it will go around the terminal strip and then directly to pin 6 of the switch. The violet wire is taken UNDER the wiring harness then brought back [in a 'S' fashion to where it will be connected to 3&4 of the switch.//

The wires must be positioned as close to the chassis as possible. If hum is still faintly audible, re-position the violet lead as needed to eliminate the hum.

((Note: When taking the violet and blue wires from the harness, DO NOT cut cable lacing - just pull from the harness.))

February 23, 1976

HW-104
Solid State Transceiver

Bulletin No:
HW-104-4

Harmonics & Spurious Radiations Near The Output Signal

The following changes to correct for undesired radiations should be made to all units received for service:

Change:	R955	.51 ohm	to	475-12
Ferrite Bead	R956	.51 ohm	to	475-12 Ferrite Bead
	R329	4700 ohm	to	12K ohm
	L952	5 Turns	to	4 Turns
	L953	5 Turns	to	4 Turns

To remove one turn from L952 and L953 [refer to Pictorial 11-7 in the Assembly Manual], unsolder the leads at AB and AA, pull the wire end through LF/LE and LA/LB, cut the wire to proper length, and resolder to the foil at AB and AA.

To install the ferrite beads at R955 and R956 use lengths of buss wire equivalent to 1 watt resistor leads.

February 25, 1976

HW-104

Solid State Transceiver

Bulletin No:

HW-104-5

Suprious Radiation on 40 and 20 Meters

The following change should be made to all SB-104's received for service to prevent RF being fed back into IF amplifier IC 301 through the ALC line.

ADD: .01 uf [PN 21-176] from chassis pin C4 to nearest ground lug.
.01 uf [PN 21-176] from chassis pin C5 to nearest ground lug.

See Bulletin No. SB-104-24 dated February 25, 1976.

March 2, 1976

HW-104

Solid State Transceiver

Bulletin No:

HW-104-6

Power Drop-Off on 20 Meters

If power frops off on the 20 Meter band after a period of on-and-off keying, and then returns again after the unit has been shut down for a while, the problem may be caused by dielectric heating of the ferrite bead at the junction of L316 and anode of D328.

If this problem occurs, change the ferrite bead to a 100 ohm [PN 1-1-12] resistor.

March 16, 1976

HW-104

Solid State Transceiver

Bulletin No:

HW-104-7

Harmonics & Spurious Radiations Near The Output Signal

Bulleting HW-104-4 called for changing R329 on the "C" board from 4.7K to 15K. This value has been changed to 12K [PN 1-14-12].

//Note: I have already corrected the 104-4 value//

March 16, 1976

HW-104

Solid State Transceiver

Bulletin No:

HW-104-8

High Level 3395 KHZ Spur on 80 Meters

A high level spur at 3395kHz may be present in some units due to incorrect tuning of the 3.395MHz trap on the transmit IF board. This problem can be avoided by removing the old 3.395 trap on the transmit IF "C" board, and installing a new trap as follows:

1. Remove and discard L321 and C348.
2. In the L321 circuit board holes near the top edge of the board install an 8-40 pF [PN 31-76] with the slotted side toward the top edge of the board.

3. In the next lower set of holes, install a 150 pf [PN 20-149] capacitor.
Do NOT use the holes screened for C348.
4. Next, install a 13.25 uH [PN 40-1877] coil at C348.
5. Remove circuit board D, and pre-set the front panel controls to the 3.5 MHz band, MIC/CW Level control full counterclockwise.
6. Put the meter in the POWER position, depress the HI and TUNE pushbuttons.
7. Turn the MIC/CW Level control full clockwise. Adjust the 8-40pf trimmer for a minimum (null) on the power meter.
8. Turn off the unit, and reinstall circuit board "D".

March 16, 1976

HW-104
Solid State Transceiver

Bulletin No:
HW-104-9

Skewed Receiver Response on 80 Meters

A number of units tested by Engineering have shown the 80 meter bandpass response to be skewed toward the low end because of the tuning response of the tuned circuits and trimmer capacitors. To correct for this skewed response, make the following changes:

	FROM	TO
Change:	C703 130pF	105 pF [PN 29-162]
	C707 130pF	105 pF [PN 29-162]
	C764 1-8 pF trimmer	8-40 pF [PN 31-76]
	C769 1-8 pF trimmer	8-40 pF [PN 31-76]

Remove and discard: C763 5pF

Realign the receiver according to the manual.

October 10, 1977

HW-104
SSB Transceiver

Bulletin No:
HW-104-10

Audio Level Control of Receiver Does Not Completely Reduce Volume

+ + + + Information not available at this time + + + +

November 9, 1984

HW-104
SSB Transceiver

Bulletin No:
HW-104-11

Power Drops Off On 20 Meters while Transmitting

If the power drops off while transmitting, especially in the CW mode, make the following change.

On the driver board, change:

C909 from a .01 uF capacitor to a .002 uF capacitor [PN 21-36].

April 28, 1989

HW-104
SSB Transceiver

Bulletin No:
HW-104-12

Sidetone Modulates Carrier

When the sidetone modulates the carrier, especially when the VOX control is FCCW, check for a shorted diode at D3 [PN 56-56] on the chassis.

*****ATTENTION*****ATTENTION*****ATTENTION*****
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After 3/16/76 all bulletins which are applicable to both the SB-104 and the HW-104 will be listed only in the SB-104 Bulletin Section. The model number at the upper left corner will be written as SB/HW-104 when the Bulletin applies to both models. Bulletins that apply only to the HW-104 will be in this section.

Because of the similarity of circuits used in the HW-104 and SB-104, you should refer to previously issued bulletins on the SB-104 when servicing the HW-104. Many of the service hints and modifications listed are applicable to the HW-104.

That's all that is shown for HW-104 [1966-89]. Enjoy!

73 de Joe W7LPP/4 [NNN0KUU]
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