

HR-1680
S/S Receiver

November 11, 1976

Bulletin No:
HR-1680-1

No VFO Output

Several L30 [PN 40-1859] coils have been found with the color dot on the wrong lug. The color dot should be on the coil center tap lug. Q.A. is checking all kits and parts stock.

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S/S Receiver

November 11, 1976

Bulletin No:
HR-1680-2

No VFO Output

When mounting the VFO capacitor to the capacitor mounting bracket, 6-32 X 1/4 screws must be used. If 6-32 X 3/8 screws are used they will short out to the stator plates of the VFO capacitor. A good indication that this might be the case is a low voltage, below 1.5V, across ZD301.

HR-1680
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November 18, 1976

Bulletin No:
HR-1680-3

Trimmer Capacitor [PN 31-76] NLA

When C139, C146 on the front end circuit board requires replacement, use [PN 31-85].

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November 24, 1976

Bulletin No:
HR-1680-4

Audio Gain Decreases When Sharp Pulses Are Received

*******This Bulletin Superceded by HR-1680-6*******

HR-1680
S/S Receiver

January 6, 1977

Bulletin No:
HR-1680-5

IF Oscillation

*******This Bulletin Superceded by HR-1680-6*******

HR-1680
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February 21, 1977

Bulletin No:
HR-1680-6

IF Oscillation

This is found to be caused by Q207 breaking into oscillation on strong signals. To correct this problem:

Remove: C247

This Bulletin supercedes Bulletins HR-1680-4 dated November 24, 1976 and HR-1680-5 dated January 6, 1977.

March 7, 1977

HR-1680
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Bulletin No:
HR-1680-7

**Fuse F201 Blows When Servicing Audio/Regulator
Circuit Board**

The heat sink for Q201 extends away from the board and is also above ground. It can short to the adjacent shield when the board is loose for servicing. If the heat sink shorts to the shield, it will cause fuse F201 to blow and may also damage Q201 and IC201. To prevent this, place a piece of tape or fishpaper on the adjacent shield in the area where the heat sink would contact the shield before beginning service on the board.

March 22, 1977

HR-1680
S/S Receiver

Bulletin No:
HR-1680-8

Receiver Front End Stability

To insure proper receiver stability, the HFO coils should be adjusted for the indicated voltages at the HFO test point, rather than peaking for maximum voltage.

<u>BAND</u>	<u>COIL</u>	<u>TP VOLTAGE</u>	<u>BAND</u>	<u>COIL</u>	<u>TP VOLTAGE</u>
80 M	L406	1.3 VDC	15 M	L403	1.9 VDC
40 M	L405	1.5 VDC	10 A	L402	1.5 VDC
20 M	L404	1.8 VDC	10 B	L401	1.5 VDC

May 13, 1977

HR-1680
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Bulletin No:
HR-1680-9

Front End Oscillates

*******Superseded by HR-1680-10*******

July 8, 1977

HR-1680
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Bulletin No:
HR-1680-10

Front End Oscillates

Make the following changes to correct this problem:

REMOVE: 6-1/2" gray wire which is between preselector capacitor C1B, lug 2, and point B on the **FRONT** **END** board. B section of C1 is no longer used.

CHANGE: R417 from 100 ohm to 270 ohm [PN 1-170].

ADD: 33 pF [PN 20-160] in parallel with C126. Install capacitor on foil side. This will permit proper tuning on 20 M band.

This Bulletin supersedes Bulletin HR-1680-9 dated May 13, 1977.

July 24, 1978

HR-1680
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Bulletin No:
HR-1680-11

Preselector Drifts

The preselector may drift off resonance, usually about one minute after a band change. This is most noticeable on the 40 meter band.

To solve this problem install a 10 kilohm resistor [PN 6-103-12] in parallel with C114 and C115. This provides a DC return path for diodes D105 through D108.

Make this change only when necessary.

May 7, 1979

HR-1680
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Bulletin No:
HR-1680-12

8.65 MHz Bandpass Filter Won't Adjust Properly

Change the 10 pF cefamic capacitor at C143 to a 5-25 pF trimmer capacitor [PN 31-85]. This component will fit directly.

July 30, 1979

HR-1680
S/S Receiver

Bulletin No:
HR-1680-13

No AGC When Case Bottom Installed

This may be caused by the left-front foot screw touching terminal strip CK (junction of R5 and R6). To correct, bend terminal strip toward front of unit.

February 8, 1980

HR-1680
S/S Receiver

Bulletin No:
HR-1680-14

Sweep Aligning the 8.65 Bandpass Filter

With a little practice, the following procedure should prove much quicker than spinning the dial across the band.

Procedure:

-- Change C143 to a 5-25 pF trimmer capacitor [PN 31-85].

-- Hook-up an IG-5257 Generator and an oscilloscope to the HR-1680 Receiver's Front End Board (A) as shown in the pictorial.

((Pictorial shows O-scope Vert hooked into Generator Scope Vert; Horiz into Generator Scope Horiz. Generator's Demodulator Probe [hooked into Generator's Trace input, and connected across R131 [Blk side to ground], Attenuator Connected to Sweep Generator, with the RF cable in turn connected with the Blk side to ground, and the Red side to the **lifted end** of C133.))

-- Set the **SWEEP RANGE** control to L0.

-- Turn on the 3.58 and 4.08 Mhz markers and adjust for a 5 cm spread on the o-scope, starting at the 0.8 cm position (gives 100 kHz/cm

display).

- Place the HR-1680 Bandswitch in the 80-meter position.
- Adjust C139, C143 and C146 for a response similar to the waveform shown below. If you are unable to obtain a similar waveform, change C139 to 150 pF [PN 20-149].

((Display shows the waveform of the 3.58 marker on the 'down-side' of a first peak, which then continues to near the x-y axis with another peak. The last peak occurs at the 3.9 reference line, with the 4.08 marker indicated near the bottom of the last down side.))

[[Sorry for any confusion - I will either get my paper port scanner to work or get another scanner, so I can scan in the graphics that I have. I will notify all concerned when they are available and placed on Dale's Web Page.]

February 8, 1980

HR-1680
S/S Receiver

Bulletin No:
HR-1680-15

S Meter Reads S9 or Pins for Most Signals

To improve the HR-1680's S meter response, make the following modification:

<u>Parts Required:</u>	2	1N4149 diode [PN 56-56]
	1	560 ohm, 1/2 watt resistor [PN 6-561]
	1	1 Kilohm, 1/2 watt resistor [PN 6-102]
	1	PCB connector [PN 432-120]

Procedure

- Install a kilohm resistor [PN 6-102] on Q203, base to collector.
- Disconnect the wht/blk lead from board D, pin 7 and reconnect it to board A, pin 9.
- Connect the "+" meter lead to board B, pin C.
- Install a 560 ohm resistor [PN 6-561] in series with the "-" meter lead at PCB connector.
- Connect the PCB connector to board B, pin B.
- Solder two series-connected diodes [PN 56-56] from the "-" lead of the meter to ground (cathode to ground).
- Zero the meter with the zero control (no signal input), tune in the calibrator signal on 80 meters and adjust meter sensitivity for +60 dB (tuning dial at 300).

Typical Readings

<u>UV AT ANT.</u>	<u>METER (BEFORE)</u>	<u>METER (AFTER)</u>
10	S9	S5
100	S9	40 dB
1000	Pinned	60 dB
1000		60 dB

Install this modification only if the customer specifically complains about the S meter response.

October 21, 1980

HR-1680
S/S Receiver

Bulletin No:
HR-1680-16

**Audio Oscillations and Pilot Lamp Dims When
Tuning a Strong Station**

Check the 78MGT4C IC at IC201 [PN 442-626] for proper operation.

November 25, 1980

HR-1680
S/S Receiver

Bulletin No:
HR-1680-17

Tantalum Capacitor Change

Some Tantalum capacitors have been changed to electrolytic capacitors. Listed below are the capacitors that have been changed.

C207 from [PN 25-223] to [PN 25-915]

C215, C216 and C223 from [PN 25-221] to [PN 25-924]

Use the new capacitors when a replacement is needed.

August 28, 1981

HR-1680
S/S Receiver

Bulletin No:
HR-1680-18

R7 Control Change

The 15 kilohm [PN 10-180] control used at R7 in the S-Meter is no longer available from our suppliers.

In new production runs, a 15 kilohm [PN 10-1184] will be used. Parts Replacement still has a quantity of the #10-180 controls, so continue to use them.

The new #10-1184 control will be automatically subbed when the #10-180 controls are NLA.

August 28, 1981

HR-1680
S/S Receiver

Bulletin No:
HR-1680-19

IC201 Regulator Change

Regulator IC201 has been changed from a [PN 442-626] to a [PN 442-617]. When replacing a defective regulator, use a #442-617 for replacement.

October 25, 1982

HR-1680
S/S Receiver

Bulletin No:
HR-1680-20

**Schematic Correction - Diode Numbers D2 and D4
Interchanged**

In manual [PN 595-1830], diode numbers D2 and D4 are interchanged on 120 VOLT WIRING and 240 VOLT WIRING power supplies. Make this correction on your schematic.

That's all that is shown for the HR-1680 (1966-89). Enjoy!

73 de Joe W7LPF/4 [NNN0KUU]
QWCA - SOWP - NCVA - FISTS - RCC
Gordonsville, Va 22942 [Orange Co]