FEBRUARY 11, 1971

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-1

VFO DRIFT

The vfo coil has been changed to improve the drift problem experienced in many units. The old coil [PN 40-810] should be replaced by the new coil [PN 40-1976] whenever a unit displays excessive drift. This has been made a permanent change in all future production.

SEPTEMBER 14, 1972

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-2

REPEATED HETERDODYNE OSCILLATOR TUBE FAILURE
INADEQUATE USB-LSB FREQUENCY DRIFT

Change: R-212 from 220 Ohm to 330 Ohm 1/2 watt resistor [PN 1-4]. Lack of VFO shift range can be corrected by changing the value of the FET source resistor.

Change: R-947 from 470 Ohm to 1000 Ohm [PN 1-9].

FEBRUARY 16, 1973

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-3

CARRIER NULL CONTROL FAILURE

Recently an improved mounting method was devised for the [PN 10-147] controls in kit models SB-102, SB-401 and HW-101. Current production utilizes a fiber washer for greater clearance and the case of the control is grounded by a separate wire. We are anxious to know if this will reduce the failure rate. Please make note of any change, good or bad, and keep us posted.

OCTOBER 29, 1973

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-4

LOW OUTPUT ON 40 METERS

SEE BULLETIN NO: SB-102-5 DATED OCTOBER 29, 1973

MAY 23, 1974

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-5

ALTERNATE METHOD OF NEUTRALIZING THE FINAL AMPLIFIERS

SEE BULLETIN NO: HW-100-3 DATED MAY 23, 1974.

MAY 23, 1974

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-6

SB & HW SERIES AUDIO PREAMPLIFIER & VOX CIRCUIT TROUBLESHOOTING GUIDE

SEE BULLETIN NO: SB-100-3 DATED MAY 23, 1974

MAY 23, 1974

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-7

SB & HW SERIES INSTABILITY & CORRECTIVE INFORMATION

SEE BULLETIN NO: SB-100-4 DATED MAY 23, 1974

DECEMBER 18, 1974

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-8

OSCILLATIONS OR LOW DRIVE

SEE BULLETIN NO: SB-100-5 DATED DECEMBER 18, 1974

MAY 2, 1975

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-9

SELF OSCILLATIONS OCCURRING AFTER INSTALLATION OF STEEL COMB BRACKETS

SEE BULLETIN NO: SB-100-6 DATED MAY 2, 1975

MARCH 26, 1976

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-10

S-METER DRIFT

To bring the meter drift to an acceptable level, install the following:

CHANGE: R107 from 100K Ohm 1/2 Watt to 100K 1 Watt [PN 1-28-1]

This makes the voltage divider string more stable with temperature

changes caused by internal heating.

This change will be made in future production runs.

---- NOVEMBER
15, 1976
HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-11

LOW RECEIVER
SENSITIVITY

SEE BULLETIN NO. HW-100-7 DATED NOVEMBER 15, 1976

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NOTE: FICHE FOR YEAR 1977 WAS NOT RECEIVED - SORRY.
****

JANUARY 20, 1978
HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-18

RF CHOKE IN FINAL PLATE CIRCUIT OVERHEATS OR
DIFFICULT TO NEUTRALIZE ON 10 METER & 15 METER BANDS

6146B tubes in the final amplifier may be causing this problem. To correct, replace with 6146A tubes.

A label will be installed on the back panel of the HW-101 recommending the use of 6146A tubes only. The 6146B tubes should not be used as a replacement.

FEBRUARY 2, 1978
HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-19

VFO SHIFT

The trimmers on the VFO tuning capacitor tend to align at their minimum capacitance. Therefore, the head of the screw may not be under sufficient pressure against the spring plates of the trimmers, and intermittant frequency shift can result. Changing C-947 from 56 to 47pf NPO [PN 21-147] will allow the trimmers to tune to a point with tighter compression.

FEBRUARY 3, 1978
HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-20

LOW POWER OUTPUT, S-METER DRIFT, ETC

The #44 pilot lamps presently used in the unit unbalance the series-parallel filament line because of their 250ma current

requirements.

In each unit service, change the pilot lamps to type #47 [PN 412-11].

This change will be incorporated in future runs.

MARCH 31, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW0101-21

DISTORTED AUDIO, NO CARRIER NULL OR ERRATIC
POWER OUTPUT IN VOICE MODE

This problem may be caused by V1 oscillating at approximately 65KHZ, especially if a "GE" brand tube is used at this location.

To correct,

INSTALL: .005 uf capacitor [PN 21-57] in parallel with the .2 uf capacitor at C3.

Install only as needed.

APRIL 14, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-22

RELATIVE POWER METER PEGS ON 15 AND 10 METER

Diode CR-901 [PN 56-26] should be mounted on terminal strip BR with 1/2" leads. This introduces a slight amount of inductance into the circuit, which cures the problem.

The next manual level will include this instruction.

JUNE 5, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-23

RELAYS REMAIN ENERGIZED AFTER TRANSMIT CONDITION

After keying the transceiver with PTT for thirty to forty seconds, a positive voltage in excess of 10 volts appears at the control grid, pin 9 of V12, thus keeping the relays energized.

To correct the problem, replace V12 [PN411-124]. IEC Brand tubes have been found defective in several cases, but other brands may also cause this problem.

JUNE 5, 1978

HW-101 BULLETIN NO:

SSB TRANSCEIVER HW-101-24

POOR AGC ACTION

Leakage in the 6HS6 tubes [PN 411-247] at V10 and/or V11 has been found to cause:

- poor AGC action
- Fast S-meter decay
- poor sensitivity when RF gain control is fully clockwise.

This usually occurs after warmup of at least an hour. A positive voltage, usually over 1 volt, will appear at the grid, pin 1, of either one or both tubes.

Replacement of the tube with the positive voltage corrects the problem.

JUNE 5, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-25

100 KHZ CALIBRATOR SPURS

Strong signals may occur at other than 100khz points.

Look at the calibrator output [ahead of output diode] with an oscilloscope. Use high input gain and a slow sweep speed. If the upper portion of the sine-wave signal appears choppy or uneven, the Y201 crystal may be at fault.

After installation of a new crystal [PN 404-43], recheck with oscilloscope.

AUGUST 3, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-26

RECEIVER RECOVERY SLOW

THIS BULLETIN OBSOLETE. REFER TO BULLETIN NO: HW-101-36 DTD OCTOBER 10,
1978.

JULY 24, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-27

ERRATIC VFO TUNING

Erratic tuning can be caused by an intermittent electrical contact in the vernier drive of the tuning capacitor. This causes a change in the ground path from the capacitor frame. This affects the capacitance and

subsequently, the tuning.

To prevent this, solder a heavy gauge wire or braid from the stop stud to a solder lug under the closest mounting screw. This provides a suitable short ground path from the capacitor frame to ground.

JULY 24,1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-28

CARRIER NULLS WITH IC14 TRIMMER PLATES COMPLETELY MESHED

SEE BULLETIN NO: HW-100-14 DATED JULY 24, 1978.

JULY 24, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-29

POOR PRESELECTOR TRACKING

SEE BULLETIN NO: HW-100-13 DATED JULY 24, 1978.

AUGUST 1, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-30

LOADING CAPACITOR TURNS AS PLATE CAPACITOR IS ROTATED

SEE BULLETIN NO: HW-100-16 DATED AUGUST 3, 1978.

AUGUST 3, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-31

RELAYS CHATTER IN VOX MODE

SEE BULLETIN NO: HW-100-15 DATED AUGUST 3, 1978.

AUGUST 3, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-32

"CHIRPING" AND SLOW RECEIVER RECOVERY

If "chirping" of the audio in the receive mode and slow recovery of the receiver after long periods of transmitting are encountered, remove the cover of RL2 and check for carbon buildup at the base, just below the contact. Clean dirt or carbon tracks, or replace if necessary.

A dirt or carbon buildup will cause the +300 volts to be applied to adjacent contacts such as the bias or AGC lines, adversely affecting receiver cutoff by upsetting the operation of 1] V12, receiver mixer; 2] V10, RF amplifier; and 3] V11, first receiver mixer.

AUGUST 21, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-33

ALC METER READS BELOW ZERO

SEE BULLETIN NO: HW-100-18 DATED AUGUST 21, 1978.

AUGUST 22, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-34

S METER DRIFT

SEE BULLETIN NO: HW-100-17 DATED AUGUST 22, 1978.

SEPTEMBER 26, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-35

POOR IF SENSITIVITY

SEE BULLETIN NO: HW-100-19 DATED SEPTEMBER 26, 1978.

OCTOBER 10, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-36

RECEIVER RECOVERY SLOW

SEE BULLETIN NO: HW-100-20 DATED OCTOBER 10, 1978.

OCTOBER 11, 1978

HW-101 SSB TRANSCEIVER — BULLETIN NO: HW-101-37

R-940 SHORTING TO SHIELD

To prevent the leads of R-940 shorting to ground, install a length of sleeving [PN 346-1] on each lead of R-940.

This will be incorporated in future production.

OCTOBER 13, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-38

POOR CARRIER SUPPRESSION

The HW-101 carrier suppression specification is -45db or below. If the carrier cannot be nulled on both USB and LSB to this level, try changing R9 on the modulator board from a 1K Ohm to a 390 Ohm [PN 1-48].

This change will reduce the injection level to the balanced modulator and hence reduce the carrier suppression level.

NOVEMBER 20, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-39

IDENTIFICTION OF THE 6146A TUBES

The 6146A tubes [PN 411-75] used at V8 and V9 of this unit are marked '6146A' in white ink on the side of the tube. These tubes may also have '6146B' etched in the glass. These tubes have been reworked by G.E. and are acceptable for use in the HW-101. Most tube cartons will contain the following insert to explain the situation to the customer:

IMPORTANT INFORMATION;
THE TUBE SUPPLIED WITH THIS NOTICE IS TYPE 6146A, AS PRINTED ON ONE SIDE OF THE TUBE, EVEN THOUGH THERE MAY BE A 6146B ETCHED ELSEWHERE ON THE
TUBE ENVELOPE.

ALWAYS REPLACE V8 AND V9 WITH 6146A TYPE TUBES

Replace the backing from this label and place the label at any convenient location inside the cabinet top.

NOVEMBER 28, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-40

NOISE OR STATIC FROM SPEAKER WHEN CHASSIS TAPPED LIGHTLY

If noise or static is heard from the speaker when the chassis is lightly tapped, check for intermittent tubes, cold solder connections, or intermittently shorting filaments in the pilot lamps by tapping each lamp lightly. This produces noise in the filament supply but usually will not produce any difference in the lamp brilliance.

DECEMBER 11, 1978

HW-101 BULLETIN NO:
SSB TRANSCEIVER HW-101-41

RELAY CHATTER IN ANY SETTING OF THE VOX SENSITIVITY CONTROL

If the relays chatter in the VOX mode, try performing the procedures in BULLETIN'S HW-101-13, -31 and -38. If these changes do not correct the problem, perform the following:

1. With a scope, check for excessive noise at the junction [point 8] of R213 and R214. Any noise on the white-red-red wires coming from the mode and function switches will override the reverse bias to D201, thus activating V12B.

2. Replace the two white-red-red wires with shielded cable [PN 343-15].

3. Ground the shields to a ground foil near the junction of R213 and R214.

DECEMBER 27, 1978

HW-101 SSB TRANSCEIVER

BULLETIN NO: HW-101-42

UNIT "WARBLES" WHEN CHASSIS IS TAPPED

This "warble" has been traced to the VFO assembly. This occurs especially when the leads of the C946 and C953 capacitor combination is too long, enabling the capacitors to vibrate.

To solve this problem, glue the top of C946 [4700pf] to the chassis wall of the VFO assembly. The PN 350-12 glue may be used.

January 24, 1979

HW-101 SSB Transceiver

Bulletin No: HW-101-43

Poor Sensitivity or Grid or Plate Driver Coils Will Not Tune

Check the lugs that are nearest the chassis and verify that they are not folded under the capacitors; thus shorting them out.

January 25, 1979

HW-101 SSB Transceiver

Bulletin No: HW-101-44

No Ground Pin On Tube Sockets At V10 And V11

The 7-pin tube sockets [PN 434-112] now used at V10 and V11 on the RF driver circuit board do not have a ground pin in the center. Only the 7-pin socket [PN 434-129] at V6 on this board uses a ground clip.

February 16, 1979

HW-101 Bulletin No:
SSB Transceiver HW-101-45

VFO Will Not Adjust Properly

If the unit will not track at 0 and 500, or if it will track at 0 and 500, but the error at 100, 200, 300, 400 is greater than specifications, then make sure the slug in the VFO coil is adjusted to the lower of the two peaks. To check, insert the shorter end of PN 490-1 tuning tool into the coil. The body of the tool should just touch the top of the coil form. If it sticks out a half inch, the coil is at the wrong peak. Turn slug into coil and readjust tracking.

April 25, 1979

HW-101 Bulletin No:
SSB Transceiver HW-101-46

Low Power Output; Poor VOX Sensitivity

See Bulletin No: HW-100-21 Dated April 25, 1979

May 15, 1979

HW-101 Bulletin No:
SSB Transceiver HW-101-47

Driver Preselector Won't Peak For Full Output At 7.0 MHZ

See Bulletin No: HW-100-23 Dated May 15, 1979

May 15, 1979

HW-101 Bulletin No:
SSB Transceiver HW-101-48

PEC [PN 84-22] No Longer Used

The next production run of HW-101's will use discrete components instead of the PEC at V15A since the manufacturer will no longer supply this part. However, the parts replacement department has a three year supply of these on hand, so continue to order the PECs if an older unit requires one.

May 15, 1979

HW-101 Bulletin No:
SSB Transceiver HW-101-49

Changeover To 6146B Finals

The 6146A final amplifier tubes are no longer available from the manufacturer. Future productions runs will use the 6146Bs. These are GE brand tubes and have been tested in the HW-101. No difficulty was

encountered in neutralizing the finals; nor did the RF choke in the final plate circuit overheat. The tube replacement label [PN 390-146] should be removed from all units brought in for service.

July 30, 1979

HW-101 SSB Transceiver — Bulletin No: HW-101-50

R940 Overheats

In new units, R904 100 ohm [PN 6-101] is a film-type resistor. During installation, the body of the resistor may rub against the driver shield, resulting in the resistor shorting to the shield. When installing a new resistor or preworking the unit, position this resistor away from the shield.

July 30, 1979

HW-101 SSB Transceiver — Bulletin No: HW-101-51

Operation of Mode Switch Trips VOX

Dress wht-org-org lead from foil side of modulator board away from V1 foils.

If dressing of this lead fails to correct the problem, install filter in line with wht-org-org lead. Use the unused foil at point "A".

(((Shows .024uf connected from wht-org-org to ground --- 2.2K ohm resistor in line going to R1)))

August 15, 1979

HW-101 SSB Transceiver — Bulletin No: HW-101-52

VFO Stops Working At High End Of All Bands

This problem occures in all modes except LSB. In LSB, the VFO operates okay.

To Correct:

Change: R947 from 1000 ohm to 470 ohm [PN 6-471]

Add: [PN 56-56] diode from gate of Q941 to ground; anode of diode to gate.

September 20, 1979

HW-101 SSB Transceiver — Bulletin No: HW-101-53

Low Transmitter Output; Low Receiver Sensitivity

When cleaning the unit during prework [tube sockets, potentiometers, etc.], don't overlook the SSB/CW filter slide switch located with the RF gain control. This switch handles both transmit and receive signals and dirt and grease build-up can affect the performance of both functions.

September 27, 1979

HW-101 SSB Transceiver — Bulletin No: HW-101-54

Receiver Audio Troubleshooting Information

Equipment needed:

Audio Signal Generator
Oscilloscope
01uf capacitor 500 volts or greater [PN 21-16]

Procedure:

- connect a 4 ohm load to the speaker jack.
- set the AF gain control full clockwise.
- set the generator to 1 KHZ at .01 volt RMS
- connect the generator to V13, pin 7 through the .01uf capacitor.

The signal voltages for the points listed shold compare with the values given below:

Pin 1 of V14 = 50mv p-p
Pin 9 of V14 = 1.5v p-p
Pin 8 of V14 = 1.5v p-p
Pin 6 of V14 = 35v p-p
Speaker Jack = .6v p-p

Add these voltages to your shop schematic.

November 19, 1979

HW-101 SSB Transceiver — Bulletin No: HW-101-55

AVC Decay Too Fast; S Meter Drops Too Quickly

Check for open R117 [PN 6-332]

When replacing this resistor, be sure to dress it away from the AVC wire ends protruding from the IF board to insure that the wire ends will not pierce the resistor's film coating.