GONSET

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350
Warranty Policy

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in any way, or which has been misused or damaged by accident or negligence, or which has had serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty, with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.

THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.

GONSET DIVISION

YOUNG SPRING AND WIRE CORPORATION

801 SOUTH MAIN STREET, BURBANK, CALIFORNIA

DANGER, HIGH VOLTAGE

The voltage employed in this unit are sufficient to cause fatal shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock.
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GONSET DIVISION
Young Spring & Wire Corporation
801 South Main Street
Burbank, California
MADE IN U.S.A.
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<td>35</td>
</tr>
</tbody>
</table>
FIG. 1
BLOCK DIAGRAM G-76
100 WATT MULTI-BAND TRANSCEIVER
RECEIVER SPECIFICATIONS

Frequency Ranges:    Band 1 -- 3.5 - 4.0 megacycles
                     Band 2 -- 7.0 - 7.3 megacycles
                     Band 3 -- 14.0 - 14.35 megacycles
                     Band 4 -- 21.0 - 21.45 megacycles
                     Band 5 -- 28.0 - 29.7 megacycles
                     Band 6 -- 50.0 - 54.0 megacycles

Sensitivity:   Approximately 1 µV at 50 Ω for 6 db
                signal-plus-noise to noise ratio.

Selectivity:   3 Kc. bandwidth at 6 db down, nominal.
                14 Kc. or less, at 60 db down.

Image Rejection:

<table>
<thead>
<tr>
<th>Signal Input</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5 Mc.</td>
<td>70 db down</td>
</tr>
<tr>
<td>7 Mc.</td>
<td>57 db</td>
</tr>
<tr>
<td>14 Mc.</td>
<td>58 db</td>
</tr>
<tr>
<td>21 Mc.</td>
<td>53 db</td>
</tr>
<tr>
<td>28 Mc.</td>
<td>48 db</td>
</tr>
<tr>
<td>50 Mc.</td>
<td>30 db</td>
</tr>
</tbody>
</table>
Stability: Oscillators (both transmitter and receiver) are temperature compensated for negligible frequency drift. Oscillator circuit permits exceptionally wide excursions in power supply voltage, both plate supply and heater supply, with negligible frequency shift. As much as 30% decrease, or 50% increase, may be tolerated even in single sideband reception. This feature is, of course, most important in mobile service. Mechanical stability is excellent.

Antenna Input: 50 ohms unbalanced (coax cable).

Intermediate Frequencies: First I.F. . . . . . . . . . . . . . . . 2065 Kc.
Second I.F. . . . . . . . . . . . . . . . . . . . . . . . . . . . 262 Kc.

Audio Output: 2.5 Watts into 3.2 ohms.

Noise Limiter: Automatic type, switched in or out with front panel controls.

Accessories: 100 Kc. calibrator (Gonset Model 3269).
Microphone, High Impedance Ceramic Type (Gonset 03240)

TRANSMITTER SPECIFICATIONS

Frequency Range: 3.5, 7, 14, 21, 28 and 50 Mc. amateur bands.

VFO: Planetary vernier tuning, choice of crystal control when desired. VFO does not function on 50 Mc. band (8334-9000 Kc. crystal required for this band.) For other bands, crystal frequencies are as follows:

- 80M: 1.75 or 3.5 Mc.
- 40M: 1.75, 3.5 or 7 Mc.
- 20M: 3.5 or 7 Mc.
- 15M: 7-7.15 Mc.
- 10M: 7-7.425 Mc.
- 6M: 8.334-9 Mc.

Input Power: 6DQ5 Power Amplifier
100 Watts, amplitude modulated phone
120 Watts, CW.

Output Impedance: 50 ohms unbalanced (coax cable).
Power Requirements: (Gonset G-76 A.C. Supply - Model 3349).
(Gonset G-76 D.C. Supply - Model 3350).

(1) 12.6 volts A.C. or D.C. at 4.67 amperes.
This reduces to 2.17 amps. when the transmitter function switch is set on "FL OFF",
thus allowing for reception only with mini-
mum battery drain.

(NOTE: Transmitter oscillator tube is not
turned off in this position.)

(2) 225-275 volts D.C. at 90 MA.

(3) 500-625 volts D.C. at 200 MA., resting cur-
rent, 330 MA. on voice peaks. (250 MA. aver-
age drain on phone.

Dimensions: 12-5/8" wide, 5-1/8" high, 10-1/2" deep.

Shipping Weight: 21 pounds
FIG. 2 FRONT PANEL CONTROLS
RECEIVER CONTROLS

Tuning Dial: 8:1 Planetary vernier. Dial scales printed on rotating disc.

Volume Control: Functions as an audio gain control in A.M. reception and R.F. gain, or sensitivity control, in SSE or CW reception. The push-pull switch on this control switches the automatic noise limiter on (in) and off (out).

Function Control:

<table>
<thead>
<tr>
<th>Position</th>
<th>Mode</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AM</td>
<td>Cal ON</td>
</tr>
<tr>
<td>2</td>
<td>AM</td>
<td>Cal OFF</td>
</tr>
<tr>
<td>3</td>
<td>SSR-CW</td>
<td>Cal OFF</td>
</tr>
<tr>
<td>4</td>
<td>SSE-CW</td>
<td>Cal ON</td>
</tr>
</tbody>
</table>

NOTE: The 100 Kc. calibrator (Gomset Model 3269) is a plug-in accessory available as optional equipment. It can be switched on in both A.M. and SSR-CW positions.

BFO Pitch Control: Marked "L" and "U" to indicate approximately the positions for lower and upper sideband reception.

Dial Set: For minor correction of dial calibration.


NOTE: This control also switches bands in the transmitter.

Bandswitch #2: This control selects the frequency range of the pi matching system, which functions as receiver input circuit, and transmitter output circuit. It has 5 ranges, marked "3.5, 7, 14, 21-28, 50". Note that the 21 and 28 Mc. bands are included in the same position.
TRANSMITTER CONTROLS

Function
Control:

Position 1  FIL.OFF reduces heater drain when receiving only.

Position 2  Tune. Voltage applied only to oscillator. Multi.
meter registers grid MA. to final amplifier.

Position 3  Low Power. Plate and loading should be adjusted in this
position to load to 2 or 3 on meter scale. Approximately
20 watts input to final A"M" phone.

Position 4  High power. Full HV applied to final and modulator.
Approximately 100 watts A.M.

Position 5  CW. Voltage removed from modulator and modulation trans-
former shorted out. Approximately 120 watts input.
NOTE: Meter reads total cathode current to final
amplifier in Positions 4 and 5.

V F O:
Driven by a planetary drive on 3.5, 7, 14, 21 and 28 Mc.
ranges. Not operative in the 50 Mc. band. Two sockets
are provided for 6- meter crystals or external VFO.

Spot:
Toggle switch turns VFO on for monitoring frequency
in receiver. Also functions with crystals when they
are used.

Grid:
With function switch in "tune" position, this control
is adjusted for maximum grid current, as indicated by
the tuning meter.

Drive:
3 positions, marked "1-2-3", indicating low, medium
and high respectively. After tuning "grid" for
maximum grid current, the drive control is set to
the position which falls within the grid current
range on the meter scale.

Plate:
Tunes final plate circuit. With the function switch
in low or high power, or CW position, tune plate con-
trol for dip in meter indication.

Loading:
Output capacitor of pi matching system. Adjust for increase
in TUNE position for meter reading of 2 or 3 on the meter
scale. Adjust for final cathode current of 150 MA max.
"plate" tuned for dip, function switch in high power position.

Main
Supply Switch: Heavy-duty toggle turns supply on or off.
REAR CONTROLS

CW Key Jack: Driver Cathode Keying

Test Jack: Final amplifier grid current. For metering grid current when final is operating. (Grid current is metered with panel meter when function switch is in "tune" position, but not when final is actually operating.)

VFO/Crystal Switch: For switching from VFO to crystal operation.

Crystal Socket: Dual type for low frequency bands and 6-meter band. (VFO does not operate in 6-meter, 50 Mc. band.)

NOTE: Two crystals may be inserted in this dual socket for 6 meters, and selection between them made with the VFO crystal switch.

Power Connector Plug

Microphone Jack

Microphone Gain Control

Speaker Jack

S Meter Zero Adjust

Antenna Connector Jack UHF, coax type 50-239.
INSTALLATION

After unpacking the Gonset G-76 Transceiver, check to make sure all tubes are in place. Check all controls for normal movement. Turn main power switch to OFF position.

For fixed-station operation, connect the Gonset G-76 A.C. power supply by:

1. Connecting Plug P1 at back of chassis.
2. Connecting A.C. cord to power line.

For mobile operation, connect the Gonset G-76 D.C. power supply by:

1. Connecting Plug P1 at back of chassis.
2. Connecting positive and negative terminals of power supply to 13.4 volt D.C. source.
3. Connecting 3.2 ohm speaker to speaker jack at back of chassis.

High voltage to final amplifier and modulator does not appear anywhere in the transceiver proper until the T/R relays close. A relay built into the A.C. power supply, and the D.C. power supply, disconnects the H.V. lead from the supply and grounds it. Thus, when in receive position, the highest voltage present in the transceiver is the nominal 275 volts D.C. from the medium voltage supply. The protective H.V. relay in the power supply is energized when the T/R relays in the transceiver close.

The T/R relay will not operate when the transmitter function switch is in the "FIL OFF" position. In this position, heater current to the modulators and final amplifier is disconnected, conserving battery power when receiving only, and also preventing accidental tripping of the T/R button of the microphone.

The T/R relays will not operate when the VFO "SPOT" switch is on. The transmitter will not operate in the "SPOT" position due to lack of excitation, and final amplifier tube failure could occur before it is realized that the VFO switch was unintentionally left on the "SPOT" position. With the built-in safety feature, the T/R relays will not function until the VFO switch is down in the operate position.

The A.C. power supply includes a high voltage slo-blo fuse to protect it from high voltage short circuits, as well as a fused line plug.
RECEIVER OPERATION

Amplitude Modulated Signals:

(A) Supply Switch.................On.
(B) T/R Switch....................Receive position.
(C) Function Control...............Position 2.
(D) ANL..............................OFF or ON, as required.
(E) Bandswitch #1..................Set to desired range.
(F) Bandswitch #2..................Set to desired range.
(G) Tuning Dial....................Adjust for maximum "S" meter reading on desired signal.
(H) Plate and Loading Adjustment......When using the G-76 for receiving only, the Pi network should be adjusted for maximum "S" meter reading on a signal.
   IMPORTANT: See Note (4) Operating Notes.
(I) Volume Control................Set to desired volume level.

Single Sideband Signals:

(A) Supply Switch..................On.
(B) T/R Switch.....................Receive position.
(C) Function Control...............Position 3.
(D) Bandswitch #1..................Set to desired range.
(E) Bandswitch #2..................Set to desired range.
(F) BFO Frequency..................Set to "U" for upper sideband, or "L" for lower sideband.
(G) Tuning Dial....................Adjust for most natural voice quality.
(H) Volume Control................Set to desired volume level.

CW Code Signals:

(A) Supply Switch..................On.
(B) T/R Switch.....................Receive position.
(C) Function Control...............Position 3.
(D) Bandswitch #1..................Set to desired range.
(E) Bandswitch #2..................Set to desired range.
(F) BFO Frequency ............. Set to either "U" or "L" mark.

(G) Tuning Control............. Adjust for maximum loudness of desired CW signal. Then go back to the BFO control and set it for desired pitch. This adjustment need only be made when it is found desirable to change pitch.

(H) Volume Control............. Set to desired volume level.

OPERATING NOTES:

(1) To check tuning dial calibration accuracy, switch the calibrator on (receiver function control, Positions I or 4), and locate the nearest 100 Kc. marker signal on the dial. Ordinarily the dial set control will set very close to 12 o'clock (straight up) when the tuning dial is reading correctly. With long-term aging effects, humidity, etc., dial accuracy may gradually shift, requiring compensation with the dial set control to varying degrees on each band. Eventually, the oscillator adjustments should be reset to restore original dial accuracy (See alignment procedure). These effects are generally spread over many months of operation. Note that the 100 Kc. calibrator (Gonset Model 3269) is an optional plug-in accessory and must be purchased as an extra.

(2) If it is not known which sideband a station is transmitting, it may be necessary to first try one side, and then the other. It will be found that when the BFO is set to the wrong side, the signal cannot be tuned to an understandable point. In such a case, move the BFO control to the other side, and adjust the tuning dial again until a natural voice is heard.

(3) Pi input circuit (plate tuning and loading) may be adjusted for maximum sensitivity. However, these adjustments are most effectively made while adjusting the transmitter.

(4) Whenever the Pi controls have been adjusted for transmitting on a particular band, DO NOT READJUST WHEN RECEIVING. These controls are fairly broad for receiving, and each amateur band may be tuned over the entire range without readjustment. For transmitting these controls are quite sharp and critical. Thus, once they are adjusted for transmit, they should be left alone while receiving.
TRANSMITTER OPERATION

CAUTION: The following steps must be followed in sequence to prevent damage to the final amplifier.

Amplitude Modulated Signals:

(A) Power Switch.................On.
(B) Tune receiver to desired frequency.
(C) Spot Switch...............Spot position and adjust VFO for maximum meter indication.
(D) Spot Switch..............Off.
(E) Loading Control............Minimum or CCW.
(F) Transmitter Function Switch..."Tune" Position.
(G) Drive Control..............Position 1 on 80, 40 & 20 meters. Position 2 or 3 on 10, 15 & 6 meters.
(H) T/R Switch....................Transmit position.
(I) Grid Tuning................Maximum meter indication.
(J) Drive Control..............Set to position corresponding to IG range on meter scale. (NOTE: Minimum of 1/2 to 2 miles as measured at IG meter jack on rear of unit).
(K) Transmitter Function Switch...Low Power
(L) Plate Tuning...............Quickly adjust for sharp dip in meter reading.
(M) Plate Loading...............Increase gradually while adjusting plate control for meter dip until meter reads between 2 and 3.
(N) T/R Switch.................Off
(O) T/R Function Switch........High Power
(P) T/R Switch..................ON
(Q) Loading Control...........Increase gradually while adjusting plate control for meter dip, until meter reads 150 MA max.

Caution
Do not change function switch from low to high or high to low power with T/R switch in "ON" position.

CW Signals:

(A) Follow above steps for amplitude modulated signals.
(B) Transmitter Function Switch.....CW position.
FIG. 4 CHASSIS, TOP VIEW
RECEIVER ALIGNMENT

(Trans. Function Switch at "PIL.OFF")

Step #1

262 Kc. I.F. (1) Connect Signal Generator to Pin 7 of 6BE6 (V6). Use blocking capacitor to protect generator. Approximately .03 mfd. Peak I.F. transformers, T3, T4 and T5 top and bottom, for maximum AVC. Receiver function switch in "AM" position.

(2) After peaking T3, T4 and T5, switch receiver function to "CW-SSB". Set BFO control to 12 o'clock. Adjust T6 (top adjust only) for zero beat with signal generator. (Generator still set to 262 Kc.)

Step #2

2065 Kc. I.F. Receiver Function set to "AM".

(1) Connect Signal Generator to Pin 2 of 6USA (V5). Set generator frequency to exactly 2065 Kc. Adjust 2327 Kc. Oscillator (T2) until signal appears.

(2) With Signal Generator set to 2065 Kc., adjust transformer, T1, Top and Bottom, for peak AVC.

Step #3

50 Mc. band alignment...Connect Signal Generator to antenna connector on rear of chassis. Bandswitch both set to "50 Mc." position. Receiver function selector set to "AM" position. Dial set control at 12 o'clock. Set receiver tuning dial to 50 Mc. position. Set signal generator to exactly 50 Mc. (Or, preferably, use a crystal-controlled signal at 50 Mc., or some sub-multiple of 50 Mc.)

(1) Adjust receiver oscillator coil, L27, until signal tunes in at 50 Mc. point on tuning dial.

(2) Set signal generator to exactly 54 Mc. and check high frequency end of tuning dial. Signal should appear at 54 Mc. mark. If it does not, adjust trimmer, C63, until it does.

(3) Go back and check 50 Mc. By adjusting coil, L27, at 50 Mc., and trimmer, C63, at 54 Mc., repeat until 50 and 54 Mc. appear at their respective markings on the dial.

(4) Adjust coil, L21, for maximum AVC voltage.

(5) Recheck 50 and 54 Mc. points for possible interaction from L21 adjustment.
(6) Pi input circuit (plate tuning and loading) may be peaked for maximum AVC, although this is not essential unless sensitivity measurements are being conducted.

**Step 3/4**

Alignment, HF bands...After the 50 Mc. VHF band has been properly aligned, as per Step 3, the other bands may be aligned. Following the accompanying chart, adjust the oscillator and mixer coils at the given frequencies:

<table>
<thead>
<tr>
<th>Band</th>
<th>Sign.Gen. Freq.</th>
<th>Oscillator Coil</th>
<th>Mixer Coil</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 Mc.</td>
<td>23.7</td>
<td>L26</td>
<td>L20</td>
</tr>
<tr>
<td>21</td>
<td>21.3</td>
<td>L25</td>
<td>L19</td>
</tr>
<tr>
<td>14</td>
<td>14.2</td>
<td>L24</td>
<td>L18</td>
</tr>
<tr>
<td>7</td>
<td>7.2</td>
<td>L23</td>
<td>L17</td>
</tr>
<tr>
<td>3.5</td>
<td>3.8</td>
<td>L22</td>
<td>L16</td>
</tr>
</tbody>
</table>

Adjust the oscillator coils until the generator signal appears at the correct dial position. Then adjust the mixer coil for maximum signal. Finally, recheck the oscillator setting for possible interaction from mixer tuning.

Note that the 5 HF bands have only one oscillator adjustment. Trimmer C63 is to be used only for tracking the 50-54 Mc. band, after which the HF bands should track closely. If any of the HF bands do not track closely, it means that capacity tolerances are off, and a capacitor change may be necessary.

The Pi input circuit need not be tuned for peak signal when adjusting the oscillator or mixer. For sensitivity measurements, however, the Pi network should be set to the proper band, and adjusted for maximum signal.

**Sensitivity** of the G-76 receiver section will measure approximately 6 db signal-plus-noise to noise ratio with an input of 1 microvolt at 50 ohms.

**Image Rejection**, typical figures:

- 60 db at 3.5 Mc.
- 60 db at 7 Mc.
- 50 db at 14 Mc.
- 45 db at 21 Mc.
- 40 db at 28 Mc.
- 30 db at 50 Mc.

The primary image will occur at a frequency 4.13 Mc. higher than the desired signal, except in the 50-54 Mc. band, where the image will occur 4.13 Mc. below the signal.

**Selectivity**: 3 Kc. at 6 db down, nominal. Less than 14 Kc. wide at 60 db down.
TRANSMITTER ALIGNMENT

Step #1 - VFO Adjustment

(1) Set bandswitches to 7 Mc. and receiver function switch to A.M. Set receiver tuning dial to 7 Mc. Set VFO crystal switch on rear of chassis to VFO position. Throw VFO spot switch up to "SPOT" position. Set VFO control to 7 Mc. and adjust L1, top of rear - right shield can, until a strong signal is received. This adjustment sets the VFO frequency for the 3.5-4 and 7-7.3 Mc. bands.

(2) Set bandswitches to 14 Mc., receiver function to A.M., and receiver tuning dial to 14 Mc. Set VFO control dial to 14 Mc. and throw switch to "SPOT" position. Adjust L2, top of shield can next to L1, until a signal is received. This adjustment sets the VFO for the 14-14.35, 21-21.45 and 28-28.7 Mc. bands.

NOTE: The 50 Mc. band does not use the VFO, but requires a crystal of 5334 to 5 Mc. frequency inserted in the upper crystal position at the back of the chassis. Crystals may be used on the lower HP bands by inserting them in the lower crystal position, and switching the rear slide switch down to the "Xtal" position.

Step #2 - Oscillator Plate and Multiplier Adjustment

(1) 80 Meters...set transmitter function switch to "TUNE" position, "SPOT" switch down, bandswitches at 3.5 Mc. position, and VFO dial at 7 Mc. Set "DRIVE" control at Position #1. Throw T/R toggle switch up to the transmit position. In the tune position, only the 12v67's in the oscillator and multiplier stages are functioning, so there is no concern for the final amp. or modulator at this time. Adjust the "Grid" tuning for maximum meter indication. At 4 Mc. the grid tuning capacitor should be nearly open. The adjustable core of L7 should be left at a position where both 3.5 and 4 Mc. can be peaked with the grid tuning dial.

(2) 60 Meters...set bandswitches to 7 Mc. position, and VFO dial to 7 Mc. with T/R switch in "T" position, adjust "Grid" tuning for maximum meter reading. This should occur with the grid tuning capacitor about 80% meshed. Adjust Coil L8 for this condition. Now, set the VFO to approximately 7.2 Mc. and adjust Coil L3 for maximum meter reading. L3 is the oscillator plate coil.

(3) 20 Meters...set bandswitches to 14 Mc. and VFO dial to 14 Mc. with the T/R switch up in the "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 80% meshed. Coil L9, associated with this band, is not adjustable. This test merely serves as a check on L9 and its associated capacitor C21.

(4) 15 Meters...set bandswitches to 21 Mc. and VFO dial to 21.25 Mc. With the T/R switch in "T" position, adjust grid tuning for maximum meter reading. This should occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L4, the oscillator plate coil for maximum meter reading.

(5) 10 Meters...set bandswitches to 28 Mc. and VFO to 29 Mc. With T/R switch in "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L5, the oscillator plate coil, for maximum meter reading.
6 Meters...set bandswitches to 50 Mc. Insert a 6-meter crystal in upper crystal socket. Its frequency must be between 8334 and 9000 Kc., preferably somewhere in the lower part of this range. Switch to "T" position and adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed.

**Step #3 - Final Power Amp. Adjustment**

1. Connect dummy load, 52 ohm impedance to antenna jack.

2. Set neutralizing capacitor tentatively to about 25% mesh.

3. Set bandswitches to 3.5 Mc., VFO dial to 3.8 Mc., tune grid circuit, as per preceding instructions. After peaking grid current (meter reading) with the grid tuning dial, set the drive control to position which provides a meter reading nearest to the "1G" range on the meter scale. On 80 meters, this will most likely be with drive in Position 1.

4. Turn the loading control to minimum, CCW position. Now set the transmitter function switch to low power, and T/R switch to "T" position. Quickly adjust plate tuning for a sharp dip in meter reading (1P). Now switch to high power position. **CAUTION:** Dangerous voltages are present in the circuitry at this time. Keep hands out!

The output power indicator (watt meter) should now be indicating about 30 watts of power. Gradually increase the loading control, at the same time carefully tuning the plate control for meter dip, until the meter reads 150 to 160 MA. This is the operating range for A.M. phone in the high power position. Power input to the 6DJ5 is now approximately 100 watts.

5. Repeat the above procedure on each of the other bands. Always keep the plate tuning adjusted for the dip in meter reading, particularly in the high power position, as the 6DJ5 can be seriously overloaded if this is not done.

6. Neutralization. This adjustment must be a compromise, since it changes slightly between bands. Tentatively, make neutralizing checks on 15 meters first. Adjust the trimmer C30 until the meter reading does not increase sharply under modulation. Preferably, it should not increase at all. Grid tuning will have some reaction on this adjustment.

7. 6-meter neutralization employs a feedback link which must also be adjusted for minimum increase of meter reading. This link is not a critical adjustment, but polarity must be correct. The twisted line which connects the links is color coded. If connected the wrong way, the amplifier will, of course, be extremely unstable on 6 meters.

8. Modulation. Set the Mic. Gain to about its mid-point and insert a high impedance mike (Gonset 3240) in the jack. The swing in modulator plate current will not show on the front panel meter. The percentage of modulation should be checked by some external means.

9. A test jack on the chassis rear may be used for metering grid current when final amp. is operating. Nominal grid current is 2 MA.
TRANSMITTER VOLTAGE CHART

14 Mc. Band - VFO Control

<table>
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<tr>
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<tr>
<td>V2 12BY7A</td>
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(Spot Switch UP)

(Tune Position - 6DQ5 and 6DQ6's not operating)

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(Lo Power Position - 6DQ5 and 6DQ6's operating at med. voltage)

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(Hi Power Position - 6DQ5 and 6DQ6's operating at high voltage)

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(Caution)
# RECEIVER VOLTAGE CHART

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<td>V5 6U8A</td>
<td>+35 -2 +35 6.3* 0 +275 0 0 -2</td>
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<td>V6 6BE6</td>
<td>-7 0 12.6* 6.3* +265 +100 -2 --- ---</td>
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<td>V7 12BA6</td>
<td>-2.5 0 0 12.6* -215 +85 +1.2 --- ---</td>
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<td>V10 12AU7</td>
<td>+240 0 +85 0 12.6* +40 0 +2 6.3*</td>
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<td>V11 0B2</td>
<td>+105 0 0 0 +105 0 0 --- ---</td>
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Bandswitch at 14 Mc.
Receiver Function Switch at "AM CAL."
Transmitter Function Switch at "FUL OPP"
Antenna Disconnected.
*A.C. volts
G-76 AC POWER SUPPLY SPECIFICATIONS

Power Requirements:
Transmit - 117 VAC at 3 amps.
Receive - 117 VAC at 1.5 amps.

High Voltage Output:
600 VDC at 250 MA.
Regulations 10%, Ripple 5.0 VRMS

265 VDC at 120 MA.
Regulation 10%, Ripple .05 VRMS

Filament Output:
12.6 VAC @ 5 amps.

Dimensions:
12-5/8" wide, 5-1/8" high, 10-1/2" deep.

Fuses:
2-5 amp. 250 V. 3 AG
1-3/4 amp. 250 V. 3 AG

G-76 DC POWER SUPPLY SPECIFICATIONS

Power Requirements:
Transmit - 13.4 VDC at 22.5 amps.
Receive - 13.4 VDC at 10 amps.

High Voltage Output:
600 VDC at 300 MA.
Regulation 10%, Ripple 2.5 VRMS

250 VDC at 130 MA.
Regulation 10%, Ripple .8 VRMS.

Filament Output:
D.C. input carried through.

Dimensions:
8.18" wide, 3-1/2" high, 6-1/2" deep.

Fuses:
2-30 amp. suggested.

SHIPPING WEIGHT

D.C. Power Supply: 10 pounds
A.C. Power Supply: 32 pounds

28
###-electronic-parts-list-

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<th>Part No.</th>
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