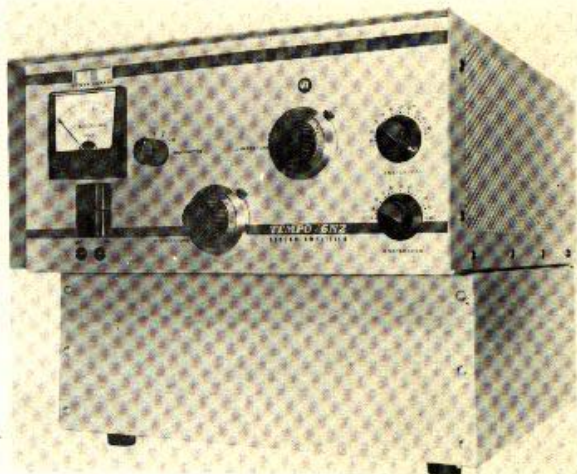


**TEMPO**

**6N2**



OPERATING AND MAINTENANCE MANUAL

6 AND 2 METER  
AMATEUR BAND LINEAR AMPLIFIER

## 6N2 SPECIFICATIONS

- **TYPE AND FUNCTION OF EQUIPMENT** — The Tempo 6N2 is a 2000 watt input (1000 watts for CW and FM) nominal one stage linear amplifier using two highly linear, grounded grid triodes. The 6N2 operates on the 6 and 2 meter amateur bands.
- **FREQUENCY RANGE** — 50 - 54 MHz and 144 - 148 MHz.
- **TUBE COOLING** — Forced air cooling.
- **TYPE OF EMISSION** — SSB, CW, and FM.
- **DUTY CYCLE** —
 

SSB	100% at full output
CW	100% at full output
FM	50% at full output
	(3 minutes on 3 minutes off)
	100% at 250 ma IP
AM	100% at 250 ma IP
- **POWER REQUIREMENTS** — 115/230 VAC, 50/60 Hz, 25/15 amps.
- **DRIVE POWER REQUIRED** — 50 - 100 watts.
- **TUBE COMPLEMENT** — Two Eimac 8874 grounded grid triodes.
- **INPUT POWER** — 2 kilowatt PEP SSB, 1000 watts FM and CW.
- **OUTPUT POWER** — 1000 watts SSB, 500 watts FM and CW.
- **PROTECTIVE DEVICES** — Circuit breaker on input line, cathode fuse, relay supply fuse, and a warm-up delay relay.
- **METERING** — Relative RF Output power indicator, grid current (0-100 ma), Plate current (0-1 amp), and High Voltage (0-5000 VDC).
- **DIMENSIONS** — About 11" high x 14" wide x 14" deep.
- **OUTPUT IMPEDANCE** — 52 ohms unbalanced with SWR not exceed 2:1.
- **HARMONIC AND OTHER SPURIOUS EMISSIONS** — Second Harmonic: -40 db. Third Order Distortion: -35 db or better at full power output.
- **WEIGHT** — 80 pounds (85 pounds shipping).

## WARRANTY

Henry Radio warrants each new product sold by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part in exchange for any part of any unit which under normal installation, use, and service discloses such defect, provided the unit, or part, is delivered by the owner to us intact for our examination, with all transportation charges prepaid to our factory, within ninety days from the date of sale to the original purchaser and provided that such examination discloses in our judgment that it is thus defective. Should a malfunction be suspected, write in detail to our service department for suggestions concerning the operation, repair, or return of your unit if it should prove necessary.

This warranty does not extend to any of our radio products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, or to use in violation of the instructions furnished by us, nor extend to units which have been repaired or altered outside of our factory, nor in cases where the serial number thereof has been removed or defaced or changed, nor to units used with accessories not manufactured or recommended by us.

Any part of a unit approved for remedy or exchange hereunder will be remedied or exchanged by Henry Radio without charge to the owner. This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Henry Radio reserves the right to make any improvements to its products which it may deem desirable without obligation to install such improvements in it previously sold products.

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# *Henry Radio*

11240 West Olympic Boulevard, Los Angeles, California 90064 213/477-6701

## TEMPO 6N2 OPERATING AND MAINTENANCE MANUAL

### SECTION 1. INTRODUCTION

The Tempo 6N2 is a sophisticated one-stage amplifier covering the 6-meter and the 2-meter amateur radio bands. It uses two ultra-linear high-mu triodes in a grounded-grid configuration. The 6N2 is a complete table-top 2000 watt PEP amplifier with a built-in solid-state power supply, an internal blower and a relative power indicator, using high-quality components that are more than adequate to handle the power requirements of the unit. The amplifier is normally supplied for operation from a three-wire, 220 volt, 50/60 cycle source, and can be adapted easily for operation from a 115 volt, 50/60 cycle line supply.

#### CAUTION

To avoid possible damage to the output tubes resulting from improper tuning, it is recommended that the operator read this manual, especially Sections 2, 3 and 4 before attempting operation. DANGEROUSLY HIGH VOLTAGES ARE PRESENT INSIDE THE 6N2 WHENEVER THE POWER SWITCH IS IN THE ON POSITION. EXTREME CAUTION MUST BE USED WHEN THE OUTSIDE COVER IS REMOVED.

### SECTION 2. INSTALLATION

#### 2.1 UNPACKING

Remove the amplifier from its shipping carton and examine it for visible damage. If the amplifier has been damaged in shipment, save the box and the packing material, and notify the transportation company immediately. In any case, it would be a good idea to save the box and the packing material as they are expensive to replace and very useful should it become necessary to move the amplifier to another location.

The following accessories are included with the 6N2:

- |                             |                              |
|-----------------------------|------------------------------|
| 1 Instruction Manual        | 5 3 AG, 6 ampere fuses       |
| 2 PL-259 Coaxial Connectors | 1 Cinch P-302-CCT 2-Pin Plug |
| 2 RG-58/U Cables            | 1 Allen Wrench               |
| 1 Relay Control Cable       | 1 Warranty Card              |
| 5 8 AG, 1.5 ampere fuses    |                              |

#### 2.2 OPERATING LOCATION

The 6N2 may be located wherever desired, provided it has adequate ventilation and an adequate power source for its operation. If either the top of the cabinet is covered or the blower inlet at the rear of the cabinet is blocked, tube damage will result. Make certain that there is always adequate air space around the amplifier.

#### 2.3 CABLING

All of the following connections must be made before operation of the amplifier.

##### POWER CABLE

The AC power cord is a three-conductor cable. The green lead connects directly to ground and the black and white connect to 230 volts, 50/60 cycles. Select a 3-prong plug that matches the power receptacle at the operating position and fasten the plug to the power cable. Be sure that 230 VAC is applied to the black and white wires and the neutral connects with the green wire of the power cable.

#### CAUTION

The amplifier can be damaged if the green wire is connected to one of

the 230 volt power leads.

For 115 volt operation, refer to the rewiring instructions in Section 6.

## ANTENNA, DRIVE, RELAY CONTROL AND BIAS CONTROL

### NOTE

The 6N2 does not include antenna and biasing relays because most operators prefer to make their own antenna switching arrangements adaptable to their station requirements. A 12 VDC power supply is built into the 6N2, available at the ANTENNA RELAY POWER jack on the rear panel, for relay control. Do not use any other power source for operation of the relays.

A time delay relay in the 6N2 prevents application of voltage to the relays until the tubes have warmed up. This provides about one minute of warmup time, and prevents operation of the amplifier until the contacts of the time delay relay have closed together.

The relay system must provide for bias control of the 6N2, as discussed under ANTENNA RELAY CONTROL. Figures 1, 2 and 3 show three suggested connections for control of the antenna and biasing relays.

**ANTENNA** — Use RG8/U coaxial cable, or its equivalent, to connect the selected output of the 6N2 into the preferred antenna relay system. Two PL-259 coax connectors are included in the accessory kit for making up the cables as shown in Figure 4. The connectors mate with 6 METER OUT and the 2 METER OUT jacks on the rear panel of the 6N2.

### CAUTION

Do not operate the 6N2 without a load, or into a load with an SWR greater than 2:1. If there is any doubt in the operator's mind about the SWR of his antenna system, the SWR should be measured with the output of the exciter alone, with the 6N2's multimeter switch at EXC. ONLY.

**RF IN** — The RG58A/U drive cables (supplied with the amplifier) connect the 6 M INPUT and the 2 M INPUT BNC connectors, located on the 6N2's rear panel, either directly to the exciter, or into the antenna relay system, through the PL-259 connectors at the other ends of these cables.

**ANTENNA RELAY CONTROL** — Plug the gray relay power cable (supplied in the accessory kit) into the ANTENNA RELAY CONTROL jack on the 6N2's rear panel. After the 60 second warmup period has been completed (indicated by the lighting up of the second pilot lamp), 12 VDC is provided at this jack, supplying power for operation of the relay system. The 12 VDC is present with the MULTIMETER switch in any position except EXC. ONLY.

**HIGH BIAS** — The 2-pin Jones plug, (included in the accessory kit) plugs into the HIGH BIAS socket in the rear panel of the 6N2 to connect this control jack into the relay system. When the MULTIMETER switch is in the EXC. ONLY position, a high tube bias makes the 6N2 inoperative. This bias is provided by the volt tage drop across 10 K ohm resistor R26. With the MULTIMETER switch in other positions, the relay system is operating and the relays should short the two pins of the plug during transmission (shorting directly across R26) to remove the high tube bias, permitting operation of the 6N2. Use 16 gauge hookup wire to connect this plug into the relay system.

## SECTION 3. OPERATING CONTROLS

### 3.1 FRONT PANEL CONTROLS (See Figure 5)

#### OFF-ON SWITCH (1 on Figure 5)

This is a 15 ampere circuit breaker which applies line voltage to the primaries of the 6N2 power transformer, the blower system and the time delay relay. In addition to turning the amplifier on and off, it provides protection against damage that might result from overload conditions.

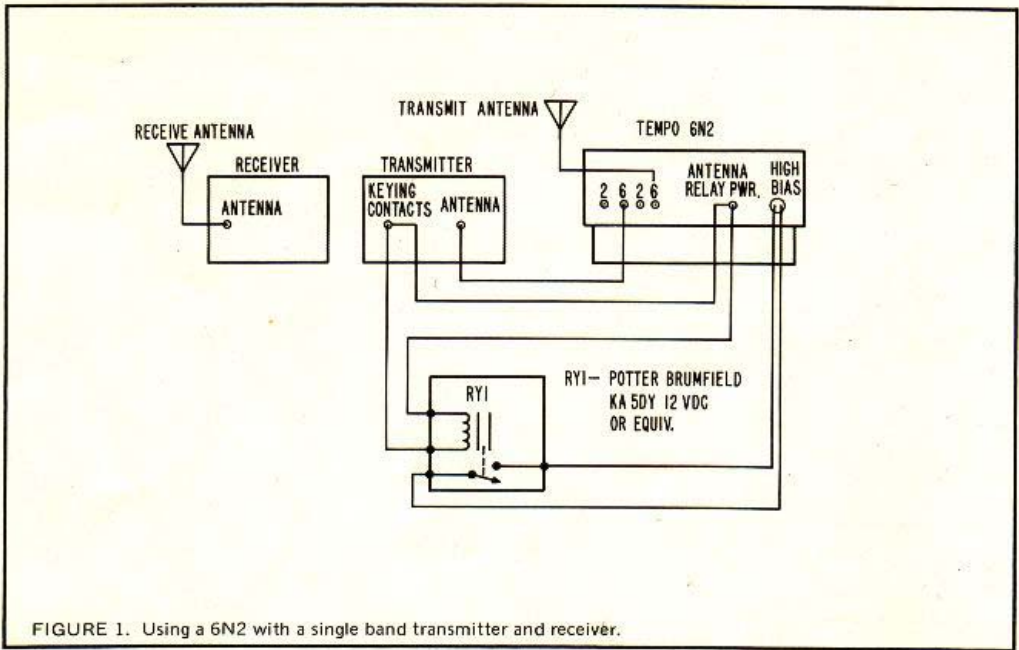


FIGURE 1. Using a 6N2 with a single band transmitter and receiver.

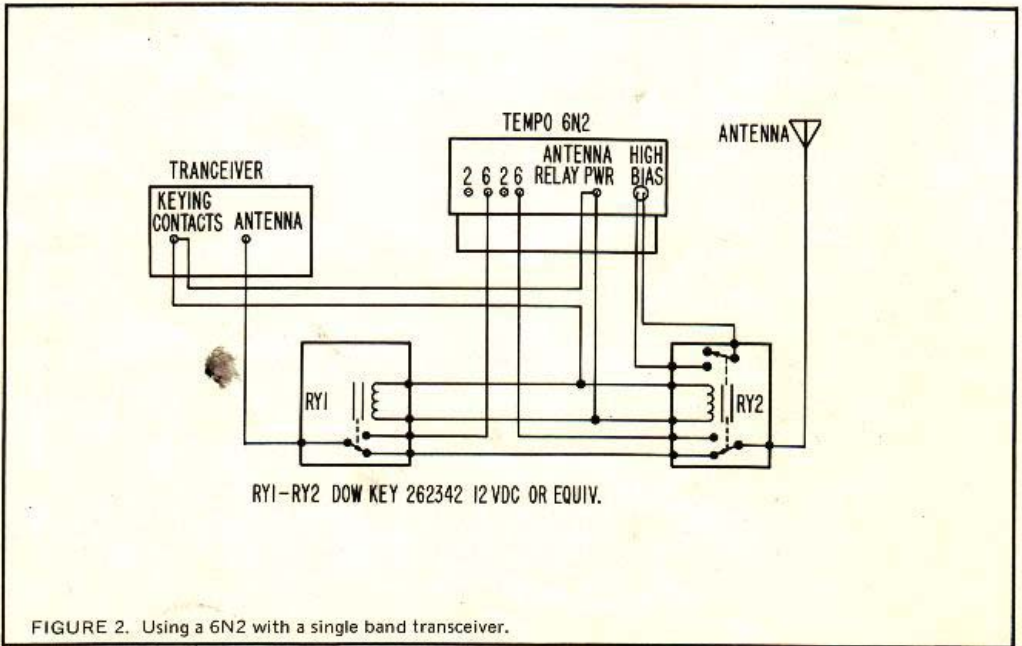


FIGURE 2. Using a 6N2 with a single band transceiver.

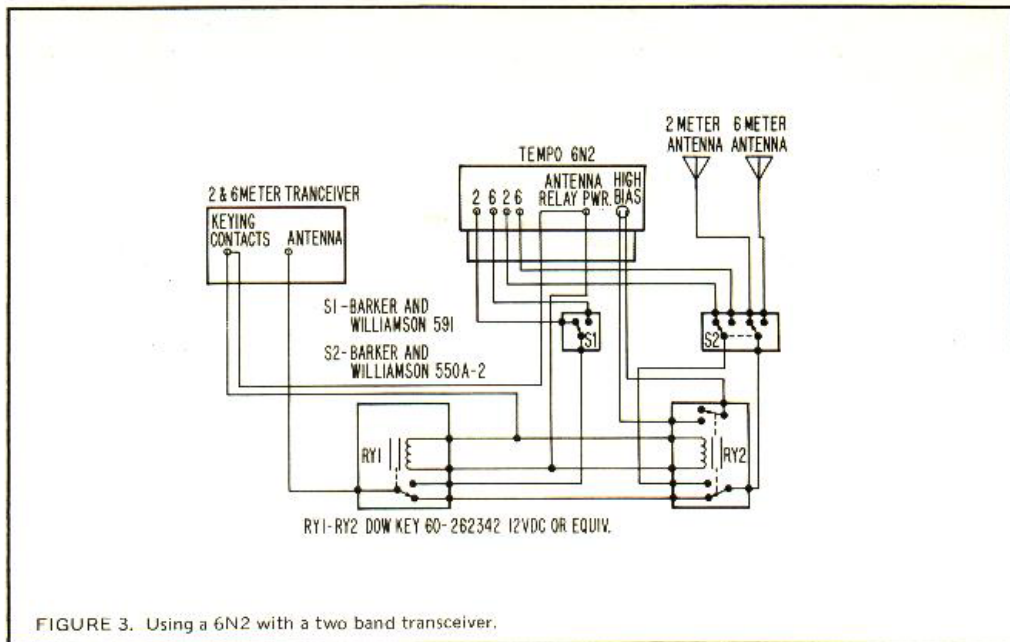


FIGURE 3. Using a 6N2 with a two band transceiver.

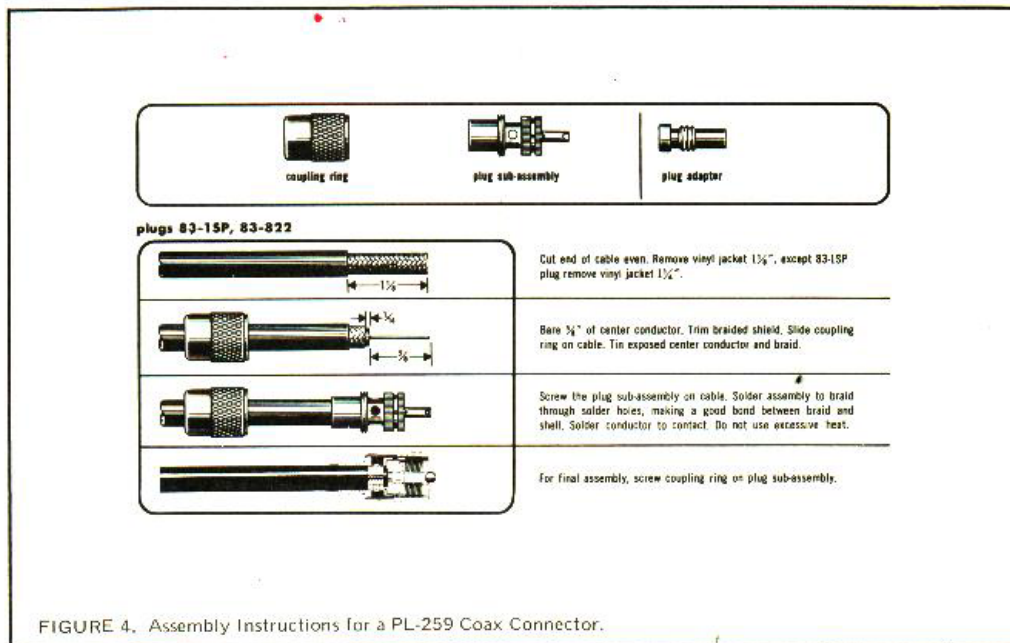


FIGURE 4. Assembly Instructions for a PL-259 Coax Connector.

#### MULTIMETER SWITCH (2 on Figure 5)

This 4-position rotary switch selects the function of the multimeter as described below:

EXC. ONLY — With the switch in this position, no voltage is present at the ANTENNA RELAY jack on the rear panel of the 6N2, and the external relay system is not activated. The left pilot lamp remains lighted.

IG — With the switch at this position the meter indicates the grid current of the 6N2 when drive is applied. With no drive applied, the meter needle may drop below zero. The full scale reading is 100 ma DC. The 8874 tubes may be damaged if the grid current is held at more than 80 ma for any length of time.

IP — With the switch in this position, the meter indicates the plate current of the 6N2. The full scale reading is 1 ampere DC. With no drive applied from the exciter, the normal resting current is from 60 to 80 ma.

HV — With the switch in this position, the meter indicates the high voltage applied to the plates of the 8874 tubes. The full scale reading in this position is 5000 VDC. Plate voltage should read approximately 2000 VDC.

#### MULTIMETER (3 on Figure 5)

The meter is used to monitor one of three operating parameters, depending on the position of the multimeter switch. For normal operation, the switch is set to IP for monitoring the plate current.

#### POWER OUTPUT INDICATOR (4 on Figure 5)

This electron ray tube gives a relative indication of the output power of the 6N2. As the output power increases, the two beam halves move closer together.

#### 2 METER TUNE CONTROL (5 on Figure 5)

This control is a 15-turn vernier dial connected to the 2 meter tuning capacitor. A vernier reading of 0.00 indicates maximum spacing between the capacitor plates, resulting in the highest tank circuit frequency.

#### 2 METER LOAD CONTROL (6 on Figure 5)

This control tunes the 2 meter output line to minimum reactance. Adjustment of this control matches the output circuit of the 6N2 to the 2-meter transmission line.

#### 2 METER LINK COUPLING (7 on Figure 5)

This screwdriver adjustment is directly above the 2 METER TUNE vernier control. Turning the slotted head counterclockwise increases the coupling to the antenna; turning it clockwise decreases the coupling. This control is adjusted during the 2 meter tune-up procedure, acting like a load capacitor in a conventional linear amplifier.

#### 6 METER TUNE CONTROL (8 on Figure 5)

This control varies the vacuum tuning capacitor in the 6-meter tank circuit. It is a 15-turn vernier control connected to the capacitor. A vernier reading of 0.00 indicates maximum capacitance, resulting in the lowest frequency of the tank circuit.

#### 6 METER LOAD CONTROL (9 on Figure 5)

This control varies the 6 meter load capacitor for matching the 6N2 output circuit to the 6 meter transmission line. Never operate the 6N2 into a 6 meter transmission line that presents a severe mismatch to the output of the 6N2. The recommended SWR should not exceed 2:1. Otherwise, destructive internal arcing can destroy the 6 meter vacuum tuning capacitor.

#### PILOT LIGHTS (10 on Figure 5)

These two lamps are located directly below the OFF-ON switch. When the amplifier is first turned on, the right-hand lamp lights up, indicating that the power supply is on. In about 60 seconds the left lamp lights up, indicating that the contacts of the time delay relay have closed together, completing the circuit to permit operation of the 6N2.



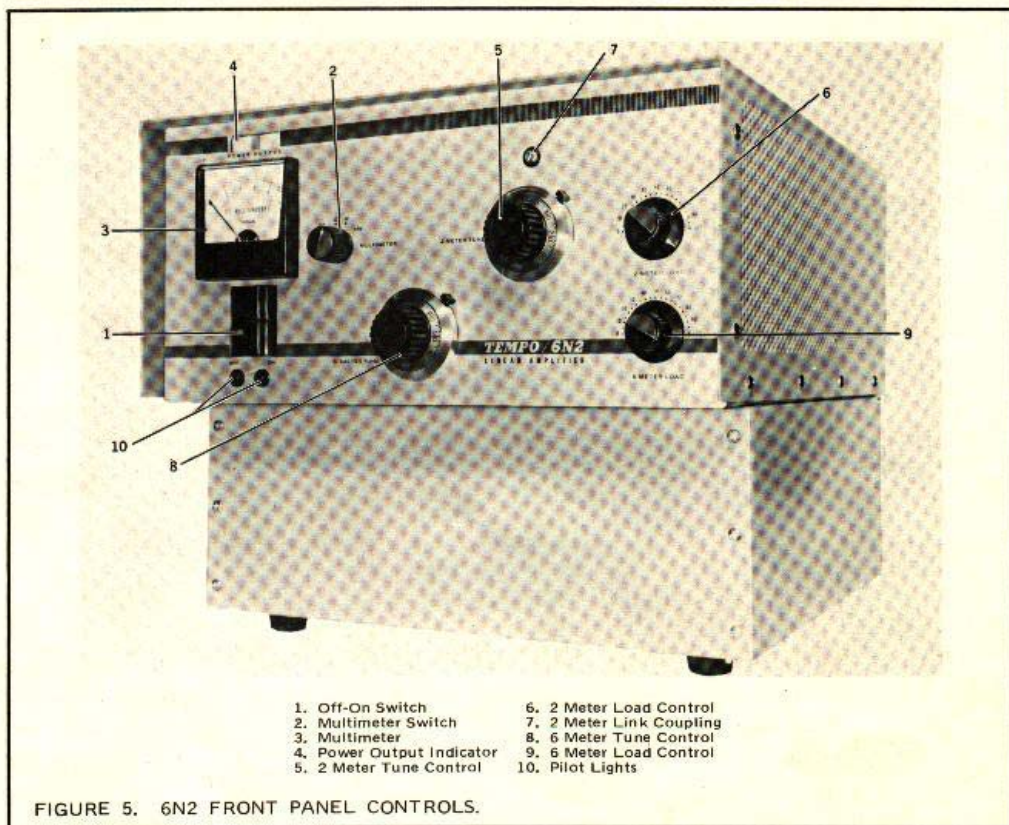


FIGURE 5. 6N2 FRONT PANEL CONTROLS.

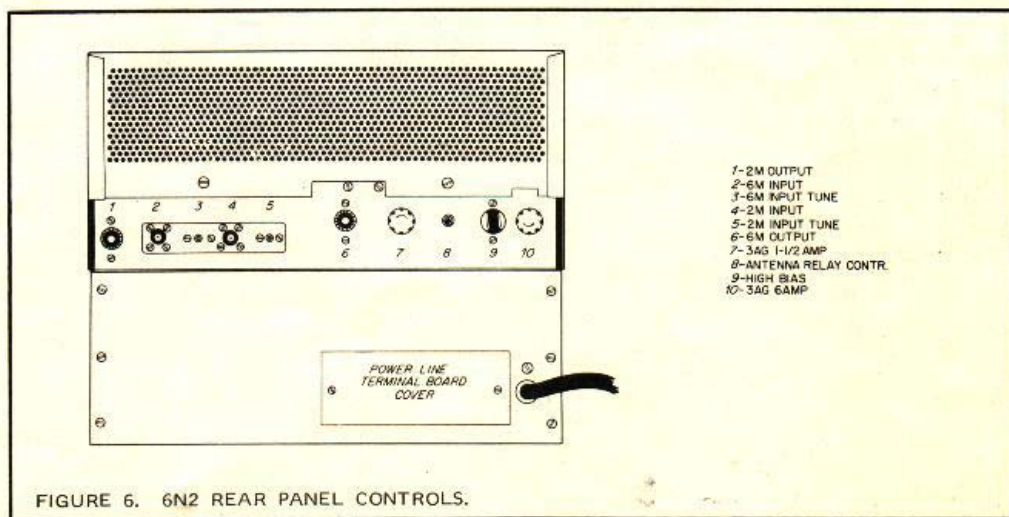


FIGURE 6. 6N2 REAR PANEL CONTROLS.

### 3.2 REAR PANEL CONTROLS

#### 2 METER OUTPUT CONNECTOR (1 on Figure 6)

This UHF type coax connector (J2) must be connected to an appropriate 2 meter antenna capable of accepting the power from the amplifier for 146 MHz operation. No connection is necessary if the 2 meter band is not used.

#### 6 METER INPUT CONNECTOR (2 on Figure 6)

This BNC type coax connector (J5) must be connected to a six meter exciter, using the supplied drive cable, for 50 MHz operation. No connection is necessary if the 6 meter band is not used.

#### 6 METER INPUT TRIMMER CAPACITOR (3 on Figure 6)

The 6N2 is designed, and factory adjusted, for an input impedance of 50 ohms. If the SWR between the 6 meter exciter and the amplifier is too great, use this capacitor (C32) to adjust for the correct input impedance as described in Section 6.

#### 2 METER INPUT CONNECTOR (4 on Figure 6)

This BNC type coax connector (J4) must be connected to a two meter exciter, using the supplied drive cable, for 146 MHz operation. No connection is necessary if the 2 meter band is not used.

#### 2 METER INPUT TRIMMER CAPACITOR (5 on Figure 6)

The 6N2 is designed, and factory adjusted, for an input impedance of 50 ohms. If the SWR between the 2 meter exciter and the amplifier is too great, use this capacitor (C31) to adjust for the correct input impedance as described in Section 6.

#### 6 METER OUTPUT CONNECTOR (6 on Figure 6)

This UHF type coax connector (J3) must be connected to an appropriate 6 meter antenna capable of accepting the power from the amplifier for 50 MHz operation. No connection is necessary if the 6 meter band is not used.

#### CATHODE FUSE (F2) (7 on Figure 6)

This is an 8 AG, 1.5 amp, 250 VAC fuse which protects the cathode circuit.

#### ANTENNA RELAY JACK (8 on Figure 6)

This RCA phono jack (J7) provides 12 VDC to power an external antenna relay system. The voltage at the jack is controlled by the time delay relay so that the 12 VAC does not appear at the jack until after the 60 second warm-up period. With the MULTIMETER switch in the EXC. ONLY position there is no 12 VDC at the jack.

#### HIGH BIAS STAND-BY CONNECTOR (9 on Figure 6)

This 2-pin Jones socket is used, with an external relay system, to switch the amplifier into the transmit mode. During reception (or with the MULTIMETER switch in the EXC. ONLY position) the two pins of J6 are open, not shorted, creating an additional tube bias across R26 to cut off the plate resting current. When the contacts are shorted during transmission, a normal resting current (60 to 80 ma) is restored.

#### CONTROL CIRCUIT FUSE (F1) (10 on Figure 6)

This 3 AG, 6 amp fuse protects the low voltage control circuits.

### 3.3 INTERNAL CONTROLS (See Figure 7)

#### L11 — 6 METER INPUT COIL

This coil can be adjusted to change the resonant input frequency of the 6 meter circuit. Section 6 describes adjustment of the circuit.

#### R20 — PLATE CURRENT CALIBRATION POTENTIOMETER

This potentiometer calibrates the MULTIMETER's plate current reading. See Section 6 for a full explanation.

#### R17 — GRID CURRENT CALIBRATION POTENTIOMETER

This potentiometer calibrates the MULTIMETER's grid current reading. See Section 6 for a full explanation.

#### R22 — RELATIVE POWER INDICATOR CALIBRATION POTENTIOMETER

This potentiometer adjusts the relative power indicator. Adjustment is described in Section 6.

### SECTION 4. OPERATION

#### CAUTION

Do not operate the 6N2 with the cover removed unless extreme caution is used. The high voltage present inside is lethal. Do not transmit with the 6N2 if the blower airstream is blocked. Do not operate the 6N2 without a load, or into an SWR greater than 2:1. Do not attempt operation of the 6N2 until after at least 60 seconds warmup time. Do not substitute larger fuse values than the ones recommended. Do not exceed 80 ma of grid current or 1 ampere of plate current at any time. Do not hold the 6N2 in the key-down condition for more than 10 seconds at a time during tune-up. Always allow at least 30 seconds of tube cool-off for each 10-second period of tune-up.

#### NOTE

Make certain that your exciter has a drive control. Excessive drive, if applied to the 6N2 suddenly (when it is not correctly tuned), can cause tube failure and destruction of the power supply diode.

The Eimac 8874 tube has a high amplification factor. Consequently, the loading of the amplifier greatly affects the grid current. If the amplifier is overloaded, excessive drive will be required to obtain 50 milliamperes of grid current, resulting in excessive plate current greater than 1 ampere. Conversely, if the amplifier is loaded too lightly, even small amounts of drive will cause excessive grid current. Always monitor both IG and IP during tune-up to avoid exceeding the maximum tube capabilities.

#### 4.1 PRELIMINARY ADJUSTMENTS

Turn the 6N2 on by pushing the OFF-ON circuit breaker to the ON position. One of the two pilot lamps will light up, indicating that the power is on. (Lethal high voltage is present whenever the circuit breaker is on.) Make certain that the blower is operating. Any attempt to transmit when the blower is not operating can destroy the 8874 tubes. Turn the MULTIMETER switch to the HV position and check for a plate voltage of approximately 2000 VDC. Leave the switch at HV. After about 60 seconds the other pilot lamp will light. When the second pilot lamp is lighted, 12 VDC is present at the rear panel phono socket marked ANTENNA RELAY POWER. Do not key the 6N2 until the 60 second warmup period has been completed.

Tune the exciter into a dummy load, or into the antenna, on the desired band and frequency. Measure the SWR at the 6N2 output, and do not operate the amplifier into an SWR greater than 2:1. If there is any doubt about the SWR, use only the output of the exciter for making the SWR measurement. Reduce the exciter drive to zero. Turn the MULTIMETER switch of the 6N2 to the IP position and key the amplifier. Resting current should be from 60 to 80 ma. Preset the 6N2 controls, using the dial settings shown in the calibration chart. Increase the exciter drive to obtain about 200 ma of plate current. Use the appropriate TUNE control to tune the 6N2 to resonance, as indicated by maximum closure of the POWER OUTPUT indicator.

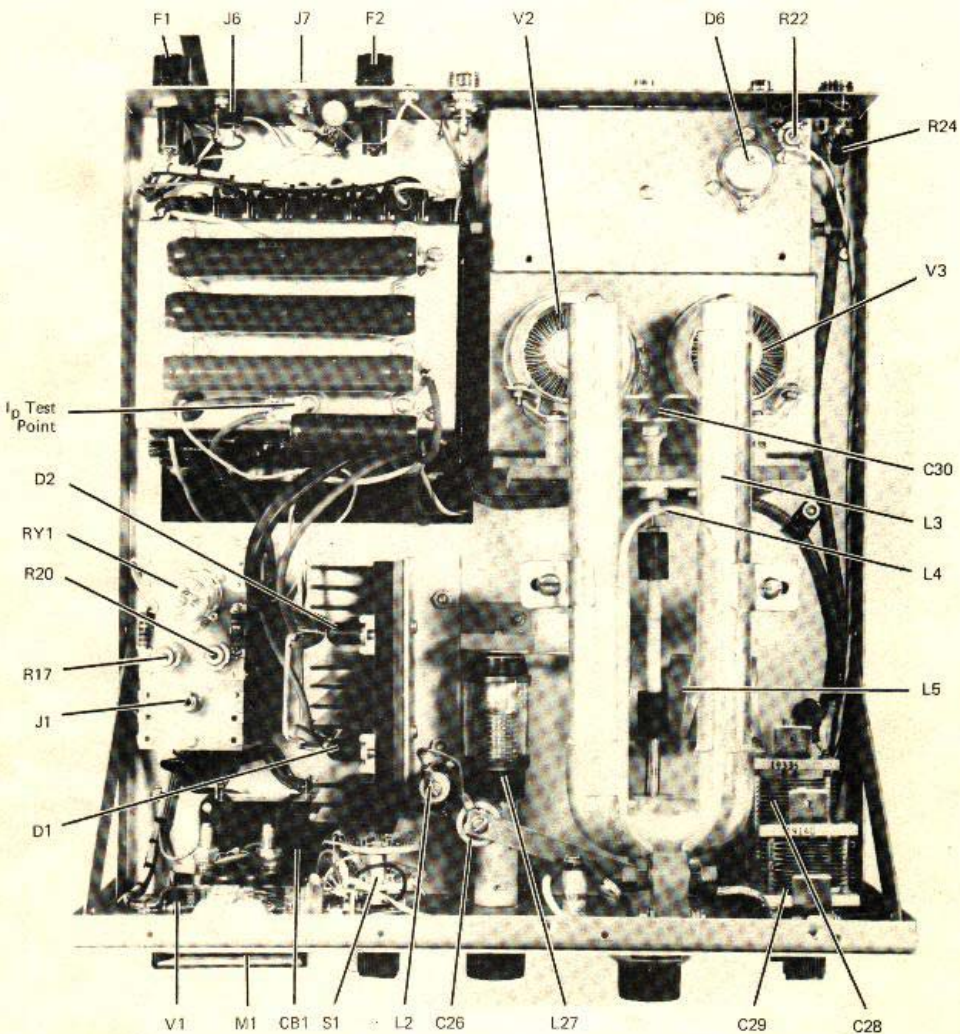


FIGURE 7. 6N2 RF Section Parts Diagram.

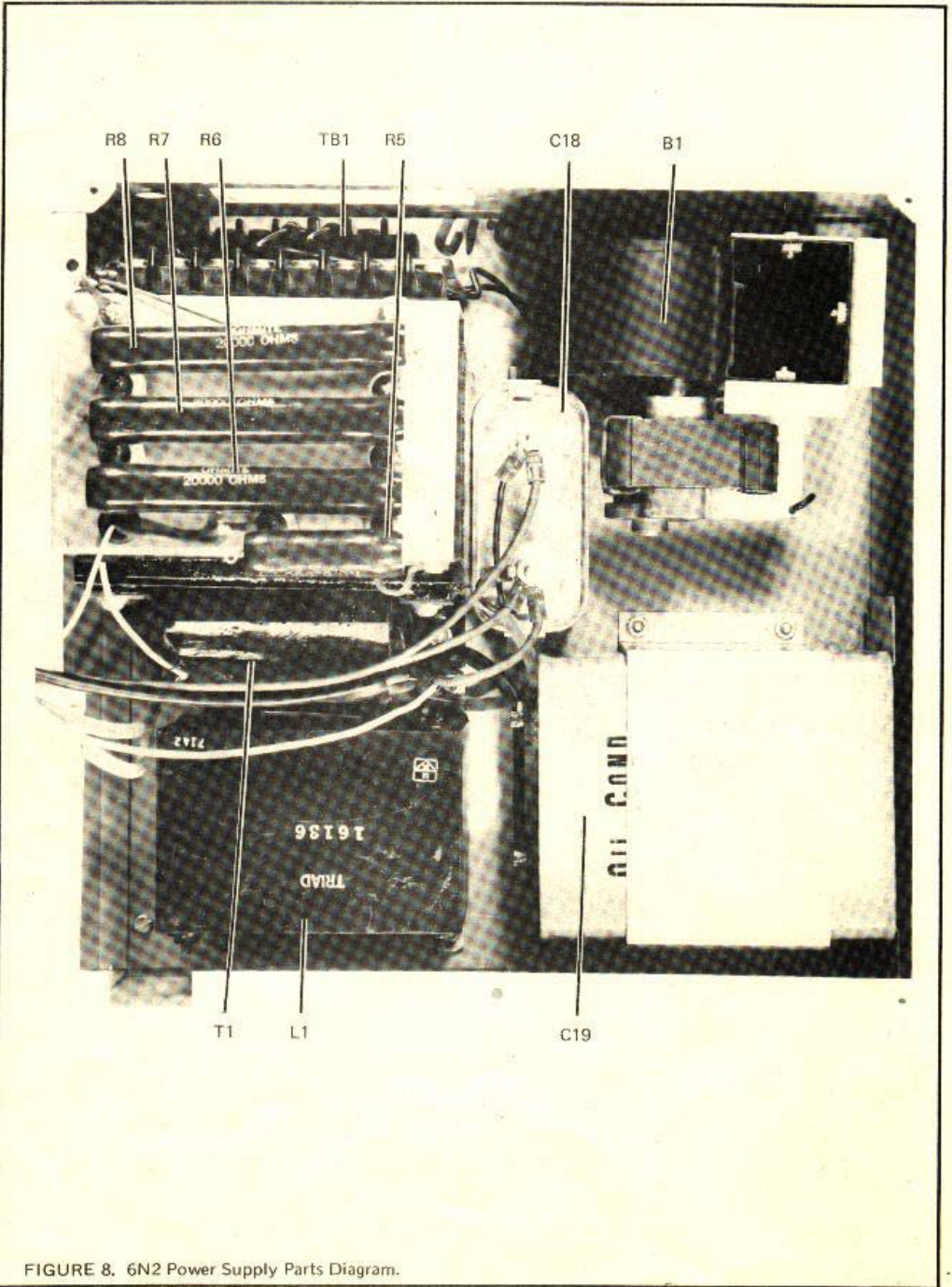


FIGURE 8. 6N2 Power Supply Parts Diagram.

## 4.2 2 METER SSB OPERATION

### CAUTION

Observe the following procedure closely. During tune-up, the 6N2 will be operated well in excess of its normal power level. Do not drive the 6N2 for more than 10 seconds at a time. Allow at least 30 seconds tube cool-off for each 10-second period of tune-up.

For correct operation on 2 meters, the amplifier should be tuned for .8 to 1 ampere plate current with 40 to 60 ma of grid current.

1. With the multimeter switch at EXC. ONLY, tune and load the exciter into a 50 ohm load with an SWR of less than 2:1. Then reduce the drive to zero.
2. Set the multimeter switch to the IP position and advance the exciter drive for an IP reading of .2 amps. Adjust the 2 METER TUNE and the 2 METER LOAD controls to obtain maximum closure of the POWER OUTPUT gap, peaking the exciter tuning for maximum closure.

### NOTE

All 2-meter loading is accomplished with a screwdriver by varying the link adjustment, located directly above the 2 METER TUNE control.

3. Advance the exciter drive slowly while monitoring both IG and IP. If .8 ampere of IP is obtained before 50 ma of IG, the amplifier is underloaded. When IP is .8 to 1 amp and the IG is from 40 to 50 ma, the 6N2 is loaded correctly.

### IF THE AMPLIFIER IS OVERLOADED

4. Reduce the drive to produce an IP of approximately .4 amp. Turn the link adjustment slightly clockwise, then readjust 2 METER TUNE for maximum closure of the relative power indicator.
5. Repeat the procedure in step 3.

### IF THE AMPLIFIER IS UNDERLOADED

6. Reduce the drive to obtain 20 ma of IG, turn the link adjustment slightly counterclockwise, then readjust the 2 METER TUNE control for maximum closure of the relative power indicator.
7. Repeat the procedure in step 3.

## 4.3 2 METER CW, AM, AND FM OPERATION

Follow the above procedure in Section 4.2 for SSB tuning, with one exception. Load the amplifier for .45 to .55 amp of IP (instead of .8 to 1 amp) with 40 to 60 ma IG.

For a 100% duty cycle on either AM or FM emission, the drive must be reduced for a maximum plate current of 250 ma after the tune-up procedure.

## 4.4 6 METER SSB OPERATION

For correct operation on 6 meters, the amplifier should be tuned for .8 to 1 amp of plate current (IP) with 40 to 60 ma of grid current (IG).

1. Preset the 6 METER LOAD control at 5.
2. With the MULTIMETER switch at EXC. ONLY, tune and load the exciter into a load with an SWR of less than 2:1. Reduce the exciter drive to zero.
3. Set the MULTIMETER switch to IP and advance the drive from the exciter to obtain .2 amp of IP. Adjust the 6 METER TUNE control for maximum closure of the POWER OUTPUT indicator, peaking the exciter for maximum closure.
4. Advance the exciter drive slowly while monitoring both IG and IP. If .8 ampere of IP is obtained before 50 ma of IG, the amplifier is overloaded. If 50 ma of IG is obtained before .8 ampere of IP, the amplifier is underloaded. The 6N2 is loaded correctly when IP is .8 and 1 amp and IG from 40 to 50 ma.

#### IF THE AMPLIFIER IS OVERLOADED

5. Reduce the drive to produce approximately .4 ampere of IP. Turn the 6 METER LOAD control slightly counterclockwise, then readjust the 6 METER TUNE control for maximum closure of the relative power indicator.
6. Repeat the procedure of step 4.

#### IF THE AMPLIFIER IS UNDERLOADED

7. Reduce the drive to obtain 20 ma of IG, turn the 6 METER LOAD control slightly clockwise, then readjust the 6 METER TUNE control for maximum closure of the relative power indicator.
8. Repeat the procedure of step 4.

### 4.5 6 METER CW, FM, AND AM OPERATION

Follow the procedure of Section 4.4, with one exception. Load the amplifier for .45 to .55 amp of IP (instead of from .8 to 1 amp) with 40 to 60 ma of IG.

For 100% duty cycle operation on either AM or FM emission, drive must be reduced after the tune-up procedure for a maximum plate current of 250 ma.

## SECTION 5. CIRCUIT DESCRIPTION

### 5.1 POWER SUPPLY

The 6N2's power transformer has two primary windings which may be wired in series for 230 VAC operation or wired in parallel for 115 VAC operation. One secondary winding provides 12 VAC for the control circuits as well as 6.3 VAC for the tube filaments. The 12 VAC is rectified to provide 12 VDC for the two pilot lights and the antenna relay control jack. The high voltage secondary supplies about 2400 VAC which is rectified to approximately 2000 VDC.

### 5.2 CONTROL CIRCUIT

When the 6N2 is turned on, the normally open contacts of the warm-up delay relay (RY1) prevent the 12 VDC from reaching the ANTENNA RELAY POWER socket on the rear panel. Also the relay prevents the 12 volts from reaching the second pilot light. The 6N2 can not be operated until the warm-up relay closes after 60 seconds. When the second lamp lights, the amplifier is ready for operation.

### 5.3 RF SECTION

The 6N2 requires no band switch. Simply connect an exciter to the correct input jack and an appropriate antenna to the correct output jack and tune the amplifier as described in Section 4.

The amplifier uses two Eimac 8874 triodes in a grounded grid circuit. The tubes are operated in a push-pull configuration for 2 meter output and are operated in parallel for 6 meter output. The maximum tube parameter ratings are critical and should not be exceeded. For key down operation of two tubes (as operated for SSB tune-up) the maximum allowable plate current is 1.0 amp and the maximum allowable grid current is 80 ma. These conditions should not be maintained for longer than 10 seconds. Every 10 seconds of tune-up should be followed by 30 seconds of cool-off.

When tuning the amplifier for SSB operation, both plate and grid current should be monitored very closely. Excessive grid current indicates the amplifier is underloaded. Excessive plate current indicates the 6N2 is overloaded. Insufficient grid and plate current indicates too little drive power.

#### CAUTION

DO NOT OVERDRIVE THE AMPLIFIER. Never exceed the tube ratings.

## 6 METER RF SECTION

The six meter plate tank circuit consists of a series tuned network which includes the plate tank tuning capacitor (C27), the DC blocking capacitor (C26), and the plate choke (L5). This circuit is tuned like a conventional pi-network. The TUNE control is a vacuum variable capacitor. The input circuit is a conventional T pad using a variable capacitor (C32), a fixed inductor (L10), and an adjustable iron core inductor.

## 2 METER RF SECTION

For two meter operation, the two 8874 tubes are connected in a push-pull circuit and the output is link coupled to the antenna. The 2 METER LOAD control (C29) tunes the link to match the impedance of the antenna line. Output loading is adjusted with a screwdriver front panel control (L4) located above the 2 METER TUNE control.

The two meter input circuit is also link coupled, using a fixed link (L8) attached to the cathode coil (L7). C31 tunes the link to match the impedance of the input line.

## SECTION 6. MAINTENANCE AND ALIGNMENT

## 6.1 POWER LINE CONNECTIONS (See Figure 9)

The 6N2 is factory wired for 230 VAC unless ordered otherwise. However, the amplifier can easily be

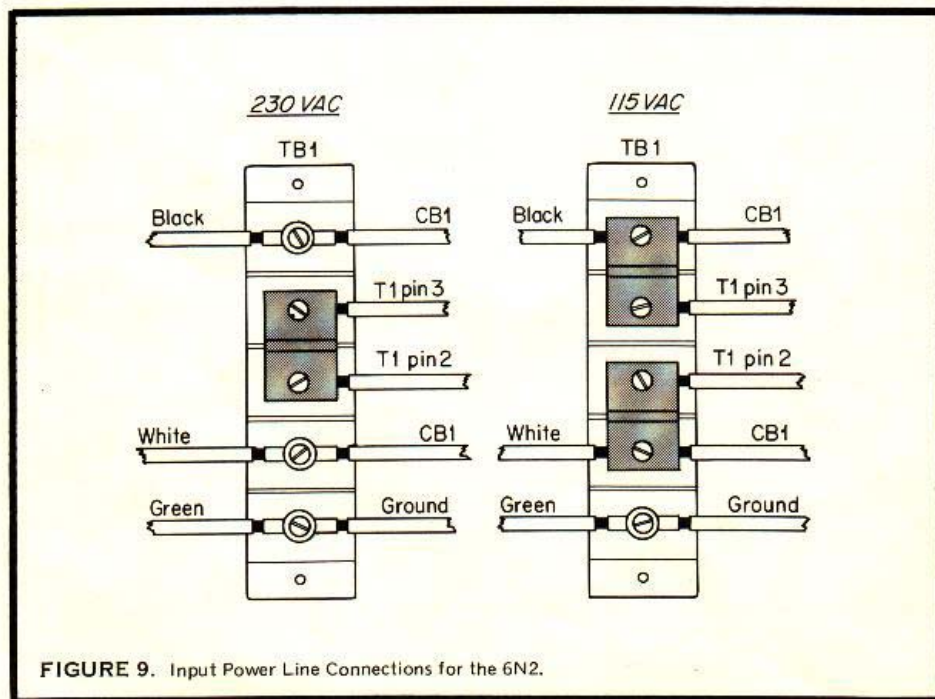


FIGURE 9. Input Power Line Connections for the 6N2.



jumpered for 115 VAC operation. Just unscrew the terminal board cover (on the lower right hand corner of the back of the power supply) and locate the 5-pin terminal board. Figure 9 shows the jumpers for 115 VAC and 230 VAC operation.

#### 230 VAC OPERATION

Black power wire to terminal 1 of TB1.  
White power wire to terminal 4 of TB1.  
Green neutral wire to terminal 5 of TB1.

Jumper terminal 2 to terminal 3 with the supplied jumper strips.

#### 115 VAC OPERATION

Black power wire to terminal 1 of TB1.  
White power wire to terminal 4 of TB1.  
Green ground wire to terminal 5 of TB1.

Jumper terminal 1 to terminal 2 and terminal 3 to terminal 4 with the supplied jumper strips.

## 6.2 GENERAL INFORMATION

### CAUTION

THE 6N2 GENERATES LETHAL HIGH VOLTAGES. Exercise extreme caution if it is necessary to operate the amplifier with its cabinet removed. Always unplug the 6N2 before servicing the amplifier.

The 6N2 is designed to provide years of trouble free operation — if the amplifier is operated properly. However, if the equipment requires maintenance or repair, the 6N2 can easily be opened to provide free access to any component as shown in Figure 10.

### 6.3 REPLACEMENT OF THE 8874'S (V2 and V3)

Unplug the amplifier and remove its top cover. Remove the two meter tank coil, L3, (5 screws) and then the anode straps (2 bolts). Carefully pull the tubes straight out. It is not necessary to remove the chimneys.

Insert the replacement tubes into their sockets, pushing them down firmly to assure complete contact. Resecure the anode straps and replace L3. Replace the cover before operating the amplifier.

### 6.4 REPLACEMENT OF THE HIGH VOLTAGE RECTIFIERS (D1 and D2)

Unplug the amplifier and remove its top cover. Loosen, but do not remove, the screws holding the diode(s) to the heat sink. Then remove the top screw(s) while holding the diode. Unsolder the defective diode and insert the replacement (note and keep the correct polarity). Coat the bottom surface of the diode with a thermal compound (Wakefield 128 or equivalent). Resolder the diode, reassemble the amplifier, and replace the top cover before attempting operation.

### 6.5 REPLACEMENT OF THE PILOT LIGHTS (PL1 and PL2)

A defective light is removed by simply grasping the black rim on the front edge of the bulb and pulling the case straight out from the front panel. Remove the bulb from the pin socket and insert the new bulb case. Push the assembly flush into the front panel.

### 6.6 REPLACEMENT OF THE ZENER DIODE (D6)

Unplug the 6N2 and remove its top cover. Remove the two screws holding D6 (on the top of the tube chassis), pry up, and remove the defective diode. Inspect the pin sockets to determine that the teflon sleeves are intact. Coat both sides of the new diode's mica insulator with thermal compound (Wakefield 128 or equivalent). Place the mica insulator on the new diode and insert it into the chassis.

Check that the diode is grounded, after screwing it down, by measuring the resistance through R19. The standard resistance, with J6 shorted, is 5 ohms.

## 6.7 FUSE REPLACEMENT

Fuses F1 and F2 are located at the rear panel of the 6N2. F1 (3 AG, 6 amp) protects the 12 VDC control circuit and F2 (8 AG, 1.5 amp) protects the cathode. Whenever a fuse blows, attempt to find the cause. Never use the fuses with replacements of high current ratings. The warranty of the amplifier will be voided by the use of improper fuses.

## 6.8 RESETTING THE CIRCUIT BREAKER

An overload condition may cause the circuit breaker to trip. To reset the breaker, simply press the OFF-ON switch hard to the OFF position and then switch it back to ON.

## 6.9 REPLACEMENT OF THE WARM-UP RELAY (RY1)

Unplug the 6N2 and remove the top cover. Pull the delay relay from its socket (see Figure 7) and replace it with an Amperite 115N060T (or equivalent). Replace the top cover before operating the amplifier.

## 6.10 REPLACEMENT OF THE RELATIVE POWER INDICATOR (V1)

Unplug the 6N2 and remove the top cover. Pull the defective tube from its socket behind the front panel and insert a new tube (6FGG) firmly into the socket.

Carefully plug in the 6N2 and tune it for about 1000 watts input (IP about .5 amp). Adjust R22, as described in Section 6.10, for the correct indicator closure. Turn off the amplifier and replace the top cover.

## 6.11 GRID CURRENT MULTIMETER ADJUSTMENT

The grid current calibration is factory adjusted and should not require attention. However, if the meter reading is suspect, remove the top cover of the amplifier. Before adjusting the circuit, with the 6N2 turned off, remove shorting plug P1 (see Figure 7) from J1. Connect a low-impedance 0-500 ma test meter across J1, with the negative side of the meter connected to ground. CAUTION: DANGEROUS HIGH VOLTAGES ARE EXPOSED. Tune the 6N2 for operation at any frequency and adjust the exciter drive for a test meter reading of 50 ma. Adjust R17, if necessary, until the multimeter also reads 50 ma.

### CAUTION

Do not key the amplifier for more than 10 seconds at a time. Allow at least 30 seconds of tube cooling time after 10 seconds of key down transmission.

Turn the 6N2 off and allow the high voltage to bleed down. Remove the test meter, replace P1, and replace the top cover.

## 6.12 PLATE CURRENT MULTIMETER ADJUSTMENT

The plate current calibration is factory adjusted and should not require attention. However, if the meter reading is suspect, turn off the amplifier, and remove the top cover of the amplifier. Unscrew the red high voltage lead (coming from L1) at R5 as shown in Figure 7. Connect a 0-1 amp test meter in series with the plate lead and R5.

### CAUTION

Dangerous high voltages are exposed during this procedure at the test leads and in the plate circuit.

Tune the 6N2 for CW operation at any frequency and adjust the exciter's drive for a .5 amp test meter reading. If necessary, adjust R20 until the multimeter reading is also .5 amp. Turn the 6N2 off and allow the high voltage to bleed down. Remove the test meter, reconnect the high voltage lead to R5, and replace the top cover.

**CAUTION**

Do not key the amplifier for more than 10 seconds at a time.

**6.13 RELATIVE POWER INDICATOR ADJUSTMENT**

The power indicator was factory adjusted and should require no further attention. However, if the operator wishes to change the indicator's sensitivity, remove the 6N2's top cover, and tune the amplifier for SSB operation at any frequency.

**CAUTION**

Dangerous high voltages are exposed when the amplifier is operated with the top cover removed.

Drive the amplifier for a .8 amp plate current reading and adjust R22 (see Figure 7) for the desired closure of the indicator's bars. Be careful not to key the 6N2 for more than 10 seconds at a time.

**6.14 6 METER INPUT CIRCUIT ADJUSTMENT**

This six meter input circuit was factory adjusted to match a 50 ohm input line. However, if a high input SWR indicates a mismatch the input circuit can be retuned. Turn the 6N2 off and remove the top cover.

**CAUTION**

Dangerous high voltages are exposed when the amplifier is operated with the top cover removed.

Connect an SWR bridge in series with the six meter drive cable, between the exciter and the amplifier. Tune the amplifier for CW operation (IP = 500 ma) at 52 MHz and note the forward and reflected power in the drive cable.

Adjust the 6 METER INPUT TUNE control (C32 on the rear panel) for minimum reflected power in the drive line. Then adjust the iron core of L11 (right side of the tube chassis) for minimum reflected power. Repeat the adjustments two or three times to insure minimum reflected power, but be certain not to key the amplifier for more than 10 seconds at a time.

Turn off the 6N2, replace the top cover and remove the SWR bridge from the drive line.

**6.15 2 METER INPUT CIRCUIT ADJUSTMENT**

The two meter input circuit was factory adjusted to match a 50 ohm input line. However, if a high input SWR indicates a mismatch the input circuit can be retuned.

Connect an SWR bridge in series with the two meter drive cable, between the exciter and the amplifier. Tune the amplifier for CW operation (IP = 500 ma) at 146 MHz. Adjust the rear panel 2 METER INPUT TUNE control for minimum reflected power in the drive cable.

Turn off the 6N2 and remove the SWR bridge from the drive line.

**6.16 ORDERING SPARE PARTS OR RETURNING THE AMPLIFIER**

All orders for replacement or spare parts should include the type of equipment, the serial number of the amplifier, the schematic number of the part and its part number. This information will insure quick and correct service.

The tubes' lives are warranted for 1000 hours on a pro-rated basis. All warranty claims must be accompanied by a completed Eimac warranty claim form. All warranty claims must be filed with the company from which you purchased the tubes.

Should it ever be necessary to ship the 6N2 for any reason, be sure to repack it in its original box and packing material. If the original box is not available, pack the amplifier in a box or crate strong enough to withstand the equipment's weight and large enough to allow at least several inches of packing protection between the side of the box and the side of the amplifier. Should it ever be necessary to return the unit to Henry Radio for any reason, be sure to return it prepaid and include a complete description of its problems.

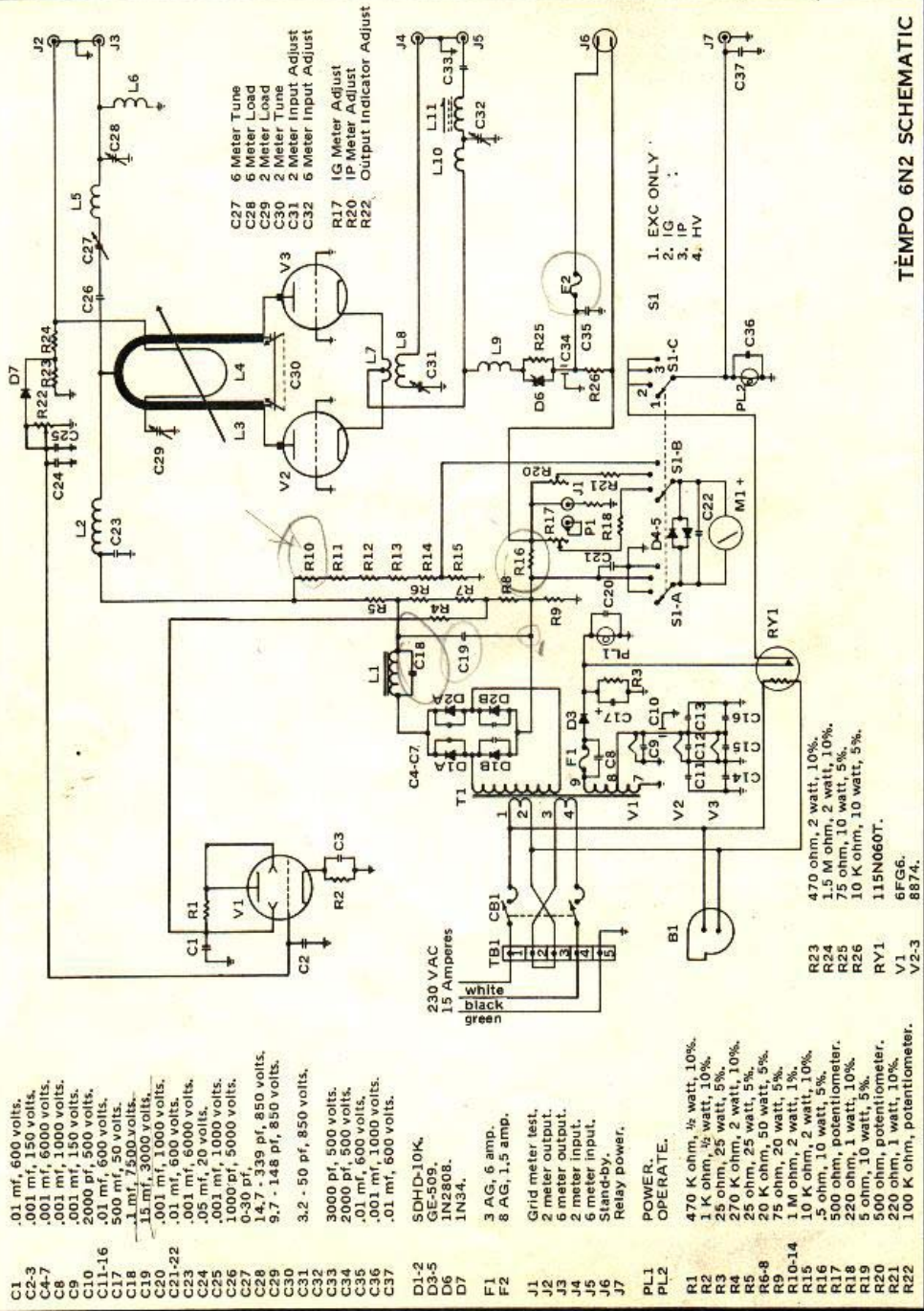
## SECTION 7. PARTS LIST

SCHEMATIC NO.	DESCRIPTION	NUMBER
	ACCESSORY KIT: Includes — Box of 5, 3 AG, 6 amp fuses. Box of 5, 8 AG, 1.5 amp fuses. CABLE: 6', phono plug to phono plug, control cable. CABLE: RF In, 4', R6-58/U coaxial cables with UHF and BNC connectors. CONNECTOR: 2 pin Jones plug with cable clamp. CONNECTOR: UHF coax connector type PL-259. SPLINE WRENCH: Number 8. SPLINE WRENCH: For counter.	56 60002 04 25025 04 60002 16 03021 16 00259 56 60002 56 60012
B1	BLOWER: 115 VAC, 3000 RPM.  BOX: Cardboard shipping carton. PACKING MATERIAL: Set of styrafoam packing material.	00 39085  57 60002 57 60012
C1	CAPACITOR: Ceramic disc, .01 mf, 600 volts, GMV.	08 06103
C2 and C3	CAPACITOR: Miniature plate, .001 mf, 150 volt, 30%.	08 00402
C4 through C7	CAPACITOR: Disc ceramic, .001 mf, 6000 volt, 20%.	08 60102
C8	CAPACITOR: Ceramic disc, .001 mf, 1000 volts, 10%.	08 00102
C9	CAPACITOR: Same as C2.	
C10	CAPACITOR: Ceramic feed through, 2000 pf, 500 volt, 20%.	08 00202
C11 through 16	CAPACITOR: Same as C1.	
C17	CAPACITOR: Electrolytic tubular, 500 mf, 50 volt, 20%.	08 01390
C18	CAPACITOR: Resonator, oil filled, .1 mf, 7500 VDC. BRACKET: Resonator capacitor mounting bracket.	08 17500
C19	CAPACITOR: Filter, oil filled, 15 mf, 3000 VDC. BRACKET: Filter capacitor mounting bracket.	08 15052
C20	CAPACITOR: Same as C8.	
C21 and C22	CAPACITOR: Same as C1.	
C23	CAPACITOR: Same as C4.	
C24	CAPACITOR: Ceramic disc, .05 mf, 20 VDC, 20%.	08 20503
C25	CAPACITOR: Same as C8.	
C26	CAPACITOR: Blocking, ceramic transmitting, 1000 pf, 5000 VDC, 20%. BRACKET: Blocking capacitor support bracket.	08 85813 48 27907
C27	VARIABLE CAPACITOR: 6 meter tune, vacuum, 30 pf, 10 K, 10,000 volts. BRACKET: 6 meter TUNE capacitor support assembly. COUPLING: 6 meter TUNE capacitor shaft coupling.	09 60002 48 27004 48 27506
C28	VARIABLE CAPACITOR: 6 meter LOAD control, air, 14.7 to 339 pf, 850 volts.	09 19335
C29	VARIABLE CAPACITOR: 2 meter LOAD control, air, 9.7 to 148 pf, 850 volts.	09 10140
C30	VARIABLE CAPACITOR: 2 meter TUNE control, variable disc. BRACKET: 2 meter TUNE capacitor lucite support. BRACKET: 2 meter TUNE capacitor shaft guide. COUPLER: 2 meter TUNE capacitor teflon shaft coupling. COUPLING: 2 meter TUNE capacitor coupler, insulated, 3/4" long, 7/16" diameter. ROTOR: 2 meter TUNE capacitor rotor. SHAFT: 2 meter TUNE capacitor brass shaft. SHAFT: 2 meter TUNE capacitor teflon shaft. STATOR: 2 meter TUNE capacitor stator.	48 27002 48 27903 48 27505 28 00140 48 27902 48 27504 48 27503 48 27906
C31	VARIABLE CAPACITOR: 2 meter input adjust control, air, 3.2 to 50 pf, 850 volts.	09 00050
C32	VARIABLE CAPACITOR: 6 meter input adjust control, air, 75 pf.	09 15804
C33	CAPACITOR: Silver mica, 3000 pf, 500 VDCW, 5%.	08 19302
C34	CAPACITOR: Same as C10.	

SCHEMATIC NO.	DESCRIPTION	NUMBER
C35	CAPACITOR: Same as C1.	
C36	CAPACITOR: Same as C8.	
C37	CAPACITOR: Same as C1.	
CB1	CIRCUIT BREAKER: 2 pole, 50/60 Hz, 15 amp, black, 230 VAC.	12 60002
D1A and D1B D2A and D2B	DIODE: Silicon rectifier, 10,000 PIV, 1.2 amps. DIODE: Same as D1.	73 10000
	HEATSINK: Diode heat transfer sink.	48 27601
	BRACKET: Diode heat sink mounting bracket.	48 27108
D3 through D5	DIODE: Silicon rectifier, 1 amp, 1000 volts.	73 00509
D6	DIODE: Silicon, zener, 10 volts, 50 watts.	73 12808
D7	DIODE: Silicon, 150 ma, 60 volts.	73 01034
F1	FUSE: 3 AG, 6 amp, 250 VAC.	24 30601
F2	FUSE: 8 AG, 1.5 amp, 250 VAC.	24 80151
	FUSEHOLDER: 3 AG, extractor post, fuse holder.	25 34204
	GROMMET: Black rubber, 1/4" hole.	36 00220
	HARDWARE: Please write with a complete description of the part required.	
	INSULATOR: Ceramic, cone, 21/32" high.	34 13550
	INSULATOR: Transformer insulation sheet.	48 27005
J1	JACK: Grid current test jack, chassis jack, male.	16 35010
J2	JACK: 2 meter RF output, UHF coax connector, type SO-239/U.	16 00239
J3	JACK: 6 meter RF output, same as J2.	
J4	JACK: 2 meter RF input, BNC coax connector, type UG-290 A/U.	16 00290
J5	JACK: 6 meter RF input, same as J4.	
J6	JACK: Stand-by, 2 pin Jones socket, chassis mount.	16 03022
J7	JACK: Antenna relay power output, same as J1.	
	KNOB: Black phenolic with skirt, 1/4" shaft.	36 41000
L1	INDUCTOR: Filter choke, 10 h, 4.5" long x 4.5" wide x 4" high.	85 16137
L2	INDUCTOR: Plate choke, teflon rod, 62 turns, 18 gauge copper wire, 1/8" diameter, 3 1/2" long.	48 27805
L3	INDUCTOR: 2 meter tank coil, push-pull, parallel rod, silver flashed copper tubing.	48 27801
	BRACKET: 2 meter tank coil lucite pillars.	48 27804
	BRACKET: 2 meter tank coil lucite support.	48 27803
	BRACKET: 2 meter tank coil rod positioner.	48 27905
L4	INDUCTOR: 2 meter link, teflon insulated, silver flashed copper strip.	48 27901
	BRACKET: Brass link adjustor plate.	48 27501
	BRACKET: Two meter link pivot support.	48 27003
	PIVOT: 2 meter link lucite pivot.	48 27501
L5	INDUCTOR: 6 meter tank coil, 1 3/8" diameter, 6 turns, 2 TPI, silver flashed copper strip.	48 27802
	BRACKET: 6 meter tank coil support bracket.	48 27904
L6	INDUCTOR: RF choke, 35 to 110 MHz, 7 uh, 1 amp.	85 00050
L7	INDUCTOR: 2 meter input drive coil, parallel rod, copper strap.	48 27805
L8	INDUCTOR: 2 meter input coil, parallel rod, teflon buss wire.	48 27806
L9	INDUCTOR: Cathode isolation choke, same as L6.	

SCHEMATIC NO.	DESCRIPTION	NUMBER
L10	INDUCTOR: Fixed 6 meter input coil, airwound 8 TPI, 1/2" diameter.	48 27807
L11	INDUCTOR: Adjustable 6 meter input coil, cambion form, 6 TPI.	48 27808
M1	METER: Multimeter, 0-1 ma DC movement, 0-1 ma scale.	52 06175
	MANUÁL: 6N2 operating and maintenance manual.	92 60002
	METAL WORK: Blower bracket.	48 27104
	METAL WORK: Blower screen.	48 27001
	METAL WORK: Chimney platform	48 27101
	METAL WORK: Front panel.	48 27201
	METAL WORK: Input strip mounting bracket.	48 27203
	METAL WORK: Line voltage change terminal strip cover plate.	48 27203
	METAL WORK: Power supply cabinet.	48 27201
	METAL WORK: Power supply cabinet sides.	48 27204
	METAL WORK: Power supply plate.	48 27302
	METAL WORK: RF section cabinet.	48 27202
	METAL WORK: RF section chassis.	48 27303
	METAL WORK: Top shield.	48 27106
	METAL WORK: Tube chassis.	48 27301
	METAL WORK: Tube chassis bottom.	48 27102
	METAL WORK: Two meter drive link.	48 27102
	METAL WORK: Two meter link pivot support.	48 27102
P1	PLUG: Grid meter test jack shorted plug, RCA phono type, female.	16 35010
PL1 PL2	PILOT LIGHT: Power, miniature press in light, 10-16 volts. PILOT LIGHT: Operate, same as PL1.	40 22302
	POWER CORD: 14 guage, 3 conductor, 300 volt, 10 feet.	04 00500
	CLAMP: Power cable retaining clamp.	48 27107
R1	RESISTOR: Carbon, 470 K ohm, 1/2 watt, 10%.	68 44703
R2	RESISTOR: Carbon, 1 K ohm, 1/2 watt, 10%.	68 40013
R3	RESISTOR: Vitreous enamel, wirewound, 25 ohm, 25 watt, 5%.	68 90250
R4	RESISTOR: Carbon, 270 K ohm, 2 watt, 10%.	68 62703
R5	RESISTOR: Same as R3.	68 90250
R6 through R8	RESISTOR: Vitreous enamel, wirewound, 20 K ohm, 50 watt, 5%.	68 00202
	BRACKET: Bleeder resistor aluminum bracket.	48 27103
R9	RESISTOR: Vitreous enamel, wirewound, 75 ohm, 20 watt, 5%.	68 02075
R10 through R14	RESISTOR: Precision, 1 M ohm, 2 watts, 1%.	68 00016
R15	RESISTOR: Carbon, 10 K ohm, 2 watt, 10%.	68 60103
R16	RESISTOR: Vitreous enamel, wirewound, .5 ohm, 10 watt, 5%.	68 80051
R17	POTENTIOMETER: Grid current meter adjust, 500 ohm, type F.	68 20000
R18	RESISTOR: Carbon, 220 ohm, 1 watt, 10%.	68 22200
R19	RESISTOR: Vitreous enamel, wirewound, 5 ohm, 10 watt, 5%.	68 80050
R20	POTENTIOMETER: Plate current meter adjust, same as R17.	68 20000
R21	RESISTOR: Same as R18.	68 22200
R22	POTENTIOMETER: Power indicator adjust, 100 K ohm, type F.	60 00104
R23	RESISTOR: Carbon, 470 ohm, 2 watt, 10%.	68 64700
R24	RESISTOR: Carbon, 1.5 M ohm, 2 watt, 10%.	68 60152
R25	RESISTOR: Vitreous enamel, wirewound, 75 ohm, 10 watt, 5%, wire leads.	68 80750

SCHEMATIC NO.	DESCRIPTION	NUMBER
R26	RESISTOR: Vitreous enamel, wirewound, 10 K ohm, 10 watt, 5%.	68 80103
RY1	RELAY: Warmup delay, 115 VAC, 60 second delay, normally open.	64 11560
	RELAY SOCKET: 9-pin.	65 20009
S1	SWITCH: Multimeter, 3 pole, 4 position rotary.	76 02002
	SPACER: Round brass, 1/4" long, 1/4" diameter, no. 6 hole.	28 02100
	SPACER: Hex threaded aluminum, 1 3/4" long, 1/4" diameter, 4/40 hole.	28 08410
	SPACER: Power transformer spacers.	48 27109
	STAND OFF: Round ceramic, 5/8" high, 3/8" diameter, 6/32 thread.	28 02601
	STAND OFF: Round ceramic, 3/4" long, 3/8" diameter, 6/32 thread.	28 02602
	STAND OFF: Round ceramic, 1" high, 3/8" diameter, 6/32 thread.	28 02603
T1	TRANSFORMER: Power, filament, and relay, primary - 115/230 VAC, secondary - 2400/18/6.3 VAC (.5 amps)	84 75405
	TERMINAL BOARD: 5 connector, molded phenolic, 2500 VRMS, 30 amp, with marker strip.	80 14205
	TERMINAL BOARD: 6 connector, molded phenolic, 2500 VRMS, 30 amp, with marker strip.	80 14206
	TERMINAL BOARD: 20 connector, bakelite, 1 3/4" wide, 3 3/4" long, with 1204 terminals.	80 12420
V1	ELECTRON TUBE: Power output indicator, type 6FG6.	89 06006
	BRACKET: Power indicator aluminum mounting bracket.	48 27105
	TUBE SOCKET: 9-pin.	65 20009
V2 and V3	ELECTRON TUBE: Ceramic, high-mu, triode, type 8874.	88 08874
	PLATE CONNECTING LINK	48 27703
	PLATE CONNECTOR: Right.	48 27701
	PLATE CONNECTOR: Left.	48 27702
	TUBE CHIMNEYS	89 12411
	TUBE GRID RING	48 27704
	TUBE SOCKET: 11 pin, for 8874.	89 24311
	VERNIER: Tune controls dial counter and vernier, 15 turn.	56 00431
	WIRE: Please write with a full description of the wire required.	
	WIRING HARNESS: RF section.	04 60003



- C1 .01 mf, 600 volts.
- C2-3 .001 mf, 150 volts.
- C4-7 .001 mf, 6000 volts.
- C8 .001 mf, 1000 volts.
- C9 .001 mf, 150 volts.
- C10 2000 pf, 500 volts.
- C11-16 .01 mf, 600 volts.
- C17 500 mf, 50 volts.
- C18 15 mf, 3000 volts.
- C19 3000 pf, 500 volts.
- C20 .001 mf, 1000 volts.
- C21-22 .01 mf, 600 volts.
- C23 .001 mf, 6000 volts.
- C24 .05 mf, 20 volts.
- C25 .001 mf, 1000 volts.
- C26 1000 pf, 5000 volts.
- C27 0-30 pf.
- C28 1.47 - .339 pf, 850 volts.
- C29 9.7 - 148 pf, 850 volts.
- C30 3.2 - 50 pf, 850 volts.
- C31 .001 mf, 1000 volts.
- C32 3000 pf, 500 volts.
- C33 2000 pf, 500 volts.
- C34 .001 mf, 600 volts.
- C35 .001 mf, 1000 volts.
- C36 .001 mf, 1000 volts.
- C37 .01 mf, 600 volts.
- D1-2 SDHD-10K.
- D3-5 GE-509.
- D6 1N2808.
- D7 1N34.
- F1 3 AG, 6 amp.
- F2 8 AG, 1.5 amp.
- J1 Grid meter test.
- J2 2 meter output.
- J3 6 meter output.
- J4 2 meter input.
- J5 6 meter input.
- J6 Stand-by.
- J7 Relay power.
- PL1 POWER.
- PL2 OPERATE.
- R1 470 K ohm, 1/2 watt, 10%.
- R2 1 K ohm, 1/2 watt, 10%.
- R3 25 ohm, 25 watt, 1%.
- R4 20 K ohm, 25 watt, 5%.
- R5 25 K ohm, 50 watt, 5%.
- R6-8 75 ohm, 20 watt, 5%.
- R9 1.5 ohm, 20 watt, 1%.
- R10-14 10 K ohm, 2 watt, 10%.
- R15 10 K ohm, 10 watt, 5%.
- R16 5 ohm, 10 watt, 5%.
- R17 500 ohm, potentiometer.
- R18 220 ohm, 1 watt, 10%.
- R19 5 ohm, 10 watt, 5%.
- R20 500 ohm, potentiometer.
- R21 220 ohm, 1 watt, 10%.
- R22 100 K ohm, potentiometer.
- R23 470 ohm, 2 watt, 10%.
- R24 1.5 K ohm, 1/2 watt, 10%.
- R25 25 ohm, 25 watt, 1%.
- R26 20 K ohm, 25 watt, 5%.
- R27 25 K ohm, 50 watt, 5%.
- R28 1.5 ohm, 20 watt, 1%.
- R29 10 K ohm, 10 watt, 5%.
- R30 500 ohm, potentiometer.
- R31 220 ohm, 1 watt, 10%.
- R32 100 K ohm, potentiometer.
- R33 470 ohm, 2 watt, 10%.
- R34 1.5 K ohm, 1/2 watt, 10%.
- R35 25 ohm, 25 watt, 1%.
- R36 20 K ohm, 25 watt, 5%.
- R37 25 K ohm, 50 watt, 5%.
- R38 75 ohm, 20 watt, 5%.
- R39 1.5 ohm, 20 watt, 1%.
- R40 10 K ohm, 10 watt, 5%.
- R41 5 ohm, 10 watt, 5%.
- R42 500 ohm, potentiometer.
- R43 220 ohm, 1 watt, 10%.
- R44 100 K ohm, potentiometer.
- V1 115N060T.
- V2-3 6FG6.
- V4 8874.

TEMPO 6N2 SCHEMATIC



TABLE 1. 6N2 Tuning Calibration Table.

6 METER BAND USER DATA				2 METER BAND USER DATA			
MHZ	MODE	TUNE	LOAD	MHZ	MODE	TUNE	LOAD
50.0				144.0		13-15	30
51.0				145.0		13-8	10
52.0				146.0		12-93	10
53.0				147.0		12-70	0
54.0				148.0		12-45	10
6 METER BAND FACTORY DATA				2 METER BAND FACTORY DATA			
52.0				146.0			

NOTES: \_\_\_\_\_ SERIAL NUMBER: \_\_\_\_\_

The factory data operating settings above are determined with the 6N2 operating from a 230 VAC line into a 50 ohm dummy load with an SWR of 1:1. The figures are meant to be a guide to initial tuning and will vary significantly in actual operation. However, the TUNE and LOAD settings determined by the operator for his station should remain constant. Also note that the TUNE and LOAD settings differ significantly with different operating modes.