CG-273-136 (Non-Registered)

VOLUME V

TECHNICAL MANUAL

for

LORAN TRANSMITTING SET

AN/FPN-44A

SECTION 6

NOTE

Change 3 to be used only with Loran Transmitting Set AN/FPN-44 modified to include solid-state power supply.

ITT AVIONICS DIVISION
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Nutley, New Jersey 07110

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SECTION 6

SERVICE AND REPAIR

6-1. GENERAL.

This section establishes the maintenance standards and outlines the preventive maintenance routines for Loran Transmitting Set AN/FPN-44A. Comparison of the preventive maintenance results with the maintenance standards, and proper correction of any abnormal results, helps to reduce equipment failure during operation. Also included in this section are tuning, adjustment, and repair procedures.

6-2. MAINTENANCE STANDARDS.

After a loran transmitting set has been installed at a site, and before it is placed in operation, establish the maintenance standards as described in the following paragraphs. Re-establish the standards after each major overhaul. These standards should be periodically referred to while performing the preventive maintenance routines and while performing the trouble-shooting procedures in Section 5.

a. MAINTENANCE STANDARDS LIST. - Table 6-1 lists the maintenance standards in a suggested sequence of performance. Any deviation from this sequence does not affect the measurements. The actual procedures for establishing the standards are indicated in the referenced tables.

Before starting the procedures make a maintenance standards chart for recording the measurements. On the first page of this chart record the equipment nomenclature, the serial number, and the date. The REFERENCE STANDARDS column in the preventive maintenance tables (table 6-4) give the limits for each measurement. These limits should also be added to the chart. If the measurements are not within the limits, the equipment should be repaired.

b. TEST EQUIPMENT REQUIRED. - The AN/USM-281 oscilloscope and plug in units are required to establish each reference standard.

c. TIME NEEDED TO ESTABLISH REFERENCE STANDARDS. - The approximate time needed to establish each reference standard and the total time needed to establish all the reference standards are given in table 6-2. This time does not include the time required for setting up the test equipment.

6-3. PREVENTIVE MAINTENANCE.

Periodic preventive maintenance routines are performed on the loran transmitting sets as outlined in the following subparagraphs. Check-off lists that itemize all the routines are to be completed and initialed to indicate that the work has been done.

TABLE 6-1. LIST OF MAINTENANCE STANDARDS PROCEDURES

STEP	ACTION REQUIRED	TABLE
1	Check line voltage	6-4
2	Check outputs of power supply in amplifier group 1A4.	6-4
3	Check for proper indications on amplifier group 1A4 meters.	6-4
4	Check for proper indications on PA tube rack 1A6 meters.	6-4
5	Check for proper indications on power supply set 1A53 meters.	6-4
6	Check meter indications in electron tube liquid cooler 1A2.	6-4
7	Monitor waveshapes with oscilloscope.	6-4
8	Check output power.	6-4
9	Clean air filters.	6-5
10	Check 1A53A6T1 oil level.	6-5

TABLE 6-2. TIME REQUIRED TO ESTABLISH REFERENCE STANDARDS

STEP (See Table 6-1)	ESTIMATED TIME IN MINUTES
1	5
2	1
3	2
4	5
5	1
6	1
7	10
8	1
9	120
10	5
Total	151

Refer to the maintenance standards for each routine performed and record any deviation from these standards on the check-off lists.

a. CHECK-OFF LISTS. - Make separate check-off lists for each period (weekly, monthly, etc.) using the step numbers of the preventive maintenance routines as a guide. As each step is completed, enter the results on the list opposite the step number. Also, enter the date and initial the step. Use the suggested column headings given in figure 6-1 to standardize the preparation of check-off lists.

Compare each entry with the maintenance standards and with previous entries for that step. Large deviations that are not within the prescribed limits, or small deviations that progressively vary with each period, indicate improper operation or impending failure. In either case, corrective measures should be taken.

b. EQUIPMENT REQUIRED FOR PREVENTIVE MAINTENANCE. - The test equipment necessary for preventive maintenance routine are the AN/USM-281 oscilloscope and plug-in units. Equivalent test equipment may be substituted if the specified equipment is not available.

c. TIME REQUIRED FOR PREVENTIVE MAINTENANCE. - Table 6-3 gives the approximate times needed to do each preventive maintenance routine. This time does not include the time required to set up the test equipment.

d. PREVENTIVE MAINTENANCE TABLES. - Tables 6-4 lists the preventive maintenance routines for each period. Set the loran transmitting set to the operating condition and control settings given at the start of each table (as required) before beginning any of the routines. Then perform each routine in sequence and record any deviation on the check-off list for that period.

Associated with each table is a figure (figure 6-2 through 6-8) that illustrates the routine steps. Refer to this figure for the location of controls, indicators, and test points used in each step.

TABLE 6-3. TIME REQUIRED FOR PREVENTIVE MAINTENANCE

PERIODIC CHECKS	ESTIMATED TIME REQUIRED
Weekly	35 minutes
Quarterly	30 minutes
Total Required per Quarter	8 hours
Average per Day	5.3 minutes

1st and 2nd Year of Operation (Use same form)

Week	Step	19__	19__	19__	19__	19__	19__	19__	19__	19__	19__	19__	19__
1 through 52													

a) Weekly Check-Off List

	1st Year of Operation				2nd Year of Operation			
Quarter	Quarter 19 —	Quarter 19 —	Quarter 19 —	Quarter 19 —	Quarter 19 —	Quarter 19 —	Quarter 19 —	Quarter 19 —
Step__ Step__ Step__								
Initial								

b) Quarterly Check-Off List

Figure 6-1. Sample Check-Off Lists

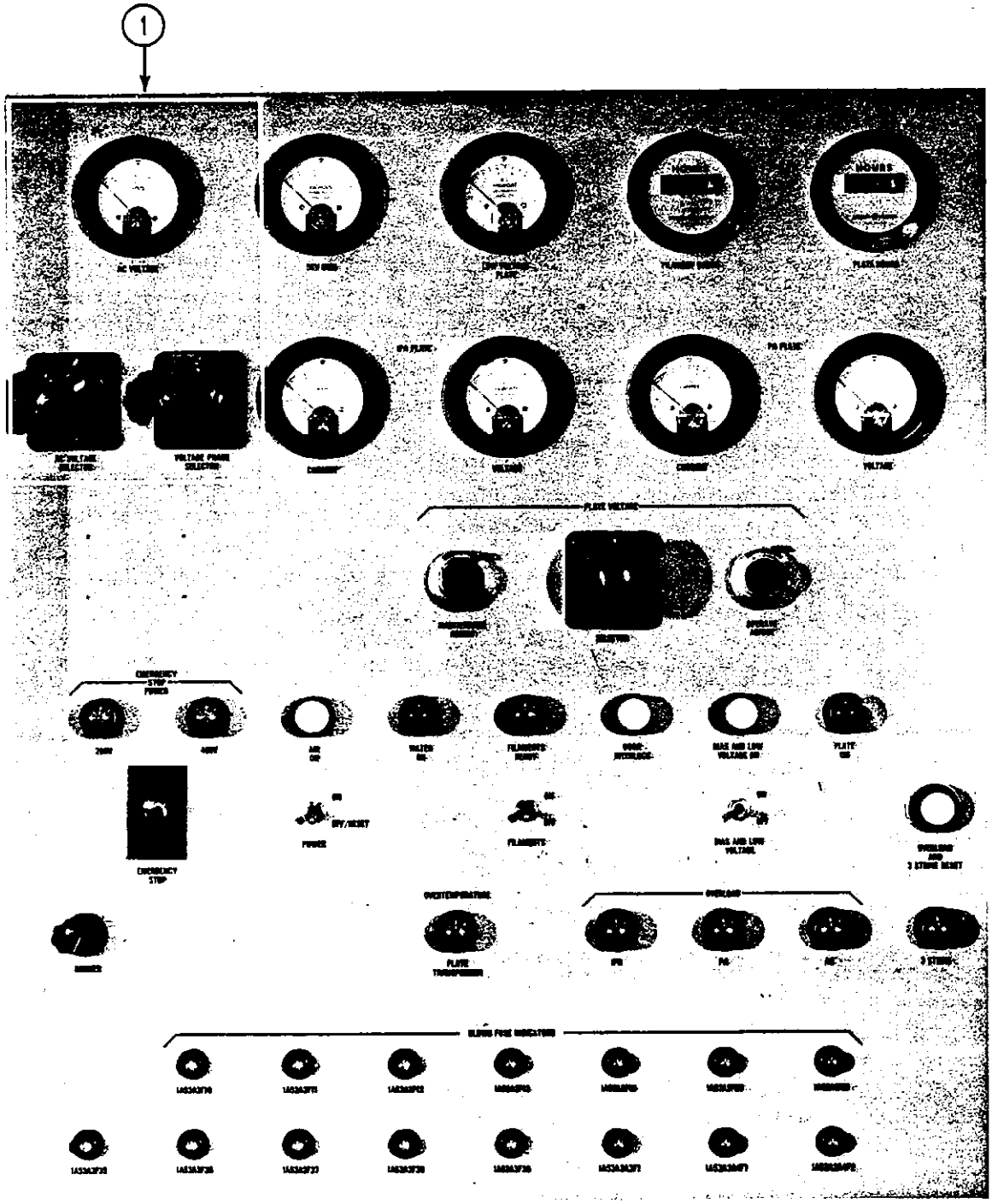


Figure 6-2. Weekly Preventive Maintenance Routines, Step 1

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES

STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
1	Check line voltage. Turn AC VOLTAGE SELECTOR switch 1A5A2S4 to 460V LINE. Turn VOLTAGE PHASE SELECTOR switch 1A53A2S3 to: 1-2 2-3 3-1 Turn AC VOLTAGE SELECTOR switch to 208V LINE. Turn VOLTAGE PHASE SELECTOR switch to: 1-2 2-3 3-1 Turn AC VOLTAGE SELECTOR switch to 208V REG. Turn VOLTAGE PHASE SELECTOR switch to: 1-2 2-3 3-1	AC VOLTAGE meter 1A53A2M5	_____ vac (460 ±46) _____ vac (460 ±46) _____ vac (460 ±46) _____ vac (208 ±21) _____ vac (208 ±21) _____ vac (208 ±21) _____ vac (208 ±10) _____ vac (208 ±10) _____ vac (208 ±10)
2	Check outputs of power supply in amplifier group 1A4. Turn METER SELECTOR switch 1A4A3S2 to: +250V 100XFS -28V 10XFS -12V 5XFS	Meter 1A4A3M1	_____ vdc (250 ±12.5) _____ vdc (-28 ±2) _____ vdc (-12 ±0.6)

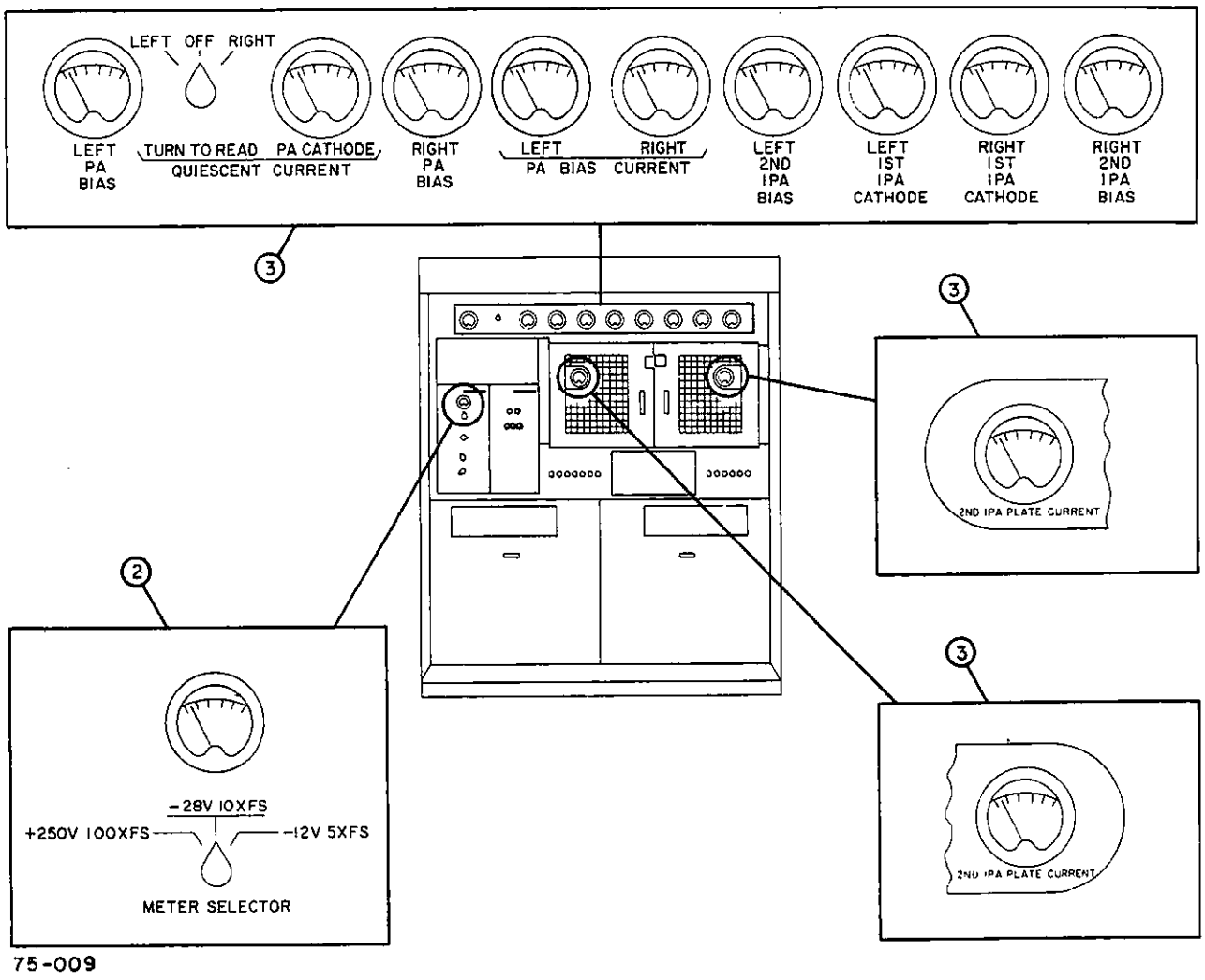


Figure 6-3. Weekly Preventive Maintenance Routines, Steps 2 and 3

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
3	Check for proper indications on amplifier group 1A4 meters.	LEFT PA BIAS meter 1A4M9	_____ vdc
		RIGHT PA BIAS meter 1A4M10	_____ vdc
		LEFT PA BIAS CURRENT meter 1A4M7	_____ ma.
		RIGHT PA BIAS CURRENT meter 1A4M8	_____ ma.
		LEFT 2ND IPA BIAS meter 1A4M5	_____ vdc
		RIGHT 2ND IPA BIAS meter 1A4M6	_____ vdc
		LEFT 1ST IPA CATHODE meter 1A4M1	_____ ma.
		RIGHT 1ST IPA CATHODE meter 1A4M2	_____ ma.
		LEFT 2ND IPA PLATE CURRENT meter 1A4M3	_____ ma.
		RIGHT 2ND IPA PLATE CURRENT meter 1A4M4	_____ ma.
4	Check for proper indications on PA tube rack 1A6.	1A6V1 CATHODE CURRENT meter 1A6M1	_____ amp.
		1A6V2 CATHODE CURRENT meter 1A6M2	_____ amp.
		1A6V3 CATHODE CURRENT meter 1A6M3	_____ amp.
		1A6V4 CATHODE CURRENT meter 1A6M4	_____ amp.
		LEAKAGE CURRENT meter 1A6M5	Less than 1 ma.
		INLET TEMP. meter/switch 1A6S9	_____ °C (70 max)
		1A6V1 OUTLET TEMP. meter 1A6S5	_____ °C (70 max)
		1A6V2 OUTLET TEMP. meter 1A6S6	_____ °C (70 max)
		1A6V3 OUTLET TEMP. meter 1A6S7	_____ °C (70 max)
		1A6V4 OUTLET TEMP. meter 1A6S8	_____ °C (70 max)
		*1A6V1 WATER FLOW RATE meter	_____ gpm (13, min)
		*1A6V2 WATER FLOW RATE meter	_____ gpm (13, min)
		*1A6V3 WATER FLOW RATE meter	_____ gpm (13, min)
		*1A6V4 WATER FLOW RATE meter	_____ gpm (13, min)

* Maximum allowable variation between tubes is 2 gpm.

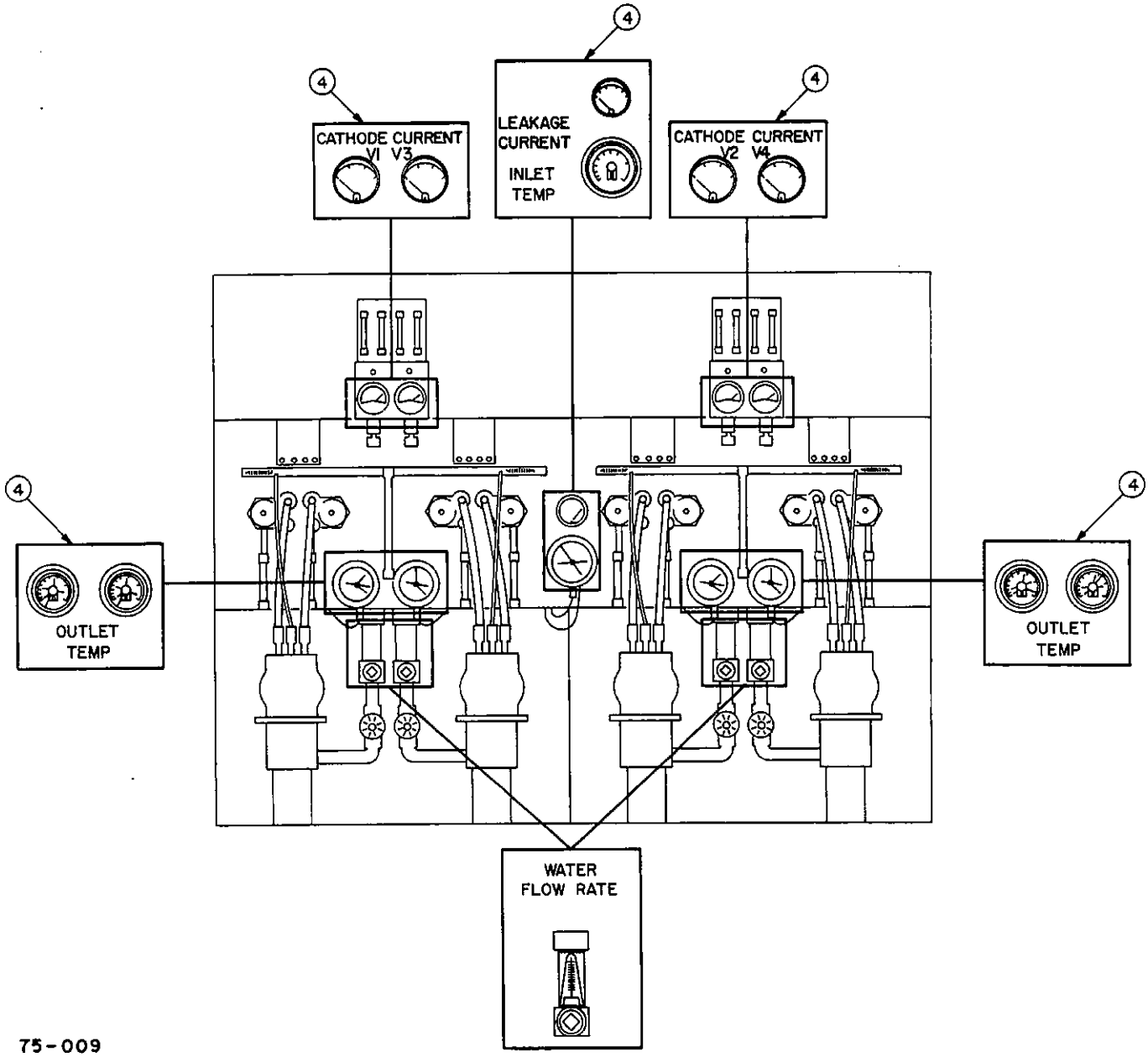
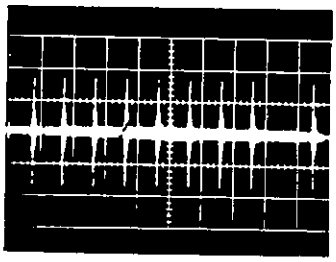


Figure 6-4. Weekly Preventive Maintenance Routines, Step 4

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
5	Check for proper indication on power supply set 1A53 meters.	5KV BIAS meter 1A53A2M4	_____ kv (-5.0 ±0.5)
		LOW VOLTAGE PLATE meter 1A53A2M9	_____ kv (.5±0.005)
		IPA PLATE CURRENT meter 1A53A2M8	_____ amp.
		IPA PLATE VOLTAGE meter 1A53A2M3	_____ kv (10.7 ±10%)
		PA PLATE CURRENT meter 1A53A2M7	_____ amp.
		PA PLATE VOLTAGE meter 1A53A2M2	_____ kv (21.5 ±10%)
6	Check the meter indications in the electron tube liquid cooler 1A2 with the water circulating pump operating.	Secondary water inlet pressure meter 1A2M1	_____ psi
		Secondary water outlet pressure meter 1A2M2	_____ psi
		Primary water inlet pressure meter 1A2M5	_____ psi
		Primary water outlet pressure meter 1A2M4	_____ psi
		Pump water outlet pressure meter 1A2M6	_____ psi
7	Operate the transmitter into the dummy load. Adjust the shape and drive controls for a standard Loran pulse into the dummy load with an amplitude of 80 volts, peak-to-peak. Set switches as follows:	Oscilloscope	
7A	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT — INPUT EXCITER MODE — NORMAL PULSE SELECTOR — ALL Oscilloscope Switch Positions: HORIZONTAL SWEEP — 1MS./DIV TRIGGER — EXT. + VERTICAL SENSITIVITY — 200 MV/DIV SWEEP MAGNIFIER — X1	Oscilloscope	

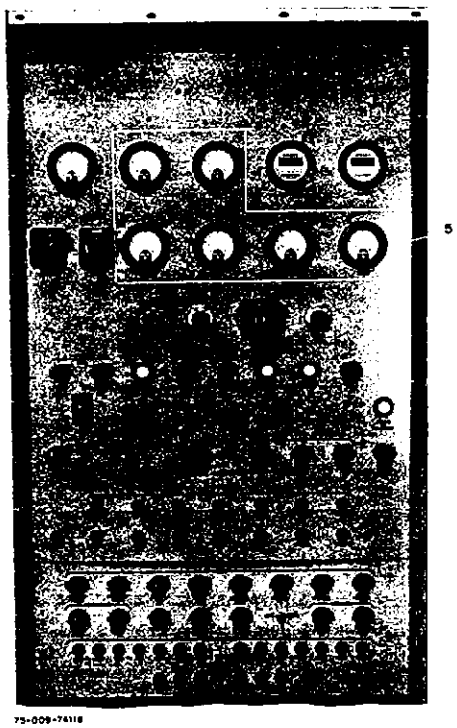


Figure 6-5. Weekly Preventive Maintenance Routines. Step 5

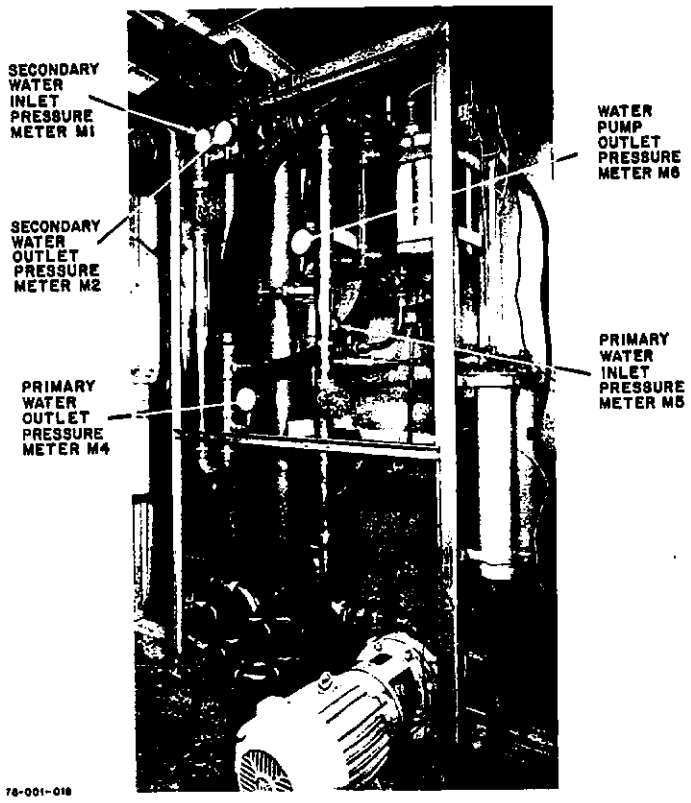
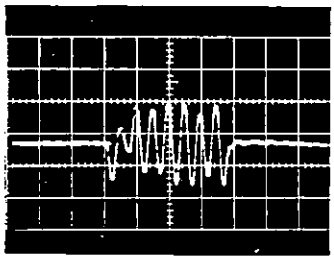
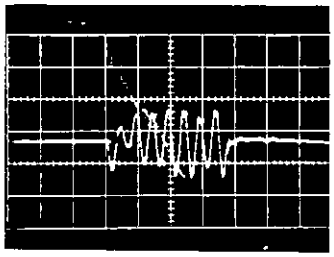
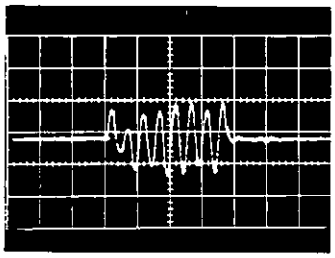


Figure 6-6. Weekly Preventive Maintenance Routines. Step 6

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
7B	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT INPUT EXCITER MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 uS DIV TRIGGER EXT. + VERTICAL SENSITIVITY 200 MV/DIV SWEEP MAGNIFIER X1	Oscilloscope	
7C	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT INPUT LEFT 1st IPA MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS DIV TRIGGER EXT. + VERTICAL SENSITIVITY 500 MV./DIV SWEEP MAGNIFIER X1	Oscilloscope	
7D	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT INPUT RIGHT 1st IPA MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS/DIV TRIGGER EXT. + VERTICAL SENSITIVITY 500 MV/DIV SWEEP MAGNIFIER X1	Oscilloscope	

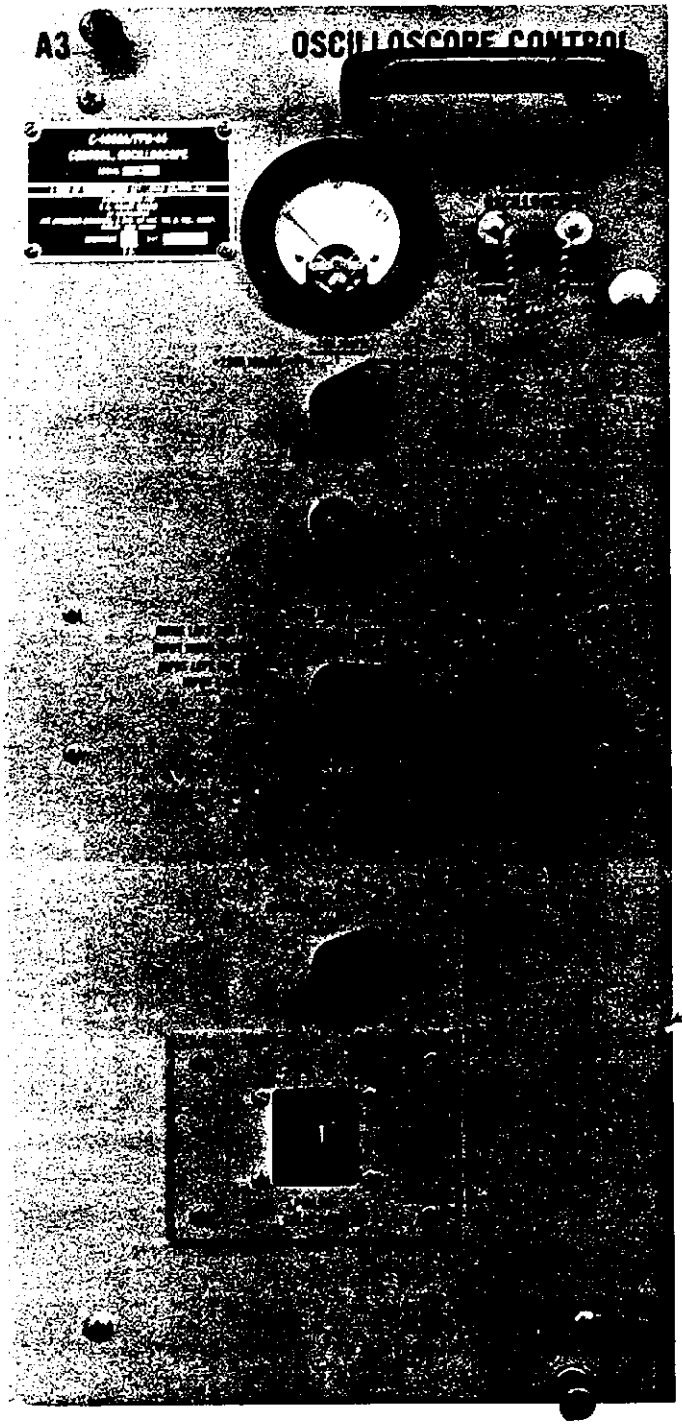


Figure 6-7. Weekly Preventive Maintenance Routines, Step 7

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

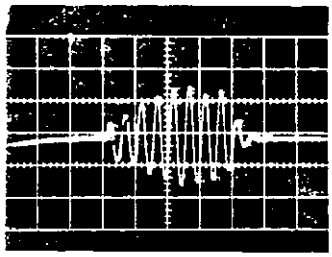
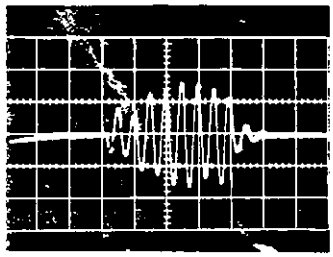
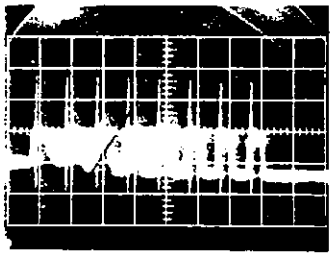
STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
7E	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT INPUT LEFT 2nd IPA MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS. DIV TRIGGER EXT. + VERTICAL SENSITIVITY 10 V DIV SWEEP MAGNIFIER X1	Oscilloscope	
7F	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT INPUT RIGHT 2nd IPA MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS. DIV TRIGGER EXT. + VERTICAL SENSITIVITY 10 V DIV SWEEP MAGNIFIER X1	Oscilloscope	
7G	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT INPUT LEFT/RIGHT 2ND IPA MODE NORMAL PULSE SELECTOR ALL Oscilloscope Switch Positions: HORIZONTAL SWEEP 1 MS/DIV TRIGGER EXT. +	Oscilloscope	

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

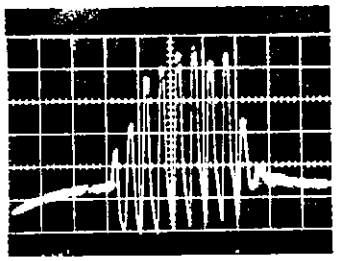
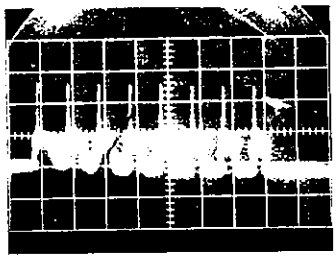
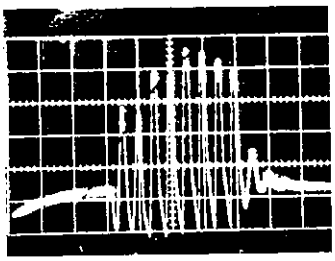
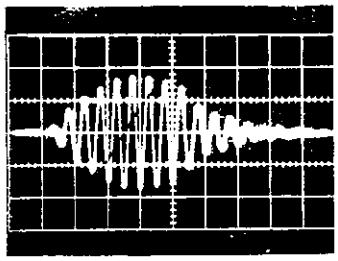
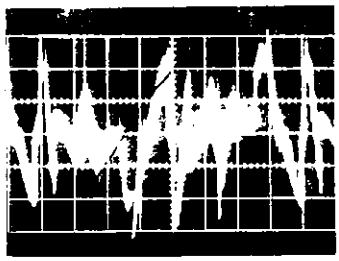
STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
7G (Cont)	VERTICAL SENSITIVITY 10 V/DIV SWEEP MAGNIFIER X1		
7H	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT OUTPUT LEFT 2nd IPA MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS/DIV TRIGGER EXT. + VERTICAL SENSITIVITY 2 V DIV SWEEP MAGNIFIER X1	Oscilloscope	
7I	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT OUTPUT LEFT/RIGHT 2ND IPA MODE NORMAL PULSE SELECTOR ALL Oscilloscope Switch Positions: HORIZONTAL SWEEP 1 MS DIV TRIGGER EXT. + VERTICAL SENSITIVITY 5 V/DIV SWEEP MAGNIFIER X1	Oscilloscope	
7J	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT OUTPUT RIGHT 2nd IPA MODE A or B PULSE SELECTOR 8	Oscilloscope	

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
7J (Cont)	Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS/DIV TRIGGER EXT. + VERTICAL SENSITIVITY 2 V/DIV SWEEP MAGNIFIER X1		
7K	Oscilloscope Control 1A4A3 Switch Positions: MONITORED CIRCUIT TRANSMITTER OUTPUT (CURRENT) MODE A or B PULSE SELECTOR 8 Oscilloscope Switch Positions: HORIZONTAL SWEEP 20 μS/DIV TRIGGER EXT. + VERTICAL SENSITIVITY 20 V/DIV SWEEP MAGNIFIER X1	Oscilloscope	
7L	Oscilloscope Control 1A4A3 Switch Position: MONITORED CIRCUIT H. V. POWER SUPPLY RIPPLE Oscilloscope Switch Positions: HORIZONTAL SWEEP 2 MS/DIV VERTICAL SENSITIVITY 10 MV/DIV SWEEP MAGNIFIER X1	Oscilloscope	

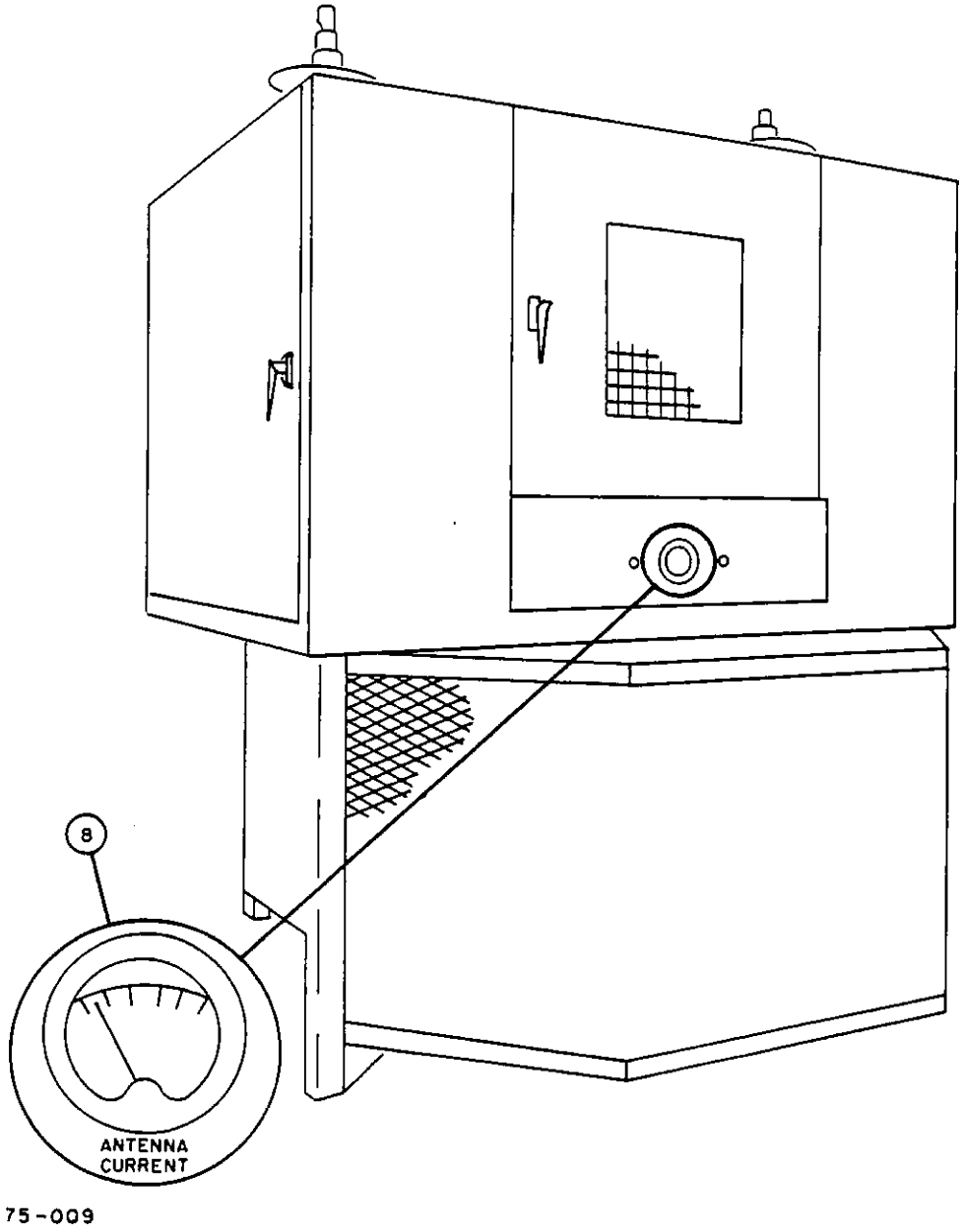


Figure 6-8. Weekly Preventive Maintenance Routines. Step 8

TABLE 6-4. WEEKLY PREVENTIVE MAINTENANCE ROUTINES (Cont)

STEP NO.	ACTION REQUIRED	READ INDICATION ON	REFERENCE STANDARD
8	Check output power of output transmitter	Ammeter 3M1 in antenna coupler.	*_____ ma rms
* Will vary with different rates, pulse spacing, etc.			

TABLE 6-5. QUARTERLY PREVENTIVE MAINTENANCE ROUTINES

STEP NO.	ACTION REQUIRED
1	Clean transmitter group enclosure filters (figure 5-18). PROCEDURE: Remove air filters and clean with vacuum cleaner. If vacuum cleaner is not available, clean in a mild soap and water solution, dry thoroughly, and immerse in motor lubricating oil (SAE 20). Place in warm location to facilitate maximum drainage. Remove all dust from blower area. The fan motors contain sealed precision ball bearings which are greased for the life of the motor and require no other maintenance. Reinstall the filters after they have been drained of excess oil.
2	Maintain oil level of high voltage transformer 1A53A6T1 to level of oil fill plug. PROCEDURE: Use 3/8 inch allen wrench to loosen the oil fill plug. Slowly unscrew the plug. If oil seeps out around plug threads, oil level is ok. Tighten plug. If oil does not seep out, remove plug. Determine oil level by using a twisted piece of paper as dip stick. Fill until oil level is at least to bottom of oil plug hole. Replace plug.

6-4. FAILURE REPORT.

Submission of electronic equipment failure reports shall be made in accordance with current instructions contained in the USCG Electronic Maintenance Manual, CG-165, and on the prescribed form indicated therein. The importance of providing complete information cannot be overemphasized. Do not substitute brevity for clarity.

6-5. TUNING AND ADJUSTMENTS.

Variable adjustments in the loran transmitting set are made only after circuitry associated with the adjustment is repaired. Adjustments to compensate for deterioration of circuits should not be made since deterioration indicates aging components and impending failure. Location and replacement of the faulty components lessens the chance of failure under operating conditions.

The following subparagraphs give all the adjustment procedures for each unit in the loran transmitting set. Each procedure is independent (unless otherwise indicated) and can be performed provided the transmitting set is operating to the degree necessary to perform each particular procedure. The degree of operation is described in each procedure.

WARNING

Voltages dangerous to life are present in this equipment. Observe all safety regulations at all times.

a. TEST EQUIPMENT AND SPECIAL TOOLS. Table 6-6 lists the test equipment and special tools needed to adjust the assemblies in the loran transmitting set.

b. RELAY ADJUSTMENTS. - Relay adjustments are performed as follows with NO power applied to equipment:

(1) AMPLIFIER GROUP 1A4. - (See figure 6-9.)

Step 1. Set controls to positions indicated below:

208 vac circuit breaker on power distribution panel	OFF
460 vac circuit breaker on power distribution panel	OFF
EMERGENCY STOP switch 1A53A2S19	STOP
208 vac circuit breaker 1A53A3CB2	OFF
460V INPUT circuit breaker 1A53A3CB1	OFF
HIGH VOLTAGE RECTIFIER SWITCH switch 1A53A3S1	OFF
POWER switch 1A53A2S17	OFF/RESET
FILAMENTS switch 1A53A2S13	OFF
BIAS AND LOW VOLTAGE switch 1A53A2S7	OFF
PLATE VOLTAGE SELECTOR switch 1A53A2S18	OFF
LOCKOUT-READY switch 1A12S1	LOCKOUT

Step 2. Connect positive lead of 0-26 volts power supply to 1A4V7 cathode (top of 1A4R69) and negative lead to ground.

Step 3. Adjust potentiometer 1A4R73 so that relay 1A4K1 energizes at 100 ±5 ma on LEFT 1ST IPA CATHODE (1A4M1).

Step 4. Tighten potentiometer lock nut.

Step 5. Connect positive lead of 0-26 volts power supply to cathode (top of 1A4R68) of 1A4V8 and negative lead to ground.

TABLE 6-6. TEST EQUIPMENT REQUIRED FOR TUNING AND ADJUSTMENTS

Para 6-5	Equipment Required / Adjustment Procedures	0-26V, 2A Power Supply	Thickness Gauge	Hewlett-Packard 400D VTVM, or equal	AN/USM-281 Oscilloscope, or equal	Signal Generator AN/URM-25D, or equal	2.2K Resistor	Simpson Model 260 (or equal) Multimeter and 25 Kv Probe	Plug-In Units for AN/USM-281	RFL Calibration Standard 829G	Hewlett-Packard 5245L Frequency Counter, or equal	Stopwatch	Isolation Transformer	Autotransformer (0-120 vac)	Test Set Driver ROBICON 300427	VOLTMETER 0-300 VAC WESTON MODEL 433, or equal
b.	Relay Adjustments	X		X				X				X		X		X
c.	Protective Spark Gap Spacing		X													
d.	Test Point Blocking Capacitors		X													
g.	Voltage Regulator CN-1472/FPN-44A			X											X	X
h.	Voltage Regulator CN-1473/FPN-44A				X										X	X
k.	Tuning				X	X	X		X	X	X					
l.	Meter Calibration Adjustments							X								
p.	Operating				X				X							
r.	Instrument Shunt	X						X		X						
s.	Relay Power Supply							X					X	X		

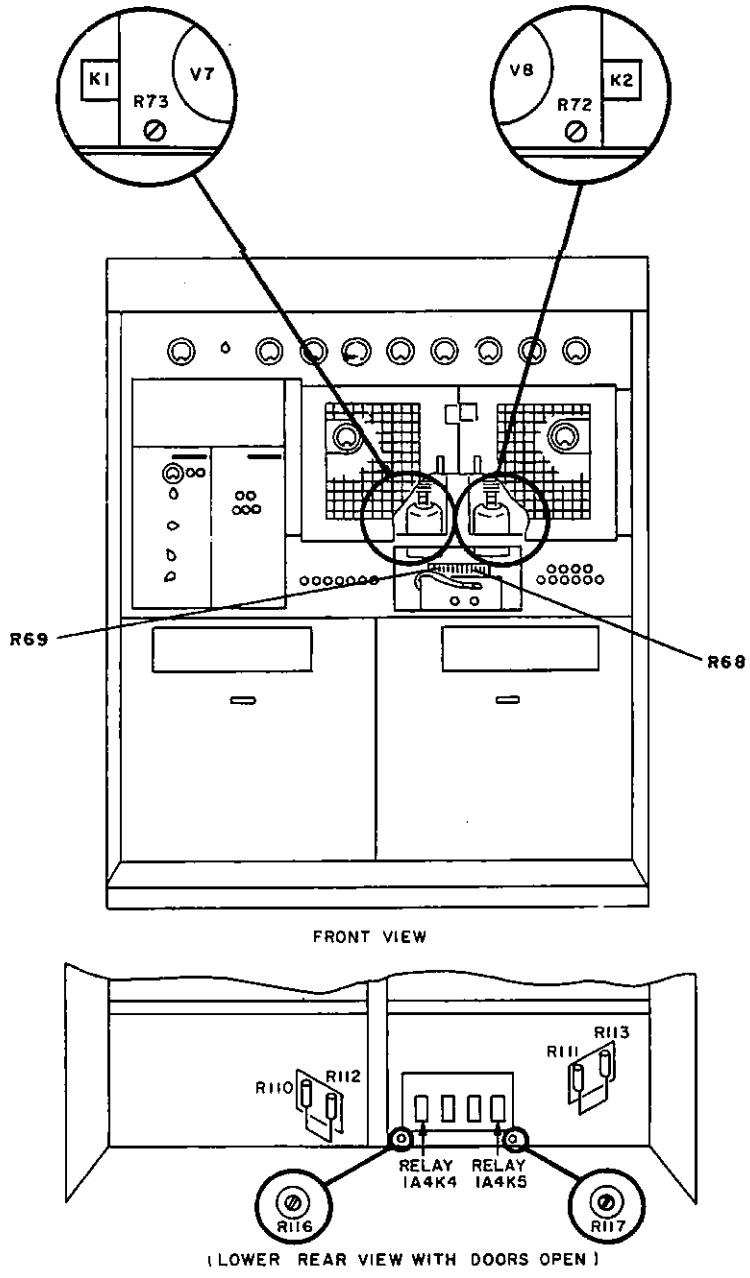


Figure 6-9. Amplifier Group OG-159/FPN-44A (1A4), Front and Rear Views, Relay Adjustments

Step 6. Adjust potentiometer 1A4R72 so that relay 1A4K2 energizes at 100 ±5 ma on RIGHT 1ST IPA CATHODE (1A4M2).

Step 7. Tighten potentiometer lock nut.

Step 8. Connect positive lead of 0-26 volts power supply to junction of resistors 1A4R110 and 1A4R112 and negative lead to ground.

Step 9. Adjust potentiometer 1A4R116 so that relay 1A4K4 energizes at 600 ±15 ma on RIGHT PA BIAS CURRENT (1A4M8).

Step 10. Tighten potentiometer lock nut.

Step 11. Connect positive lead of 0-26 volts power supply to junction of resistors 1A4R111 and 1A4R113 and negative lead to ground.

Step 12. Adjust potentiometer 1A4R117 so that relay 1A4K5 energizes at 600 ±15 ma on LEFT PA BIAS CURRENT (1A4M7).

Step 13. Tighten potentiometer lock nut.

(2) POWER AMPLIFIER TUBE RACK 1A6. - (See figure 6-10.)

Step 1. Connect positive lead of 0-26 volt power supply to junction of 1A6R11 and 1A6R13. Connect negative lead to ground.

Step 2. Adjust potentiometer 1A6R15 so that relay 1A6K1 energizes at 1.5 ±0.03 amperes on CATHODE CURRENT V1 (1A6M1).

Step 3. Tighten potentiometer lock nut.

Step 4. Connect positive lead of 0-26 volt power supply to junction of 1A6R12 and 1A6R14. Connect negative lead to ground.

Step 5. Adjust potentiometer 1A6R16 so that relay 1A6K2 energizes at 1.5 ±0.03 amperes on CATHODE CURRENT V2 (1A6M2).

Step 6. Tighten potentiometer lock nut.

Step 7. Connect positive lead of 0-26 volt power supply to junction of 1A6R29 and 1A6R31. Connect negative lead to ground.

Step 8. Adjust potentiometer 1A6R33 so that relay 1A6K3 energizes at 1.5 ±0.03 amperes on CATHODE CURRENT V3 (1A6M3).

Step 9. Tighten potentiometer lock nut.

Step 10. Connect positive lead of 0-26 volt power supply to junction of 1A6R30 and 1A6R32. Connect negative lead to ground.

Step 11. Adjust potentiometer 1A6R34 so that relay 1A6K4 energizes at 1.5 ±0.03 amperes on CATHODE CURRENT V4 (1A6M4).

Step 12. Tighten potentiometer lock nut.

Step 13. Disconnect the power supply leads.

(3) RELAY ASSEMBLY 1A53A3. - Time delay relay adjustments on relay assembly 1A53A3 are performed with no power supplied to the transmitter. Prior to making relay adjustments, proceed as follows:

Step 1. Connect test setup as illustrated in figure 6-11.

Step 2. Turn powerstat on and adjust output for for 120 vac on ac voltmeter.

Step 3. Turn powerstat off without changing the setting.

(a) SHUT-DOWN COOLING DELAY RELAY 1A53A3K5. -

Step 1. Adjust relay 1A53A3K5 (figure 6-12) time adjust knob to the 5.5 minute mark.

Step 2. Connect power leads across relay 1A53A3K5 coil at terminals 1A53A3TB24-5 and 1A53A3TB60-1.

Step 3. Connect the Simpson (on RX1 range) across relay 1A53A3K5 contacts at terminals 1A53A3TB61-8 and 1A53A3TB69-10.

Step 4. Turn powerstat on. The Simpson should read zero ohms indicating that relay 1A53A3K5 is energized and its contacts closed.

Step 5. Start the stop watch and simultaneously turn powerstat off. Record the time, interval until the Simpson reads approximately 6.5 ohms indicating 1A53A3K5 is de-energized. It should be 5.5 ±.5 minutes.

Step 6. If the time is not as specified in step 5, turn time adjust knob on relay 1A53A3K5 one mark to the right or left as required and repeat steps 4 and 5 until required limits are obtained.

Step 7. Disconnect Simpson and power leads.

(b) FILAMENT WARM-UP DELAY RELAY 1A53A3K7. -

Step 1. Adjust relay 1A53A3K7 (figure 6-12) time adjust knob to the 150 second mark.

Step 2. Connect power leads across relay 1A53A3K7 coil at terminals 1A53A3TB23-2 and 1A53A3TB60-1.

Step 3. Turn powerstat on and simultaneously start stop watch. Record the time interval until the FILAMENTS READY lamp on control indicator 1A53A2 comes on. It should be within 150 ±15 seconds.

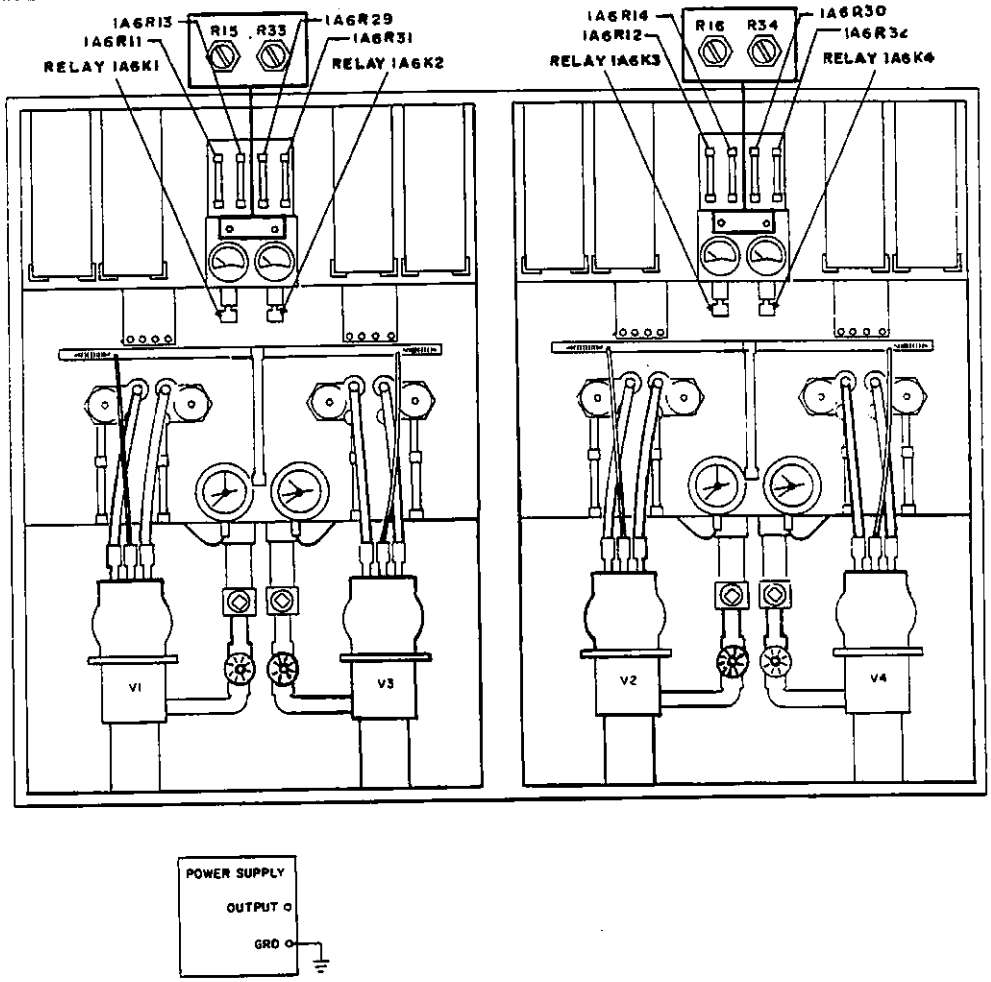


Figure 6-10. PA Tube Rack 1A6, Front View Relay Adjustment

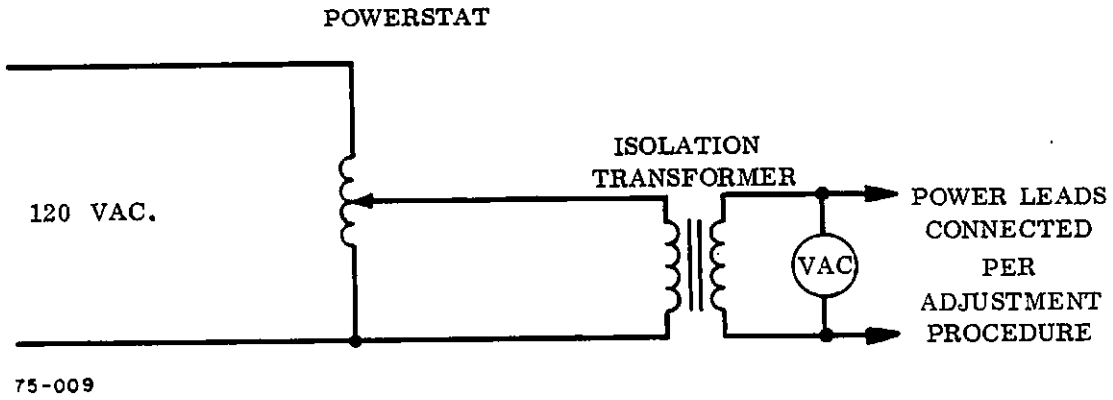


Figure 6-11. Time Delay Relay Adjustments, Test Setup

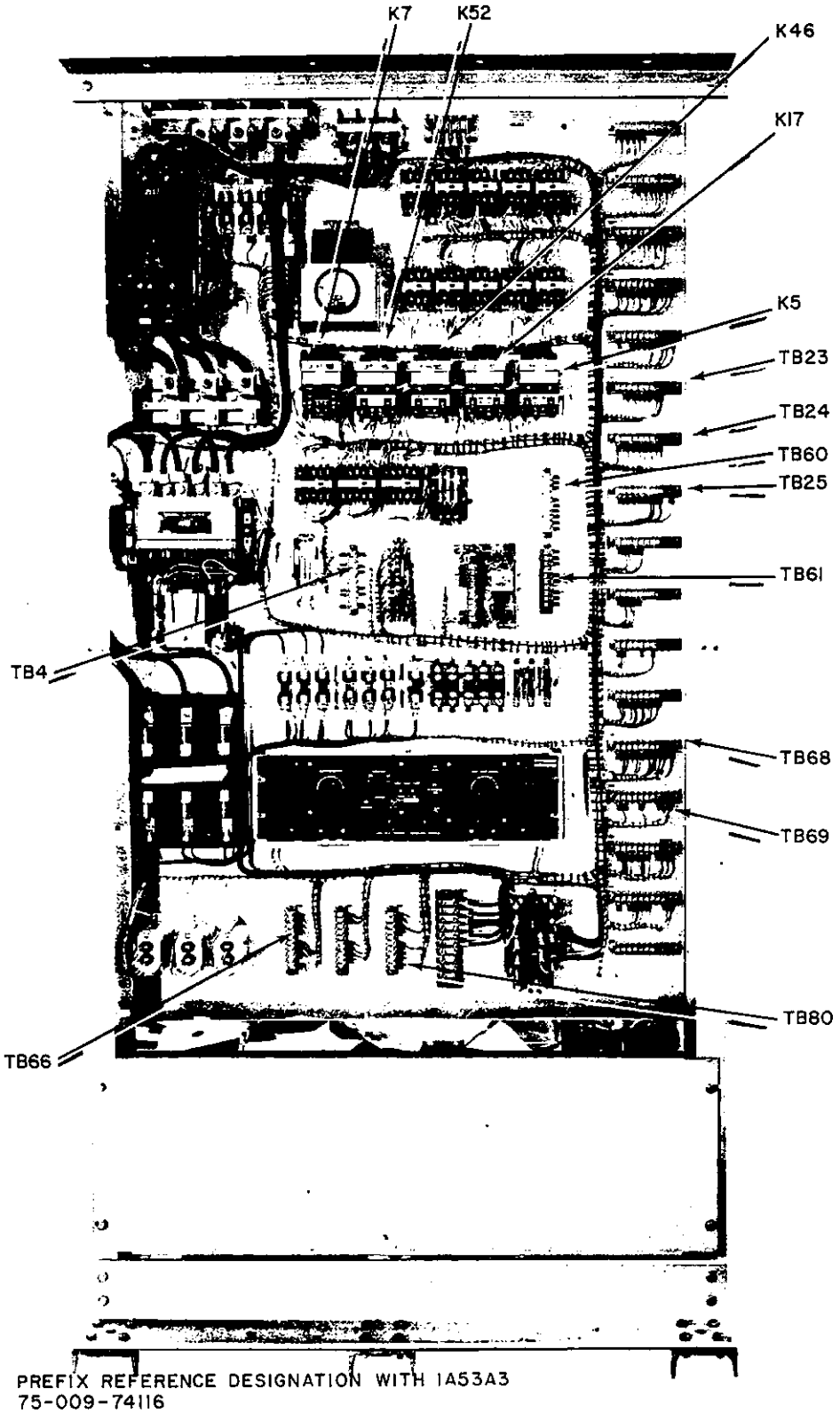


Figure 6-12. Time Delay Relay Adjustments, Location of Components

Step 4. If the time interval is not within the limits of step 3, turn powerstat off, turn relay 1A53A3K7 time adjust knob one mark as required and repeat step 3 until required limit is obtained.

Step 5. Disconnect powerstat leads.

(c) THREE STRIKE INTERVAL DELAY RELAY 1A53A3K17. -

Step 1. Adjust relay 1A53A3K17 (figure 6-12) time adjust knob to the 90 second mark.

Step 2. Connect power leads across relay 1A53A3K17 coil at terminals 1A53A3TB4-7 and 1A53A3TB60-1.

Step 3. Connect Simpson ohmmeter across relay 1A53A3K17 contacts at terminals 1A53A3TB66-2 and 1A53A3TB4-4. The ohmmeter should read zero ohms, indicating closed relay contacts.

Step 4. Turn powerstat on. The ohmmeter should read infinity indicating that relay 1A53A3K17 is energized and its contacts open.

Step 5. Start the stop watch and simultaneously turn powerstat off. Record the time interval until the ohmmeter reads zero indicating 1A53A3K17 contact closed. Time should be 90 ±9 seconds.

Step 6. If the time is not as specified in step 5, turn time adjust knob on relay 1A53A3K17 one mark to the right or left as required and repeat steps 4 and 5 until required limits are obtained.

Step 7. Disconnect Simpson and power leads.

(d) DEIONIZATION DELAY RELAY 1A53A3K46. -

Step 1. Adjust relay 1A53A3K46 (figure 6-12) time adjust knob to the 3 second mark.

Step 2. Connect power leads across relay 1A53A3K46 coil at terminals 1A53A3TB23-3 and 1A53A3TB60-1.

Step 3. Connect Simpson ohmmeter across relay 1A53A3K46 contacts at terminals 1A53A3TB24-2 and 1A53A3TB31-1.

Step 4. Turn powerstat on. The ohmmeter should read infinity indicating that relay 1A53A3K46 is energized and its contacts open.

Step 5. Start the stop watch and simultaneously turn powerstat off. Record the time interval until the ohmmeter indicates zero ohms indicating relay 1A53A3K46 contacts are closed. It should be 3 ±0.3 seconds.

Step 6. If the time is not as specified in step 5, turn time adjust knob on relay 1A53A3K46 one mark to the right or left as required and repeat steps 4 and 5 until required limits are obtained.

Step 7. Disconnect Simpson and power leads.

(e) WARM-UP LOCKOUT DELAY RELAY 1A53A3K52. -

Step 1. Adjust relay 1A53A3K52 (figure 6-12) time adjust knob to the 30 second mark.

Step 2. Connect power leads across relay 1A53A3K52 coil at terminals 1A53A3TB25-4 and 1A53A3TB60-1.

Step 3. Connect the Simpson ohmmeter across relay 1A53A3K52 contacts at terminals 1A53A3TB25-4 and 1A53A3TB23-2.

Step 4. Turn powerstat on. The ohmmeter should read zero indicating that relay 1A53A3K52 is energized and its contacts closed.

Step 5. Start the stop watch and simultaneously turn powerstat off. Record the time interval until the ohmmeter reads approximately 120 ohms indicating 1A53A3K52 is de-energized. It should be 30 ±3 seconds.

Step 6. If the time is not as specified in step 5, turn time adjust knob on relay 1A53A3K52 one mark to the right or left as required and repeat steps 4 and 5 until required limits are obtained.

Step 7. Disconnect Simpson and power leads.

c. PROTECTIVE SPARK GAP SPACING. - The protective spark gaps (figures 6-13 and 6-14) are adjusted as follows with no power applied to the equipment.

NOTE

After setting each spark gap to its proper setting, tighten the lock nut and check the gap to ensure that it did not change.

Step 1. Using the thickness gauge, set the four filament spark gaps in amplifier group 1A4 (1A4TY1 through 1A4TY4) to 0.065 (+0.001 -0.000) inch.

Step 2. Set the filter capacitor spark gaps in amplifier group 1A4 (1A4TY5 and 1A4TY6) to 0.030 ±0.001 inch.

Step 3. Set the PA grid spark gaps in the PA tube racks (1A6TY1 and 1A6TY2) to 0.065 ±0.001 inch.

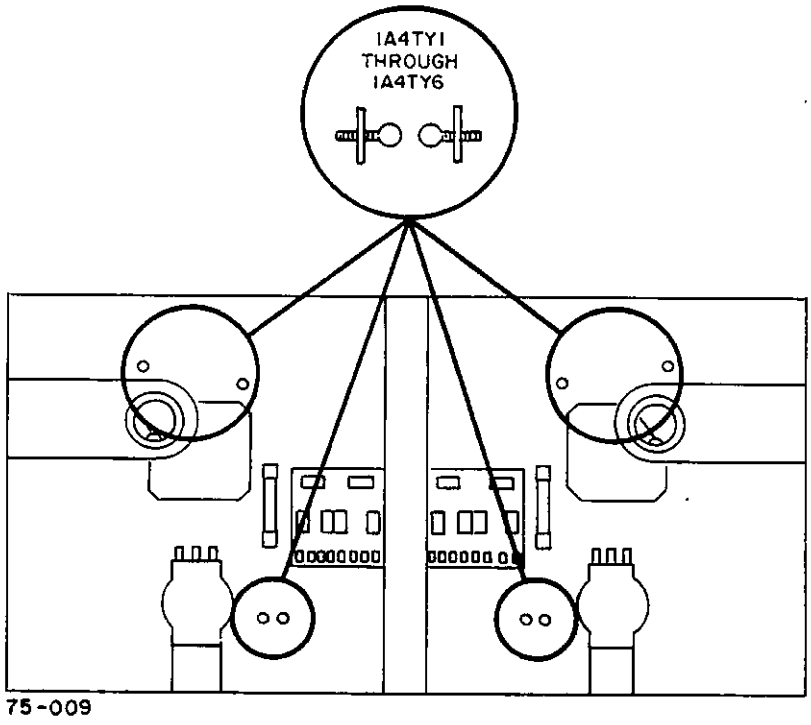


Figure 6-13. Amplifier Group OG-159/FPN-44A (1A4), Front View Spark Gap Spacing

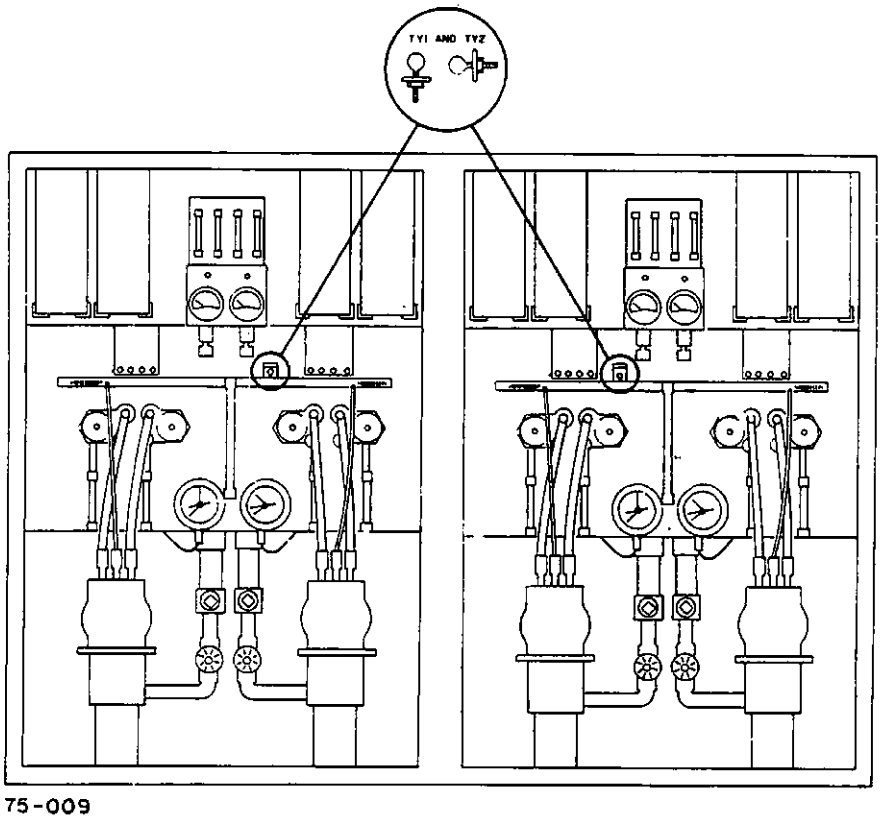


Figure 6-14. PA Tube Rack 1A6, Front View, Spark Gap Spacing

Step 4. Set the PA tank tuning capacitor spark gaps in the rear of the PA tube rack (1A6TY3-6) to 0.500 ± 0.010 inch.

Step 5. Set the low pass filter capacitor spark gaps to 0.500 ± 0.010 inch.

d. THERMOMETER SWITCHES. - Determine that the contact adjustment of each of the following thermometers (figure 6-15) with no power applied to the equipment is set as follows:

1A6S5	50°C
1A6S6	50°C
1A6S7	50°C
1A6S8	50°C
1A6S9	70°C

e. TEST POINT BLOCKING CAPACITORS. - These adjustments are made with no power applied to the equipment. Refer to figure 6-16. Set the test point blocking capacitors 1A4C19, 1A4C20, 1A4C21 and 1A4C22 to 0.875 ±0.030 inch using the thickness gauge. Ensure that the capacitor plates are parallel after the lock units are tightened.

f. UNDERVOLTAGE AND OVERVOLTAGE PROTECTION CIRCUIT. - These adjustments are normally made with all power off. The undervoltage and overvoltage protection circuits are adjusted by setting the high and low contacts on meter 1A53A3M1 to 126 and 114 vac, respectively (figure 6-17).

g. VOLTAGE REGULATOR CN-1472/FPN-44A. - This procedure involves checking the operation of the 208V regulator 1A53A3A3 and adjusting the output for proper filament voltage on the 2ND IPA and PA tubes. The regulator adjustments are located on the inductrol voltage regulator control panel 1A53A3A4 (figure 6-18).

Step 1. Place the controls listed below in the positions indicated:

CONTROL	POSITION
208V Circuit Breaker 1A53A3CB2	OFF
460V INPUT CB1	OFF
HIGH VOLTAGE RECTIFIER POWER S1	OFF
POWER	OFF/RESET
FILAMENTS	OFF
BIAS AND LOW VOLTAGE	OFF
PLATE VOLTAGE SELECTOR	OFF
LOCKOUT-READY	LOCKOUT
EMERGENCY STOP	RUN
208V Regulator Motor Switch	OFF
208V Regulator Mode Switch	MANUAL

Step 2. Remove FILAMENT power fuses 1A53A3F11, F12 and F13.

Step 3. Connect the voltmeter (0-300 vac range) across the 208V regulator output terminals L1 and L2 (bottom of fuseholders for 1A53A3F12, F13).

Step 4. Turn VOLTAGE LEVEL and BANDWIDTH controls fully counterclockwise.

Step 5. Set 208V regulator MOTOR switch ON and MODE switch to AUTO.

Step 6. Gain access to potentiometer 1A53A3A4A1R6 on back of panel (figure 6-18).

Step 7. Set circuit breaker 1A53A3CB2 to ON.

Step 8. Adjust potentiometer 1A53A3A4A1R6 until regulator control is balanced; that is, when LOWER and RAISE relays 1A53A3A4A2K1 and 1A53A3A4A2K2 are de-energized, close panel.

Step 9. Adjust the 208V regulator VOLTAGE LEVEL control for 208 vac across terminals L1 and L2, as indicated by test equipment voltmeter (Weston Model 433 or equivalent).

Step 10. Set the MODE switch to MANUAL.

Step 11. Actuate the 208V regulator MANUAL LOWER switch to obtain 203 vac across terminals L1 and L2.

Step 12. Set the MODE switch to AUTO. Observe that the voltage across L1 and L2 returns to 208 ±3.5 vac without overshoot or hunting. Adjust BANDWIDTH control if necessary.

NOTE

Increasing BANDWIDTH reduces overshoot and hunting. Decreasing BANDWIDTH narrows the dead band.

Step 13. Set the MODE switch to MANUAL.

Step 14. Actuate the MANUAL RAISE switch to obtain 212 vac across L1 and L2.

Step 15. Set the MODE switch to AUTO. Observe that the voltage across L1 and L2 returns to 208 ±3.5 vac without overshoot or hunting.

Step 16. Set circuit breaker 1A53A3CB2 to OFF.

Step 17. Replace fuses 1A53A3F11, F12 and F13. Set circuit breaker 1A53A3CB2 to ON. Set POWER and FILAMENTS switches to ON.

Step 18. Connect the voltmeter (to measure 0-14 vac range) across the filament terminals of 1A4V9, and then across filament terminals of 1A6V1 through V4.

Step 19. Adjust the VOLTAGE LEVEL control on 1A53A3A4 to a setting which will provide filament voltages for the 2ND IPA and PA tubes within limits specified below. (The MODE switch must be in AUTO while taking the voltage measurements.)

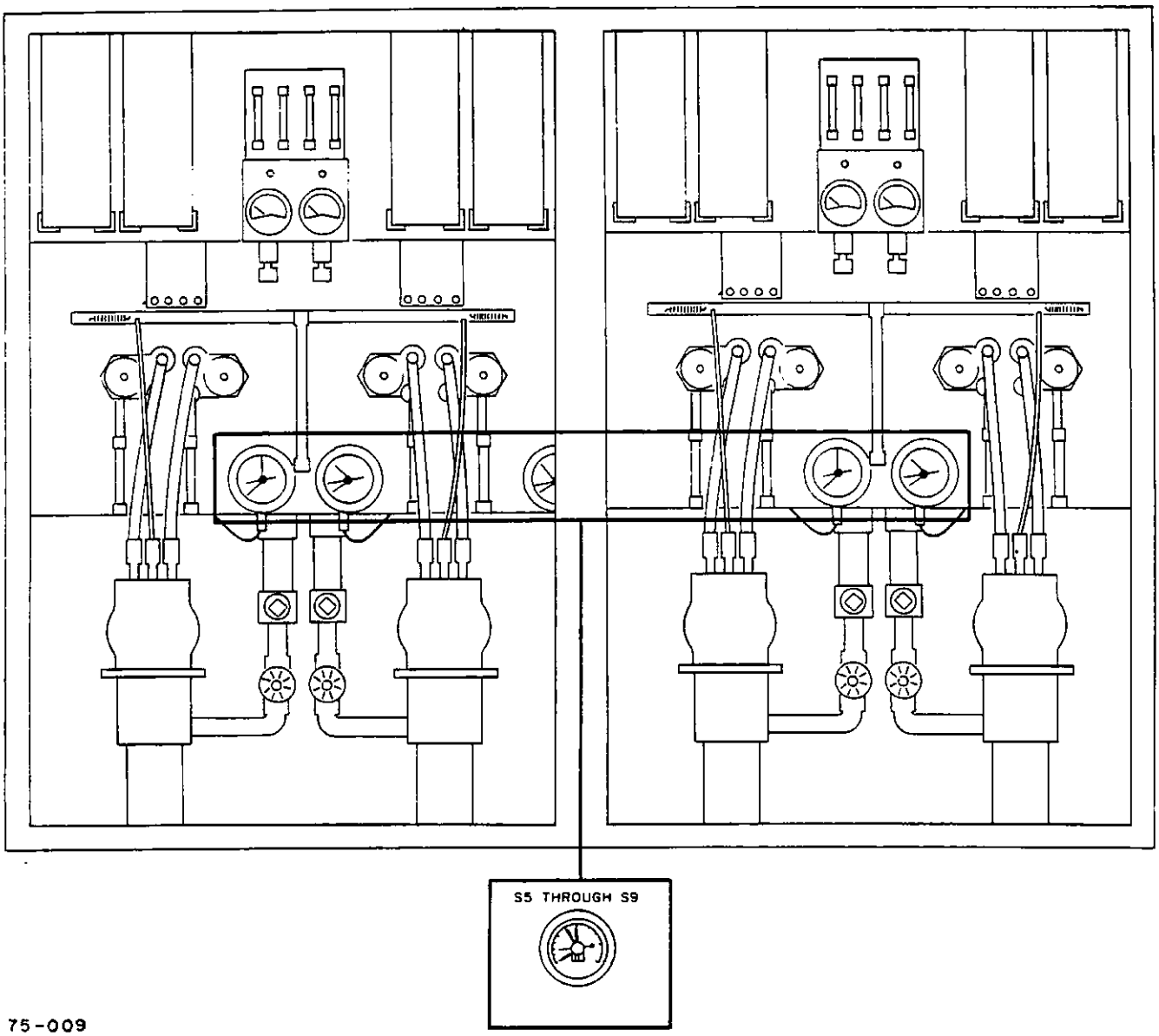


Figure 6-15. PA Tube Rack 1A6, Front View, Thermometer Switches Adjustments

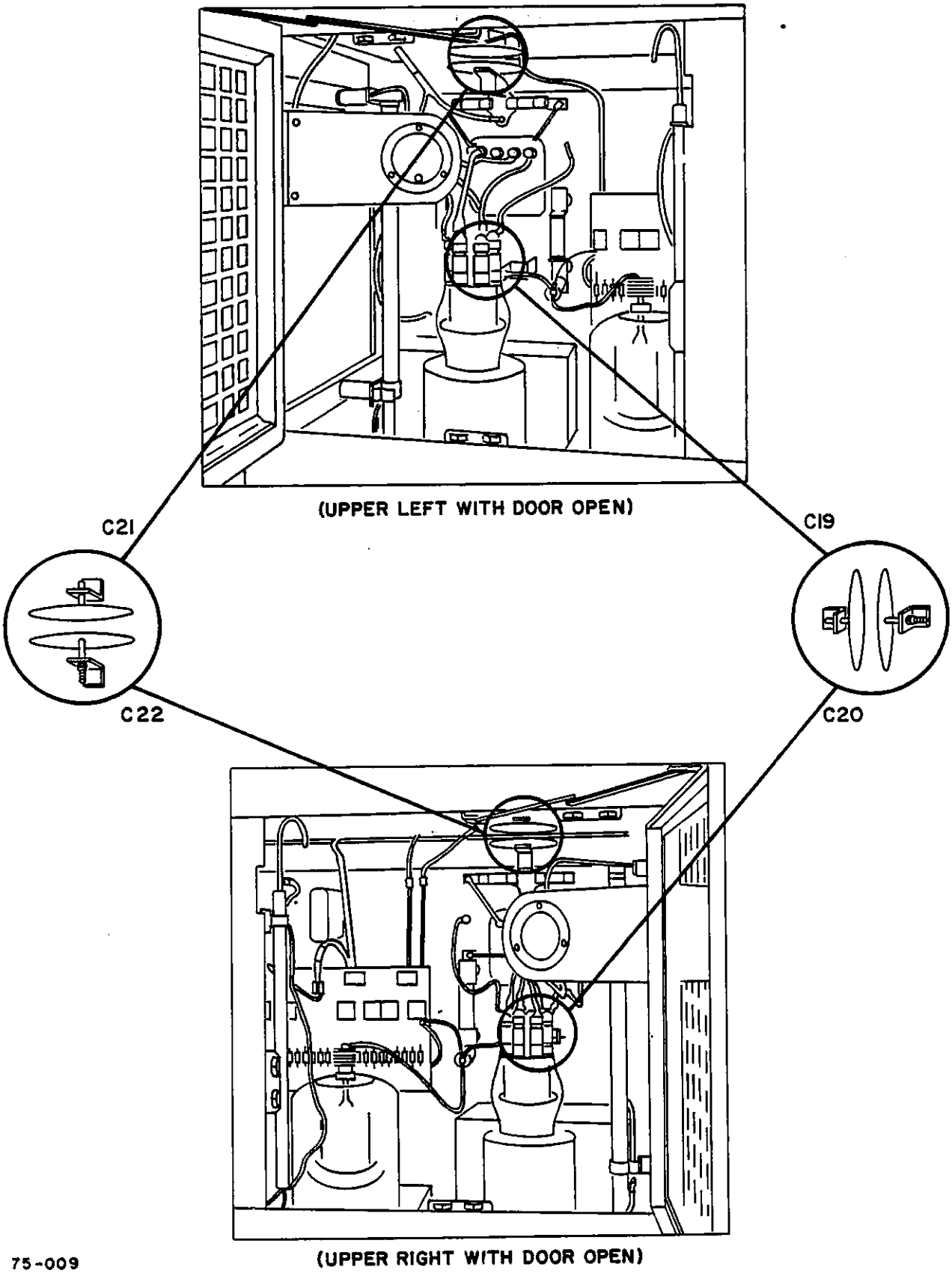


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Figure 6-16. Amplifier Group OG-159/FPN-44A (1A4), Front View, Blocking Capacitor

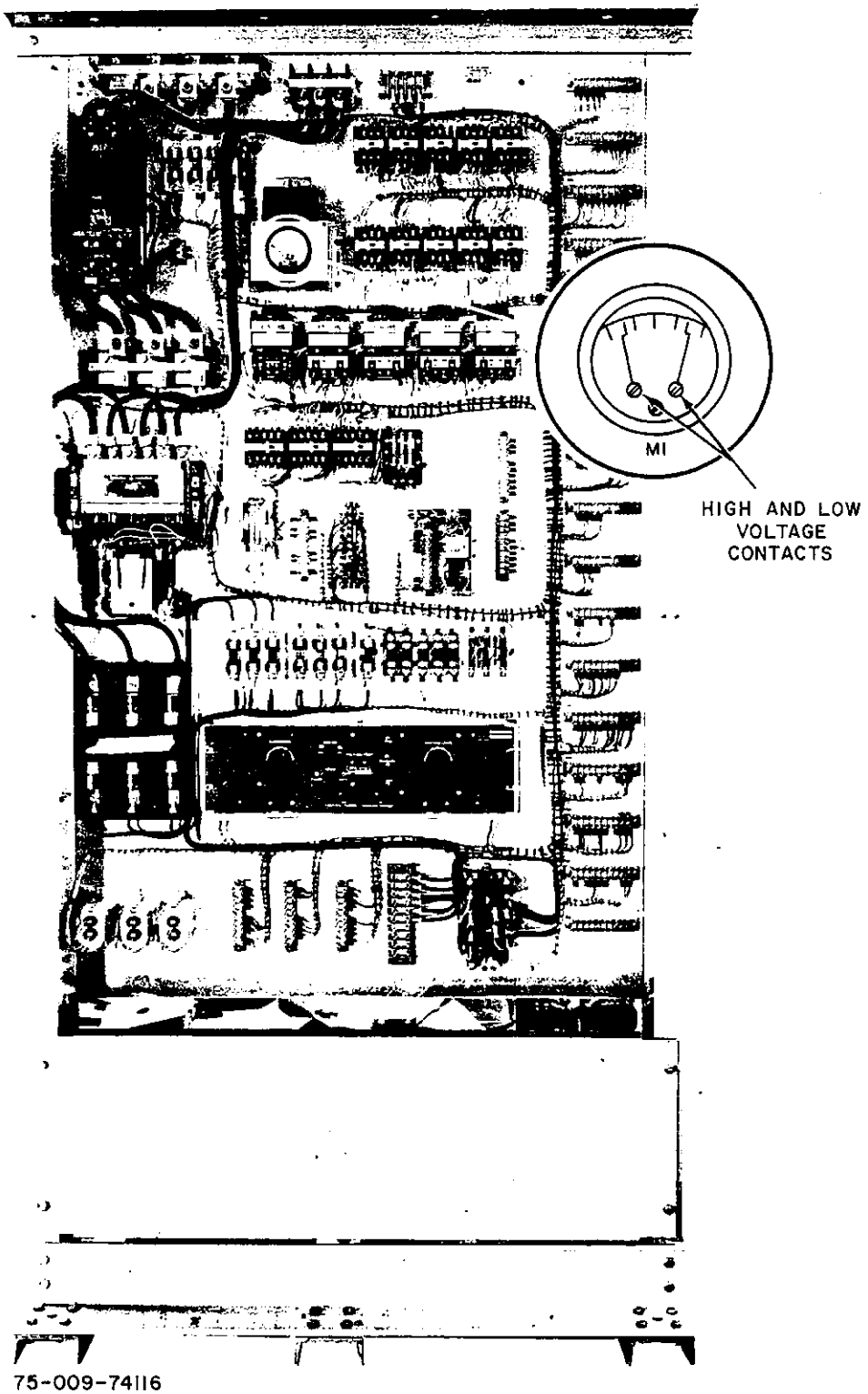


Figure 6-17. Undervoltage and Overvoltage Protection Circuit, Adjustment Location

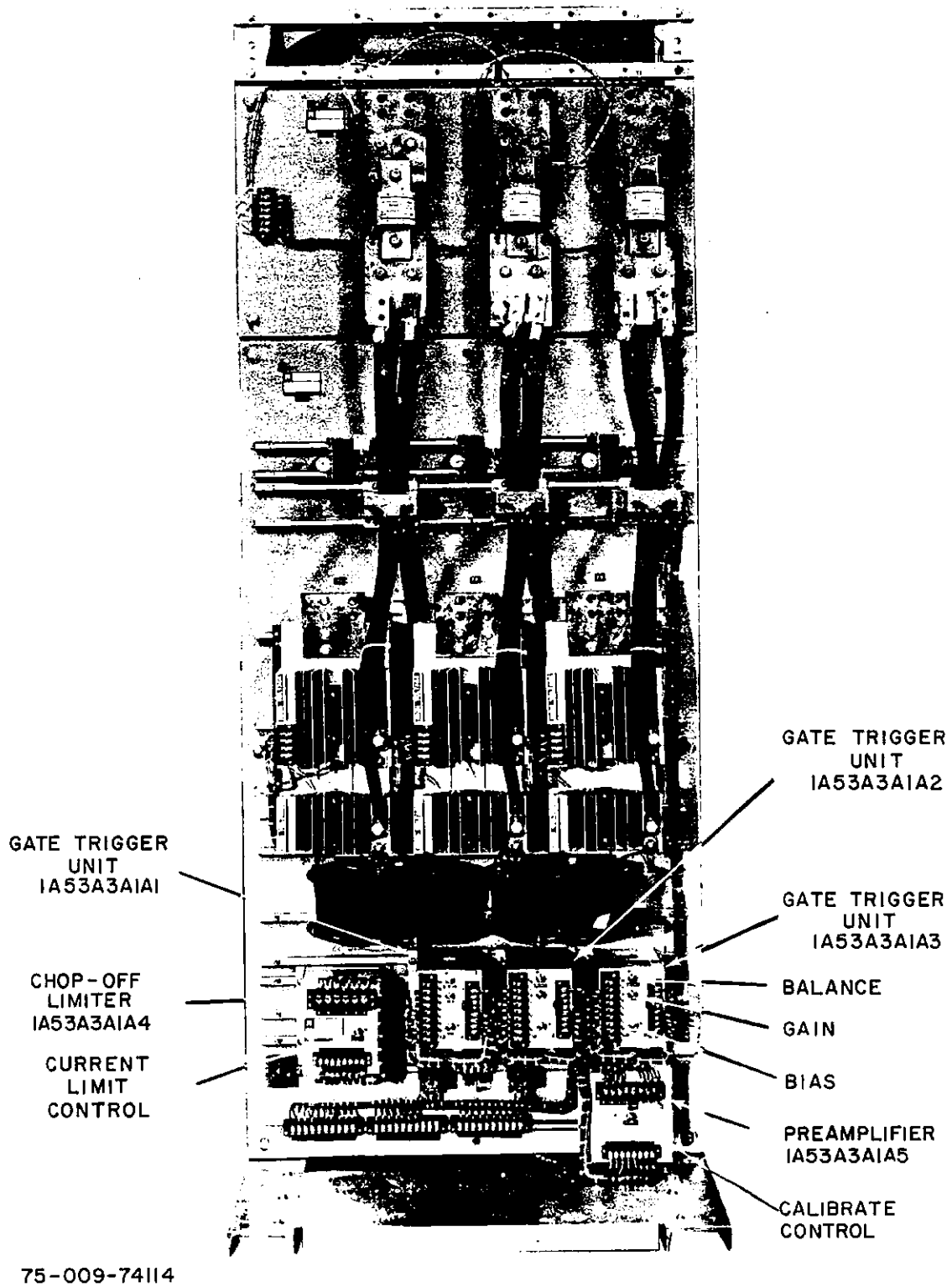


Figure 6-19. Voltage Regulator CN-1473/FPN-44A, Location of Adjustment Controls

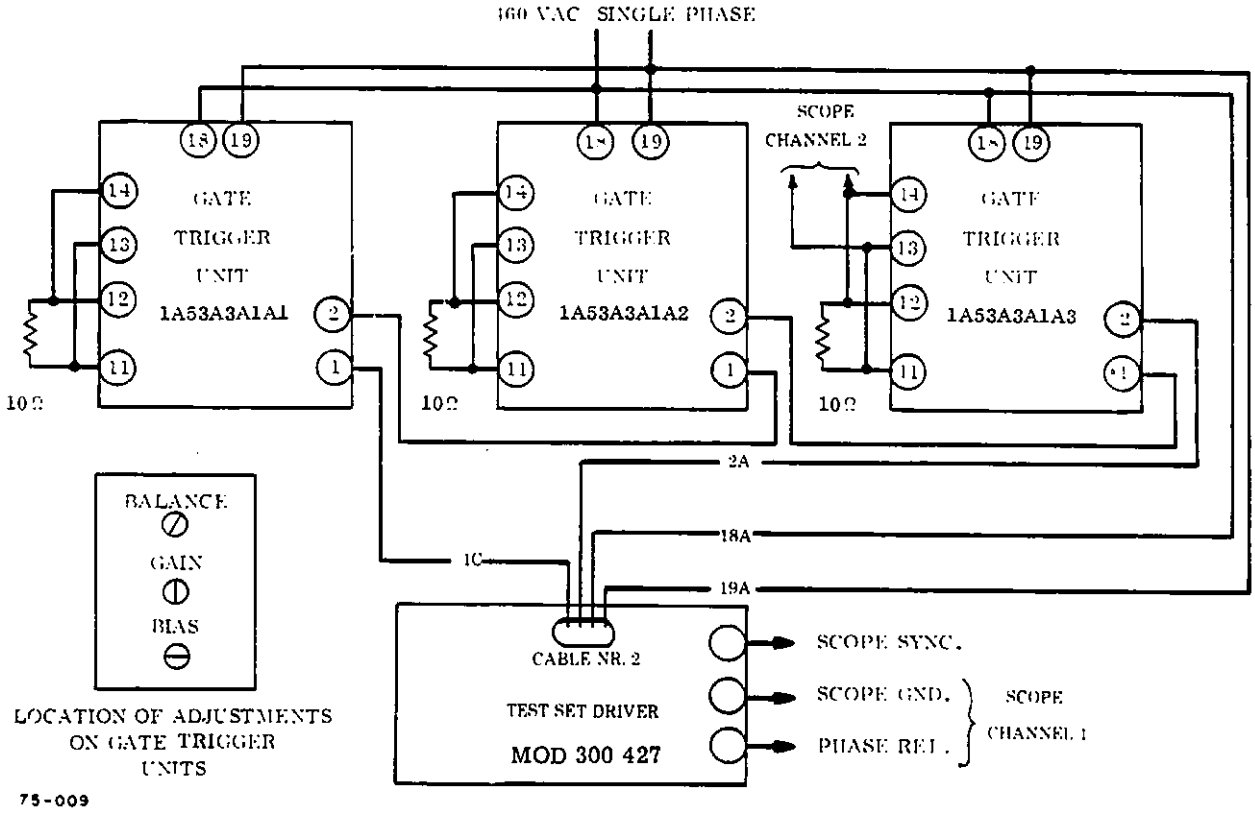


Figure 6-20. Gate Trigger Unit Positive-Negative Balance Adjustment Test Setup

Step 1. Turn on transmitter and set it for a full load with IPA Voltage at 10.75 KV.

Step 2, Set 460V INPUT CB1 to OFF.

Step 3. Loosen locknut on CURRENT LIMIT control P1 on Chop-Off Limiter 1A53A3A1A4, located on the back of rack 1A53A3 (see figure 6-19). Turn CURRENT LIMIT control slightly counterclockwise.

Step 4. Set 460V INPUT CB1 to ON.

Step 5. Observe that the chop-off limiter overcurrent circuit immediately turns off the bias and plate voltages. If these voltages are not turned off, repeat steps 2 through 4, observing all safety precautions, until the CURRENT LIMIT control is set to a point at which the voltages are just turned off.

Step 6. Turn the CURRENT LIMIT control clockwise one-quarter turn and tighten locknut.

(3) PREAMPLIFIER 1A53A3A1A5 ADJUSTMENT. - To perform the Preamplifier 1A53A3A1A5 adjustments, proceed as follows:

WARNING

If an extender cable is not available it will be necessary to make this adjustment on a repetitive basis in order to prevent exposure of personnel to high voltages. Observe all safety regulations at all times. Voltages up to 208 vac are present on the voltage regulator when the 460 vac power is switched off.

NOTE

The following adjustment is made to ensure that the IPA voltage does not exceed 11.25 KVDC when the OPERATE ADJUST control is fully clockwise.

Step 1. Turn on power to transmitter.

Step 2. Set OPERATE ADJUST control 1A53A2R8 fully counterclockwise.

Step 3. With PLATE VOLTAGE SELECTOR switch 1A53A2S18 in OPERATE position, observe IPA PLATE VOLTAGE meter 1A53A2M3. Reading should be approximately 9.75 KVDC. If so, proceed to step 4. If not, adjust Preamplifier CALIBRATE potentiometer slightly until 9.75 KVDC is obtained.

Figure 6-21. Deleted

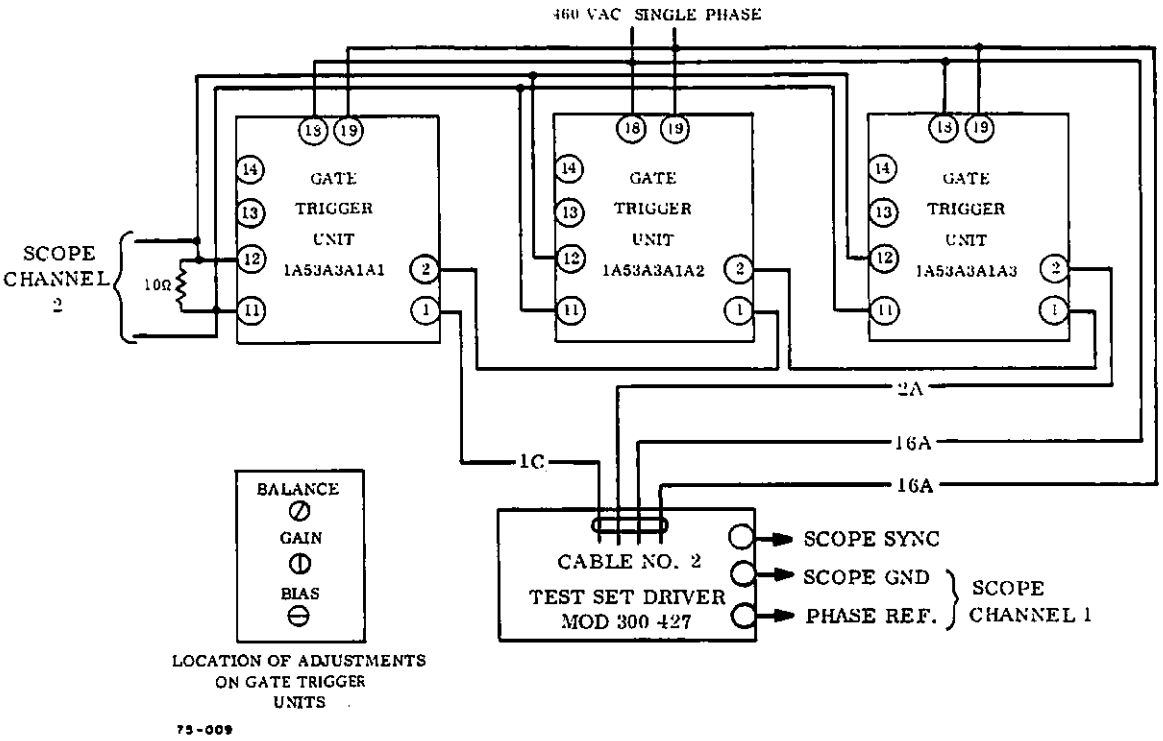


Figure 6-22. Gate Trigger Unit Three Phase Balance Adjustment Test Setup

Step 4. Adjust OPERATE ADJUST control clockwise until IPA PLATE VOLTAGE meter 1A53A2M3 reads 11 $^{+0.25}_{-0.0}$ KVDC. If OPERATE ADJUST is at the fully clockwise position for this condition, adjustment is complete, otherwise proceed to step 5.

Step 5. Loosen locknut on Preamplifier CALIBRATE control 1A53A3A1A5-P2 and adjust control slightly counterclockwise (to decrease voltage) or clockwise (to increase voltage) as required.

Step 6. Repeat steps 4 and 5 until IPA PLATE VOLTAGE is 11 $^{+0.25}_{-0.0}$ KVDC with OPERATE ADJUST control fully clockwise.

Step 7. Tighten locknut on 1A53A3A1A5-P2.

i. TUBE SEASONING. - For trouble-free on-air operation, new second IPA and PA tubes should be seasoned after installation as follows:

Step 1. Record tube serial numbers and the PLATE HOURS (1A53A2M1) meter reading.

Step 2. Set V7 BIAS ADJUST and V8 BIAS ADJUST (figure 6-23) to their clockwise limits.

Step 3. Disconnect the signal cable from 1A4J1.

Step 4. Put the transmitter group in the standby status at the transmitter control equipment.

Step 5. Start the transmitter, turning on bias voltages but not plate voltages, according to tables 3-9 and 3-10 and steps 1, 2, and 3 of table 3-11.

Step 6. Set LEFT PA BIAS ADJUST for 1.25 KV on the LEFT PA BIAS meter.

Step 7. Set RIGHT PA BIAS ADJUST for 1.25 KV on the RIGHT PA BIAS meter.

Step 8. Set the LOCKOUT-READY switch to LOCKOUT.

Step 9. Set the PLATE VOLTAGE MAINTENANCE ADJUST control to 0.

Step 10. Set the PLATE VOLTAGE SELECTOR to MAINT.

Step 11. Set the PLATE VOLTAGE MAINTENANCE ADJUST for 5 KV on the PA PLATE VOLTMETER.

Step 12. Gradually increase the PA plate voltage according to the following schedule:

Plate Voltage Range	Maximum Rate of Increase
5 kV to 10 kV	1 kV per minute
10 kV to 21.5 kV	0.5 kV per minute

NOTE

If PA or IPA overloads occur, reduce the PA plate voltage to a level 2 kV below that at which the overload occurred and resume seasoning.

Step 13. Continue seasoning for at least two hours after 21.5 kV is reached.

Step 14. Record the PLATE HOURS meter reading when seasoning is completed.

j. BIAS ADJUST. - Bias voltages are adjusted as follows (figure 6-23):

Step 1. Select the transmitting group under test as the standby transmitter. With all power off (see paragraph 6-5 b(1) step 1), disconnect the pulse input cable from 1A4J1 to ensure there is no pulse signal input to the voltage amplifier.

Step 2. Connect oscilloscope high voltage probe to ground and to the junction 1A4C51 and 1A4C54. Lock amplifier group front doors.

Step 3. Set the following controls to the indicated position:

CONTROL	POSITION
Two links in lower rear corner of amplifier group connected to terminals 66 and 67	
Bias Pedestal Generator 1A4A5S1	1000 μS
PLATE VOLTAGE SELECTOR 1A53A2S18	OFF
MAINTENANCE ADJUST 1A53A2R9	Fully CCW(0.0)
LOCKOUT-READY 1A12S1	LOCKOUT
All water flow valves	Open
All interlocked doors	Closed
208 vac circuit breaker on primary power distribution panel	ON
460 vac circuit breaker on primary power distribution panel	ON
EMERGENCY STOP 1A53A2S19	RUN
208 vac circuit breaker 1A53A3CB2	ON
POWER 1A53A2S17	ON
FILAMENTS 1A53A2S13	ON
BIAS PEDESTAL CCT CONTROL 1A4S8	ON
BIAS AND LOW VOLTAGE 1A53A2S7	ON
HIGH VOLTAGE RECTIFIER POWER 1A53A3S1	ON
LOCKED ON 1A53A3S2	Locked
460V INPUT 1A53A3CB1	ON

Step 4. Turn bias controls 1A4R149, 1A4R150; 1A4R193, 1A4R194, and 1A4R195; 1A4R97, and 1A4R98 fully clockwise. Adjust 1A4T5 and 1A4T6 so that LEFT PA BIAS meter and RIGHT PA BIAS meter indicate 1200 volts.

Step 5. Set PLATE VOLTAGE SELECTOR to MAINT.

Step 6. Adjust MAINTENANCE ADJUST so that IPA PLATE VOLTAGE meter reads 10.75 kV.

Step 7. Adjust V7 BIAS ADJ 1A4R149 and V8 BIAS ADJ 1A4R150 so that LEFT 1ST IPA CATHODE meter and RIGHT 1ST CATHODE meters each indicate 50 ma.

Step 8. Perform the following adjustments:

(1) Set BIAS PEDESTAL CCT CONTROL 1A4S8 to OFF.

(2) Set STANDBY LEVEL 1A4R212 fully counterclockwise.

(3) Adjust LEFT 2ND IPA BIAS ADJUST 1A4R97 so that LEFT 2ND IPA BIAS meter indicates 4 kV.

(4) Adjust RIGHT 2ND IPA BIAS ADJUST 1A4R98 so that RIGHT 2ND IPA BIAS meter indicates 4 kV.

(5) Adjust LEFT PA BIAS ADJUST 1A4T5 so that LEFT PA BIAS meter indicates 1200 volts.

(6) Adjust RIGHT PA BIAS ADJUST 1A4T6 so that RIGHT PA BIAS meter indicates 1200 volts.

(7) Readjust LEFT 2ND IPA BIAS ADJUST 1A4R97 so that LEFT 2ND IPA PLATE CURRENT meter indicates 200 ma.

(8) Readjust RIGHT 2ND IPA BIAS ADJUST 1A4R98 so that RIGHT 2ND IPA PLATE CURRENT meter indicates 200 ma.

(9) Repeat steps (7) and (8) until both LEFT and RIGHT 2ND IPA CURRENT METERS indicate 200 ma.

Step 9. Set BIAS PEDESTAL CCT CONTROL 1A4S8 to ON.

Step 10. Observe the bias pedestal generator output on the external oscilloscope and adjust controls 1A4R193, 1A4R194 and 1A4R195 as follows:

(1) Rotate output level control R193 fully clockwise to provide maximum output level.

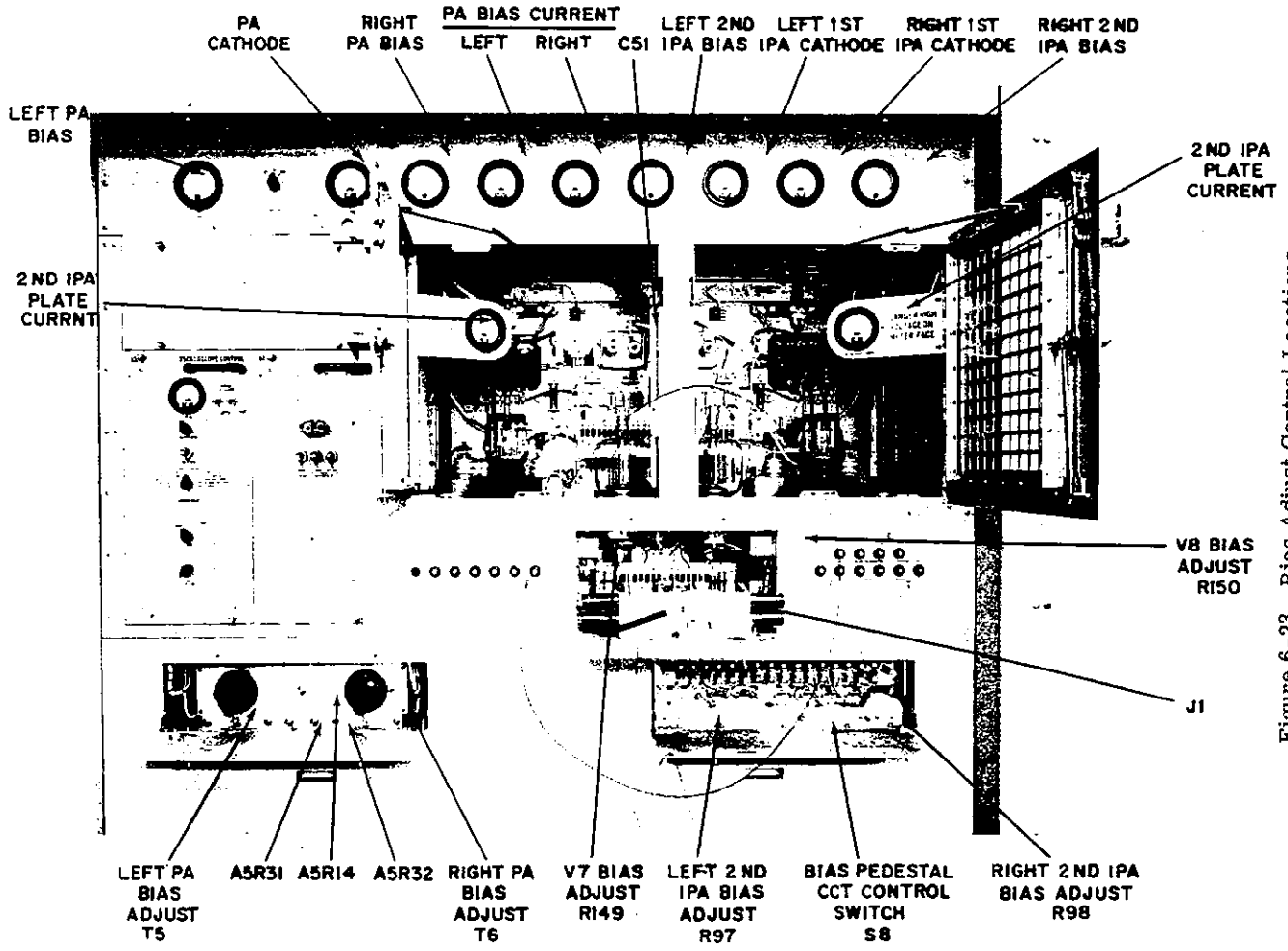


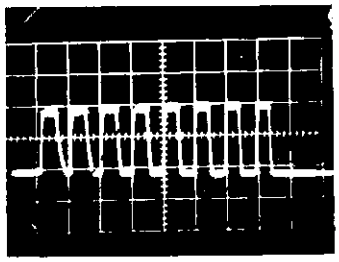
Figure 6-23. Bias Adjust Control Locations

63-41303

(2) Adjust negative clipping control R31 to the point where the trailing edge of the 1st pedestal just "bottoms". It is imperative that R31 be left in the most counterclockwise position which just produces 1st pedestal "bottoming", otherwise peak output will be reduced.

(3) Adjust positive clipping control R32 counterclockwise until right hand corner of last bias pedestal "tilts" and then turn clockwise to just flatten this "tilt". It is imperative that R32 be left in the most clockwise position which just removes last pedestal tilt, otherwise peak output will be reduced.

(4) When the above adjustments are completed the bias pedestal group as observed on the external oscilloscope should appear as shown below and have the following characteristics:



(a) All pedestal amplitudes 1000 ± 100 volts peak-to-peak.

(b) Pedestal width at 90% amplitude 450 ± 50 μsec.

Step 11. Set BIAS PEDESTAL CCT CONTROL 1A4S8 to OFF.

Step 12. Make the following adjustments:

(1) Readjust 1A4T5 so that LEFT PA BIAS meter indicates 1150 volts.

(2) Readjust 1A4T6 so that RIGHT PA BIAS meter indicates 1150 volts.

(3) Readjust LEFT 2ND IPA BIAS ADJUST 1A4R97 so that LEFT 2ND IPA PLATE CURRENT meter indicates 200 ma.

(4) Readjust RIGHT 2ND IPA BIAS ADJUST 1A4R98 so that RIGHT 2ND IPA PLATE CURRENT meter indicates 200 ma.

(5) Repeats steps (3) and (4) until both LEFT AND RIGHT 2ND IPA CURRENT meters indicate 200 ma.

Step 13. Set BIAS PEDESTAL CCT CONTROL 1A4S8 to ON.

Step 14. The current settings for this step depend upon the pulse rate as shown in table 6-7. Perform the following adjustments:

(1) Adjust only bias pedestal generator control 1A4R193 so that PA CATHODE QUIESCENT CURRENT meter (QUIESCENT CURRENT switch held to RIGHT) indicates the value listed in table 6-7. If with 1A4A5R14 fully clockwise the tabulated current in the 5th column of table 6-7 cannot be obtained; leave R14 in its most clockwise position.

(2) Balance left and right side PA cathode quiescent current by adjusting 1A4R97 and observing PA CATHODE QUIESCENT CURRENT meter.

Step 15. Set BIAS PEDESTAL CCT CONTROL 1A4S8 to OFF.

Step 16. Perform the following adjustments:

(1) Adjust 1A4T5 so that the LEFT 2ND IPA PLATE CURRENT meter reads 200 ma.

(2) Adjust 1A4T6 so that the RIGHT 2ND IPA PLATE CURRENT meter reads 200 ma.

(3) Set BIAS PEDESTAL CCT CONTROL 1A4S8 to ON.

Step 17. Repeat steps 13 through 16 until both 2ND IPA meters read 200 ma; and both RIGHT AND LEFT PA CATHODE QUIESCENT CURRENT meters read identical values.

Step 18. Operate transmitting group for at least 20 minutes and then repeat Steps 9 through 17 of this bias adjustment procedure.

k. TUNING. - This procedure covers the method used for tuning the antenna coupler (Unit 3), dummy load (Unit 4) and low pass filter (Unit 1A20). Refer to figure 6-25.

WARNING

Do not attempt to perform the following antenna coupler tuning procedures during an electrical storm.

Before proceeding with the following steps, open the antenna coupler doors and touch the grounding hooks to the leads of inductor 3L1 and to the tubing. Then, replace the grounding hooks in their appropriate holders. Also, in both transmitter No. 1 and transmitter No. 2, use grounding hooks to ground capacitors 1A20C1, 1A20C2, 1A20C3, and 1A20C4 in low pass filter.

Proceed with extreme care since ac control voltage is still applied to the antenna coupler and to the dummy load.

(1) PRELIMINARY SET-UP. -

Step 1. In each transmitting group, with the 208 vac circuit breaker 1A53A3CB2 set to OFF, remove enclosure blower fuses (1A11F7, 1A11F8, and 1A11F9) and dummy load blower fuses (1A11F13, 1A11F14 and 1A11F15) to prevent high noise levels.

Step 2. Set the controls listed below in the positions indicated for each transmitting group.

CONTROL	TRANSMITTING GROUP BEING TUNED	OTHER TRANSMITTING GROUP
EMERGENCY STOP 1A53A2S19	RUN	RUN
208 vac Circuit Breaker 1A53A3CB2	ON	ON
HIGH VOLTAGE RECTIFIER POWER 1A53A3S1	OFF (LOCKED OFF)	OFF (LOCKED OFF)
460V INPUT CB1 1A53A3CB1	OFF	OFF
POWER Switch 1A53A2S17	ON	ON
FILAMENTS Switch 1A53A2S13	OFF	OFF
BIAS AND LOW VOLTAGE 1A53A2S7	OFF	OFF
LOCKOUT-READY 1A12S1	READY	READY
PLATE VOLTAGE SELECTOR 1A53A2S18	OPERATE	OPERATE

Set control on Transmitter Control Equipment so that transmitter being tuned is the standby transmitter.

Step 3. Open output circuit for loop 1 (filter input circuit) tuning as indicated by note 1 in figure 6-25 as follows:

(a) Disconnect the copper tubing that connects 1A20C4 to the 1-3/8 inch (ground) copper pipe.

(b) Disconnect the copper tubing which goes from 1A20C2 and 1A20L2 to the 1-3/8 inch (hot) copper pipe.

Step 4. Set coils L1 and L2 in low pass filter 1A20 for a total of (15) active turns by connecting top lead (with slide clip at each end) symmetrically between L1 and L2.

Step 5. In the PA tube rack 1A6, ground capacitors C21 through C24 with associated grounding hooks, then connect shorting (clip) leads across C21 through C24.

Step 6. Connect the test equipment, including the 2.2K non-inductive (carbon) resistor as shown in figure 6-25.

(2) FILTER INPUT CIRCUIT TUNING. -

NOTE

It is imperative that the filter input circuit be tuned precisely. Place the test equipment on a chair or stool alongside the filter rack. Dress all leads as short as possible. Make certain that leads do not cross or come in contact with the filter elements.

Step 1. Adjust the oscillator frequency for a reading of 100 kHz on the frequency counter.

TABLE 6-7. CURRENTS WITH BIAS PEDESTAL ON

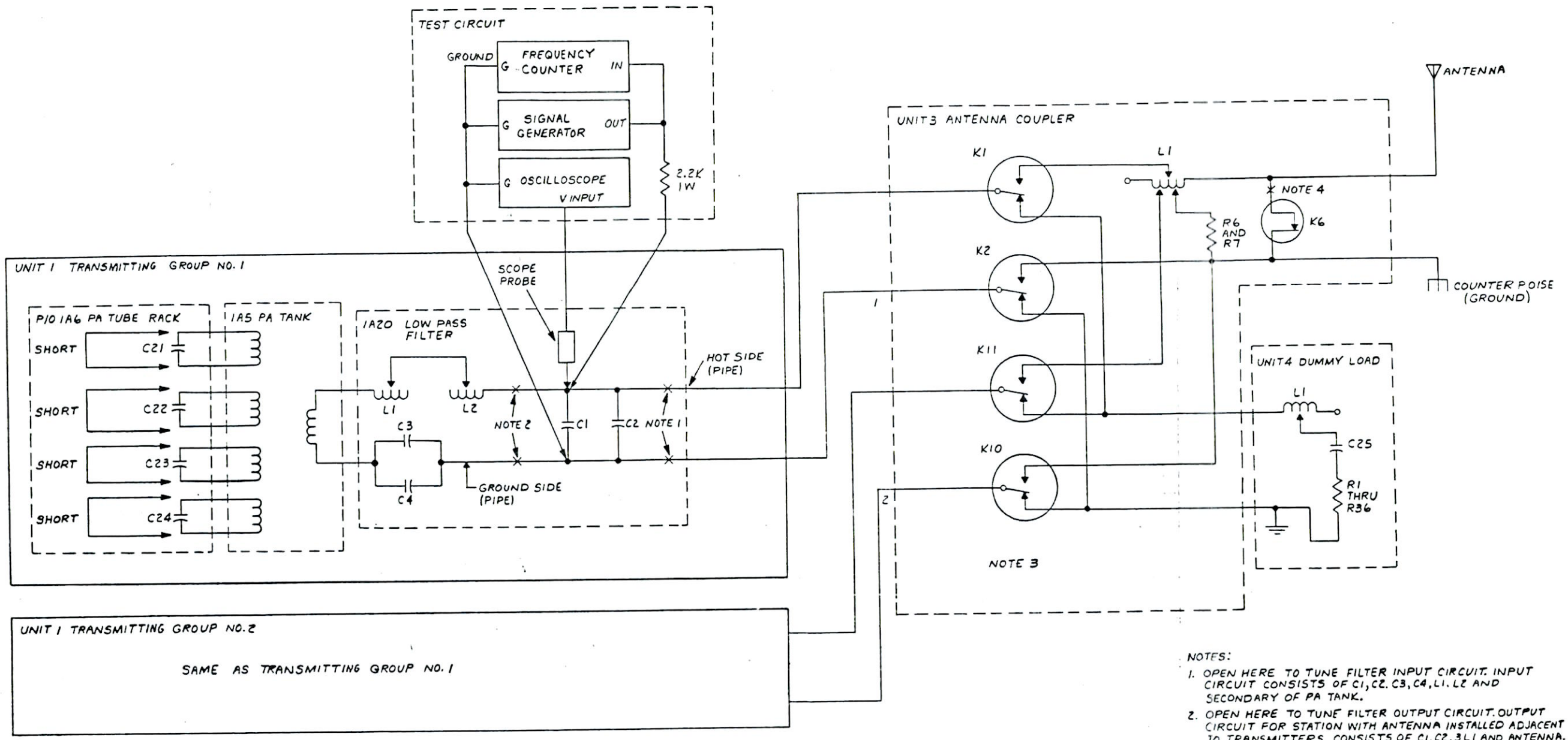
BASIC RATE	REPETITION INTERVAL (MILLISEC)	PULSES PER GROUP	PULSES PER SEC. (APPROX)	PA CATHODE QUIESCENT CURRENT (AMP) (±0.08A)
SS	100	8	80	0.30
SS	100	9	90	0.34
	90	8	89	0.33
	90	9	100	0.38

TABLE 6-7. CURRENTS WITH BIAS PEDESTAL ON (Cont)

BASIC RATE	REPETITION INTERVAL (MILLISEC)	PULSES PER GROUP	PULSES PER SEC. (APPROX)	PA CATHODE QUIESCENT CURRENT (AMP) (±0.08A)
SL	80	8	100	0.38
SL	80	9	112	0.42
	70	8	114	0.43
	70	9	129	0.48
SH	60	8	133	0.50
SH	60	9	150	0.56
S	50	8	160	0.60
S	50	9	180	0.68
L	40	8	200	0.75
L	40	9	225	0.84

(Deleted)

Figure 6-24. Idealized Bias Pedestal Pulse Group for System Using 1000-Microsecond Spacing



75-009

NOTES:

1. OPEN HERE TO TUNE FILTER INPUT CIRCUIT. INPUT CIRCUIT CONSISTS OF C1, C2, C3, C4, L1, L2 AND SECONDARY OF PA TANK.
2. OPEN HERE TO TUNE FILTER OUTPUT CIRCUIT. OUTPUT CIRCUIT FOR STATION WITH ANTENNA INSTALLED ADJACENT TO TRANSMITTERS CONSISTS OF C1, C2, L1 AND ANTENNA. FOR STATIONS HAVING 500 FOOT TRANSMISSION LINES, OUTPUT CIRCUIT CONSISTS OF C1, C2, 500 FOOT LINE, DOG HOUSE COIL AND ANTENNA. (ALSO SEE NOTE 4)
3. RELAYS K1, K2, K11 AND K10 ARE SHOWN DE-ENERGIZED MODE.
4. DISCONNECT K6 FROM ANTENNA WHEN TUNING OUTPUT CIRCUIT.
5. KEEP ALL TEST LEADS AS SHORT AS POSSIBLE AND WELL SHIELDED.

Figure 6-25. Antenna Coupler CU-2171/FPN-44A Tuning Test Setup

Step 2. Use a fuse puller (to isolate body from the circuit) to slide the 1A20 L1 and L2 coil taps along the coils for a peak indication on the oscilloscope.

Step 3. Check the tuning by moving away from the circuit and adjusting the oscillator for a peak on the oscilloscope. When the peak occurs the frequency counter reading should be at 100 kHz. If the frequency counter does not read 100 kHz, slide the tap slightly to a new position, then repeat this adjustment until the frequency counter reads 100 kHz.

Step 4. Mark the tuning point on coils 1A20L1 and L2.

(3) FILTER OUTPUT CIRCUIT TUNING (DUMMY LOAD). -

Step 1. Reconnect the copper tubing in the low pass filter 1A20 such that only the parallel combination of C1 and C2 are across the output terminals going to the Antenna Coupler. Refer to figure 6-25, Note 2.

Step 2. Using the same tuning method as the filter input circuit tuning, adjust the tap on 4L1 in the dummy load until maximum deflection or a peak occurs in the oscilloscope.

Step 3. Mark the tuning point for transmitter No. 1 on the dummy load tuning coil.

(4) FILTER OUTPUT CIRCUIT TUNING (ANTENNA). -

Step 1. Switch the transmitter control equipment to put the transmitter being tuned in the operate mode.

Step 2. Using the same tuning method outlined in filter input circuit tuning, adjust the tap from K1 (K11) on 3L1 until a maximum deflection or peak occurs on the oscilloscope.

Step 3. Mark the tuning point for the transmitter being tuned on the loading coil 3L1 and tighten tap on coil.

NOTE

Transmitter tuning is complete. Proceed to tune the other transmitter by performing paragraph 6-5k(1), (2), (3) and (4).

(5) FINAL DUMMY LOAD COIL ADJUSTMENT. -

Step 1. Compare the tuning point on 4L1 for the first transmitter to the tuning point on 4L1 for the second transmitter.

Step 2. Split the difference and permanently install the tap on the dummy load coil.

Step 3. Reconnect circuits for normal operation as follows:

(a) Disconnect the test equipment and remove from enclosure.

(b) Reconnect the input circuits in transmitter 1 and 2 low pass filters 1A20.

(c) Disconnect shorts from capacitors C21 through C24 in PA Tube Rack 1A6.

(d) Turn power switch 1A53A2S17 OFF and replace blower fuses 1A11F7, F8, F9, F13, F14 and F15.

l. METER CALIBRATION ADJUSTMENTS. - The following are normally factory adjustments and are not often required in the field. However, aging or replacement of circuit components could necessitate adjustment.

WARNING

It will be necessary to make these adjustments on a trial-and-error basis in order to prevent exposure to high voltage. Observe all safety regulations at all times. Extreme care must be exercised to make HV Probe connections in a safe and secure manner that will provide safe clearance for personnel when making measurements or resistor adjustments. After each test, use grounding hook to discharge high voltage circuit before removing connections.

(1) LOW VOLTAGE PLATE METER 1A53A2M9, CALIBRATION ADJUSTMENT. -

Step 1. Connect a Simpson Model 260 Multimeter (or equivalent) between terminals 1A53A7E7(+) and 1A53A7E6 (COMMON). Set the multimeter range switch to measure approximately 500 vdc.

Step 2. Place the transmitter in normal operation. Observe and note the reading of the multimeter connected in step 1.

Step 3. Adjust 1A53A7R6 to obtain the same reading on LOW VOLTAGE PLATE meter 1A53A2M9 as that obtained in step 2. Then lock 1A53A7R6, taking care not to disturb the setting.

(2) -5KV BIAS METER 1A53A2M4, CALIBRATION ADJUSTMENT. -

Step 1. Connect Simpson Model 260 Multimeter (or equivalent) between terminals 1A53A7E5(-) and 1A53A7E6 (COMMON). Connect the negative probe to the multimeter DC 5000V jack. Set the multimeter range switch to measure approximately -5000 vdc.

Step 2. Place the transmitter in normal operation. Observe and note the voltage reading of the multimeter connected in step 1.

Step 3. Adjust 1A53A7R5 to obtain the same reading on 5KV BIAS meter 1A53A2M4 as that obtained in step 2. Then lock 1A53A7R5, taking care not to disturb the setting.

(3) IPA PLATE VOLTAGE METER 1A53A2M3, CALIBRATION ADJUSTMENT. -

Step 1. Connect a Simpson Model 260 Multimeter (or equivalent) using a 25 kV High Voltage Probe between 1A53A7E3(+) and 1A53A7E6 (COMMON). Set the multimeter range switch to measure approximately +10.750 vdc.

Step 2. Place the transmitter in normal operation. Observe and note the voltage reading on multimeter connected in step 1.

Step 3. Adjust 1A53A7R4 to obtain the same reading on IPA PLATE VOLTAGE meter 1A53A2M3 as that obtained in step 2. Then lock 1A53A7R4 taking care not to disturb the setting.

(4) PA PLATE VOLTAGE METER 1A53A2M2. CALIBRATION ADJUSTMENT. -

Step 1. Connect a Simpson Model 260 Multimeter (or equivalent) using a 25 kV High Voltage Probe between terminals 1A53A7E1(+) and 1A53A7E6 (COMMON). Set the multimeter range switch to measure approximately 21.500 vdc.

Step 2. Place the transmitter in normal operation. Observe and note the voltage reading on the multimeter connected in step 1.

Step 3. Adjust 1A53A7R3 to obtain the same reading on PA PLATE VOLTAGE meter 1A53A2M2 as that obtained in step 2. Then lock 1A53A7R3 taking care not to disturb the setting.

m. OVERLOAD ADJUSTMENTS. The following are normally factory adjustments and are not often required in the field. However, aging or replacement of circuit components could necessitate adjustment.

WARNING

It will be necessary to make these adjustments on a trial-and-error basis in order to prevent exposure to high voltage. Observe all safety regulations at all times.

(1) PA PLATE OVERVOLTAGE RELAY 1A53A7K1 ADJUSTMENT. -

Step 1. Place the transmitter into operation in the maintenance mode.(PLATE VOLTAGE SELECTOR switch in the MAINT position).

Step 2. Adjust MAINTENANCE ADJUST control 1A53A2R9, slowly until the PA PLATE VOLTAGE meter 1A53A2M2 reads 23.6 kvdc. If circuit breaker 460V INPUT CB1 trips before the PA PLATE VOLTAGE meter reaches 23.6 kvdc, set PLATE VOLTAGE SELECTOR switch to the OFF position and adjust 1A53A7R1 slightly in the clockwise direction. If circuit breaker 460V INPUT CB1 does not trip at 23.6 kvdc, set PLATE VOLTAGE SELECTOR switch to OFF and adjust 1A53A7R1 slightly in the counterclockwise direction.

Step 3. Decrease the setting of MAINTENANCE ADJUST control slightly, then repeat steps 1 and 2 until 1A53A7R1 is adjusted to trip the circuit breaker within two seconds after the voltage reaches 23.6 kvdc. Then lock 1A53A7R1, taking care not to disturb the setting.

n. BIAS UNDERVOLTAGE CIRCUIT ADJUSTMENT. - The following is normally a factory adjustment and is not often required in the field. However, aging or replacement of circuit components could necessitate adjustment. If this is the case, proceed as follows:

WARNING

It will be necessary to make this adjustment on a trial-and-error basis in order to prevent exposure to high voltage. Observe all safety regulations at all times.

Step 1. Place the transmitter in normal operation: but set the PLATE VOLTAGE SELECTOR switch to OFF.

Step 2. Adjust 1A53A7R2 in a counterclockwise direction until the BIAS AND LOW VOLTAGE ON indicator goes out. Then, readjust 1A53A7R2 in a counterclockwise direction just to the point at which the indicator lights and lock it, taking care not to disturb the setting.

Step 3. Set the PLATE VOLTAGE SELECTOR switch to OPERATE and observe that the PLATE ON indicator lights. If it does not, repeat steps 1 and 2 until the BIAS AND LOW VOLTAGE ON indicator lights and the PLATE ON indicator remains lit.

o. POWER AMPLIFIER TANK 1A5 AXIAL ALIGNMENT. -

WARNING

Set 460 V INPUT circuit breaker 1A53A3CB1 and 208 vac circuit breaker 1A53A3CB2 to OFF.

This procedure covers the method to be used for axial alignment of the PA Tank Coil secondary for reduction of second harmonic output. Refer to figure 6-26.

Step 1. Interconnect the rear terminals of both left PA plate tuning capacitors. (Terminals toward the PA tank coil 1A5).

Step 2. Interconnect the rear terminals of both right PA plate tuning capacitors.

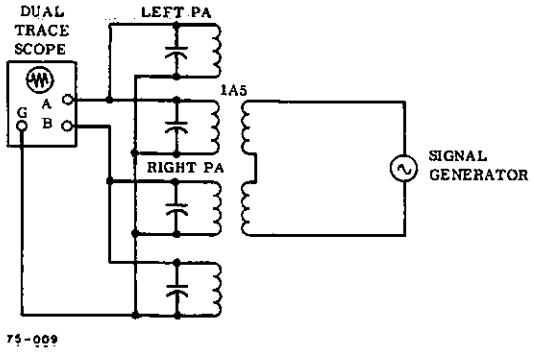


Figure 6-26. Axial Alignment of PA Tank Test Setup

Step 3. Interconnect the front terminals of all right and left PA plate tuning capacitors. Disconnect the PA secondary leads (welding wire) and connect a 382/URR Signal Generator (calibrated to the Loran-C frequency standard) to the output leads. Set the oscillator to 100 kHz and maximum drive.

Step 4. Utilizing a dual trace scope set for algebraic subtraction calibrate on .05V DIV for both A and B traces by connecting trace A and B probes together on the rear terminals of the left PA tuning caps. Utilizing the vertical deflection verniers, set the scope presentation for a null. (This action ensures both A and B traces have same gain.)

Step 5. Leave the trace A probe on the rear terminal of the left PA. Place the trace B probe on the rear terminals of the right PA tuning capacitors. Place both probe grounds on the front terminals. (Do not touch or move the signal generator or scope.) The circuit should appear as shown in figure 6-26.

NOTE

Set the scope for algebraic addition for the following adjustments.

Step 6. Remove all bolts securing the secondary core.

Step 7. Move the PA tank secondary by lightly tapping the coil, first in one direction, then the other. Continually check the scope for a null. The null point is extremely critical, therefore, the coil should not be moved more than 1/16 inch at a time. When the null point is found the coil should be marked and rebolted. Remove test equipment and restore transmitter wiring.

Step 8. Make sure the coil is marked for the correct position. Later when the station is put on the air, check the output spectrum by looking at the second harmonic and noting its magnitude. Shut the transmitter down and move the secondary coil an inch in one direction from the mark and check the spectrum again noting its magnitude at the second harmonic. Shut the transmitter down again and move the secondary coil an inch in the opposite direction from the mark and again check the spectrum to note if the mark is actually at the null point for the second harmonic output.

Step 9. If the mark is at the null point for the second harmonic output, move the secondary coil back to the correct marked position and resecure all bolts.

p. OPERATING ADJUSTMENTS. - The following adjustments are required if the gain balance or signal disabling circuits in 1A4 are repaired.

(1) GAIN BALANCE CONTROL 1A4R217 ADJUSTMENT. -

Step 1. Set all P Gen cycle amplitude thumbwheels to "9" to attain "block 100 kHz" driving waveform. Set all droop compensation thumbwheels to "0" to remove all droop compensation. Set envelope timing adjust for zero ETA.

Step 2. Select the transmitting group under test as the standby transmitter.

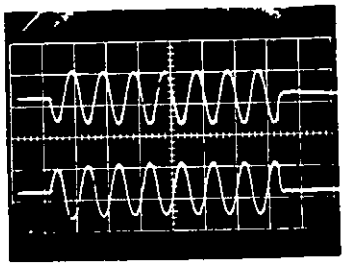
Step 3. Inhibit signal disabling relay 1A4K10 by disconnecting the wire at 1A4TB6-10 coming from terminal 1A4TB1-2.

Step 4. On the transmitting group under test, set the following controls to indicated positions:

208 vac circuit breaker 1A53A3CB2 to ON
POWER switch 1A53A2S17 to ON
FILAMENTS switch 1A53A2S13 to ON
BIAS and LOW VOLTAGE switch 1A53A2S7 to ON
LOCKOUT-READY switch to READY

Step 5. Using the 10X oscilloscope probe, view the pulse at the grids of the left and right 1st IPA's (junction of 1A4R31 and 1A4R33 and junction of 1A4R30 and 1A4R32).

Step 6. Adjust GAIN BALANCE control 1A4R217 and STANDBY LEVEL control 1A4R212 to obtain waveform shown. Lock GAIN BALANCE control 1A4R217.



Step 7. Reconnect wire at 1A4TB6-10, disconnected in step 3.

(2) SIGNAL DISABLING RELAY CONTROL 1A4R218 ADJUSTMENT. -

Step 1. Adjust transmitter control equipment as described in steps 1 of 6-5 p (1).

Step 2. Center the signal disabling relay control 1A4R218.

Step 3. On the transmitting group under test, set the following controls to positions indicated:

208 vac circuit breaker 1A53A3CB2 to ON
POWER switch 1A53A2S17 to ON
FILAMENTS switch 1A53A2S13 to ON
BIAS AND LOW VOLTAGE switch 1A53A2S7 to ON
LOCKOUT-READY switch 1A12S1 to LOCKOUT
PLATE VOLTAGE MAINTENANCE ADJUST control 1A53A2R9 fully counterclockwise
PLATE VOLTAGE SELECTOR switch 1A53A2S12 to MAINT.

Step 4. Slowly raise the plate voltage with 1A53A2R9, noting that the voltage on IPA PLATE VOLTAGE meter is 7 kv ± 500 volts, when a signal is observed on oscilloscope.

Step 5. If voltage noted in step 4 wasn't 7 kv ± 500 volts, turn off power, adjust 1A4R218 and repeat steps 3 and 4 until IPA PLATE VOLTAGE meter reads 7 kv ± 500 volts when a signal is observed on oscilloscope. Lock signal disabling relay 1A4R218.

q. AC OVERLOAD ADJUSTMENT. - The ac overload sensing circuit is set at a high level during manufacture because the normal operating currents will depend upon the loran repetition interval and other factors. For the most effective protection, this circuit should be readjusted after installation, replacement of parts in the ac overload sensing circuit, or a change in the mode of operation. The ac overload circuit includes three current transformers (1A53A3T5, -T6, and -T7), the overcurrent sub-assembly (figure 5-60), and the AC OVERLOAD indicator (1A53A2DS10). Adjust the circuit by using OVER-CURRENT TRIP SETTING controls 1A53A3R4 1A53A3R5, and 1A53A3R6 (figure 5-60) as follows:

Step 1. Set 1A53A3R4, 1A53A3R5, and 1A53A3R6 at their clockwise limits for maximum ac current.

Step 2. Record the IPA PLATE CURRENT and PA PLATE CURRENT when the transmitting group is operating into the antenna at maximum power with the assigned repetition interval.

Step 3. Transfer to the standby mode and switch to LOCAL control. With the transmitting group supplying the dummy load, adjust the STANDBY LEVEL control so that the IPA PLATE CURRENT and PA PLATE CURRENT are equal to or slightly greater than they were when operating into the antenna.

Step 4. Turn 1A53A3R4 CCW until the overload circuit trips, shutting off plate and bias voltages. The AC OVERLOAD indicator will go out and remain out until it is reset by the OVERLOAD AND 3 STRIKE RESET button. Set 1A53A3R4 1/8 turn clockwise from the point at which the overload circuit is tripped.

Step 5. Repeat step 4 with 1A53A3R5 and 1A53A3R6.

r. INSTRUMENT SHUNT ADJUSTMENTS. - The following adjustments are required if 10.75 kvdc overload relay 1A53A4K1 or 21.5 kvdc overload relay 1A53A4K2 circuits are repaired. Perform these adjustments with power off.

(1) 10.75 KVDC OVERLOAD RELAY 1A53A4K1 ADJUSTMENT. -

Step 1. Disconnect the leads from the following terminals: 1A53A4E1, 1A53A4E2, 1A53A4TB1-10, 1A53A4TB1-8, and 1A53A4TB1-7.

Step 2. Connect ohmmeter on lowest range across 1A53A4TB1-3 and 1A53A4TB1-4.

Step 3. Connect one 26 vdc test power supply to 1A53A4TB1-10(+) and 1A53A4TB1-8(-). Connect the second 26 vdc test power supply to 1A53A4TB 1-8(+) and 1A53A4TB1-7(-).

Step 4. Connect RFL Calibration Standard 829G to 1A53A4E1(+) and 1A53A4E3(-).

Step 5. Adjust calibration standard to supply 4 amperes dc and adjust 1A53A4R1 and 1A53A4R2 as follows:

Step 6. Set 1A53A4R1 and 1A53A4R2 to their clockwise limits.

Step 7. Check that ohmmeter indicates an open current.

Step 8. Slowly turn 1A53A4R2 counterclockwise until 1A53A4K1 just closes as indicated by the ohmmeter.

Step 9. Reduce the output of the calibration standard to 2 amperes and observe that relay 1A53A4K1 opens as indicated by the ohmmeter.

Step 10. Increase the output of the calibration standard until relay 1A53A4K1 just closes.

Step 11. Adjust 1A53A4R1 so that relay 1A53A4K1 closes at 4.0 ± 10% amperes when steps 9 and 10 are repeated.

Step 12. Tighten locknuts on 1A53A4R1 and 1A53A4R2.

Step 13. Disconnect ohmmeter and calibration standard.

(2) 21.5 KVDC OVERLOAD RELAY 1A53A4K2 ADJUSTMENT. -

Step 1. Disconnect the leads from the following terminals: 1A53A4E1, 1A53A4E2, 1A53A4TB1-10, 1A53A4TB1-8, and 1A53A4TB1-7.

Step 2. Connect ohmmeter on lowest range across 1A53A4TB1-3 and 1A53A4TB1-5.

Step 3. Connect one 26 vdc test power supply to 1A53A4TB1-10(+) and 1A53A4TB1-8(-). Connect the second 26 vdc test power supply to 1A53A4TB1-8(+) and 1A53A4TB1-7(-).

Step 4. Connect calibration standard to 1A53A4E2(+) and 1A53A4E3(-).

Step 5. Adjust calibration standard to supply 10 amperes dc and adjust 1A53A4R3 and 1A53A4R4 as follows:

Step 6. Set 1A53A4R3 and 1A53A4R4 to their clockwise limits.

Step 7. Check that ohmmeter indicates an open circuit.

Step 8. Slowly turn 1A53A4R4 counterclockwise until 1A53A4K2 just closes as indicated by the ohmmeter.

Step 9. Reduce the output of the calibration standard to 5 amperes and observe that relay 1A53A4K2 opens as indicated by the ohmmeter.

Step 10. Increase the output of the calibration standard until relay 1A53A4K2 just closes.

Step 11. Adjust 1A53A4R3 so that relay 1A53A4K2 closes at 10.0 ± 10% amperes when steps 9 and 10 are repeated.

Step 12. Tighten locknuts on 1A53A4R3 and 1A53A4R4.

Step 13. Disconnect ohmmeter and calibration standard.

s. RELAY POWER SUPPLY ADJUSTMENT. - Adjustment of relay power supply relay 1A53A3K36 circuit is performed with no power supplied to the transmitter.

Step 1. Set 1A53A3R74 fully counterclockwise.

Step 2. Connect ohmmeter on the RX1 range to 1A53A3TB10-3 and 1A53A3TB10-4.

Step 3. Connect powerstat and isolation transformer as shown on figure 6-11. Connect powerstat to 1A53A3TB10-9 and 1A53A3TB10-10. Adjust powerstat for 120 vac output.

Step 4. Slowly turn 1A53A3R74 clockwise until relay 1A53A3K36 contacts close as indicated by continuity on ohmmeter.

Step 5. Continue turning 1A53A3R74 clockwise until chatter of relay 1A53A3K36 just stops.

Step 6. Tighten relay 1A53A3R74 locknut.

6-6. REMOVAL, REASSEMBLY, REPAIR, AND ALIGNMENT.

The following subparagraphs contain instructions for the removal, repair, and alignment of parts of the loran transmitting set. Detailed steps are provided for procedures that are not obvious.

a. PARTS LOCATION. - The locations of all parts are shown in figures 5-17 through 5-94. These illustrations are shown in reference designation order.

b. REMOVAL OF PARTS. - The following subparagraphs give detailed procedures for the removal of parts when warranted. The only special tool required for the removal and replacement of parts is the tube puller.

(1) REPLACEMENT OF POWER AMPLIFIER TUBE RACK 1A6V1 THROUGH 1A6V4 TUBES. - The F1086 tube replacement procedure is presented in Volume III, table 2, steps 28 and 29.

(2) MAINTENANCE OF ELECTRON TUBE LIQUID COOLER 1A2. - Maintenance on the primary cooling system includes cleaning the conical filter at 1A2U24. and replacing the oxygen removal U41 and demineralization mixed bed U42 cartridges when water leakage meter 1A6M5 indicates 1 ma maximum.

(a) HEAT EXCHANGER PARTS REMOVAL. - The secondary cooling system must be cleaned when the meters indicate a higher pressure than normal and the water flow meters indicate a lesser flow. Both of these indications should normally occur simultaneously. If they do, the tubes within the heat exchanger shell are dirty and must be cleaned. This is accomplished by disconnecting the secondary pipes (inlet and outlet) outside the transmitting set, connecting a pump between them, and adding hot wash oil or a detergent such as Oakite to the secondary water. The hot wash oil or detergent should then be allowed to circulate through the secondary system for approximately two hours. The secondary lines should then be connected to the water supply as before. If the secondary pressure and water flow rate have not returned to normal, the cooling tubes in the heat exchangers are clogged with hard scale and must be cleaned by mechanical means. Remove the secondary water hoses at U1 and U2 and the bottom elbow assembly of the heat exchanger (figure 6-27). Using a hard-wire brush with a flexible handle, clean the hard scale from each tube in each heat exchanger.

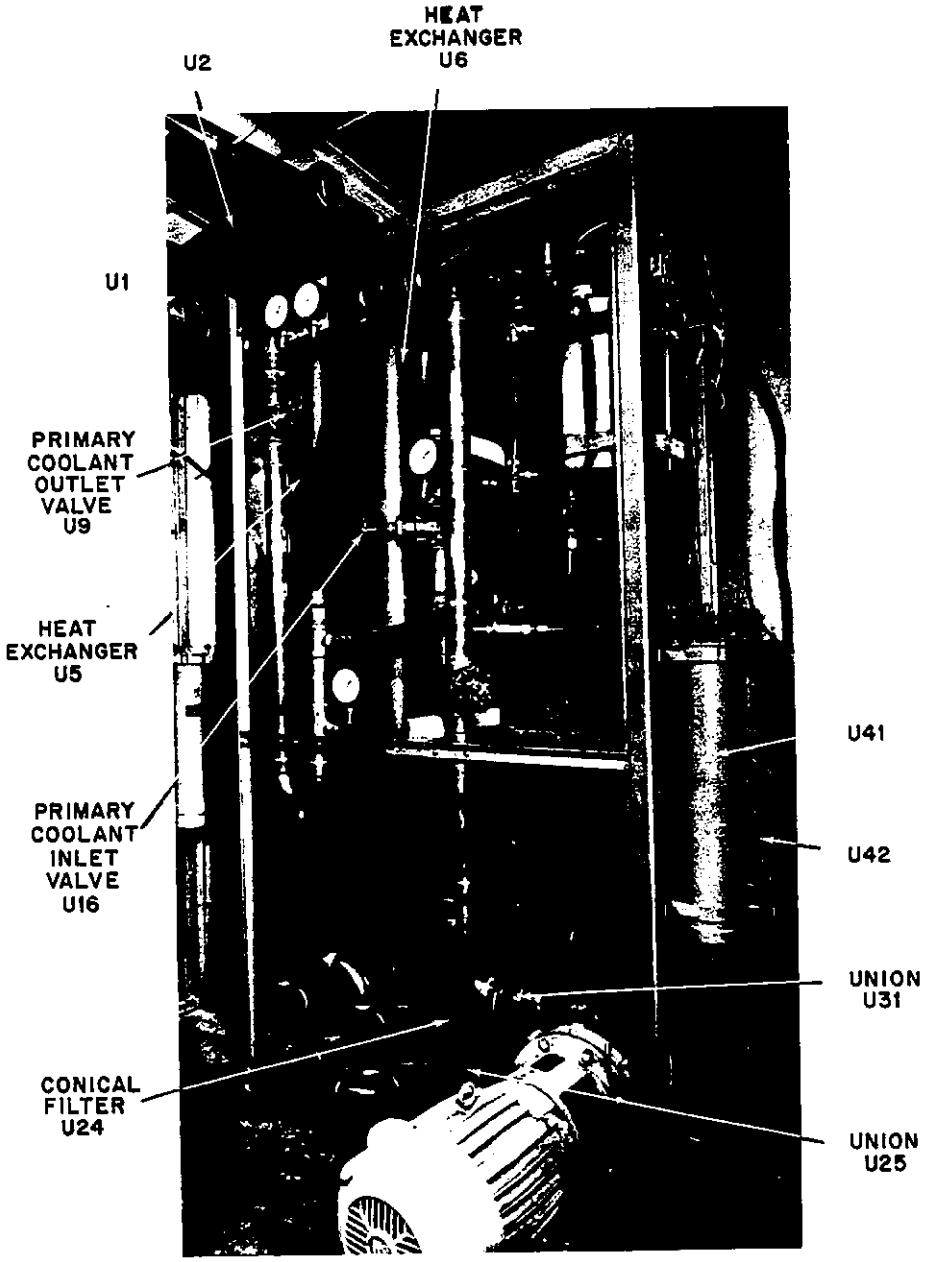


Figure 6-27. Electron Tube Liquid Cooler HD-601/FPN, Removal and Maintenance

Scheduling of maintenance of the heat exchangers cannot be accurately determined, since it is dependent upon many unforeseen variables. These variables include secondary water purity and whether or not a closed-loop type of secondary system is incorporated where a fluid-to-air exchanger is used outside the main transmitter building. It is also dependent upon the type of secondary filters used, and whether or not well water is used where the secondary outlet water is pumped back into the well from where the secondary inlet water is obtained. Therefore, maintenance of the secondary system, insofar as scheduling, methods, etc., can only be determined through experience at each particular site.

The primary system uses purified, distilled water. Therefore, after the first year of operation, the only maintenance required is inspection of the conical filter 1A2U24 and replacement of the oxygen removal and demineralization/mixed bed cartridges (U41 and U42) when indicated by the current leakage meter 1A6M5. During the first year of operation, the conical filter should be inspected often. When the system is first placed into operation, the filter should be cleaned once a week for the first month, twice a month for the next two months, once every two months for the next eight months, and once yearly for the life of the equipment.

If modifications are performed on the primary cooling system, the conical filter should again be cleaned often to discard the foreign particles introduced into the system as a result of the modification.

Since all foreign particles are normally trapped by the filter during the first year of operation, the only other particles that may be introduced to the system are from the inner walls of the rubber tubes.

(b) ELECTRON TUBE LIQUID COOLER 1A2 MAINTENANCE. - The following methods are to be used for maintaining electron tube liquid cooler 1A2:

1. To remove sludge or other similar soft deposits, circulate hot wash oil or light distillate through tubes or shell at high velocity.

2. If the above methods do not remove all of the deposits, use a cleaning compound such as Oakite.

3. If none of the above methods are effective for the removal of hard scale, a mechanical means must be used. For mechanically cleaning the tubes, use a hard-wire brush with a long, flexible handle.

4. As soon as a noticeable rise in water pressure and decreased water flow rate is observed, clean the tubes. If these tubes are not cleaned after these indications have been observed, the result will be the complete stoppage of flow through some tubes, with subsequent overheating. This can result in severe expansion strains and leaking tube joints.

5. Do not attempt to clean tubes by blowing steam through them. This overheats some of the tubes and results in the same severe overexpansion strains and leaks as for plugged tubes.

6. Do not open heads until all pressure is removed from equipment and the unit drained.

7. Do not handle tube bundles with hooks or other tools which might damage tubes. Bundles should be moved about on cradles or skids.

8. Do not tighten bolts until gasket is seated properly. This precaution eliminates one cause for taking down units because of leaks.

NOTE

It is recommended that when a heat exchanger is dismantled for any reason, new gaskets be used in reassembly. This tends to lessen the possibility of future leaks. Composition gaskets become brittle and dried out and they do not provide an effective seal when reused. Metal or metal-jacketed gaskets, when compressed initially, tend to match their gasket contact surfaces. In so doing, they are hardened to the point that their reuse provides an imperfect seal and possible damage to the gasket contact surfaces of the heat exchanger.

9. To tighten a loose tube joint, use a suitable roller-type tube expander. Do not roll tubes that are not leaking as it needlessly thins the tube wall.

10. A light sludge or scale coating on the tubes greatly reduces their effectiveness. Therefore, when deemed necessary, do not hesitate in cleaning the exchangers. However, the heat exchanger should first be checked for air or vapor binding.

11. If it is necessary to remove the tube bundles from the heat exchanger, great care must be exercised so as not to damage the tubes. Tube bundles are of great weight, yet the tubes are small and of relatively thin metal. The dead weight of the tube bundle, therefore, should never be supported by individual tubes, but should rest on those parts that are designed to carry it; i.e., tube sheets, support plates, or wood blocks cut to fit the periphery of the bundle.

12. When withdrawing tube bundles it is recommended that rods or steel cables are passed through two or more of the tubes and the load taken on the floating tube sheet. Rods should be threaded and provided with nuts and should pass through a bearing plate at either end of the bundle. A soft wood filler board should be inserted between bearing plates and tube sheets, in order to prevent damage to tube ends. A forged steel eye bolt which may be screwed into either plate is used for pulling and lifting.

13. When steel cables are used for lifting, the cable is threaded through one tube and returned through another. Loops are formed in the ends of the cable by use of thimbles and wire rope clips. A hard wood spreader block is inserted between the cable and the floating tube sheet to prevent crushing of tube ends.

14. If the tube bundle has been in service for a considerable length of time without being removed, it may be necessary to use a hydraulic jack on the floating tube sheet to get it started.

15. A large steel bearing plate should be inserted between jack and tube sheet and the tube ends protected by means of a filler board.

16. Tube bundles may be raised horizontally by means of slings formed by bending light plates into a U-form and attaching lifting lugs to the ends of the sheets. Baffles can be easily bent and damaged by dragging a bundle over a rough surface. Diameter of the baffles is practically the same as the inside of the shell and the fit must be very close for the apparatus to function properly.

17. Any damage to them should, therefore, be carefully avoided.

18. In cleaning a tube bundle, tubes should not be hammered with any metallic tool. In case it is necessary to use scrapers, care should be exercised to see that the scraper is not sharp enough to cut the metal of the tubes.

19. The following are safe loads for rods and eye bolts:

Size Tubes	Size Rods	Safe Load per Rod
5/8"	3/8"	1000 lbs.
3/4"	1/2"	2000 lbs.
1" or larger	5/8"	3000 lbs.

Size Eye Bolts	Safe Load per Eye Bolt
3/4"	4,000 lbs.
1"	6,000 lbs.
1 1/4"	10,000 lbs.
1 1/2"	15,000 lbs.

(3) REMOVAL OF ELECTRON TUBE LIQUID COOLER 1A2U39B1 PUMP-MOTOR ASSEMBLY. - The procedure for removing the pump-motor assembly from electron tube liquid cooler 1A2 (figure 6-27) is as follows:

Step 1. Turn off all transmitting group power and disconnect wires to motor.

Step 2. Drain the primary coolant.

Step 3. Disconnect pipe union joints U31 and U25.

WARNING

Use as many men as necessary in lifting and supporting the pump-motor assembly to prevent injury to personnel.

Step 4. Remove the pump-motor assembly.

(4) REMOVAL OF ELECTRON TUBE LIQUID COOLER 1A2 PUMP. - When it is necessary to replace the pump, remove the pump-motor assembly from electron tube liquid cooler 1A2 as described in paragraph 6-6b.(2). Then disassemble as shown in figure 5-51.

(5) REMOVAL AND REPLACEMENT OF 1A53A3 CONTROL RELAYS. When replacing control relays in relay assembly 1A53A3, the relay contact configuration of certain relays must be changed before installation in the equipment.

The following relay contacts must be changed from a normally-open to a normally-closed configuration. To convert relay contacts, refer to the instructions contained in figure 6-28.

RELAY REF. DESIG.	TERMINAL NUMBERS OF CONTACTS
K8	2-4
K9	2-4
K18	3-7
	4-8
K44	3-7
	4-8
K47	1-3
	2-4
K48	2-4
K50	2-4

(6) REPLACEMENT OF VOLTAGE REGULATOR 1A53A3A1 SCR's. - When replacing a silicon controlled rectifier 1A53A3A1SCR1A through 1A53A3A1SCR2C (see figure 5-63), tighten the clamp assembly nuts securing the SCR and the associated heat sinks to between 1000 and 1200 pounds. The bottom edge of the clamp assembly leaf spring is the force indicating reference relative to the clamp scale (see figure 6-27A).

CAUTION

If clamp assembly nuts appear to be loose, do not tighten. Instead, back off nuts to zero pounds and then retighten to recommended 1000 to 1200 pounds.

(7) REMOVAL OF VOLTAGE REGULATOR 1A53A3A3 MOTOR ASSEMBLY. - When it is necessary to replace the voltage regulator 1A53A3A3 motor assembly see figure 6-29 and proceed as follows:

Step 1. Disconnect the motor leads from the resistor, capacitor, and fuse and remove them from the cable clamp.

Step 2. Loosen the screws holding the motor (1) to the motor support (2). The motor can now be removed as an assembly with its worm (3), in place.

Step 3. The motor (1) should be replaced as an assembly due to the worm gear (3) mounted on the motor shaft. The motor worm gear centerline must match with the centerline of the spur gear (4).

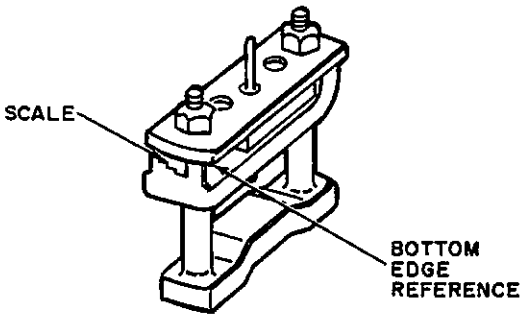


Figure 6-27A. SCR Clamp Assembly

(8) REMOVAL OF VOLTAGE REGULATOR 1A53A3A3 MOTOR ASSEMBLY AND TRANSFORMER MOUNTING PLATE. - If it is necessary to remove the motor assembly and transformer mounting plate, see figure 6-29 and proceed as shown.

Step 1. Remove the spur gear (4) from the knurled section of the worm shaft (5).

Step 2. Loosen the screws and remove the housing holding the outboard bearing (6) to the motor and transformer plate (7).

Step 3. Remove the outboard bearing (6). Care should be taken not to damage this bearing.

Step 4. Remove the two 0.500-13 bolts holding the motor and transformer mounting plate to the drive end plate. The motor and transformer mounting plate or drive end plate can now be removed.

(9) REMOVAL OF VOLTAGE REGULATOR 1A53A3A3 MAIN WORM ASSEMBLY. - If the main worm assembly of voltage regulator 1A53A3A3 must be removed for repair, see figure 6-29 and proceed as follows:

Step 1. Remove the spur gear (4), the motor and transformer mounting plate (7), and outboard bearing (6) as previously described in paragraph (5).

Step 2. Loosen the set screw (8) that holds the thrust bushing (9) in place. Turn the thrust bushing counterclockwise to remove.

Step 3. Tap on the shaft end opposite the end from which the spur gear was removed. Pull the complete worm assembly out of the housing.

Step 4. To remove the main worm (10), remove the bearing cone (11) farthest from the knurled end of the shaft. Note the position of the Bellville washers on the shaft. The main worm can now be removed.

NOTE

If the main worm assembly was disassembled, proceed as follows before replacing:

Step 5. After the defective part has been replaced, insert the worm and shaft into the housings. Force it into place with the thrust bushing (9).

Step 6. Mount the old spur gear on the knurled section of the main worm shaft. Then preload the main worm bearing (11) in the following manner:

- Loosen thrust bushing.
- Connect torque wrench to main worm shaft.
- Tighten thrust bushing until torque wrench gives reading of approximately six inch-pounds.
- Lock thrust bushing in place with set screw.

Step 7. Remove the old spur gear (4) and reassemble the motor and transformer mounting plate (7) to the drive end plate (12), and then, the outboard bearing (6) to the motor and transformer plate (7). Because the spur gear is retained on the main worm shaft by the knurled section which cuts into the gear, it is recommended that this gear be replaced whenever it is removed from the shaft.

(10) REPLACEMENT OF POWER SUPPLY 1A53A5 FRAME ASSEMBLY. - When a rectifier assembly 1A53A5CR1 through 1A53A5CR12 (see figure 5-79) in replaced, torque the permalie nuts as follows:

Step 1. Torque nuts securing a rectifier assembly and frame to 90 inch-pounds maximum.

Step 2. Torque other permalie nuts to 120 inch-pounds maximum.

(11) REPLACEMENT OF TRANSFORMER 1A53A6 INSULATORS 1A53A6A1MP1 - MP12. - If it is necessary to replace any one of the secondary or primary transformer insulators proceed as follows:

CAUTION

Any tools or loose articles that are to be taken into the transformer tank should be tied securely to one end of a 6 to 8 foot long strong cord, the other end of this cord being tied to some non-movable item outside the tank, such as a tank lift eye. With this cord, articles dropped inside the tank can be easily retrieved.

REMOVAL OF COIL

1. To remove white retainer, place thumbs against one side of the retainer and apply pressure.
2. Slide out movable contact arm. (Figure 2)

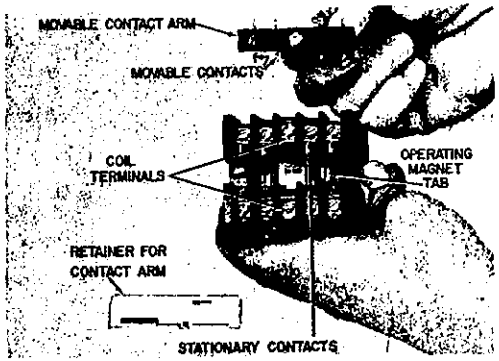


FIGURE 2

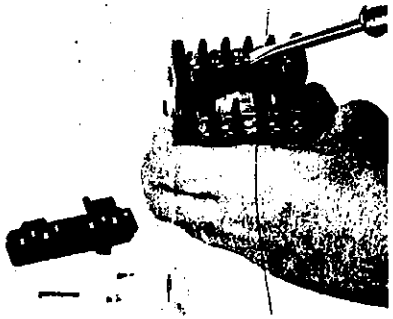


FIGURE 3

3. Loosen coil terminal screws (terminals without contacts attached) and remove wiring.
4. Place screwdriver under one coil terminal screw head, and using barrier as a fulcrum, pry coil out of relay. (Figure 3)
5. Replace coil and wiring, tighten screws and replace movable contact carrier.
6. To replace retainer, place one side of retainer in holding slots, making sure indicating tab fits through hole provided in retainer; then apply pressure to the ends of the opposite side of the retainer with your thumbs.

CHANGING OR CONVERTING OF CONTACTS

(STATIONARY CONTACTS)

1. Follow steps 1 and 2 under removal of coil.
2. Loosen both terminal screws on opposite sides of pole to be changed at least three turns. Remove wiring.
3. Grasping the screwdriver by the blade shaft, (Figure 4) place the thumb over the top (or bottom) of the terminal and the blade edge of the screwdriver against the inside of the terminal against the contact. Slide the terminal tip assembly out of relay.

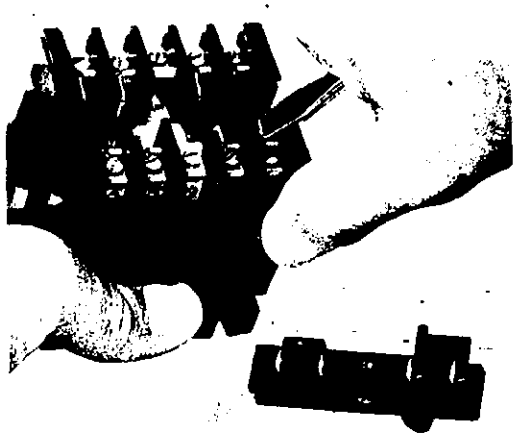


FIGURE 4

4. If contacts are to be converted – Exchange position of the two terminals removed, slide into place, replace wiring, and tighten screws.
5. If terminal tip assembly requires change, follow steps 1 through 3 above and replace with new assembly.

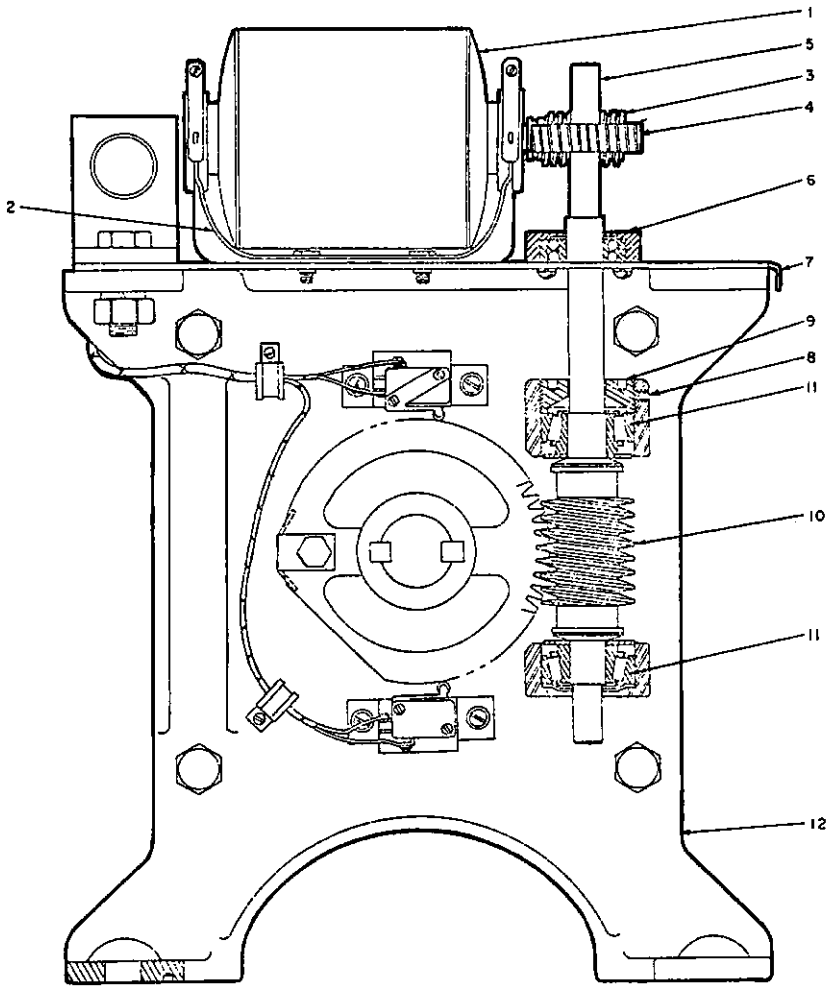
(MOVABLE CONTACTS)

6. Turn cover on movable contact arm 90° in direction of the arrow (Figure 5).

FIGURE 5

7. If contacts are to be converted, lift out contact to be changed and rotate 180°. Replace contact in carrier and replace cover on carrier.
8. If contacts are to be changed, lift out existing contact and replace new contact in same position.
9. Replace contact arm in relay making sure notch in bottom of carrier fits over tab of operating magnet.
10. Replace movable contact arm retainer making sure indicating tab fits through slot provided in retainer.

Figure 6-28. Control Relay Maintenance



1 MOTOR
2 MOTOR SUPPORT
3 WORM MOUNTED ON MOTOR SHAFT
4 WORM OR SPUR GEAR TO ENGAGE WITH MOTOR WORM
5 WORM SHAFT
6 OUTBOARD BEARING, BALL-BEARING TYPE
7 MOTOR AND TRANSFORMER MOUNTING PLATE
8 SET SCREW
9 THRUST BUSHINGS, WORM SHAFT
10 MAIN WORM FOR DRIVING ROTOR
11 ROLLER BEARINGS, WORM SHAFT
12 END PLATE, DRIVE END

75-009

Figure 6-29. Voltage Regulator 1A53A3A3, End View

Step 1. Disconnect and tag transformer 1A53A6 primary wires connected to terminals H1 through H6.

Step 2. Remove transformer 1A53A6 hatch cover by removing 22 3/8-24 hex head bolts (9/16" wrench) which attach the hatch cover (12-1/2" x 14 1/2" x 1/4") to tank cover.

Step 3. To replace a transformer secondary insulator 1A53A6A1MP7 through MP12 perform steps 4 through 9. To replace a transformer primary insulator 1A53A6A1MP1 through MP6 perform steps 10 through 14.

Step 4. Since a large portion of the replacement work must be done "blind" you should become completely familiar with the feel of the installed and replacement insulator. Refer to figure 6-30 sheet 1 and study the assembled and disassembled insulator. Note that retainer spring (item 2) is located in the groove farthest away from the convoluted portion of the ceramic insulator (item 1). Note also the two tabs which are part of the threaded stud on item 4; these tabs fit into recesses in the top of the ceramic insulator to prevent the threaded stud from turning when the cap (item 5) is screwed on or off.

Step 5. Refer to figure 6-30 sheet 1 and remove the cap (item 5) from the defective insulator. This can normally be done by hand without using any tools, but occasionally it may be necessary to use a 3/4" open-end or adjustable wrench. When the cap is removed, the gasket (item 6) under the cap should also be removed. When the cap and gasket are removed, the wiring of the terminal (item 4) will not fall back into the tank because of its rigid nature.

Step 6. Reach through the hatch opening of the transformer and loosen the three screws of the insulator clamp ring (item 3) two to three turns. It is not necessary or desirable to remove the screws. These screws may be loosened with either a flat blade screwdriver or a 3 8" wrench. When the clamp ring is loose, a flat blade screwdriver should then be inserted between the ring and the retaining spring (item 2) and with a prying motion, move the spring out of the groove of the insulator. When the spring is out of the groove, it is then moved down and off of the insulator, followed by the clamp ring. Although the spring and ring will be retained by the insulator wiring, it would be advantageous to pass a piece of cord through them so that they can be easily retrieved. At the same time that the ring and spring are being moved down on the insulator, the insulator should be lifted up and off of the transformer. In this way, it will not be necessary to reach under the transformer oil surface, which is normally approximately 3 inches below the tank cover. This oil is a form of mineral oil and is in no way harmful to the skin.

Step 7. If no damage has occurred to the clamp ring, spring, top cap or cap gasket, they may be reused with the replacement insulator. The insulator gasket (item 7) should be replaced when changing insulators as it probably has compressed and formed to exactly fit the preceeding installation.

Step 8. The new insulator (item 1) with its gasket (item 7) should be carefully lowered over the insulator wiring. When the bottom portion of the insulator has just passed through the tank cover, the clamp ring (item 3) and the retainer spring (item 2) should be slid up as far as possible on the smooth part of the insulator. When the insulator is almost seated on the tank cover, it should be rotated until the threaded stud tabs fit into the recesses at the top of the insulator. As soon as the insulator is seated and the stud tabs are located, the cap gasket (item 6) and the cap (item 5) should be screwed into place.

Step 9. The retainer spring should next be slid upward on the insulator until it snaps into the lower groove. The three screws of the clamp ring (item 3) are then tightened until the insulator assembly is solidly fixed to the tank cover. This completes the changing of the secondary insulator. If no further work is to be done in the tank, the hatch cover, rectifier assembly, wiring and cable clamps should be replaced by performing steps 1 and 2 in reverse order.

Step 10. Since a large portion of the replacement work must be done "blind" you should become completely familiar with the feel of the installed and replacement insulator. Refer to figure 30 sheet 2 and study the assembled and disassembled insulator. Note the locator tab on item 5 which fits into the tab recess on item 1; the insulator must be assembled with items 5 and 1 in the proper relationship or breakage will result. In the transformer the wiring from the transformer primary coils is brought to the insulator terminals as heavy cables fitted with lugs, two cables per each insulator. The lugs are placed between nuts 7A and 7B, with nut 7C serving as a jam nut.

Step 11. Remove defective insulator from transformer by removing nuts 7B and 7C, and primary coil wiring from terminal. Care must be taken not to drop the nuts. These nuts are loosened with a 15/16" wrench.

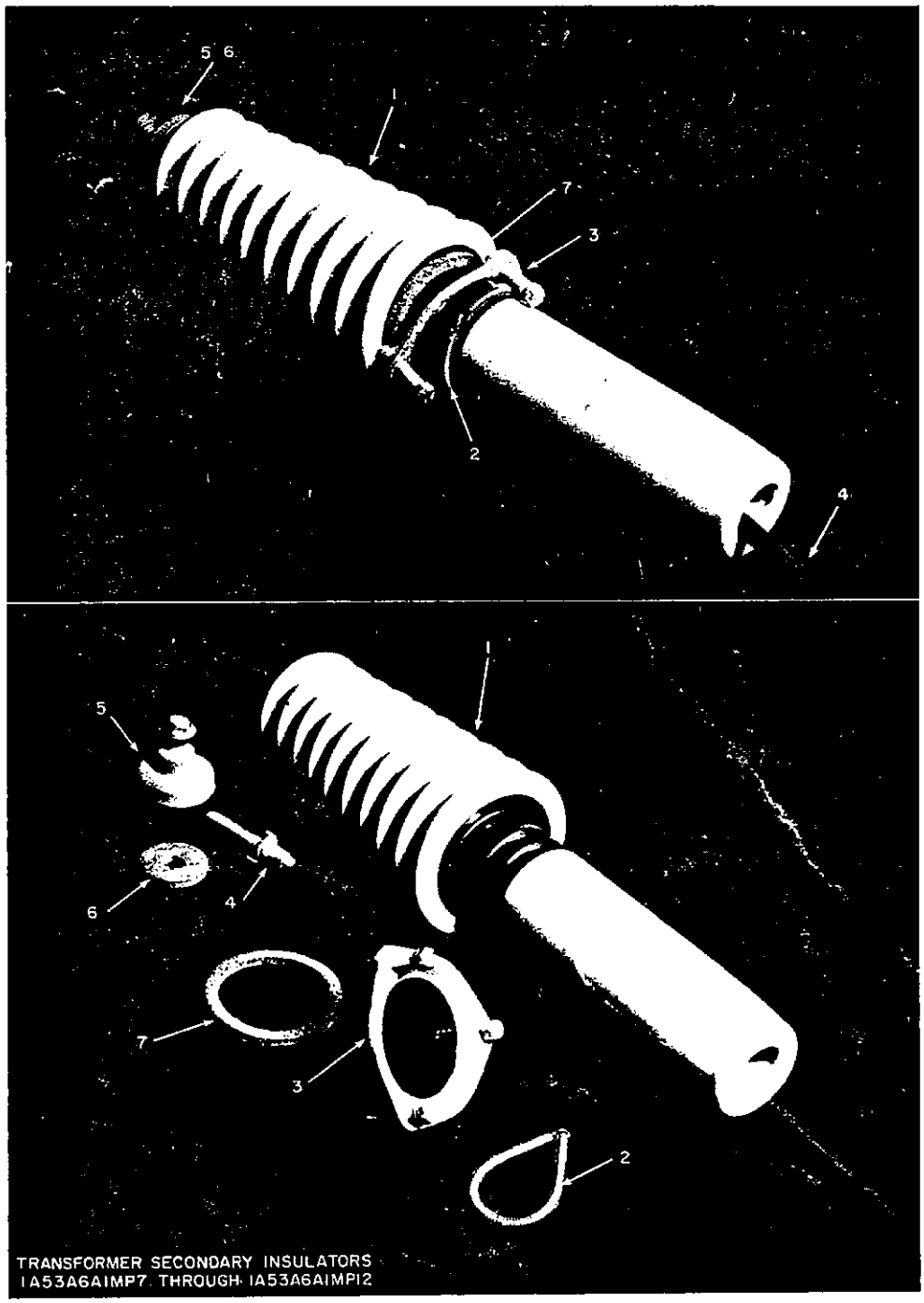
Step 12. Carefully remove nut 7A using 15/16" wrench. Removing this nut allows washer (item 6), the lower ceramic insulator (item 2) and the lower gasket (item 4) to drop down and be removed. Again, extreme care must be taken not to drop any of these items.

Step 13. Remove the upper ceramic (Item 1) together with items 3, 5, 8, 9, 10 and 11 by lifting them off the top of the tank.

Step 14. Replace the defective insulator and reassemble the insulator by performing steps 1, 2, 11, 12 and 13 in reverse order. Particular attention must be paid to placing the location tab of item 5 into the tab recess of item 1.

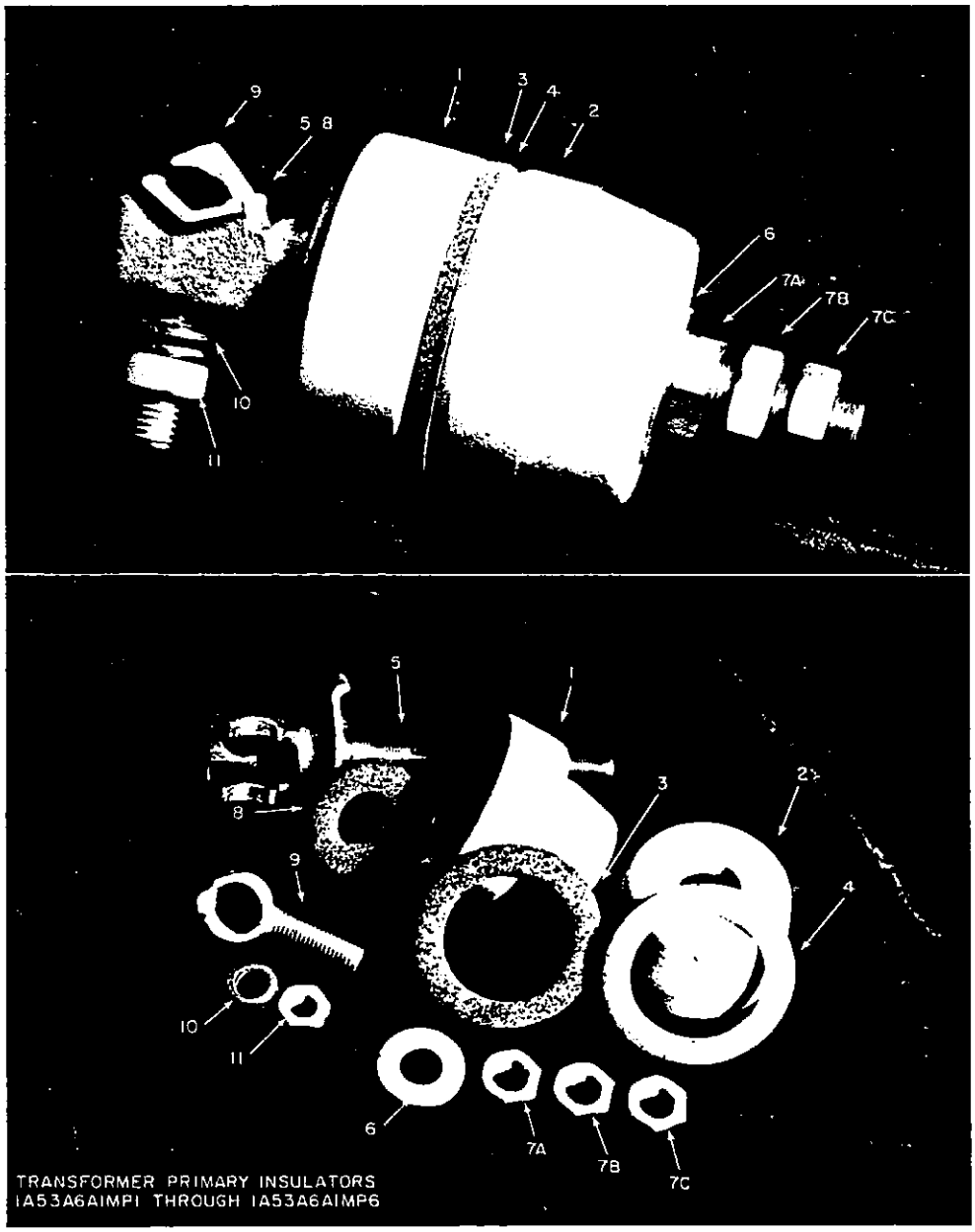
c. REPAIR AND ALIGNMENT. -

(1) REPLACEMENT PARTS. - Replace faulty parts only with the replacement parts listed in



ITEM	DESCRIPTION
1	Ceramic Insulator
2	Retainer Spring
3	Clamp Ring
4	Insulator Wiring Assembly
5	Cap Assembly
6	Cap Gasket
7	Tank Gasket

Figure 6-30. Transformer 1A53A6 Insulators 1A53A6A1MP1-MP12 Replacement Diagrams (Sheet 1 of 2)



ITEM	DESCRIPTION
1	Upper Ceramic
2	Lower Ceramic
3	Upper (Exterior) Gasket
4	Lower (Interior) Gasket
5	Insulator Conductor
6	Brass Washer
7	Brass Nut 5/8-18 thread
8	Insulator Conductor Gasket
9	Conductor Eye Bolt
10	Double Split Ring Lockwasher
11	Clamp Nut 1 2-13 thread

Figure 6-30. Transformer 1A53A6 Insulators 1A53A6A1MP1-MP12 Replacement Diagrams (Sheet 2 of 2)

Section 7. Discard all faulty parts that are not returned to the manufacturer for repair.

NOTE

Be sure to complete a failure report as outlined in paragraph 6-4.

(2) REPAIR OF TRANSISTORIZED CIRCUITS.-

(a) GENERAL. - Transistors are generally more rugged mechanically than vacuum tubes. However, they are still comparatively easy to damage by improper treatment or electrical overload. Precautions must be observed that are not normally necessary with vacuum tube circuits.

(b) TESTING. - The most effective way of determining whether a transistor is defective is to replace it. However, this technique should be used only after it is determined that there are no other circuit defects.

CAUTION

When under test, a transistor can be easily damaged by application of improper voltages. An OHMMETER SHOULD NEVER BE USED TO CHECK TRANSISTORS. Damage to the transistors will result from either placing the wrong polarity ohmmeter probes on the transistor terminals or exceeding the current ratings.

A transistor should first be removed from the circuit if it is necessary to check any of its associated components with an ohmmeter. Only voltage measurements should be taken at the transistor terminals.

(c) REPLACEMENT. - Take care when replacing transistors. Do not overheat transistors or their leads, since excessive heat can cause permanent damage. Use a soldering iron of the lowest wattage available. The transistor lead being soldered or unsoldered should be grasped gently with a long nose pliers between the soldering iron and the transistor to help dissipate the heat. Avoid excessive bending of the transistor leads.

(3) ALIGNMENT. - Alignment procedures are contained in paragraph 6-5.

6-7. OVERALL SCHEMATIC DIAGRAMS.

All of the schematic diagrams for the loran transmitting set are shown in figures 6-31 through 6-66.

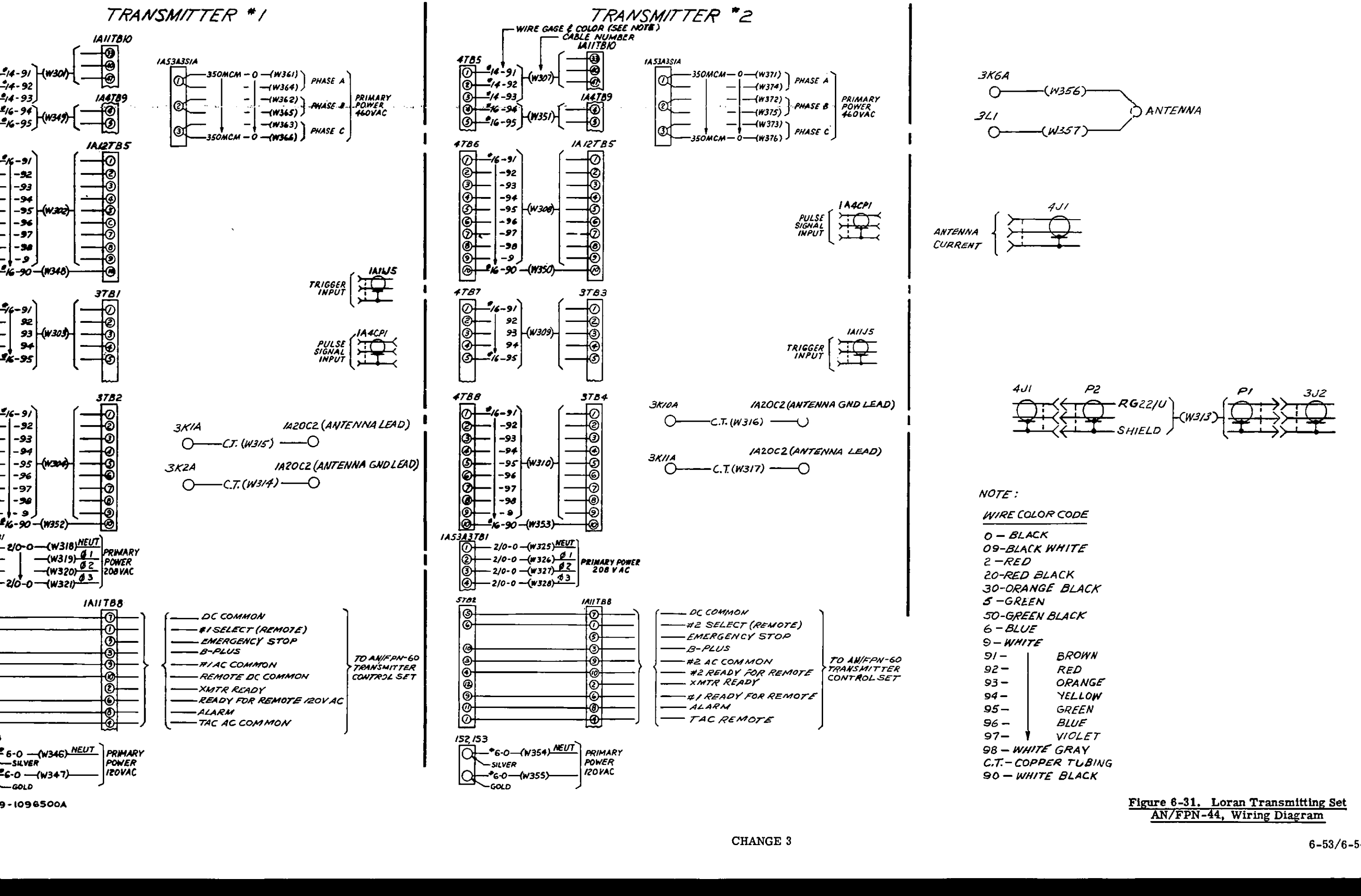
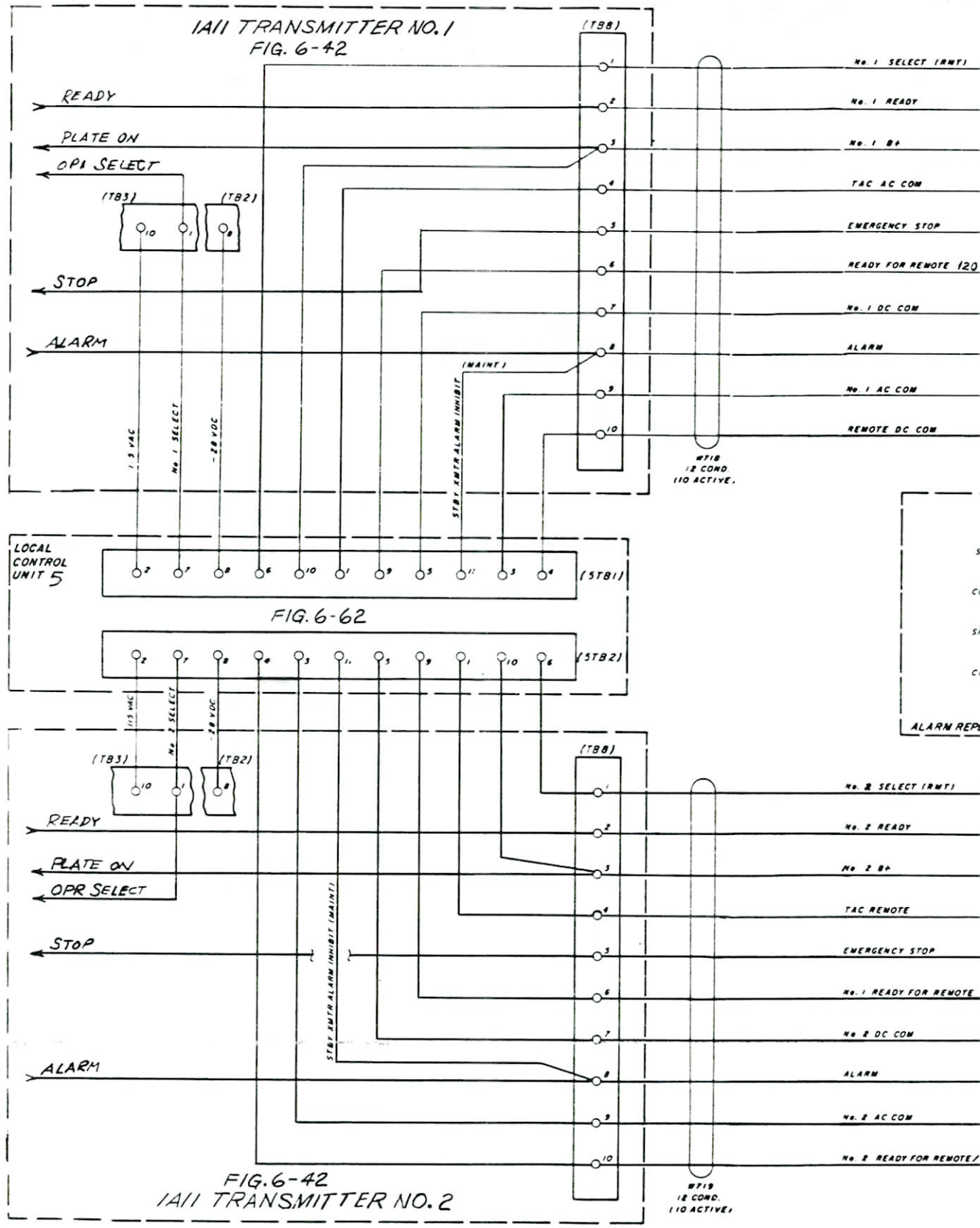


Figure 6-31. Loran Transmitting Set AN/FPN-44, Wiring Diagram

4781
4782
4783
4784
5781
152153
75-00


1A11 TRANSMITTER NO. 1
FIG. 6-42
(TB8)
READY
PLATE ON
OPR SELECT
(TB3)
(TB2)
STOP
ALARM
(MAINT)
STBY XMTR ALARM INHIBIT
No. 1 SELECT (RMT)
No. 1 READY
No. 1 B+
TAC AC COM
EMERGENCY STOP
READY FOR REMOTE 120
No. 1 DC COM
ALARM
No. 1 AC COM
REMOTE DC COM
WP18
12 COND.
(10 ACTIVE.
LOCAL
CONTROL
UNIT 5
(5TB1)
FIG. 6-62
(5TB2)
ALARM REP
No. 2 SELECT (RMT)
No. 2 READY
No. 2 B+
TAC REMOTE
EMERGENCY STOP
No. 1 READY FOR REMOTE
No. 2 DC COM
ALARM
No. 2 AC COM
No. 2 READY FOR REMOTE
WP19
12 COND.
(10 ACTIVE)
FIG. 6-42
1A11 TRANSMITTER NO. 2

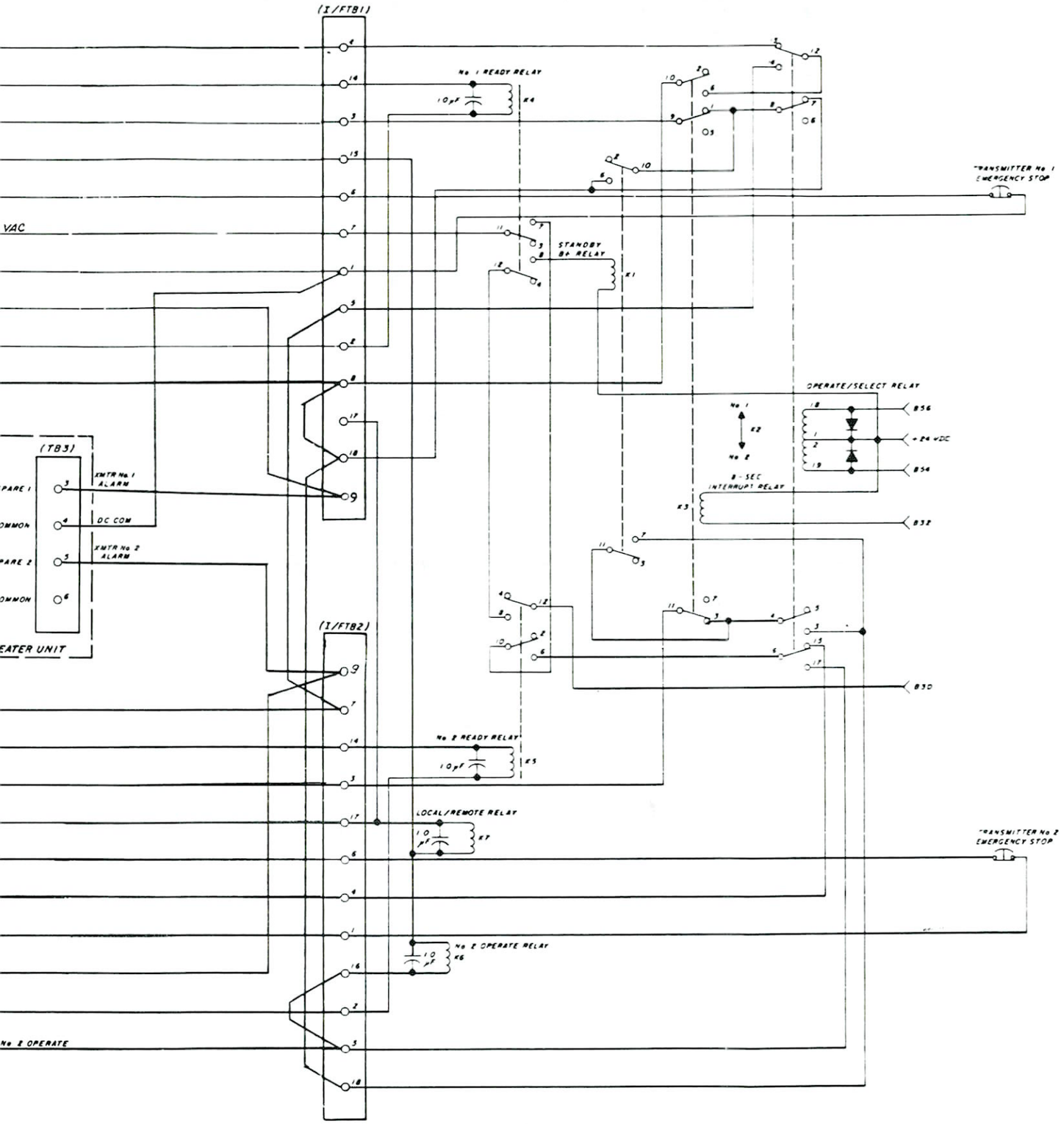
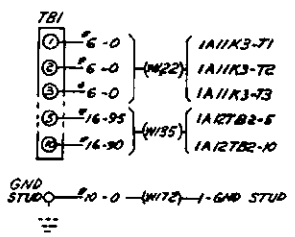
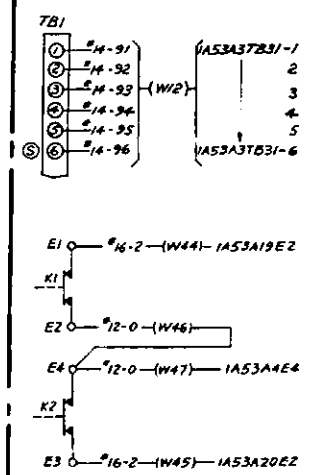


Figure 6-31A. Loran Transmitting Set. System Interconnection Diagram

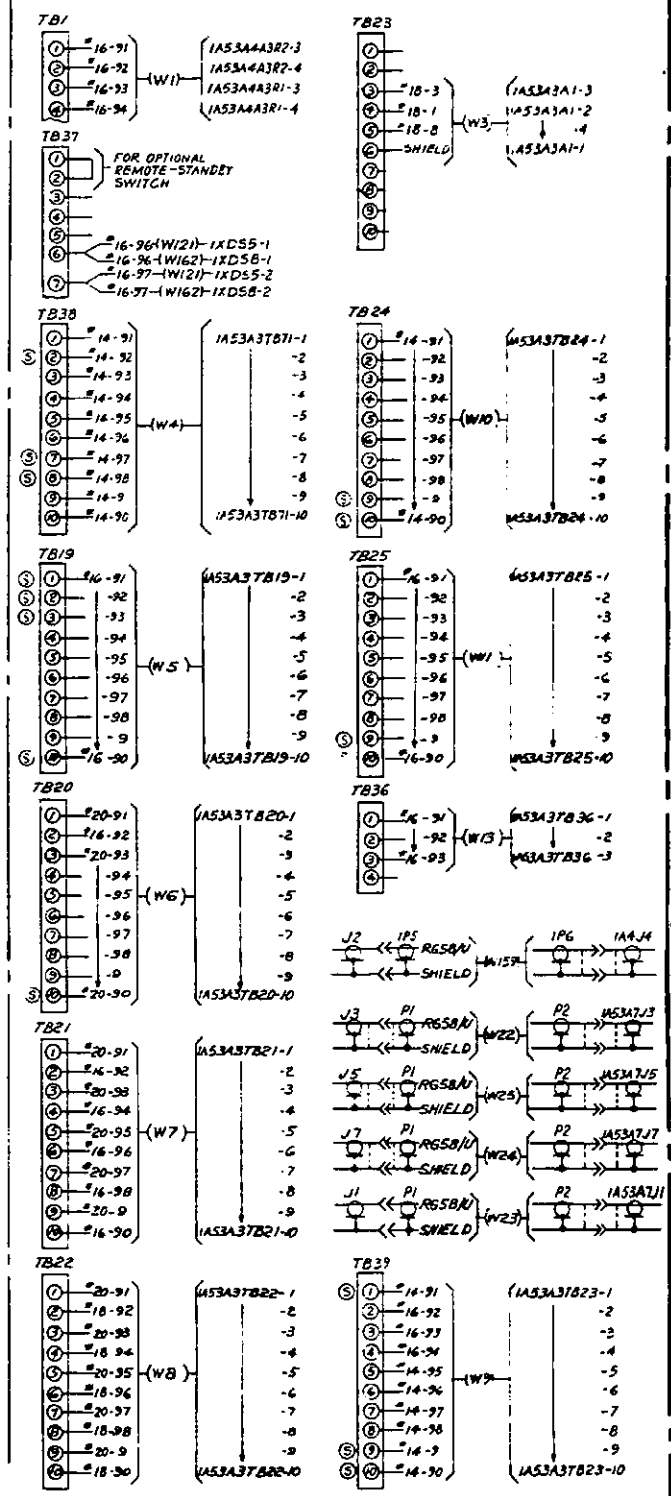
1A2 COOLING SYSTEM



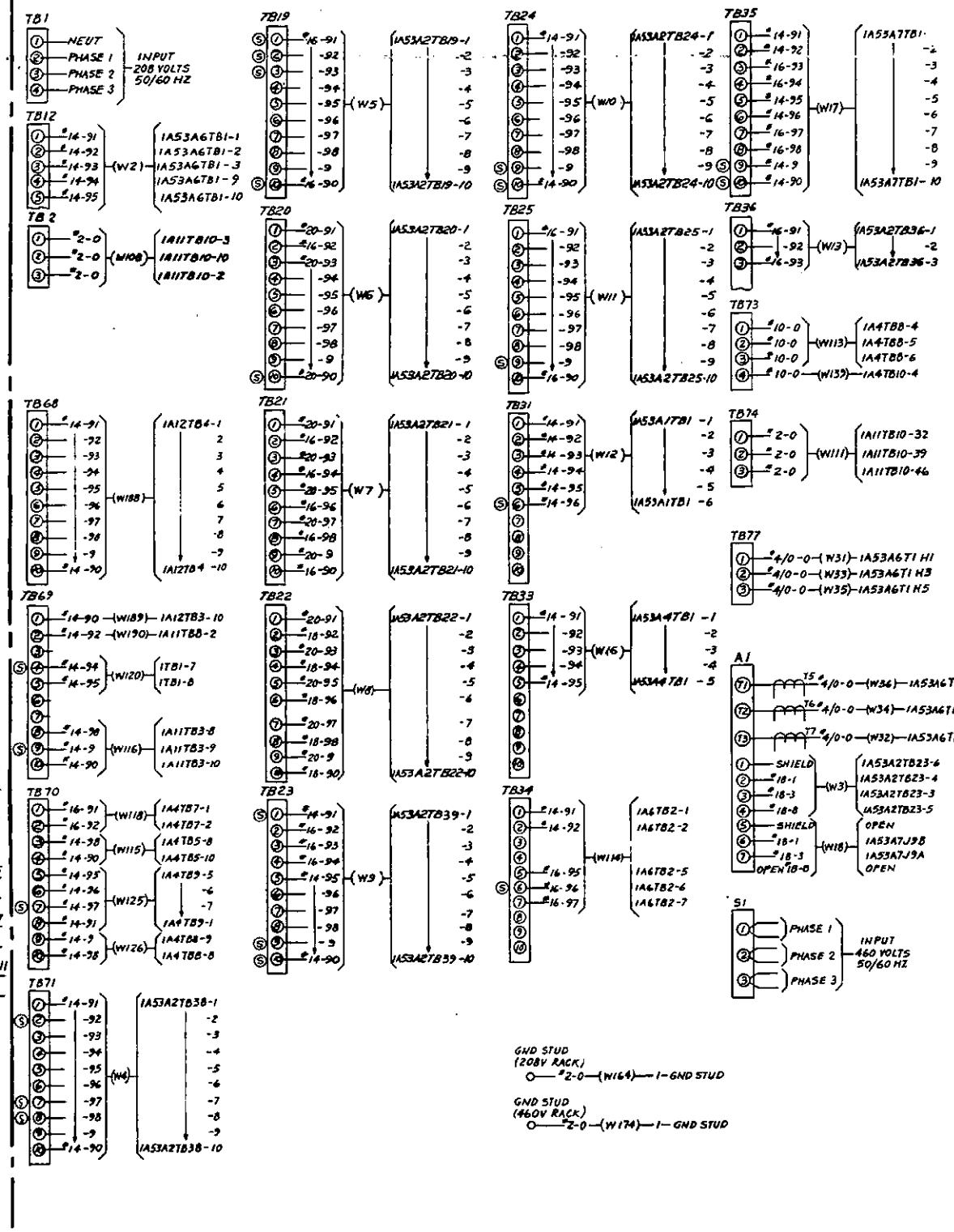
1A53A1 SWITCHING RELAY PANEL



1A53A2 CONTROL-INDICATOR PANEL



1A53A3 RELAY ASSY



1A53 POWER SUPPL

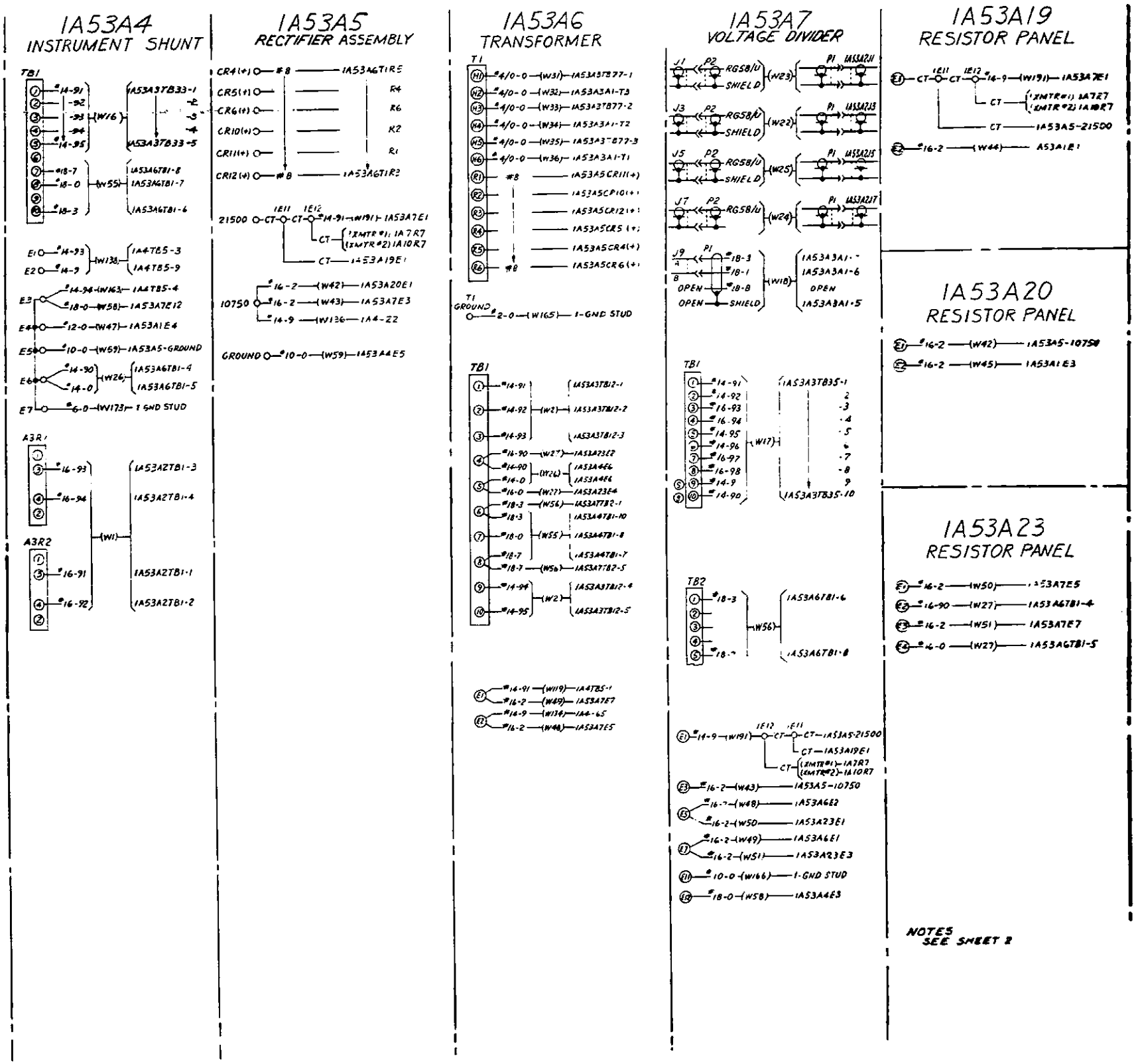


Figure 6-32. Transmitting Group OT-96/FPN-44A(1), Wiring Diagram (Sheet 1 of 3)

1A4 EXCITER

TB4
1 *18-91 — 1A12TB1-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5 -95 — (W101) — -5
6 -96 — -6
7 -97 — -7
8 -98 — -8
9 -9 — -9
S 10 *18-90 — 1A12TB1-10

TB9
1 *14-91 — (W125) — 1A53A3TB70-8
2
3 DUMMY LOAD AC INTERLOCK
4
5 *14-95 — 1A53A3TB70-5
6 *14-96 — (W125) — -6
S 7 14-97 — 1A53A3TB70-7
8 *16-98 — (W142) — 1A11TB8-10
9 *16-9 — (W117) — 1A6TB2-9
10 *16-90 — 1A6TB2-10

TB5
1 *14-91 — (W119) — 1A53A6E1
2
3 *14-93 — (W138) — 1A53A4-E1
4 *14-94 — (W143) — 1A53A4E3
5
6
7
8 *14-98 — (W115) — 1A53A3TB70-3
9 *14-9 — (W138) — 1A53A4-E2
10 *14-90 — (W115) — 1A53A3TB70-4

TB10
1 *2-0 — (W109) — 1A11TB10-3
2 *2-0 — 1A11TB10-2
3 *2-0 — 1A11TB10-10
4 *10-0 — (W139) — 1A53A3TB73-4

TB7
1 *16-91 — (W118) — 1A53A3TB70-1
2 *16-92 — 1A53A3TB70-2

TERM STUDS
22 *14-9 — (W136) — 1A53A5-10750
65 *14-9 — (W134) — 1A53A6E2

GND STUD *10-0 — (W169) — 1-GND STUD

TB8
1 *14-91 — (W112) — 1A11K1-T1
2 *14-92 — 1A11K1-T2
3 *14-93 — 1A11K1-T3
4 *10-0 — (W113) — 1A53A3TB73-1
5 *10-0 — 1A53A3TB73-2
6 *10-0 — 1A53A3TB73-3
7
8 *14-98 — (W126) — 1A53A3TB70-10
9 *14-9 — 1A53A3TB70-9
10 *16-90 — (W130) — 1TB1-10

C21 — RG213/U — (W132) — SHIELD — 1A6-1, 1A6-3
C17
C22 — RG213/U — (W133) — SHIELD — 1A6-2, 1A6-4
C18

J15 IP7 — (W187) — IP8 1T1

NV POWER SUPPLY RIPPLE — J4 IP6 RG58/U (W159) SHIELD — IP5 1A53A2J2
MULTI-TRIGGERS — J9 IP3 RG58/U (W160) SHIELD — IP1 1A11J1
TRANSMITTER CONTROL SCOPE TRIGGERS — J10 IP4 RG58/U (W161) SHIELD — IP2 1A11J2

CP1 — PULSE SIGNAL INPUT

1A5, 1A7, 1A8, 1A9 & 1A10
ARE ON SHEET 3

1A6 PA TUBE RACK

TB1
S 1 *18-91 — 1A12TB2-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5
6 -96 — (W102) — -6
7 -97 — -7
8 -98 — -8
9 18-9 — 1A12TB2-9

TB2
1 *14-91 — 1A53A3TB34-1
2 *14-92 — 1A53A3TB34-2
3
4
5 *16-95 — (W114) — 1A53A3TB34-5
S 6 *16-96 — -6
7 *16-97 — 1A53A3TB34-7
8
9 *16-9 — (W117) — 1A4TB9-9
10 *16-90 — 1A4TB9-10

TERM STUDS
RG213/U — (W132) — SHIELD — 1A4C21, 1A4C17 CASE
RG213/U — (W133) — SHIELD — 1A4C22, 1A4C18 CASE

T1 1 *6-0 — 1A11TB10-1
4 *6-0 — 1A11TB10-9
T2 1 *6-0 — 1A11TB10-19
4 *6-0 — 1A11TB10-26
T3 1 *6-0 — (W107) — 1A11TB10-4
4 *6-0 — 1A11TB10-11
T4 1 *6-0 — 1A11TB10-16
4 *6-0 — 1A11TB10-24

GND STUD *10-0 — (W170) — 1-GND STUD

C3, C5 — CT — 1A7R1, R2
C4, C6 — CT — 1A8R1, R2
C13, C15 — CT — 1A9R1, R2
C14, C16 — CT — 1A10R1, R2

PA TUBE RACK
C21
C22
C23
C24
— 1A5

1A11 RELAY RACK

TB1
1 *18-91 — 1A12TB6-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5 -95 — (W104) — -5
6 -96 — -6
7 -97 — -7
8 -98 — -8
9 -9 — -9
10 *18-90 — 1A12TB6-10

TB2
SEE FIG. 6-31A
1 *18-91 — 1A12TB7-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5 -95 — (W105) — -5
6 -96 — -6
7 -97 — -7
8 -98 — -8
9 -9 — -9
10 *18-90 — 1A12TB7-10

K1
11 *14-91
12 *14-92 — (W112) — 1A4TB8-1, 1A4TB8-2, 1A4TB8-3
13 *14-93

K2
11 *14-91
12 *14-92 — (W123) — 1TB1-1, 1TB1-2, 1TB1-3
13 *14-93

K3
11 *G-0
12 *G-0 — (W122) — 1A2TB1-1, 1A2TB1-2, 1A2TB1-3
13 *G-0

TB3
SEE FIG. 6-31A
1A12TB3-1
1 *14-98
2 *14-9 — (W114) — 1A53A3TB69-8, -9, -10
3 *14-90

TB7
1 *16-98 — (W142) — 1A4TB9-8
2
3 1A12TB3-4

TB4
1 *18-91 — 1A12TB8-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5 -95 — (W106) — -5
6 -96 — -6
7 -97 — -7
8 -98 — -8
9 -9 — -9
10 *18-90 — 1A12TB8-10

TB10
1 *G-0 — (W107) — 1AGT1-1
2 *2-0 — (W108) — 1A53A3TB72-3
3 *2-0 — (W109) — 1A4TB10-2
4 *2-0 — (W108) — 1A53A3TB72-1
5 *2-0 — (W109) — 1A4TB10-1
6 *G-0 — (W107) — 1AGT3-1
7 *G-0 — (W107) — 1AGT1-4
8 *2-0 — (W108) — 1A53A3TB72-2
9 *2-0 — (W109) — 1A4TB10-3
10 *G-0 — 1AGT3-4
11 1AGT2-1
12 (W107)
13 1AGT4-4
14 1AGT2-4
15 *2-0 — (W111) — 1A53A3TB74-1
16 DUMMY LOAD BLOWER
17 *2-0 — (W111) — 1A53A3TB74-2
18 DUMMY LOAD BLOWER
19 *2-0 — (W111) — 1A53A3TB74-3
20 DUMMY LOAD BLOWER

GND STUD *10-0 — (W171) — 1-GND

TB8
1
2 *14-92 — (W190) — 1A53A3TB69-2
3 18-93
4 (W105) — 1A12TB3-3
5 18-95 — 1A12TB3-5

SEE FIG. 6-31A

J1 IP1 RG58/U (W160) SHIELD — IP3 1A4J9
J2 IP2 RG58/U (W161) SHIELD — IP4 1A4J10

J5 — TRIGGER INPUT

1A12 INDICATOR PANEL

TB1
1 *18-91 — 1A4TB4-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5 -95 — (W101) — -5
6 -96 — -6
7 -97 — -7
8 -98 — -8
9 -9 — -9
S 10 *18-90 — 1A4TB4-10

TB7
1 *18-91
2 -92
3 -93
4 -94
5 -95
6 -96
7 -97
8 -98
9 -9
S 10 *18-90

TB2
1 *18-91
2 -92 — (W102) — 1A6TB1-1, +2
S 3 *18-93 — 1A21TB1-1, 1A21TB1-4
4 *18-94 — (W102) — 1A6TB1-4
5 *16-95 — (W135) — 1A2TB1-5
6 *18-96 — (W102) — 1A6TB1-6
7 1 — 1A11TB1-2, 1A11TB1-7
8 *18-97 — (W102) — 1A6TB1-7
9 -98 — -8
10 *18-9 — 1A6TB1-9
11 *16-90 — (W135) — 1A2TB1-10

TB8
1 *18-91
2 -92
3 -93
4 -94
5 -95
6 -96
7 -97
8 -98
9 -9
S 10 *18-90

TB3
1 — 1A11TB3-1
2
3 *18-93 — (W103) — 1A11TB8-3
4 — 1A11TB7-10
5 *16-95 — (W103) — 1A11TB8-5
6
7
8
9
10 *14-90 — (W189) — 1A53A3TB69-1

TB4
1 *14-91 — 1A53A3TB68-1
2 *14-92 — -2
3 *14-93 — -3
4 *14-94 — -4
5 *14-95 — (W188) — -5
6 *14-96 — -6
7 *14-97 — 1A53A3TB68-7
8 6 — 1A21TB1-8
9 *14-98 — 1A53A3TB68-8
10 *14-9 — (W188) — -9
11 *14-90 — 1A53A3TB68-10
12 1 — 1A21TB1-7

TB5
DUMMY LOAD CONTROL SEE FIG. 6-31

TB6
1 *18-91 — 1A11TB1-1
2 -92 — -2
3 -93 — -3
4 -94 — -4
5 -95 — (W104) — -5
6 -96 — -6
7 -97 — -7
8 98 — -8
9 9 — -9
10 *18-90 — 1A11TB1-10

XK10
4 — 1A21TB1-10

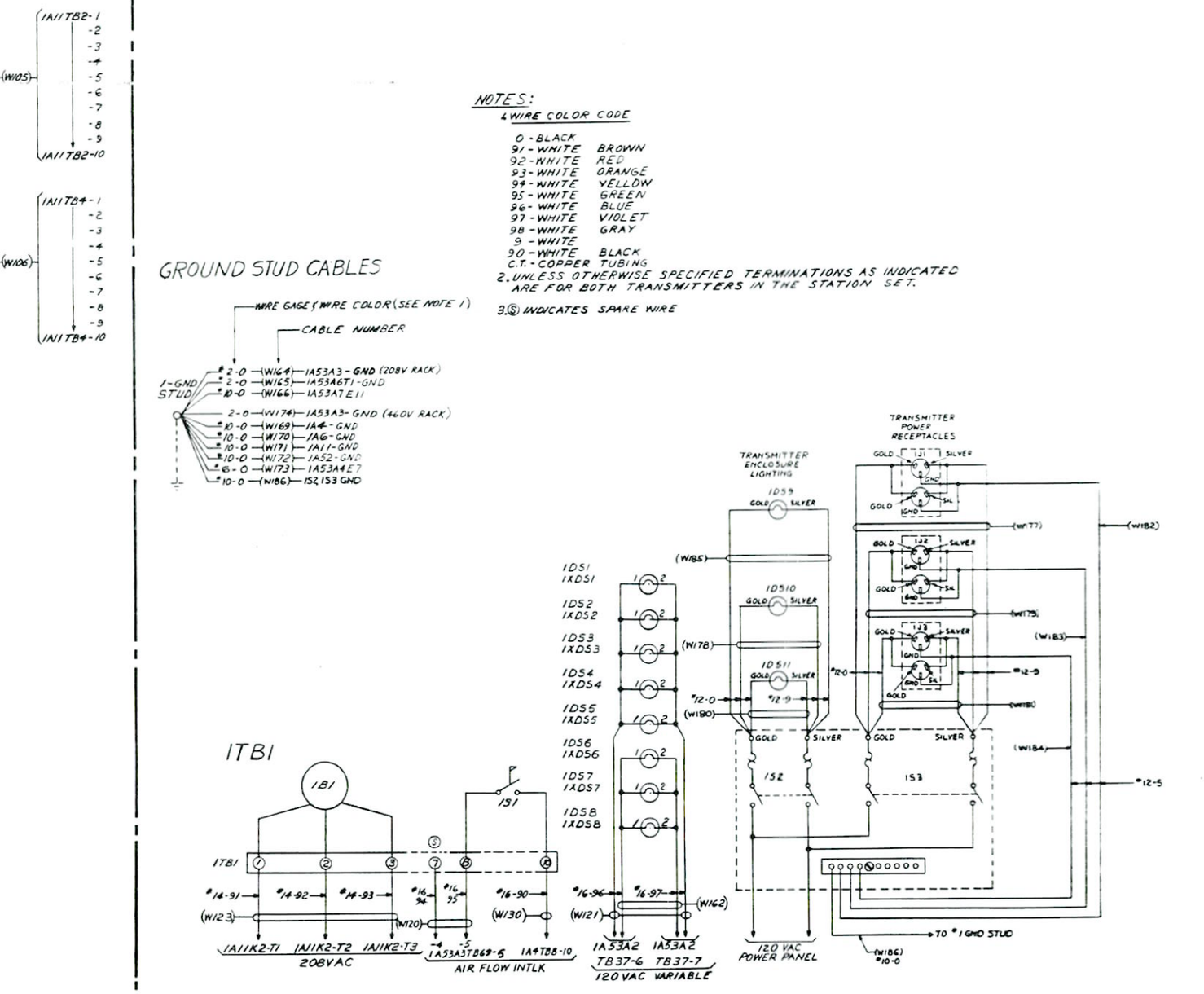


Figure 6-32. Transmitting Group OT-96/FPN-44A(1), Wiring Diagram (Sheet 2 of 3)

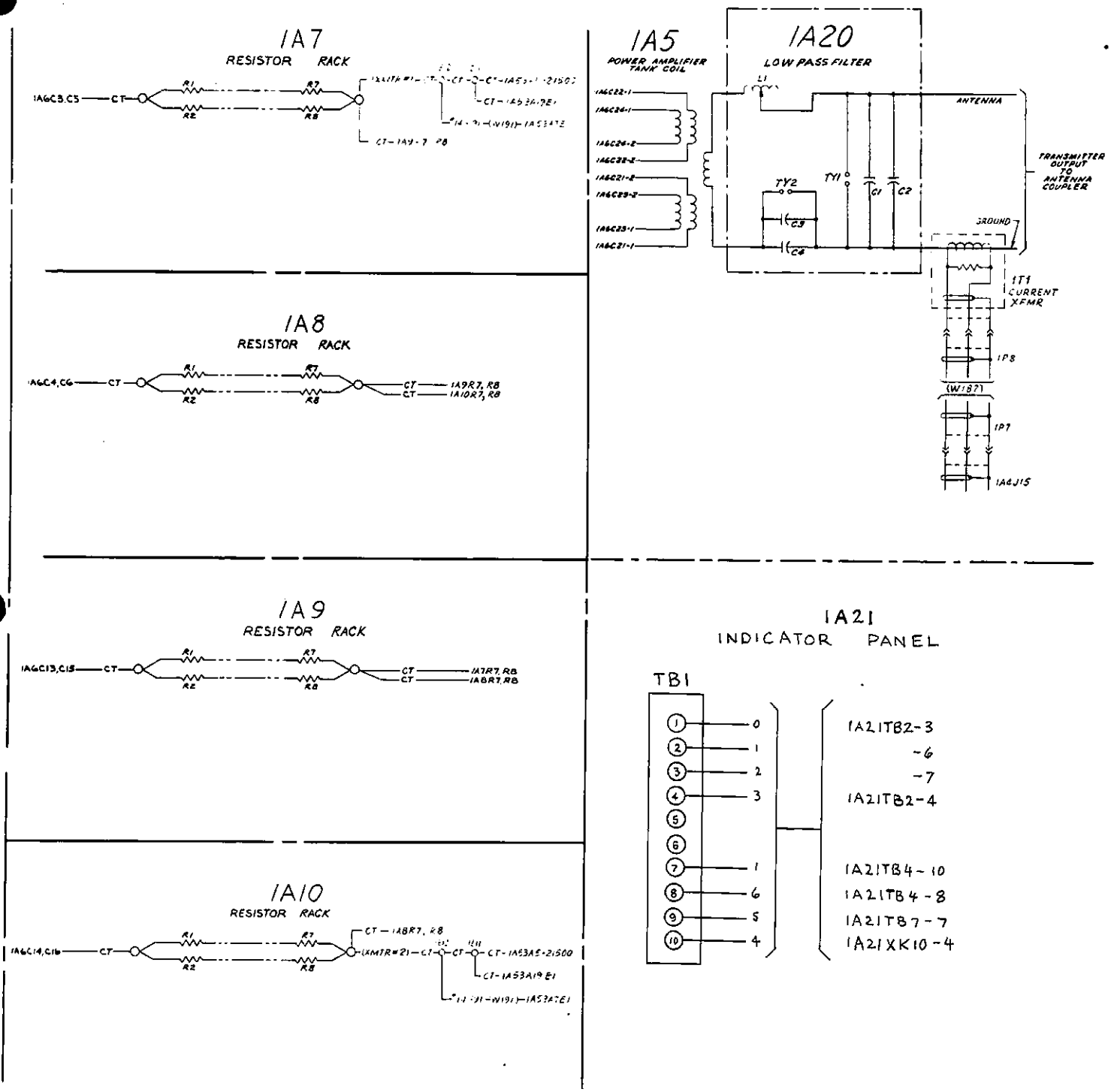
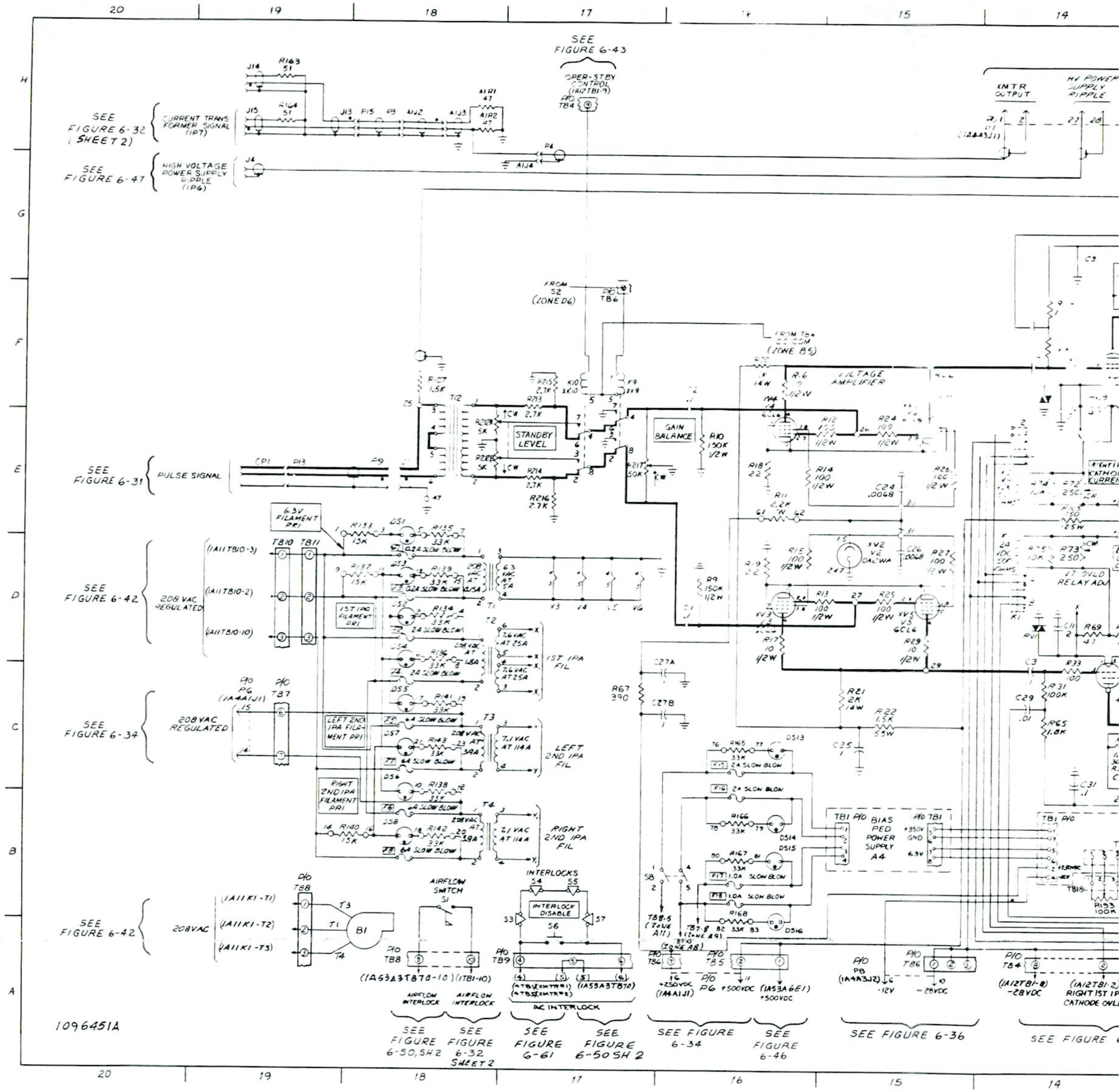


Figure 6-32. Transmitting Group OT-96/FPN-44A(1), Wiring Diagram (Sheet 3 of 3)

PARTS LOCATION INDEX

REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC
A4	15B	DS13	16C	P13	19E	R103	11D	R189	11G	TB4-6	A7&8
A5	13B	DS14	16B	P15	18H	R105	14E	R190	11G	TB4-5	H7
B1	19A	DS15	16B	P16	5A	R107	18F	R191	11G	TB4-7	B4
C1	16D	DS16	16A	R9	16D	R108	12D	R192	12G	TB4-9	H17
C2	16F	F1	18D	R10	16E	R109	13D	R193	14B	TB5-1	A16
C3	14D	F2	18D	R11	16E	R110	8G	R194	14B	TB5-2	A16
C4	14F	F3	18D	R12	16F	R111	8C	R195	14B	TB5-3	H10&11
C5	13C	F4	18C	R13	16D	R112	8G	R196	12B	TB5-4	H10&11
C6	13F	F5	18C	R14	16E	R113	8C	R197	12B	TB5-8	H7
C7	12C	F6	18D	R15	16D	R114	9H	R198	12B	TB5-9	A7
C8	12G	F7	18C	R16	16F	R115	9B	R199	12B	TB5-10	A7
C9	13D	F8	18B	R17	16D	R116	9H	R200	12G	TB6-1	A15
C10	13F	F11	10C	R18	16F	R117	9B	R201	11G	TB6-2	A15
C11	14D	F12	10G	R19	16D	R117	8B	R202	11G	TB6-3	A15
C12	F14	F13	10B	R20	16F	R118	8G	R203	11G	TB6-7	A17
C13	D14	F14	10F	R21	15C	R119	8B	R204	13B	TB6-10	F17
C14	13F	F15	16C	R22	15C	R122	8H	R205	13B	TB7-1	A9&10
C15	11 D	F16	16C	R24	15F	R123	8B	R206	13B	TB7-2	A9&10
C16	11 5	F17	16B	R25	15D	R124	7G	R207	13B	TB7-8	A9&10
C17	11 D	F18	16B	R26	15E	R125	7G	R208	13H	TB7-10	A9&10
C18	11 5	J1	18E	R27	15E	R126	10G	R209	13H	TB7-6	C19
C19	12B	J4	19H	R28	15F	R127	10C	R210	13H	TB7-7	C19
C20	13G	J9	4B	R29	15D	R128	10G	R211	13G	TB8-1	A&B19
C21	12C	J10	4B	R29	8C	R129	10C	R212A	18E	TB8-2	A&B19
C22	12G	J13	19H	R30	14F	R130	10G	R212B	18E	TB8-3	A&B19
C24	15E	J14	19H	R31	14C	R131	10C	R213	17F	TB8-4	A10
C25	15E	J15	19H	R32	14F	R132	10C	R214	17E	TB8-5	A10
C26	15E	K1	14D	R33	14D	R133	18E	R215	17F	TB8-6	A10
C27A	17D	K2	14F	R34	14G	R134	18D	R216	17E	TB8-8	A18
C27B	17C	K3	13E	R35	14C	R135	18E	R217	17E	TB8-10	A18
C28	14F	K4	9H	R36	13G	R136	18D	R218	15G	TB8-9	A8
C29	14C	K4	9G	R37	14C	R137	18D	R219	15G	TB9-1	H8
C30	14G	K5	9B	R38	13G	R138	18C	RV1	14D	TB9-4	A17&18
C32	11D	K6	8G	R39	13C	R139	18D	RV2	14F	TB9-5	A17&18
C35	13E	K7	8B	R51	13E	R140	19B	RV3	13D	TB9-6	A17&18
C36	14G	K8	8E	R62	13G	R141	18C	RV4	13F	TB9-8	H16
C37	14C	K9	5B	R63	13C	R142	18B	RV5	13E	TB9-9	E4
C38	13G	K9	17F	R64	14G	R143	18C	RV6A	8H	TB9-10	E4
C39	14C	K10	5B	R65	14C	R149	13D	RV6B	8H	TB10-1	D19
C40	13G	K10	17F	R66	13C	R150	13D	RV7A	8B	TB10-2	D19
C41	13C	K10	5D	R67	17C	R153	11E	RV7B	8B	TB10-3	D19
C42	13G	K11	15G	R68	14F	R154	11B	RV8	8G	TB10-4	A8
C43	13C	K12	5B	R69	14D	R156	13E	RV10	11E	TB11-1	D19
C44	13G	K12	16G	R70	14F	R158	13E	S1	18B	TB11-2	D19
C45	13C	L1	8C	R71	14D	R161	11B	S2	F17	TB11-3	D19
C46	13G	L2	8G	R72	14E	R162	11B	S2	E6	TB12-1	A10
C47	13C	M1	14E	R73	14D	R163	19H	S3	18A	TB12-2	A10
C50	11F	M2	14E	R74	14E	R164	19H	S4	17B	TB12-3	A10
C51	13B	M3	12C	R75	14D	R165	16C	S5	17C	TB12-4	A10
C52	12B	M4	12G	R76	13F	R166	16B	S6	17A	TY1	12D
C53	12G	M51	11D	R77	13D	R167	16B	S7	17A	TY2	12F
C54	13C	M6	11F	R78	13E	R168	16B	S8	17B	TY3	12D
C55	13D	M7	9B	R79	12D	R169	12B	T1	18D	TY4	12F
CR1	8C	M8	9H	R80	12F	R170	12B	T2	18D	TY5	10D
CR2	8G	M9	7B	R81	12D	R171	12B	T3	18C	TY6	10F
CR3	8C	M10	7G	R82	12F	R172	12B	T4	18B	V2	15E
CR4	8G	M11	7E	R83	12C	R173	12B	T5	10C	V3	16D
CR5	8C	P3	18H	R84	11C	R174	12B	T6	10G	V3	17D
CR6	8G	P4	17H	R85	13E	R175	12G	T7	9C	V4	17D
CR7	8C	P6	19C	R86	12G	R176	12G	T8	9G	V4	16F
CR8	8G	P6	16A	R87	12C	R177	12G	T9	9C	V5	17D
DS1	15E	P6	16A	R88	12F	R178	12H	T10	9G	V5	15D
DS2	15D	P6	13B	R89	12D	R179	12H	T11	13E	V6	17D
DS3	15D	P7	14H	R90	12F	R180	12H	T12	18F	V6	15F
DS4	15D	P7	13A	R91	12D	R181	11C	TB1-2	F17	V7	14D
DS5	15C	P7	5H	R92	13E	R182	11C	TB1-4	F17	V7	14C
DS6	15C	P8	15A	R96	12E	R183	11C	TB1-6	F17	V7	13D
DS7	15C	P8	9A	R97	12D	R184	11C	TB4-1	A14	V8	13E
DS8	15B	P8	5A	R98	12E	R185	11C	TB4-2	A14	V8	13F
DS9	10C	P9	18E	R99	11E	R186	11C	TB4-8	A14	V9	12D
DS10	10G	P10	4G	R100	11E	R187	12G	TB4-3	H9	V10	12F
DS11	10C	P11	4G	R101	11E	R188	11G	TB4-4	A7&8	V11	11L
DS12	10G	P12	9A	R102	11F						



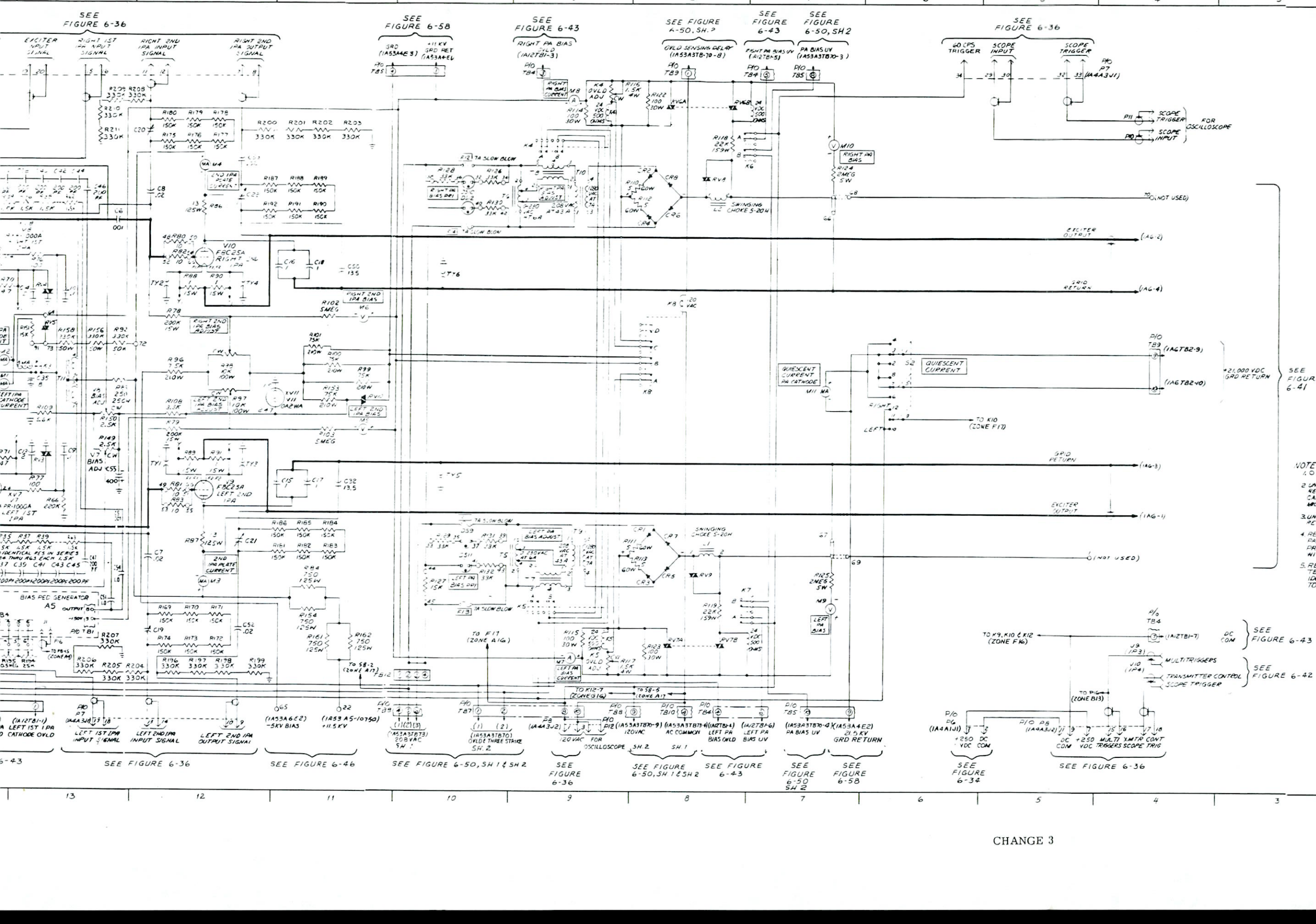
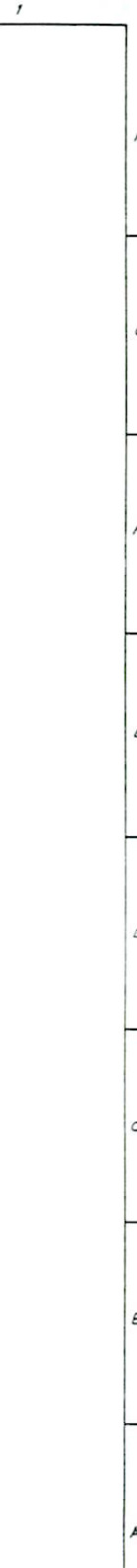
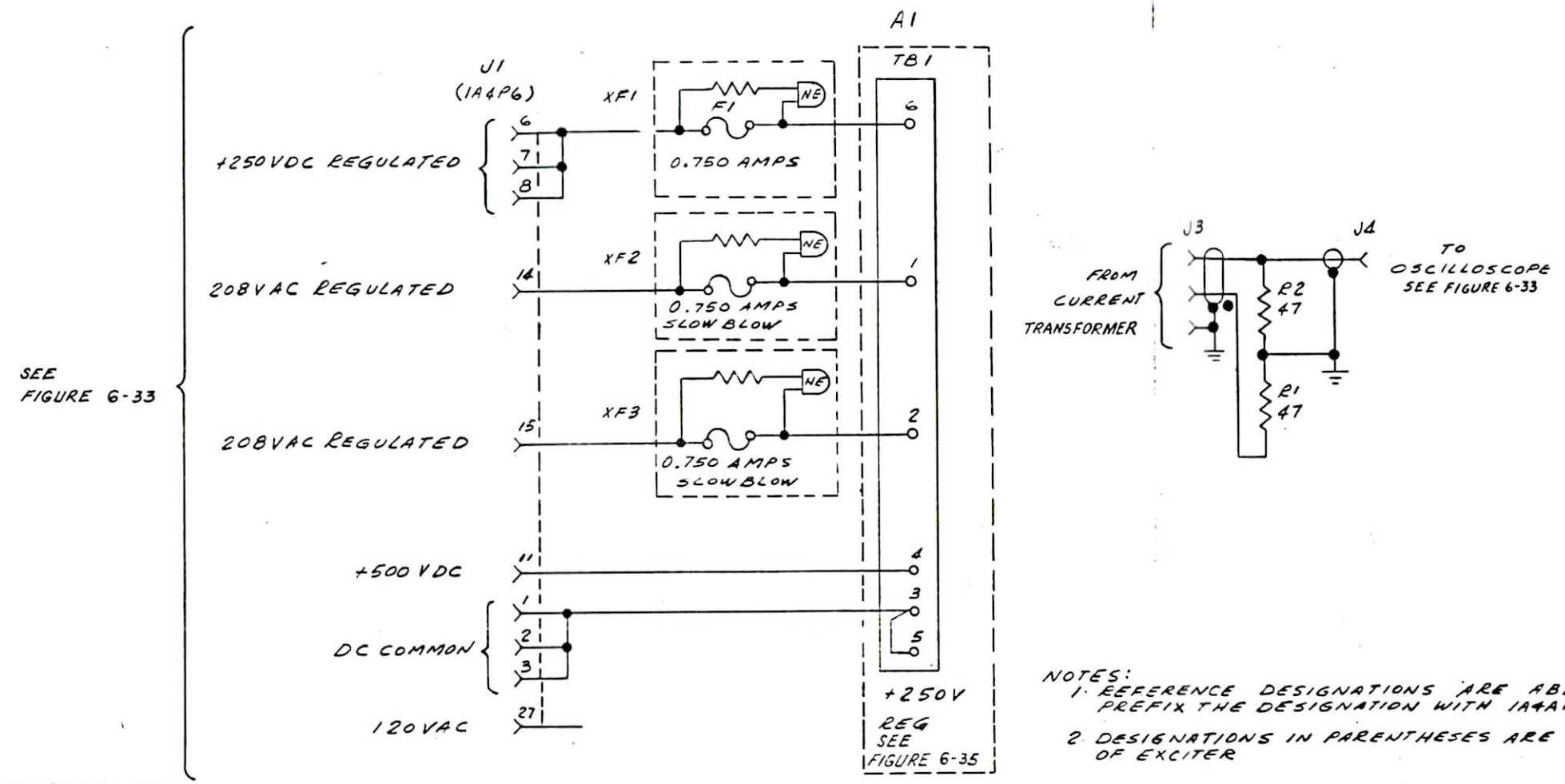


Figure 6-33. Amplifier Gro
FPN-44A (1A4). Schematic

Figure
6-33

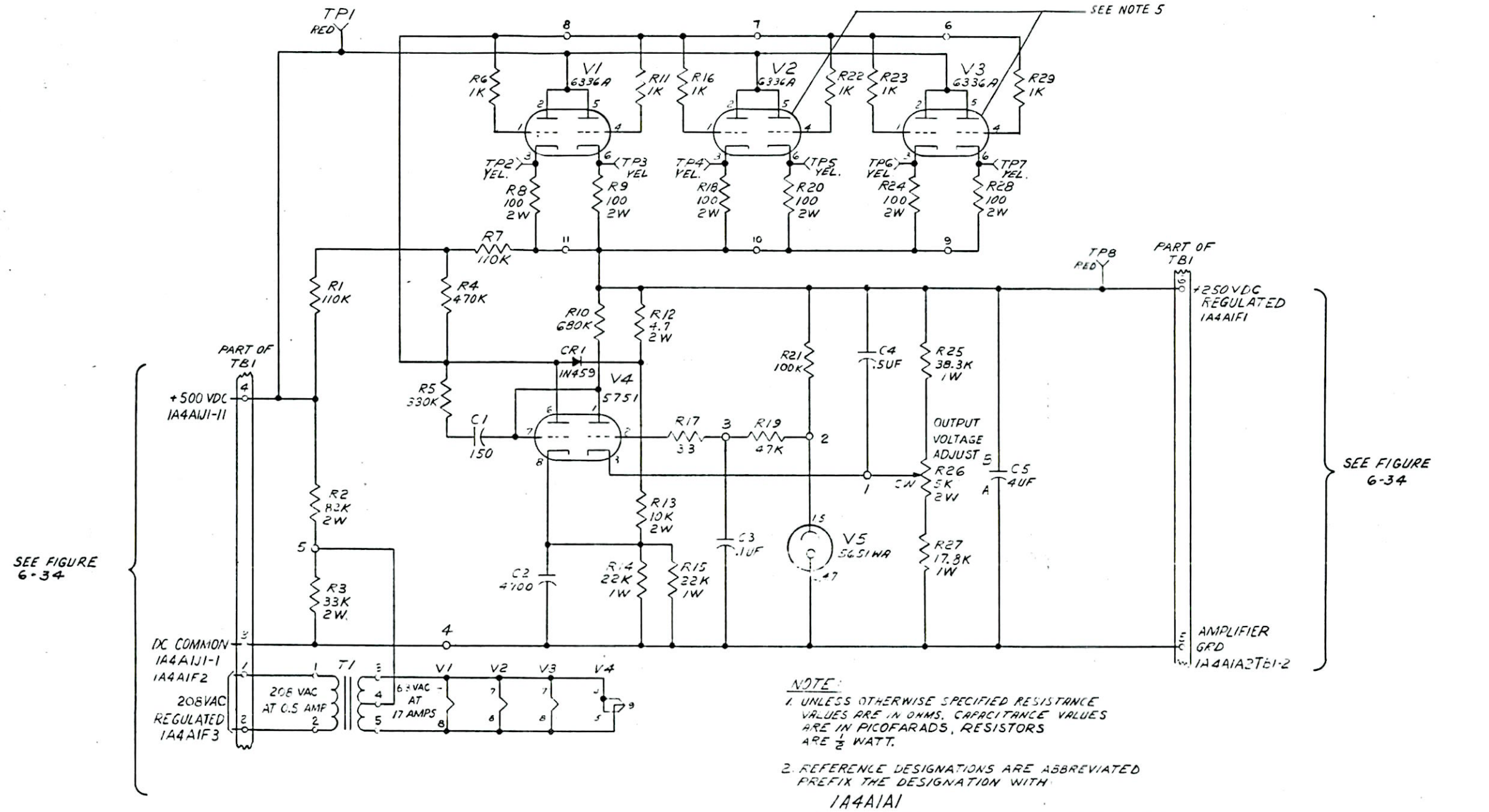


up OG-159/
c Diagram



NOTES:
1. REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATION WITH 1A4A1
2. DESIGNATIONS IN PARENTHESES ARE PART OF EXCITER

Figure 6-34. Power Supply PP-7304/FPN-44A (1A4A1), Schematic Diagram

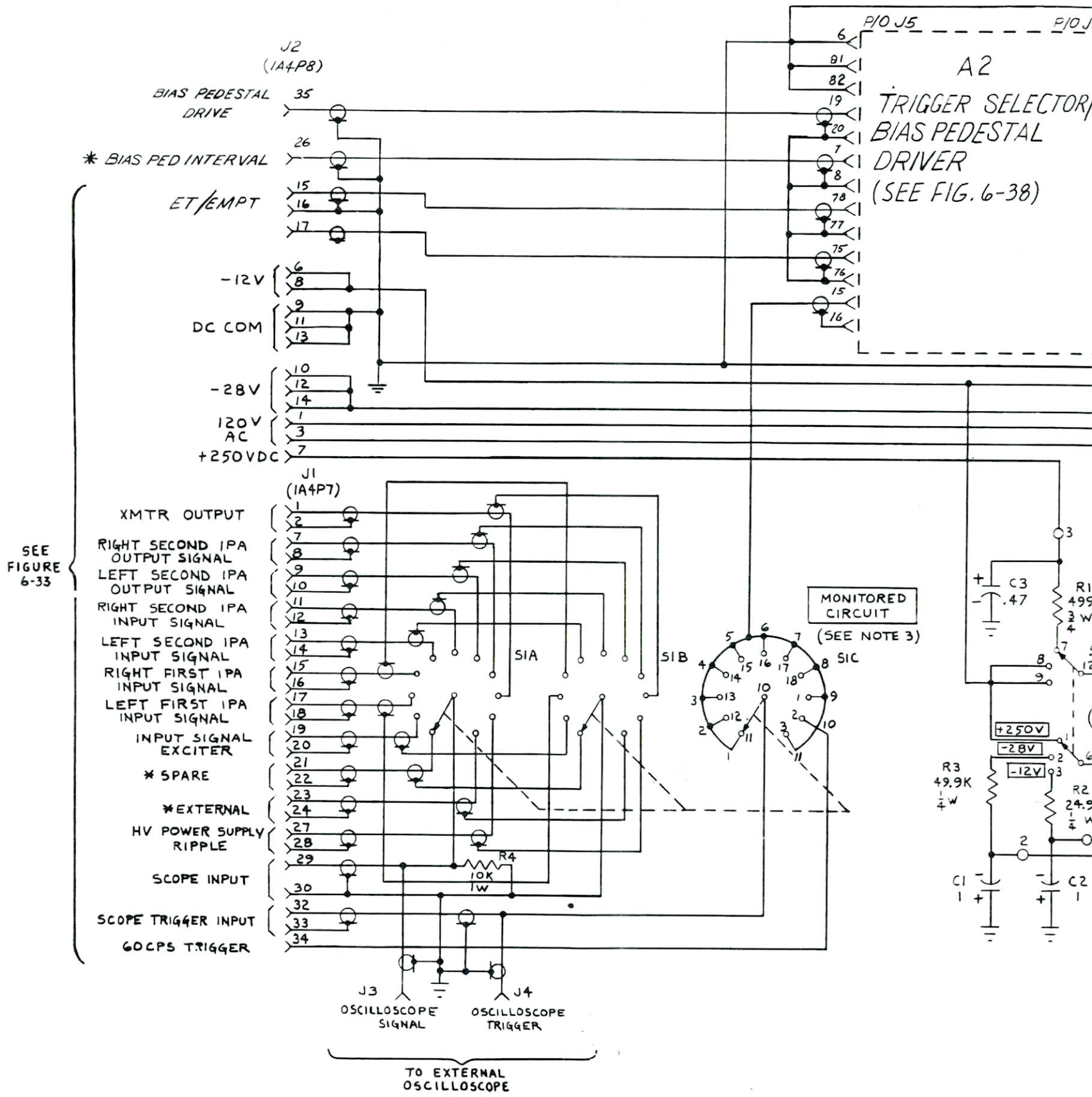


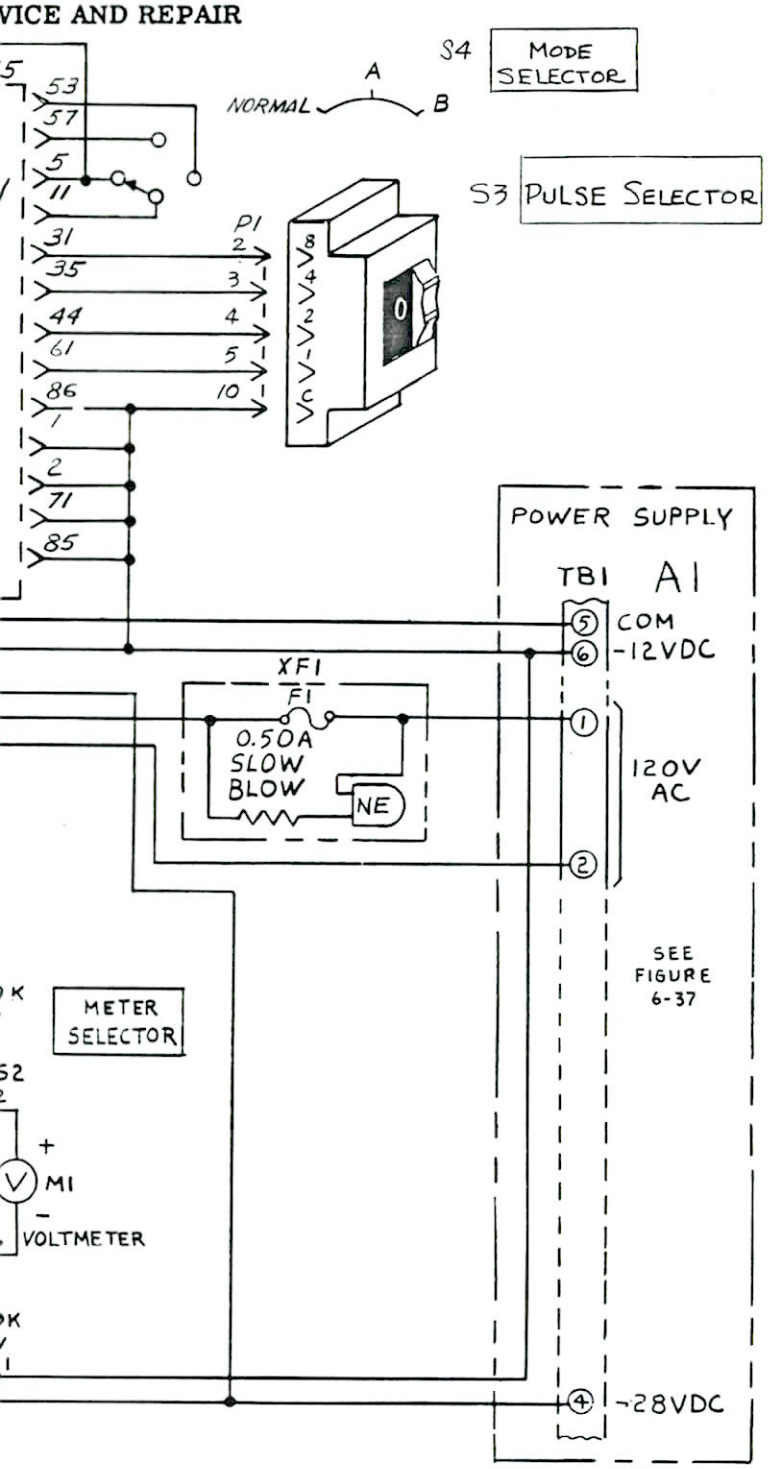
NOTE:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS. CAPACITANCE VALUES ARE IN PICOFARADS, RESISTORS ARE ½ WATT.
2. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATION WITH 1A4A1A1
3. —o— DEFINES INSULATED STANDOFF DESIGNATION.
4. TRANSFORMER RATINGS ARE MAXIMUM VALUES.
5. TUBES V2 AND V3 ARE NOT USED IN ANFPN-44A EQUIPMENT.

75-009-D1087610E

Figure 6-35. +250V Regulator 1A4A1A1, Schematic Diagram


P/O J5
P/O J
A2
TRIGGER SELECTOR/
BIAS PEDESTAL
DRIVER
(SEE FIG. 6-38)
J2
(1A4P8)
BIAS PEDESTAL DRIVE
* BIAS PED INTERVAL
ET/EMPT
-12V
DC COM
-28V
120V AC
+250VDC
J1
(1A4P7)
XMTR OUTPUT
RIGHT SECOND IPA OUTPUT SIGNAL
LEFT SECOND IPA OUTPUT SIGNAL
RIGHT SECOND IPA INPUT SIGNAL
LEFT SECOND IPA INPUT SIGNAL
RIGHT FIRST IPA INPUT SIGNAL
LEFT FIRST IPA INPUT SIGNAL
INPUT SIGNAL EXCITER
* SPARE
*EXTERNAL
HV POWER SUPPLY RIPPLE
SCOPE INPUT
SCOPE TRIGGER INPUT
60CPS TRIGGER
SEE FIGURE 6-33
S1A
S1B
S1C
MONITORED CIRCUIT
(SEE NOTE 3)
R4
10K
1W
J3
OSCILLOSCOPE SIGNAL
J4
OSCILLOSCOPE TRIGGER
TO EXTERNAL OSCILLOSCOPE
C3
.47
+250V
-28V
-12V
R3
49.9K
1/4W
C1
C2



S1

POS	FUNCTION
1	SPARE
2	INPUT EXCITER
3	INPUT LEFT FIRST IPA
4	INPUT RIGHT FIRST IPA
5	INPUT LEFT SECOND IPA
6	INPUT RIGHT SECOND IPA
7	OUTPUT LEFT SECOND IPA
8	OUTPUT RIGHT SECOND IPA
9	XMTR OUTPUT (CURRENT)
10	HV POWER SUPPLY (RIPPLE)
11	EXTERNAL
12	

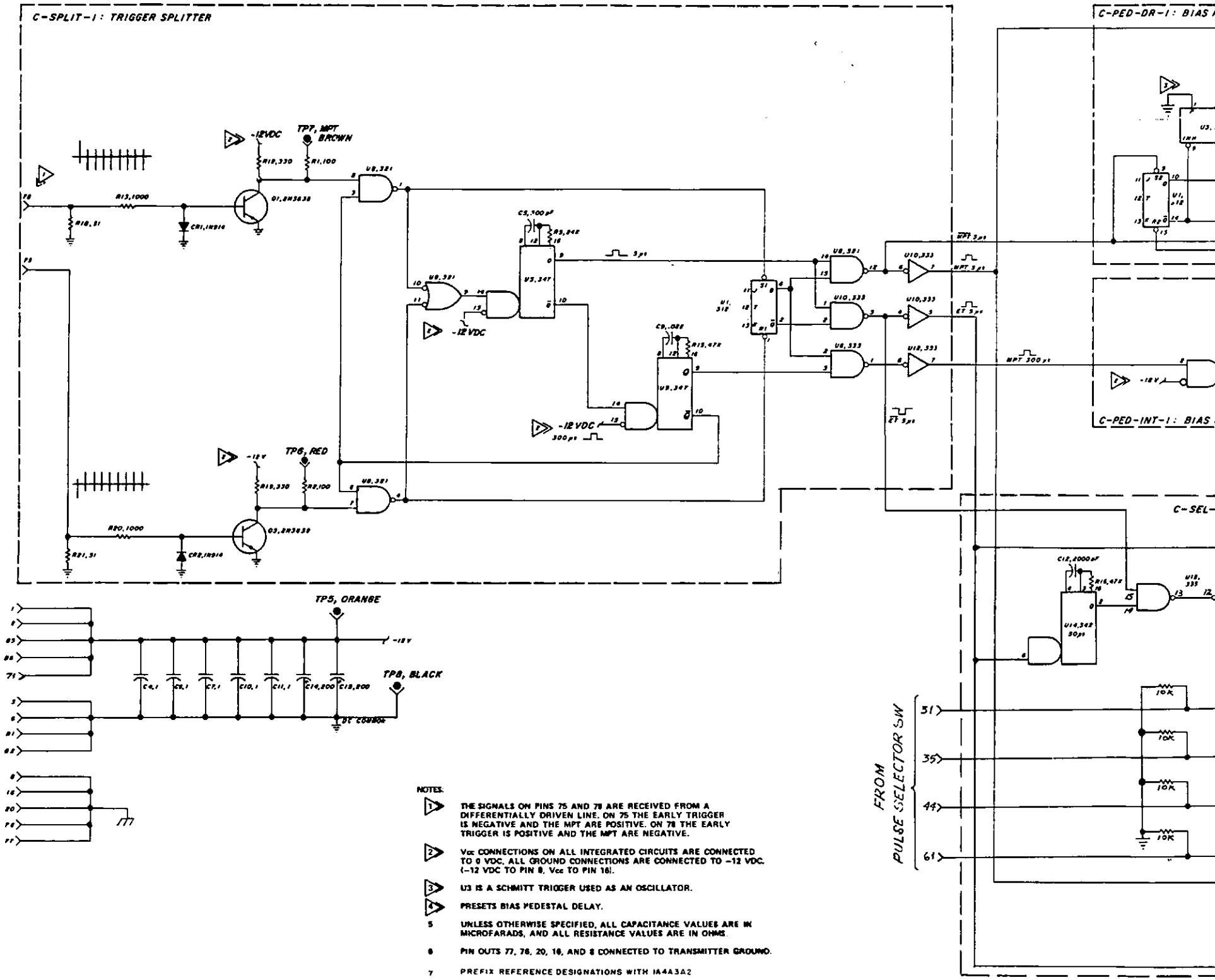
S3

POS	CONTACT CLOSURES X = CLOSED O = OPEN			
	8-C	4-C	2-C	1-C
0	X	O	O	X
1	X	O	O	O
2	O	X	X	X
3	O	X	X	O
4	O	X	O	X
5	O	X	O	O
6	O	O	X	X
7	O	O	X	O
8	O	O	O	X
9	O	O	O	O

NOTES:
1. O INDICATES INSULATED STANDOFF
2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS. CAPACITANCE VALUES ARE IN MICROFARADS.
3. NUMBERS ON THE OUTSIDE ARE SWITCH POSITION NUMBERS. NUMBERS ON THE INSIDE ARE SWITCH TERMINAL NUMBERS.
4. PREFIX REF DESIG WITH 1A4A3.

* NOT USED

Figure 6-36. Oscilloscope Control C-4558A/ FPN-44A (1A4A3), Schematic Diagram



NOTES:

1. THE SIGNALS ON PINS 75 AND 78 ARE RECEIVED FROM A DIFFERENTIALLY DRIVEN LINE. ON 75 THE EARLY TRIGGER IS NEGATIVE AND THE MPT ARE POSITIVE. ON 78 THE EARLY TRIGGER IS POSITIVE AND THE MPT ARE NEGATIVE.
2. Vcc CONNECTIONS ON ALL INTEGRATED CIRCUITS ARE CONNECTED TO 0 VDC. ALL GROUND CONNECTIONS ARE CONNECTED TO −12 VDC. (−12 VDC TO PIN 8, Vcc TO PIN 16).
3. U3 IS A SCHMITT TRIGGER USED AS AN OSCILLATOR.
4. PRESETS BIAS PEDESTAL DELAY.
5. UNLESS OTHERWISE SPECIFIED, ALL CAPACITANCE VALUES ARE IN MICROFARADS, AND ALL RESISTANCE VALUES ARE IN OHMS.
6. PIN OUTS 77, 78, 20, 19, AND 8 CONNECTED TO TRANSMITTER GROUND.
7. PREFIX REFERENCE DESIGNATIONS WITH IA4A3A2

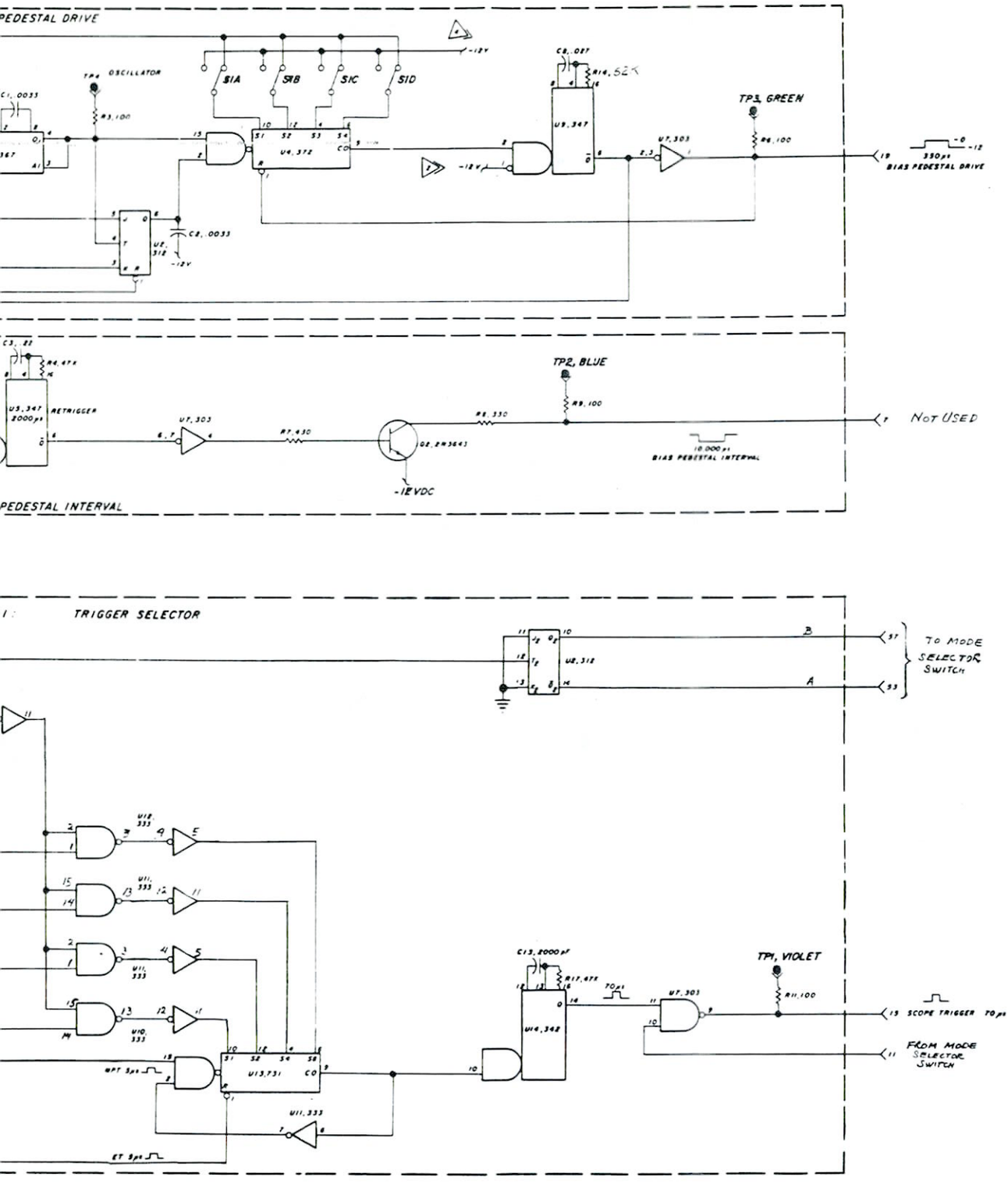
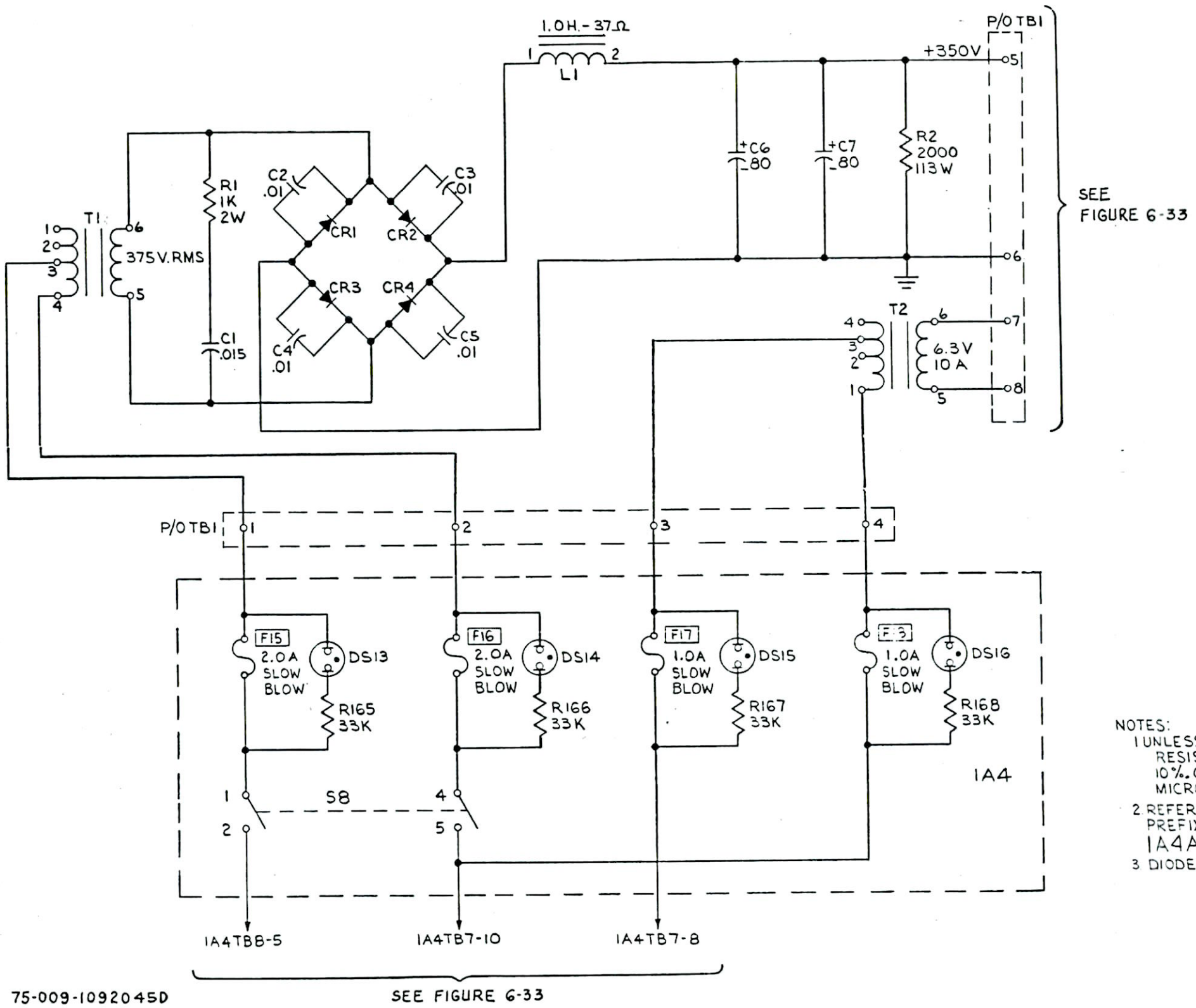
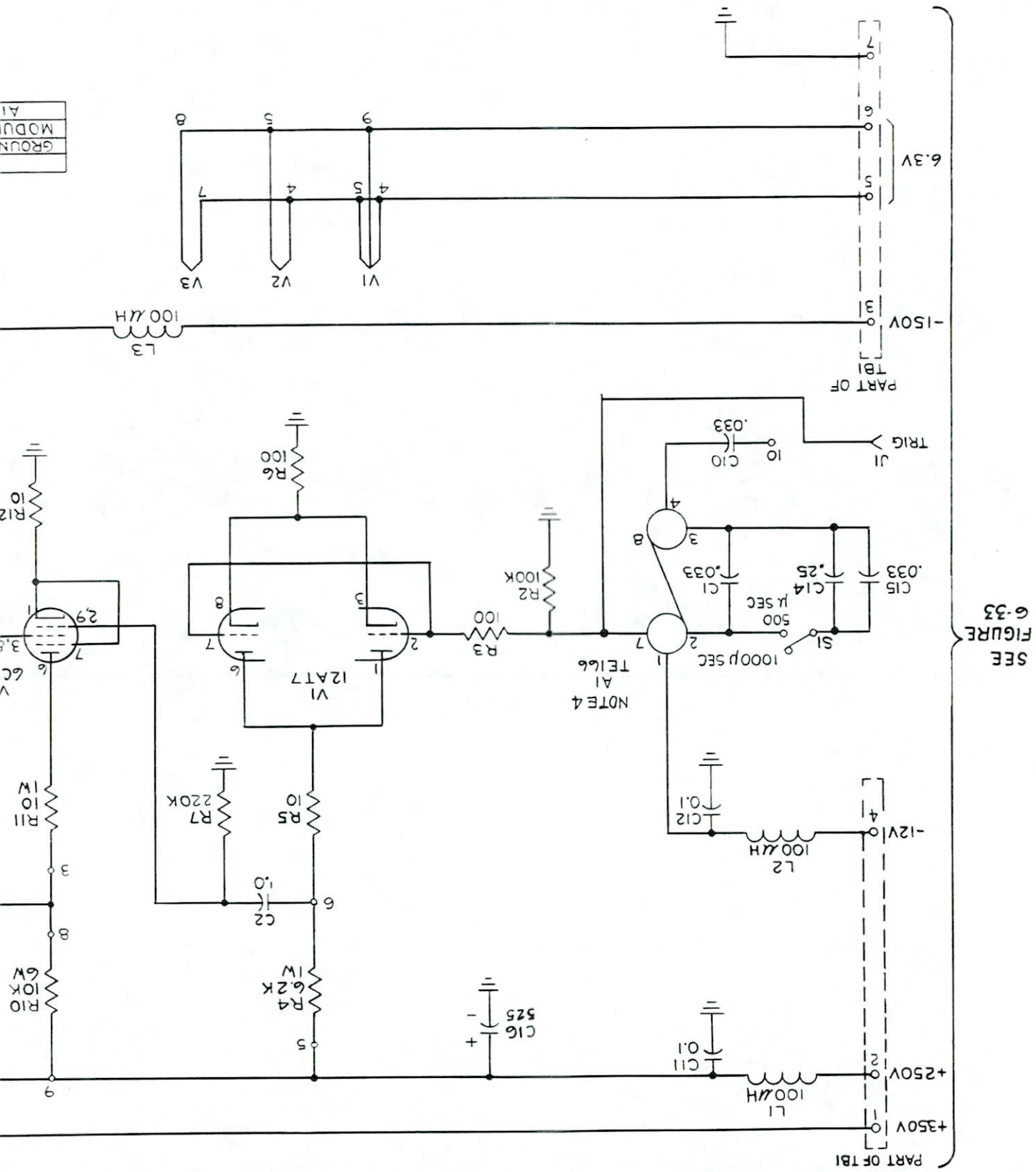


Figure 6-38. Trigger Selector/Bias Pedestal Driver 1A4A3A2, Schematic Diagram



NOTES:
1. UNLESS OTHERWISE SPECIFIED:
   RESISTANCE VALUES ARE OHMS, 1/2 WATT, 10%. CAPACITANCE VALUES ARE IN MICROFARADS.
2. REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATION WITH 1A4A4 UNLESS OTHERWISE SPECIFIED
3. DIODES ARE IN547

Figure 6-39. Bias Pedestal Power Supply 1A4A4, Schematic Diagram


SEE FIGURE G-33
PART OF TB1
+350V
+250V
-150V
-12V
6.3V
L1 100μH
L2 100μH
L3 100μH
C11 0.1
C12 0.1
C16 525
C10 .033
C15 .033
C14 .25
C1 .033
C2 1.0
R4 6.2K 1W
R5 10
R7 220K
R10 10K 6W
R11 10 1W
R12 10
R6 100
R2 100K
R3 100
S1 1000μ SEC 500 μ SEC
V1 12AT7
V2
V3
NOTE 4
A1 TE1&6
J1 TRIG

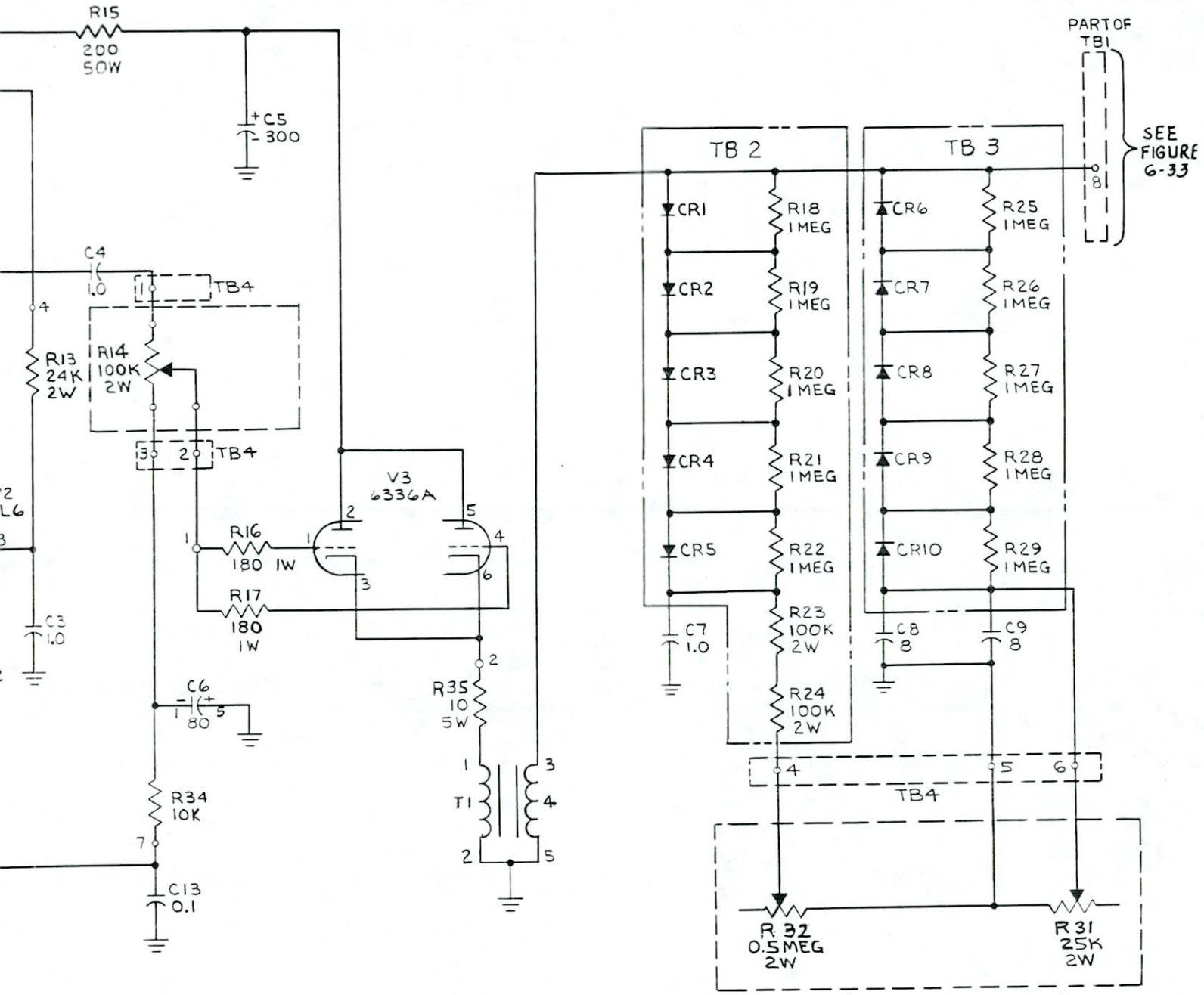


TABLE I	
D CONNECTORS	
LE NO.	PIN NO. OF MOD
	6,9

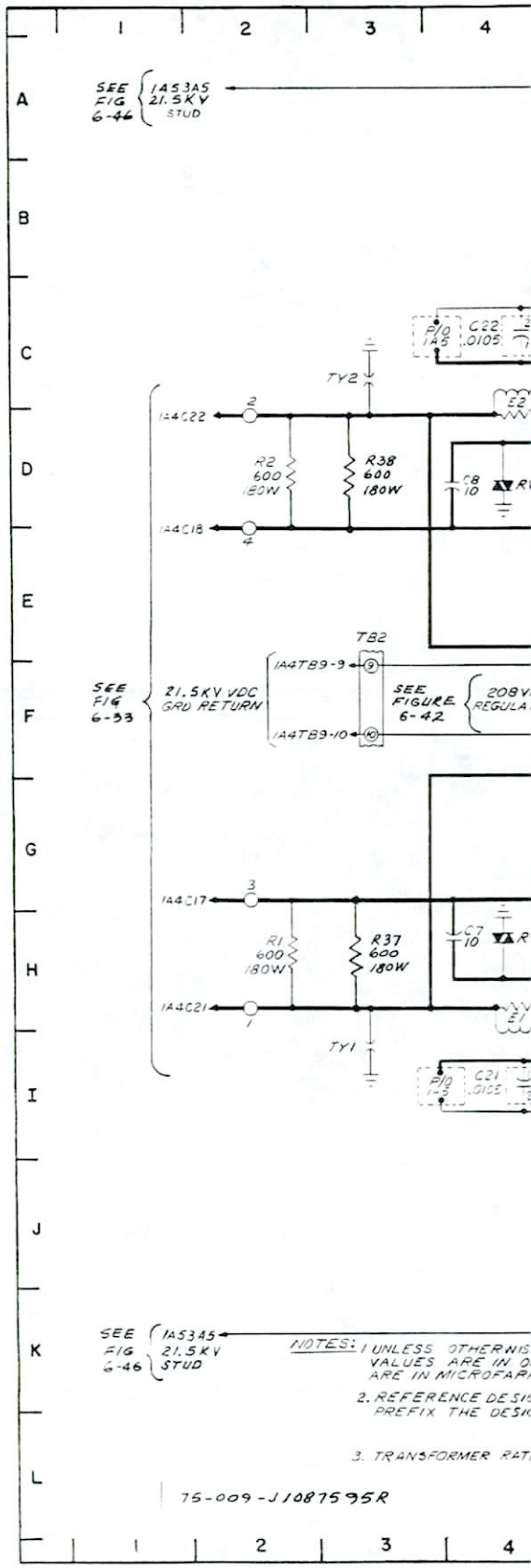
NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   RESISTANCE VALUES ARE OHMS, 1/2 WATT,
   CAPACITANCE VALUES ARE MICROFARADS
2. REFERENCE DESIGNATIONS ARE ABBREVIATED
   PREFIX THE DESIGNATION WITH
   1A4A5
3. DIODES ARE IN547
4. MODULE A1 NOT INSTALLED.

Figure 6-40. Bias Pedestal Generator 1A4A5, Schematic Diagram

PARTS LOCATION INDEX

REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC
C1	6H	E7	10I	R4	5J	R16	6E	RV7	11H
C2	6C	E8	10C	R4	10B	R17	6G	RV8	11D
C3	6I	K1	6G	R4	11J	R18	6E	S1	12K
C4	6C	K1	7G	R5	5B	R23	10I	S2	12J
C5	7I	K2	6E	R5	5I	R24	10C	S3	12K
C6	7C	K2	7E	R5	5J	R24	11C	S4	12J
C7	4H	K3	8G	R5	10J	R25	10H	S5	13H
C8	4D	K3	9G	R5	11B	R26	10D	S6	13J
C9	6H	K4	8E	R6	5B	R27	10H	S7	13I
C10	6D	K4	9E	R6	5C	R28	10D	S8	13H
C11	11H	M1	6G	R6	5J	R29	10G	S9	13H
C12	11C	M2	6E	R6	10B	R30	10D	T1	5G
C13	11I	M3	9G	R6	11J	R31	10G	T2	5E
C14	11C	M4	9E	R7	5A	R32	10D	T3	10G
C15	12I	M5	7D	R7	5H	R33	9G	T4	10E
C16	12C	R1	2H	R7	5J	R34	9E	TB1	6L
C17	9H	R1	5B	R7	10K	R35	9G	TB1	13K
C18	9D	R1	5I	R7	11A	R36	9E	TB2	3E
C19	12H	R1	10J	R8	5A	R37	2H	TB2	9L
C20	12D	R1	11B	R8	5D	R38	2D	TB3	13I
C21	4I	R2	2D	R8	5J	R41	6I	TB4	13J
C22	4C	R2	5B	R8	10A	R42	6C	TB5	13J
C23	9I	R2	5I	R8	11K	R43	11I	TB6	13J
C24	9C	R2	10B	R9	5H	R44	11C	TB7	13H
E1	4H	R2	11J	R10	5D	RV1	4H	TY1	3I
E2	4C	R3	5B	R11	5G	RV2	4D	TY2	3C
E3	9H	R3	5J	R12	5D	RV3	6H	V1	5H
E4	9C	R3	10J	R13	5G	RV4	6D	V2	5C
E5	5I	R3	11B	R14	5D	RV5	9H	V3	11H
E6	5C	R4	5B	R15	6G	RV6	9D	V4	10C



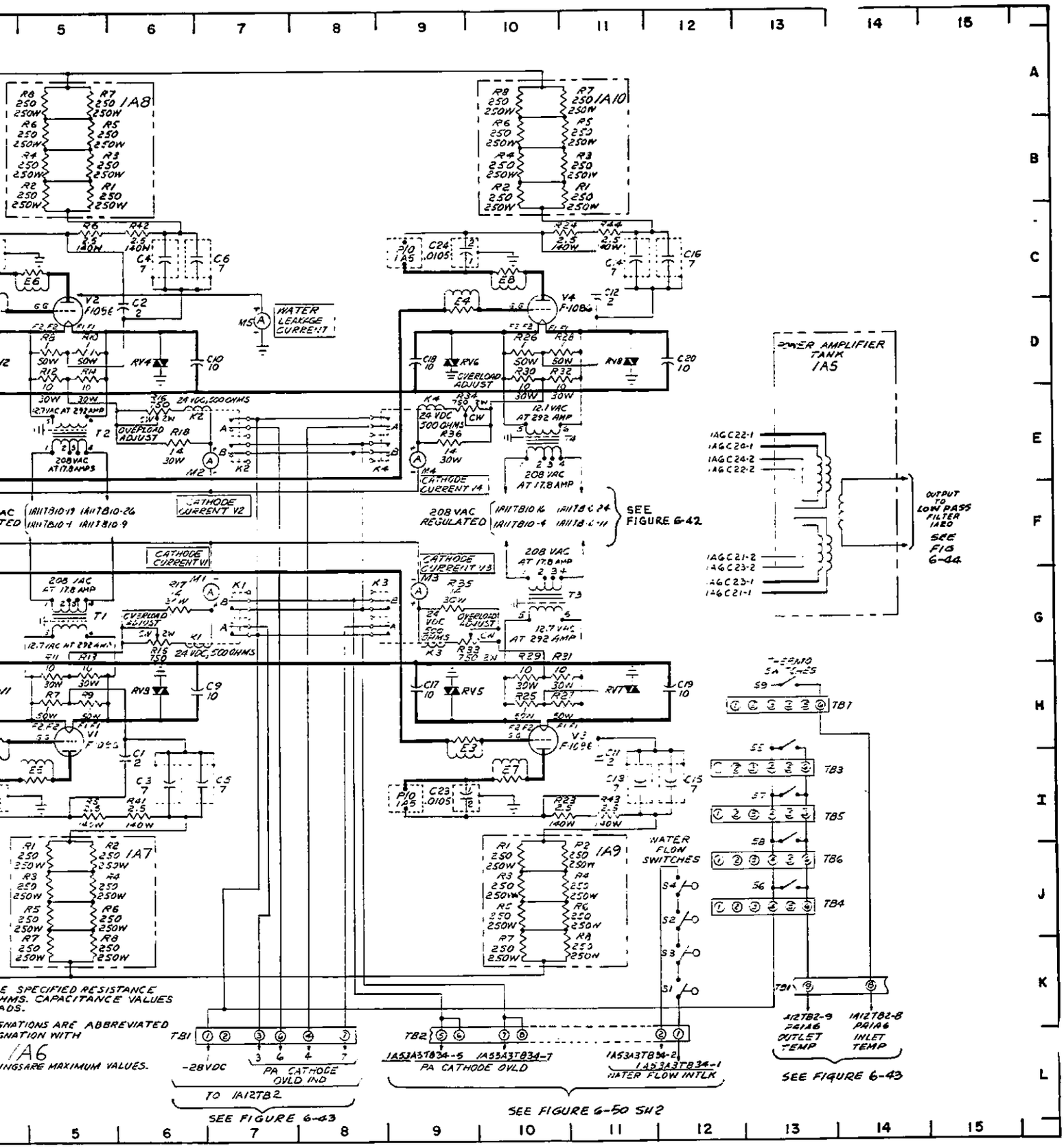
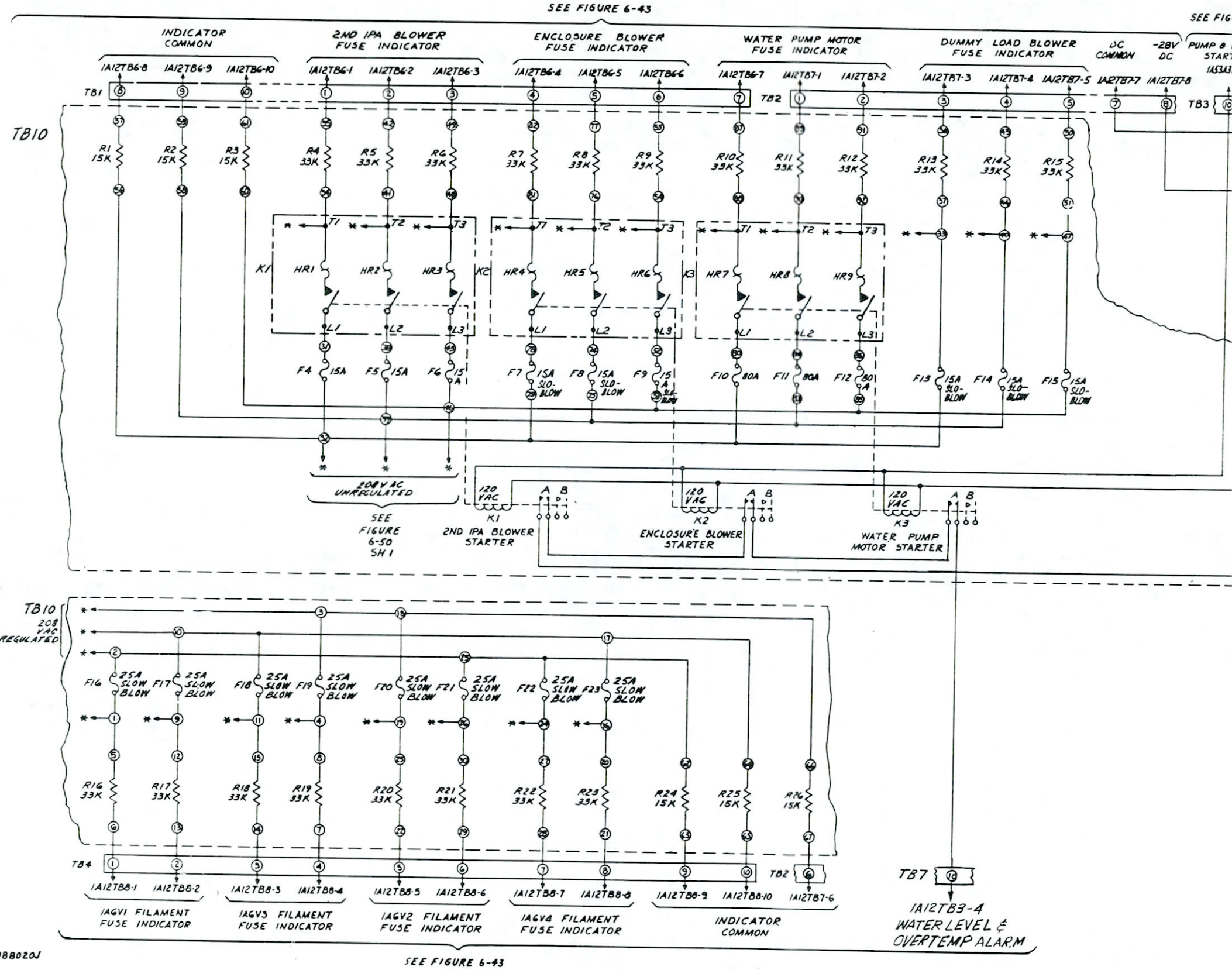
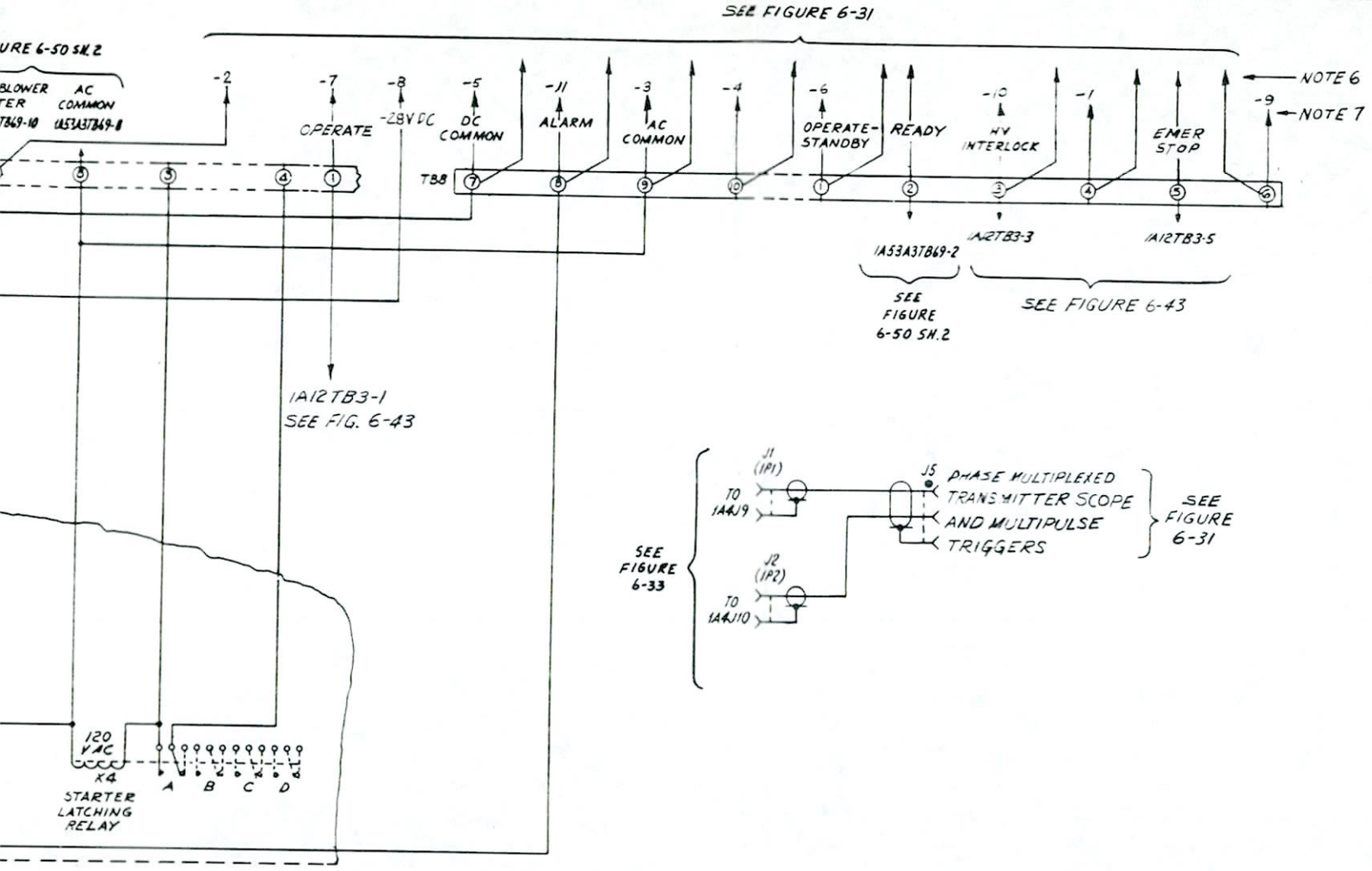


Figure 6-41. Radio Frequency Amplifier AM-3774/FPN-44 (1A5 thru 1A10), Schematic Diagram



75-009-J1088020J

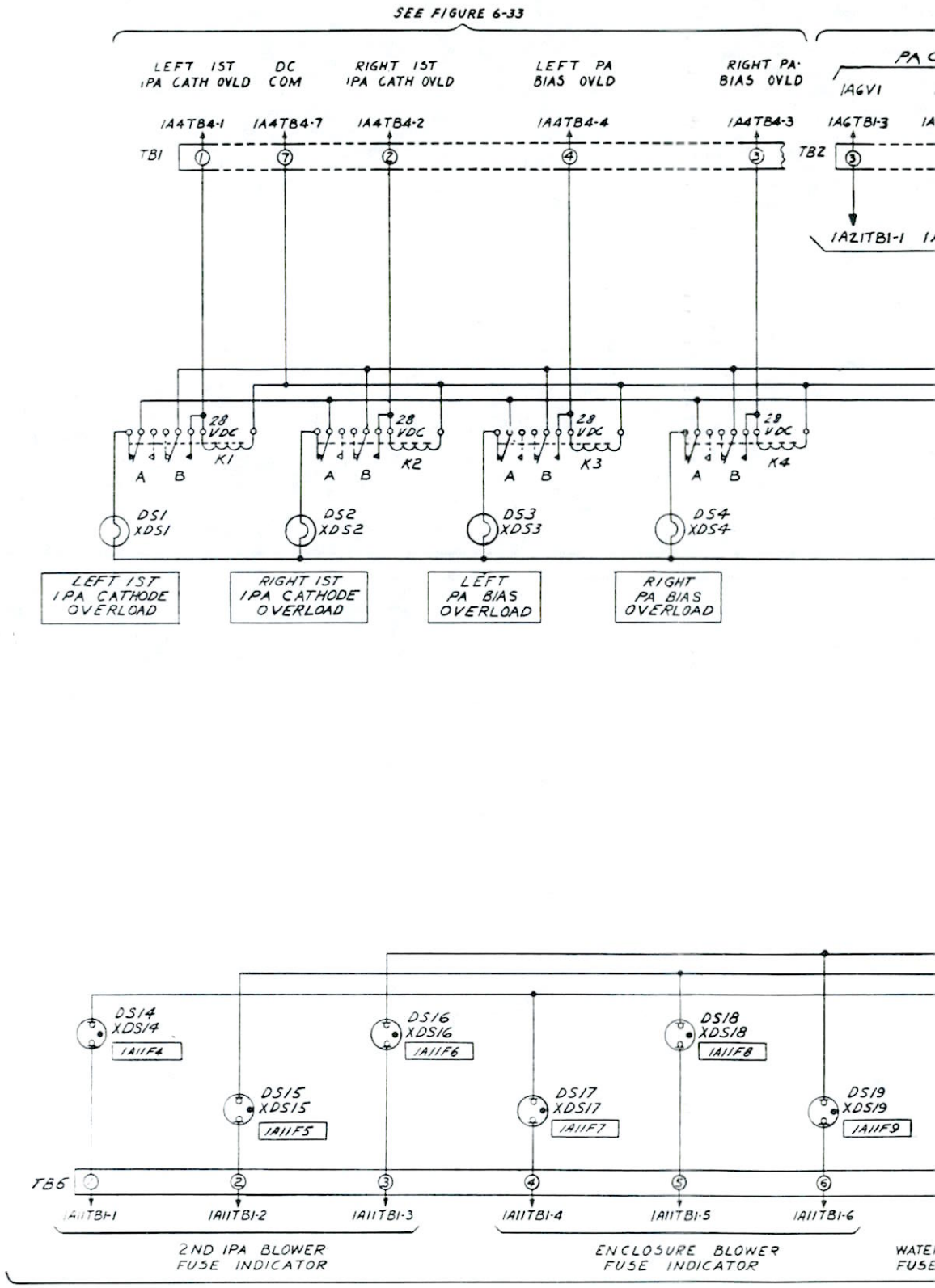


CONNECTION TABLE		
FROM / TO		SEE FIGURE
TB10-1	1A6T1-1	6-41
TB10-2	1A53A3TB2-3	6-50 SH.1
	1A4TB10-2	6-33
TB10-3	1A53A3TB2-1	6-51 SH.1
	1A4TB10-1	6-33
TB10-4	1A6T3-1	6-41
TB10-9	1A6T1-4	
TB10-10	1A53A3TB2-2	6-50 SH.1
	1A4TB10-3	6-33
TB10-11	1A6T3-4	6-41
TB10-16	1A6T4-1	
TB10-19	1A6T2-1	
TB10-24	1A6T4-4	
TB10-26	1A6T2-4	
TB10-32	1A53A3TB74-1	6-50 SH.1
TB10-33	4TB1-10R4TB5-4	6-61
TB10-39	1A53A3TB74-2	6-50 SH.1
TB10-40	4TB1-20R4TB5-2	6-61
TB10-46	1A53A3TB74-3	6-50 SH.1
TB10-47	4TB1-30R4TB5-3	6-61
K1-T1	1A4TB8-1	6-33
K1-T2	1A4TB8-2	
K1-T3	1A4TB8-3	
K2-T3	1TB1-3	6-32
K2-T2	1TB1-2	
K2-T1	1TB1-1	
K3-T1	1A52TB1-1	6-45
K3-T2	1A52TB1-2	
K3-T3	1A52TB1-3	

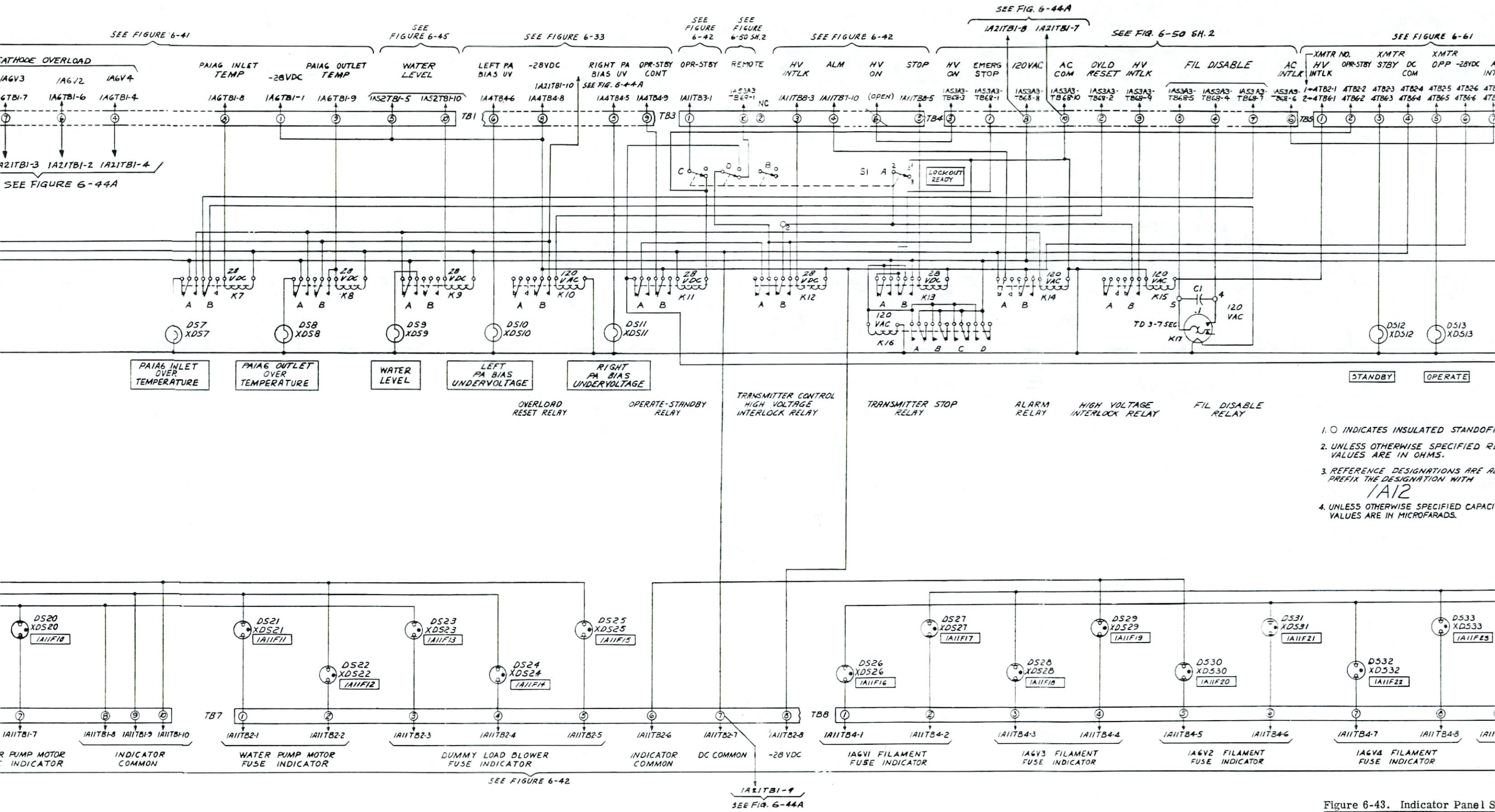
NOTES:

1. * SEE CONNECTION TABLE
2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE IN OHMS.
3. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 2 WATT
4. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATION WITH /A11
5. NC DESIGNATES NO CONNECTION.
6. CONNECTIONS TO AN/FPN-60 TRANSMITTER CONTROL SET. SEE FIGURE 6-31
7. CONNECTIONS TO INDICATED TERMINALS OF LOCAL CONTROL UNIT 5TB1 FOR TRANS #1, 5TB2 FOR #2. SEE FIGURE 6-31A

Figure 6-42. Electrical Equipment Rack MT-2929/FPN-44 (1A11), Schematic Diagram



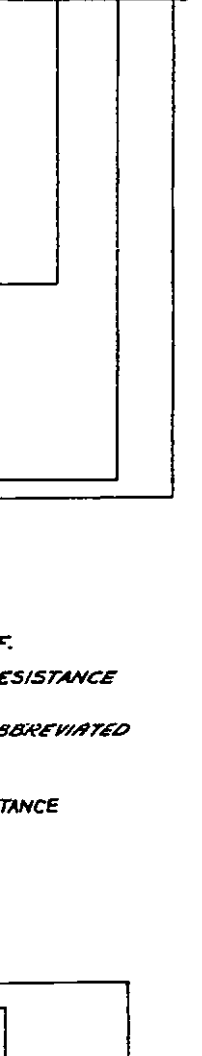
75-009-J1096495-



1. ○ INDICATES INSULATED STANDOFF
2. UNLESS OTHERWISE SPECIFIED R... VALUES ARE IN OHMS.
3. REFERENCE DESIGNATIONS ARE A... PREFIX THE DESIGNATION WITH 1A12
4. UNLESS OTHERWISE SPECIFIED CAPACI... VALUES ARE IN MICROFARADS.

Figure 6-43. Indicator Panel S...
FPN-44 (1A12), Schematic Di...

Figure 6-43



F.

ESISTANCE

BBREVIATED

TANCE

B-1894/
agram

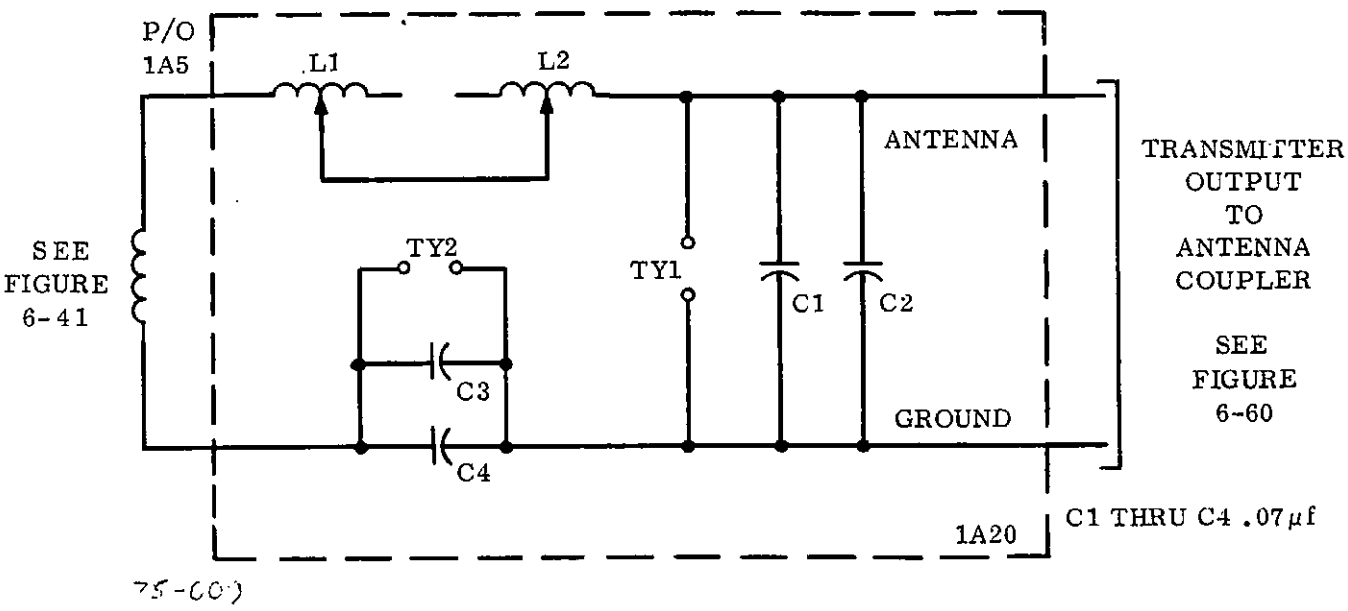


Figure 6-44. Low Pass Filter F-1428/ FPN-44A (1A20), Schematic Diagram

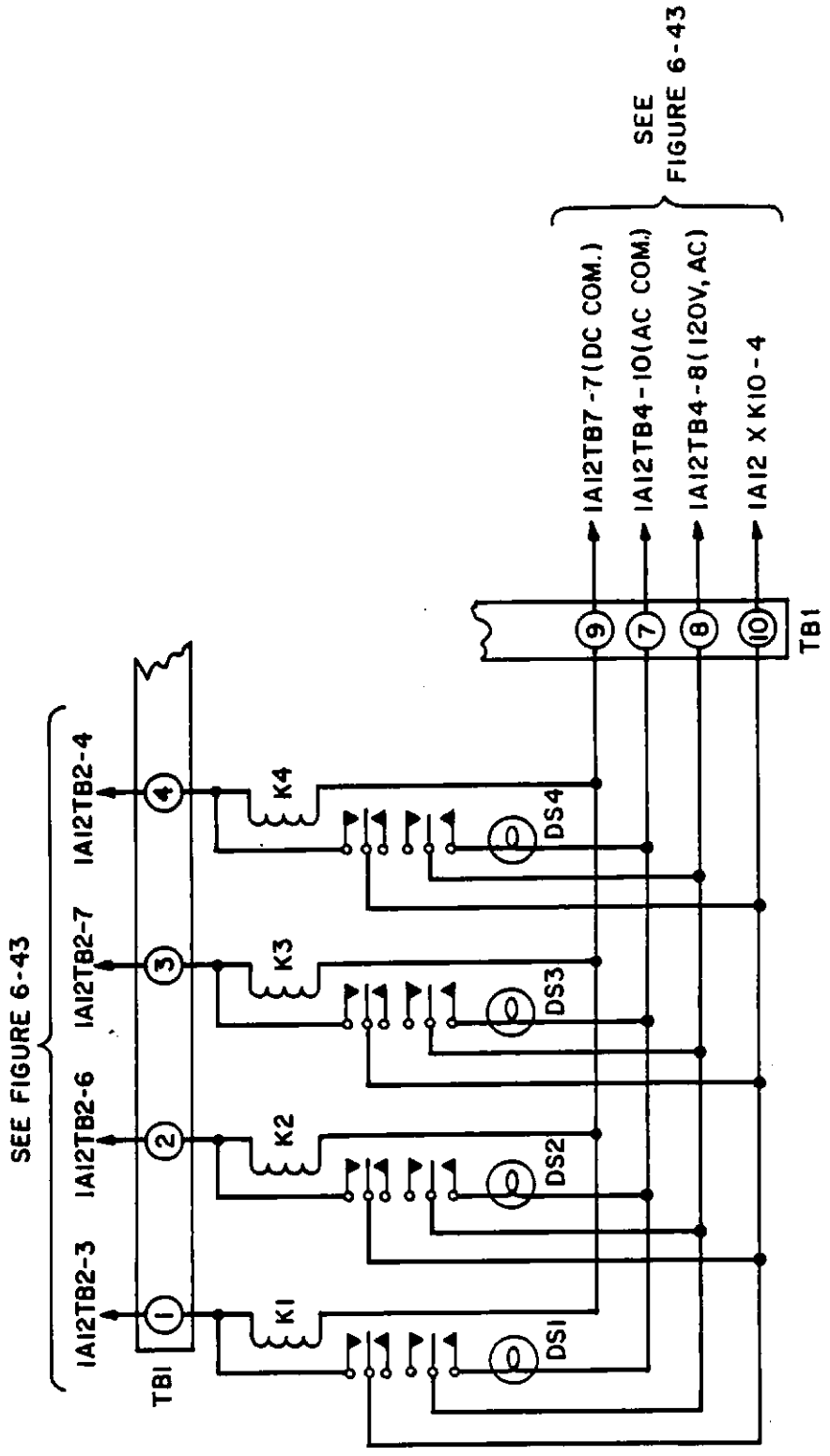


Figure 6-44A. PA Overload Indicator Panel 1A21, Schematic Diagram

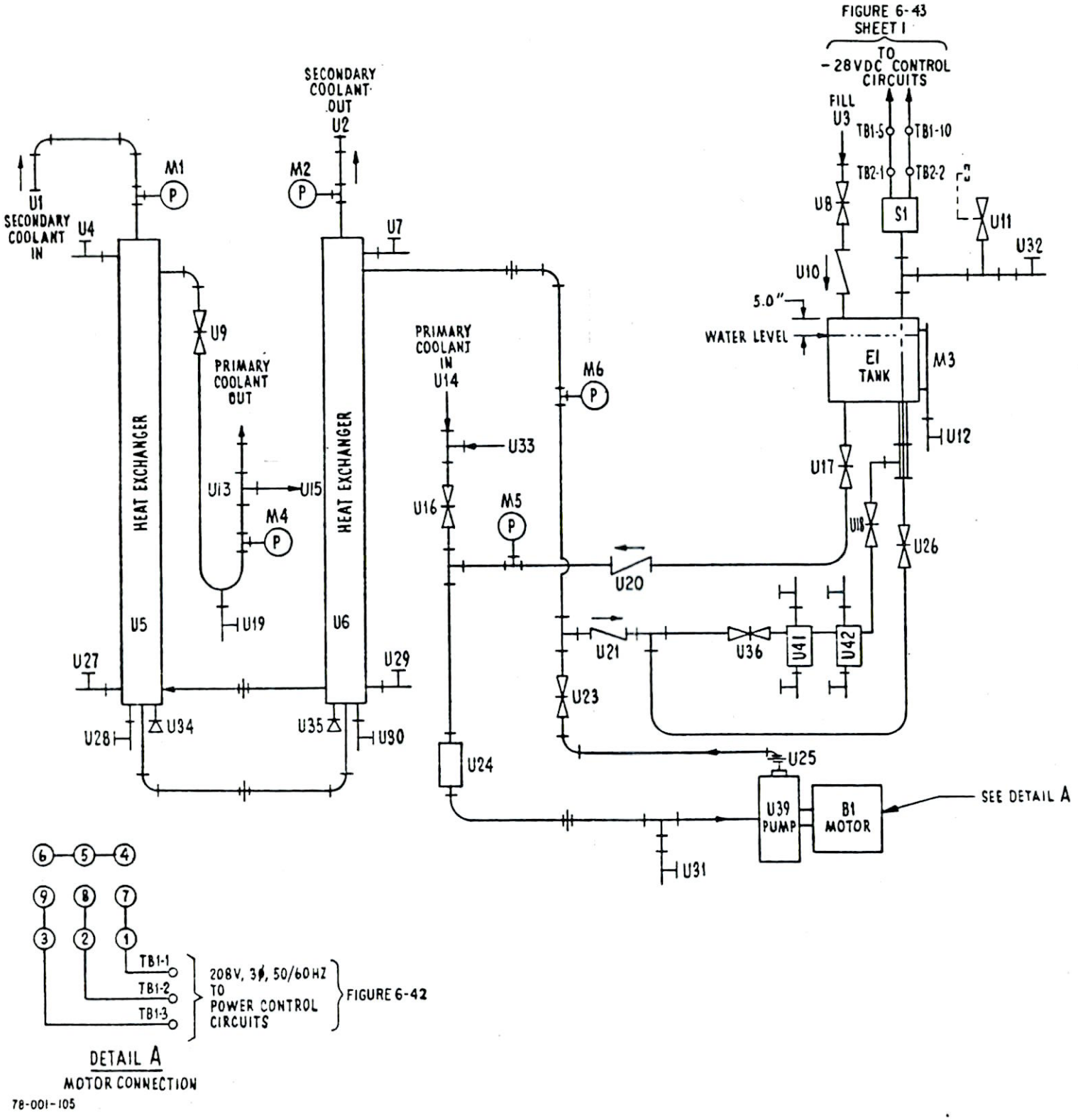
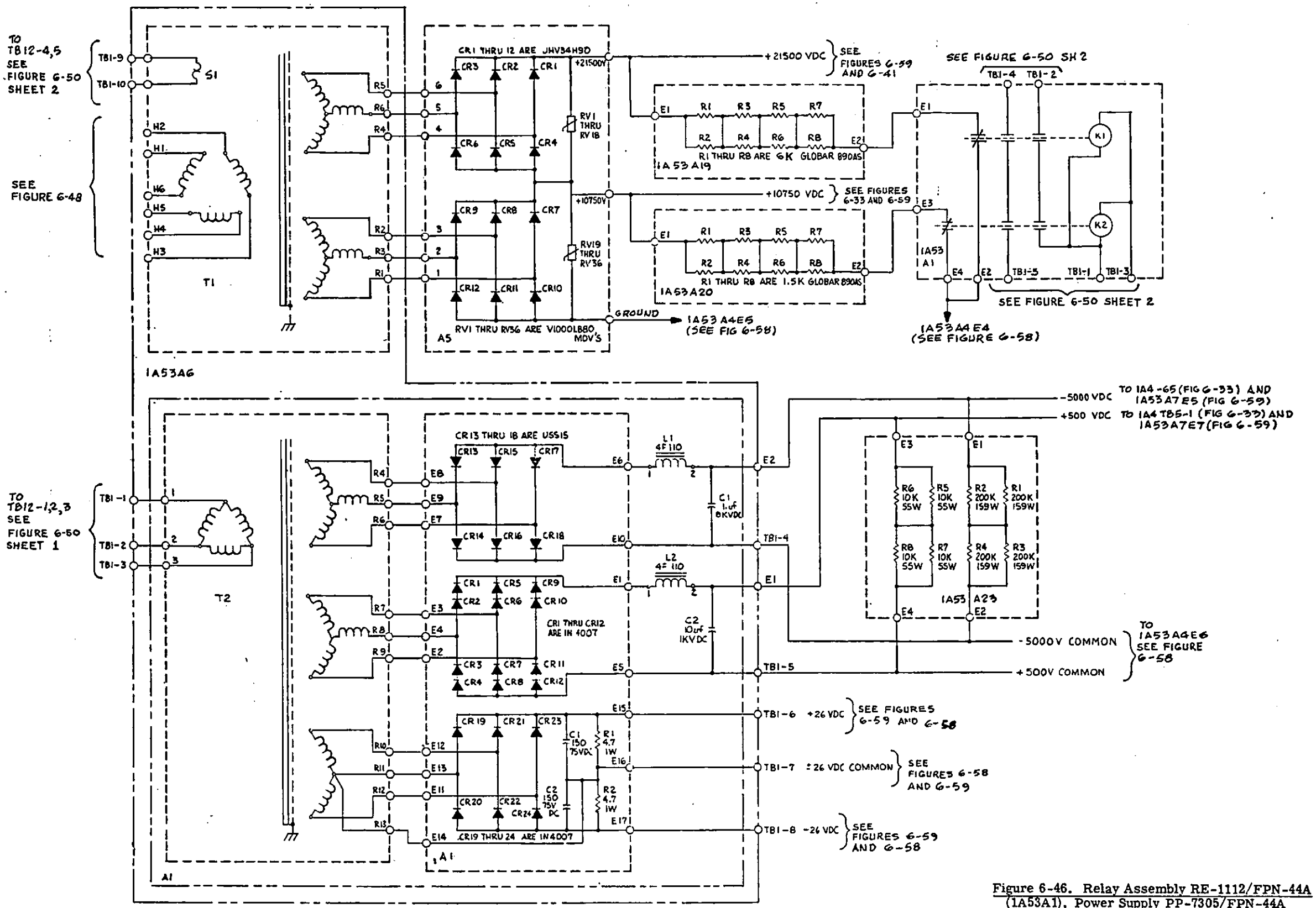


Figure 6-45. Electron Tube Liquid Cooler HD-601/FPN (1A2) Schematic Diagram



75-009-17793 C

Figure 6-46. Relay Assembly RE-1112/FPN-44A (1A53A1), Power Supply PP-7305/FPN-44A (1A53A5 and 1A53A6), and Resistor Assemblies (1A53A19, 1A53A20, and 1A53A23), Schematic Diagram

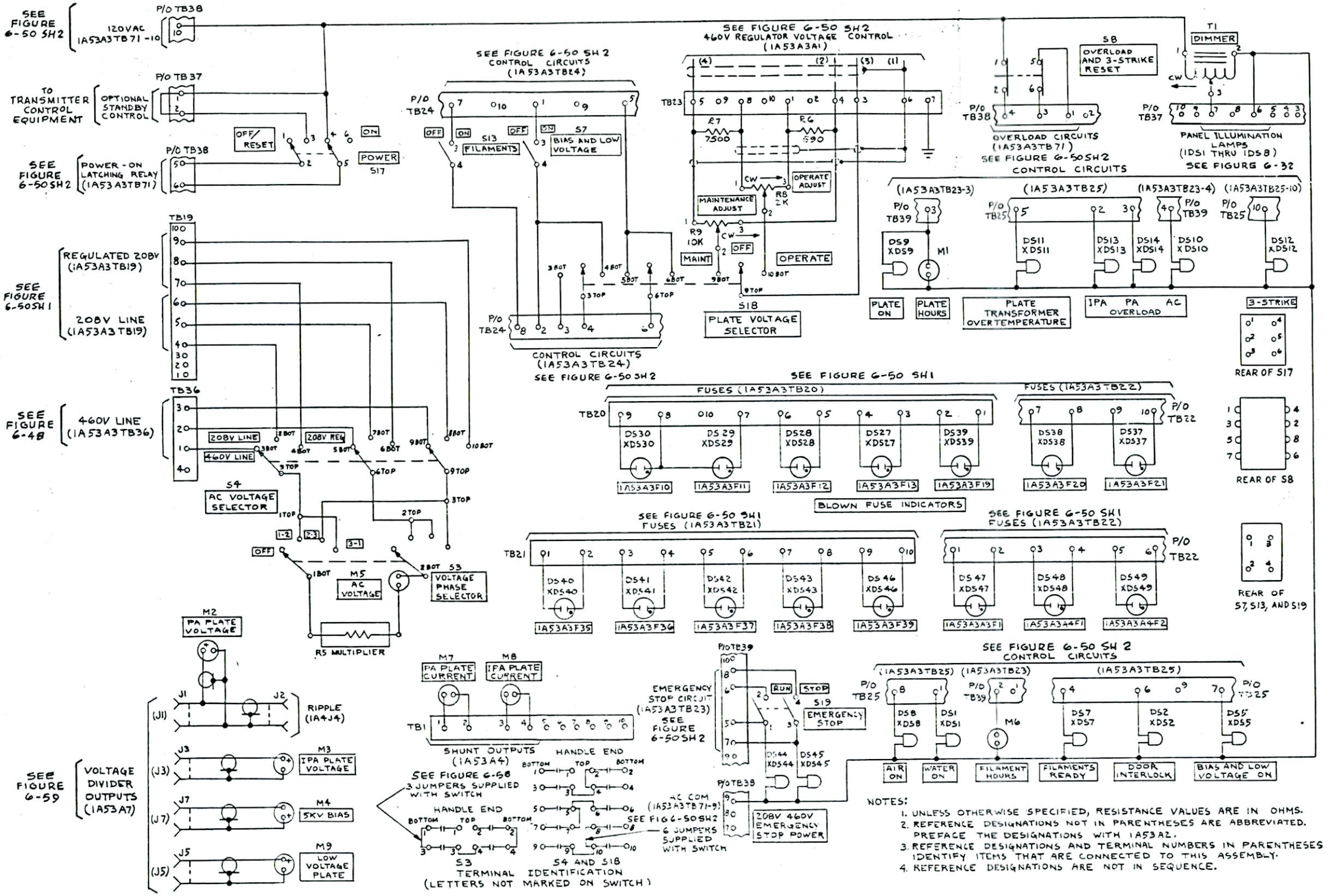
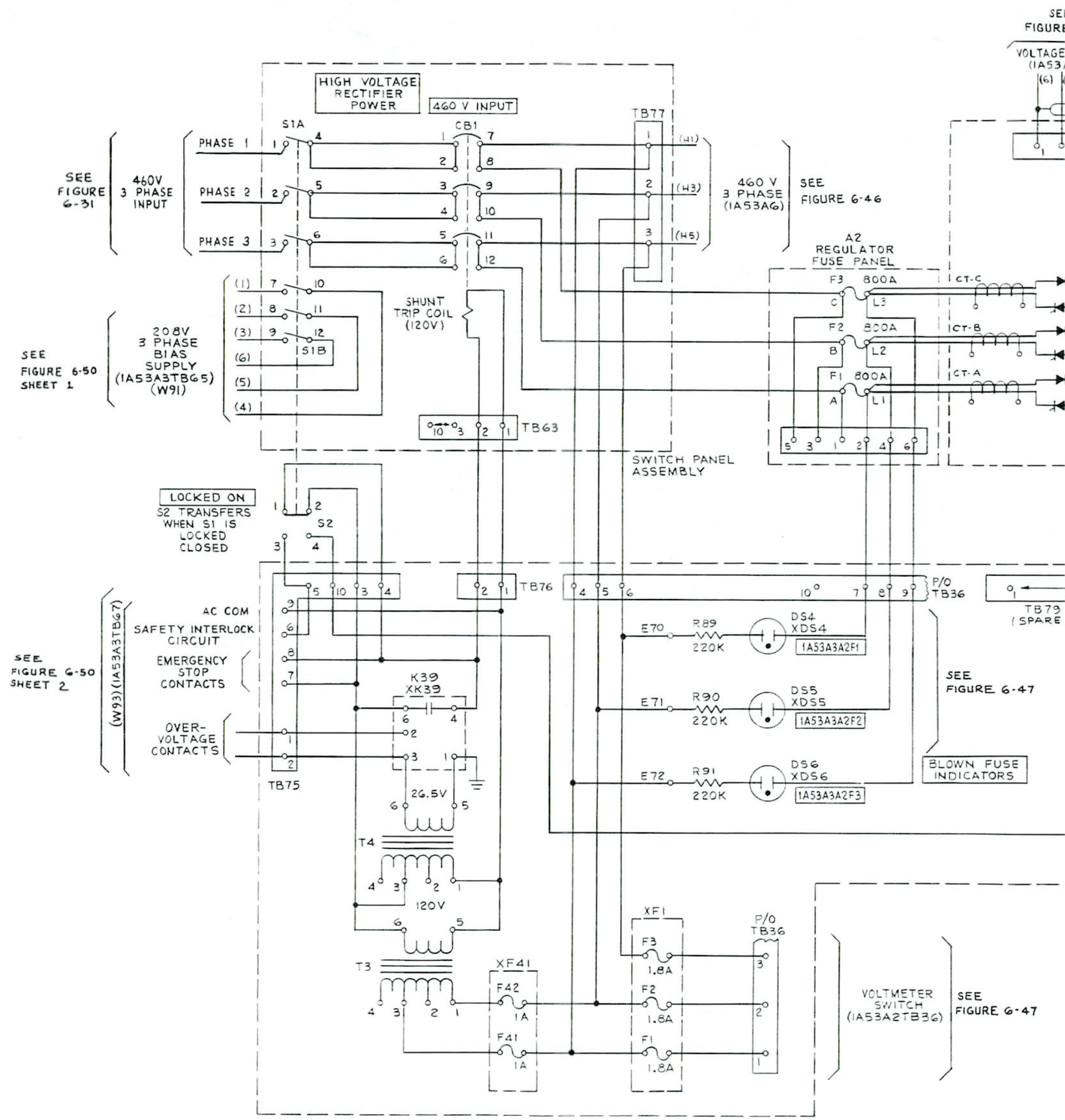
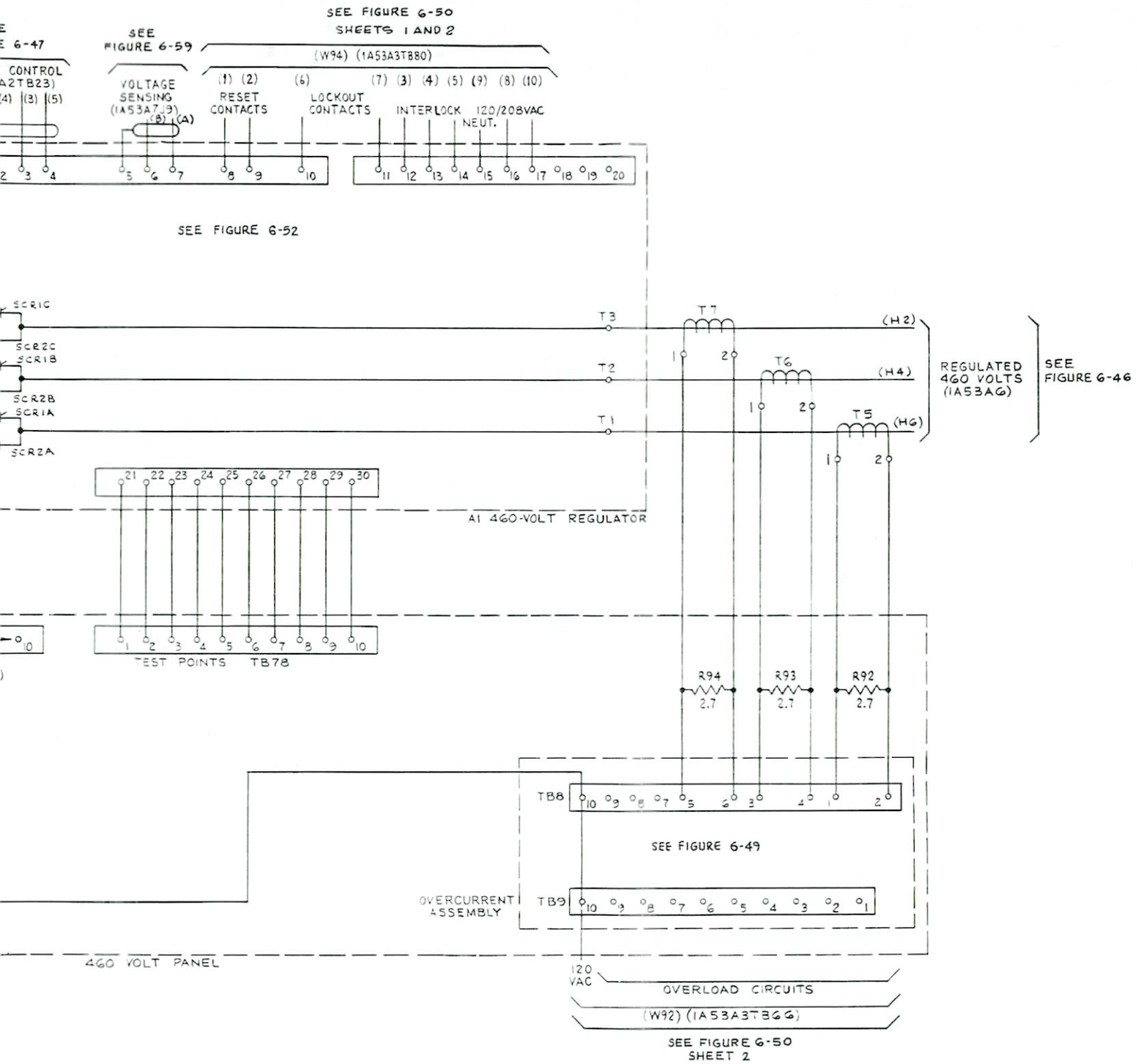


Figure 6-47. Control-Indicator C-10034/FPN-44A (1A53A2), Schematic Diagram



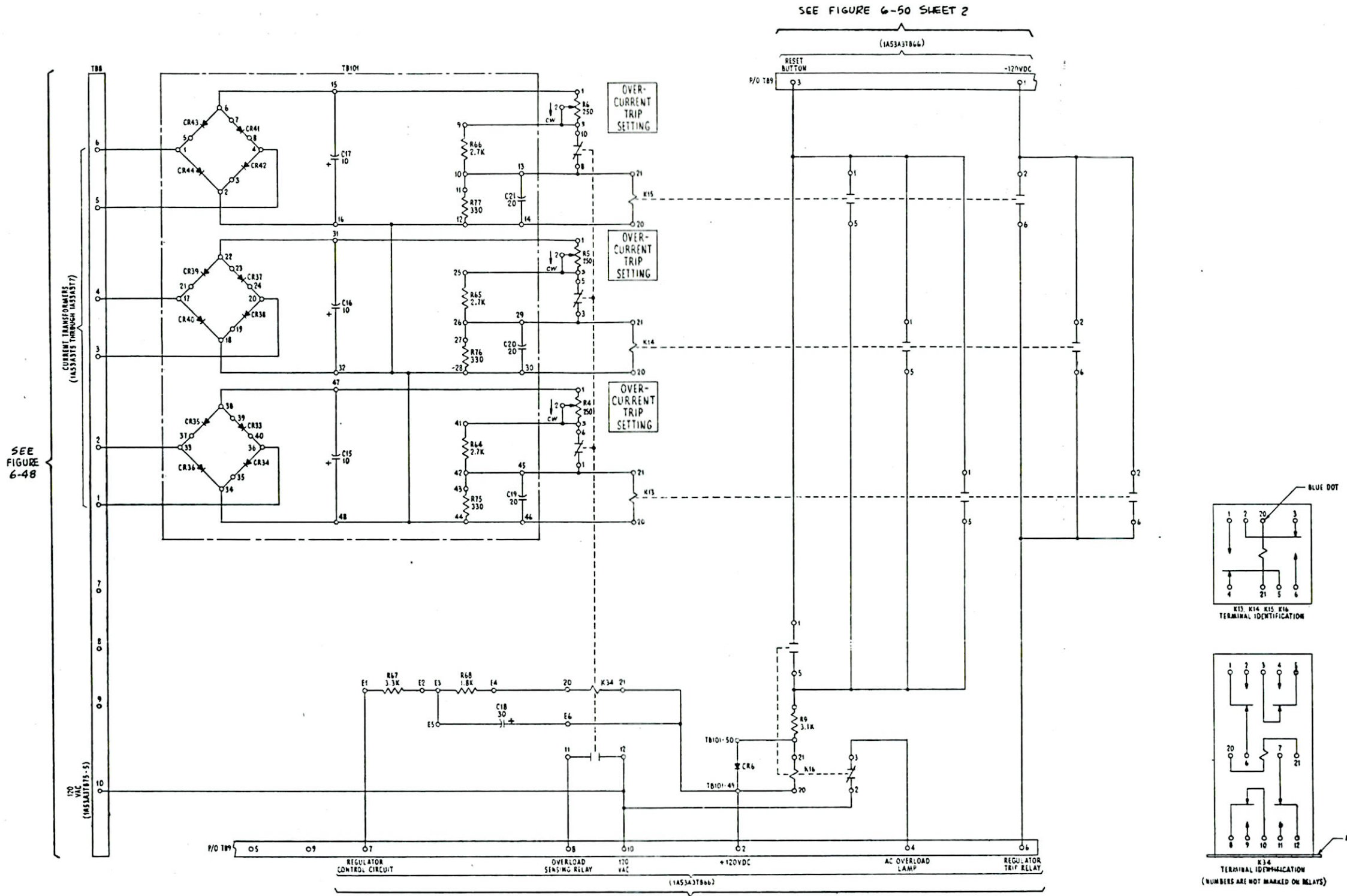
75-009-1096463-C



NOTES

1. RESISTANCE VALUES ARE IN OHMS.
2. REFERENCE DESIGNATIONS NOT IN PARENTHESIS ARE ABBREVIATED. PREFACE THE DESIGNATIONS WITH 1A53A3.
3. REFERENCE DESIGNATIONS AND TERMINAL NUMBERS IN PARENTHESIS IDENTIFY ITEMS THAT ARE CONNECTED TO THIS ASSEMBLY.
4. REFERENCE DESIGNATIONS ARE NOT IN SEQUENCE.

Figure 6-48. 460-Volt Rack Assembly, P/O Relay Assembly RE-1113/FPN-44A (1A53A3), Schematic Diagram

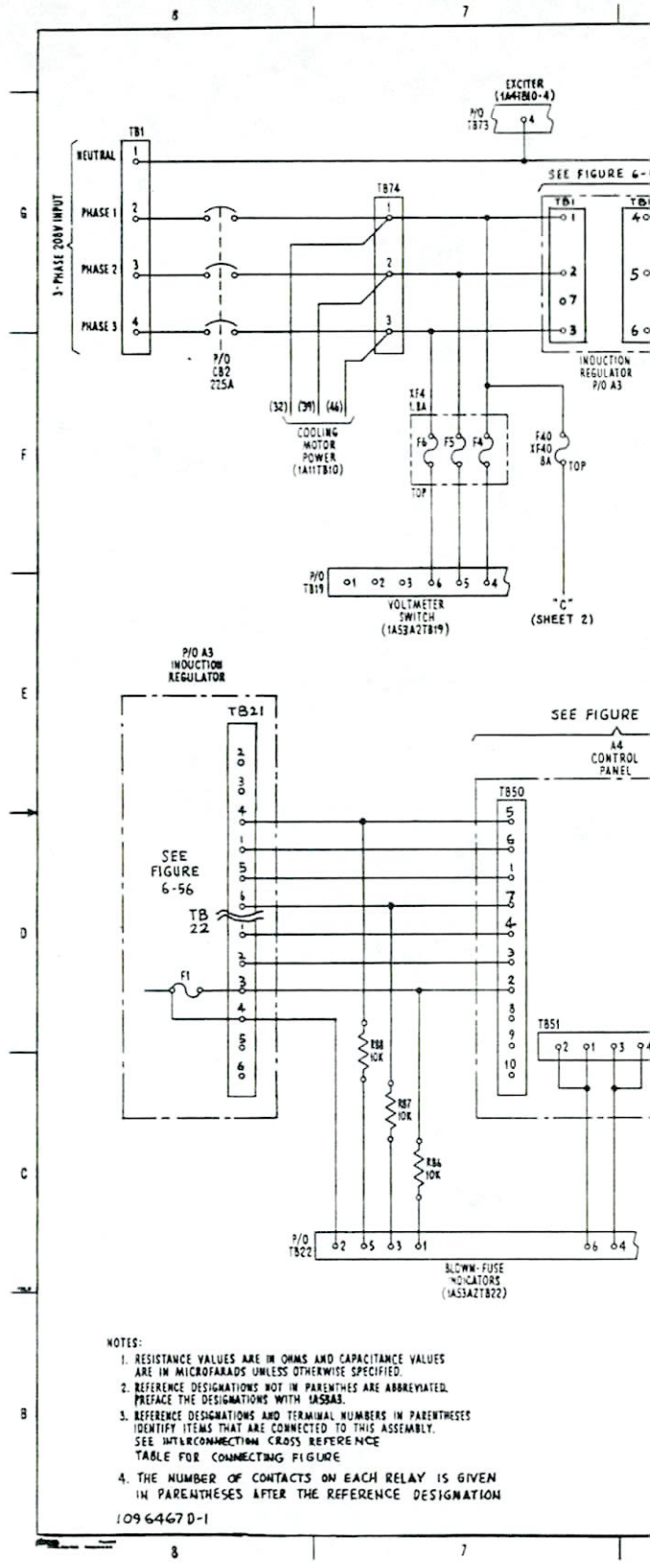


NOTES:
1. RESISTANCE VALUES ARE IN OHMS AND CAPACITANCE VALUES ARE IN MICROFARADS.
2. REFERENCE DESIGNATIONS NOT IN PARENTHESES ARE ABBREVIATED. PREFACE THE DESIGNATIONS WITH 1A53A3.
3. REFERENCE DESIGNATIONS AND TERMINAL NUMBERS IN PARENTHESES IDENTIFY ITEMS THAT ARE CONNECTED TO THIS ASSEMBLY.
4. REFERENCE DESIGNATIONS ARE NOT IN SEQUENCE.
5. DIODES CR6 AND CR33 THRU CR44 ARE PART NO. 2138315.

Figure 6-49. Over-Current Assembly, P/O Relay Assembly RE-1113/FPN-44A (1A53A3), Schematic Diagram

INTERCONNECTION CROSS REFERENCE

1A53A3 TB-	LOCATION	TO/FROM	FIGURE 6-
1	8G	PRIMARY POWER	31
2	6C	1A11TB10	42
12	3C	1A53A6TB1	46
19	4E, 7E	1A53A2TB19	47
20	2B, 2E, 4E, 5C	1A53A2TB20	47
21	2G, 3E, 5F	1A53A2TB21	47
22	2D, 7C	1A53A2TB22	47
65	5E	1A53A3S1	48
73	4C 7G	1A4TB8 1A4TB10	33
74	7G	1A11TB10	42
80	3E, 3G	1A53A3A1	48, 52



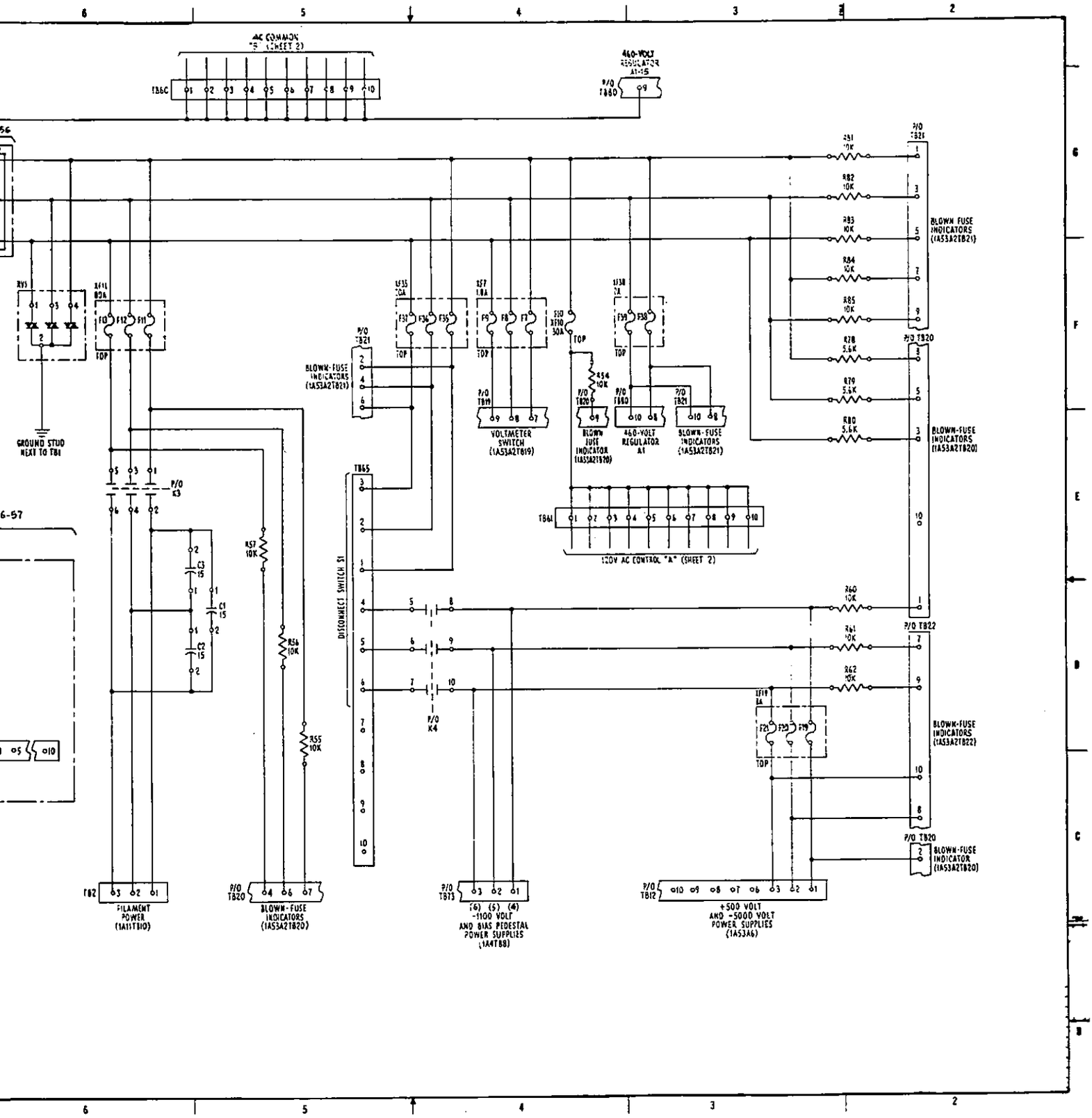


Figure 6-50. 208-Volt Rack Assembly, P/O Relay Assembly RE-1113/FPN-44A(1A53A3), Schematic Diagram (Sheet 1 of 2)

INTERCONNECTION CROSS REFERENCE

1A53A3 TB-	LOCATION	TO/FROM	FIGURE 6-
12	4D	1A53A6TB1	46
23	6B, 7C, 7D, 8G	1A53A2TB39	47
24	3G, 5E, 6D, 7E	1A53A2TB24	47
25	2B, 3B, 3D, 4B, 4D, 6E, 7D, 8D	1A53A2TB25	47
31	5D, 8C	1A53A1TB1	46
33	3C, 5C	1A53A4TB1	58
34	5C, 8E	1A6TB2	41
35	4F, 8C, 8H	1A53A7TB1	59
66	6B, 7C	1A53A3TB9	49
67	6E, 8G	1A53A3TB75	48
68	3D, 3F, 6F, 6H, 7C, 7F, 8B, 8D	1A12TB4	43
69	2F	1A11TB3	42
	8B	1A11TB8	42
	8E	1TB1	32
	3H	1A12TB3	43
70	4E	1A4TB5	33
	6C	1A4TB7	
	6B, 6E	1A4TB8	
71	3D, 3H, 6C, 7F	1A53A2TB38	47
80	5B, 7B	1A53A3A1	48, 52

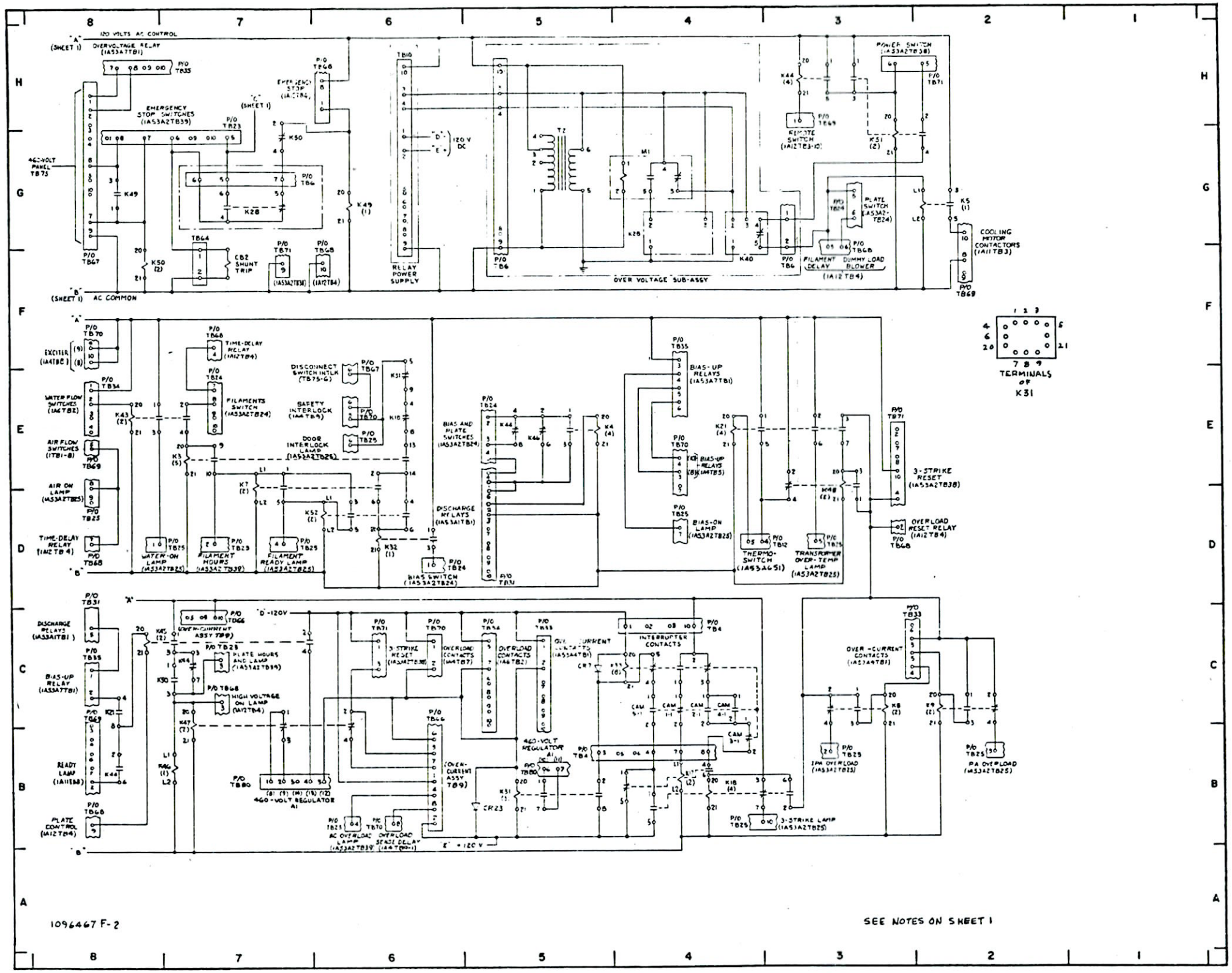
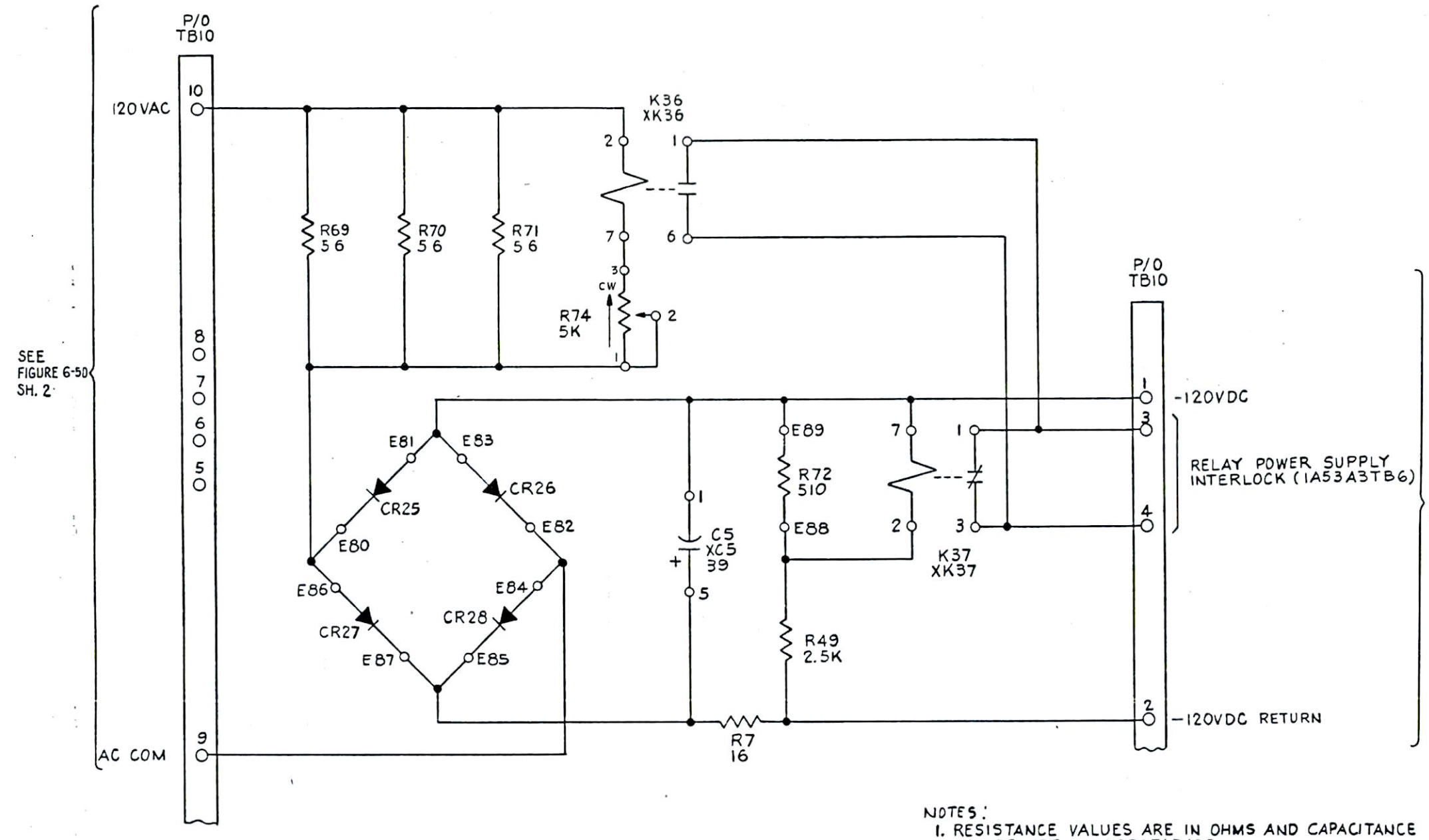


Figure 6-50. 208-Volt Rack Assembly, P/O Relay Assembly RE-1113/FPN-44A(1A53A3), Schematic Diagram (Sheet 2 of 2)



NOTES:

1. RESISTANCE VALUES ARE IN OHMS AND CAPACITANCE VALUES ARE IN MICROFARADS.
2. REFERENCE DESIGNATIONS NOT IN PARENTHESES ARE ABBREVIATED. PREFACE THE DESIGNATIONS WITH 1A53A3.
3. REFERENCE DESIGNATIONS AND TERMINAL NUMBERS IN PARENTHESES IDENTIFY ITEMS THAT ARE CONNECTED TO THIS ASSEMBLY.
4. REFERENCE DESIGNATIONS ARE NOT IN SEQUENCE.
5. DIODES CR25 THRU CR28 ARE PART NO. 2138315.

75-009-1096462-A

Figure 6-51. Relay Power Supply, P/O Relay Assembly, RE-1113/FPN-44A (1A53A3), Schematic Diagram

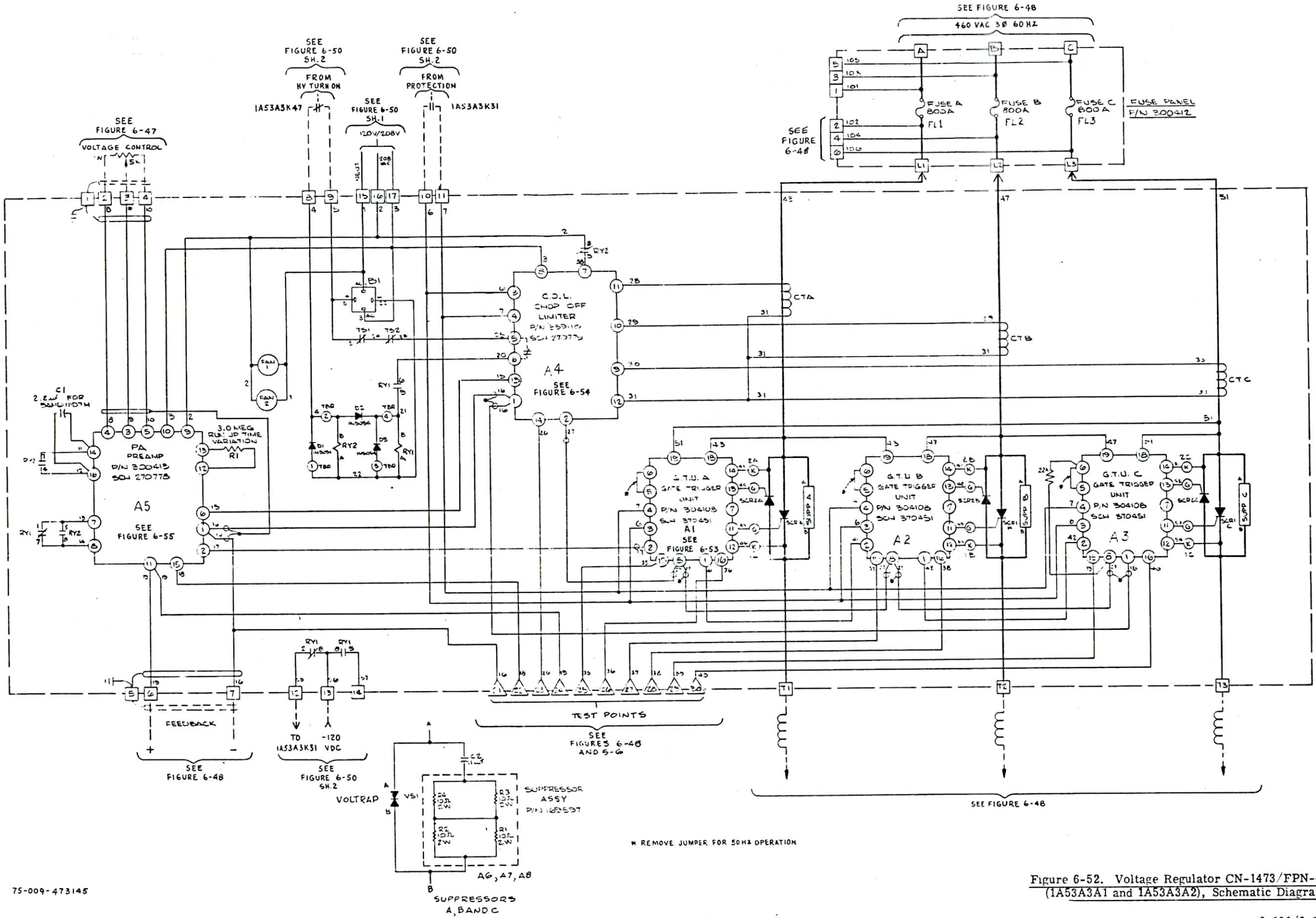
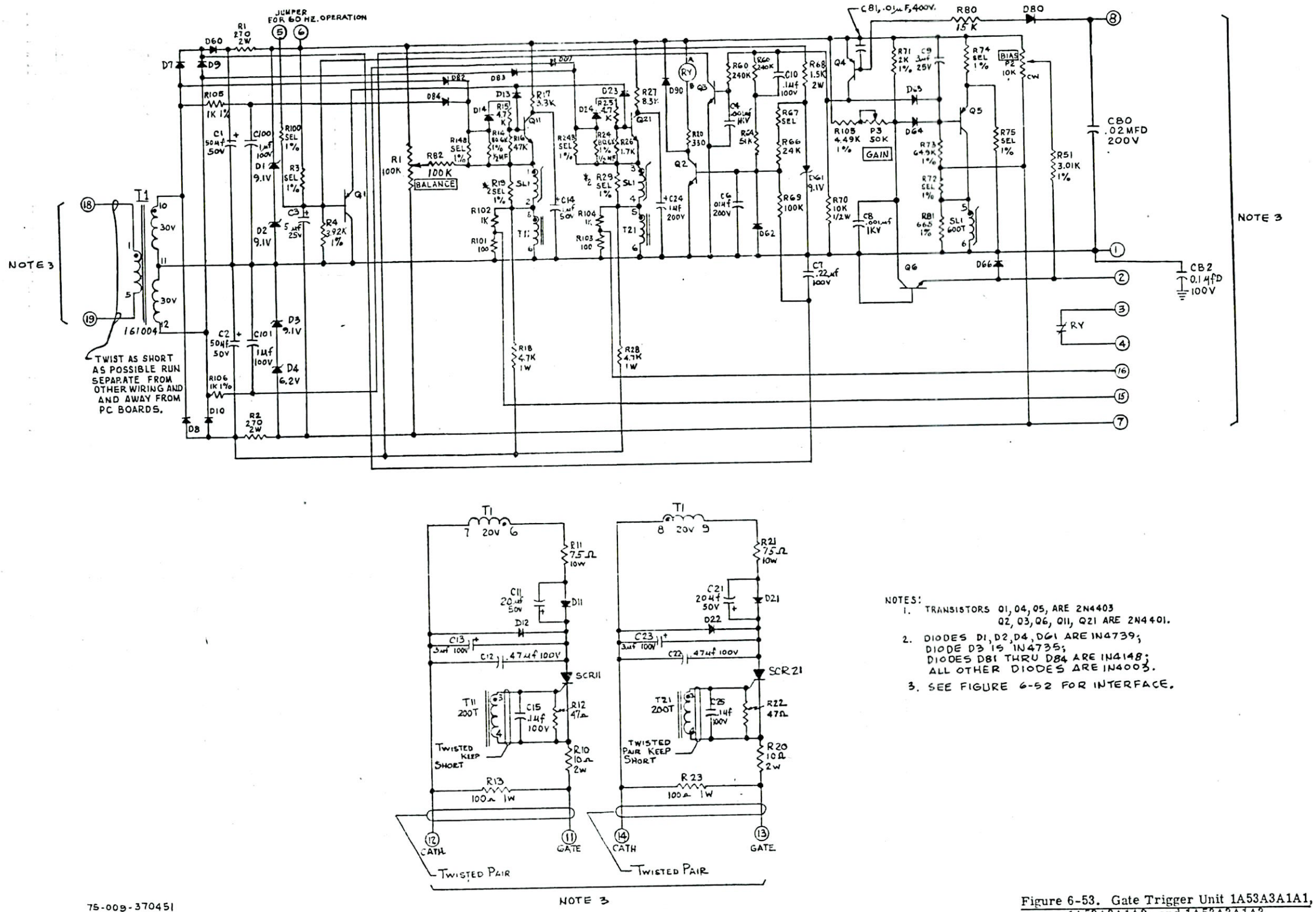


Figure 6-52. Voltage Regulator CN-1473/FPN-44A (1A53A3A1 and 1A53A3A2), Schematic Diagram



NOTES:
1. TRANSISTORS Q1, Q4, Q5, ARE 2N4403
   Q2, Q3, Q6, Q11, Q21 ARE 2N4401.
2. DIODES D1, D2, D4, DG1 ARE IN4739;
   DIODE D3 IS IN4735;
   DIODES D81 THRU D84 ARE IN4148;
   ALL OTHER DIODES ARE IN4003.
3. SEE FIGURE 6-52 FOR INTERFACE.

75-009-370451

Figure 6-53. Gate Trigger Unit 1A53A3A1A1, 1A53A3A1A2, and 1A53A3A1A3, Schematic Diagram

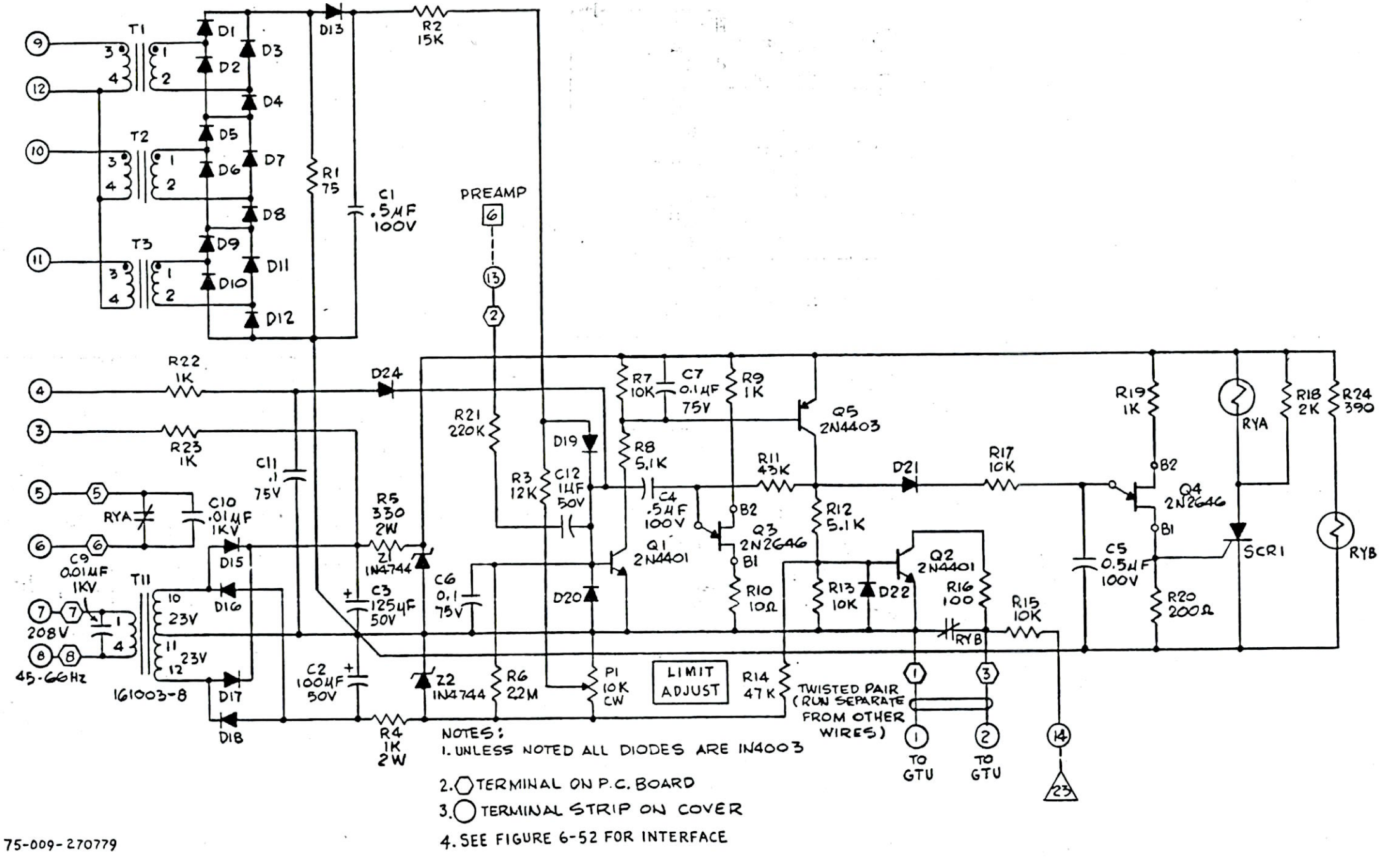
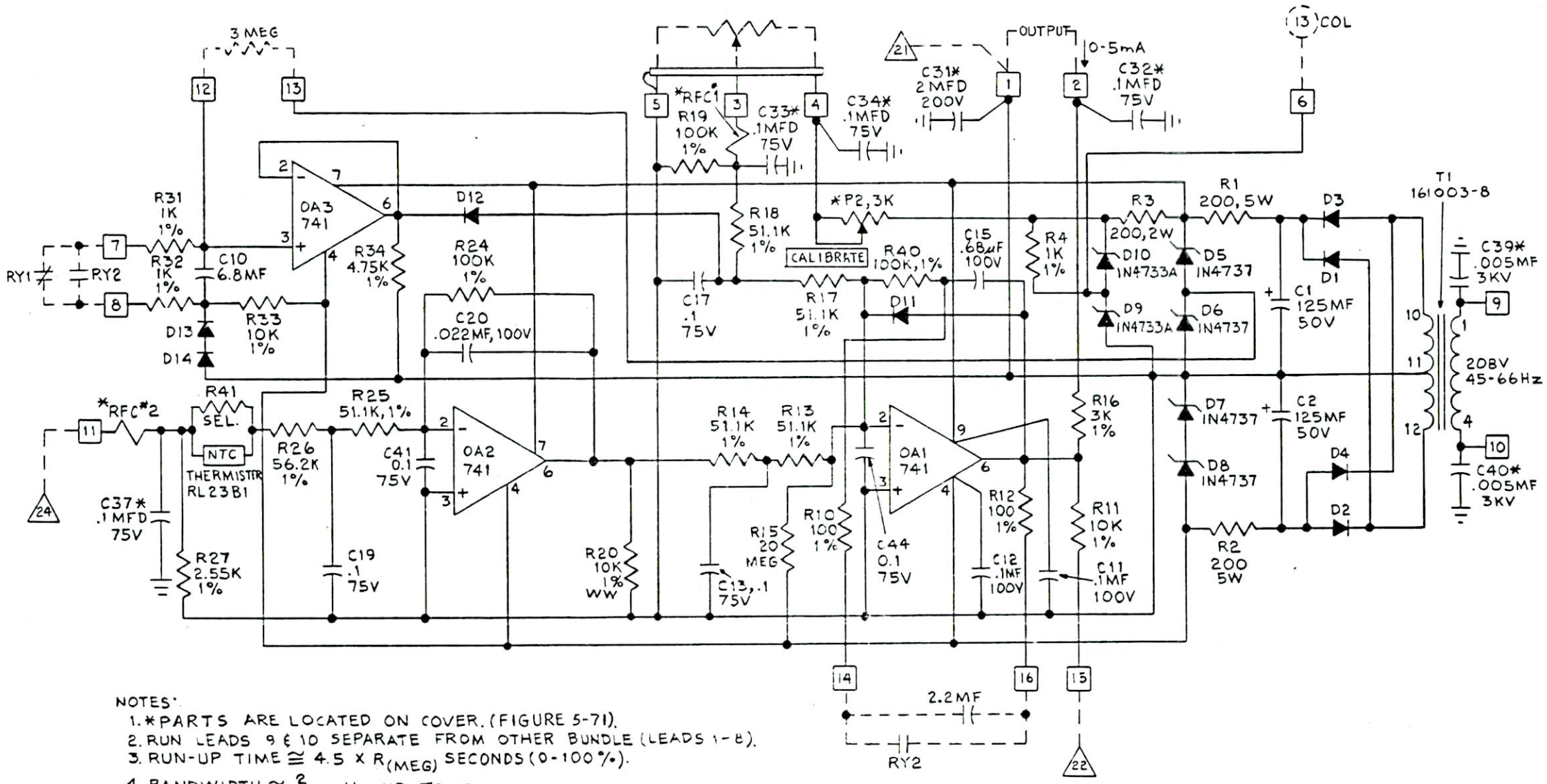


Figure 6-54. Chop-Off Limiter 1A53A3A1A4, Schematic Diagram



NOTES:
1. *PARTS ARE LOCATED ON COVER. (FIGURE 5-71).
2. RUN LEADS 9 & 10 SEPARATE FROM OTHER BUNDLE (LEADS 1-8).
3. RUN-UP TIME $\cong 4.5 \times R_{(MEG)}$ SECONDS (0-100%).
4. BANDWIDTH $\cong \frac{2}{C_{(MF)}}$ Hz UP TO 5Hz.
5. SEE FIGURE 6-52 FOR INTERFACE
6. ALL DIODES ARE TYPE 1N4003 EXCEPT AS NOTED
△ TEST POINTS

75-009-270778

Figure 6-55. Preamplifier 1A53A3A1A5, Schematic Diagram

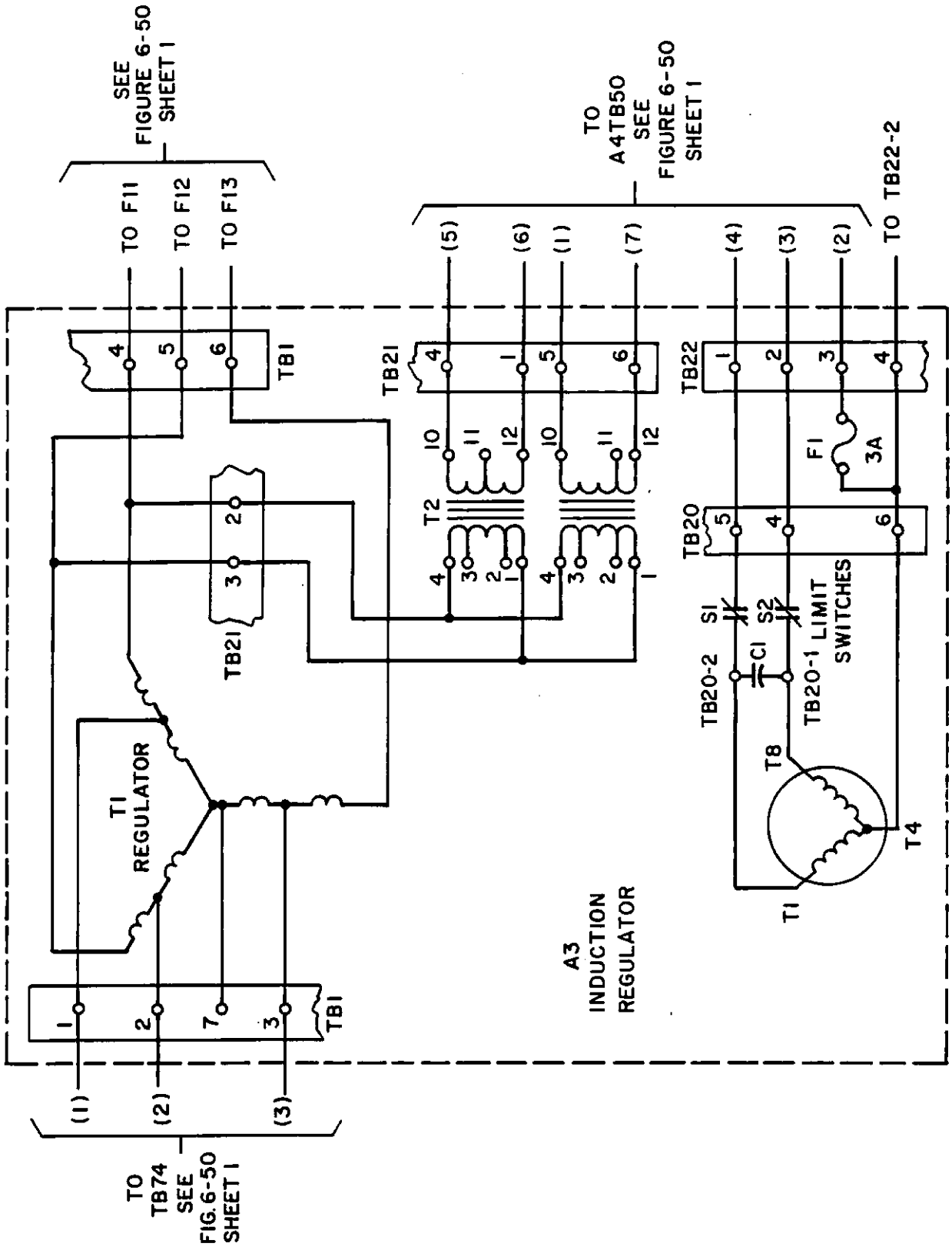
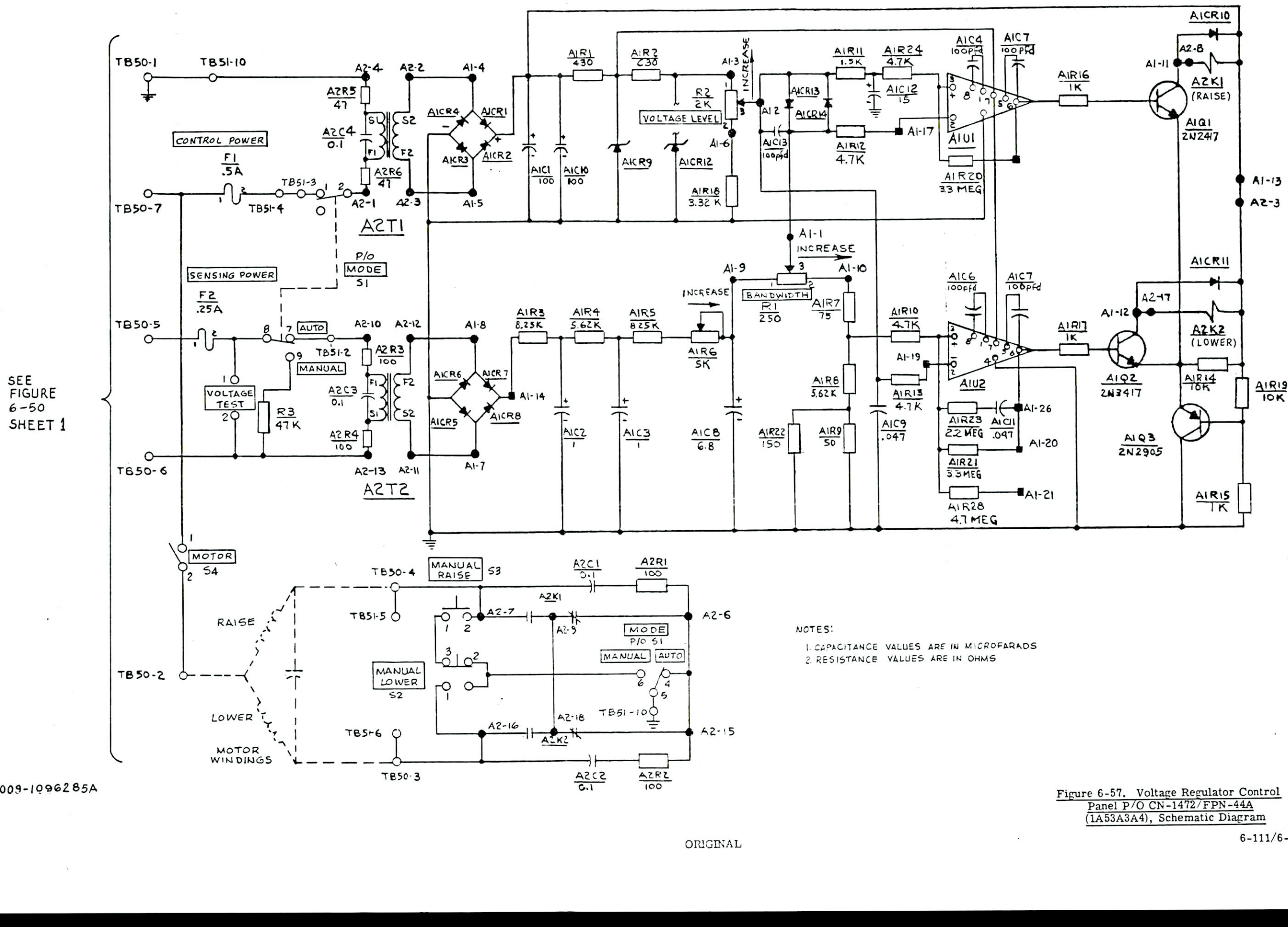


Figure 6-56. Voltage Regulator P/O CN-1472/FPN-44A (1A53A3A3), Schematic Diagram



NOTES:

1. CAPACITANCE VALUES ARE IN MICROFARADS
2. RESISTANCE VALUES ARE IN OHMS

75-009-1096285A

Figure 6-57. Voltage Regulator Control Panel P/O CN-1472/FPN-44A (1A53A3A4), Schematic Diagram

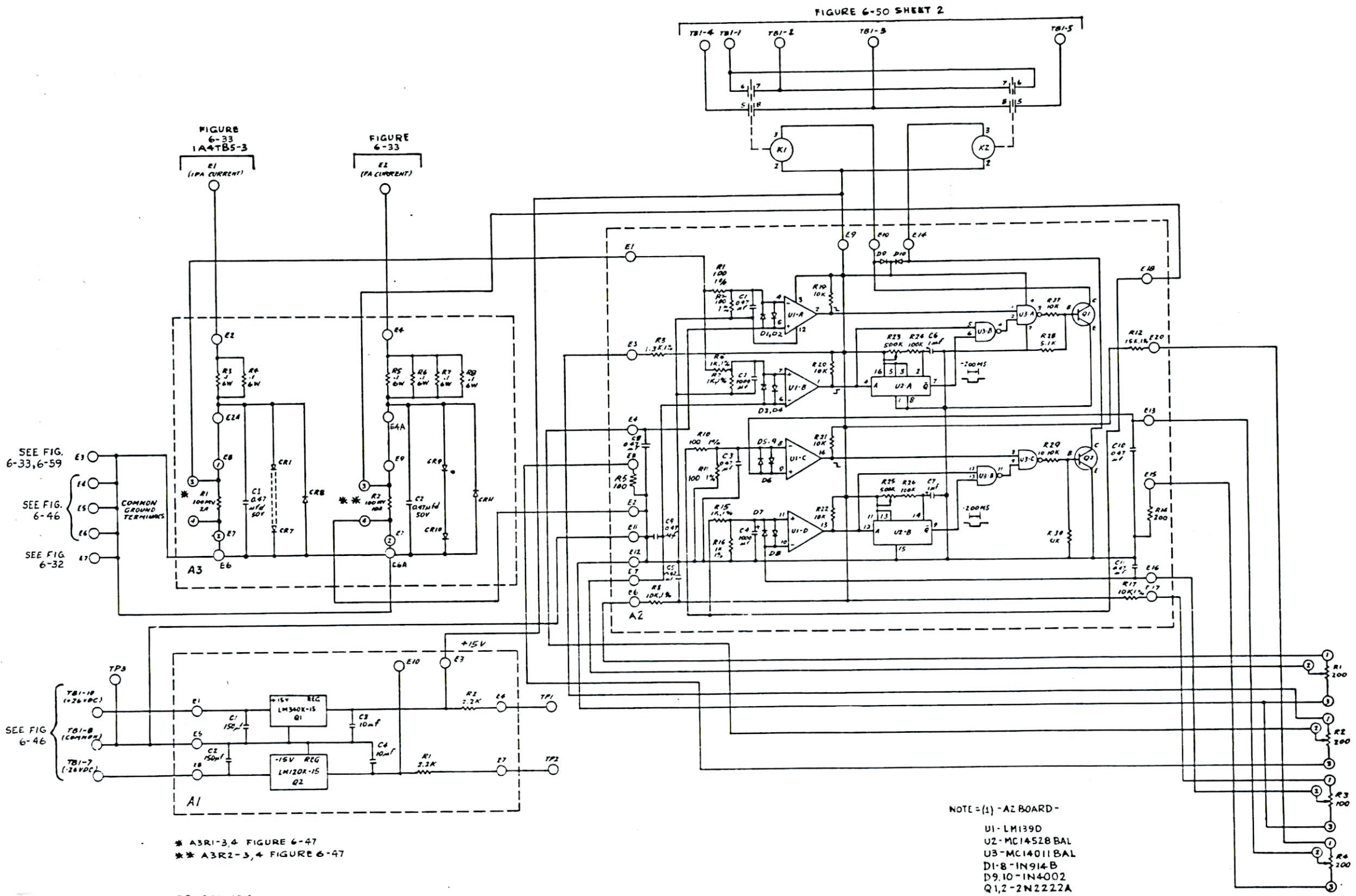
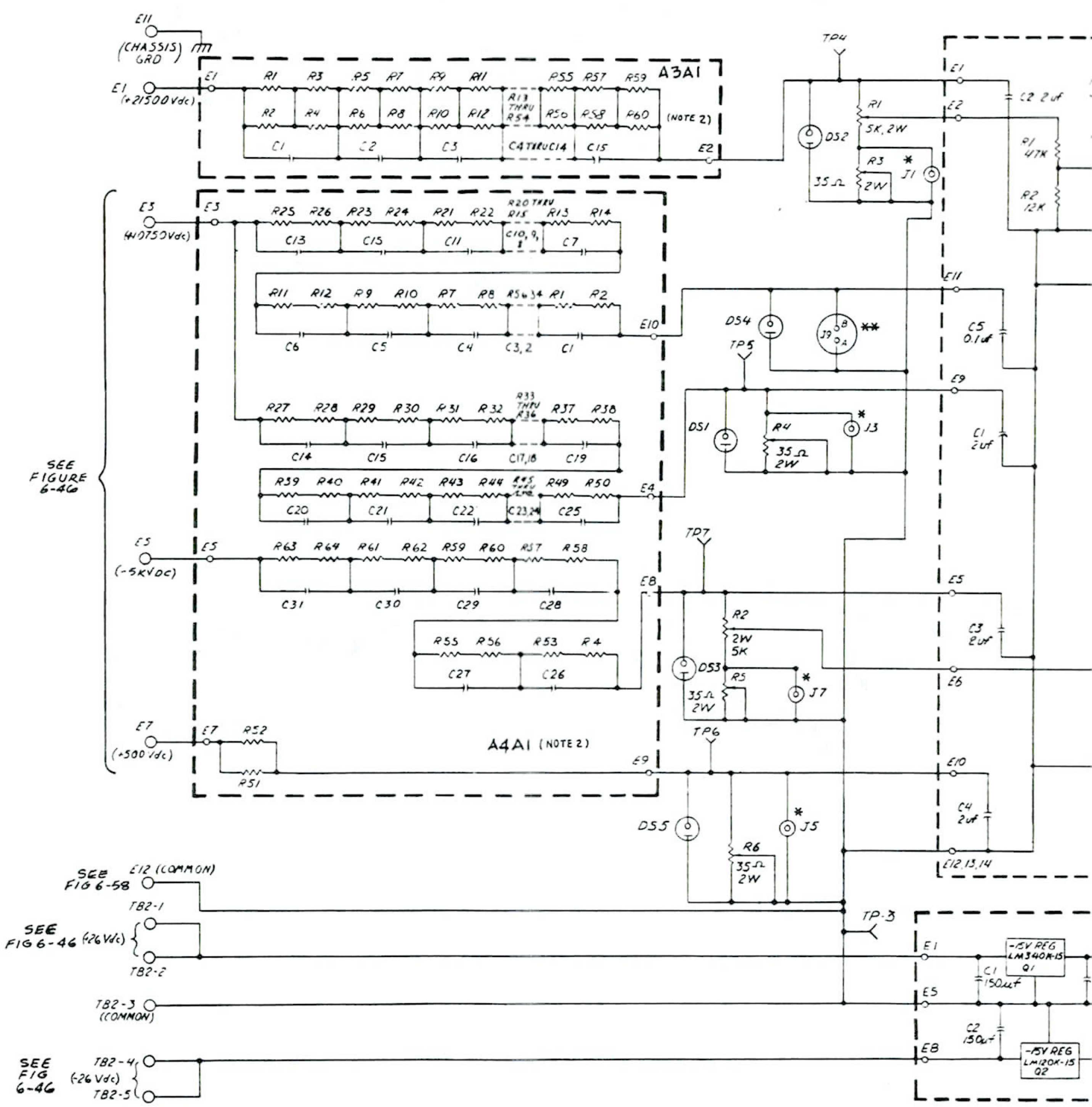
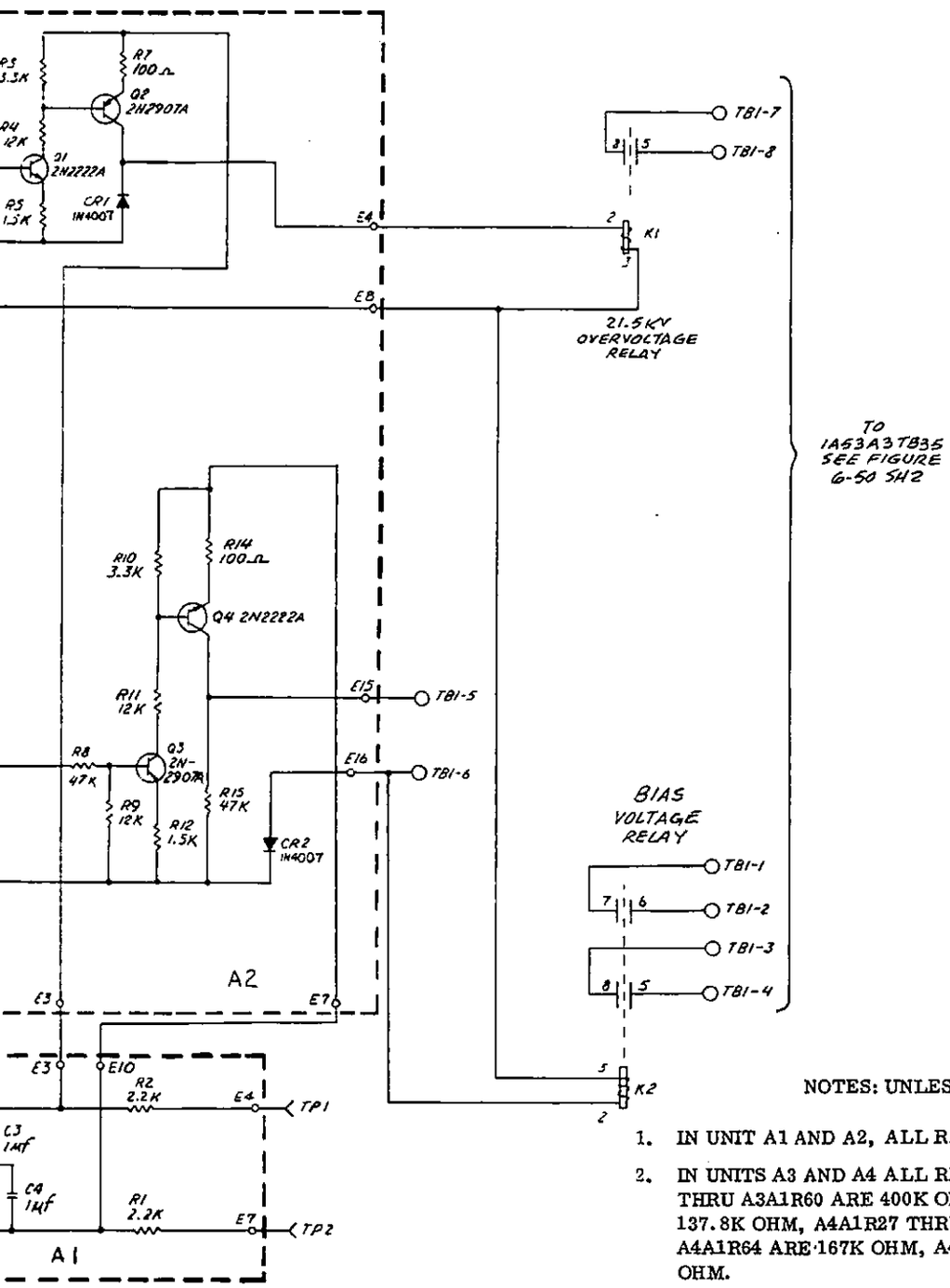


Figure 6-58. Instrument Shunt MX9783/FPN-44A(1A53A4), Schematic Diagram



75-009-E10-17795D



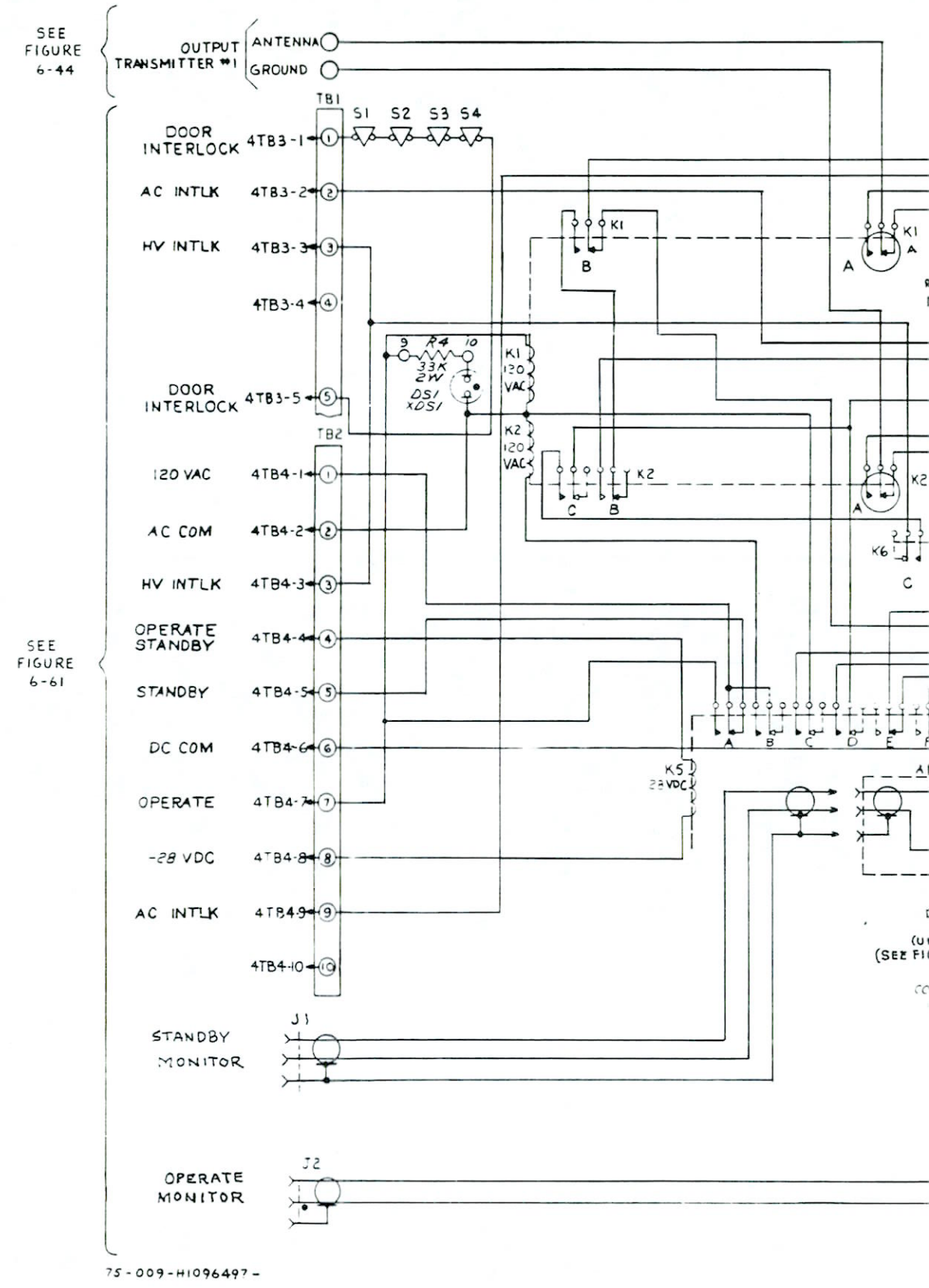
NOTES: UNLESS OTHERWISE SPECIFIED

1. IN UNIT A1 AND A2, ALL RESISTORS ARE IN OHMS, ±5% 1/2 W.
2. IN UNITS A3 AND A4 ALL RESISTORS ARE ±1%, 10W; A3A1R1 THRU A3A1R60 ARE 400K OHM, A4A1R1 THRU A4A1R26 ARE 137.8K OHM, A4A1R27 THRU A4A1R50 AND A4A1R53 THRU A4A1R64 ARE 167K OHM, A4A1R51 AND A4A1R52 ARE 400K OHM.
3. VOLTAGE MEASUREMENTS MADE FROM 1A53A7TP3 TO INDICATED TEST POINT USING 20,000 OHM/VOLT VOLTMETER.

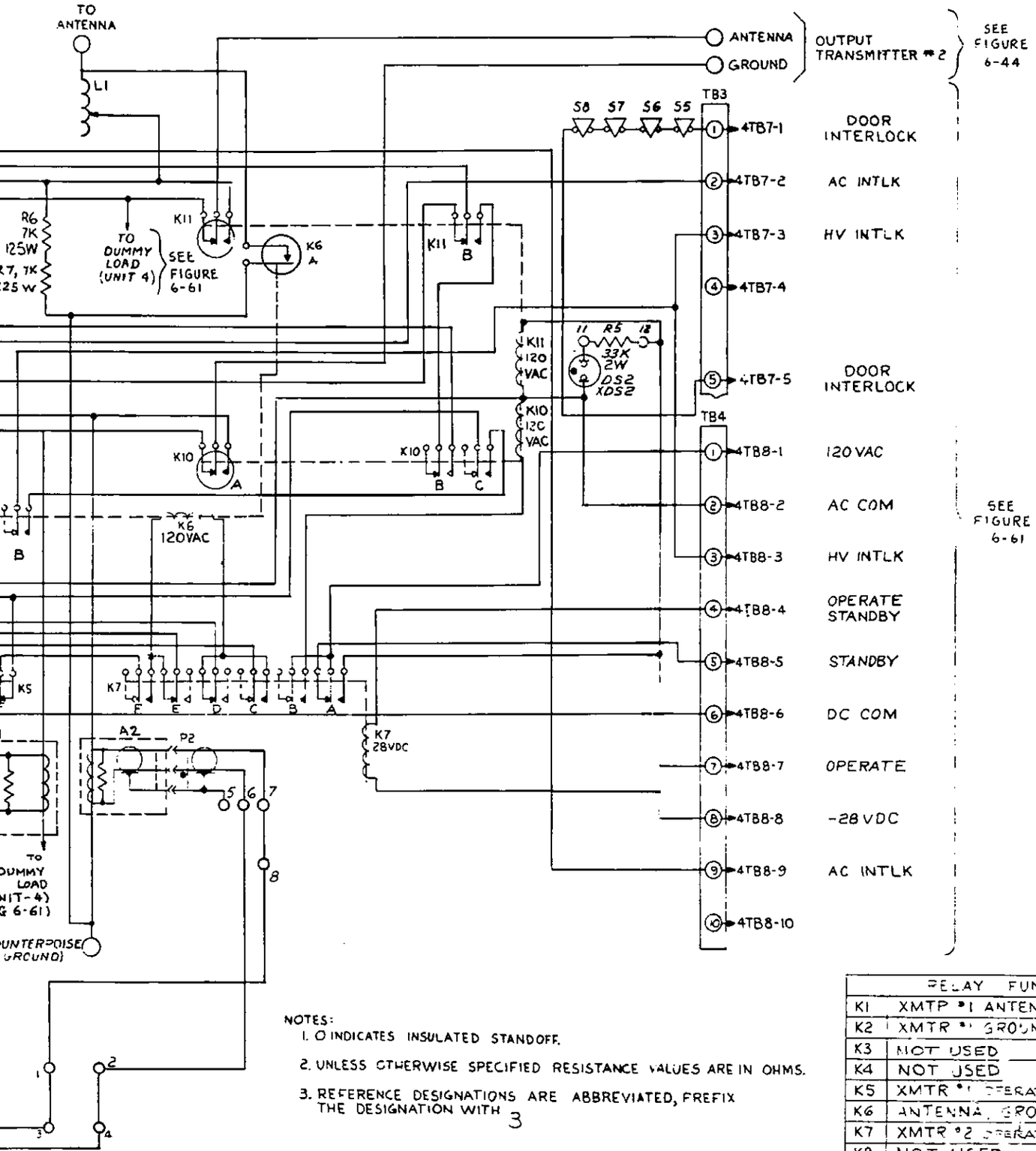
* SEE FIGURE 6-47.

** SEE FIGURE 6-48.

Figure 6-59. Voltage Divider CN-1474/FPN-44 (1A53A7), Schematic Diagram



75-009-H1096497-

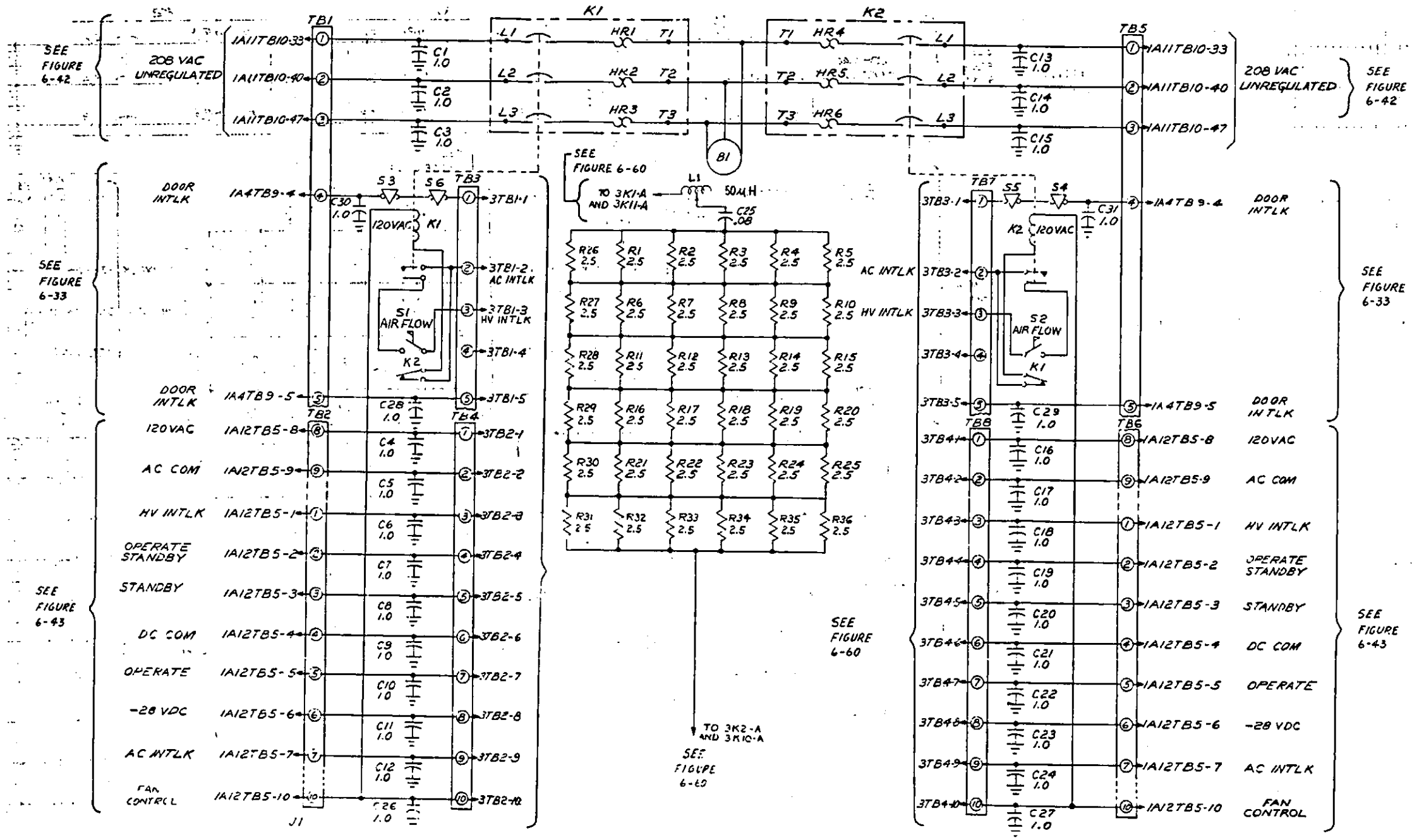


NOTES:

1. ○ INDICATES INSULATED STANDOFF.
2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS.
3. REFERENCE DESIGNATIONS ARE ABBREVIATED, PREFIX THE DESIGNATION WITH 3

RELAY	FUNCTION
K1	XMTR #1 ANTENNA TRANSFER
K2	XMTR #1 GROUND TRANSFER
K3	NOT USED
K4	NOT USED
K5	XMTR #1 OPERATE CONTROL
K6	ANTENNA GROUNDING
K7	XMTR #2 OPERATE CONTROL
K8	NOT USED
K9	NOT USED
K10	XMTR #2 GROUND TRANSFER
K11	XMTR #2 ANTENNA TRANSFER

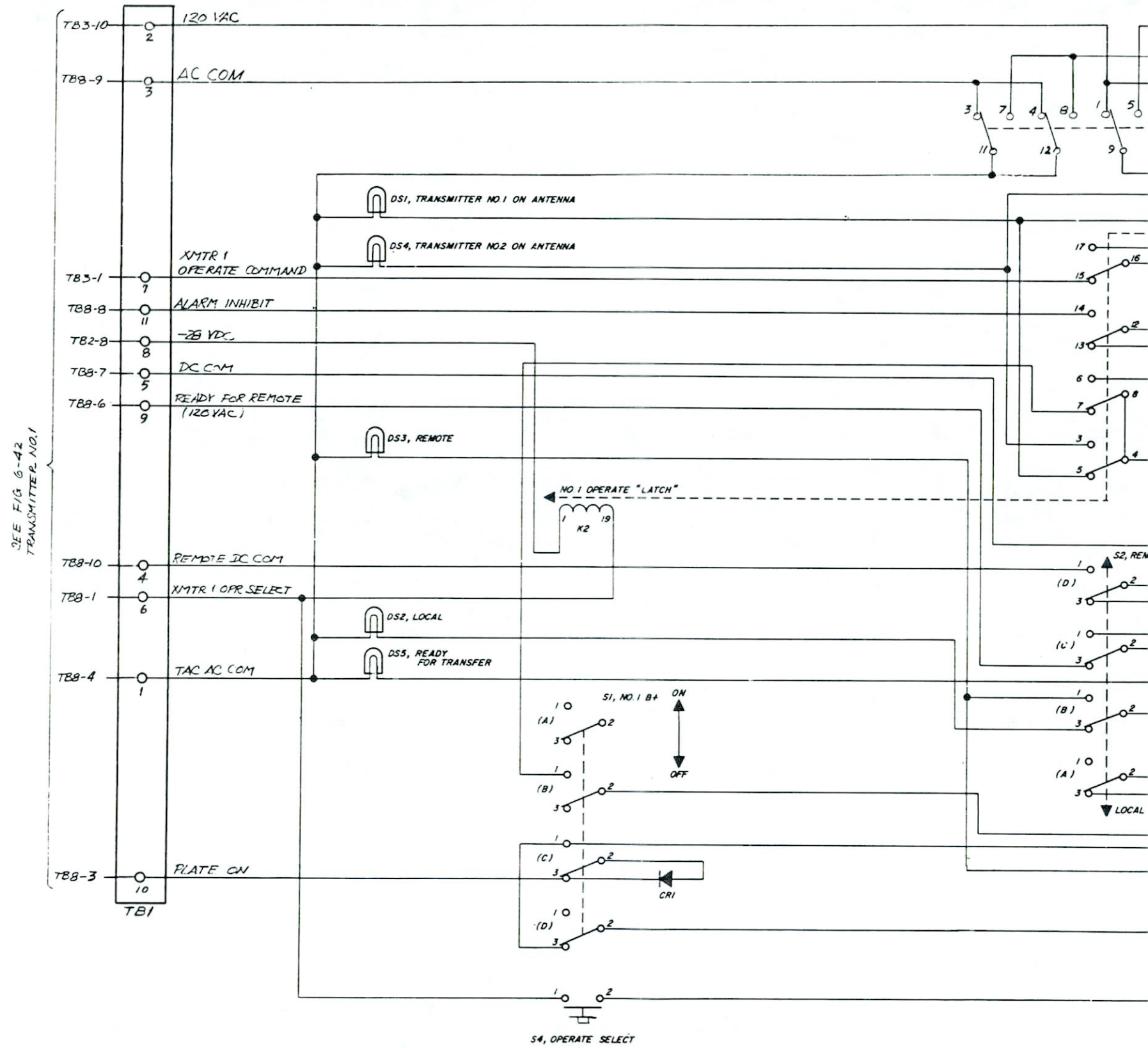
Figure 6-60. Antenna Coupler CV-2174/FPN-44 (3), Schematic Diagram

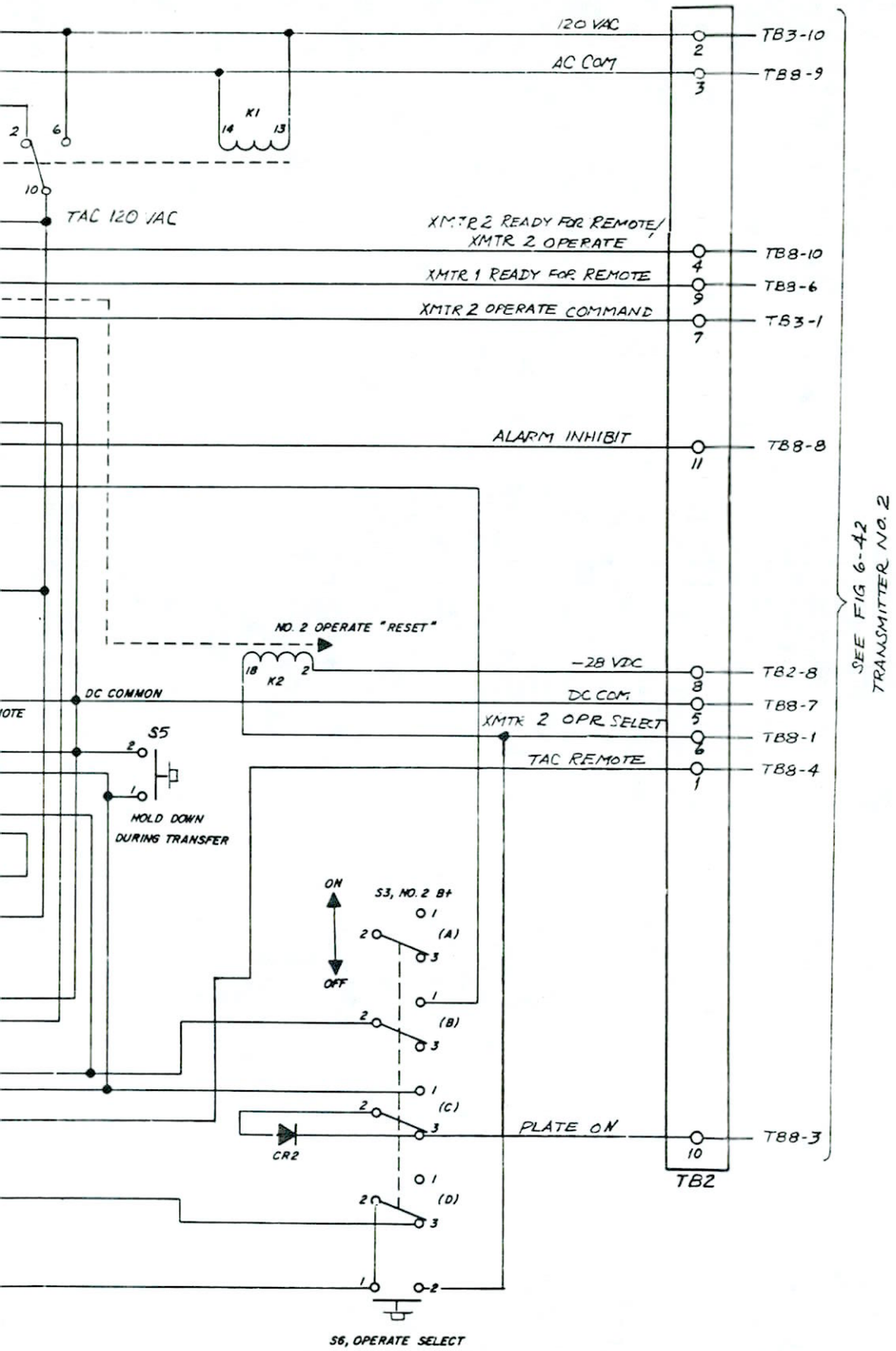


75-009-H1096496A

NOTES:
1. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES ARE IN MICROFARADS.
2. UNLESS OTHERWISE SPECIFIED RESISTORS ARE 140 W.
3. REFERENCE DESIGNATIONS ARE ABBREVIATED, PREFIX THE DESIGNATION WITH 4

Figure 6-61. Electrical Dummy Load DA-329/FPN-44(4), Schematic Diagram


SEE FIG 6-42 TRANSMITTER NO.1
TB8-10
TB8-9
TB8-1
TB8-8
TB2-8
TB8-7
TB8-6
TB8-10
TB8-1
TB8-4
TB8-3
TB1
120 VAC
AC COM
XMTR 1 OPERATE COMMAND
ALARM INHIBIT
-28 VDC
DC COM
READY FOR REMOTE (120 VAC)
REMOTE DC COM
XMTR 1 OPR SELECT
TAC AC COM
PLATE CN
DS1, TRANSMITTER NO.1 ON ANTENNA
DS4, TRANSMITTER NO.2 ON ANTENNA
DS3, REMOTE
DS2, LOCAL
DS5, READY FOR TRANSFER
NO.1 OPERATE "LATCH"
K2
S1, NO.1 B+
ON
OFF
CR1
S4, OPERATE SELECT
S2, REM
LOCAL



NOTE:

1. Refrence Designations are abbreviated. Prefix with 5

Figure 6-62. Local Control Unit (5), Schematic Diagram

CG-273-136 *(Non-Registered)*

VOLUME VI

TECHNICAL MANUAL

for

LORAN TRANSMITTING SET

AN/FPN-44A

SECTION 7

NOTE

Change 3 to be used only with Loran Transmitting Set AN/FPN-44 modified to include solid-state power supply.

ITT AVIONICS DIVISION
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DEPARTMENT OF TRANSPORTATION

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15 AUGUST, 1976
CHANGE 3 - 4 FEBRUARY, 1980

LIST OF EFFECTIVE PAGES

PAGE NUMBERS	CHANGE IN EFFECT	PAGE NUMBERS	CHANGE IN EFFECT	PAGE NUMBERS	CHANGE IN EFFECT
Title	Change 3	7-50 - 7-52	Change 2	7-96A	Change 2
7-ii	Change 3	7-52A	Change 2	7-96B Blank	Change 2
7-1	Change 2	7-52B Blank	Change 2	7-97	Change 2
7-2	Change 3	7-53 - 7-55	Original	7-98 - 7-100	Original
7-2A - 7-2B	Change 2	7-56	Change 2	7-100A	Original
7-3	Change 2	7-57 - 7-64	Original	7-100B Blank	Original
7-4 - 7-5	Original	7-65	Change 2	7-101 - 7-102	Original
7-6	Change 2	7-66 - 7-70	Original	7-103 - 7-105	Change 2
7-7 - 7-17	Original	7-71	Change 2	7-106	Original
7-18	Change 2	7-72 - 7-78	Original	7-107	Change 3
7-19	Original	7-78A	Original	7-108	Original
7-20	Change 2	7-78B Blank	Original	7-109	Change 3
7-21 - 7-26	Original	7-79 - 7-91	Original	7-110	Original
7-27 - 7-31	Change 3	7-92	Change 2	7-111	Change 2
7-32 - 7-33	Change 3	7-93	Original	7-112	Original
7-34	Original	7-94	Change 2	7-112A - 7-112B	Change 3
7-35	Change 2	7-94A	Change 2	7-113	Original
7-36 - 7-47	Original	7-94B Blank	Change 2	7-114	Change 2
7-48 - 7-49	Change 3	7-95 - 7-96	Change 2	7-115 - 7-117	Original
				7-118	Change 2

SECTION 7

PARTS LIST

7-1. INTRODUCTION.

Reference designations (previously referred to as circuit symbols, reference symbols, etc.) have been assigned to identify all maintenance parts of the equipment. They are used for marking the equipment (adjacent to the part they identify) and are included on drawings, diagrams and the parts list. The letters of a reference designation indicate the kind of part (generic group) such as resistor (R), capacitor (C), electron tube (V), etc. The number after the letter differentiates between parts of the same generic group. The unit numbering method of identifying units and assemblies within units is used in the equipment.

The reference designations of the major units are given in table 7-1. A complete reference designation consists of the unit number, generic group and a number indicating the part within the generic group, for example, 1A1A2R5, 2A4A1V1, etc.

Sockets associated with a particular plug-in device, such as an electron tube or a fuse, are identified by a reference designation which includes the reference designation of the plug-in device. For example, the socket for fuse 1A1F1 is designated 1A1XF1.

7-2. LIST OF MAJOR UNITS.

Table 7-1 is arranged by the unit numbers of reference designations that apply to a major unit. Thus when the reference designation of a part is known, this table will furnish ready reference to the major unit in which it is used. The table also gives the following information for each major unit: quantity in one equipment; official nomenclature (see Columns 3 and 4); and location of its parts in table 7-2. Colloquial names are not used.

7-3. MAINTENANCE PARTS LIST.

Table 7-2 lists all major units and their maintenance parts. The parts of each major unit are grouped together. Column 1 lists the unit number of each unit, followed by the reference designations of the various parts in alphabetical and numerical order. Column 3 gives the name and description of the various parts. Complete information is given for all key parts (parts differing from any part previously listed in this table) and sub-key parts (parts identical with a key part but appearing for the first time within a unit). The name and description are omitted for other parts. Column 4 indicates how the part is used and gives its functional location in the equipment. It also includes the figure number of the pictorial illustration on which the part is identified.

7-4. STOCK NUMBER INFORMATION.

Allowance Parts Lists (APL) issued by the Coast Guard Supply Center include Federal Stock Numbers and Source, Maintenance and Recoverability Codes. When ordering parts, refer to the APL for this information.

7-5. LIST OF MANUFACTURERS

Table 7-3 lists manufacturers of parts used in the equipment. Column 1 shows the Federal Supply Code used in table 7-2 to identify manufacturers. Columns 2 and 3 show the name and address of the manufacturers.

7-6. NOTES

1. These resistors are not used in all transmitting sets. (Only one AN/FPN-44 has 36 resistors.)

TABLE 7-1. LORAN TRANSMITTING SET AN/FPN-44A, LIST OF MAJOR UNITS

REF DESIG.	QUANT.	NAME OF MAJOR UNIT	DESIGNATION	PAGE
	1	Transmitting Set, Loran	AN/FPN-44	
1	2	Transmitting Group	OT-96/FPN-44A	7-2A
1A1	2	Cabinet, Electrical Equipment	CY-3841/FPN-44	7-2A
1A2	2	Cooler, Liquid, Electron Tube	HD-601/FPN	7-2B
1A4	2	Amplifier Group	OG-159/FPN-44A	7-4
1A4A1	2	Power Supply	PP-7304/FPN-44A	7-23
1A4A3	2	Control, Oscilloscope	C-4558A/FPN-44	7-27
1A4A4	2	Power Supply	1092037G1	7-32
1A4A5	2	Generator, Bias Pedestal	1092036G1	7-33
1A5	2	Power Amplifier Tank Coil	1087450G1	7-36
1A6	2	Amplifier, Radio Frequency	1087441G1 and 1087441G3	7-37
1A7 thru 1A10	1	Resistor Assembly, Transmitter No. 1	1087447G1	7-46
1A7 thru 1A10	1	Resistor Assembly, Transmitter No. 2	1087447G2	7-47
1A11	2	Rack, Electrical Equipment	MT-2929/FPN-44	7-47
1A12	2	Panel, Indicator	SB-1894A/FPN-44	7-49
1A20	2	Filter, Low Pass	No Number	7-52A
1A21	2	Indicator Panel PA Overload	USCG F.C. No. 8	7-52A
1A53	2	Power Supply Set	1096281G3	7-56
1A53A1	2	Relay Assembly	RE-1112/FPN-44A	7-57
1A53A2	2	Control-Indicator	C-10034/FPN-44A	7-57
1A53A3	2	Relay Assembly	RE-1113/FPN-44A	7-65
1A53A3A1	2	Regulator, Voltage	CN-1473/FPN-44A	7-78
1A53A3A2	2	Fuse Panel	1096343G1	7-94
1A53A3A3	2	Regulator, Voltage	No Number	7-94
1A53A3A4	2	Panel Control	1096285G3	7-95
1A53A4	2	Shunt, Instrument	MX-9783/FPN-44A	7-96
1A53A5/ 1A53A6	2	Power Supply	PP-7305/FPN-44A	7-99
1A53A7	2	Voltage Divider	CN-1474/FPN-44A	7-101
1A53A19	2	Resistor Assembly	1096304G2	7-105
1A53A20	2	Resistor Assembly	1096304G1	7-105
1A53A23	2	Resistor Assembly	1096303G1	7-105
3	1	Coupler, Antenna	CU-2171/FPN-44A	7-107
4	1	Dummy Load, Electrical	DA-329A/FPN-44	7-109
5	1	Local Control Unit	GCF-W678-LCU	7-112A

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST

TRANSMITTING GROUP, OT-96/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
		TRANSMITTING SET, LORAN AN/FPN-44A: includes 2 transmitting groups; also miscellaneous installation material; 28527 part no. 1087426G3	Transmitting Set Figures 5-17, 5-88, 5-92
1		TRANSMITTING GROUP, OT-96/FPN-44A: amplifies a low voltage level Loran pulse to a power level above 200KW. Has facilities for controlling and monitoring its pulse shape, water cooling, power stages, and generating the required supply voltages; 28527 part no. 1087428G3 and 1087428G4.	Low Power Transmitter Figure 5-17
1B1		FAN, VENTILATING: motor driven, 208V, 50-60 Hz, 3 phase, 1-1/2 hp, 4800/4000 cfm; AAAAA part no. VD19F1P1X; 28527 part no. 1087896G1.	Cooling Figure 5-18
1B1B1		MOTOR, ALTERNATING CURRENT: 1 1/2 hp, 208V, 57-60 HZ, 1450 rpm, enclosed	Fan Motor Figure 5-18
1B1E1		IMPELLER: three blades; AAAAA part no. VP19-9	Fan Impeller Figure 5-18
1DS1 thru 1DS8		LAMP, INCANDESCENT: bayonet base; 96906 part no. MS15567-1	Meter Illumination Figure 5-17
1E1 thru 1E5		FILTER, AIR: metal mesh, 19-3/4 inches by 24-3/4 inches; 00736 part no. P5RR; 28527 part no. 1088231G1	Air Filtration Figure 5-18
1J1 thru 1J3		CONNECTOR, RECEPTACLE, ELECTRICAL: 15 amp, 125V; 71183 part no. 5252; 28527 part no. 1088911G1	Convenience Outlet Figure 5-17
1S1		SWITCH, AIR FLOW: actuates at 1800 FT/MIN max, deactuates at 1450 FT/MIN, spdt, 250 Vac, 5 amps; 82877 part no. 2A type 2000; 28527 part no. 1087599G5	Enclosure Air Flow Detector Figure 5-18
1S2 thru 1S3		CIRCUIT BREAKER: 20 amp, 2 pole, 120/140 vac; 52737 part no. P220; 28527 part no. 1088925G1	Enclosure Lighting and Convenience Outlet Figure 5-17
1TB1		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 17TB10	Connecting Figure 5-18
1T1		TRANSFORMER, CURRENT: 65 amps current, 95 ohms impedance; 05280 part no. 1705; 28527 part no. 2138264G1	Samples Antenna Current Figure 5-18
1XDS1 thru 1XDS8		LAMPHOLDER: Colorless Lens; MIL-L-3661 type LH80/ILC21CD3	1DS1 thru 1DS8 Holder Figure 5-17
1XDS1MP1 thru 1XDS8MP8		LENS: Colorless; MIL-L-3661 type LC21CD3	1XDS1 thru 1XDS8 Lens Figure 5-17
CABINET, ELECTRICAL EQUIPMENT, CY-3841/FPN-44			
1A1		CABINET, ELECTRICAL EQUIPMENT, CY-3841/FPN44: metal structure which houses the Loran Transmitting Set AN/FPN-44A; 28527 part no. 1087435G1	Transmitting Set Housing Figure 5-17

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

COOLER, LIQUID, ELECTRON TUBE, HD-601/FPN

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A2		COOLER, LIQUID, ELECTRON TUBE, HD-601/FPN: circulates and cools a liquid for the purpose of maintaining the temperature of the electron tubes at a normal operating temperature; 28527 part no. 1087438G1	Heat Exchanger Figure 5-18A
1A2B1		MOTOR AND PUMP ASSEMBLY: 208/220/440 volt, 60 Hz, 3 phase, 7.5 hp, 3600 rpm, type J, design B, Code G, class B: 16630 part no. 8950A00-0026; 28527 part no. 1088592G22	Water Circulator Figure 5-18A
1A2E1		TANK, COOLER: 5 gallon capacity, stainless steel, 11.250 in. od by 13.562 in. high; 16630 part no. A9172-001C; 28527 part no. 1088592G1	Water Tank Figure 5-18A
1A2M1		METER, PRESSURE GAUGE: 200 pound pressure, 3-1/2 inch dial; 16630 part no. 8950A00-0021-2; 28527 part no. 1088592G19	Pressure Indicator Figure 5-18A
1A2M2		Same as 1A2M1	Pressure Indicator Figure 5-18A
1A2M3		GAUGE, WATER LEVEL: expansion tank type; 16630 part no. 8950A00-0017; 28527 part no. 1088592G18	Water Level Indicator Figure 5-18A
1A2M4		METER, PRESSURE GAUGE: 160 pound pressure, 3-1/2 inch dial; 16630 part no. 8950A00-0021-1; 28527 part no. 1088592G13	Pressure Indicator Figure 5-18A
1A2M5		METER PRESSURE GAUGE: 150 pound pressure, 2-1/2 inch dial; 16630 part no. 8950A00-0022; 28527 part no. 1088592G21	Pressure Indicator Figure 5-18A
1A2M6		Same as 1A2M4	Pressure Indicator Figure 5-18A
1A2S1		SWITCH LEVEL: spst; snap action; hermetically sealed; 04034 part no. LS1800; 28527 part no. 1088592GS	115 vac Control Circuit Figure 5-18A
1A2TB1		TERMINAL BOARD: 10 terminals; 28527 part no. 356259	Interconnection Figure 5-18A
1A2U1		FITTING, HOSE: 2-1/2 in. pipe size; 16630 part no. ST30B	Secondary Coolant Inlet Figure 5-18A
1A2U2		Same as 1A2U1	Secondary Coolant Outlet Figure 5-18A
1A2U3		FITTING, HOSE: 1 in. pipe size; 16630 part no. ST10B	Fill Figure 5-18A
1A2U4		DRAIN COCK: Brass and bronze construction, 1/4 in. pipe size; 30327 part no. 303E; 28527 part no. 1088592G10	Water Drain Figure 5-18A
1A2U5		HEAT EXCHANGER: 07077 part no. 87M606A31; 28527 part no. 1088592G2	Reduce Primary Coolant Temperature Figure 5-18A
1A2U6		Same as 1A2U5	Reduce Primary Coolant Temperature Figure 5-18A
1A2U7		Same as 1A2U4	Drain Figure 5-18A
1A2U8		VALVE, GATE: 1 in. with teflon packing; 16630 part no. 8950A00-0024-2; 28527 part no. 1088592G16	Valve Figure 5-18A
1A2U9		VALVE, GATE: 2 in. with teflon packing; 16630 part no. 8950A00-0024-3; 28527 part no. 1088592G14	Valve Figure 5-18A
1A2U10		VALVE, SWING CHECK: bronze, 1 in,; 16630 part no. 8950A00-0023-2; 28527 part no. 1088592G9	Check Valve Figure 5-18A
1A2U11		VALVE, FLOAT: automatic air valve; 16630 part no. 8950A00-0019; 28527 part no. 1088592G11	Air Escape Figure 5-18A
1A2U12		Same as 1A2U4	Drain Figure 5-18A
1A2U13		TEE, REDUCING: bronze nipple, 2 in. to 1 in. 16630 part no. 3411	Pipe Reducer Figure 5-18A
1A2U14		FITTING: bronze nipple, 2 in. pipe size; 16630 part no. ST25B	Hose Connection Figure 5-18A
1A2U15		Same as 1A2U3	Fill Figure 5-18A
1A2U16		Same as 1A2U9	Valve Figure 5-18A
1A2U17		VALVE, GATE: 3/4 in. bronze, low pressure; 16630 part no. 8950A00-0024-1; 28527 part no. 1088592G15	Water Cooler Figure 5-18A

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

COOLER, LIQUID, ELECTRON TUBE, HD-601/FPN

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A2U18		VALVE, GLOVE: 1/2 in. bronze; 16630 part no. 8950A00-0025; 28527 part no. 1088592G17	Water Cooler Figure 5-18A
1A2U19		Same as 1A2U4	Drain Figure 5-18A
1A2U20		VALVE, SWING CHECK: bronze 3/4 in.; 16630 part no. 8950A00-0023-1; 28527 part no. 1088592G7	Check Valve Figure 5-18A
1A2U21		VALVE, CHECK: 1/2 in. pipe size, bronze; 16630 part no. 8950A00-0020; 28527 part no. 1088592G6	Check Valve Figure 5-18A
1A2U22		Not used	
1A2U23		Same as 1A2U9	Valve Figure 5-18A
1A2U24		STRAINER, MESH: 16630 part no. U8767; 28527 part no. 1088592G12	Water Pump Figure 5-18A
1A2U24A		STRAINER, SEDIMENT: 100 mesh, monel; 16630 part no. U203-5A, 28527 part no. 1088592G24	Strainer Figure 5-18A
1A2U25		UNION, ELBOW: 90 degree, 1-1/4 in. x 1-1/4 in., brass; 16630 part no. A11445	Fitting, Pump Figure 5-18A
1A2U26		VALVE, GATE: bronze with teflon packing; 1/4 in.; 16630 part no. 5	Heat Exchanger Figure 5-18A
1A2U27 thru 1A2U32		Same as 1A2U4	Drain Figure 5-18A
1A2U33		Same as 1A2U3	Deionizer Figure 5-18A
1A2U34		PROTECTOR ROD: zinc, 1/2 in. pipe thread, 16630 part no. Z4R101, 28527 part no. 1088592G3	Deionizer Figure 5-18A
1A2U35		Same as 1A2U34	Deionizer Figure 5-18A
1A2U36		HOSE: 2 1/2 inch; 28527 part no. 1088455G61	Connecting Figure 5-18A
1A2U37		HOSE: 3 inch; 28527 part no. 1088455G62	Connecting Figure 5-18A
1A2U38		HOSE: 2 inch; 28527 part no. 1088455G60	Connecting Figure 5-18A
1A2U39		HOSE: 1 inch; 28527 part no. 1088455G59	Connecting Figure 5-18A
1A2U40		Not used	
1A2U41 thru 1A2U42		FILTER, CARTRIDGE: mixed bed; 16630 part no. 35A01-0651	Cartridge Oxygen Removal Figure 5-18A
REGULATOR, VOLTAGE CN-941/FPN			
1A3		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4		AMPLIFIER GROUP, OG-159/FPN-44A: this low power group contains circuitry used to amplify the low level Loran pulses to the level required to drive the power amplifier grids; 28527 part no. 1087453G3	Low Power Amplifier Figure 5-17
1A4B1		FAN, CENTRIFUGAL: ccw; 220 vac, 50-60 HZ; 3.3 amp; 82877 part no. A018925; 28527 part no. 1087592G1	Tube Cooling Figure 5-19
1A4CR1 thru 1A4CR8		SEMICONDUCTOR DEVICE, DIODE: silicon, piv 4500 volts min, average dc forward current at 60 degrees C, 450 ma min, peak surge current 19 amps for 0.1 sec.; 28527 part no. 1087689G1	Rectifier Figure 5-23
1A4C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.1 uf ± 10%, 400 vdc, MIL-C-25 type CP09A1KE104K3	1A4V3, 1A4V5 Grid Coupling Figure 5-22
1A4C2		Same as 1A4C1	1A4V4, 1A4V6 Grid Coupling Figure 5-22
1A4C3		Same as 1A4C1	1A4V7 Grid Coupling Figure 5-21
1A4C4		Same as 1A4C1	1A4V8 Grid Coupling Figure 5-21
1A4C5		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.001 uf ± 5%, 15000 vdc; 16727 part no. ASG102-15M; 28527 part no. 1092093G1	1A4V9 Grid Coupling Figure 5-20
1A4C6		Same as 1A4C5	1A4V10 Grid Coupling Figure 5-20
1A4C7		CAPACITOR, FIXED, ELECTROLYTIC: 0.02 uf ± 10%, 7500 vdc; 56289 part no. 221M319; 28527 part no. 1087614G1	1A4A9 Grid Monitor Figure 5-20
1A4C8		Same as 1A4C7	1A4V10 Grid Monitor Figure 5-20
1A4C9		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.1 uf ± 10%, 1000 vdc; MIL-C-25 type CP09A1KG104K1	1A4V7 Screen By-Pass Figure 5-21
1A4C10		Same as 1A4C9	1A4V8 Screen By-Pass Figure 5-21
1A4C11		CAPACITOR, FIXED, PAPER DIELECTRIC: 2.0 uf ± 10%, 600 vdc; MIL-C-25 type CP53B1EF205K1	1A4V7 Filament By-Pass Figure 5-21
1A4C12		Same as 1A4C11	1A4V8 Filament By-Pass Figure 5-21
1A4C13		Same as 1A4C11	1A4V7 Filament By-Pass Figure 5-21

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4C14		Same as 1A4C11	1A4V8 Filament By-Pass Figure 5-21
1A4C15		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf, 12700 vdc; 24446 part no. 28F745; 28527 part no. 1087487G4	1A4V9 Plate By-Pass Figure 5-20
1A4C16		Same as 1A4C15	1A4V10 Plate By-Pass Figure 5-20
1A4C17		Same as 1A4C15	1A4V9 Plate By-Pass Figure 5-20
1A4C18		Same as 1A4C15	1A4V10 Plate By-Pass Figure 5-20
1A4C19		CAPACITOR, VARIABLE, AIR DIELECTRIC: brass sheet, 4.500 in. dia by 0.125 in. thick with 1 center mounted stud; 28527 part no. 1088228G1	1A4V7 Plate Monitor Figure 5-20
1A4C20		Same as 1A4C19	1A4V8 Plate Monitor Figure 5-20
1A4C21		Same as 1A4C19	1A4V9 Cathode Monitor Figure 5-20
1A4C22		Same as 1A4C19	1A4V10 Cathode Monitor Figure 5-20
1A4C23		Not used	
1A4C24		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.0068 uf ± 10%, 600 vdc; MIL-C-25 type CP05A1KF682K3	+150V By-Pass Figure 5-22
1A4C25		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf ± 10%, 600 vdc; MIL-C-25 type CP53B1EF105K1	250V By-Pass Figure 5-21
1A4C26		Same as 1A4C24	+150V By-Pass Figure 5-22
1A4C27		CAPACITOR, FIXED, PAPER DIELECTRIC: two sections 1.0 uf + 20% -10% each section, 600 vdc; MIL-C-25 type CP53B6EF105V1	+250V Filter Figure 5-21
1A4C28		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.01 uf ± 10%, 400 vdc; MIL-C-25 type CP05A1KE103K3	1A4V8 Grid Monitor Figure 5-21
1A4C29		Same as 1A4C28	1A4V7 Grid Monitor Figure 5-21
1A4C30		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.1 uf ± 10%, 600 vdc; MIL-C-25 type CP05A1KF104K3	1A4V8 Bias By-Pass Figure 5-21
1A4C31		Same as 1A4C30	1A4V7 Bias By-Pass Figure 5-21
1A4C32		CAPACITOR, FIXED, PAPER DIELECTRIC: 13.5 uf, 12700 vdc; 28527 part no. 1087487G3	1A4V9 Plate Storage Figure 5-19
1A4C33		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4C34		Not used	
1A4C35		CAPACITOR, FIXED, PAPER DIELECTRIC: 8 uf ± 10%, 600 vdc, MIL-C-25 type CP72E1EF805K1	1A4V7 and 1A4V8 Screen Voltage Filter Figure 5-20
1A4C36 thru 1A4C47		CAPACITOR, FIXED, MICA DIELECTRIC: 200 pf ± 5%, 2500 vdc; MIL-C-25 type CM45BK201JN3	1A4V7 and 1A4V8 Plate Tuning Figure 5-26
1A4C48 thru 1A4C49		Not used	
1A4C50		Same as 1A4C32	1A4V10 Plate Storage Figure 5-19
1A4C51		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf, ± 10%, 6000 vdc; 24446 part no. 23F1139G2; 28527 part no. 1092094G1	Bias Pedestal Coupling Figure 5-20
1A4C52		Same as 1A4C7	1A4V9 Cathode Monitor Figure 5-20
1A4C53		Same as 1A4C7	1A4V10 Cathode Monitor Figure 5-20
1A4C54		Same as 1A4C51	Bias Pedestal Coupling Figure 5-20
1A4C55		CAPACITOR, FIXED, ELECTROLYTIC: 470 uf + 50%, -10%, 350 vdc; MIL-C-62 type CE71C471P	Bias Adjust Filter Figure 5-21
1A4DS1 thru 1A4DS12		LAMP, GLOW: neon; MIL-L-15098 type M15098/10-002	1A4F1 to 1A4F6 Indicator Figure 5-19
1A4DS13 thru 1A4DS16		Same as 1A4DS1	1A4F13 thru 1A4F16 Blown Fuse Indicator Figure 5-19
1A4E1		CLIP, ELECTRICAL: aluminum; 06980 part no. HR8; 28527 part no. 1069190G1	1A4V7 Plate Cap Figure 5-20
1A4E2		Same as 1A4E1	1A4V8 Plate Cap Figure 5-20
1A4E3		SUPPORT, TUBE: fiber glass, 8 inches high by 8.380 inches o.d. by 6.560 inches i.d.; 28527 part no. 1087497G1	1A4V9 Tube Support Figure 5-20
1A4E4		Same as 1A4E3	1A4V10 Tube Support Figure 5-20
1A4E5 thru 1A4E16		CONNECTOR: copper, 0.875 in. dia. by 1.168 in. lg; 28527 part no. 1087498G1	Tube Connector Figure 5-20
1A4E17		CONTACT ASSEMBLY, ELECTRICAL: consists of 4 contacts mounted on a band; 28527 part no. 1088073G1	1A4V9 Anode Connector Figure 5-20
1A4E18		Same as 1A4E18	1A4V10 Anode Connector Figure 5-20

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4F1		FUSE, CARTRIDGE: 0.20 amps, 250 volts; MIL-F-15160 type F09B250V2/10AS	1A4T1 Overload Fuse Figure 5-25
1A4F2		FUSE, CARTRIDGE: 2.0 amps, 250 volts; MIL-F-15160 type F09B250V2AS	1A4T2 Overload Fuse Figure 5-25
1A4F3		Same as 1A4F1	1A4T1 Overload Fuse Figure 5-25
1A4F4		Same as 1A4F2	1A4T2 Overload Fuse Figure 5-25
1A4F5		FUSE, CARTRIDGE: 6.0 amps, 250 volts; 71400 part no. FNM6AMPS; 28527 part no. 1089226G1	1A4T3 Overload Fuse Figure 5-25
1A4F6		Same as 1A4F5	1A4T4 Overload Fuse Figure 5-25
1A4F7		Same as 1A4F5	1A4T3 Overload Fuse Figure 5-25
1A4F8		Same as 1A4F5	1A4T4 Overload Fuse Figure 5-25
1A4F9		Not used	
1A4F10		Not used	
1A4F11		FUSE, CARTRIDGE: 7.0 amps, 250 volts; 71400 part no. FNM7AMPS: 28527 part no. 1089226G2	Left PA Bias Supply Fuse Figure 5-25
1A4F12		Same as 1A4F11	Right PA Bias Supply Fuse Figure 5-25
1A4F13		Same as 1A4F11	Left PA Bias Supply Fuse Figure 5-25
1A4F14		Same as 1A4F11	Right PA Bias Supply Fuse Figure 5-25
1A4F15 thru 1A4F16		Same as 1A4F2	1A4A4T1 Line Figure 5-25
1A4F17		FUSE, CARTRIDGE: 1.0 amp, 250 volts; MIL-F-15160 type F09B250V1AS	1A4A4T2 Line Figure 5-25
1A4F18		Same as 1A4F17	1A4A4T2 Line Figure 5-25
1A4J1		CONNECTOR, RECEPTACLE, ELECTRICAL: 2 contacts; 74868 type 8225; 28527 part no. 2312172G1	Pulse Signal Input Figure 5-22
1A4J2 thru 1A4J3		Not used	
1A4J4		CONNECTOR, RECEPTACLE, ELECTRICAL: 1 contact; MIL-C-39012 type M39012/19-0001	Oscilloscope Monitor Input Figure 5-24
1A4J5 thru 1A4J8		Same as 1A4J4	Spare Figure 5-24
1A4J9		Same as 1A4J4	Multitrigger Input Figure 5-24
1A4J10		Same as 1A4J4	Scope Trigger Input Figure 5-24
1A4J11		Same as 1A4J4	Spare Figure 5-24

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4J12		Not used	
1A4J13		Same as 1A4J3	Current Transformer Signal Figure 5-24
1A4J14		Same as 1A4J3	Spare Monitor Figure 5-24
1A4J15		Same as 1A4J3	Current Transformer Signal Figure 5-24
1A4K1		RELAY, ARMATURE: 2 spdt switches; 5 amps, 250 vdc; coil; 500 ohms, 24 vdc, 71482 part no. W2-8018, type EMS; 28527 part no. 1087589G1	1A4V7 Cathode Figure 5-20
1A4K2		Same as 1A4K1	1A4V8 Cathode Figure 5-20
1A4K3		RELAY, ARMATURE: contact rating 50 ma at 550 vdc, normally open; coil energized at 3 ma max, de-energized at 1.5 ma min; 82415 part no. 5601; 28527 part no. 1087709G1	1A4V7 and 1A4V8 Screen Protection Figure 5-27
1A4K4 thru 1A4K7		Same as 1A4K1	-1100 vdc Protection Figure 5-28
1A4K8		RELAY, ARMATURE: 4 pdt; contact rating 5 amp at 30 vdc; 115 vac coil; plug-in type, 01526 part no. 3S2790G128A1; 28527 part no. 2311889G1	1A4V10 and 1A4V11 Overload Sensing Delay Figure 5-28
1A4K9		RELAY, ARMATURE: dpdt; 26.5 vdc coil; 2 amp contact 81349 type M5757/10-054; 28527 part no. 2311296G1	Input Selector Figure 5-27
1A4K10		Same as 1A4K9	Input Disconnect Figure 5-27
1A4K11		Same as 1A4K3	High Voltage Sensing Figure 5-27
1A4K12		Same as 1A4K9	Plate Voltage Up Control Figure 5-27
1A4L1		REACTOR: 20 henries at 150 ma min, 5 hy. at 700 ma min; 88422 part no. SBT-1243AR; 28527 part no. 1087688G1	-1100 vdc Filter Choke Figure 5-28
1A4L2		Same as 1A4L1	-1100 vdc Filter Choke Figure 5-19
1A4M1		AMMETER: dc, 0-200 ma; MIL-M-10304 type MR36W200DCMAR	1A4V7 Cathode Current Figure 5-19
1A4M2		Same as 1A4M1	1A4V8 Cathode Current Figure 5-19
1A4M3		AMMETER: dc, 0-500 ma; MIL-M-10304 type MR36W500DCMAR	1A4V9 Plate Current Figure 5-20

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4M4		Same as 1A4M3	1A4V10 Plate Current Figure 5-20
1A4M5		VOLTMETER: dc, 0-5000 volt, full scale; MIL-M-10304 type MR36W005DCKVR	1A4V9 Bias Voltmeter Figure 5-19
1A4M6		Same as 1A4M5	1A4V10 Bias Voltmeter Figure 5-19
1A4M7		AMMETER: dc, 0-1 amp, full scale; MIL-M-10304 type MR36W001DCAAR	-1100 vdc Bias Current Ammeter Figure 5-19
1A4M8		Same as 1A4M7	-1100 vdc Bias Current Ammeter Figure 5-19
1A4M9		VOLTMETER: dc, 0-1000 volt, full scale; MIL-M-10304 type MR36W002DCKVR	-1100 vdc Bias Voltage Voltmeter Figure 5-19
1A4M10		Same as 1A4M9	-1100 vdc Bias Voltage Voltmeter Figure 5-19
1A4M11		Same as 1A4M7	PA Cathode Quiescent Current Figure 5-19
1A4P1 thru 1A4P2		Not used	
1A4P3		CONNECTOR, PLUG, ELECTRICAL: 1 contact; MIL-C-3608 type UG421BU; 28527 part no. 2312139G1	Current Transformer Signal Figure 5-28
1A4P4		CONNECTOR, PLUG, ELECTRICAL: 1 contact; MIL-C-39012 type M39012/16-001	Scope Monitor Input Figure 5-28
1A4P5		Not used	
1A4P6		CONNECTOR, PLUG, ELECTRICAL: 35 contacts; 28527 part no. 2228398G2	Power Supply Drawer Input Figure 5-28
1A4P7		CONNECTOR, PLUG, ELECTRICAL: 35 contacts; 28527 part no. 2228398G4	Oscilloscope Control Input Figure 5-28
1A4P8		Same as 1A4P6	Oscilloscope Control Input Figure 5-28
1A4P9		Same as 1A4P3	Pulse Signal Figure 5-21

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4P10		Same as 1A4P4	Scope Monitor Input Figure 5-24
1A4P11		Same as 1A4P4	Scope Monitor Input Figure 5-28
1A4P12		CONNECTOR, PLUG, ELECTRICAL: 3 contacts; 74545 part no. 5269; 28527 part no. 1088606G1	Scope Power Figure 5-28
1A4P13		Same as 1A4P3	Pulse Input Figure 5-24
1A4P14		Not used	
1A4P15		Same as 1A4P3	Current Transformer Signal Figure 5-27
1A4P16		Same as 1A4P4	Multipulse Trigger Figure 5-28
1A4RV1		SURGE PROTECTOR, THYRITE: 1.5 watt continuous rating, 1100 watt second discharge capacity; 50157 type 68D10000; 28527 part no. 1087739G1	1A4V7 Cathode Circuit Protector Figure 5-21
1A4RV2		Same as 1A4RV1	1A4V8 Cathode Circuit Protector Figure 5-21
1A4RV3		Same as 1A4RV1	1A4V7 Cathode Circuit Protector Figure 5-21
1A4RV4		Same as 1A4RV1	1A4V8 Cathode Circuit Protector Figure 5-21
1A4RV5		SURGE PROTECTOR, THYRITE: 1.5 watt continuous rating, 1100 watt second discharge capacity; 50157 type 66D10000; 28527 part no. 1087739G2	1A4K3 Overvoltage Protector Figure 5-27
1A4RV6		SURGE PROTECTOR, THYRITE: two discs, 3 in. dia. by 0.130 in. thick; 1/2 in. center mounting hole; 28527 part no. 1087716G1	PA Bias Relay and Meter Overload Protector Figure 5-28
1A4RV6E1		PLATE, CONNECTING: copper, irregular shape; 0.065 in. by 3.000 in. by 3.000 in. o/a dim; 28527 part no. 1087713G1	1A4RV6 Connecting Plate Figure 5-28
1A4RV6E2		SURGE PROTECTOR, THYRITE: 44 volts at 25 ma; 13 volts at 1.0 ma; 30 watts continuous power dissipation; 50157 part no. 67W30000; 28527 part no. 1087587G1	1A4RV6 DISC Figure 5-28
1A4RV7		Same as 1A4RV6	PA Bias Relay and Meter Overload Protector Figure 5-28
1A4RV7E1		Same as 1A4RV6E1	1A4RV7 Connecting Plate Figure 5-28

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4RV7E2		Same as 1A4RV6E2	1A4RV7 Disc Thyrite Figure 5-28
1A4RV8		SURGE PROTECTOR, THYRITE: 1500 vdc operating; 3.5 watt power dissipation; 10 amp at 7500 V rating; 3.000 in. dia. by 0.780 in. thick; 50157 part no. 9RV3A51; 28527 part no. 1087729G1	Rectifier Overvoltage Protector Figure 5-27
1A4RV9		Same as 1A4RV8	Rectifier Overvoltage Protector Figure 5-28
1A4RV10		Same as 1A4RV1	-150V Circuit Protector Figure 5-27
1A4R1 thru 1A4R8		Not used	
1A4R9		RESISTOR, FIXED, COMPOSITION: 150K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G154JS	1A4V3 and 1A4V5 Grid Return Figure 5-22
1A4R10		Same as 1A4R9	1A4V4 and 1A4V6 Grid Return Figure 5-22
1A4R11		RESISTOR, FIXED, WIREWOUND: 2.2K ohms ± 5%, 7 watts; MIL-R-26 type RW55V222	1A4V3 thru 1A4V6 Voltage Divider Figure 5-22
1A4R12		RESISTOR, FIXED, COMPOSITION: 100 ohms ±5%, 1/2 watt; MIL-R-39008 type RCR20G101JS	1A4V4 Grid Parasitic Suppressor Figure 5-22
1A4R13		Same as 1A4R12	1A4V3 Grid Parasitic Suppressor Figure 5-22
1A4R14		Same as 1A4R12	1A4V4 Screen Parasitic Suppressor Figure 5-22
1A4R15		Same as 1A4R12	1A4V3 Screen Parasitic Suppressor Figure 5-22
1A4R16		RESISTOR, FIXED, COMPOSITION: 10 ohms ±5%, 1/2 watt; MIL-R-39008 type RCR20G100JS	1A4V4 Plate Parasitic Suppressor Figure 5-22
1A4R17		Same as 1A4R16	1A4V3 Plate Parasitic Suppressor Figure 5-22
1A4R18		RESISTOR, FIXED, COMPOSITION: 22 ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G220JS	1A4V4 and 1A4V6 Cathode Figure 5-22

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R19		Same as 1A4R18	1A4V3 and 1A4V5 Cathode Figure 5-22
1A4R20		RESISTOR, FIXED, WIREWOUND: 2K ohms ± 5%, 14 watts; MIL-R-26 type RW56V202	1A4V4 and 1A4V6 Plate Load Figure 5-22
1A4R21		Same as 1A4R20	1A4V3 and 1A4V5 Plate Load Figure 5-22
1A4R22		RESISTOR, FIXED, WIREWOUND: 1.5K ohms ± 5%, 55 watts; MIL-R-26 type RW35V152	Voltage Dropping Figure 5-27
1A4R23		Not used	
1A4R24		Same as 1A4R12	1A4V6 Grid Parasitic Suppressor Figure 5-22
1A4R25		Same as 1A4R12	1A4V5 Grid Parasitic Suppressor Figure 5-22
1A4R26		Same as 1A4R12	1A4V6 Screen Parasitic Suppressor Figure 5-22
1A4R27		Same as 1A4R12	1A4V5 Screen Parasitic Suppressor Figure 5-22
1A4R28		Same as 1A4R16	1A4V6 Plate Parasitic Suppressor Figure 5-22
1A4R29		Same as 1A4R16	1A4V5 Plate Parasitic Suppressor Figure 5-22
1A4R30		RESISTOR, FIXED, COMPOSITION: 100K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G104JS	1A4V8 Grid Return Figure 5-21
1A4R31		Same as 1A4R30	1A4V7 Grid Return Figure 5-21
1A4R32		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G101JS	1A4V8 Grid Parasitic Suppressor Figure 5-21
1A4R33		Same as 1A4R32	1A4V7 Grid Parasitic Suppressor Figure 5-21
1A4R34 thru 1A4R63		RESISTOR, FIXED, COMPOSITION: 1.5K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G152JS	1A4V7 and 1A4V8 Plate Load Figure 5-26

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R64		RESISTOR, FIXED, COMPOSITION: 1.8K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G182JS	1A4V8 Grid Bias Figure 5-21
1A4R65		Same as 1A4R64	1A4V7 Grid Bias Figure 5-21
1A4R66		RESISTOR, FIXED, COMPOSITION: 220K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G224JS	1A4V7 and 1A4V8 Screen Voltage Bleeder Figure 5-21
1A4R67		RESISTOR, FIXED, COMPOSITION: 390 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G391JS	Filter Figure 5-21
1A4R68		RESISTOR, FIXED, COMPOSITION: 47 ohms ± 10%, 2 watts; MIL-R-39008 type RCR42G470JS	1A4V8 Cathode Figure 5-21
1A4R69		Same as 1A4R68	1A4V7 Cathode Figure 5-21
1A4R70		Same as 1A4R68	1A4V8 Cathode Figure 5-21
1A4R71		Same as 1A4R68	1A4V7 Cathode Figure 5-21
1A4R72		RESISTOR, VARIABLE: composition, 250 ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA251A	1A4V8 Overload Relay Control Figure 5-21
1A4R73		Same as 1A4R72	1A4V7 Overload Relay Control Figure 5-21
1A4R74		RESISTOR, FIXED, COMPOSITION: 10K ohms ±5%, 2 watts; MIL-R-39008 type RCR42G103JS	1A4V8 Overload Relay Shunt Figure 5-21
1A4R75		Same as 1A4R74	1A4V7 Overload Relay Shunt Figure 5-21
1A4R76		Same as 1A4R32	1A4V8 Screen Parasitic Suppressor Figure 5-21
1A4R77		Same as 1A4R32	1A4V7 Screen Parasitic Suppressor Figure 5-21
1A4R78		RESISTOR, FIXED, COMPOSITION: 200K ohms ± 10%, 15 watts; 72819 part no. AS015-204K; 28527 part no. 1087591G6	1A4V10 Grid Return Figure 5-20
1A4R79		Same as 1A4R78	1A4V9 Grid Return Figure 5-20
1A4R80		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G100JS	1A4V10 Grid Parasitic Suppressor Figure 5-20

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R81		Same as 1A4R80	1A4V9 Grid Parasitic Suppressor Figure 5-20
1A4R82		Same as 1A4R80	1A4V10 Grid Parasitic Suppressor Figure 5-20
1A4R83		Same as 1A4R80	1A4V9 Grid Parasitic Suppressor Figure 5-20
1A4R84		RESISTOR, FIXED, COMPOSITION: 750 ohms ±10%, 125 watts; 72819 part no. AS125-751K; 28527 part no. 1087591G7	1A4V9 and 1A4V10 Plate Dropping Figure 5-27
1A4R85		RESISTOR, FIXED, COMPOSITION: 250 ohms ± 10%, 250 watts; 72819 part no. 779SP005; 28527 part no. 1087590G4	1A4V7 and 1A4V8 Plate Dropping Figure 5-20
1A4R86		RESISTOR, FIXED, COMPOSITION: 13 ohms ± 10%, 250 watts; 72819 part no. 682SP001; 28527 part no. 1087590G11	1A4V10 Plate Dropping Figure 5-20
1A4R87		Same as 1A4R86	1A4V9 Plate Dropping Figure 5-20
1A4R88		RESISTOR, FIXED, COMPOSITION: 1 ohm ± 20%, 15 watts; 72819 part no. 218SP004; 28527 part no. 1087590G7	1A4V10 Filament Centertap Figure 5-20
1A4R89		Same as 1A4R88	1A4V9 Filament Centertap Figure 5-20
1A4R90		Same as 1A4R88	1A4V10 Filament Centertap Figure 5-20
1A4R91		Same as 1A4R88	1A4V9 Filament Centertap Figure 5-20
1A4R92		RESISTOR, FIXED, WIREWOUND: 330K ohms ± 10%, 50 watts; 10646 part no. 887A334K; 28527 part no. 1089076G1	High Voltage Relay Voltage Divider Figure 5-27
1A4R93 thru 1A4R95		Not used	
1A4R96		RESISTOR, FIXED, WIREWOUND: 7.5K ohms ± 5%, 210 watts; MIL-R-26 type RW47V752	1A4V9 and 1A4V10 Bias Supply Figure 5-27
1A4R97		RESISTOR, VARIABLE: wirewound; 10K ohms ± 10%, 100 watts; MIL-R-22 type RP251SD103KK	1A4V9 Bias Adj. Figure 5-25
1A4R98		Same as 1A4R97	1A4V10 Bias Adj. Figure 5-25

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R99		RESISTOR, FIXED, WIREWOUND: 75K ohms ± 10%, 210 watts; MIL-R-26 type RW47V753	1A4V9 and 1A4V10 Bias Voltage Divider Figure 5-27
1A4R100		Same as 1A4R99	1A4V9 and 1A4V10 Bias Voltage Divider Figure 5-27
1A4R101		Same as 1A4R99	1A4V9 and 1A4V10 Bias Voltage Divider Figure 5-27
1A4R102		RESISTOR, FIXED, FILM: 5 megohms ± 0.5%, 5 watts; MIL-R-29 type MFA505	1A4M6 Multiplier Resistor Figure 5-27
1A4R103		Same as 1A4R102	1A4M5 Multiplier Resistor Figure 5-27
1A4R104		Not used	
1A4R105		Same as 1A4R84	1A4V7 and 1A4V8 Screen Supply Figure 5-27
1A4R106		Not used	
1A4R107		Same as 1A4R34	Input Monitor Figure 5-22
1A4R108		RESISTOR, FIXED, COMPOSITION: 3.3K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G332JS	1A4V7 and 1A4V8 Bias Supply Figure 5-21
1A4R109		RESISTOR, FIXED, COMPOSITION: 5.6K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G562JS	1A4V7 and 1A4V8 Bias Supply Figure 5-21
1A4R110 thru 1A4R113		RESISTOR, FIXED, COMPOSITION: 5 ohms ± 10%, 60 watts; 72819 part no. 218SP008; 28527 part no. 1087590G3	-1100 Volt Balancing Figure 5-23
1A4R114		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 10%, 30 watts; 72819 part no. 218SP005; 28527 part no. 1087590G8	1A4K4 Overload Relay Shunt Figure 5-28
1A4R115		Same as 1A4R114	1A4K5 Overload Relay Shunt Figure 5-28
1A4R116		RESISTOR, VARIABLE: wirewound, 1.5K ohms ± 10%, 4 watts; MIL-R-19 type RA30LASD152A	1A4K4 Overload Relay Adjust Figure 5-28
1A4R117		Same as 1A4R116	1A4K5 Overload Relay Adjust Figure 5-28
1A4R118		RESISTOR, FIXED, WIREWOUND: 22K ohms ± 5%, 159 watts; MIL-R-26 type RW38V223	1A4K6 Voltage Dropping Figure 5-27

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R119		Same as 1A4R118	1A4K7 Voltage Dropping Figure 5-28
1A4R120		Not used	
1A4R121		Not used	
1A4R122		Same as 1A4R114	1A4K4 Overload Relay Shunt Figure 5-28
1A4R123		Same as 1A4R114	1A4K5 Overload Relay Shunt Figure 5-28
1A4R124		RESISTOR, FIXED, FILM: 2 megohms ± 0.5%, 5 watts; MIL-R-29 type MFB205	1A4M10 Multiplier Resistor Figure 5-27
1A4R125		Same as 1A4R124	1A4M9 Multiplier Resistor Figure 5-28
1A4R126		RESISTOR, FIXED, COMPOSITION: 33K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G332JS	Blown Fuse Indicator Limiter Figure 5-25
1A4R127		RESISTOR, FIXED, COMPOSITION: 15K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G153JS	Limiting Figure 5-25
1A4R128 thru 1A4R132		Same as 1A4R126	Limiting Figure 5-25
1A4R133		Same as 1A4R127	Limiting Figure 5-25
1A4R134 thru 1A4R136		Same as 1A4R126	Limiting Figure 5-25
1A4R137		Same as 1A4R127	Limiting Figure 5-25
1A4R138		Same as 1A4R126	Limiting Figure 5-25
1A4R139		Same as 1A4R126	Limiting Figure 5-25
1A4R140		Same as 1A4R127	Limiting Figure 5-25
1A4R141 thru 1A4R143		Same as 1A4R126	Limiting Figure 5-25
1A4R144 thru 1A4R148		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R149		RESISTOR, VARIABLE: composition, 2.5K ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA252A	1A4V7 Bias Adjust Figure 5-21
1A4R150		Same as 1A4R149	1A4V8 Bias Adjust Figure 5-21
1A4R151		Same as 1A4R127	Limiting Figure 5-27
1A4R152		Not used	
1A4R153		Same as 1A4R99	Voltage Divider Figure 5-27
1A4R154		Same as 1A4R84	1A4V9 and 1A4V10 Plate Dropping Figure 5-27
1A4R155		Not used	
1A4R156		Same as 1A4R92	High Voltage Relay Voltage Divider Figure 5-27
1A4R157		Not used	
1A4R158		Same as 1A4R92	High Voltage Relay Voltage Divider Figure 5-27
1A4R159 thru 1A4R160		Not used	
1A4R161		Same as 1A4R84	1A4V9 and 1A4V10 Plate Dropping Figure 5-27
1A4R162		Same as 1A4R84	1A4V9 and 1A4V10 Plate Dropping Figure 5-27
1A4R163		RESISTOR, FIXED, COMPOSITION: 51 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G510JS	Termination Figure 5-27
1A4R164		Same as 1A4R163	Termination Figure 5-28
1A4R165 thru 1A4R168		Same as 1A4R126	Limiting Figure 5-25
1A4R169 thru 1A4R174		RESISTOR, FIXED, COMPOSITION: 150K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G154JS	Monitor Voltage Divider Figure 5-20
1A4R175 thru 1A4R180		Same as 1A4R169	Monitor Voltage Divider Figure 5-20
1A4R181 thru 1A4R186		Same as 1A4R169	Monitor Voltage Divider Figure 5-20

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4R187 thru 1A4R192		Same as 1A4R169	Monitor Voltage Divider Figure 5-20
1A4R193 thru 1A4R195		Not used	Bias Pedestal Generator Control Figure 5-19
1A4R196 thru 1A4R199		RESISTOR, FIXED COMPOSITION: 330K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G334JM	Discharge Resistor Figure 5-20
1A4R200 thru 1A4R203		Same as 1A4R196	Discharge Resistor Figure 5-20
1A4R204 thru 1A4R207		Same as 1A4R196	Discharge Resistor Figure 5-20
1A4R208 thru 1A4R211		Same as 1A4R196	Discharge Resistor Figure 5-20
1A4R212		RESISTOR, VARIABLE: composition, 2 section, 5000 ohms each section, ± 10%, 1 watt; 28527 part no. 1087596G4	Standby Level Figure 5-22
1A4R213 thru 1A4R216		RESISTOR, FIXED, COMPOSITION: 2.7K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G272JS	Input Impedance Figure 5-22
1A4R217		RESISTOR, VARIABLE: composition, 50K ohms ± 10%, 2 watts; MIL-R-94 type RV4TAYSA503A	Gain Balance Figure 5-22
1A4R218		RESISTOR, VARIABLE: wirewound 5K ohms ± 10%, 2 watts; MIL-R-19 type RA20TASB502A	High Voltage Sensing Figure 5-27
1A4R219		RESISTOR, FIXED, WIREWOUND: 1K ohms ± 1%, 2 watts; MIL-R-39007 type RWR71G1001SFR	High Voltage Sensing Figure 5-27
1A4S1		SWITCH, AIR FLOW: actuates at 2925 ft/max, deactuates 2700 ft/min, min. spdt, 250 vac, 5 amps; 82877 part no. 2A type 3000; 28527 part no. 1087599G4	Air Flow Safety Switch Figure 5-27
1A4S2		SWITCH, ROTARY: 3 pole, 3 position, 1 wafer, spring return type; 28527 part no. 1087935G1	Quiescent Current Figure 5-19
1A4S3		SWITCH, SENSITIVE: interlock type, spdt; MIL-S-8805 type MS16106-1	Interlock Switch Figure 5-19

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4S4		Same as 1A4S3	Interlock Switch Figure 5-19
1A4S5		Same as 1A4S3	Interlock Switch Figure 5-19
1A4S6		SWITCH, PUSH: spdt; MIL-S-8805 type MS25089G4	Interlock Disable Switch Figure 5-19
1A4S7		Same as 1A4S3	Interlock Switch Figure 5-21
1A4S8		SWITCH, TOGGLE: dpst, MIL-S-3950 type MS25100-22	Bias Pedestal On-Off Figure 5-25
1A4TB1		TERMINAL BOARD: 18 terminal, plastic sheet; 28527 part no. 1087673G1	Component Board Figure 5-22
1A4TB2		Not Used	
1A4TB3		TERMINAL BOARD: 40 terminal, plastic sheet; 28527 part no. 1087737G1	Component Board Figure 5-21
1A4TB4 thru 1A4TB6		TERMINAL BOARD: 10 terminal, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-27
1A4TB7		TERMINAL BOARD: 10 terminal, barrier type; MIL-T-55164 type 17TB10	Interconnection Figure 5-27
1A4TB8		Same as 1A4TB7	Interconnection Figure 5-27
1A4TB9		Same as 1A4TB4	Interconnection Figure 5-27
1A4TB10		TERMINAL BOARD: 4 terminal, barrier type; MIL-T-55164 type 8TB4	Interconnection Figure 5-27
1A4TB11		Same as 1A4TB10	Interconnection Figure 5-27
1A4TB12		TERMINAL BOARD: 4 terminal, barrier type; MIL-T-55164 type 17TB4	Interconnection Figure 5-27
1A4TB13		TERMINAL BOARD: 79 terminal, plastic sheet; 28527 part no. 1088724G1	Interconnection Figure 5-20
1A4TB14		TERMINAL BOARD: 12 terminal, plastic; 28527 part no. 1092092G1	Component Mounting Figure 5-20
1A4TB15		TERMINAL BOARD: 12 terminal, plastic; 28527 part no. 1092092G2	Component Mounting Figure 5-20
1A4TB16		TERMINAL BOARD: 12 terminal, plastic; 28527 part no. 1092092G3	Component Mounting Figure 5-19
1A4TB17		TERMINAL BOARD: 12 terminal, plastic; 28527 part no. 1092092G4	Component Mounting Figure 5-20

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4TB18 thru 1A4TB22		Not used	
1A4TB23		TERMINAL BOARD: 18 terminals, plastic; 28527 part no. 1087673G3	Component Mounting Figure 5-22
1A4TY1		ELECTRODE SET: protective spark gap, one 1/2 in. dia. sphere with 9/16 in. lg 8-32 mounting stud, one 1/2 in. dia. sphere with 1-1/8 in. lg mounting stud; 28527 part no. 1087623G1	1A4V9 Filament Protector Figure 5-20
1A4TY2		Same as 1A4TY1	1A4V10 Filament Protector Figure 5-20
1A4TY3		Same as 1A4TY1	1A4V9 Filament Protector Figure 5-20
1A4TY4		Same as 1A4TY1	1A4V10 Filament Protector Figure 5-20
1A4TY5		Same as 1A4TY1	Capacitor Protector Figure 5-20
1A4TY6		Same as 1A4TY1	Capacitor Protector Figure 5-20
1A4T1		TRANSFORMER, POWER, STEP-DOWN: input 208 vac, 50 to 60 Hz, output 6.3 vac at 5 amps; 49956 part no 6258-012-003; 28527 part no. 1087694G1	1A4V1 to 1A4V6 Filament Figure 5-27
1A4T2		TRANSFORMER, POWER STEP-DOWN: input 208v, output 2 secondary windings each 7.6v at 25 amps; 28527 part no. 1087495G1	1A4V7 and 1A4V8 Filament Figure 5-27
1A4T3		TRANSFORMER, POWER, STEP-DOWN: input 208v, output 7.1v at 114 amps; 28527 part no. 1087494G1	1A4V9 Filament Transformer Figure 5-28
1A4T4		Same as 1A4T3	1A4V10 Filament Figure 5-27
1A4T5		TRANSFORMER, POWER, VARIABLE: 0 to 240 vac, 6 amps; 58474 type 226-1012; 28527 part no. 1087618G1	Bias Voltage Variable Transformer Figure 5-19
1A4T6		Same as 1A4T5	Bias Voltage Variable Transformer Figure 5-19
1A4T7		TRANSFORMER, POWER, STEP-DOWN: 120 volts 45 to 66 Hz, output 80 vdc, 5.3 amps; 58474 type T5859; 28527 part no. 1087619G1	Buck-Boost Transformer Figure 5-19

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4T8		Same as 1A4T7	Buck-Boost Transformer Figure 5-19
1A4T9		TRANSFORMER, POWER, STEP-UP: input 208v ± 36%, 50 to 60 Hz, output 1280 vdc ± 2%, 0.7 amp; 33324 part no. S36970; 28527 part no. 1087617G1	Rectifier Power Transformer Figure 5-19
1A4T10		Same as 1A4T9	Rectifier Power Transformer Figure 5-19
1A4T11		TRANSFORMER, RADIO FREQUENCY: Interstage; 1:1 turns ratio; 21878 part no. YA365; 28527 part no. 1088798G1	RF Interstage Transformer Figure 5-20
1A4T12		TRANSFORMER, RADIO FREQUENCY: 5000 ohms input, 52 ohms output each winding, 100 KHz operating frequency; 73386 part no. 41685; 28527 part no. 2138283G1	Signal Input Figure 5-21
1A4V1		Not used	
1A4V2		ELECTRON TUBE: MIL-E-1 type JAN0A2WA	+150 Volt Regulator Figure 5-21
1A4V3 thru 1A4V6		ELECTRON TUBE: MIL-E-1 type 6CL6	Low Level Amplifier Figure 5-21
1A4V7		ELECTRON TUBE: radial beam tetrode, air cooled; 06980 8189/4PR1000A; 28527 part no. 1096255G1	First IP Amplifier Figure 5-20
1A4V8		Same as 1A4V7	First IP Amplifier Figure 5-20
1A4V9		ELECTRON TUBE: power triode, air cooled; 20948 type F8C25N; 28527 part no. 1096284G1	Second IP Amplifier Figure 5-20
1A4V10		Same as 1A4V9	Second IP Amplifier Figure 5-20
1A4V11		Same as 1A4V2	150 Volt Regulator Figure 5-20
1A4XDS1 thru 1A4XDS16		LAMPHOLDER: clear lens; MIL-L-3661 type LH76/1LC14CD3	1A4DS1 to 1A4DS16 Lampholder Figure 5-19
1A4XDS1MP1 thru 1A4XDS1MP16		LENS: clear; MIL-L-3661 type LC14CD3	Lens for 1A4XDS1 thru 1A4XDS16 Figure 5-19
1A4XK1 thru 1A4XK7		Not used	
1A4XK8		SOCKET, RELAY: 14 terminals; 71785 part no. 203-62-14-017; 28527 part no. 2311506G1	1A4K8 Relay Socket Figure 5-28

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER GROUP, OG-159/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4XK9		SOCKET, RELAY: 7 Terminals; 91506 part no. 8015-1G5AT; 28527 part no. 2311372G1	1A4K9 Relay Socket Figure 5-22
1A4XK10		Same as 1A4XK9	1A4K10 Relay Socket Figure 5-22
1A4XK11		Not used	
1A4XK12		Same as 1A4XK9	1A4K12 Relay Socket Figure 5-27
1A4XT1 thru 1A4XT11		Not used	
1A4XT12		SOCKET, TRANSFORMER: 7 pin miniature; MIL-S-12883 type M12883/10-02	1A4T12 Transformer Socket Figure 5-22
1A4XV1		Not used	
1A4XV2		SOCKET, ELECTRON TUBE: octal; MIL-S-12883 type M12883/02-01	Tube Socket Figure 5-21
1A4XV3 thru 1A4XV6		SOCKET, ELECTRON TUBE: noval; MIL-S-12883 type M12883/03-01	Tube Socket Figure 5-21
1A4XV7		SOCKET, ELECTRON TUBE: 5 contacts; glass air flow chimney; saddle mounting, 06980 part no. 4-1000A socket, SK506 chimney; 28527 part no. 1022643G1	Tube Socket Figure 5-20
1A4XV7A		SOCKET, ELECTRON TUBE: 5 contacts; 06980 part no. SK500	1A4V7 Socket Figure 5-20
1A4XV7B		CHIMNEY: glass; 06980 part no. SK506	1A4V7 Chimney Figure 5-20
1A4XV8		Same as 1A4XV7	Tube Socket Figure 5-20
1A4XV8A		Same as 1A4XV7A	1A4V8 Socket Figure 5-20
1A4XV8B		Same as 1A4XV7B	1A4V8 Chimney Figure 5-20
1A4XV9		Not used	
1A4XV10		Not used	
1A4XV11		Same as 1A4XV2	Tube Socket Figure 5-20

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY, PP-7304/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A1		POWER SUPPLY PP-7304/FPN-44A: Part of the Amplifier Group. Includes a 250 volt regulator; 28527 part no. 1088080G3	Power Supply Figure 5-19
1A4A1F1		FUSE, CARTRIDGE: 0.750 amp, 250 volts; MIL-F-15160 type F02A250V3/4AS	+250 Volt Fuse Figure 5-29
1A4A1F2		FUSE, CARTRIDGE: 0.750 amp, 250 volts; MIL-F-15160 type F02B250V3/4AS	+250 Volt Regulator Filament Voltage Fuse Figure 5-29
1A4A1F3		Same as 1A4A1F2	+250 Volt Regulator Filament Voltage Fuse Figure 5-29
1A4A1J1		CONNECTOR, RECEPTACLE, ELECTRICAL: 35 contacts; 91662 part no. 7008-35-5-4-11; 28527 part no. 2311101G4	Drawer Rear Connector Figure 5-28
1A4A1J2		CONNECTOR, RECEPTACLE, ELECTRICAL: twinax; 74868 part no. 4775, UG921U; 28527 part no. 2312145G1	Right Angle Twinax Adaptor Figure 5-28
1A4A1J3		CONNECTOR, RECEPTACLE, ELECTRICAL: 2 contacts; MIL-C-3608 type UG422B/U	Current Transformer Figure 5-28
1A4A1J4		CONNECTOR, RECEPTACLE, ELECTRICAL: 1 contact; MIL-C-39012 type M39012/23-0002	To Oscilloscope Figure 5-28
1A4A1MP1		PIN STRAIGHTENER, TUBE: for 7 and 9 pin tubes; 72653 part no. 8655; 28527 part no. 2138263G1	Pin Straightener Figure 5-29
1A4A1R1		RESISTOR, FIXED, COMPOSITION: 47 ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G470JS	Termination Figure 5-28
1A4A1R2		Same as 1A4A1R1	Termination Figure 5-28
1A4A1XF1 thru 1A4A1XF3		FUSEHOLDER: MIL-F-19207 type FHL17G	1A4A1F1 to 1A4A1F3 Fuseholder Figure 5-29
1A4A1AI		REGULATOR, VOLTAGE: provides +250 vdc in the control-feedback unit 1A4A1; 28527 part no. 1087748G1	Voltage Supply Figure 5-30
1A4A1A1CR1		SEMICONDUCTOR DEVICE, DIODE: zener, silicon; MIL-S-19500 type JAN1N459	Limiting Diode Figure 5-31
1A4A1A1C1		CAPACITOR, FIXED, MICA DIELECTRIC: 150 pf ± 5%, 500 vdc; MIL-C-5 type CM15ED151JN3	1A4A1A1V4 Feedback Capacitor Figure 5-31
1A4A1A1C2		CAPACITOR, FIXED, MICA DIELECTRIC: 4700 pf ± 5%, 500 vdc; MIL-C-5 type CM35CD472JN3	Filter Capacitor Figure 5-31

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY, PP-7304/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A1A1C3		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.1 uf ± 10%, 400 vdc; MIL-C-25 type CP05A1KE104K3	1A4A1A1V5 Noise Filter Capacitor Figure 5-31
1A4A1A1C4		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.5 uf ± 10%, 400 vdc; MIL-C-25 type CP53B1KE504K1	Filter Capacitor Figure 5-31
1A4A1A1C5		CAPACITOR, FIXED, PAPER DIELECTRIC: 4 uf ± 10%, 600 vdc; MIL-C-25 type CP72E1EF405K1	Filter Capacitor Figure 5-30
1A4A1A1R1		RESISTOR, FIXED, COMPOSITION: 110K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G114JS	1A4A1A1V4 Plate Voltage Divider Figure 5-31
1A4A1A1R2		RESISTOR, FIXED, COMPOSITION: 82K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G823JS	Filament Bias Resistor Figure 5-31
1A4A1A1R3		RESISTOR, FIXED, COMPOSITION: 33K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G333JS	Filament Bias Resistor Figure 5-31
1A4A1A1R4		RESISTOR, FIXED, COMPOSITION: 470K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G474JS	1A4A1A1V4 Plate Load Resistor Figure 5-31
1A4A1A1R5		RESISTOR, FIXED, COMPOSITION: 330K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G334JS	1A4A1A1V4 High Freq. Feedback Resistor Figure 5-31
1A4A1A1R6		RESISTOR, FIXED, COMPOSITION: 1K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G102JS	1A4A1A1V1 Parasitic Suppressor Figure 5-31
1A4A1A1R7		Same as 1A4A1A1R1	1A4A1A1V4 Plate Voltage Divider Figure 5-31
1A4A1A1R8		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G101JS	1A4A1A1V1 Current Balancing Resistor Figure 5-31
1A4A1A1R9		Same as 1A4A1A1R8	1A4A1A1V1 Current Balancing Resistor Figure 5-31
1A4A1A1R10		RESISTOR, FIXED, COMPOSITION: 680K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G684JS	1A4A1A1V4 Plate Load Resistor Figure 5-31
1A4A1A1R11		Same as 1A4A1A1R6	1A4A1A1V1 Parasitic Suppressor Figure 5-31

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY, PP-7304/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A1A1R12		RESISTOR, FIXED, COMPOSITION: 4.7K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G472JS	1A4A1A1V4 Cathode Voltage Divider Figure 5-31
1A4A1A1R13		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G103JS	1A4A1A1V4 Cathode Voltage Divider Figure 5-31
1A4A1A1R14		RESISTOR, FIXED, COMPOSITION: 22K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G223JS	1A4A1A1V4 Cathode Voltage Divider Figure 5-31
1A4A1A1R15		Same as 1A4A1A1R14	1A4A1A1V4 Cathode Voltage Divider Figure 5-31
1A4A1A1R16		Same as 1A4A1A1R6	1A4A1A1V2 Parasitic Suppressor Figure 5-31
1A4A1A1R17		RESISTOR, FIXED, COMPOSITION: 33 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G330JS	1A4A1A1V4 Parasitic Suppressor Figure 5-31
1A4A1A1R18		Same as 1A4A1A1R8	1A4A1A1V2 Current Balancing Resistor Figure 5-31
1A4A1A1R19		RESISTOR, FIXED, COMPOSITION: 47K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G473JS	1A4A1A1V4 Decoupling Resistor Figure 5-31
1A4A1A1R20		Same as 1A4A1A1R8	1A4A1A1V2 Current Balancing Resistor Figure 5-31
1A4A1A1R21		RESISTOR, FIXED, COMPOSITION: 100K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G104JS	1A4A1A1V5 Current Limiting Resistor Figure 5-31
1A4A1A1R22		Same as 1A4A1A1R6	1A4A1A1V2 Parasitic Suppressor Figure 5-31
1A4A1A1R23		Same as 1A4A1A1R6	1A4A1A1V3 Parasitic Suppressor Figure 5-31
1A4A1A1R24		Same as 1A4A1A1R8	1A4A1A1V3 Current Balancing Resistor Figure 5-31
1A4A1A1R25		RESISTOR, FIXED, FILM: 38.3K ohms ± 1%, 1 watt; MIL-R-10509 type RN75B3832F	1A4A1A1V4 Cathode Voltage Divider Figure 5-31

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY, PP-7304/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A1A1R26		RESISTOR, VARIABLE, COMPOSITION: 5K ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA502A	Output Voltage Adjust Figure 5-30
1A4A1A1R27		RESISTOR, FIXED, FILM: 17.8K ohms ± 1%, 1 watt; MIL-R-10509 type RN75B1782F	1A4A1A1V4 Cathode Voltage Divider Figure 5-31
1A4A1A1R28		Same as 1A4A1A1R8	1A4A1A1V4 Current Balancing Resistor Figure 5-31
1A4A1A1R29		Same as 1A4A1A1R6	1A4A1A1V3 Parasitic Suppressor Figure 5-31
1A4A1A1TB1		TERMINAL BOARD: 8 terminal; barrier type; MIL-T-55164 type 41TB8	Interconnection Figure 5-30
1A4A1A1TB2		TERMINAL BOARD: 32 terminals; plastic; 28527 part no. 1088002G1	Component Mounting Figure 5-31
1A4A1A1TP1		JACK TIP: low voltage, red insulator; MIL-C-39024 type M39024/10-02	+500 Volt Input Test Point Figure 5-30
1A4A1A1TP2		JACK TIP: low voltage, yellow insulator; MIL-C-39024 type M39024-10-08	1A4A1A1V1 Current Monitoring Figure 5-30
1A4A1A1TP3		Same as 1A4A1A1TP2	1A4A1A1V1 Current Monitoring Figure 5-30
1A4A1A1TP4		Same as 1A4A1A1TP2	1A4A1A1V2 Current Monitoring Figure 5-30
1A4A1A1TP5		Same as 1A4A1A1TP2	1A4A1A1V2 Current Monitoring Figure 5-30
1A4A1A1TP6		Same as 1A4A1A1TP2	1A4A1A1V3 Current Monitoring Figure 5-30
1A4A1A1TP7		Same as 1A4A1A1TP2	1A4A1A1V3 Current Monitoring Figure 5-31
1A4A1A1TP8		Same as 1A4A1A1TP1	+250 Volt Output Voltage Test Point Figure 5-30
1A4A1A1T1		TRANSFORMER, POWER, STEP-DOWN: primary 208 volts, 50/60 Hz ± 10%, secondary 6.3v at 17 amps; 28527 part no. 1087693G1	Filament Voltage Figure 5-30

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY, PP-7304/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A1A1V1		ELECTRON TUBE: dual power triode; MIL-E-1 type JAN6336B	Series Regulator Tube Figure 5-30
1A4A1A1V2		Not used	
1A4A1A1V3		Not used	
1A4A1A1V4		ELECTRON TUBE: dual triode; MIL-E-1 type JAN5751	Control Tube Figure 5-31
1A4A1A1V5		ELECTRON TUBE: MIL-E-1 type JAN5651WA	Voltage Reference Tube Figure 5-31
1A4A1A1XV1 thru 1A4A1A1XV3		SOCKET, ELECTRON TUBE: octal, MIL-S-12883 type M12883/01-04	Tube Socket Figure 5-31
1A4A1A1XV4		SOCKET, ELECTRON TUBE: noval; MIL-S-12883 type M12883/03-01	Tube Socket Figure 5-31
1A4A1A1XV5		SOCKET, ELECTRON TUBE: octal MIL-S-12883 type M12883/02-01	Tube Socket Figure 5-31
CONTROL, OSCILLOSCOPE, C-4558A/FPN-44			
1A4A3		CONTROL, OSCILLOSCOPE, C-4558A/FPN-44: provides circuitry in the Low Power Transmitters to select signals to be visually displayed on the associated oscilloscope; 28527 part no. 1087795G3	Oscilloscope Control Figure 5-19
1A4A3C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf ± 10% 100 vdc; MIL-C-25 type CP11A3KB105K3	-12 Volt Bypass Figure 5-33
1A4A3C2		Same as 1A4A3C1	-28 Volt Bypass Figure 5-33
1A4A3C3		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.47 uf ± 10%, 400 vdc; MIL-C-25 type CP11A3KE474K3	250 Volt Bypass Figure 5-33
1A4A3F1		FUSE, CARTRIDGE: 0.5 amp, 250 volt; MIL-F-15160 type F02B250V1/2AS	-28 Volt Rect. Transformer Primary Figure 5-32
1A4A3J1		CONNECTOR, RECEPTACLE, ELECTRICAL: 35 contacts; 97525 type 7008-35-5-4-11; 28527 part no. 2311101G4	Drawer Interconnect Figure 5-33
1A4A3J2		Same as 1A4A3J1	Drawer Interconnect Figure 5-33
1A4A3J3		CONNECTOR, RECEPTACLE, ELECTRICAL: 1 contact; MIL-C-39012 type no. M39012/21-0001	Monitored Circuit Output Figure 5-32
1A4A3J4		Same as 1A4A3J3	Selected Trigger Output Figure 5-32
1A4A3J5		CONNECTOR, RECEPTACLE, ELECTRICAL: 86 contacts; 00779 part no. 67015-6	1A4A3A2 Interconnection Figure 5-33

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

CONTROL, OSCILLOSCOPE, C-4558A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A3M1		AMMETER: 0 to 5 ma; 50 equal divisions; 2.695 in. od; 28527 part no. 2311391G1	Low Voltage Indicator Figure 5-32
1A4A3P1		CONNECTOR, PLUG, ELECTRICAL: 10 contact positions; 71785 part no. 250-10-30-170	1A4A3S3 Interconnection Figure 5-33
1A4A3R1		RESISTOR, FIXED, WIREWOUND: 499K ohms ± 1%, 3/4 watt; MIL-R-93 type RB18CE49902F	+250 Volt Multiplier Figure 5-33
1A4A3R2		RESISTOR, FIXED, WIREWOUND: 24.9K ohms ± 1%, 1/4 watt; MIL-R-93 type RB08CE24901F	-12 Volt Multiplier Figure 5-33
1A4A4R3		RESISTOR, FIXED, WIREWOUND: 49.9K ohms ± 1%, 1/4 watt; MIL-R-93 type RB08CE49901F	-28 Volt Multiplier Figure 5-33
1A4A3R4		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G103JS	-250 Volt Multiplier Figure 5-33
1A4A3S1		SWITCH, ROTARY: 3 pole, 15 position, 3 section, non-shorting; 28527 part no. 1088044G1	Oscilloscope Circuit Selector Figure 5-32
1A4A3S1A		SWITCH SECTION, ROTARY: contacts brass, silver plated, non-shorting; 28527 part no. 1088044G2	Part of 1A4A3S1 Figure 5-33
1A4A3S1B		Same as 1A4A3S1A	Part of 1A4A3S1 Figure 5-33
1A4A3S1C		Same as 1A4A3S1A	Part of 1A4A3S1 Figure 5-33
1A4A3S2		SWITCH, ROTARY: 2 pole, 4 position, 1 section, non-shorting 76854 type 399371FCNONSHORTING; 28527 part no. 2310966G6	Meter Selector Figure 5-32
1A4A3S3		SWITCH, ROTARY: thumbwheel, 10 position, dial 0-9, nines complement binary coded decimal; 07126 part no. 19027-1	Pulse Selector Figure 5-32
1A4A3S4		SWITCH, ROTARY: 3 position, 3 pole, 1 section, non-shorting; 76854 part no. 399375FC; 28527 part no. 2310966G10	Mode Selector Figure 5-32
1A4A3XF1		FUSEHOLDER: MIL-F-19207 type FHL17G	1A4A3F1 Holder Figure 5-32
1A4A3A1		POWER SUPPLY: furnishes -12 and -28 volt supply to the Control Oscilloscope Unit 1A4A3; 28527 part no. 1088103G1	Power Supply Figure 5-33
1A4A3A1CR1		SEMICONDUCTOR DEVICE, DIODE: MIL-S-19500 type JAN1N1614	-28.0 Volt Supply Figure 5-34
1A4A3A1CR2		Same as 1A4A3A1CR1	-28.0 Volt Supply Figure 5-34
1A4A3A1CR3		Same as 1A4A3A1CR1	-28.0 Volt Supply Figure 5-34
1A4A3A1CR4		Same as 1A4A3A1CR1	-28.0 Volt Supply Figure 5-34
1A4A3A1CR5		SEMICONDUCTOR DEVICE, DIODE: MIL-S-19500 type 1N2976B	-12 Volt Regulator Figure 5-34

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

CONTROL, OSCILLOSCOPE, C-4558A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A3A1C1		CAPACITOR, FIXED, ELECTROLYTIC: 400 uf + 150% -10%, 100 vdc; MIL-C-62 type CE51C401H	-28.0 Volt Filter Figure 5-34
1A4A3A1C2		Same as 1A4A3A1C1	-28.0 Volt Filter Figure 5-34
1A4A3A1C3		Same as 1A4A3A1C1	-28.0 Volt Filter Figure 5-34
1A4A3A1L1		REACTOR: 0.08 hy at 2 amps and 0.82 hy at 0.2 amps, 2 ohms dc res; 28527 part no. 2311918G1	-28.0 Volt Filter Figure 5-34
1A4A3A1R1		RESISTOR, FIXED, WIREWOUND: 91 ohms ± 5%, 14 watts; MIL-R-26 type RW56V910	-12.0 Volt Dropping Figure 5-34
1A4A3A1TB1		TERMINAL BOARD: 8 terminals, barrier type; MIL-T-55164 type 41TB8	Interconnection Figure 5-34
1A4A3A1T1		TRANSFORMER, POWER, STEP-DOWN: input 115 volts, 45/66 Hz, output 32 volts at 3 amp; 28527 part no. 2311985G1	-28.0 Volt Power Transformer Figure 5-34
1A4A3A1XC1 thru 1A4A3A1XC3		SOCKET, ELECTRON TUBE: octal, MIL-S-12883 type M12883/01-03	Capacitor Socket Figure 5-34
1A4A3A2		TRIGGER SELECTOR: provides the Control Oscilloscope Unit 1A4A3 with the proper selected signals to be visually displayed on Oscilloscope; provides drive to Bias Pedestal Generator 1A4A5: 04624 part no. W0725/IB/TB/BPD	Trigger Selector/ Bias Pedestal Driver Figure 5-33

All data on pages 7-30 and 7-31 deleted.

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

CONTROL, OSCILLOSCOPE, C-4558A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
POWER SUPPLY 1092037G1			
1A4A4		POWER SUPPLY: 120v input, 350 vdc at 0.5 amp output; 28527 part no. 1092037G1	Bias Pedestal Figure 5-28
1A4A4CR1 thru 1A4A4CR4		SEMICONDUCTOR DEVICE, DIODE: silicon; MIL-S-19500 type JAN1N547	Rectifier Figure 5-38
1A4A4C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.015 uf ± 10%, 1000 vdc; MIL-C-25 type CP05A1KG153K3	Suppressor Figure 5-38
1A4A4C2 thru 1A4A4C5		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.01 uf ± 10%, 600 vdc; MIL-C-25 type CP09A1KF103K3	Bypass Figure 5-38
1A4A4C6		CAPACITOR, FIXED, ELECTROLYTIC: 80 uf -10 +50%, 450 vdc; MIL-C-62 type CE51C800R	Filter Figure 5-37
1A4A4C7		Same as 1A4A4C6	Filter Figure 5-37
1A4A4L1		REACTOR: 1.0 hy at 0.6 amp dc, 37 ohms dc resistance, 750 peak working voltage; 28527 part no. 1088485G1	Filter Figure 5-37
1A4A4R1		RESISTOR, FIXED, COMPOSITION: 1K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G102JS	Suppressor Figure 5-38
1A4A4R2		RESISTOR, FIXED, WIREWOUND: 2000 ohms ± 5%, 113 watts; MIL-R-26 type RW37V202	Bleeder Figure 5-37
1A4A4T1		TRANSFORMER, POWER, STEP-UP: primary 114v, 120v, 126v, 45 to 66 Hz, secondary 375v at 0.6 amp dc; 28527 part no. 1088488G1	Plate Supply Figure 5-37

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY 1092037G1

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A4T2		TRANSFORMER, POWER, STEPDOWN: primary 105.6v, 112.8v, 120v, 127.2v, secondary 6.3v at 10 amps; 28527 part no. 2312375G1	Filament Supply Figure 5-37
1A4A4TB1		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 17TB10	Connecting Figure 5-37
1A4A4TB2		TERMINAL BOARD: plastic 28527 part no. 1092041G1	Component Mounting Figure 5-38
1A4A4XC1 thru 1A4A4XC5		Not used	
1A4A4XC6		SOCKET, ELECTRON TUBE: octal; MIL-S-12883 type MI2883/01-03	1A4A4C6 Socket Figure 5-38
1A4A4XC7		Same as 1A4A4XC6	1A4A4C7 Socket Figure 5-38
GENERATOR, BIAS PEDESTAL			
1A4A5		GENERATOR, BIAS PEDESTAL: 350 vdc at 0.5 amp operating power requirement; 28527 part no. 1092036G1	Generate Bias Pedestal Figure 5-27
1A4A5A1		Not used	
1A4A5CR1 thru 1A4A5CR10		SEMICONDUCTOR DEVICE, DIODE: silicon; MIL-S-19500 type JAN1N547	Clipping Figure 5-40
1A4A5C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.033 uf ± 10%, 200 vdc; MIL-C-25 type CP08A1KC333K1	1A4A5A1 Time Constant Figure 5-40
1A4A5C2		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf ± 10%, 600 vdc; MIL-C-25 type CP91B1EF105K1	1A4A5V1 Coupling Figure 5-39
1A4A5C3		Same as 1A4A5C2	1A4A5V2 Screen Bypass Figure 5-39
1A4A5C4		Same as 1A4A5C2	1A4A5V2 Coupling Figure 5-39
1A4A5C5		CAPACITOR, FIXED, ELECTROLYTIC: 350 uf -10 +50%, 450 vdc; 24446 part no. 43F3079CA4	1A4A5V3 Plate Storage Figure 5-39
1A4A5C6		CAPACITOR, FIXED, ELECTROLYTIC: 82 uf -10 +50%, 450 vdc; MIL-C-62 tyep CE56C820R	Bias Decoupling Figure 5-39
1A4A5C7		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf ± 10%, 1500 vdc; MIL-C-25 type CP70B1EH105K1	Clipping Bias Filter Figure 5-39
1A4A5C8		CAPACITOR, FIXED, PAPER DIELECTRIC: 8.0 uf ± 10% 600 vdc; MIL-C-25 type CP70E1EF805K1	Clipping Bias Filter Figure 5-39

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

GENERATOR, BIAS PEDESTAL

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A5C9		Same as 1A4A5C8	Clipping Bias Filter Figure 5-39
1A4A5C10		Same as 1A4A5C1	1A4A5A1 Trigger Coupling Figure 5-40
1A4A5C11		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.1 uf ± 20%, 400 vdc; MIL-C-11693 type CZ24BKE104	+250V Filter Figure 5-39
1A4A5C12		Same as 1A4A5C11	-12V Filter Figure 5-39
1A4A5C13		Same as 1A4A5C11	-150V Filter Figure 5-39
1A4A5C14		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.25 uf ± 10%, 400 vdc; MIL-C-25 type CP54B1KE254K1	1A4A5A1 Time Constant Figure 5-40
1A4A5C15		Same as 1A4A5C1	1A4A5A1 Time Constant Figure 5-40
1A4A5C16		CAPACITOR, FIXED, ELECTROLYTIC: 470 uf + 50% -10%, 350 vdc; MIL-C-62 type CE71C471P	Filter Figure 5-39
1A4A5J1		CONNECTOR, RECEPTACLE, ELECTRICAL: 1 contact; MIL-C-3608 type UG1094AU	Trigger Input Figure 5-39
1A4A5L1		CHOKE, RADIO FREQUENCY: 470 uh inductance, 17 ohms dc resistance, 170 ma current rating; MIL-C-15305 type MS21380-33	+250V Filter Figure 5-39
1A4A5L2		Same as 1A4A5L1	-12V Filter Figure 5-39
1A4A5L3		Same as 1A4A5L1	-150V Filter Figure 5-39
1A4A5R1		Not used	
1A4A5R2		RESISTOR, FIXED, COMPOSITION: 100K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G104JS	1A4A5V1 Grid Leak Figure 5-40
1A4A5R3		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G101JS	1A4A5V1 Grid Limiting Figure 5-40
1A4A5R4		RESISTOR, FIXED, COMPOSITION: 6.2K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G622JS	1A4A5V1 Grid Load Figure 5-40
1A4A5R5		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G100JS	1A4A5V1 Plate Suppressor Figure 5-40
1A4A5R6		Same as 1A4A5R3	1A4A5V1 Cathode Figure 5-40
1A4A5R7		RESISTOR, FIXED, COMPOSITION: 220K ohms ± 5%, 1/2 watt; MIL-39008 type RCR20G224JS	1A4A5V2 Grid Leak Figure 5-40

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

GENERATOR, BIAS PEDESTAL

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A5R8 thru 1A4A5R9		Not used	
1A4A5R10		RESISTOR, FIXED, WIREWOUND: 10K ohms ± 5%, 14 watts; 28527 part no. 535188H103	1A4A5V2 Plate Load Figure 5-40
1A4A5R11		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G100JS	1A4A5V2 Plate Suppressor Figure 5-40
1A4A5R12		Same as 1A4A5R5	1A4A5V2 Cathode Figure 5-40
1A4A5R13		RESISTOR, FIXED, COMPOSITION: 24K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G243JS	1A4A5V2 Screen Dropping Figure 5-40
1A4A5R14		RESISTOR, VARIABLE: composition, 100K ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA104A	Level Adjust Figure 5-19
1A4A5R15		RESISTOR, FIXED, WIREWOUND: 200 ohms ± 5%, 63 watts; MIL-R-26 type RW24V201	1A4A5V3 Plate Charging Figure 5-39
1A4A5R16		RESISTOR, FIXED, COMPOSITION: 180 ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G181JS	1A4A5V3 Grid Suppressor Figure 5-40
1A4A5R17		Same as 1A4A5R16	1A4A5V3 Grid Suppressor Figure 5-40
1A4A5R18 thru 1A4A5R22		RESISTOR, FIXED, COMPOSITION: 1 megohm ± 5%, 1/2 watt; MIL-R-39008 type RCR20G105JS	Diode Voltage Equalizing Figure 5-40
1A4A5R23		RESISTOR, FIXED, COMPOSITION: 100K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G104JS	Diode Clipping Bias Figure 5-40
1A4A5R24		Same as 1A4A5R23	Diode Clipping Bias Figure 5-40
1A4A5R25 thru 1A4A5R29		Same as 1A4A5R18	Diode Voltage Equalizing Figure 5-40
1A4A5R30		Not used	
1A4A5R31		RESISTOR, VARIABLE: composition, 5K ohms ± 5%, 2 watts; MIL-R-94 type RV4LAYSA502A	Negative Clipping Adjust Figure 5-19
1A4A5R32		RESISTOR, VARIABLE: composition, 100K ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA104A	Positive Clipping Adjust Figure 5-19
1A4A5R33		Not used	
1A4A5R34		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G103JS	Bias Decoupling Figure 5-40
1A4A5R35		RESISTOR, FIXED, WIREWOUND: 10 ohms ± 5%, 7 watts; MIL-R-26 type RW55V100	1A4A5V3 Cathode Suppressor Figure 5-40

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

GENERATOR, BIAS PEDESTAL

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A4A5S1		SWITCH, TOGGLE: spdt; 96906 part no. MS35058-23	Pulse Spacing Selector Figure 5-39
1A4A5TB1		TERMINAL BOARD: 10 terminals; MIL-T-55164 type 17TB10	Connecting Figure 5-39
1A4A5TB2		TERMINAL BOARD: plastic; 28527 part no. 1092053G1	Component Mounting Figure 5-40
1A4A5TB3		TERMINAL BOARD: plastic; 28527 part no. 1092054G1	Component Mounting Figure 5-40
1A4A5TB4		TERMINAL BOARD: 6 terminals; MIL-T-55164 type 40TB6	Interconnection Figure 5-39
1A4A5T1		TRANSFORMER, POWER, STEPUP: primary 120v, secondary 2760v CT at 0.18 amp current rating; 28527 part no. 2210240G1	Pedestal Output Figure 5-39
1A4A5V1		ELECTRON TUBE: MIL-E-1 type JAN12AT7WC	Pulse Amplifier Figure 5-39
1A4A5V2		ELECTRON TUBE: MIL-E-1 type 6CL6	Pulse Amplifier Figure 5-39
1A4A5V3		ELECTRON TUBE: MIL-E-1 type JAN6336B	Cathode Follower Figure 5-39
1A4A5XA1		SOCKET, ELECTRON TUBE: 9 pin; MIL-S-12883 type M12883/03-01	1A4A5A1 Socket Figure 5-40
1A4A5XC1 thru 1A4A5XC5		Not used	
1A4A5XC6		SOCKET, ELECTRON TUBE: octal; MIL-S-12883 type M12883/01-03	1A4A5C6 Socket Figure 5-40
1A4A5XV1		Same as 1A4A5XA1	1A4A5V1 Socket Figure 5-40
1A4A5XV2		Same as 1A4A5XA1	1A4A5V2 Socket Figure 5-40
1A4A5XV3		Same as 1A4A5XC6	1A4A5V3 Socket Figure 5-40
AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44			
		AMPLIFIER RADIO FREQUENCY, AM-3774/FPN-44: Power amplifier in transmitting group. Includes Tank Coil 1A5, amplifier 1A6 and resistor assemblies 1A7 thru 1A10.	Power Amplifier Figures 5-17 and 5-18
1A5		POWER AMPLIFIER TANK COIL: 28527 part no. 1087450G1	RF Coupling Figure 5-18

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A5E1		CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 88 feet of no. 14 AWG insulated wire terminated at each end by a Corona shield; 28527 part no. 1089089G2	Primary Cable Figure 5-41
1A5E2		CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 88 feet of no. 14 AWG insulated wire terminated at each end by a Corona shield; 28527 part no. 1089089G3	Primary Cable Figure 5-41
1A5E3		CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 88.2 feet of no. 14 AWG insulated wire terminated at each end by a Corona shield; 28527 part no. 1089089G4	Primary Cable Figure 5-41
1A5E4		CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 88.2 feet of no. 14 AWG insulated wire terminated at each end by a Corona shield; 28527 part no. 1089089G5	Primary Cable Figure 5-41
1A5E5		CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 55 feet of no. 3/0 AWG insulated wire terminated at each end by a solder lug; 28527 part no. 1096261G1	Secondary Cable Figure 5-41
AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44			
1A6		AMPLIFIER, RADIO FREQUENCY: increases the power level of the Loran "C" pulse; 28527 part no. 1087441G1 and 1087441G3	RF Amplifier Figure 5-17
1A6C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 2 uf ± 5%, 21000 vdc; 28527 part no. 1087487G2	1A6V1 Plate By-Pass Figure 5-43
1A6C2		Same as 1A6C1	1A6V2 Plate By-Pass Figure 5-43
1A6C3 thru 1A6C6		CAPACITOR, FIXED, PAPER DIELECTRIC: 7 uf ± 5%, 21000 vdc; 28527 part no. 1087487G5	1A6V1 and 1A6V2 Plate Storage Figure 5-42
1A6C7 thru 1A6C10		CAPACITOR, FIXED, PAPER DIELECTRIC: 10 uf ± 10%, 2000 vdc; MIL-C-25 type CP72E1EJ106K1	1A6V1 and 1A6V2 Filament By-Pass And Grid Storage Figure 5-43
1A6C11		Same as 1A6C1	1A6V3 Plate By-Pass Figure 5-43
1A6C12		Same as 1A6C1	1A6V4 Plate By-Pass Figure 5-43
1A6C13		Same as 1A6C3	1A6V3 Plate Storage Figure 5-42
1A6C14		Same as 1A6C3	1A6V4 Plate Storage Figure 5-42

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6C15		Same as 1A6C3	1A5V3 Plate Storage Figure 5-42
1A6C16		Same as 1A6C3	1A6V4 Plate Storage Figure 5-42
1A6C17		Same as 1A6C7	1A6V3 Filament Bypass Figure 5-43
1A6C18		Same as 1A6C7	1A6V4 Filament Bypass Figure 5-43
1A6C19		Same as 1A6C7	1A6V3 Filament Bypass Figure 5-43
1A6C20		Same as 1A6C7	1A6V4 Filament Bypass Figure 5-43
1A6C21 thru 1A6C24		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.0105 uf ± 5%, 21000 vdc; 28527 part no. 1087669G1	Plate Tuning Figure 5-43
1A6E1 thru 1A6E4		SUPPRESSOR, PARASITIC: resistor and coil type; three 68 ohms ± 10%, 2 watt resistors in parallel around which a coil, 2 in. lg by 1 in. dia. with 18 turns of No. 12 solid bare copper wire is wound; 28527 part no. 1087567G1	1A6V1 to 1A6V4 Parasitic Suppressor Figure 5-42
1A6E5		SUPPRESSOR, PARASITIC: resistor and coil type; resistor 13 ohms ± 10%, 140 watts; coil 6 turns 0.375 in. od tubing, cadmium plated; 28527 part no. 1089179G2	Parasitic Suppressor Figure 5-43
1A6E5L1		COIL, RADIO FREQUENCY: 6 turns 0.375 in. od copper tubing, cadmium plated; 28527 part no. 1089181G1	1A6E5 Coil Figure 5-43
1A6E5R1		RESISTOR, FIXED, FILM: 13 ohms ± 10%, 140 watts; 28527 part no. 1087933G2	1A6E5 Resistor Figure 5-43
1A6E6		Same as 1A6E5	Parasitic Suppressor Figure 5-43
1A6E6L1		Same as 1A6E5L1	1A6E6 Coil Figure 5-43
1A6E6R1		Same as 1A6E5R1	1A6E6 Resistor Figure 5-43
1A6E7		Same as 1A6E5	Parasitic Suppressor Figure 5-43
1A6E7L1		Same as 1A6E5L1	1A6E7 Coil Figure 5-43
1A6E7R1		Same as 1A6E5R1	1A6E7 Resistor Figure 5-43
1A6E8		Same as 1A6E5	Parasitic Suppressor Figure 5-43

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6E8L1		Same as 1A6E5L1	1A6E8 Coil Figure 5-43
1A6E8R1		Same as 1A6E5R1	1A6E8 Resistor Figure 5-43
1A6E9 thru 1A6E10		Not used	
1A6E11 thru 1A6E12		INSULATOR, STANDOFF: 12 in. lg, 3.750 in. square base; 75539 part no. R9063H12; 28527 part no. 1087532G1	1A6V1 Water Jacket Support Figure 5-42
1A6E13 thru 1A6E14		Same as 1A6E11	1A6V2 Water Jacket Support Figure 5-42
1A6E15 thru 1A6E16		Same as 1A6E11	1A6V3 Water Jacket Support Figure 5-42
1A6E17 thru 1A6E18		Same as 1A6E11	1A6V4 Water Jacket Support Figure 5-42
1A6E19		PACKING, PREFORMED: 5.375 in. od, 4.875 in. id, 0.250 in. high, neoprene; 28527 part no. 1087496G1, item 5	1A6MP1 Packing Figure 5-42
1A6E20		Same as 1A6E19	1A6MP2 Packing Figure 5-42
1A6E21		Same as 1A6E19	1A6MP3 Packing Figure 5-42
1A6E22		Same as 1A6E19	1A6MP4 Packing Figure 5-42
1A6K1 thru 1A6K4		RELAY, ARMATURE: two spdt sensitive switches; 5 amps, 250 vdc; coil 24 vdc, 500 ohms; 71482 part no. W2-8018, type EMS; 28527 part no. 1087589G1	1A6V1 to 1A6V4 Overload Relay Figure 5-42
1A6MP1		WATER JACKET: 7.25 in. max od, 15.125 in. lg, 50 psi operating pressure; 28527 part no. 1087496G1	1A6V1 Water Jacket Figure 5-42
1A6MP2		Same as 1A6MP1	1A6V2 Water Jacket Figure 5-42
1A6MP3		Same as 1A6MP1	1A6V3 Water Jacket Figure 5-42
1A6MP4		Same as 1A6MP1	1A6V4 Water Jacket Figure 5-42
1A6MP5		RING, RETAINING: beveled, 6.125 id, cadmium plated; 28527 part no. 1087496G1	Retainer Ring Figure 5-42
1A6MP6		Same as 1A6MP5	Retainer Ring Figure 5-42

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6MP7		Same as 1A6MP5	Retainer Ring Figure 5-42
1A6MP8		Same as 1A6MP5	Retainer Ring Figure 5-42
1A6MP9 thru 1A6MP14		CONTACT, ELECTRICAL: 3/8-16NC2B internal thread, 1 in. knurled od, 1.125 in. cap id, copper; 28527 part no. 1087500G1	1A6V1 Contacts Figure 5-42
1A6MP15 thru 1A6MP20		Same as 1A6MP9	1A6V2 Contacts Figure 5-42
1A6MP21 thru 1A6MP26		Same as 1A6MP9	1A6V3 Contacts Figure 5-42
1A6MP27 thru 1A6MP32		Same as 1A6MP9	1A6V4 Contacts Figure 5-42
1A6MP33		HOSE ASSEMBLY, NONMETALLIC: 200 psi; 20 feet 4 in. long overall; 01276 part no. FA3491MMM2440; 28527 part no. 1096238G1	Water Insulation Figure 5-43
1A6MP33E1		NIPPLE ASSEMBLY: stainless steel; 01276 part no. FC8701-1616-10	1A6MP33 Nipple Figure 5-43
1A6MP33E2		ADAPTER, STRAIGHT, HOSE: stainless steel; 01276 part no. FC3583-16-10	1A6MP33 Adapter Figure 5-43
1A6MP33E3		HOSE, NONMETALLIC: 200 psi; 20 feet lg; 01276 part no. FC167-16-20 ft	1A6MP33 Hose Figure 5-43
1A6MP34		HOSE ASSEMBLY, NONMETALLIC: 200 psi; 15 feet 5 in. overall; 01276 part no. FA3491MMM1850; 28527 part no. 1096238G2	Water Insulation Figure 5-43
1A6MP34E1		Same as 1A6MP33E1	1A6MP34 Nipple Figure 5-43
1A6MP34E2		Same as 1A6MP33E2	1A6MP34 Adapter Figure 5-43
1A6MP34E3		HOSE, NONMETALLIC: 200 psi; 15 feet 1 in. lg; 01276 part no. FC167-16-15 ft 1 in.	1A6MP34 Hose Figure 5-43
1A6MP35		HOSE ASSEMBLY, NONMETALLIC: 200 psi; 4 feet 11 in. long overall; 01276 part no. FA3491MMM0590; 28527 part no. 1096238G3	Water Insulation Figure 5-43
1A6MP35E1		Same as 1A6MP33E1	1A6MP35 Nipple Figure 5-43
1A6MP35E2		Same as 1A6MP33E2	1A6MP35 Adapter Figure 5-43
1A6MP35E3		HOSE, NONMETALLIC: 200 psi; 4 feet 11 in. lg; 01276 part no. FC167-16-15 ft. 1 in.	1A6MP35 Hose Figure 5-43

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6MP36		Same as 1A6MP33	Water Insulation Figure 5-43
1A6MP36E1		Same as 1A6MP33E1	1A6MP36 Nipple Figure 5-43
1A6MP36E2		Same as 1A6MP33E2	1A6MP36 Adapter Figure 5-43
1A6MP36E3		Same as 1A6MP33E3	1A6MP36 Hose Figure 5-43
1A6MP37		Same as 1A6MP33	Water Insulation Figure 5-43
1A6MP37E1		Same as 1A6MP33E1	1A6MP37 Nipple Figure 5-43
1A6MP37E2		Same as 1A6MP33E2	1A6MP37 Adapter Figure 5-43
1A6MP37E3		Same as 1A6MP33E3	1A6MP37 Hose Figure 5-43
1A6MP38		Same as 1A6MP33	Water Insulation Figure 5-43
1A6MP38E1		Same as 1A6MP33E1	1A6MP38 Nipple Figure 5-43
1A6MP38E2		Same as 1A6MP33E2	1A6MP38 Adapter Figure 5-43
1A6MP38E3		Same as 1A6MP33E3	1A6MP38 Hose Figure 5-43
1A6MP39		Same as 1A6MP33	Water Insulation Figure 5-43
1A6MP39E1		Same as 1A6MP33E1	1A6MP39 Nipple Figure 5-43
1A6MP39E2		Same as 1A6MP33E2	1A6MP39 Adapter Figure 5-43
1A6MP39E3		Same as 1A6MP33E3	1A6MP39 Hose Figure 5-43
1A6MP40		Same as 1A6MP33	Water Insulation Figure 5-43
1A6MP40E1		Same as 1A6MP33E1	1A6MP40 Nipple Figure 5-43
1A6MP40E2		Same as 1A6MP33E2	1A6MP40 Adapter Figure 5-43
1A6MP40E3		Same as 1A6MP33E3	1A6MP40 Hose Figure 5-43
1A6MP41		Same as 1A6MP33	Water Insulation Figure 5-43
1A6MP41E1		Same as 1A6MP33E1	1A6MP41 Nipple Figure 5-43
1A6MP41E2		Same as 1A6MP33E2	1A6MP41 Adapter Figure 5-43
1A6MP41E3		Same as 1A6MP33E3	1A6MP41 Hose Figure 5-43
1A6MP42		ELBOW, HOSE: 1 5/16-12 UNF-2A thd each end; 01276 part no. FF5260-1616C; 28527 part no. 1096240G1	Hose Connection Figure 5-42

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6MP43 thru 1A6MP44		Not used	
1A6MP45		VALVE, GATE: 1 in. NPT, 125 psi test pressure; 14959 part no. 438-1; 28527 part no. 1087651G1	Gate Valve Figure 5-42
1A6MP46		Same as 1A6MP45	Gate Valve Figure 5-42
1A6MP47		Same as 1A6MP45	Gate Valve Figure 5-42
1A6MP48		Same as 1A6MP45	Gate Valve Figure 5-42
1A6MP49		Same as 1A6MP45	Gate Valve Figure 5-42
1A6MP50		Same as 1A6MP45	Gate Valve Figure 5-42
1A6MP51		Same as 1A6MP45	Gate Valve Figure 5-42
1A6MP52		Same as 1A6MP45	Gate Valve Figure 5-42
1A6M1 thru 1A6M4		AMMETER: dc, 0-3 amp, full scale; MIL-M-10304 type MR36W003DCAAR	1A6V1 to 1A6V4 Cathode Current Figure 5-42
1A6M5		AMMETER: dc, 0-1 ma, full scale; MIL-M 10304 type MR36W001DCMAR	Water Conduction Indicator Figure 5-42
1A6RV1		RECTIFIER, METALLIC: four parallel discs, each disc 3 in. dia by 0.13 in. thick, 1/2 in. center mounting hole; 28527 part no. 1097568G5	1A6V1 Cathode Circuit Protector Figure 5-42
1A6RV1E1		PLATE, THYRITE: brass irregular shape, 0.125 in. by 3.500 in. by 7.250 in.; 28527 part no. 1087628G6	1A6RV1 Thyrite Plate Figure 5-42
1A6RV1E2		PLATE, CONNECTING: copper, irregular shape, 0.031 in. by 3.00 in. by 3.00 in.; 28527 part no. 1087620G1	1A6RV1 Connecting Plate Figure 5-42
1A6RV1E3		DISC, THYRITE: 1 ma ± 15% at 20v, 25 ma ± 15% at 44v, 30 watts; 50157 part no. 67W30000; 28527 part no. 1087587G1	1A6RV1 Disc Thyrite Figure 5-42
1A6RV2		Same as 1A6RV1	1A6V2 Cathode Circuit Protector Figure 5-42
1A6RV2E1		Same as 1A6RV1E1	1A6RV2 Thyrite Plate Figure 5-42

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6RV2E2		Same as 1A6RV1E2	1A6RV2 Connecting Plate Figure 5-42
1A6RV2E3		Same as 1A6RV1E3	1A6RV2 Disc Thyrite Figure 5-42
1A6RV3		RECTIFIER, METALLIC: four parallel discs with one thyrite plate; 28527 part no. 1087568G6	1A6V1 Cathode Circuit Protector Figure 5-42
1A6RV3E1		PLATE, THYRITE: brass, irregular shape, 0.125 in. by 3.500 in. by 7.250 in.; 28527 part no. 1087628G5	1A6RV3 Thyrite Plate Figure 5-42
1A6RV3E2		Same as 1A6RV1E2	1A6RV3 Connecting Plate Figure 5-42
1A6RV3E3		Same as 1A6RV1E3	1A6RV3 Disc Thyrite Figure 5-42
1A6RV4		Same as 1A6RV3	1A6V2 Cathode Circuit Protector Figure 5-42
1A6RV4E1		Same as 1A6RV3E1	1A6RV4 Thyrite Plate Figure 5-42
1A6RV4E2		Same as 1A6RV1E2	1A6RV4 Connecting Plate Figure 5-42
1A6RV4E3		Same as 1A6RV1E3	1A6RV4 Disc Thyrite Figure 5-42
1A6RV5		RECTIFIER, METALLIC: four parallel discs with one thyrite plate; 28527 part no. 1087568G7	1A6V3 Cathode Circuit Protector Figure 5-42
1A6RV5E1		PLATE, THYRITE: brass, irregular shape, 0.125 in. by 3.500 in. by 7.250 in; 28527 part no. 1087628G4	1A6RV5 Thyrite Plate Figure 5-42
1A6RV5E2		Same as 1A6RV1E2	1A6RV5 Connecting Plate Figure 5-42
1A6RV5E3		Same as 1A6RV1E3	1A6RV5 Disc Thyrite Figure 5-42
1A6RV6		Same as 1A6RV5	1A6RV4 Cathode Circuit Protector Figure 5-42
1A6RV6E1		Same as 1A6RV3E1	1A6RV6 Thyrite Plate Figure 5-42
1A6RV6E2		Same as 1A6RV1E2	1A6RV6 Connecting Plate Figure 5-42

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6RV6E3		Same as 1A6RV1E3	1A6RV6 Disc Thyrite Figure 5-42
1A6RV7		RECTIFIER, METALLIC: four parallel discs with one thyrite plate; 28527 part no. 1087568G8	1A6V3 Cathode Circuit Protector Figure 5-42
1A6RV7E1		PLATE, THYRITE: brass, irregular shape, 0.125 in. by 3.500 in. by 7.250 in; 28527 part no. 1087628G3	1A6RV7 Thyrite Plate Figure 5-42
1A6RV7E2		Same as 1A6RV1E2	1A6RV7 Connecting Plate Figure 5-42
1A6RV7E3		Same as 1A6RV1E2	1A6RV7 Disc Thyrite Figure 5-42
1A6RV8		Same as 1A6RV7	1A6V4 Cathode Circuit Protector Figure 5-42
1A6RV8E1		Same as 1A6RV1E1	1A6RV8 Thyrite Plate Figure 5-42
1A6RV8E2		Same as 1A6RV1E2	1A6RV8 Connecting Plate Figure 5-42
1A6RV8E3		Same as 1A6RV1E3	1A6RV8 Disc Thyrite Figure 5-42
1A6R1		RESISTOR, FIXED, COMPOSITION: 600 ohms ± 10%, 180 watts; 72819 part no. 779SP006; 28527 part no. 1087590G1	1A6V1 and 1A6V3 Grid Swamping Figure 5-42
1A6R2		Same as 1A6R1	1A6V2 and 1A6V4 Grid Swamping Figure 5-42
1A6R3		Not used	
1A6R4		Not used	
1A6R5		RESISTOR, FIXED, COMPOSITION: 2.5 ohms ± 10%, 140 watts; 72819 part no. SP140-2R5K; 28527 part no. 1087933G1	1A6V1 Plate By-Pass Decoupling Figure 5-43
1A6R6		Same as 1A6R5	1A6V2 Plate By-Pass Decoupling Figure 5-43
1A6R7 thru 1A6R10		RESISTOR, FIXED, COMPOSITION: 1 ohm ± 20%, 50 watts; 72819 part no. 778SP004; 28527 part no. 1087590G2	1A6V1 and 1A6V2 RF Ballancing Figure 5-42
1A6R11 thru 1A6R14		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 10%, 30 watts; 72819 part no. 218SP007; 28527 part no. 1087590G5	1A6V1 and 1A6V2 DC Balancing Figure 5-42
1A6R15		RESISTOR, VARIABLE: composition, 750 ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA751A	1A6V1 Overload Relay Control Figure 5-42

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6R16		Same as 1A6R15	1A6V2 Overload Relay Control Figure 5-42
1A6R17		RESISTOR, FIXED, COMPOSITION: 14 ohms ± 10%, 30 watts; 72819 part no. 218SP006; 28527 part no. 1087590G6	1A6V1 Overload Relay Shunt Figure 5-42
1A6R18		Same as 1A6R17	1A6V2 Overload Relay Shunt Figure 5-42
1A6R19 thru 1A6R22		Not used	
1A6R23		Same as 1A6R5	1A6V3 Plate By-Pass Decoupling Figure 5-43
1A6R24		Same as 1A6R5	1A6V4 Plate By-Pass Decoupling Figure 5-43
1A6R25 thru 1A6R28		Same as 1A6R7	1A6V3 and 1A6V4 RF Current Balancing Figure 5-42
1A6R29 thru 1A6R32		Same as 1A6R11	1A6V3 and 1A6V4 DC Balancing Figure 5-42
1A6R33		Same as 1A6R15	1A6V3 Overload Relay Control Figure 5-42
1A6R34		Same as 1A6R15	1A6V4 Overload Relay Control Figure 5-42
1A6R35		Same as 1A6R17	1A6V3 Overload Relay Shunt Figure 5-42
1A6R36		Same as 1A6R17	1A6V4 Overload Relay Shunt Figure 5-42
1A6R37 thru 1A6R38		Same as 1A6R1	Grid Swamping Figure 5-42
1A6R39 thru 1A6R40		Not used	
1A6R41		Same as 1A6R5	1A6V1 Plate By-Pass Decoupling Figure 5-43
1A6R42		Same as 1A6R5	1A6V2 Plate By-Pass Decoupling Figure 5-43

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A6R43		Same as 1A6R5	1A6V3 Plate By-Pass Decoupling Figure 5-43
1A6R44		Same as 1A6R5	1A6V4 Plate By-Pass Decoupling Figure 5-43
1A6S1 thru 1A6S4		SWITCH, FLOW: 75 psi; 20 gpm; 2 to 20 gpm scale range; 22375 part no. 10A2235-0A; 28527 part no. 1087552G1	1A6V1 to 1A6V4 Flow Rate Alarm Switch Figure 5-42
1A6S5 thru 1A6S9		SWITCH, THERMOSTATIC: 0 to 100 deg c scale; vapor actuated; 115 vac; 61349 part no. 3063; 28527 part no. 1087569G1	Temperature Switch Figure 5-42
1A6TB1		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnecting Figure 5-43
1A6TB2		Same as 1A6TB1	Interconnecting Figure 5-43
1A6TB3 thru 1A6TB7		TERMINAL BOARD: 6 terminals, barrier type; MIL-T-55164 type 8TB6	Interconnecting Figure 5-43
1A6TY1		SPARK GAP: protective spark gap; one 1/2 in. dia sphere with 9/16 in. lg no. 8-32 mounting stud; one 1/2 in dia sphere with 1-1/8 in. lg no. 8-32 mounting stud; 28527 part no. 1087623G1	1A6V1 and 1A6V3 Grid Protector Figure 5-42
1A6TY2		Same as 1A6TY1	1A6V2 and 1A6V4 Grid Protector Figure 5-42
1A6T1 thru 1A6T4		TRANSFORMER, POWER, STEP-DOWN: 208v input; output 12.7v, 292 amps, 13.2v, 302 amps, 13.7v, 312 amps; 28527 part no. 1087492G1	1A6V1 and 1A6V4 Filament Transformer Figure 5-43
1A6V1 thru 1A6V4		ELECTRON TUBE: pulse triode; 20948 part no. F1086; 28527 part no. 1096250G1	Power Amplifier Figure 5-42
RESISTOR ASSEMBLY, TRANSMITTER NO. 1			
1A7		RESISTOR ASSEMBLY, TRANSMITTER NO. 1: resistors in banks of 8 to limit current to plate storage capacitors in Amplifier RF Unit 1A6; 28527 part no. 1087447G1	Current Limiting Figure 5-17
1A7R1 thru 1A7R8		RESISTOR, FIXED, COMPOSITION: 250 ohms ± 10%, 250 watts; 72819 part no. 779SP005; 28527 part no. 1087590G4	Current Limiting Figure 5-44
1A7MP1 thru 1A7MP5		INSULATOR, STANDOFF: steatite, 7 in. lg overall; 75539 part no. 24229D7; 28527 part no. 1087632G1	Resistor Mounting Figure 5-44
1A8		Same as 1A7	Current Limiting Figure 5-17

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

AMPLIFIER, RADIO FREQUENCY, AM-3774/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A9		Same as 1A7	Current Limiting Figure 5-17
1A10		Same as 1A7	Current Limiting Figure 5-17
RESISTOR ASSEMBLY, TRANSMITTER NO. 2			
1A7		RESISTOR ASSEMBLY, TRANSMITTER NO. 2: resistors in banks of 8 to limit current to plate storage capacitors in Amplifier RF Unit 1A6; 28527 part no. 1087447G2	Current Limiting Figure 5-17
1A7R1 thru 1A7R8		RESISTOR, FIXED, COMPOSITION: 250 ohms ± 10%, 250 watts; 72819 part no. 779SP005; 28527 part no. 1087590G4	Current Limiting Figure 5-45
1A7MP1 thru 1A7MP5		INSULATOR, STANDOFF: steatite, 7 in. lg overall; 75539 part no. 24229D7; 28527 part no. 1087632G1	Resistor Mounting Figure 5-45
1A8		Same as 1A7	Current Limiting Figure 5-17
1A9		Same as 1A7	Current Limiting Figure 5-17
1A10		Same as 1A7	Current Limiting Figure 5-17
RACK, ELECTRICAL EQUIPMENT, MT-2929/FPN-44			
1A11		RACK, ELECTRICAL EQUIPMENT, MT-2929/FPN-44: accepts input power and distributes it through switching and relay circuitry throughout the transmitter group; 28527 part no. 1088019G1	Power Distribution Figure 5-17
1A11F1 thru 1A11F3		Not used	
1A11F4 thru 1A11F6		FUSE, CARTRIDGE: 15 amps, 500v; MIL-F-15160 type F60C500V15AS	IPA Blower Figure 5-46
1A11F7 thru 1A11F9		FUSE CARTRIDGE: 15 amps, 250v; 71424 part no. TRM15; 28527 part no. 2138525G1	Enclosure Fan Figure 5-46
1A11F10 thru 1A11F12		FUSE, CARTRIDGE: 80 amps, 250v; MIL-F-15160 type F19A250V80A	Water Pump Figure 5-46
1A11F13 thru 1A11F15		Same as 1A11F7	Dummy Load Fan Figure 5-46

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RACK, ELECTRICAL EQUIPMENT, MT-2929/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A11F16 thru 1A11F23		FUSE, CARTRIDGE: 25 amps, 250v; MIL-F-15160 type F15A250V25AS	Tube Filaments Figure 5-46
1A11HR1 thru 1A11HR3		HEATER, THERMAL RELEASE: 02295 part no. CR123C5.26A; 28527 part no. 1088278G3	Heater for 1A11K1 Thermal Cutout Figure 5-46
1A11HR4 thru 1A11HR6		HEATER, THERMAL RELEASE: 02295 part no. CR123C7.78A; 28527 part no. 1088278G5	Heater for 1A11K2 Thermal Cutout Figure 5-46
1A11HR7 thru 1A11HR9		HEATER, THERMAL RELEASE: 02295 part no. CR123C27.3B; 28527 part no. 1088278G6	Heater for 1A11K3 Thermal Cutout Figure 5-46
1A11J1		CONNECTOR, RECEPTACLE, ELECTRICAL: MIL-C-39012 type M39012/21-0001	Multipulse Input Figure 5-46
1A11J2		Same as 1A11J1	Scope Trigger Input Figure 5-46
1A11J3		Not used	
1A11J4		Not used	
1A11J5		CONNECTOR, RECEPTACLE, ELECTRICAL: 2 contacts MIL-C-3608 type UG422BU	Multipulse Input Figure 5-46
1A11K1		RELAY, ARMATURE: 120v ± 2%, 45-66 Hz; 24446 part no. CR106B002ADDMFP; 28527 part no. 1088028G1	2nd IPA Blower Motor Starter Figure 5-46
1A11K1E1		CONTACT SET, ELECTRICAL: motor starter, three poles; 28527 part no. 1088433G2	1A11K1 Contact Figure 5-46
1A11K1E2		COIL, RF: 120 vac, 45-66 Hz; 28527 part no. 1088433G1	1A11K1 Coil Figure 5-46
1A11K2		Same as 1A11K1	Enclosure Fan Motor Starter Figure 5-46
1A11K2E1		Same as 1A11K1E1	1A11K2 Contact Figure 5-46
1A11K2E2		Same as 1A11K1E2	1A11K2 Coil Figure 5-46
1A11K3		RELAY, ARMATURE: 120v ± 2%, 45-66 Hz; 24446 part no. CR106D002BACMFP; 28527 part no. 1088029G1	Water Pump Motor Starter Figure 5-46
1A11K3E1		CONTACT SET, ELECTRICAL: motor starter, 120 vac ± 2%, 45-66 Hz; 28527 part no. 1088434G2	1A11K3 Contact Figure 5-46
1A11K3E2		COIL, RF: 120 vac, 45-66 Hz; 28527 part no. 1088434G1	1A11K3 Coil Figure 5-46

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RACK, ELECTRICAL EQUIPMENT, MT-2929/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A11K4		RELAY, ARMATURE: 4 pdt; contact rating coil 115v, 45-66 Hz; contacts 5 amps at 30 vdc; 115 vac coil, plug-in type; 24446 part no. 3S2790G128A1; 28527 part no. 2311889G1	Not Used Figure 5-46
1A11R1 thru 1A11R3		RESISTOR, FIXED, COMPOSITION: 15K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G153JS	Indicator Common Figure 5-46
1A11R4 thru 1A11R23		RESISTOR, FIXED, COMPOSITION: 33K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G333JS	1A11F4 and 1A11F23 Limiter Figure 5-46
1A11R24 thru 1A11R26		Same as 1A11R1	Indicator Common Figure 5-46
1A11R27 thru 1A11R62		Not used	
1A11R63		Not used	
1A11R64		Not used	
1A11TB1 thru 1A11TB8		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-46
1A11TB9		Not used	
1A11TB10		TERMINAL BOARD: plastic; 30.74 in. lg by 19.75 in. w by 0.250 in thick; 28527 part no. 1088174G1	Component Mounting Figure 5-46
1A11XK1 thru 1A11XK3		Not used	
1A11XK4		SOCKET, RELAY: 14 terminals; 71785 part no. 203-62-14-017; 28527 part no. 2311506G1	1A11K4 Socket Figure 5-46
PANEL, INDICATOR, SB-1894A/FPN-44			
1A12		PANEL, INDICATOR, SB-1894A/FPN-44: performs a dual function of providing control and indicating facilities. It contains switches, resistors, indicating lights and meters; 28527 part no. 1088013G3	Controls and Indicates Figure 5-17
1A12C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.1 uf ± 10%, 600 vdc; MIL-C-25 type CP09A1KF104K3	1A12K17 Spark Suppression Figure 5-48
1A12DS1		LAMP, INCANDESCENT: 120v, 6 watts; 96906 part no. MS15567-1	Left 1st IPA Cathode Overload Figure 5-47

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

PANEL, INDICATOR, SB-1894/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A12DS2		Same as 1A12DS1	Right 1st IPA Cathode Overload Figure 5-47
1A12DS3		Same as 1A12DS1	Left PA Bias Overload Figure 5-47
1A12DS4		Same as 1A12DS1	Right PA Bias Overload Figure 5-47
1A12DS5		Not used	
1A12DS6		Not used	
1A12DS7		Same as 1A12DS1	Hot Water Inlet Figure 5-47
1A12DS8		Same as 1A12DS1	Hot Water Outlet Figure 5-47
1A12DS9		Same as 1A12DS1	Water Level Figure 5-47
1A12DS10		Same as 1A12DS1	Left PA Bias Undervoltage Figure 5-47
1A12DS11		Same as 1A12DS1	Right PA Bias Undervoltage Figure 5-47
1A12DS12		Same as 1A12DS1	Transmitter Standby Figure 5-47
1A12DS13		Same as 1A12DS1	Transmitter Operate Figure 5-47
1A12DS14 thru 1A12DS33		LAMP, GLOW: 120v, 0.04 watts; T3-1/4 bulb; MIL-L-15098 type M15098/10-002	Blown Fuse Indicator Figure 5-47
1A12DS34		Not used	
1A12DS35		Not used	
1A12K1 thru 1A12K4		RELAY, ARMATURE: dpdt, 26.5 vdc; 2 amp contacts; 71482 part no. RP7641G196; 28527 part no. 2311296G1	1A12DS1 to 1A12DS4 Control Figure 5-48
1A12K5 thru 1A12K6		Not used	
1A12K7 thru 1A12K9		Same as 1A12K1	1A12DS7 to 1A12DS9 Control Figure 5-48

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

PANEL, INDICATOR, SB-1894A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A12K10		RELAY, ARMATURE: 4 pdt, 115v coil, 45-66 Hz, 30v, 5 amps; plug-in type; 01526 part no. 3S2790G128A1; 28527 part no. 2311889G1	1A12K1 to 1A12K9 Reset Figure 5-48
1A12K11		Same as 1A12K1	Operate-Standby Figure 5-48
1A12K12		Same as 1A12K1	HV Interlock Figure 5-48
1A12K13		Same as 1A12K1	Transmitter Stop Relay Figure 5-48
1A12K14		Same as 1A12K10	1A12K13 Control Figure 5-48
1A12K15		Same as 1A12K10	HV Interlock Figure 5-48
1A12K16		Same as 1A12K10	Emergency Stop Figure 5-48
1A12K17		RELAY, THERMAL: spst, contacts rated 115 vac, 2 amps; coil 115v, 45 to 66 Hz; time delay 5 seconds; 70563 part no. 115N05T; 28527 part no. 1089186G1	Filament Disable Figure 5-48
1A12R1		RESISTOR, FIXED, COMPOSITION: 33K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G333JS	Current Limiting Figure 5-48
1A12S1		SWITCH, TOGGLE: 4 pdt; 96906 part no. MS25068-23	Local-Remote Figure 5-47
1A12TB1 thru 1A12TB8		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-48
1A12XDS1 thru 1A12XDS4		LAMPHOLDER: yellow lens; MIL-L-3661 type LH80/1LC21YD3	1A12DS1 to 1A12DS4 Holder Figure 5-47
1A12XDS5 thru 1A12XDS6		Not used	
1A12XDS7 thru 1A12XDS9		Same as 1A12XDS1	1A12DS7 to 1A12DS9 Holder Figure 5-47
1A12XDS1MP1 thru 1A12XDS1MP4		LENS: yellow; MIL-L-3661 type LC21YD3	1A12XDS1 thru 1A12XDS4 Lens Figure 5-47
1A12XDS5MP1 thru 1A12XDS6MP1		Not used	
1A12XDS7MP1 thru 1A12XDS9MP1		Same as 1A12XDS1MP1	1A12XDS7 to 1A12XDS9 Lens Figure 5-48
1A12XDS9		LAMPHOLDER: blue lens; MIL-L-3661 type LH80/1LC21BD3	1A12DS9 Holder Figure 5-47
1A12XDS9MP1		LENS: blue; MIL-L-3661 type LC21BD3	1A12XDS9 Lens Figure 5-47
1A12XDS10		LAMPHOLDER: green lens; MIL-L-3661 type LH80/1LC21GD3	1A12DS10 Holder Figure 5-47
1A12XDS10MP1		LENS: green; MIL-L-3661 type LC21GD3	1A12XDS10 Lens Figure 5-47

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

PANEL, INDICATOR, SB-1894A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A12XDS11		Same as 1A12XDS10	1A12DS11 Holder Figure 5-47
1A12XDS11MP1		Same as 1A12XDS10MP1	1A12XDS11 Lens Figure 5-47
1A12XDS12		LAMPHOLDER: red lens; MIL-L-3661 type LH80/1LC21RD3	1A12DS12 Holder Figure 5-47
1A12XDS12MP1		LENS: red; MIL-L-3661 type LC21RD3	1A12XDS12 Lens Figure 5-47
1A12XDS13		Same as 1A12XDS12	1A12DS13 Holder Figure 5-47
1A12XDS13MP1		Same as 1A12XDS12MP1	1A12XDS13 Lens Figure 5-47
1A12XDS14 thru 1A12XDS33		LAMPHOLDER: translucent lens; MIL-L-3661 type LH76/1LC14CD3	1A12DS14 to 1A12DS33 Holder Figure 5-47
1A12XDS14MP1 thru 1A12XDS33MP1		LENS: Clear; MIL-L-3661 type LC14CD3	1A12XDS14 thru 1A12XDS33 Lens Figure 5-47
1A12XK1 thru 1A12XK4		SOCKET, RELAY: 8 contacts; 91506 part no. 8009-1G18; 28527 part no. 2311372G1	1A12K1 to 1A12K4 Holder Figure 5-48
1A12XK5 thru 1A12XK6		Not Used	
1A12XK7 thru 1A12XK9		Same as 1A12XK1	1A12K7 thru 1A12K9 Holder Figure 5-48
1A12XK10		SOCKET, RELAY: 14 contacts; 71785 part no. 203-62-14-017; 28527 part no. 2311506G1	1A12K10 Holder Figure 5-48
1A12XK11 thru 1A12XK13		Same as 1A12XK1	1A12XK11 to 1A12XK13 Holder Figure 5-48
1A12XK14 thru 1A12XK16		Same as 1A12XK10	1A12XK14 thru 1A12XK16 Holder Figure 5-48
1A12XK17		SOCKET, RELAY: 9 contacts; MIL-S-12883 type M12883/03-01	1A12K17 Holder Figure 5-48

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

FILTER, LOW PASS

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A20		FILTER, LOW PASS: used to reduce the level of harmonic content in the radiated signal, U.S. Coast Guard field change No. 18	Harmonic Filter Figure 5-17
1A20C1 thru 1A20C4		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.07 uf ±5%, 10,800 vrms; 28527 part no. 1096242G1	RF Filter Figure 5-49
1A20L1		COIL, RADIO FREQUENCY: 1 winding, two terminals, adjustable; 15249 part no. DO-157	Harmonic Filter Figure 5-49
1A20TY1 thru 1A20TY2		SPARK GAP: 0.500 in. dia brass balls with 8-32 thd stud 1.750 in. long; 28527 part no. 1096236G1	Surge Protector Figure 5-49
INDICATOR PANEL, PA OVERLOAD			
1A21		INDICATOR PANEL, PA OVERLOAD: U.S. Coast Guard field change 8	PA Overload Figure 5-17
1A21DS1 thru 1A21DS4		LAMP, INCANDESCENT: bayonet base; 96906 part no. MS15567-1	1A6V1 thru 1A6V4 Overload Indicator Figure 5-50
1A21K1 thru 1A21K4		RELAY, ARMATURE: coil 26.5 vdc, 675 ohms dc resistance, 2 amp resistive; 50237 part no. 560-2-1308	PA Tube Overload Relay Figure 5-51
1A21TB1		TERMINAL BOARD: MIL-T-55164 type 37TB10	Interconnection Figure 5-51
1A21XDS1 thru 1A21XDS4		LAMPHOLDER: yellow, MIL-L-3661 type LH80/1LC21YD3	Lampholder for 1A21DS1 thru 1A21DS4 Figure 5-50
1A21XDS1MP1 thru 1A21XDS4MP1		LENS: yellow, MIL-L-3661 type LC21YD3	Lens for 1A21XDS1 thru 1A21XDS4 Figure 5-50
1A21XK1 thru 1A21XK4		SOCKET, RELAY: 8 contacts; 91506 part no. 8009-1G3	1A21K1 thru 1A21K4 Socket Figure 5-51

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

COOLER, LIQUID, ELECTRON TUBE HD-1000/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A52		COOLER, LIQUID, ELECTRON TUBE HD-1000/FPN-44A: 16630 part no. 8950A00-0000; 28527 part no. 1096267G1	Heat Exchanger Figure 5-50
1A52MP1		CARTRIDGE HOLDER ASSEMBLY: c/o 1 "0' ring, 1 clamp, 1 head, 1 tube body and 1 spring; 16630 part no. 8950A00-0132	Cartridge Holder Figure 5-50
1A52MP2		Same as 1A52MP1	Cartridge Holder Figure 5-50
1A52M1		GAUGE, PRESSURE: 200 pound pressure, 3, 500 in. dia; 3% accuracy; 16630 part no. 8950A00-0121-2	Pressure Indicator Figure 5-50
1A52M2		Same as 1A52M1	Pressure Indicator Figure 5-50
1A52M3		GAUGE, LEVEL: expansion tank type; 16630 part no. 8950A00-0117	Water Level Indicator Figure 5-50
1A52M4		GAUGE, PRESSURE: 160 pound pressure; 3, 500 in. dia; 3% accuracy; 16630 part no. 8950A00-0121-1	Pressure Indicator Figure 5-50
1A52M5		GAUGE, PRESSURE: scale 30-0-150 pounds pressure; 2.500 in. dia; 16630 part no. 8950A00-0122	Pressure Indicator Figure 5-50
1A52M6		Same as 1A52M4	Pressure Indicator Figure 5-50
1A52S1		SWITCH, FLOAT: spst; 115 to 230 volts; 60 Hz; 16630 part no. 8950A00-0116	115 Vac Control Circuit Figure 5-50
1A52TB1		TERMINAL BOARD: 10 terminals, barrier type; 28527 part no. 356259	Interconnection Figure 5-50

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

COOLER, LIQUID, ELECTRON TUBE HD-1000/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A52TB2		TERMINAL BOARD: 2 terminals; MIL-T-55164 type 8TB2	Interconnection Figure 5-50
1A52U1		ADAPTER, STRAIGHT, PIPE TO HOSE: 2.500 in. IPS; brass; 72661 part no. BST30; 16630 part no. 8950A00-0000-13	Hose Connecting Figure 5-50
1A52U2		Same as 1A52U1	Hose Connecting Figure 5-50
1A52U3		ADAPTER, STRAIGHT, PIPE TO HOSE: 1 in. IPS; brass; 72661 part no. BST10; 16630 part no. 8950A00-0000-15	Hose Connecting Figure 5-50
1A52U4		COCK, DRAIN: 1/4 MPT by 1/4 ID hose; 30327 part no. 303E; 16630 part no. 25A00-0910	Water Drain Figure 5-50
1A52U5		COCK, DRAIN: 1/2 in; 16630 part no. 8950A00-0129 REF 1-2 IN.	Bleeder Figure 5-50
1A52U6		Same as 1A52U5	Bleeder Figure 5-50
1A52U7		Same as 1A52U4	Water Drain Figure 5-50
1A52U8		VALVE, GATE: 1 in. FPT; bronze; teflon packing seal; 200 PSIG; 16630 part no. 8950A00-0124-2	Water Cooler Figure 5-50
1A52U9		VALVE, GATE: 2 in. FPT; bronze; teflon packing seal; 200 PSIG; 16630 part no. 8950A00-0124-3	Water Cooler Figure 5-50
1A52U10		VALVE, CHECK: swing; 1 in. FPT; bronze; 125 pounds working pressure; 16630 part no. 8950A00-0123-2	Check Valve Figure 5-50
1A52U11		VALVE, FLOAT: 1/8 MPT; brass, nickel plated; seat, silicone; 16630 part no. 8950A00-0119	Air Escape Figure 5-50
1A52U12		VALVE, DRAIN: brass-bronze; 16630 part no. 8950A00-0117-1	Drain Valve Figure 5-50
1A52U13		ADAPTER, STRAIGHT, PIPE TO HOSE: 2 in. IPS; brass; 72661 part no. BST25; 16630 part no 8950A00-0000-14	Hose Connecting Figure 5-50
1A52U14		Same as 1A52U13	Hose Connecting Figure 5-50
1A52U15		Not used	
1A52U16		Same as 1A52U9	Water Cooler Figure 5-50
1A52U17		VALVE, GATE: 3/4 in. FPT; bronze; teflon packing seal; 200 PSIG; 16630 part no. 8950A00-0124-1	Valve Figure 5-50
1A52U18		VALVE, GATE: 1/4 in. FPT; bronze; teflon packing seal; 200 PSIG; 16630 part no. 8950A00-0131	Valve Figure 5-50
1A52U19		Same as 1A52U4	Drain Figure 5-50

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

COOLER, LIQUID, ELECTRON TUBE HD-1000/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A52U20		VALVE, CHECK: Swing; 3/4 in. FPT; bronze; 125 pounds working pressure; 16630 part no. 8950A00-0123-1	Check Valve Figure 5-50
1A52U21		VALVE, CHECK: 300 PSI working pressure; 2 PSI opening pressure; -65 deg F to 200 deg F operating temperature; 1/2 in. FPT and 1/2 in. MPT; 16630 part no. 8950A00-0120	Check Valve Figure 5-50
1A52U22		TANK SURGE: 5 gallon capacity; stainless steel; 11.250 in. od by 13.560 in high; 16630 part no. 8950A01-0002	Reservoir Figure 5-50
1A52U23		Same as 1A52U9	Water Cooler Figure 5-50
1A52U24		STRAINER: brass-bronze; 16630 part no. 8950A00-0128	Strainer Figure 5-50
1A52U25		Not used	
1A52U26		VALVE, GLOBE: 1/2 in. FPT; bronze; teflon packing seal; 200 PSIG working pressure; 16630 part no. 8950A00-0125	Water Cooler Figure 5-50
1A52U27 thru 1A52U32		Same as 1A52U4	Drain Figure 5-50
1A52U33		Not used	
1A52U34		Same as 1A52U5	Plug Figure 5-50
1A52U35		Same as 1A52U5	Plug Figure 5-50
1A52U36		Same as 1A52U18	Valve Figure 5-50
1A52U37		HEAT EXCHANGER: brass; 16630 part no. 8950A00-0129	Heat Exchanger Figure 5-50
1A52U38		Same as 1A52U37	Heat Exchanger Figure 5-50
1A52U39		PUMP-MOTOR ASSEMBLY: 75 gallons per minute; bronze; 7.5 hp; 3500 rpm; 208v; 60 Hz; 3 phase; 16630 part no. 8950A00-0126	Water Circulator Figure 5-50
1A52U39B1		MOTOR, ALTERNATING CURRENT: 7.5 hp; 3500 rpm; 208v; 3 phase; 60 Hz; for 1531-1-1/4 AB pump	Pump Motor Figure 5-51
1A52U39MP1		PLUG, VOLUTE: 06631 part no. P39470	Volute Plug Figure 5-51
1A52U39MP2		VOLUTE: 06631 part no. P41220	Volute Figure 5-51
1A52U39MP3		CAPSCREW, IMPELLER: 06631 part no. P52530	Impeller Capscrew Figure 5-51
1A52U39MP4		GASKET, CAPSCREW: 06631 part no. P57000	Capscrew Gasket Figure 5-51

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
POWER SUPPLY SET			
1A53		POWER SUPPLY SET: converts the 208/460 volt primary power from AC to DC at the required levels and supplies power to components of the Transmitter Group; 28527 part no. 1096281G3	Supplies Power to Transmitter Figure 5-52

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1112/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A1		RELAY ASSEMBLY RE-1112/FPN-44A: consists of two relays on panel, used to discharge high voltage capacitors in the transmitter; 01238 part no. D30-17733; 28527 part no. 1096306G1	Capacitor Discharge Figure 5-52
1A53A1K1		RELAY ARMATURE: actuator 115v 50 Hz, normally closed, 40000 volts peak test with 2 auxiliary contacts; 23598 part no. E40NC40-2-1	Capacitor Discharge Figure 5-53
1A53A1K2		RELAY ARMATURE: actuator 115v 50 Hz, normally closed, 25000 volts peak test with 2 auxiliary contacts; 23598 part no. E25NC25-2-1	Capacitor Discharge Figure 5-53
1A53A1TB1		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-53
CONTROL-INDICATOR C-10034/FPN-44A			
1A53A2		CONTROL-INDICATOR C-10034/FPN-44A: provides controls and indicators for the operation of the Power Supply Set; 28527 part no. 1096286G1	Controls and Indicators for Power Supply Set Figure 5-52
1A53A2DS1		LAMP, INCANDESCENT: 125v, 6 watts; 96906 type MS15567-1	Water On Figure 5-54
1A53A2DS2		Same as 1A53A2DS1	Door Interlock Figure 5-54
1A53A2DS3 thru 1A53A2DS4		Not used	
1A53A2DS5		Same as 1A53A2DS1	Bias and Low Voltage On Figure 5-54
1A53A2DS6		Not used	
1A53A2DS7		Same as 1A53A2DS1	Filaments Ready Figure 5-54
1A53A2DS8		Same as 1A53A2DS1	Air On Figure 5-54
1A53A2DS9		Same as 1A53A2DS1	Plate On Figure 5-54
1A53A2DS10		Same as 1A53A2DS1	AC Overload Figure 5-54
1A53A2DS11		Same as 1A53A2DS1	Plate Transformer Over Temperature Figure 5-54
1A53A2DS12		Same as 1A53A2DS1	3 Strike Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2DS13		Same as 1A53A2DS1	IPA Overload Figure 5-54
1A53A2DS14		Same as 1A53A2DS1	PA Overload Figure 5-54
1A53A2DS15 thru 1A53A2DS26		Not used	
1A53A2DS27		LAMP, GLOW: 120 vac, 0.142 watts, T3-1/4 bulb; MIL-L-15098 type M15098/10-002	1A53A3F13 Blown Fuse Indicator Figure 5-54
1A53A2DS28		Same as 1A53A2DS27	1A53A3F12 Blown Fuse Indicator Figure 5-54
1A53A2DS29		Same as 1A53A2DS27	1A53A3F11 Blown Fuse Indicator Figure 5-54
1A53A2DS30		Same as 1A53A2DS27	1A53A3F10 Blown Fuse Indicator Figure 5-54
1A53A2DS31 thru 1A53A2DS36		Not used	
1A53A2DS37		Same as 1A53A2DS27	1A53A3F21 Blown Fuse Indicator Figure 5-54
1A53A2DS38		Same as 1A53A2DS27	1A53A3F20 Blown Fuse Indicator Figure 5-54
1A53A2DS39		Same as 1A53A2DS27	1A53A3F19 Blown Fuse Indicator Figure 5-54
1A53A2DS40		Same as 1A53A2DS27	1A53A3F35 Blown Fuse Indicator Figure 5-54
1A53A2DS41		Same as 1A53A2DS27	1A53A3F36 Blown Fuse Indicator Figure 5-54
1A53A2DS42		Same as 1A53A2DS27	1A53A3F37 Blown Fuse Indicator Figure 5-54
1A53A2DS43		Same as 1A53A2DS27	1A53A3F38 Blown Fuse Indicator Figure 5-54
1A53A2DS44		Same as 1A53A2DS1	Emergency Stop Power Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2DS45		Same as 1A53A2DS1	Emergency Stop Power Figure 5-54
1A53A2DS46		Same as 1A53A2DS27	1A53A3F39 Blown Fuse Indicator Figure 5-54
1A53A2DS47		Same as 1A53A2DS27	1A53A3A3F1 Blown Fuse Indicator Figure 5-54
1A53A2DS48		Same as 1A53A2DS27	1A53A3A4F1 Blown Fuse Indicator Figure 5-54
1A53A2DS49		Same as 1A53A2DS27	1A53A3A4F2 Blown Fuse Indicator Figure 5-54
1A53A2J1		CONNECTOR, RECEPTACLE, ELECTRICAL: 1 contact; MIL-C-39012 type M39012/21-0001	Voltage Divider Output Figure 5-55
1A53A2J2		Same as 1A53A2J1	Ripple (1A4J4) Figure 5-55
1A53A2J3		Same as 1A53A2J1	Voltage Divider Output Figure 5-55
1A53A2J4		Same as 1A53A2J1	Spare Figure 5-55
1A53A2J5		Same as 1A53A2J1	Voltage Divider Output Figure 5-55
1A53A2J6		Not used	
1A53A2J7		Same as 1A53A2J1	Voltage Divider Output Figure 5-55
1A53A2M1		METER, TIME TOTALIZING: 0 to 99999.9 hours; 120v 60 Hz; 24446 part no. 50-240-731AAAE; 28527 part no. 1088418G48	Plate Hours Figure 5-54
1A53A2M2		VOLTMETER: 0 to 30 Kv dc; MIL-M-10304 type MR36W030DCKVR	PA Plate Volts Figure 5-54
1A53A2M3		VOLTMETER: 0 to 20 Kv dc; MIL-M-10304 type MR36W020DCKVR	IPA Plate Volts Figure 5-54
1A53A2M4		VOLTMETER: 0 to 10 Kv dc; MIL-M-10304 type MR26W010DCKVR	Low Voltage Plate Figure 5-54
1A53A2M5		VOLTMETER: 0 to 800 vac; MIL-M-10304 type MR36W800ACVVR W/Multiplier R5	AC Volts Figure 5-54
1A53A2M6		Same as 1A53A2M1	Filament Hours Figure 5-54
1A53A2M7		AMMETER: 0 to 10 amp dc; 15309 part no. 908-255; 28527 part no. 1088418G35	PA Plate Current Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2M8		AMMETER: 0 to 2 amps dc; 15309 part no. 908-256; 28527 part no. 1088418G36	IPA Plate Current Figure 5-54
1A53A2M9		VOLTMETER: 0 to 1K vdc; MIL-M-10304 type MR36W001DCKVR	-5 KV Bias Figure 5-54
1A53A2R1 thru 1A53A2R4		Not used	
1A53A2R5		RESISTOR, FIXED: Meter Multiplier	1A53A2M5 Meter Multiplier Figure 5-55
1A53A2R6		RESISTOR, FIXED, FILM: 590 ohms ± 1%, 1/4 watt; MIL-R-10509 type RN65C5900F	Plate Voltage Control Figure 5-55
1A53A2R7		RESISTOR, FIXED, FILM: 7.5K ohms ± 1%, 1/4 watt; MIL-R-10509 type RN65C7501F	Plate Voltage Control Figure 5-55
1A53A2R8		RESISTOR, VARIABLE: 2K ohms ± 3%, 5 watts; 32997 part no. 3400S1-202; 28527 part no. 2138485G5	Operate Adjust Figure 5-54
1A53A2R9		RESISTOR, VARIABLE: 10K ohms ± 3%, 5 watts; 32997 part no. 3400S1-103; 28527 part no. 2138485G7	Maintenance Adjust Figure 5-54
1A53A2S1 thru 1A53A2S2		Not used	
1A53A2S3		SWITCH ROTARY: 600v, 20 amps; 24446 part no. 16SB1CF11X2; 28527 part no. 1088418G38	AC Voltage Phase Selector Figure 5-54
1A53A2S4		SWITCH, ROTARY: 3 position, 600v, 20 amps; 28527 part no. 2138352G1	AC Voltage Selector Figure 5-54
1A53A2S5 thru 1A53A2S6		Not used	
1A53A2S7		SWITCH, TOGGLE: dpst; 115v, 20 amps; MIL-S-83731 type MS35059-22	Bias and Low Voltage Figure 5-54
1A53A2S8		SWITCH, PUSH: dpdt, 600v, 10 amps; 24446 part no. CR2940UA203BMFP; 28527 part no. 1088782G034	Overload and 3 Strike Reset Figure 5-54
1A53A2S9 thru 1A53A2S12		Not used	
1A53A2S13		Same as 1A53A2S7	Filaments Figure 5-54
1A53A2S14 thru 1A53A2S16		Not used	
1A53A2S17		SWITCH, TOGGLE: dpdt, 115v, 20 amps; MIL-S-83731 type MS35059-23	Power On/Off Reset Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2S18		SWITCH, ROTARY: 3 position, 600v, 20 amps; 28527 part no. 2138352G2	Plate Voltage Selector Figure 5-54
1A53A2S19		SWITCH, TOGGLE: dpdt, 115 vac, 15 amps; 28 vdc, 200 amps; MIL-S-3950 type MS24659-22F	Emergency Stop Figure 5-55
1A53A2TB1		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-54
1A53A2TB2 thru 1A53A2TB18		Not used	
1A53A2TB19		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB20		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB21		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB22		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB23		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB24		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB25		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2TB26		Not used	
1A53A2TB27		TERMINAL BOARD: 4 terminals, barrier type; MIL-T-55164 type 17TB4	Interconnection Figure 5-55
1A53A2TB28 thru 1A53A2TB35		Not used	
1A53A2TB36		Same as 1A53A2TB27	Interconnection Figure 5-55
1A53A2TB37		Same as 1A53A2TB1	Interconnection Figure 5-55
1A53A2T1		TRANSFORMER, VARIABLE: 120 vac input, 50 to 60 Hz; 0-120v, 2.25 amps output; 24446 part no. 9T92A1; 28527 part no. 1088418G46	Dimmer Figure 5-54
1A53A2XDS1		LAMPHOLDER: blue lens; MIL-L-3661 type LH80/1LC21BD3	1A53A2DS1 Holder Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2XDS1 MP1		LENS: blue; MIL-L-3661 type LC21BD3	1A53A2XDS1 Lens Figure 5-54
1A53A2XDS2		LAMPHOLDER: white lens; MIL-L-3661 type LH80/1LC21WT3	1A53A2DS2 Holder Figure 5-54
1A53A2XDS2 MP1		LENS: white; MIL-L-3661 type LC21WT3	1A53A2XDS2 Lens Figure 5-54
1A53A2XDS3 thru 1A53A2XDS4		Not used	
1A53A2XDS5		Same as 1A53A2XDS2	1A53A2DS5 Holder Figure 5-54
1A53A2XDS5 MP1		Same as 1A53A2XDS2MP1	1A53A2XDS5 Lens Figure 5-54
1A53A2XDS6		Not used	
1A53A2XDS7		LAMPHOLDER: yellow lens; MIL-L-3661 type LH80/1LC21YD3	1A53A2DS7 Holder Figure 5-54
1A53A2XDS7 MP1		LENS: yellow; MIL-L-3661 type LC21YD3	1A53A2XDS7 Lens Figure 5-54
1A53A2XDS8		Same as 1A53A2XDS2	1A53A2DS8 Holder Figure 5-54
1A53A2XDS8		Same as 1A53A2XDS2MP1	1A53A2XDS8 Lens Figure 5-54
1A53A2XDS9		LAMPHOLDER: red lens; MIL-L-3661 type LH80/1LC21RD3	1A53A2DS9 Holder Figure 5-54
1A53A2XDS9 MP1		LENS: red; MIL-L-3661 type LC21RD3	1A53A2XDS9 Lens Figure 5-54
1A53A2XDS10		Same as 1A53A2XDS7	1A53A2DS10 Holder Figure 5-54
1A53A2XDS10 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS10 Lens Figure 5-54
1A53A2XDS11		Same as 1A53A2XDS7	1A53A2DS11 Holder Figure 5-54
1A53A2XDS11 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS11 Lens Figure 5-54
1A53A2XDS12		Same as 1A53A2XDS7	1A53A2DS12 Holder Figure 5-54
1A53A2XDS12 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS12 Lens Figure 5-54
1A53A2XDS13		Same as 1A53A2XDS7	1A53A2DS13 Holder Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2XDS13 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS13 Lens Figure 5-54
1A53A2XDS14		Same as 1A53A2XDS7	1A53A2DS14 Holder Figure 5-54
1A53A2XDS14 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS14 Lens Figure 5-54
1A53A2XDS15 thru 1A53A2XDS26		Not used	
1A53A2XDS27		LAMPHOLDER: clear lens; MIL-L-3661 type LH76/1LC14CD3	1A53A2DS27 Holder Figure 5-54
1A53A2XDS27 MP1		LENS: clear; MIL-L-3661 type LC14CD3	1A53A2XDS27 Lens Figure 5-54
1A53A2XDS28		Same as 1A53A2XDS27	1A53A2DS28 Holder Figure 5-54
1A53A2XDS28 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS28 Lens Figure 5-54
1A53A2XDS29		Same as 1A53A2XDS27	1A53A2DS29 Holder Figure 5-54
1A53A2XDS29 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS29 Lens Figure 5-54
1A53A2XDS30		Same as 1A53A2XDS27	1A53A2DS30 Holder Figure 5-54
1A53A2XDS30 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS30 Lens Figure 5-54
1A53A2XDS31 thru 1A53A2XDS36		Not used	
1A53A2XDS37		Same as 1A53A2XDS27	1A53A2DS37 Holder Figure 5-54
1A53A2XDS37 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS37 Lens Figure 5-54
1A53A2XDS38		Same as 1A53A2XDS27	1A53A2DS38 Holder Figure 5-54
1A53A2XDS38 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS38 Lens Figure 5-54
1A53A2XDS39		Same as 1A53A2XDS27	1A53A2DS39 Holder Figure 5-54
1A53A2XDS39 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS39 Lens Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

CONTROL-INDICATOR C-10034/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A2XDS40		Same as 1A53A2XDS27	1A53A2DS40 Holder Figure 5-54
1A53A2XDS40 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS40 Lens Figure 5-54
1A53A2XDS41		Same as 1A53A2XDS27	1A53A2DS41 Holder Figure 5-54
1A53A2XDS41 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS41 Lens Figure 5-54
1A53A2XDS42		Same as 1A53A2XDS27	1A53A2DS42 Holder Figure 5-54
1A53A2XDS42 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS42 Lens Figure 5-54
1A53A2XDS43		Same as 1A53A2XDS27	1A53A2DS43 Holder Figure 5-54
1A53A2XDS43 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS43 Lens Figure 5-54
1A53A2XDS44		Same as 1A53A2XDS7	1A53A2DS44 Holder Figure 5-54
1A53A2XDS44 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS44 Lens Figure 5-54
1A53A2XDS45		Same as 1A53A2XDS7	1A53A2DS45 Holder Figure 5-54
1A53A2XDS45 MP1		Same as 1A53A2XDS7MP1	1A53A2XDS45 Lens Figure 5-54
1A53A2XDS46		Same as 1A53A2XDS27	1A53A2DS46 Holder Figure 5-54
1A53A2XDS46 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS46 Lens Figure 5-54
1A53A2XDS47		Same as 1A53A2XDS27	1A53A2DS47 Holder Figure 5-54
1A53A2XDS47 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS47 Lens Figure 5-54
1A53A2XDS48		Same as 1A53A2XDS27	1A53A2DS48 Holder Figure 5-54
1A53A2XDS48 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS48 Lens Figure 5-54
1A53A2XDS49		Same as 1A53A2XDS27	1A53A2DS49 Holder Figure 5-54
1A53A2XDS49 MP1		Same as 1A53A2XDS27MP1	1A53A2XDS49 Lens Figure 5-54

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3		RELAY ASSEMBLY RE-1113/FPN-44A: provides overcurrent, overvoltage and undervoltage protection; performs interlocking and timing functions	Overcurrent Overvoltage and Undervoltage Protection Figure 5-52
1A53A3CB1		CIRCUIT BREAKER: 600v at 500 amps, 120 vac at 45 to 66 Hz shunt trip; 60969 part no. TJK636500WLFP W/TJKSTA12RS W/343L162G20 mtg hdwe; 28527 part no. 2138335G1	460 Volt Plate Power Figure 5-61
1A53A3CB2		CIRCUIT BREAKER: 600v at 225 amps, 120 vac at 45 to 66 Hz shunt trip; 60969 part no. TFK236225WLFP W/ TJKSTA12RSW/343L162G21 mtg hdwe; 28527 part no. 2138336G1	208 Volt Power Figure 5-56
1A53A3CR1 thru 1A53A3CR5		Not used	
1A53A3CR6		SEMICONDUCTOR DEVICE, DIODE: rectifier; 21845 part no. 3G6; 28527 part no. 2138315G1	Relay Protection Figure 5-60
1A53A3CR7		Same as 1A53A3CR6	Relay Protection Figure 5-56
1A53A3CR8 thru 1A53A3CR22		Not used	
1A53A3CR23		Same as 1A53A3CR6	Relay Protection Figure 5-56
1A53A3CR24		Not used	
1A53A3CR25 thru 1A53A3CR28		Same as 1A53A3CR6	Relay Power Supply Rectifier Figure 5-58
1A53A3CR29 thru 1A53A3CR32		Not used	
1A53A3CR33 thru 1A53A3CR44		Same as 1A53A3CR6	Rectifier Figure 5-60
1A53A3C1 thru 1A53A3C3		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 15 uf ± 10% 330 vac; 01002 part no. 21L3316; 28527 part no. 2138391G1	Filament Transformer Inrush Protection Figure 5-57
1A53A3C4		Not used	
1A53A3C5		CAPACITOR, FIXED, ELECTROLYTIC: 39 uf, +100% -10%, 450 vdcw; MIL-C-62 type CE51C390R	Relay Power Supply Filter Figure 5-58
1A53A3C6 thru 1A53A3C14		Not used	
1A53A3C15 thru 1A53A3C17		CAPACITOR, FIXED, ELECTROLYTIC: 10 uf ± 20%, 100 vdcw; MIL-C-3965 type CL31BN100MPG	Filter Figure 5-60

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3C18		CAPACITOR, FIXED, ELECTROLYTIC: 30 uf ± 20%, 100 vdcw; MIL-C-3965 type CL31BN300MPG	1A53A3K34 Timing Figure 5-60
1A53A3C19 thru 1A53A3C21		CAPACITOR, FIXED, ELECTROLYTIC: 20 uf +75% -15%, 25 vdcw; MIL-C-3965 type CL23BG200UNE	1A53A3K13 Timing Figure 5-60
1A53A3DS1 thru 1A53A3DS3		Not used	
1A53A3DS4		LAMP, GLOW: 120v, 0.142 watts, T3-1/4 bulb; MIL-L-15098 type M15098/10-002	1A53A3A2F1 Blown Fuse Indicator Figure 5-59
1A53A3DS5		Same as 1A53A3DS4	1A53A3A2F2 Blown Fuse Indicator Figure 5-59
1A53A3DS6		Same as 1A53A3DS4	1A53A3A2F3 Blown Fuse Indicator Figure 5-59
1A53A3F1		FUSE CARTRIDGE: 1.8 amp, 600v; 71400 part no. BCC1-8-10; 28527 part no. 1088782G20	460V Phase 1 Meter Circuit Figure 5-59
1A53A3F2		Same as 1A53A3F1	460V Phase 2 Meter Circuit Figure 5-59
1A53A3F3		Same as 1A53A3F1	460V Phase 3 Meter Circuit Figure 5-59
1A53A3F4		Same as 1A53A3F1	208V Phase 1 Meter Circuit Unregulated Figure 5-57
1A53A3F5		Same as 1A53A3F1	208V Phase 2 Meter Circuit Unregulated Figure 5-57
1A53A3F6		Same as 1A53A3F1	208V Phase 3 Meter Circuit Unregulated Figure 5-57
1A53A3F7		Same as 1A53A3F1	208V Phase 1 Meter Circuit Regulated Figure 5-57
1A53A3F8		Same as 1A53A3F1	208V Phase 2 Meter Circuit Regulated Figure 5-57
1A53A3F9		Same as 1A53A3F1	208V Phase 3 Meter Circuit Regulated Figure 5-57
1A53A3F10		FUSE, CARTRIDGE: 30 amps, 250v; MIL-F-15160 type F15A250V30AS	Control Power Figure 5-57

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3F11 thru 1A53A3F13		FUSE, CARTRIDGE: 80 amps, 250v; MIL-F-15160 type F19A250V80AS	Transmitter Filament Figure 5-57
1A53A3F14 thru 1A53A3F18		Not used	
1A53A3F19 thru 1A53A3F21		FUSE, CARTRIDGE: 8 amps, 250v; MIL-F-15160 type F09B250V8AS	Bias Power Figure 5-57
1A53A3F22 thru 1A53A3F34		Not used	
1A53A3F35 thru 1A53A3F37		FUSE, CARTRIDGE: 20 amps, 250v; MIL-F-15160 type F15A250V20AS	Bias Power Figure 5-57
1A53A3F38		FUSE, CARTRIDGE: 2 amps, 250v; MIL-F-15160 type F09B250V2AS	460v Regulator Protection Figure 5-57
1A53A3F39		Same as 1A53A3F38	460v Regulator Protection Figure 5-57
1A53A3F40		Same as 1A53A3F19	1A53A3CB2 Trip Power Figure 5-57
1A53A3F41		FUSE CARTRIDGE: 1 amp, 600v; 71400 part no. KLM1A; 28527 part no. 2138351G1	1A53A3CB1 Trip Power Figure 5-59
1A53A3F42		Same as 1A53A3F41	1A53A3CB1 Trip Power Figure 5-59
1A53A3K1 thru 1A53A3K2		Not used	
1A53A3K3		RELAY ARMATURE: 3 pst; coil 120v; 45 to 66 Hz; contacts 100 amps; 24446 part no. CR2810E11AB1S2MFP; 28527 part no. 1088418G66	Transmitter Filaments Figure 5-56
1A53A3K3E1		COIL RELAY: 115v at 30 amps; 24446 part no. 22D153G2	1A53A3K3 Coil Figure 5-56
1A53A3K3E2		CONTACT SET, ELECTRICAL: 4 contacts; 115 vac; 100 amp current rating; 24446 part no. 6960045G77; 28527 part no. 1088418G79	1A53A3K3 Contacts Figure 5-56
1A53A3K4		RELAY, ARMATURE: 4 pst; coil 120v; 45 to 66 Hz; contacts 10 amps; 24446 part no. CR2810A11AD102MFP; 28527 part no. 1088418G68	Bias Power Figure 5-57
1A53A3K4E1		COIL, RELAY: 120v; 45 to 66 Hz; 24446 part no. 22D135G102; 28527 part no. 1088418G83	1A53A3K4 Coil Figure 5-57

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3K4E2		CONTACT SET, ELECTRICAL: 5 contacts; 10 amp current rating; 24446 part no. 6960045G11; 28527 part no. 1088418G78	1A53A3K4 Contacts Figure 5-57
1A53A3K5		RELAY, ARMATURE: dpdt; 110 to 120v, 50 to 60 Hz; 1 to 10 minute delayed drop-out; 89020 part no. 7022AF; 28527 part no. 2138314G1	Shut-down Cooling Figure 5-56
1A53A3K6		Not used	
1A53A3K7		RELAY ARMATURE: dpdt; 110 to 120v, 50 to 60 Hz; 20 to 200 seconds delayed pick-up; 89020 part no. 7012AE; 28527 part no. 2138314G2	Filament Warm-Up Figure 5-56
1A53A3K8		RELAY, ARMATURE: dpst; 115v, 60 Hz; contacts 10 amps; 24446 part no. CR120A02002AAMFP; 28527 part no. 1088418G27	IPA Overload Indicator Figure 5-56
1A53A3K8E1		COIL, RELAY: 120v, 45 to 66 Hz, 44 va; 24446 part no. 551G2; 28527 part no. 1088475G18	1A53A3K8 Coil Figure 5-56
1A53A3K8E2		CONTACT SET, ELECTRICAL: 10 amps; 24446 part no. 55-153944G3	1A53A3K8 Contacts Figure 5-56
1A53A3K9		Same as 1A53A3K8	PA Overload Indicator Figure 5-56
1A53A3K9E1		Same as 1A53A3K8E1	1A53A3K9 Coil Figure 5-56
1A53A3K9E2		Same as 1A53A3K8E2	1A53A3K9 Contacts Figure 5-56
1A53A3K10 thru 1A53A3K12		Not used	
1A53A3K13		RELAY, ARMATURE: dpdt, contact 2 amps at 28 vdc, 115 vac; coil 26.5 vdc nominal, 852 ohms dc resistance; 24446 part no. 3SAE2018A2; 28527 part no. 1088782G6	Phase 1 Overcurrent Figure 5-60
1A53A3K14		Same as 1A53A3K13	Phase 2 Overcurrent Figure 5-60
1A53A3K15		Same as 1A53A3K13	Phase 3 Overcurrent Figure 5-60
1A53A3K16		Same as 1A53A3K13	AC Overcurrent Indicator Figure 5-60
1A53A3K17		Same as 1A53A3K5	3 Strike Time Delay Figure 5-56
1A53A3K18		RELAY, ARMATURE: 4 pst; coil 120v, 45 to 66 Hz; contact 10 amps; 24446 part no. CR120A04002AAMFP	3 Strike Lockout Relay Figure 5-56
1A53A3K18E1		Same as 1A53A3K8E1	1A53A3K18 Coil Figure 5-56

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3K18E2		CONTACT SET, ELECTRICAL: 1 set; 10 amp; 24446 part no. 55-153944G3; 28527 part no. 1088475G19	1A53A3K18 Contacts Figure 5-56
1A53A3K19 thru 1A53A3K20		Not used	
1A53A3K21		Same as 1A53A3K18	Transformer Overtemperature Figure 5-56
1A53A3K21E1		Same as 1A53A3K8E1	1A53A3K21 Coil Figure 5-56
1A53A3K21E2		Same as 1A53A3K18E2	1A53A3K21 Contact Figure 5-56
1A53A3K22 thru 1A53A3K27		Not used	
1A53A3K28		RELAY, THERMAL: 26.5 vac operating voltage, 45 to 66 Hz; 2 second time delay at 34.5vrms; 99928 part no. MTRH7414; 28527 part no. 2311948G2	1A53A3CB2 Trip Delay Figure 5-56
1A53A3K29 thru 1A53A3K30		Not used	
1A53A3K31		RELAY, ARMATURE: 3 pdt, coil 115 vdc, 0.024 amps, 3550 ohms dc resistance; 78290 part no. A1XCX; 28527 part no. 1088782G53	Fault Trip Figure 5-56
1A53A3K32		Same as 1A53A3K8	Bias Control Figure 5-56
1A53A3K32E1		Same as 1A53A3K8E1	1A53A3K32 Coil Figure 5-56
1A53A3K32E2		Same as 1A53A3K8E2	1A53A3K32 Contacts Figure 5-56
1A53A3K33		RELAY, ARMATURE: 5 cams; coil 110 vdc; contacts 115 vac at 4 amps; 71482 part no. B325549; 28527 part no. 1088475G49	3 Strike Counting Figure 5-57
1A53A3K33E1		SWITCH: less cam and cam pileup assemblies only for 200 cam switch no. B325549	1A53A3K33 Switch Figure 5-57
1A53A3K33E2		CAM ASSEMBLY: cam assembly only for 200 cam switch no. B325549	1A53A3K33 Cam Assembly Figure 5-57
1A53A3K33E3		INTERRUPTER ASSEMBLY: interrupter pileup assembly only for 200 cam switch no. B325549	1A53A3K33 Interrupter Assembly Figure 5-57

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3K33E4		CAM PILEUP: this must be ordered by giving the specific cam number that pileup is for. If complete set of pileups are required order complete pileup assembly only for 200 cam switch B325549	1A53A3K33 Cam Pileup Figure 5-57
1A53A3K33E5		COIL, RELAY: coil only for 200 cam switch no. B-325549	1A53A3K33 Coil Figure 5-57
1A53A3K34		RELAY, ARMATURE: 4 pdt, 25-41 vdc operating voltage, contacts 2 amps at 28 vdc, 1 amp at 115 vac, coil; 24446 part no. 3S2791FB100F10; 28527 part no. 1088782G7	Overload Sensing Delay Figure 5-60
1A53A3K35		Not used	
1A53A3K36		RELAY, ARMATURE: spst, 115 vac, 28 vdc, 500 ohms dc resistance; 83851 part no. 5D1C89A; 28527 part no. 1088782G92	Relay Power Supply Overload Figure 5-58
1A53A3K37		RELAY, ARMATURE: spst, 115 vac, 28 vdc, 500 ohms dc resistance; 83851 part no. 5D1CA37D; 28527 part no. 1088782G93	Relay Power Supply Undervoltage Figure 5-58
1A53A3K38		Not used	
1A53A3K39		Same as 1A53A3K28	1A53A3CB1 Trip Delay Figure 5-59
1A53A3K40		Same as 1A53A3K28	208V Undervoltage Delay Figure 5-56
1A53A3K41 thru 1A53A3K42		Not used	
1A53A3K43		Same as 1A53A3K8	Water Flow Figure 5-56
1A53A3K43E1		Same as 1A53A3K8E1	1A53A3K43E1 Coil Figure 5-56
1A53A3K43E2		Same as 1A53A3K8E2	1A53A3K43 Contacts Figure 5-56
1A53A3K44		Same as 1A53A3K18	Remote Switch Control Figure 5-56
1A53A3K44E1		Same as 1A53A3K8E1	1A53A3K44 Coil Figure 5-56
1A53A3K44E2		Same as 1A53A3K8E2	1A53A3K44 Contact Figure 5-56
1A53A3K45		Same as 1A53A3K8	Plate Control Figure 5-56
1A53A3K45E1		Same as 1A53A3K8E1	1A53A3K45 Coil Figure 5-56

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3K45E2		Same as 1A53A3K8E2	1A53A3K45 Contacts Figure 5-56
1A53A3K46		RELAY, ARMATURE: dpdt; 110 to 120v, 50 to 60 Hz; 0.5 to 5 second drop-out; 89020 part no. 7022AB; 28527 part no. 2138314G3	Deionization Time Figure 5-56
1A53A3K47		Same as 1A53A3K8	High Voltage ON Figure 5-57
1A53A3K47E1		Same as 1A53A3K8E1	1A53A3K47 Coil Figure 5-57
1A53A3K47E2		Same as 1A53A3K8E2	1A53A3K47 Contacts Figure 5-57
1A53A3K48		Same as 1A53A3K8	Transformer Over-temperature Reset Figure 5-57
1A53A3K48E1		Same as 1A53A3K8E1	1A53A3K48 Coil Figure 5-57
1A53A3K48E2		Same as 1A53A3K8E2	1A53A3K48 Contacts Figure 5-57
1A53A3K49		Same as 1A53A3K8	Remote Emergency Stop Figure 5-57
1A53A3K49E1		Same as 1A53A3K8E1	1A53A3K49 Coil Figure 5-57
1A53A3K49E2		Same as 1A53A3K8E2	1A53A3K49 Contacts Figure 5-57
1A53A3K50		Same as 1A53A3K8	460V Sensing Figure 5-57
1A53A3K50E1		Same as 1A53A3K8E1	1A53A3K50 Coil Figure 5-57
1A53A3K50E2		Same as 1A53A3K8E2	1A53A3K50 Contacts Figure 5-57
1A53A3K51		Same as 1A53A3K8	Power Failure Control Figure 5-57
1A53A3K51E1		Same as 1A53A3K8E1	1A53A3K51 Coil Figure 5-57
1A53A3K51E2		Same as 1A53A3K8E2	1A53A3K51 Contacts Figure 5-57
1A53A3K52		RELAY ARMATURE: dpdt; 110 to 120v, 50 to 60 Hz; 20 to 200 seconds delayed drop-out; 89020 part no. 7022AE; 28527 part no. 2138314G4	Warm-up Lock-out Figure 5-56
1A53A3M1		METER-RELAY: 80 to 160v, 40 scale divisions, 45 to 66 Hz; 80145 part no. 255C; 28527 part no. 2311961G1	Over/Undervoltage Contacts Figure 5-56
1A53A3RV1		SURGE PROTECTOR: 150 vdc, 208 vac, 3 phase 60 Hz; 50157 part no. 9RV6A168; 28527 part no. 1088418G85	Voltage Surge Protection Figure 5-56

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3R1 thru 1A53A3R3		Not used	
1A53A3R4		RESISTOR, VARIABLE: 250 ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA251A	Overcurrent Adjusting Resistor Figure 5-60
1A53A3R5		Same as 1A53A3R4	Overcurrent Adjusting Resistor Figure 5-60
1A53A3R6		Same as 1A53A3R4	Overcurrent Adjusting Resistor Figure 5-60
1A53A3R7		RESISTOR, FIXED WIREWOUND: 16 ohms ± 5%, 11 watts; MIL-R-26 type RW30V160	Relay Power Supply Limiter Figure 5-58
1A53A3R8		Not used	
1A53A3R9		RESISTOR, FIXED, WIREWOUND: 3.1K ohms ± 5%, 14 watts; MIL-R-26 type RW31V312	1A3A3K16 Current Limiting Figure 5-60
1A53A3R10 thru 1A53A3R48		Not used	
1A53A3R49		RESISTOR, FIXED, WIREWOUND: 2.5K ohms ± 5%, 31 watts; MIL-R-26 type RW21V252	Voltage Divider Figure 5-58
1A53A3R50 thru 1A53A3R53		Not used	
1A53A3R54 thru 1A53A3R57		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G103JS	Neon Lamp Current Limiter Figure 5-56
1A53A3R58 thru 1A53A3R59		Not used	
1A53A3R60 thru 1A53A3R62		Same as 1A53A3R54	Neon Lamp Current Limiter Figure 5-56
1A53A3R63		Not used	
1A53A3R64		RESISTOR, FIXED, COMPOSITION: 2.7K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G272JS	1A53A3K13 Desensitizing Figure 5-60
1A53A3R65		Same as 1A53A3R64	1A53A3K15 Desensitizing Figure 5-60

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3R66		Same as 1A53A3R64	1A53A3K14 Desensitizing Figure 5-60
1A53A3R67		RESISTOR, FIXED, COMPOSITION: 3.3K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G332JS	1A53A3K34 Limiter Figure 5-60
1A53A3R68		RESISTOR, FIXED, COMPOSITION: 1.8K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G182JS	1A53A3K34 Timing Figure 5-60
1A53A3R69 thru 1A53A3R71		RESISTOR, FIXED WIREWOUND: 56 ohms ± 5%, 26 watts; MIL-R-26 type RW33V560	1A53A3K36 Shunt Figure 5-58
1A53A3R72		RESISTOR, FIXED, COMPOSITION: 510 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G511JS	1A53A3K37 Shunt Figure 5-58
1A53A3R73		Not used	
1A53A3R74		RESISTOR, VARIABLE: 5000 ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA502A	1A53A3K36 Adjusting Resistor Figure 5-58
1A53A3R75		RESISTOR, FIXED, COMPOSITION: 330 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G331JS	1A53A3K13 Shunt Figure 5-60
1A53A3R76		Same as 1A53A3R75	1A53A3K14 Shunt Figure 5-60
1A53A3R77		Same as 1A53A3R75	1A53A3K15 Shunt Figure 5-60
1A53A3R78		RESISTOR, FIXED, WIREWOUND: 5.6K ohms ± 5%, 11 watts; MIL-R-26 type RW29V562	Wire Protection Blown Fuse Phase 1 Figure 5-57
1A53A3R79		Same as 1A53A3R78	Wire Protection Blown Fuse Phase 2 Figure 5-57
1A53A3R80		Same as 1A53A3R78	Wire Protection Blown Fuse Phase 3 Figure 5-57
1A53A3R81 thru 1A53A3R88		Same as 1A53A3R54	Current Limiter Figure 5-56
1A53A3R89 thru 1A53A3R91		RESISTOR, FIXED, FILM: 220K ohms ± 5%, 2 watts; MIL-R-22684 type RL42S224J	Current Limiter Figure 5-59
1A53A3R92 thru 1A53A3R94		RESISTOR, FIXED, WIREWOUND: 2.7 ohms ± 5%, 113 watts; MIL-R-26 type RW37V2R7	Current Transformer Load Figure 5-59

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3S1A		SWITCH, KNIFE: 3 pdt, 500v, 400 amp; 28527 part no. 1096327G2	High Voltage Rectifier Power Figure 5-61
1A53A3S1B		SWITCH, KNIFE: 3 pdt, 500 vac, 30 amp; 28527 part no. 1096327G1	208v 3 Phase Bias Supply Figure 5-61
1A53A3S2		SWITCH, KEY INTERLOCK: 77662 type FS Key interlock	Locked ON Switch Figure 5-52
1A53A3TB1		TERMINAL BOARD: 600v, 225 amp; 73631 part no. S4; 28527 part no. 2138384G20	Interconnection Figure 5-57
1A53A3TB2		TERMINAL BOARD: 600v, 100 amp; 73631 part no. L3; 28527 part no. 2138384G3	Interconnection Figure 5-57
1A53A3TB3		Not used	
1A53A3TB4		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-57
1A53A3TB5		Not used	
1A53A3TB6		Same as 1A53A3TB4	Interconnection Figure 5-56
1A53A3TB7		Not used	
1A53A3TB8		Same as 1A53A3TB4	Interconnection Figure 5-60
1A53A3TB9		Same as 1A53A3TB4	Interconnection Figure 5-60
1A53A3TB10		Same as 1A53A3TB4	Interconnection Figure 5-58
1A53A3TB11		Not used	
1A53A3TB12		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB13 thru 1A53A3TB18		Not used	
1A53A3TB19 thru 1A53A3TB25		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB26 thru 1A53A3TB30		Not used	
1A53A3TB31		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB32		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3TB33 thru 1A53A3TB35		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB36		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 17TB10	Interconnection Figure 5-59
1A53A3TB37 thru 1A53A3TB59		Not used	
1A53A3TB60 thru 1A53A3TB61		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB62		Not used	
1A53A3TB63		Same as 1A53A3TB4	Interconnection Figure 5-61
1A53A3TB64		TERMINAL BOARD: 2 terminals, barrier type; MIL-T-55164 type 8TB2	Interconnection Figure 5-57
1A53A3TB65		Same as 1A53A3TB36	Interconnection Figure 5-57
1A53A3TB66 thru 1A53A3TB72		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB73		TERMINAL BOARD: 4 terminals, barrier type; MIL-T-55164 type 17TB4	Interconnection Figure 5-57
1A53A3TB74		TERMINAL BOARD: 600v, 225 amp; 73631 part no. S3; 28527 part no. 2138384G19	Interconnection Figure 5-57
1A53A3TB75		Same as 1A53A3TB4	Interconnection Figure 5-59
1A53A3TB76		Same as 1A53A3TB64	Interconnection Figure 5-59
1A53A3TB77		Same as 1A53A3TB74	Interconnection Figure 5-61
1A53A3TB78 thru 1A53A3TB79		Same as 1A53A3TB4	Interconnection Figure 5-59
1A53A3TB80		Same as 1A53A3TB4	Interconnection Figure 5-57
1A53A3TB81 thru 1A53A3TB100		Not used	
1A53A3TB101		TERMINAL BOARD: 52 terminals, plastic; 28527 part no. 1096325G1	Component Mounting Figure 5-60
1A53A3TB102		TERMINAL BOARD: 20 terminals, plastic; 28527 part no. 1096363G1	Component Mounting Figure 5-57

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3TB103		TERMINAL BOARD: 20 terminals, plastic; 28527 part no. 1096364G1	Component Mounting Figure 5-57
1A53A3T1		Not used	
1A53A3T2		TRANSFORMER, POWER, STEP DOWN: 120v primary, 45 to 55 Hz, 26.5v secondary, 0.5 amp current rating; 28527 part no. 2311970G1	Relay Power Figure 5-56
1A53A3T3		TRANSFORMER, POWER, STEPDOWN: 460v, 506v, 414v primary, 45 to 66 Hz, 120v secondary, 2.5 amp current rating; 28527 part no. 1096296G1	1A53A3CB2 Trip Power Figure 5-59
1A53A3T4		Same as 1A53A3T2	Relay Power Figure 5-59
1A53A3T5 thru 1A53A3T7		TRANSFORMER, CURRENT: 250.5 amp current ratio, 600v, 25 to 400 Hz; 28527 part no. 1088418G88	Overcurrent Sensing Figure 5-62
1A53A3XC1 thru 1A53A3XC4		Not used	
1A53A3XC5		SOCKET, CAPACITOR: octal; 72825 part no. 9751-10; 28527 part no. 1088475G3	1A53A3C5 Socket Figure 5-58
1A53A3XDS1 thru 1A53A3XDS3		Not used	
1A53A3XDS4		LAMPHOLDER: clear lens; MIL-L-3661 type LH76/1LC14C03	1A53A3DS4 Lampholder Figure 5-59
1A53A3XDS4 MP1		LENS: clear; MIL-L-3661 type LC14C03	1A53A3XDS4 Lens Figure 5-59
1A53A3XDS5		Same as 1A53A3XDS4	1A53A3DS5 Lampholder Figure 5-59
1A53A3XDS5 MP1		Same as 1A53A3XDS4MP1	1A53A3XDS5 Lens Figure 5-59
1A53A3XDS6		Same as 1A53A3XDS4	1A53A3DS6 Lampholder Figure 5-59
1A53A3XDS6 MP1		Same as 1A53A3XDS4MP1	1A53A3XDS6 Lens Figure 5-59
1A53A3XF1		FUSEHOLDER: 3 pole, 1-30 amp, 250v; 71400 part no. 2607; 28527 part no. 2138357G1	1A53A3F1 to 1A53A3F3 Fuseholder Figure 5-59
1A53A3XF2 thru 1A53A3XF3		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3XF4		Same as 1A53A3XF1	1A53A3F4 to 1A53A3F6 Fuseholder Figure 5-57
1A53A3XF5 thru 1A53A3XF6		Not used	
1A53A3XF7		Same as 1A53A3XF1	1A53A3F7 to 1A53A3F9 Fuseholder Figure 5-57
1A53A3XF8 thru 1A53A3XF9		Not used	
1A53A3XF10		FUSEHOLDER: 1 pole, 30 amp, 600v; 71400 part no. 2601; 28527 part no. 2138357G2	1A53A3F10 Fuseholder Figure 5-57
1A53A3XF11		FUSEHOLDER: 3 pole, 0.100 amp, 250v; 71400 part no. 3452; 28527 part no. 2138358G1	1A53A3F11 to 1A53A3F13 Fuseholder Figure 5-57
1A53A3XF12 thru 1A53A3XF18		Not used	
1A53A3XF19		FUSEHOLDER: 3 pole, 2 amp, 250v; MIL-F-21346 type FH25CM	1A53A3F19 to 1A53A3F21 Fuseholder Figure 5-57
1A53A3XF20 thru 1A53A3XF34		Not used	
1A53A3XF35		Same as 1A53A3XF1	1A53A3F35 to 1A53A3F37 Fuseholder Figure 5-57
1A53A3XF36 thru 1A53A3XF37		Not used	
1A53A3XF38		FUSEHOLDER: 2 pole, 2 amp, 250v; MIL-F-21346 type FH25BM	1A53A3F38 to 1A53A3F39 Fuseholder Figure 5-57
1A53A3XF39		Not used	
1A53A3XF40		FUSEHOLDER: 1 pole, 2 amp, 250v; MIL-F-21346 part no. FH25AM	1A53A3F40 Fuseholder Figure 5-57
1A53A3XF41		FUSEHOLDER: 2 pole, 30 amp, 600v; 71400 part no. 2811; 28527 part no. 2138359G1	1A53A3F41 and 1A53A3F42 Fuseholder Figure 5-59

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RELAY ASSEMBLY RE-1113/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3XK1 thru 1A53A3XK27		Not used	
1A53A3XK28		SOCKET RELAY: 9 contacts; MIL-S-12883 type M12883-11-01	1A53A3K28 Socket Figure 5-56
1A53A3XK29 thru 1A53A3XK35		Not used	
1A53A3XK36		Same as 1A53A3XC5	1A53A3K36 Socket Figure 5-58
1A53A3XK37		Same as 1A53A3XC5	1A53A3K37 Socket Figure 5-58
1A53A3XK38		Not used	
1A53A3XK39		Same as 1A53A3XK28	1A53A3K28 Relay Socket Figure 5-59
1A53A3XK40		Same as 1A53A3XK28	1A53A3K40 Socket Figure 5-56
REGULATOR, VOLTAGE CN-1473/FPN-44A			
1A53A3A1		REGULATOR, VOLTAGE CN-1473/FPN-44A; used to regulate 10,750 and 21,500 volt Power Supply outputs; 26862 part no. 418056; 28527 part no. 1096342G1.	Regulates Power Supply Outputs Figure 5-62
1A53A3A1B1		SEMICONDUCTOR DEVICE: rectifier; 04713 part no. MDA952-6	Bridge Rectifier Figure 5-63
1A53A3A1CTA thru 1A53A3A1CTC		TRANSFORMER, CURRENT: 500-5 ratio; 25 to 400 Hz, 600v; 12670 part no. 64-501	Current Sensing Figure 5-63
1A53A3A1C1		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 2.2 uf ± 10%, 100 vdcw; 04222 part no. V146Z168	Regulator Bandwidth Figure 5-63
1A53A3A1D1		SEMICONDUCTOR DEVICE, DIODE: rectifier; 13327 part no. 1N5054	Coil Protection Figure 5-63
1A53A3A1D2		Same as 1A53A3A1D1	Gating Diode Figure 5-63
1A53A3A1D3		Same as 1A53A3A1D1	Coil Protection Figure 5-63
1A53A3A1 FAN 1		FAN, TUBEAXIAL: 115v, 50 to 60 Hz, 1 phase, 52 watts, 0.76 amps, 575 cfm; 82877 part no. CL2T	Cooling Figure 5-63
1A53A3A1 FAN 2		Same as 1A53A3A1 FAN 1	Cooling Figure 5-63
1A53A3A1RY1		RELAY, ARMATURE: dpdt, 120v coil, 50 to 60 Hz, 2250 ohms dc resistance, continuous; 77342 part no. KUP14D11-120 vac	Fault Latching Figure 5-63
1A53A3A1RY2		Same as 1A53A3A1RY1	Control Reset Figure 5-63

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1R1		RESISTOR, FIXED, COMPOSITION: 3 megohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G305JS	Soft-Start Timing Figure 5-63
1A53A3A1SCR 1A thru 1A53A3A1SCR 2C		SEMICONDUCTOR DEVICE, DIODE: silicon controlled rectifier; 89481 part no. T720145504DN	Line Voltage Control Figure 5-63
1A53A3A1 SCR1AE1 thru 1A53A3A1 SCR2CE1		CLAMP GAUGE: stainless steel, 800 to 2000 pounds clamping force; 05820 part no. 130D-1	1A53A3A1SCR1A thru 1A53A3A1SCR2C Holder Figure 5-63
1A53A3A1TB1 thru 1A53A3A1TB4		TERMINAL BOARD: 4 terminal, barrier type; 75382 part no. 671-4	Interconnection Figure 5-63
1A53A3A1TB5 thru 1A53A3A1TB7		TERMINAL BOARD: 10 terminals, barrier type; 75382 part no. 671-10	Interconnection Figure 5-63

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1TS1 thru 1A53A3A1TS2		SWITCH, THERMOSTATIC: opens at 75 deg C, closes at 65 deg C; 26862 part no. 161025-2	SCR Protection Figure 5-63
1A53A3A1VS1 thru 1A53A3A1VS3		RECTIFIER, METALLIC: selenium; 89481 part no. S01AA48AC	Transient Suppressor Figure 5-63
1A53A3A1XRY1		SOCKET, RELAY: screw terminals; 77342 part no. 9KU6	1A53A3A1RY1 Socket Figure 5-63
1A53A3A1XRY2		Same as 1A53A3A1XRY1	1A53A3A1RY2 Socket Figure 5-63
1A53A3A1A1		GATE TRIGGER UNIT: Regulate 3 phase input to the primary of the High Voltage Transformer; 26862 part no. 304108 (NOTE: Gate Trigger Units 1A53A3A1A1, 1A53A3A1A2 and 1A53A3A1A3 must be used as a matched set.)	Controls Line Voltage Input Figure 5-63
1A53A3A1A1C1 thru 1A53A3A1A1C2		CAPACITOR, FIXED, ELECTROLYTIC: 50 uf +75% -10%, 50 vdcw; 56289 part no. TE1307	Filter Figure 5-68
1A53A3A1A1C3		CAPACITOR, FIXED, ELECTROLYTIC: 5 uf +150% -10%, 25 vdcw; 14655 part no. NLW5-25	Filter Figure 5-67
1A53A3A1A1C4		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.001 uf +100% -0%, 1000 vdcw; 71590 part no. DD102	Transistor Protection Figure 5-67
1A53A3A1A1C5		Not used	
1A53A3A1A1C6		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.01 uf ± 10%, 200 vdcw; 90201 part no. PVC211	Decoupling Figure 5-67
1A53A3A1A1C7		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.22 uf ± 10%, 100 vdcw; 90201 part no. PVC1022	Filter Figure 5-68
1A53A3A1A1C8		Same as 1A53A3A1A1C4	Filter Figure 5-67
1A53A3A1A1C9		CAPACITOR, FIXED, ELECTROLYTIC: 3 uf +150% -10%, 25 vdcw; 14655 part no. NLW3-25	Filter Figure 5-67
1A53A3A1A1C10		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.1 uf ± 10%, 100 vdcw; 90201 part no. PVC101	Coupling Figure 5-67
1A53A3A1A1C11		CAPACITOR, FIXED, ELECTROLYTIC: 20 uf +150% -10%, 50 vdcw; 14655 part no. NLW20-50	Filter Figure 5-66
1A53A3A1A1C12		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.47 uf ± 10%, 100 vdcw; 90201 part no. PVC1047	Filter Figure 5-66

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1C13		CAPACITOR, FIXED, ELECTROLYTIC: 3 uf +50% -10%, 100 vdcw; 56289 part no. TE1402	Filter Figure 5-66
1A53A3A1A1C14		CAPACITOR, FIXED, ELECTROLYTIC: 1 uf +150% -10%, 50 vdcw; 14655 part no. NLW1-50	Filter Figure 5-67
1A53A3A1A1C15		Same as 1A53A3A1A1C10	Filter Figure 5-66
1A53A3A1A1C16 thru 1A53A3A1A1C20		Not used	
1A53A3A1A1C21		Same as 1A53A3A1A1C11	Filter Figure 5-66
1A53A3A1A1C22		Same as 1A53A3A1A1C12	Filter Figure 5-66
1A53A3A1A1C23		Same as 1A53A3A1A1C13	Filter Figure 5-66
1A53A3A1A1C24		Same as 1A53A3A1A1C14	Filter Figure 5-67
1A53A3A1A1C25		Same as 1A53A3A1A1C10	Filter Figure 5-66
1A53A3A1A1C26 thru 1A53A3A1A1C79		Not used	
1A53A3A1A1C80		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.02 uf ± 10%, 200 vdcw; 90201 part no. PVC212	Filter Figure 5-68
1A53A3A1A1C81		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.01 uf ± 10% 400 vdcw; 90201 part no. PVC411	Filter Figure 5-68
1A53A3A1A1C82		Same as 1A53A3A1A1C10	Filter Figure 5-64
1A53A3A1A1C83 thru 1A53A3A1A1C99		Not used	
1A53A3A1A1 C100 thru 1A53A3A1A1 C101		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 1 uf ± 10%, 100 vdcw; 90201 part no. PVC11	Filter Figure 5-66
1A53A3A1A1D1 thru 1A53A3A1A1D2		SEMICONDUCTOR DEVICE, DIODE: silicon reference diode; 04713 part no. 1N4739	Voltage Regulator Figure 5-67

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1D3		SEMICONDUCTOR DEVICE, DIODE: silicon reference diode; 04713 part no. 1N4735	Voltage Regulator Figure 5-67
1A53A3A1A1D4		Same as 1A53A3A1A1D1	Voltage Regulator Figure 5-67
1A53A3A1A1D5 thru 1A53A3A1A1D6		Not used	
1A53A3A1A1D7 thru 1A53A3A1A1D10		SEMICONDUCTOR DEVICE, DIODE: rectifier; 04713 part no. 1N4003	Rectifier Figure 5-67
1A53A3A1A1D11 thru 1A53A3A1A1D12		Same as 1A53A3A1A1D7	Rectifier Figure 5-66
1A53A3A1A1D13 thru 1A53A3A1A1D14		Same as 1A53A3A1A1D7	Pulse Shaper Figure 5-67
1A53A3A1A1D15 thru 1A53A3A1A1D20		Not used	
1A53A3A1A1D21 thru 1A53A3A1A1D22		Same as 1A53A3A1A1D7	Rectifier Figure 5-66
1A53A3A1A1D23 thru 1A53A3A1A1D24		Same as 1A53A3A1A1D7	Pulse Shaper Figure 5-67
1A53A3A1A1D25 thru 1A53A3A1A1D59		Not used	
1A53A3A1A1D60 thru 1A53A3A1A1D61		Same as 1A53A3A1A1D7	Regulator Figure 5-67
1A53A3A1A1D62		Same as 1A53A3A1A1D7	Clamping Figure 5-67
1A53A3A1A1D63 thru 1A53A3A1A1D64		Same as 1A53A3A1A1D7	Rectifier Figure 5-67
1A53A3A1A1D65		Not used	
1A53A3A1A1D66		Same as 1A53A3A1A1D7	Clamping Figure 5-67
1A53A3A1A1D67 thru 1A53A3A1A1D79		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1D80		Same as 1A53A3A1A1D7	Rectifier Figure 5-68
1A53A3A1A1D81		SEMICONDUCTOR DEVICE, DIODE: silicon; MIL-S-19500 type 1N4148	Limiter Figure 5-66
1A53A3A1A1D82		Same as 1A53A3A1A1D81	Limiter Figure 5-68
1A53A3A1A1D83		Same as 1A53A3A1A1D81	Limiter Figure 5-68
1A53A3A1A1D84		Same as 1A53A3A1A1D81	Limiter Figure 5-66
1A53A3A1A1D85 thru 1A53A3A1A1D89		Not used	
1A53A3A1A1D90		Same as 1A53A3A1A1D7	Relay Protection Figure 5-67
1A53A3A1A1P1		RESISTOR, VARIABLE: 100K ohms ± 10%, 2 watts; 80294 part no. 3852B202-104A	Balance Control Figure 5-64
1A53A3A1A1P2		RESISTOR, VARIABLE: 10K ohms ± 10%, 2 watts; 71450 part no. WPRL10000	Bias Control Figure 5-64
1A53A3A1A1P3		RESISTOR, VARIABLE: 50K ohms ± 10%, 2 watts; 71450 part no. WPRL50000	Gain Control Figure 5-64
1A53A3A1A1Q1		TRANSISTOR: silicon NPN; 04713 part no. 2N4403	Square Wave Generator Figure 5-67
1A53A3A1A1Q2		TRANSISTOR: silicon NPN; 04713 part no. 2N4401	Relay Control Figure 5-67
1A53A3A1A1Q3		Same as 1A53A3A1A1Q2	Gate Control Figure 5-67
1A53A3A1A1Q4		Same as 1A53A3A1A1Q1	Gate Control Figure 5-67
1A53A3A1A1Q5		Same as 1A53A3A1A1Q1	Amplifier Figure 5-67
1A53A3A1A1Q6		Same as 1A53A3A1A1Q2	Amplifier Figure 5-67
1A53A3A1A1Q7 thru 1A53A3A1A1Q10		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1Q11		Same as 1A53A3A1A1Q2	Emitter Follower Figure 5-67
1A53A3A1A1Q12 thru 1A53A3A1A1Q20		Not used	
1A53A3A1A1Q21		Same as 1A53A3A1A1Q2	Emitter Follower Figure 5-67
1A53A3A1A1RY		RELAY, ARMATURE: spdt, coil 12 vdc at 1640 ohms dc resistance, 90 mw; 78277 part no. 65F1A12DC	Undervoltage Control Figure 5-64
1A53A3A1A1R1 thru 1A53A3A1A1R2		RESISTOR, FIXED, COMPOSITION: 270 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G271JS	Current Limiter Figure 5-67
1A53A3A1A1R3		RESISTOR, FIXED, FILM: selected at test; 91637 type MFF 1/2; 4 to 18K ohms range	Bias Control Figure 5-67
1A53A3A1A1R4		RESISTOR, FIXED, COMPOSITION: 3.9K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G392JS	Bias Control Figure 5-67
1A53A3A1A1R5 thru 1A53A3A1A1R9		Not used	
1A53A3A1A1R10		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G100JS	Current Limiter Figure 5-66
1A53A3A1A1R11		RESISTOR, FIXED, WIREWOUND: 75 ohms ± 5%, 10 watts; 63743 part no. 10XM75OHMS10WATT	Current Limiter Figure 5-66
1A53A3A1A1R12		RESISTOR, FIXED, COMPOSITION: 47 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G470JS	Gate Control Figure 5-66
1A53A3A1A1R13		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G101JS	Bleeder Figure 5-66
1A53A3A1A1R14		RESISTOR, FIXED, FILM: 80.6K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-80600OHMSPORM1	Pulse Shaper Figure 5-67
1A53A3A1A1R14A		Not used	
1A53A3A1A1 R14B		RESISTOR, FIXED, FILM: selected at test; 91637 type MFF1/2; 100K to open range	Pulse Shaper Figure 5-68
1A53A3A1A1R15		RESISTOR, FIXED, COMPOSITION: 4.7K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G472JS	Pulse Shaper Figure 5-67
1A53A3A1A1R16		Same as 1A53A3A1A1R15	Pulse Shaper Figure 5-67
1A53A3A1A1R17		RESISTOR, FIXED, COMPOSITION: 3.3K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G332JS	Collector Figure 5-67
1A53A3A1A1R18		RESISTOR, FIXED, COMPOSITION: 4.7K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G472JS	Current Control Figure 5-67
1A53A3A1A1R19		RESISTOR, FIXED, FILM: selected at test; 91637 type MFF1/2; 1 to 15K ohms range	Current Control Figure 5-67

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1R20		Same as 1A53A3A1A1R10	Current Limiter Figure 5-66
1A53A3A1A1R21		Same as 1A53A3A1A1R11	Current Limiter Figure 5-66
1A53A3A1A1R22		Same as 1A53A3A1A1R12	Gate Control Figure 5-66
1A53A3A1A1R23		Same as 1A53A3A1A1R13	Bleeder Figure 5-66
1A53A3A1A1R24		Same as 1A53A3A1A1R14	Pulse Shaper Figure 5-67
1A53A3A1A1R24A		Not used	
1A53A3A1A1 R24B		RESISTOR, FIXED, FILM: selected at test; 91637 type MFF1/2; 100K to open range	Pulse Shaper Figure 5-68
1A53A3A1A1R25		Same as 1A53A3A1A1R15	Pulse Shaper Figure 5-67
1A53A3A1A1R26		Same as 1A53A3A1A1R15	Pulse Shaper Figure 5-67
1A53A3A1A1R27		Same as 1A53A3A1A1R17	Collector Figure 5-67
1A53A3A1A1R28		Same as 1A53A3A1A1R18	Current Control Figure 5-67
1A53A3A1A1R29		RESISTOR, FIXED, FILM: selected at test; 91637 type MFF1/2; 1 to 15K ohms range	Current Control Figure 5-67
1A53A3A1A1R30 thru 1A53A3A1A1R50		Not used	
1A53A3A1A1R51		RESISTOR, FIXED, FILM: 3010 ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-3010OHMSPORM1	Bias Figure 5-64
1A53A3A1A1R52 thru 1A53A3A1A1R59		Not used	
1A53A3A1A1R60		RESISTOR, FIXED, COMPOSITION: 240K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G244JS	Bias Figure 5-67
1A53A3A1A1R61 thru 1A53A3A1A1R62		Not used	
1A53A3A1A1R63		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G103JS	Bias Figure 5-67
1A53A3A1A1R64		RESISTOR, FIXED, COMPOSITION: 51K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G513JS	Bias Figure 5-67
1A53A3A1A1R65		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1R66		RESISTOR, FIXED, COMPOSITION: 24K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G243JS	Voltage Divider Figure 5-67
1A53A3A1A1R67		RESISTOR, FIXED, COMPOSITION: selected at test; MIL-R-39008 type RCR20G; 10 to 60K ohms range	Voltage Divider Figure 5-67
1A53A3A1A1R68		RESISTOR, FIXED, COMPOSITION: 1.5K ohms ± 5%; 2 watts; MIL-R-39008 type RCR42G152JS	Voltage Divider Figure 5-67
1A53A3A1A1R69		RESISTOR, FIXED, COMPOSITION: 100K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G104JS	Voltage Divider Figure 5-67
1A53A3A1A1R70		Same as 1A53A3A1A1R63	Collector Figure 5-67
1A53A3A1A1R71		RESISTOR, FIXED, FILM: 2000 ohms ± 1%; 1/2 watt; 91637 type MFF1-2-2000OHMSPORM1	Collector Figure 5-67
1A53A3A1A1R72		RESISTOR, FIXED, FILM: selected at test; 91637 type MFF1/2; 1.5 to 4K ohms range	Voltage Divider Figure 5-67
1A53A3A1A1R73		RESISTOR, FIXED, FILM: 64.9K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-64900OHMSPORM1	Voltage Divider Figure 5-67
1A53A3A1A1R74		RESISTOR, FIXED, FILM: 1910 ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-1910OHMSPORM1	Emitter Figure 5-67
1A53A3A1A1R75		RESISTOR, FIXED, FILM: 22.1K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-22100OHMSPORM1	Bias Control Figure 5-67
1A53A3A1A1R76 thru 1A53A3A1A1R79		Not used	
1A53A3A1A1R80		RESISTOR, FIXED, COMPOSITION: 15K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G153JS	Coupling Figure 5-68
1A53A3A1A1R81		RESISTOR, FIXED, COMPOSITION: 332 ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-332OHMSPORM1	Current Control Figure 5-68
1A53A3A1A1R82		Same as 1A53A3A1A1R69	Isolation Figure 5-64
1A53A3A1A1R83 thru 1A53A3A1A1R99		Not used	
1A53A3A1A1 R100		RESISTOR, FIXED, FILM: to be selected; 91637 type MFF1/2; 20 to 60K ohms range	Bias Control Figure 5-64
1A53A3A1A1 R101		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G101JS	Voltage Divider Figure 5-66
1A53A3A1A1 R102		RESISTOR, FIXED, COMPOSITION: 1K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G102JS	Voltage Divider Figure 5-66
1A53A3A1A1 R103		Same as 1A53A3A1A1R101	Voltage Divider Figure 5-66

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1 R104		Same as 1A53A3A1A1R102	Voltage Divider Figure 5-66
1A53A3A1A1 R105A		RESISTOR, FIXED, FILM: 4.49K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-44900HMSPORM1	Gain Control Figure 5-68
1A53A3A1A1 R105B		RESISTOR, FIXED, FILM: 1K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-1KOHMSPORM1	Current Limiter Figure 5-68
1A53A3A1A1 R106		Same as 1A53A3A1A1R105B	Current Limiter Figure 5-68
1A53A3A1A1 R107 thru 1A53A3A1A1 R199		Not used	
1A53A3A1A1 R200		RESISTOR, FIXED, COMPOSITION: 330 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G331JS	Collector Figure 5-64
1A53A3A1A1 SCR1 thru 1A53A3A1A1 SCR10		Not used	
1A53A3A1A1 SCR11		SEMICONDUCTOR DEVICE, DIODE: silicon controlled rectifier; 03508 part no. C6A	Gate Trigger Figure 5-66
1A53A3A1A1 SCR12 thru 1A53A3A1A1 SCR20		Not used	
1A53A3A1A1 SCR21		Same as 1A53A3A1A1SCR11	Gate Trigger Figure 5-66
1A53A3A1A1 SL1		AMPLIFIER, MAGNETIC: 26862 part no. 190140	Gate Control Figure 5-65
1A53A3A1A1 TB1		TERMINAL BOARD: 8 terminals, barrier type; 75382 part no. 670Y8	Interconnection Figure 5-63
1A53A3A1A1 TB2		TERMINAL BOARD: 9 terminals, barrier type; 75382 part no. 671Y9	Interconnection Figure 5-63
1A53A3A1A1T1		TRANSFORMER, POWER, STEPDOWN: primary 120v, 208v, 240v, 480v; secondary 20v, 20v, 60v, 50 to 60 Hz; 26862 part no. 161004	Power Transformer Figure 5-65
1A53A3A1A1T2 thru 1A53A3A1A1 T10		Not used	
1A53A3A1A1 T11		TRANSFORMER, PULSE: 2 windings, 200 turns of no. 36 awg wire; 26862 part no. 190048	Gate Coupler Figure 5-65
1A53A3A1A1 T12 thru 1A53A3A1A1 T20		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A1 T21		Same as 1A53A3A1A1T11	Gate Coupler Figure 5-65
1A53A3A1A2		Same as 1A53A3A1A1	Controls Line Voltage Input Figure 5-63
1A53A3A1A3		Same as 1A53A3A1A1	Controls Line Voltage Input Figure 5-63
1A53A3A1A4		CHOP-OFF LIMITER: overcurrent and loss of voltage control for high voltage power supply; 26862 part no. 359118	SCR Cut-Off Control Figure 5-63
1A53A3A1A4C1		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.5 uf ± 10%, 100 vdcw; 90201 part no. PVC105	Filter Figure 5-69
1A53A3A1A4C2		CAPACITOR, FIXED, ELECTROLYTIC: 100 uf +150% -10%, 50 vdcw; 14655 part no. NLW100-50	Filter Figure 5-69
1A53A3A1A4C3		CAPACITOR, FIXED, ELECTROLYTIC: 125 uf +150% -10%, 50 vdcw; 14655 part no. NLW125-50	Filter Figure 5-69
1A53A3A1A4C4 thru 1A53A3A1A4C5		Same as 1A53A3A1A4C1	Timing Network Figure 5-69
1A53A3A1A4C6 thru 1A53A3A1A4C7		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.1 uf +80% -30%, 75 vdcw; 71590 part no. DDA104	Filter Figure 5-69
1A53A3A1A4C8		Not used	
1A53A3A1A4C9		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.01 uf +100% -0%, 1000 vdcw; 71590 part no. DD103	Filter Figure 5-69
1A53A3A1A4 C10		Same as 1A53A3A1A4C9	Arc Suppressor Figure 5-69
1A53A3A1A4 C11		Same as 1A53A3A1A4C6	Filter Figure 5-69
1A53A3A1A4 C12		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.47 uf ± 10%, 100 vdcw; 90201 part no. PVC1047	Coupling Figure 5-69
1A53A3A1A4D1 thru 1A53A3A1A4 D13		SEMICONDUCTOR DEVICE, DIODE: rectifier; 04713 part no. 1N4003	Rectifier Figure 5-69
1A53A3A1A4 D14		Not used	
1A53A3A1A4D15 thru 1A53A3A1A4D18		Same as 1A53A3A1A4D1	Rectifier Figure 5-69

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A4D19		Same as 1A53A3A1A4D1	Coupling Figure 5-69
1A53A3A1A4D20		Same as 1A53A3A1A4D1	Clamping Figure 5-69
1A53A3A1A4D21		Same as 1A53A3A1A4D1	Coupling Figure 5-69
1A53A3A1A4D22		Same as 1A53A3A1A4D1	Clamping Figure 5-69
1A53A3A1A4D23		Not used	
1A53A3A1A4D24		Same as 1A53A3A1A4D1	Coupling Figure 5-69
1A53A3A1A4P1		RESISTOR, VARIABLE: 10K ohms ± 5%, 2 watts; 12697 part no. 43C2-10K	Limit Adjust Figure 5-63
1A53A3A1A4Q1		TRANSISTOR: silicon NPN; 04713 part no. 2N4401	Fault Amplifier Control Figure 5-69
1A53A3A1A4Q2		Same as 1A53A3A1A4Q1	Gate Trigger Unit Control Figure 5-69
1A53A3A1A4Q3		TRANSISTOR: unijunction; 04713 part no. 2N2646	Fault Amplifier Control Figure 5-69
1A53A3A1A4Q4		Same as 1A53A3A1A4Q3	Fault Control Figure 5-69
1A53A3A1A4Q5		TRANSISTOR: silicon NPN; 04713 part no. 2N4403	Fault Control Figure 5-69
1A53A3A1A4 RYA		RELAY, ARMATURE: spdt, coil 12 vdc, 1640 ohms dc resistance, 90 mw; 78277 part no. 65FP1A12DC	Fault Control Figure 5-69
1A53A3A1A4 RYB		RELAY, ARMATURE: spdt, coil, 12 vdc, 1640 ohms dc resistance, 90 mw; 78277 part no. 65F1A12DC	Loss of Voltage Control Figure 5-69
1A53A3A1A4R1		RESISTOR, FIXED, COMPOSITION: 75 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G750JS	Overcurrent Load Figure 5-69
1A53A3A1A4R2		RESISTOR, FIXED, COMPOSITION: 15K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G153JS	Current Limiter Figure 5-69
1A53A3A1A4R3		RESISTOR, FIXED, COMPOSITION: 12K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G123JS	Reference Voltage Divider Figure 5-69

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A4R4		RESISTOR, FIXED, COMPOSITION: 1K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G102JS	Current Limiting Figure 5-69
1A53A3A1A4R5		RESISTOR, FIXED, COMPOSITION: 330 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G331JS	Current Limiting Figure 5-69
1A53A3A1A4R6		RESISTOR, FIXED, COMPOSITION: 2.2 meg ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G225JS	Bias Figure 5-69
1A53A3A1A4R7		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G103JS	Collector Figure 5-69
1A53A3A1A4R8		RESISTOR, FIXED, COMPOSITION: 5.1K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G512JS	Collector Figure 5-69
1A53A3A1A4R9		RESISTOR, FIXED, COMPOSITION: 1K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G102JS	Q3 Base Resistor Figure 5-69
1A53A3A1A4R10		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G100JS	Q3 Bases Resistor Figure 5-69
1A53A3A1A4R11		RESISTOR, FIXED, COMPOSITION: 48K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G483JS	Timing Network Figure 5-69
1A53A3A1A4R12		Same as 1A53A3A1A4R8	Collector Figure 5-69
1A53A3A1A4R13		Same as 1A53A3A1A4R7	Bias Figure 5-69
1A53A3A1A4R14		RESISTOR, FIXED, COMPOSITION: 47K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G473JS	Collector Figure 5-69
1A53A3A1A4R15		Same as 1A53A3A1A4R7	Coupling Figure 5-69
1A53A3A1A4R16		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G101JS	Collector Figure 5-69
1A53A3A1A4R17		Same as 1A53A3A1A4R7	Timing Network Figure 5-69
1A53A3A1A4R18		RESISTOR, FIXED, COMPOSITION: 2K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G202JS	Current Limiter Figure 5-69
1A53A3A1A4R19		Same as 1A53A3A1A4R9	Q4 Base Resistor Figure 5-69
1A53A3A1A4R20		RESISTOR, FIXED, COMPOSITION: 47 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G470JS	Q4 Base Resistor Figure 5-69
1A53A3A1A4R21		RESISTOR, FIXED, COMPOSITION: 220K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G224JS	Coupling Figure 5-69
1A53A3A1A4R22 thru 1A53A3A1A4R23		Same as 1A53A3A1A4R9	Current Limiter Figure 5-69

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A4R24		RESISTOR, FIXED, COMPOSITION: 390 ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G391JS	Current Limiter Figure 5-69
1A53A3A1A4 SCR1		SEMICONDUCTOR DEVICE, DIODE: silicon controlled rectifier; 03508 part no. C6A	Relay Control Figure 5-69
1A53A3A1A4 TB1		TERMINAL BOARD: 8 terminals, barrier type; 75382 part no. 670Y8	Interconnection Figure 5-63
1A53A3A1A4 TB2		TERMINAL BOARD: 6 terminals, barrier type; 75382 part no. 672Y6	Interconnection Figure 5-63
1A53A3A1A4T1 thru 1A53A3A1A4T3		TRANSFORMER, CURRENT: 2 windings, 1000 turns no. 30 awg, 10 turns no. 16 awg; 26862 part no. 190012	Current Sensing Figure 5-69
1A53A3A1A4T4 thru 1A53A3A1A4T10		Not used	
1A53A3A1A4T11		TRANSFORMER, POWER, STEPDOWN: primary 208v, 240v, 277v, secondary 60v CT at 4 va; 26862 part no. 161003-8	Power Transformer Figure 5-69
1A53A3A1A4Z1 thru 1A53A3A1A4Z2		SEMICONDUCTOR DEVICE, DIODE: silicon reference; 04713 part no. 1N4744	Voltage Regulator Figure 5-69
1A53A3A1A5		AMPLIFIER-VOLTAGE REGULATOR: provides control signal to the Gate Trigger Unit; 26862 part no. 300413	Provides Control Signal Figure 5-63
1A53A3A1A5C1 thru 1A53A3A1A5C2		CAPACITOR, FIXED, ELECTROLYTIC: 125 uf +150% -10%, 50 vdcw; 14655 part no. NLW125-50	Filter Figure 5-70
1A53A3A1A5C3 thru 1A53A3A1A5C9		Not used	
1A53A3A1A5C10		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 6.8 uf ± 10%, 100 vdcw; 80031 part no. C280MCHA6M8	Soft Start Timing Figure 5-70
1A53A3A1A5C11 thru 1A53A3A1A5C12		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.1 uf ± 10%, 100 vdcw; 90201 part no. PVC101	Filter Figure 5-70
1A53A3A1A5C13		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.1 uf +80% -30%, 75 vdcw; 71590 part no. DDA104	Filter Figure 5-70
1A53A3A1A5C14		Not used	
1A53A3A1A5C15		Same as 1A53A3A1A5C11	Coupling Figure 5-70
1A53A3A1A5C16		Not used	
1A53A3A1A5C17		Same as 1A53A3A1A5C13	Filter Figure 5-70

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A5C18		Not used	
1A53A3A1A5C19		Same as 1A53A3A1A5C13	Filter Figure 5-70
1A53A3A1A5C20		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.022 uf ± 10%, 100 vdcw; 90201 part no. PVC1122	Feedback Figure 5-70
1A53A3A1A5C21 thru 1A53A3A1A5C30		Not used	
1A53A3A1A5C31		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 2 uf ± 20%, 200 vdcw; 04222 part no. V146ZR127	Filter Figure 5-71
1A53A3A1A5C32 thru 1A53A3A1A5C34		Same as 1A53A3A1A5C13	Filter Figure 5-71
1A53A3A1A5C35 thru 1A53A3A1A5C36		Not used	
1A53A3A1A5C37		Same as 1A53A3A1A5C13	Filter Figure 5-71
1A53A3A1A5C38		Not used	
1A53A3A1A5C39 thru 1A53A3A1A5C40		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.005 uf +100% -0%, 3000 vdcw; 71590 part no. DD30-502	Filter Figure 5-71
1A53A3A1A5C41		Same as 1A53A3A1A5C13	Filter Figure 5-70
1A53A3A1A5C42 thru 1A53A3A1A5C43		Not used	
1A53A3A1A5C44		Same as 1A53A3A1A5C13	Filter Figure 5-70
1A53A3A1A5D1 thru 1A53A3A1A5D4		SEMICONDUCTOR DEVICE, DIODE: rectifier; 04713 part no. 1N4003	Rectifier Figure 5-70
1A53A3A1A5D5 thru 1A53A3A1A5D8		SEMICONDUCTOR DEVICE, DIODE: silicon reference; 04713 part no. 1N4737	Voltage Regulator Figure 5-70
1A53A3A1A5D9		SEMICONDUCTOR DEVICE, DIODE: silicon reference; 04713 part no. 1N4733A	Voltage Regulator Figure 5-70
1A53A3A1A5D10		Same as 1A53A3A1A5D9	Voltage Regulator Figure 5-70

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A5D11 thru 1A53A3A1A5D12		Same as 1A53A3A1A5D1	Clamping Figure 5-70
1A53A3A1A5D13 thru 1A53A3A1A5D14		Same as 1A53A3A1A5D1	Reference Level Figure 5-70
1A53A3A1A5 OA1 thru 1A53A3A1A5 OA3		AMPLIFIER, OPERATIONAL: linear; 33789 part no. UA741CH	Operational Amplifier Figure 5-70
1A53A3A1A5P1		Not used	
1A53A3A1A5P2		RESISTOR, VARIABLE: 3K ohms ± 1%, 2 watts; 12697 part no. CM36663	Calibrate Control Figure 5-63
1A53A3A1A5 RFC1 thru 1A53A3A1A5 RFC2		CHOKE, RADIO FREQUENCY: 2.5 mh, 41 ohms dc resistance, 125 ma current rating, 4 pies; 42498 part no. R50-2.5	Filter Figure 5-71
1A53A3A1A5R1 thru 1A53A3A1A5R2		RESISTOR, FIXED, WIREWOUND: 200 ohms ± 5%, 5 watts; MIL-R-26 type RW57G201	Current Limiter Figure 5-70
1A53A3A1A5R3		RESISTOR, FIXED, COMPOSITION: 200 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G201JS	Current Limiter Figure 5-70
1A53A3A1A5R4		RESISTOR, FIXED, FILM: 1000 ohms ± 1%, 1/2 watt; part no. MFF1-2-1000OHMSPORM1	Voltage Divider Figure 5-70
1A53A3A1A5R5 thru 1A53A3A1A5R9		Not used	
1A53A3A1A5R10		RESISTOR, FIXED, FILM: 100 ohms ± 1%, 1/8 watt; 91637 part no. MFF1-8-100OHMSPORM1	Bandwidth Control Figure 5-70
1A53A3A1A5R11		RESISTOR, FIXED, FILM: 10K ohms ± 1%, 1/8 watt; 91637 part no. MFF1-8-10KOHMSPORM1	Isolation Figure 5-70
1A53A3A1A5R12		Same as 1A53A3A1A5R10	Bandpass Figure 5-70
1A53A3A1A5R13 thru 1A53A3A1A5R14		RESISTOR, FIXED, FILM: 5110 ohms ± 1%, 1/8 watt; 91637 part no. MFF1-8-5110OHMSPORM1	Gain Control Figure 5-70
1A53A3A1A5R15		RESISTOR, FIXED, COMPOSITION: 2.2 meg ohms ± 50%, 1/2 watt; MIL-R-39008 type RCR20G225JS	Gain Control Figure 5-70
1A53A3A1A5R16		RESISTOR, FIXED, FILM: 2K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-2000OHMSPORM1	Coupling Figure 5-70

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A5R17 thru 1A53A3A1A5R18		Same as 1A53A3A1A5R13	Voltage Divider Figure 5-70
1A53A3A1A5R19		RESISTOR, FIXED, FILM: 100K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-8-100KOHMSPORM1	Voltage Divider Figure 5-71
1A53A3A1A5R20		Same as 1A53A3A1A5R11	Operational Amplifier Output Figure 5-70
1A53A3A1A5R21 thru 1A53A3A1A5R23		Not used	
1A53A3A1A5R24		Same as 1A53A3A1A5R19	Operational Amplifier Gain Control Figure 5-70
1A53A3A1A5R25		Same as 1A53A3A1A5R13	Operational Amplifier Gain Control Figure 5-70
1A53A3A1A5R26		RESISTOR, FIXED, FILM: 56.2K ohms ± 1%, 1/8 watt; 91637 part no. MFF1-2-56200OHMSPORM1	Operational Amplifier Gain Control Figure 5-70
1A53A3A1A5R27		RESISTOR, FIXED, FILM: 2550 ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-2550OHMSPORM1	Input Load Figure 5-70
1A53A3A1A5R28 thru 1A53A3A1A5R30		Not used	
1A53A3A1A5R31 thru 1A53A3A1A5R32		Same as 1A53A3A1A5R4	Operational Amplifier Slow Start Figure 5-70
1A53A3A1A5R33		Same as 1A53A3A1A5R11	Operational Amplifier Slow Start Figure 5-70
1A53A3A1A5R34		RESISTOR, FIXED, FILM: 47.5K ohms ± 1%, 1/2 watt; 91637 part no. MFF1-2-47500OHMSPORM1	Operational Amplifier Output Figure 5-70
1A53A3A1A5 TB1		TERMINAL BOARD: 8 terminals, barrier type; 75382 part no. 670Y8	Interconnection Figure 5-63
1A53A3A1A5 TB2		TERMINAL BOARD: 8 terminals, barrier type; 75382 part no. 671Y8	Interconnection Figure 5-63
1A53A3A1A5T1		TRANSFORMER, POWER, STEPDOWN: primary 208v, 240v, 272v, secondary 60 vct at 4 va; 26862 part no. 161003-8	Power Transformer Figure 5-70
1A53A3A1A6		SUPPRESSOR ASSEMBLY: 26862 part no. 169597	Line Transient Protection Figure 5-63
1A53A3A1A6 C1		Not used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1473/FPN-44A

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A1A6 C2		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.1 uf ± 10%, 1000 vdcw; 56289 part no. 10TMP10	Filter Figure 5-63
1A53A3A1A6 R1 thru 1A53A3A1A6 R4		RESISTOR, FIXED, COMPOSITION: 10 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G100JS	Filter Figure 5-63
1A53A3A1A7 thru 1A53A3A1A8		Same as 1A53A3A1A6	Line Transient Protection Figure 5-63
FUSE PANEL 1096343G1			
1A53A3A2		FUSE PANEL: contains fuses; 26862 part no. 300412; 28527 part no. 1096343G1	Fuse Mounting Figure 5-62
1A53A3A2F1 thru 1A53A3A2F3		FUSE, CARTRIDGE: 800 amps, 500v; 71424 part no. A50P800 type 4	Circuit Protection Figure 5-72
1A53A3A2MP1		INSULATOR, STANDOFF: 600v, plastic; 02329 part no. PL1603B	Fuse Plate Mounting Figure 5-72
1A53A3A2TB1		TERMINAL BOARD: 6 terminals, barrier type; 75382 part no. 671-6	Interconnection Figure 5-72
VOLTAGE REGULATOR (NO NUMBER)			
1A53A3A3		VOLTAGE REGULATOR: subassembly, consisting of transformers, relays and associated components, no part number assigned to this assembly	Voltage Regulator Figure 5-56
1A53A3A3B1		MOTOR, REGULATOR: 115 volts, 60 Hz, single phase, 1/20 hp, 1600 rpm; 15413 part no. 699A240; 28527 part no. 1088475G61	Regulates Voltage Figure 5-73
1A53A3A3C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 15 uf ± 10%, 600 vdc; 24446 part no. CP70D1DF156K1; 28527 part no. 1088475G47	Motor Capacitor Figure 5-73
1A53A3A3E1		GEAR, SPUR: phenolic, 30 teeth, 1.875 pitch dia; 24446 part no. 699A212; 28527 part no. 1088475G90	Regulator Motor Drive Mechanism Figure 5-73
1A53A3A3E2		GEAR, SPUR: 24446 part no. PO-973B397G1	Regulator Motor Drive Mechanism Figure 5-73
1A53A3A3F1		FUSE, CARTRIDGE: 3 amps, 250 v; MIL-F-15160 type FO3A250V3AS	Motor Protection Figure 5-73
1A53A3A3S1 thru 1A53A3A3S2		SWITCH, LIMIT: spst, 125/250 volt, 15 amp; 91929 part no. V3-1; 28527 part no. 1088475G39	Raise and Lower Limit Switch Figure 5-73
1A53A3A3TB1		TERMINAL BOARD: seven .312-18 terminals, .375 in thick by 3.500 in wide by 8.500 in long	Interconnection Figure 5-73
1A53A3A3TB2 thru 1A53A3A3TB19		Not Used	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE (NO NUMBER)

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A3TB20 thru 1A53A3A3TB22		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-73
1A53A3A3T1		REGULATOR, INDUCTROL: 120/208 volts, 55/66 Hz 3.34 amps to 83.3 amps	Inductrol Regulator Figure 5-73
1A53A3A3T2		TRANSFORMER, POWER, STEP-DOWN: 575/460/230 volts, 50/60 Hz, 100 volt amps; 133/115 volts secondary; 24446 part no. 9T35Y1162G2; 28527 part no. 1088475G62	Control Potential Figure 5-73
1A53A3A3T3		Same as 1A53A3A3T2	Motor Supply Figure 5-73
1A53A3A3XF1		FUSEHOLDER: indicating, 20 amp 250 v; MIL-F-19207 type FHL17G1	1A53A3A3F1 Holder Figure 5-73

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1472/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A4		PANEL, CONTROL: contains fuses, switches and controls for Regulator Voltage; 28527 part no. 1096285G3	Regulator Control Panel Figure 5-57
1A53A3A4F1		FUSE, CARTRIDGE: 1/2 amp; 15413 part no. W8DDP012	Control Power Fuse Figure 5-74
1A53A3A4F2		FUSE, CARTRIDGE: 1/4 amp; 15413 part no. W8DDP002	Sensing Power Fuse Figure 5-74
1A53A3A4R1		RESISTOR, VARIABLE: 15413 part no. 3917A111AAP84	Bandwidth Increase Figure 5-74

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

REGULATOR, VOLTAGE CN-1472/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A3A4R2		RESISTOR, VARIABLE: 15413 part no. 3917A111AAP31	Voltage Level Increase Figure 5-74
1A53A3A4S1		SWITCH, PUSH: 15413 part no. 3917A223AAP25	Mode Selector Switch Figure 5-74
1A53A3A4S2		SWITCH, PUSH: 15413 part no. 3917A223AAP23	Manual Raise Switch Figure 5-74
1A53A3A4S3		Same as 1A53A3A4S2	Manual Lower Switch Figure 5-74
1A53A3A4S4		SWITCH, PUSH: 15413 part no. 3917A223AAP24	Motor Switch Figure 5-74
SHUNT, INSTRUMENT MX-9783/FPN-44A			
1A53A4		SHUNT, INSTRUMENT MX-9783/FPN-44A: includes two instrument shunts; 01238 part no. E30-17936; 28527 part no. 1096307G1	Meter and Control Circuit Shunt Figure 5-52
1A53A4K1 thru 1A53A4K2		RELAY, ARMATURE: dpdt, coil 1000 ohms dc resistance, 10 ma dc, 2 amp contact rating; 78277 part no. 42R01000SS1L	Overcurrent Control Figure 5-75
1A53A4R1		RESISTOR, VARIABLE: 200 ohms ±10%, 2 watts; MIL-R-94 type RV4LAYSA201A	Average IPA Current Reference Figure 5-75
1A53A4R2		Same as 1A53A4R1	Peak IPA Current Reference Figure 5-75
1A53A4R3		RESISTOR, VARIABLE: 100 ohms ±10%, 2 watts; MIL-R-94 type RV4LAYSA101A	Average PA Current Reference Figure 5-75
1A53A4R4		Same as 1A53A4R1	Peak PA Current Reference Figure 5-75
1A53A4TB1		TERMINAL BOARD: 10 terminal, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-75
1A53A4TP1		JACK, TIP: brown; MIL-C-39024 type M39024/10-04	+15v Regulator Output Figure 5-75
1A53A4TP2		JACK, TIP: red; MIL-C-39024 type M39024/10-02	-15v Regulator Output Figure 5-75
1A53A4TP3		JACK, TIP: orange; MIL-C-39024 type M39024/10-06	Common Test Point Figure 5-75
1A53A4XK1 thru 1A53A4XK2		SOCKET, RELAY: octal; 71785 part no. 8AB	1A53A4K1 and 1A53A4K2 Relay Figure 5-75
1A53A4A1		REGULATOR ASSEMBLY: 15v regulator; 01238 part no. C60-17780	± 15v Regulator Figure 5-75
1A53A4A1C1 thru 1A53A4A1C2		CAPACITOR, FIXED, ELECTROLYTIC: 150 uf + 50% - 10%, 75 vdcw; 56289 part no. 39D157G075FJ4	Filter Figure 5-76
1A53A4A1C3 thru 1A53A4A1C4		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1.0 uf ±10%, 50 vdc; 56289 part no. 5C023105X0500C5	Filter Figure 5-76

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

SHUNT, INSTRUMENT MX-9783/FPN-44A

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A4A1Q1		INTEGRATED CIRCUIT: regulator, +15 vdc; 27014 part no. LM340K-15	+15 vdc Regulator Figure 5-76
1A53A4A1Q2		INTEGRATED CIRCUIT: regulator, -15 vdc; 27014 part no. LM120K-15	-15 vdc Regulator Figure 5-76
1A53A4A1R1 thru 1A53A4A1R2		RESISTOR, FIXED, COMPOSITION: 2.2K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G222JS	Current Limiter Figure 5-76
1A53A4A2		CIRCUIT CARD ASSEMBLY: provide overcurrent sensing for the power supply; 01238 part no. D60-17844	Relay Driver Figure 5-75
1A53A4A2C1		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.47 uf ± 10%, 50 vdc; MIL-C-11015 type CK06BX474K	Current Sample Filter Figure 5-77
1A53A4A2C2		CAPACITOR, FIXED, ELECTROLYTIC: 1000 uf -10 +75%, 5 vdc; 56289 part no. 600D108G007DL4	Current Sample Smoothing Figure 5-77
1A53A4A2C3		Same as 1A53A4A2C1	Current Sample Filter Figure 5-77
1A53A4A2C4		Same as 1A53A4A2C2	Current Sample Smoothing Figure 5-77
1A53A4A2C5		Same as 1A53A4A2C1	Filter Figure 5-77
1A53A4A2C6		CAPACITOR, FIXED, ELECTROLYTIC: 1 uf ± 10%, 135 vdc; 56289 part no. 150 D105X9035A	Overcurrent Delay Figure 5-77
1A53A4A2C7		Same as 1A53A4A2C6	Overcurrent Delay Figure 5-77
1A53A4A2C8 thru 1A53A4A2C11		Same as 1A53A4A2C1	Filter Figure 5-77
1A53A4A2D1 thru 1A53A4A2D8		SEMICONDUCTOR DEVICE, DIODE: MIL-S-19500 type JAN1N914B	Overvoltage Protection Figure 5-77
1A53A4A2D9		SEMICONDUCTOR DEVICE, DIODE: 04713 part no. 1N4002	Transient Suppression Figure 5-77
1A53A4A2D10		Same as 1A53A4A2D9	Transient Suppression Figure 5-77
1A53A4A2Q1		TRANSISTOR: MIL-S-19500 type JAN2N2222A	Relay Driver Figure 5-77
1A53A4A2Q2		Same as 1A53A4A2Q1	Relay Driver Figure 5-77
1A53A4A2R1 thru 1A53A4A2R2		RESISTOR, FIXED, FILM: 100 ohms ± 10%, 1/8 w; MIL-R-55182 type RN60D1000F	Current Sample Divider Figure 5-77
1A53A4A2R3		RESISTOR, FIXED, FILM: 1.3K ohms ± 1%, 1/8 watt; MIL-R-55182 type RN60D1301F	Reference Voltage Figure 5-77
1A53A4A2R4		Not used	
1A53A4A2R5		Same as 1A53A4A2R1	Current Sample Divider Figure 5-77
1A53A4A2R6 thru 1A53A4A2R7		RESISTOR, FIXED, FILM: 1000 ohms ± 1%, 1/8 watt; MIL-R-55182 type RN60D1001F	Current Sample Divider Figure 5-77
1A53A4A2R8		RESISTOR, FIXED, FILM: 10K ohms ± 1%, 1/8 watt; MIL-R-55182 type RN60D1002F	Reference Voltage Figure 5-77
1A53A4A2R9		Not used	
1A53A4A2R10 thru 1A53A4A2R11		Same as 1A53A4A2R1	Current Sample Divider Figure 5-77

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

SHUNT, INSTRUMENT MX-9783/FPN-44A

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A4A2R12		RESISTOR, FIXED, FILM: 15K ohms ±1%, 1/8 watt; MIL-R-55182 type RN60D1502F	Reference Voltage Figure 5-77
1A53A4A2R13		Not used	
1A53A4A2R14		RESISTOR, FIXED, FILM: 200 ohms ±1%, 1/8 watt; MIL-R-55182 type RN60D2000F	Reference Voltage Figure 5-77
1A53A4A2R15 thru 1A53A4A2R16		Same as 1A53A4A2R6	Current Sample Divider Figure 5-77
1A53A4A2R17		Same as 1A53A4A2R8	Reference Voltage Figure 5-77
1A53A4A2R18		Not used	
1A53A4A2R19		RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%, 1/4 watt; MIL-R-39008 type RCR07G103JS	U1-A Output Figure 5-77
1A53A4A2R20		Same as 1A53A4A2R19	U1-B Output Figure 5-77
1A53A4A2R21		Same as 1A53A4A2R19	U1-C Output Figure 5-77
1A53A4A2R22		Same as 1A53A4A2R19	U1-D Output Figure 5-77
1A53A4A2R23		RESISTOR, VARIABLE: Wirewound, 200K ohms ± 10%, 1/2 watt; 80294 part no. 3299W-1-204	Overcurrent Delay Figure 5-77
1A53A4A2R24		RESISTOR, FIXED, COMPOSITION: 100K ohms ± 5%, 1/4 watt; MIL-R-39008 type RCR07G104JS	Overcurrent Delay Figure 5-77
1A53A4A2R25		Same as 1A53A4A2R23	Overcurrent Delay Figure 5-77
1A53A4A2R26		Same as 1A53A4A2R24	Overcurrent Delay Figure 5-77
1A53A4A2R27		Same as 1A53A4A2R19	Q1 Base Figure 5-77
1A53A4A2R28		RESISTOR, FIXED, COMPOSITION: 5.1K ohms ± 5%, 1/4 watt; MIL-R-39008 type RCR07G512JS	Q1 Base Figure 5-77
1A53A4A2R29		Same as 1A53A4A2R19	Q2 Base Figure 5-77
1A53A4A2R30		Same as 1A53A4A2R28	Q2 Base Figure 5-77
1A53A4A2U1		INTEGRATED CIRCUIT: quad comparator; 27014 part no. LM139D	Overload Signal Amplifiers Figure 5-77
1A53A4A2U2		INTEGRATED CIRCUIT: low power; 27014 part no. MC14528BAL	Overload Delay Figure 5-77
1A53A4A2U3		INTEGRATED CIRCUIT: low power; 27014 part no. MC14011BAL	Gates Figure 5-77
1A53A4A3		METER SHUNT ASSEMBLY: 01238 part no. C60-17854	Meter Shunt Figure 5-78
1A53A4A3CR1 thru 1A53A4A3CR11		SEMICONDUCTOR DEVICE, DIODE: 04713 part no. MR751	Overvoltage Protection Figure 5-78
1A53A4A3C1		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 0.47 uf ± 20%, 50 vdc; 56289 part no. 5CZU474X0050C5	Filter Figure 5-78
1A53A4A3C2		Same as 1A53A4A3C1	Filter Figure 5-78
1A53A4A3R1		SHUNT, INSTRUMENT: 2 amp, 100 mv; 25497 part no. PR0002-A	Meter Shunt Figure 5-78
1A53A4A3R2		SHUNT, INSTRUMENT: 10 amp, 100 mv; 25497 part no. PR0010-A	Meter Shunt Figure 5-78
1A53A4A3R3 thru 1A53A4A3R8		RESISTOR, FIXED, WIREWOUND: 0.1 ohms ± 3%, 6 watts; 91637 part no. GN6-.1 ohms 3 pct	Current Limiting Figure 5-78

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

SHUNT, INSTRUMENT MX-9783/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A4A2R7		RESISTOR, FIXED, COMPOSITION: 2.2K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G222JS	Collector Figure 5-77
1A53A4A2R8		RESISTOR, FIXED, COMPOSITION: 1.8K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G182JS	Base Bias Figure 5-77
1A53A4A2R9		RESISTOR, FIXED, COMPOSITION: 3.9K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G392JS	Base Bias Figure 5-77
1A53A4A3R10		RESISTOR, FIXED, COMPOSITION: 22K ohms ± 5%; 1/2 watt; MIL-R-39008 type RCR20G223JS	Base Bias Figure 5-77
1A53A4A2R11		Same as 1A53A4A2R10	Collector Figure 5-77
1A53A4A2R12		Not used	
1A53A4A2R13		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%; 1/2 watt; MIL-R-39008 type RCR20G101JS	Emitter Figure 5-77
1A53A4A2R14		Same as 1A53A4A2R1	Filter Figure 5-77
1A53A4A2R15 thru 1A53A4A2R16		Same as 1A53A4A2R2	Bias Figure 5-77
1A53A4A2R17		Same as 1A53A4A2R4	Collector Figure 5-77
1A53A4A2R18		Same as 1A53A4A2R5	Feedback Figure 5-77
1A53A4A2R19		Same as 1A53A4A2R6	Emitter Figure 5-77
1A53A4A2R20		Same as 2A53A4A2R7	Collector Figure 5-77
1A53A4A2R21		Same as 1A53A4A2R8	Base Bias Figure 5-77
1A53A4A2R22		Same as 1A53A4A2R9	Base Bias Figure 5-77
1A53A4A2R23		Same as 1A53A4A2R10	Base Bias Figure 5-77
1A53A4A2R24		Same as 1A53A4A2R10	Collector Figure 5-77
1A53A4A2R25		Not used	
1A53A4A2R26		Same as 1A53A4A2R13	Emitter Figure 5-77
1A53A4A2R27		RESISTOR, FIXED, COMPOSITION: 1K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G102JS	Current Limiter Figure 5-77

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

SHUNT, INSTRUMENT MX-9783/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A4A2R28		Same as 1A53A4A2R27	Current Limiter Figure 5-77
1A53A4A3		METER SHUNT ASSEMBLY: provide current meter shunts for monitoring power supply current; 01238 part no. C60-17854	Meter Shunt Figure 5-75
1A53A4A3CR1 thru 1A53A4A3CR4		SEMICONDUCTOR DEVICE, DIODE: rectifier; 04713 part no. 1N1199A	Clamping Figure 5-78
1A53A4A3R1		SHUNT, INSTRUMENT: 2 amp, 100 mv; 25497 part no. PR0002A	Meter Shunt Figure 5-78
1A53A4A3R2		SHUNT, INSTRUMENT: 10 amp, 100 mv; 25497 part no. PR0010A	Meter Shunt Figure 5-78
1A53A4A3R3 thru 1A53A4A3R8		RESISTOR, FIXED, WIREWOUND: 0.1 ohms ± 3%, 6 watts; 91637 part no. GN6R1PORM3PCT	Meter Shunt Figure 5-78
1A53A4A3TB1		TERMINAL BOARD: 6 terminals; 73631 part no. GBP6	Interconnection Figure 5-78
POWER SUPPLY PP-7305/FPN-44A			
		POWER SUPPLY, PP-7305/FPN-44A: Transformers and rectifiers to supply dc power. Consists of Rectifier Assembly 1A53A5 and Power Supply and Transformer Assembly 1A53A6; 01238 part no. 40000D603C.	DC Power Figure 5-79
1A53A5		RECTIFIER ASSEMBLY: 01238 part no. 40000D1006E; 28527 part no. 1096301G1	High Voltage Rectification Assembly Figure 5-79
1A53A5CR1 thru 1A53A5CR12		RECTIFIER ASSEMBLY: rectifier; 58849 part no. JHV34H40	High Voltage Rectifier Figure 5-79
1A53A5MP1		ROD, THREADED: plastic, 1/2 in. dia. by 48 in. long; 15395 part no. EH.55MI-2-48 inch	High Voltage Rectifier Holder Figure 5-79
1A53A5MP2		NUT, HEX: 1/2 inch; 15395 part no. 1-2 hex nut	Nut for 1A53A5MP1 Figure 5-79
1A53A5MP3		PLASTIC SHEET: High strength phenolic laminate, 15395 type EH 4 feet wide by 8 feet long by 0.375 inch thick	High Voltage Rectifier Holder Figure 5-79
1A53A5RV1 thru 1A53A5RV36		RESISTOR, VOLTAGE SENSITIVE: metal oxide; 24446 part no. V1000LB80A	Transient Voltage Absorber Figure 5-79
1A53A6		POWER SUPPLY AND TRANSFORMER ASSEMBLY: 01238 part no. 40000D597C; 28527 part no. 1096300G1	High Voltage AC and DC Supply Figure 5-52

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY PP-7305/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A6S1		SWITCH, THERMOSTATIC: spst, normally closed; 14604 part no. 3100-3-60SL96C	Overtemperature Protection Figure 5-79
1A53A6TB1		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-79
1A53A6T1		TRANSFORMER, POWER, STEPUP: input 390v, 3 phase, 56 to 60 Hz; output 9353v at 11.424 amps, 9367v at 15.504 amps; 01238 part no. 40000A1052C	Power Transformer Figure 5-79
1A53A6T1H1 thru 1A53A6T1H6		INSULATOR ASSEMBLY: 74178 part no. 24071	Primary Terminals Figure 5-79
1A53A6T1MP1		OIL: 54527 type DIALA AX: 01238 part no. 940-11239-000	Transformer Oil Figure 5-79
1A53A6T1R1 thru 1A53A6T1R6		INSULATOR ASSEMBLY: 23 kv, 55 amp, 17.6 in. h, o/a 71478 part no. 32334	Secondary Terminals Figure 5-79
1A53A6A1		POWER SUPPLY: Outputs 5000V, 500V, ± 26v; 01238 part no. 40000D592C	DC Power Supplies Figure 5-79
1A53A6A1C1		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf ± 10%, 8000 vdcw; 16727 part no. AOC8M1	Filter Figure 5-80
1A53A6A1C2		CAPACITOR, FIXED, PAPER DIELECTRIC: 10 uf ± 10%, 1000 vdcw; 53021 part no. CP70E1FG106K1	Filter Figure 5-80
1A53A6A1L1		REACTOR: 15 hy inductance, 0.23 amps dc, 60 Hz, 260 ohms dc resistance; 01238 part no. 4F110	Choke Figure 5-80
1A53A6A1L2		REACTOR: 2 hy inductance, 0.56 amps dc, 60 Hz, 43 ohms dc resistance; 01238 part no. 4F111	Choke Figure 5-80
1A53A6A1TB1		TERMINAL BOARD: 6 terminals; 71785 part no. 3-141	Interconnection Figure 5-80
1A53A6A1T1		Not used	
1A53A6A1T2		TRANSFORMER, POWER, STEPDOWN AND STEPUP: primary 208v, 45 to 66 Hz, 3 phase; secondary 34.6v at 0.5 amps, 407v at 0.46 amps, 4088v at 0.19 amps; 01238 part no. 4B256	Power Transformer Figure 5-80
1A53A6A1A1		POWER SUPPLY: 01238 part no. D30-17729	Rectifier Assembly Figure 5-80
1A53A6A1A1 CR1 thru 1A53A6A1A1 CR12		SEMICONDUCTOR DEVICE, DIODE: rectifier; 04713 part no. 1N4007	Rectifier Figure 5-81
1A53A6A1A1 CR13 thru 1A53A6A1A1 CR18		SEMICONDUCTOR DEVICE, DIODE: rectifier; 12969 part no. USS15	Rectifier Figure 5-81

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY PP-7305/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A6A1A1 CR19 thru 1A53A6A1A1 CR24		Same as 1A53A6A1CR1	Rectifier Figure 5-81
1A53A6A1A1C1 thru 1A53A6A1A1C2		CAPACITOR, FIXED, ELECTROLYTIC: 150 uf ± 50% -10%, 75 vdcw; 56289 part no. 39D157G075FJ4	Filter Figure 5-81
1A53A6A1A1 MP1		TERMINAL BOARD: plastic, 15 terminals; 01238 part no. C50-17723	Component Mounting Figure 5-81
1A53A6A1A1 MP2		TERMINAL BOARD: plastic, 15 terminals; 01238 part no. D50-17726	Component Mounting

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

POWER SUPPLY PP-7305/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A6A1A1 R1 thru 1A53A6A1A1 R2		RESISTOR, FIXED, COMPOSITION: 4.7K ohms ± 5%, 1 watt; MIL-R-39008 type RCR32G472JS	Bleeder Figure 5-81
VOLTAGE DIVIDER CN-1474/FPN-44A			
1A53A7		VOLTAGE DIVIDER CN-1474/FPN-44A: contains the voltage divider, resistors etc. used to divide voltage outputs for instrumentation purposes; 01238 part no. E30-17796; 28527 part no. 1096302G1	Voltage Divider Figure 5-52
1A53A7DS1		LAMP, GLOW: 110 to 125 vac, T 3-1/4 bulb; 72619 part no. NE51H	Voltage Limiter Figure 5-82
1A53A7DS2		Same as 1A53A7DS1	Voltage Limiter Figure 5-82
1A53A7DS3		Same as 1A53A7DS1	Voltage Limiter Figure 5-82
1A53A7DS4		Same as 1A53A7DS1	Voltage Limiter Figure 5-82
1A53A7DS5		Same as 1A53A7DS1	Voltage Limiter Figure 5-82
1A53A7J1		CONNECTOR, RECEPTACLE, ELECTRICAL: 1 contact; 81349 part no. UG657/U	PA Plate Voltage Monitor Jack Figure 5-82
1A53A7J2		Not used	
1A53A7J3		Same as 1A53A7J1	10 kv Monitor Jack Figure 5-82
1A53A7J4		Not used	
1A53A7J5		Same as 1A53A7J1	500v Monitor Jack Figure 5-82
1A53A7J6		Not used	
1A53A7J7		Same as 1A53A7J1	5 kv Monitor Jack Figure 5-82
1A53A7J8		Not used	
1A53A7J9		CONNECTOR, RECEPTACLE, ELECTRICAL: 2 contacts; 96906 part no. MS3102A18-3P	10 kv Feedback Connector Figure 5-82

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

VOLTAGE DIVIDER CN-1474/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A7K1		RELAY, ARMATURE: dpdt, coil 1000 ohms dc resistance, 2 amps contact rating; 78277 part no. 42R01000SS1L	Overvoltage Sensing 21 kv Figure 5-84
1A53A7K2		Same as 1A53A7K1	Bias-up Sensing Figure 5-84
1A53A7MP1 thru 1A53A7MP5		LENS, LIGHT: clear; 72619 part no. 95-0937	1A53A7XDS1 thru 1A53A7XDS5 Lens Figure 5-82
1A53A7R1		RESISTOR, VARIABLE: 5K ohms ± 10%, 2 watts; MIL-R-94 type RV4LAYSA502A	21 kv Overvoltage Trip Pot Figure 5-83
1A53A7R2		Same as 1A53A7R1	5000v Bias-up Setting Pot Figure 5-83
1A53A7R3		RESISTOR, VARIABLE: 35 ohms ± 10% 2 watts; MIL-R-19 type RA20LASB350A	21 kv Monitor Level Adjust Figure 5-83
1A53A7R4		Same as 1A53A7R3	10 kv Monitor Level Adjust Figure 5-83
1A53A7R5		Same as 1A53A7R3	5 kv Monitor Adjust Figure 5-83
1A53A7R6		Same as 1A53A7R3	500v Monitor Level Adjust Figure 5-83
1A53A7TB1 thru 1A53A7TB2		TERMINAL BOARD: 10 terminals, barrier type; MIL-T-55164 type 8TB10	Interconnection Figure 5-82
1A53A7TP1		JACK, TIP: brown; 74970 part no. MS16108-4A	+15v Supply Monitor Monitor Figure 5-83
1A53A7TP2		JACK, TIP: red; 74970 part no. MS16108-2A	-15v Supply Monitor Figure 5-83
1A53A7TP3		JACK, TIP: orange; 74970 part no. MS16108-6A	Common Figure 5-83
1A53A7TP4		JACK, TIP: yellow; 74970 part no. MS16108-8A	21 kv Monitor Test Point Figure 5-83
1A53A7TP5		JACK, TIP: green; 74970 part no. MS16108-5A	10 kv Monitor Test Point Figure 5-83
1A53A7TP6		JACK, TIP: blue; 74970 part no. MS16108-7A	500v Monitor Test Point Figure 5-83

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

VOLTAGE DIVIDER CN-1474/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A7TP7		JACK, TIP: purple; MIL-C-39024 type M39024/10-10	5 kv Monitor Test Point Figure 5-83
1A53A7XDS1 thru 1A53A7XDS5		LAMPHOLDER: clear lens; 72619 part no. 95-0410-09-301	1A53A7DS1 thru 1A53A7DS5 Holder Figure 5-82
1A53A7XDS1MP1 thru 1A53A7XDS5MP1		LENS, LIGHT: clear, 72619 part no. 95-0437	1A53A7XDS1 thru 1A53A7XDS5 Lens Figure 5-82
1A53A7XK1		SOCKET, RELAY: octal; 71785 part no. 8AB	1A53A7K1 Socket Figure 5-84
1A53A7XK2		Same as 1A53A7XK1	1A53A7K2 Socket Figure 5-84
1A53A7A1		REGULATOR ASSEMBLY: 15v regulator; 01238 part no. C60-17780	±15v Regulator Figure 5-84
1A53A7A1C1 thru 1A53A7A1C2		CAPACITOR, FIXED, ELECTROLYTIC: 150 uf +50% -10%, 75 vdcw; 56289 part no. 39D157G075FJ4	Filter Figure 5-76
1A53A7A1C3 thru 1A53A7A1C4		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1.0 uf ± 20%, 50 vdcw: 56289 part no. 5C023105X0500C5	Filter Figure 5-76
1A53A7A1Q1		INTEGRATED CIRCUIT: regulator, +15 vdc; 27014 part no. LM340K15	+15 vdc Regulator Figure 5-76
1A53A7A1Q2		INTEGRATED CIRCUIT: regulator, -15 vdc; 27014 part no. LM120K15	-15 vdc Regulator Figure 5-76
1A53A7A1R1 thru 1A53A7A1R2		RESISTOR, FIXED, COMPOSITION: 2.2K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G222JS	Current Limiter Figure 5-76
1A53A7A2		CIRCUIT CARD ASSEMBLY: drives overvoltage relays; 01238 part no. C60-17789	Relay Driver Figure 5-84
1A53A7A2CR1 thru 1A53A7A2CR2		SEMICONDUCTOR DEVICE, DIODE: rectifier; 04713 part no. 1N4007	Relay Protection Figure 5-85
1A53A7A2C1 thru 1A53A7A2C4		CAPACITOR, FIXED, ELECTROLYTIC: 2 uf + 50% -15%, 100 vdcw; MIL-C-3965 type CL23CN205TN3	Filter Figure 5-85
1A53A7A2C5		CAPACITOR, FIXED, PLASTIC DIELECTRIC: 0.1 uf ± 10%, 100 vdcw; 84411 part no. 663UW10491W2	Filter Figure 5-85
1A53A7A2Q1		TRANSISTOR: silicon NPN; MIL-S-19500 type 2N2222A	Amplifier Figure 5-85
1A53A7A2Q2		TRANSISTOR: silicon NPN; MIL-S-19500 type 2N2907A	Relay Driver Figure 5-85
1A53A7A2Q3		Same as 1A53A7A2Q2	Amplifier Figure 5-85
1A53A7A2Q4		Same as 1A53A7A2Q1	Relay Driver Figure 5-85

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

VOLTAGE DIVIDER CN-1474/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A7A2R1		RESISTOR, FIXED, COMPOSITION: 47K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G473JS	Voltage Divider Figure 5-85
1A53A7A2R2		RESISTOR, FIXED, COMPOSITION: 12K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G123JS	Voltage Divider Figure 5-85
1A53A7A2R3		RESISTOR, FIXED, COMPOSITION: 3.3K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G332JS	Voltage Divider Figure 5-85
1A53A7A2R4		Same as 1A53A7A2R2	Voltage Divider Figure 5-85
1A53A7A2R5		RESISTOR, FIXED, COMPOSITION: 1.5K ohms ± 5%, 1/2 watt; MIL-R-39008 type RCR20G152JS	Collector Figure 5-85
1A53A7A2R6		Not used	
1A53A7A2R7		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%; 1/2 watt; MIL-R-39008 type RCR20G101JS	Emitter Figure 5-85
1A53A7A2R8		Same as 1A53A7A2R1	Voltage Divider Figure 5-85
1A53A7A2R9		Same as 1A53A7A2R2	Voltage Divider Figure 5-85
1A53A7A2R10		Same as 1A53A7A2R3	Voltage Divider Figure 5-85
1A53A7A2R11		Same as 1A53A7A2R2	Voltage Divider Figure 5-85
1A53A7A2R12		Same as 1A53A7A2R5	Emitter Figure 5-85
1A53A7A2R13		Not used	
1A53A7A2R14		Same as 1A53A7A2R7	Emitter Figure 5-85
1A53A7A2R15		Same as 1A53A7A2R1	Collector Figure 5-85
1A53A7A3		RESISTOR ASSEMBLY: houses the 21500 volt resistor assembly; 01238 part no. D30-17797	Assembly Housing Figure 5-82
1A53A7A3A1		COMPONENT BOARD ASSEMBLY: voltage divider; 01238 part no. D60-17751	Component Mounting Figure 5-82
1A53A7A3A1C1 thru 1A53A7A3A1C15		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 500 pf ± 10%, 6000 vdcw; 72982 part no. 818V5U500PF	Filter Figure 5-82
1A53A7A3A1R1 thru 1A53A7A3A1R60		RESISTOR, FIXED, FILM: 400K ohms ± 1%, 10 watts; 19647 part no. MS310-400KOHMSPORM1	Voltage Divider Figure 5-82

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

VOLTAGE DIVIDER CN-1474/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A7A4		HIGH VOLTAGE ASSEMBLY: voltage divider; 01238 part no. D30-18223	Voltage Divider Figure 5-82
1A53A7A4A1		COMPONENT BOARD ASSEMBLY: voltage divider; 01238 part no. D60-17759	Voltage Divider Figure 5-83
1A53A7A4A1C1 thru 1A53A7A4A1C31		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 500 pf ± 10%, 6000 vdcw; 72982 part no. 818V5U500PF	Filter Figure 5-83
1A53A7A4A1R1 thru 1A53A7A4A1R26		RESISTOR, FIXED, FILM: 137.8K ohms ± 1%, 10 watts; 19647 part no. MS310-137.8KOHMSPORM1	Voltage Divider Figure 5-83
1A53A7A4A1R27 thru 1A53A7A4A1R50		RESISTOR, FIXED, FILM: 167K ohms ± 1%, 10 watts; 19647 part no. MS310-167KOHMSPORM1	Voltage Divider Figure 5-83
1A53A7A4A1R51 thru 1A53A7A4A1R52		RESISTOR, FIXED, FILM: 400K ohms ± 1%, 10 watts; 19647 part no. MS310-400KOHMSPORM1	Voltage Divider Figure 5-83
1A53A7A4A1R53 thru 1A53A7A4A1R64		Same as 1A53A7A4A1R27	Voltage Divider Figure 5-83
RESISTOR ASSEMBLY 1096304G2			
1A53A19		RESISTOR ASSEMBLY: consists of eight resistors; 01238 part no. D30-17724-01; 28527 part no. 1096304G2	Capacitor Discharge Figure 5-52
1A53A19R1 thru 1A53A19R8		RESISTOR, FIXED, COMPOSITION: 6000 ohms ± 10, 150 watts; 72819 part no. 890AS6000OHMS	Capacitor Discharge Figure 5-86
1A53A19XR1 thru 1A53A19XR8		CLIP, ELECTRICAL: 600v, 60 amps; 74829 part no. C23	Resistor Clip Figure 5-86
1A53A19XRE1 thru 1A53A19XRE8		CLIP, CLAMP: 250v, 35 to 60 amps; 71400 part no. 4	Resistor Clamp Figure 5-86
RESISTOR ASSEMBLY 1096304G1			
1A53A20		RESISTOR ASSEMBLY: consists of eight resistors; 01238 part no. D30-17724-02; 28527 part no. 1096304G1	Capacitor Discharge Figure 5-52
1A53A20R1 thru 1A53A20R8		RESISTOR, FIXED, COMPOSITION: 1500 ohms ± 10%, 150 watts; 72819 part no. 890AS1500OHMS	Capacitor Discharge Figure 5-86
1A53A20XR1 thru 1A53A20XR8		CLIP, ELECTRICAL: 600v, 60 amps; 74829 part no. C23	Resistor Clip Figure 5-86
1A53A20XRE1 thru 1A53A20XRE8		CLIP, CLAMP: 250v, 35 to 60 amps; 71400 part no. 4	Resistor Clamp Figure 5-86
RESISTOR ASSEMBLY 1096303G1			
1A53A23		RESISTOR, ASSEMBLY: consists of eight resistors; 01238 part no. D30-17725; 28527 part no. 1096303G1	Bleeder Figure 5-52

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

RESISTOR ASSEMBLY 1096303G1

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
1A53A23R1 thru 1A53A23R4		RESISTOR, FIXED, WIREWOUND: 200K ohms ± 5%, 160 watts; 91637 part no. HL160-04Z 200K5PCT	Bleeder Figure 5-87
1A53A23R5 thru 1A53A23R8		RESISTOR, FIXED, WIREWOUND: 10K ohms ± 5%, 55 watts; MIL-R-26 type RW35V103	Bleeder Figure 5-87
1A53A23XR1 thru 1A53A23XR4		CLIP, ELECTRICAL: steel; 44655 part no. 12BN	Resistor Holder Figure 5-87
1A53A23XR5 thru 1A53A23XR8		CLIP, ELECTRICAL: steel; 91637 part no. 202	Resistor Holder Figure 5-87

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

COUPLER, ANTENNA, CU-2171/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
3		COUPLER, ANTENNA CU-2171/FPN-44A: provides impedance matching between the transmitter and the antenna and attenuates harmonics of the 100 kc output signal; 28527 part no. 1087429G4	Antenna Coupler Figure 5-88
3DS1 thru 3DS2		LAMP, GLOW: neon; 72619 part no. NE16; 28527 part no. 71503	Transmitter On Indicator Figure 5-89
3E1 thru 3E4		INSULATOR, STANDOFF: steatite, 2.250 in. w by 4.625 in. lg by 12.000 in. h o/a; 75539 part no. 10084; 28527 part no. 1089225G1	3L1 Support Figure 5-88
3J1		Not used	
3J2		CONNECTOR, RECEPTACLE, ELECTRICAL: MIL-C-3608 type UG422BU	Antenna Current Figure 5-89
3K1 thru 3K2		RELAY, VACUUM: dpdt; 60 kv, 85 amps; 73905 part no. R88401E27B10; 28527 part no. 1087959G1	Transmitter and Antenna Ground Transfer Figure 5-90
3K3		Not used	
3K4		Not used	
3K5		RELAY, ARMATURE: 6 pdt; contacts 2 amps at 26.5 vdc, coil 26.5 vdc, 400 ohms; 61775 part no. R35PLP6A; 28527 part no. 2311413G1	Transmitter No. 1 Operate Control Figure 5-89
3K6		RELAY, VACUUM: spst, 60 kv, two spst auxiliary contacts, 115 vac, 3 amps; 73905 part no. R8G4304A27B00; 28527 part no. 1087958G1	Antenna Grounding Relay Figure 5-88
3K7		Same as 3K5	Transmitter No. 2 Operate Control Figure 5-89
3K8		Not used	
3K9		Not used	
3K10		Same as 3K1	Transmitter No. 2 Ground Transfer Figure 5-91
3K11		Same as 3K1	Transmitter No. 2 Antenna Transfer Figure 5-91
3L1		COIL, RF: 88 uh, 24 turns, copper tubing, silver plated; 15249 part no. 202-509; 28527 part no. 1089222G1	Antenna Loading Figure 5-88
3L1E1		CONTACT, ELECTRICAL: 0.375 in. dia tubing; 15249 part no. C30A; 28527 part no. 1089241G1	3L1 Contact Figure 5-88

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

COUPLER, ANTENNA, CU-2171/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
3M1		AMMETER: rf, 0-100 ma full scale, linear expanded; MIL-M-10304 type MR36W100RLMAR	Antenna Current Figure 5-89
3P1		Not used	
3P2		CONNECTOR, PLUG, ELECTRICAL: polarized, 2 contact; 81349 type UG421BU	Connector Figure 5-89
3R1 thru 3R3		RESISTOR, FIXED, COMPOSITION: 470 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G471JS	Static Drain Figure 5-89
3R4 thru 3R5		RESISTOR, FIXED, COMPOSITION: 33K ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G333JS	Limiting Resistors Figure 5-89
3R6		RESISTOR, FIXED, COMPOSITION: 7K ohms ± 5%, 125 watts; 10646 part no. AS125-702K; 28527 part no. 1087591G4	Static Drain Figure 5-88
3R7		Same as 3R6	Static Drain Figure 5-88
3R8		RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%, 2 watts; MIL-R-39008 type RCR42G101JS	3T1 Load Figure 5-89
3S1		SWITCH, SENSITIVE: spdt; interlock type; 96906 part no. MS16106-1	Interlock Switch Figure 5-88
3S2		Same as 3S1	Interlock Switch Figure 5-88
3S3		Same as 3S1	Interlock Switch Figure 5-90
3S4		Same as 3S1	Interlock Switch Figure 5-91
3S5		Same as 3S1	Interlock Switch Figure 5-91
3S6		Same as 3S1	Interlock Switch Figure 5-90
3S7		Same as 3S1	Interlock Switch Figure 5-88
3S8		Same as 3S1	Interlock Switch Figure 5-88
3TB1 thru 3TB2		TERMINAL BOARD: 10 terminals; MIL-T-55164 type 8TB10	Input Figure 5-90
3TB3 thru 3TB4		Same as 3TB1	Input Figure 5-91
3T1		TRANSFORMER, CURRENT: 65 amps current rating; 95 ohms impedance; 05280 part no. 1705; 28527 part no. 2138264G1	Current Sensing Figure 5-91
3T2		Same as 3T1	Current Sensing Figure 5-91

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

COUPLER, ANTENNA, CU-2171/FPN-44A

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
3XDS1 thru 3XDS2		LAMPHOLDER: red lens; 72619 part no. 72-6206-1231-301; 28527 part no. 2311666G1	3DS1 and 3DS2 Holder Figure 5-89
3XK1		Not used	
3XK2		Not used	
3XK3		Not used	
3XK4		Not used	
3XK5		SOCKET, RELAY: 20 contacts; 61775 part no. S6C3; 28527 part no. 2311414G1	Retains 3K5 Figure 5-89
3XK6		Not used	
3XK7		Same as 3XK5	Retains 3K7 Figure 5-89
3XK8		Not used	
DUMMY LOAD, ELECTRICAL, DA-329A/FPN-44			
4		DUMMY LOAD, ELECTRICAL DA-329A/FPN-44: simulates the lumped electrical characteristics of transmitting antenna; 28527 part no. 1087432G3	Energy Dissipation Figure 5-92
4B1		FAN, VENTILATING: motor driven, 208v, 50-60 Hz, 3 phase, 1-1/2 hp, 4800/4000 cfm; AAAAA part no. VD19F1P1X; 28527 part no. 1087896G1	Cooling Figure 5-92
4B1B1		MOTOR ALTERNATING CURRENT: 208v, 50-60 Hz, 1-1/2 hp, enclosed	Fan Motor Figure 5-92
4B1E1		IMPELLER, FAN, CENTRIFUGAL: nine blades; AAAAA part no. VP19-9	Fan Impeller Figure 5-92
4C1 thru 4C12		CAPACITOR, FIXED, PAPER DIELECTRIC: 1.0 uf ± 10%, 400 vdcw; MIL-C-25 type CP53B1KE105K1	Interconnect Bypass Figure 5-93
4C13 thru 4C24		Same as 4C1	Interconnect Bypass Figure 5-94
4C25		CAPACITOR, FIXED, PAPER DIELECTRIC: 0.08 uf ± 5%, 15 kv peak at 100 kc; 21810 part no. SK11554, type TKB162; 28527 part no. 1088881G1	RF Tuning 5-94

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A MAINTENANCE PARTS LIST (Cont)

DUMMY LOAD, ELECTRICAL, DA-329A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
4C26		Same as 4C1	Interconnect Bypass Figure 5-93
4C27		Same as 4C1	Interconnect Bypass Figure 5-94
4C28		Same as 4C1	Interconnect Bypass Figure 5-93
4C29		Same as 4C1	Interconnect Bypass Figure 5-94
4C30		Same as 4C1	Interconnect Bypass Figure 5-93
4C31		Same as 4C1	Interconnect Bypass Figure 5-94
4HR1 thru 4HR3		HEATER: 02295 part no. CR123C-7.78A; 28527 part no. 1088278G5	Overload Sensing Figure 5-93
4HR4 thru 4HR6		Same as 4HR1	Overload Sensing Figure 5-94
4J1		CONNECTOR, RECEPTACLE, ELECTRICAL: straight adapter, twinax; MIL-C-3655 type UG493U; 74868 type 7925; 28527 part no. 2312358G1	Antenna Current Monitor Connector Figure 5-93
4K1		RELAY, MAGNETIC STARTER: 3 poles, 3 overloads less heaters, one normally closed auxiliary contact in addition to holding interlock; coil 120 volts ± 2%, 45-66 Hz; 24446 part no. CR106B002ADDMFP, size 0; 28527 part no. 1088028G1	Trans 1 Blower Starter Figure 5-93
4K1E1		CONTACT, ELECTRICAL: motor starter, three poles; 28527 part no. 1088433G2	4K1 Contact Figure 5-93
4K1E2		COIL, RELAY: motor starter, 120 vac ± 2%, 45 to 66 Hz; 28527 part no. 1088433G1	4K1 Coil Figure 5-93
4K2		Same as 4K1	Trans 2 Blower Starter Figure 5-94
4K2E1		Same as 4K1E1	4K2 Contact Figure 5-94
4K2E2		Same as 4K1E2	4K2 Coil Figure 5-94
4L1		COIL, RADIO FREQUENCY: 31-1/2 turns 0.250 in. copper tubing; silver plated; 15249 part no. D0158; 28527 part no. 1096520G1	Antenna Simulation Figure 5-94
4L1E1		CLIP, ELECTRICAL: brass, nickel plated; 15249 part no. 235-824; 28527 part no. 2138526G1	4L1 Clip Figure 5-94
4MP1 thru 4MP8		INSULATOR, STANDOFF: 1 in. dia. by 4 in. lg; MIL-I-23264 type 422W04-032	Resistor Assembly Support Figure 5-93

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

DUMMY LOAD, ELECTRICAL, DA-329A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
4RE1 thru 4RE36		CLIP, LOCKING: 60 amps; 250 volts; 28527 part no. 2311941G4	4R1 thru 4R36 Holder Figure 5-93
4R1 thru 4R10		RESISTOR, FIXED, COMPOSITION: 2.5 ohms + 10%, 140 watts; 24546 type HL; 28527 part no. 1087933G1	Dummy Load Figure 5-93
4R11 thru 4R25	1	Same as 4R1	Dummy Load Figure 5-94
4R26 thru 4R27	1	Same as 4R1	Dummy Load Figure 5-93
4R28 thru 4R30	1	Same as 4R1	Dummy Load Figure 5-94
4R31 thru 4R36		Same as 4R1	Dummy Load Figure 5-93
4S1 thru 4S2		SWITCH, AIR FLOW: actuates at 1550 ft/min max, deactuates at 1450 ft/min, spdt, 250 vac, 5 amps; 82877 part no. 2A, type 1800; 28527 part no. 1087599G6	Air Flow Safety Switch Figures 5-93 and 5-94
4S3		SWITCH, SENSITIVE: spdt; interlock type; 90906 part no. MS16106-1	Door Interlock Figure 5-93
4S4		Same as 4S3	Door Interlock Figure 5-94
4S5		Same as 4S3	Door Interlock Figure 5-93
4S6		Same as 4S3	Door Interlock Figure 5-94
4TB1		TERMINAL BOARD: 10 terminal; MIL-T-55164 type 17TB10	Incoming Power Figure 5-93
4TB2		TERMINAL BOARD: 10 terminal; MIL-T-55164 type 8TB10	Incoming Signal Figure 5-93
4TB3		Same as 4TB2	Outgoing Signal Figure 5-93
4TB4		Same as 4TB2	Outgoing Signal Figure 5-93
4TB5		Same as 4TB1	Incoming Power Figure 5-94
4TB6		Same as 4TB2	Incoming Signal Figure 5-94

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

DUMMY LOAD, ELECTRICAL, DA-329A/FPN-44

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
4TB7		Same as 4TB2	Outgoing Power Figure 5-94
4TB8		Same as 4TB2	Outgoing Power Figure 5-94
4T1		TRANSFORMER, CURRENT: 65 amps current rating; 95 ohms impedance; 05280 part no. 1705; 28527 part no. 2138264G1	Monitoring Dummy Load Current Figure 5-93
4XRE1 thru 4XRE36		CLIP, CLAMP: 35-60 amps, 250 volts; 71400 part no. 4; 28527 part no. 1089008G1	4R1 thru 4R36 Clamp Figure 5-93

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

LOCAL CONTROL UNIT

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
5		LOCAL CONTROL UNIT: provides local control of transmitting set; interface to AN/FPN-60 Transmitter Control Set	System Control Figure 5-17
5K1		RELAY, 4PDT: 120V coil; 77342 part no. KH517A11	A-C Power Selector Figure 5-95
5K2		RELAY, LATCHING, 4PDT: two 28.5 vdc coils 77342 part no. KBP20DC-24	Transmitter Selector Figure 5-95
5S1		SWITCH: Toggle	Transmitter 1 B-Plus Figure 5-95
5S2		Same as 5S1	Local Remote Control Selector Figure 5-95
5S3		Same as 5S1	Transmitter 2 B-Plus. Figure 5-95
5S4		SWITCH: Pushbutton, type MS25088-4G	Transmitter 1 Operate Selector Figure 5-95
5S5		Same as 5S4	HV Interlock during Control Transfer Figure 5-95
5S6		Same as 5S4	Transmitter 2 Operate Selector Figure 5-95
5CR1		SEMICONDUCTOR, DIODE: type IN538	Sneak Circuit Prevention Figure 5-95
5CR2		Same as 5CR1	Sneak Circuit Prevention Figure 5-95
5DS1 thru 5DS5		LAMP, INCANDESCENT: 120V, 6 watts, 96906 part no. MS15567-1	Indicator Lamps Figure 5-95
5TB1		TERMINAL BOARD: 12 terminal, barrier; 75382 type 5TB12	Transmitter 1 Interconnection Figure 5-95
5TB2		Same as 5TB1	Transmitter 2 Interconnection Figure 5-95
5XDS1		FRO RECORDS	Transmitter 1 Selected Indicator Figure 5-95
5XDS1A		LAMPHOLDER	Local Control Indicator Figure 5-95
5XDS1B		LENS, RED	
5XDS2		FRO RECORDS	
5XDS2A		Same as 5XDS1A	Remote Control Indicator Figure 5-95
5XDS2B		LENS, YELLOW	
5XDS3		FRO RECORDS	

TABLE 7-2. LORAN TRANSMITTING SET AN/FPN-44A
MAINTENANCE PARTS LIST (Cont)

LOCAL CONTROL UNIT

REF DESIG	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
5XDS3A		Same as 5XDS1A	
5XDS3B		LENS, GREEN	Transmitter 2 Selected Indicator Figure 5-95
5XDS4		FRO RECORDS	
5XDS4A		Same as 5XDS1A	
5XDS4B		Same as 5XDS1B	Ready for transfer Indicator Figure 5-95
5XDS5		FRO RECORDS	
5XDS5A		Same as 5XDS1A	
5XDS5B		LENS, WHITE	

TABLE 7-3. LORAN TRANSMITTING SET AN/FPN-44A, LIST OF MANUFACTURERS

CODE	NAME	ADDRESS
AAAAA	Strobic Air Corp.	200 Bunting Avenue Trenton, N. J. 08611
00736	Filter Products Div. of North American Rockwell Corp. Air-Maze Plant	2500 Miles Road Cleveland, Ohio 44128
01002	General Electric Co. Industrial and Power Capacitor Products Dept.	John Street Hudson Valley, N.Y. 12839
01238	Energy Systems An Aldin Co.	3180 Hanover Street Palo Alto, Calif. 94303
01276	Aeroquip Corp. Industrial Division	1225 W. Main Street Van Wert, Ohio 45891
01526	General Electric Co. Data Communication Product Dept.	General Electric Drive Waynesboro, Va. 22980
02295	General Electric Co. General Purpose Control Products Dept.	P. O. Box 913 Bloomington, Ill. 61701
02329	Glastic Corp., The	4321 Glenridge At Green Cleveland, Ohio 44121
03508	General Electric Co. Semi-Conductor Products Dept.	Electronics Park Syracuse, N. Y. 13201
04072	Bell Industries Inc., Miller J. W. Div., Components Div.	P. O. Box 5825 19070 Reyes Avenue Compton, Calif. 90224
04222	AVX Ceramics Corp.	P. O. Box 867 Aerovox Road Myrtle Beach, S.C. 29577
04713	Motorola Inc. Semiconductor Products Div.	5005 E. Mc Dowell Road Phoenix, Ariz. 85008
05280	Pearson Electronics Inc.	4007 Transport Street Palo Alto, Calif. 94303
05820	Wakefield Engineering Inc.	Audobon Road Wakefield, Ma. 01880
06631	ITT Bell and Gossett-Hydronics A Unit of ITT Fluid Handling Div.	8200 Austin Morton Grove, Ill. 60053
06980	Varian Associates Eimac Division	301 Industrial Way San Carlos, Calif. 94070
10646	Carborundum Co., The	P. O. Box 337 Niagara Falls, N.Y. 14302
12670	Electromagnetic Industries, Inc.	2005 Calumet Street Clearwater, Fl. 33515
12697	Clarostat Mfg. Co., Inc.	Lower Washington Street Dover, N.H. 03820

TABLE 7-3. LORAN TRANSMITTING SET AN/FPN-44A, LIST OF MANUFACTURERS (Cont)

CODE	NAME	ADDRESS
12969	Unitrode Corp.	580 Pleasant Street Watertown, Ma. 02172
13327	Solitron Devices Inc.	256 Oak Tree Road Tappan, N. Y. 10983
14604	Elmwood Sensors Inc.	1655 Elmwood Avenue Cranston, R. I. 14604
14655	Cornell-Dubilier Electronics Div. of Federal Pacific Electric Co. Government Contracts Dept.	150 Avenue L Newark, N. J. 07101
14959	Crane Co.	4100 S. Kedzie Avenue Chicago, Ill. 60632
15249	Multronics Inc.	12307 Washington Avenue Rockville, Md. 20852
15309	A and M Instrument	5 Nassau Street Rockville Centre, N. Y. 11571
15395	Permal, Inc.	P. O. Box 718 Mount Pleasant, Pa. 15666
15413	General Electric Co. Commercial Distribution Transformer Products Dept. Voltage Regulator Business Sect.	100 Woodlawn Avenue Pittsfield, Ma. 01201
16630	LI Metals Inc.	Garvies Point Road Glen Cove, N. Y. 11542
16727	Condenser Products Corp.	P. O. Box 997 Brooksville, Fl. 33512
19647	Caddock Electronics Inc.	3127 Chicago Avenue Riverside, Calif. 92507
20948	ITT Electron Tube Div. International Telephone and Telegraph Corp.	P. O. Box 100 3100 Charlotte Avenue Easton, Pa. 18042
21810	Federal Pacific Electric Co.	150 Avenue L Newark, N. J. 07105
21845	Solitron Devices Inc. Transistor Division	1177 Blue Heron Blvd. Riviera Beach, Fl. 33404
22375	Fisher and Porter Co.	County Line Road Warminster, Pa. 18974
23598	Ross Engineering Corp.	559 Westchester Drive Campbell, Calif. 95008
24446	General Electric Co.	1 River Road Schenectady, N. Y. 12305

TABLE 7-3. LORAN TRANSMITTING SET AN/FPN-44A, LIST OF MANUFACTURERS (Cont)

CODE	NAME	ADDRESS
24546	Corning Glass Works Electronic Components Div.	550 High Street Bradford, Pa. 16701
25497	Metermaster	5646 Jillson Street Los Angeles, Calif. 90040
26862	Robicon Corp.	100 Sagamore Hill Road Plum Industrial Park Pittsburgh, Pa. 15239
27014	National Semiconductor Corp.	2900 San Ysidro Way Santa Clara, Calif. 95051
27434	Bell Fasteners Corp.	P. O. Box 567 352 Evelyn Street Paramus, N. J. 07652
28432	General Electric Co. Circuit Protective Devices Product Dept.	41 Woodford Avenue Plainville, Ct. 06062
28527	ITT Avionics Division	390 Washington Avenue Nutley, N. J. 07110
30327	Imperial-Eastman Corp. Imperial Div.	6300 W. Howard Street Chicago, Ill. 60648
32997	Bourns Inc. Trimpot Products Division	1200 Columbia Avenue Riverside, Calif. 92507
33324	Kenyon Electronics Inc.	1057 Summit Avenue Jersey City, N. J. 07307
33789	Fairchild Defense Products A Div. of Fairchild Camera and Instrument Corp.	13 East Edison Street Amityville, N. Y. 11701
42498	National Radio Co., Inc.	78 Stone Place Melrose, Ma. 02176
44655	Ohmite Manufacturing Co	3601 W. Howard Street Skokie, Ill. 60076
49956	Raytheon Co.	141 Spring Street Lexington, Ma. 02173
50157	N L Industries Inc. Electronics Dept.	P. O. Box 787 Muskegon, Mi. 49443
52737	ITE Imperial Corp. Distribution and Controls Group Ohio Operations	811 N. Main Street Bellefontaine, Oh. 43311
53021	Sangamo Electric Co.	P. O. Box 3347 1301 N. 11th Springfield, Ill. 62708
54527	Shell Oil Co.	50 W. 50th Street New York, N. Y. 10020
56289	Sprague Electric Co.	North Adams, Ma. 01247

TABLE 7-3. LORAN TRANSMITTING SET AN/FPN-44A
LIST OF MANUFACTURERS (Cont)

CODE	NAME	ADDRESS
58474	Superior Electric Co., The	383 Middle Street Bristol, Ct. 06010
58849	FMC Corp. Syntron Div.	1003 Lexington Avenue Homer City, Pa. 15748
60969	General Electric Co. Distribution Assemblies Product Dept.	41 Woodford Avenue Plainville, Ct. 06062
61349	Ametek Inc. United States Gauge Div.	909 Clymer Avenue Sellersburg, Pa. 18960
61775	Westinghouse Air Brake Co. Signal and Communications Div.	1789 Braddock Avenue Swissville, Pa. 15218
63743	Ward Leonard Electric Co., Inc.	31 South Street Mount Vernon, N. Y. 10550
70563	Amperite Co.	600 Palisades Avenue Union City, N. J. 07087
71183	Bryant Electric Co.	1421 State Street Bridgeport, Ct. 06602
71400	Bussman Manufacturing Div. Mc Graw-Edison Co.	2536 W. University Street St. Louis, Mo. 63107
71424	Chase Shawmut Co., The	374 Merrimac Street Newburgport, Ma. 01950
71450	CTS Corp.	1142 W. Beardsley Avenue Elkhart, In. 46514
71482	Clare, C. P. and Co.	3101 Pratt Boulevard Chicago, Ill. 60645
71590	Centralab Electronics Div. of Globe-Union Inc.	5757 Green Bay Avenue Milwaukee, Wis. 53201
71785	TRW Electronics Components Cinch Connector Operations	1501 Morse Avenue Elk Grove Village, Ill. 60007
72619	Dialight Corp. Sub. of Digitronics Corp.	60 Stewart Avenue Brooklyn, N. Y. 11237
72653	GC Electronics A Division of Hydrometals Inc.	400 S. Wyman Street Rockford, Ill. 61101
72661	Dixon Valve and Coupling Co.	2nd and Columbia Avenues Philadelphia, Pa. 19122
72819	Carborundum Co., The Refractories and Electronics Div. Globar Plant	P. O. Box 339 Niagara Falls, N. Y. 14302
72825	Eby Hugh H. Inc.	4701 Germantown Avenue Philadelphia, Pa. 19144
72982	Erie Technological Products Inc.	644 W. 12th Street Erie, Pa. 16512