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SECTION 1
GENERAL DESCRIPTION

1-1 FUNCTIONAL DESCRIPTION

(1) The Eight Output Antenna Multicoupler, Model AMC-8, (figure 1-1) is a broadband Antenna-to-Receiver coupling device which permits the use of a common antenna by eight communications receivers. Its circuitry consists of a bandpass filter, a broadband transistorized preamplifier, and eight individual buffer amplifiers. The unit is engineered in such a way that a sizeable reduction is achieved in the amplitude of signals re-radiated from one receiver to another or from one receiver to the common antenna system. The AMC-8 is provided with a bandpass filter which passes frequencies between 2 MHz and 32 MHz.

(2) The filter attenuates all signals outside the band to avoid needless overloading of amplifiers due to large signals outside the band of interest.

(3) The amplifier including buffers, has a low noise figure and yet large signal handling capability. It

yields +2 dB overall insertion gain without introducing objectionable intermodulation. In addition, it provides a constant input and output impedance for a good VSWR over 2 to 32 MHz, and high isolation between output to output or output to input to suppress re-radiation from one receiver to another or to the common antenna system.

1-2 PHYSICAL DESCRIPTION

(1) The AMC-8 is designed for mounting in a standard 19 inch rack, fastened by four retaining screws on the front panel. The operating controls are located on the front panel. The eight output receptacles are on the rear panel as are the power connections. The majority of the components in the AMC-8 are mounted on printed circuit boards which in turn are bolted to the chassis. Other components are bolted directly to the chassis. All semiconductors used in the AMC-8 are listed in table 1-1.

Table 1-1 SEMICONDUCTOR AND INTEGRATED CIRCUIT COMPLEMENT

Reference symbol	Type	Function
Power Supply		
1Z1	NW10005	Rectifier Bridge
1A1CR1	IN758	Bias Regulator
1A1CR2	IN252	Bias Regulator
1A1Q1	TX10001	Current Regulator
1A1Q2	2N5086	Voltage Regulator
1Q1	2N3055	Voltage Regulator
Preamplifier (75 ohm)		
1A3CR1	1N465A	Bias Regulator
1A3Q1	2N5160	Buffer
1A3Q2	2N5160	Current Amplifier
1A3Q3	2N3866	Current Amplifier
8 Buffer Amplifiers		
1A4Q11 to 1A4Q81	2N3866	Buffers

1-3 EQUIPMENT SUPPLIED

(1) The following table is a list of ancillary items supplied with each AMC-8.

Table 1-2 LOOSE ITEMS SUPPLIED

Name	Designation	Function	Quantity
Power Cable Assembly	CA10505	Connections to power connector 1J10	1
Technical Manual	1N8030	Instructions for operating and maintenance of AMC-8	1

1-4 TECHNICAL SPECIFICATIONS

Number of outputs:	Eight
Frequency Range	2 MHz to 32 MHz
Input and output impedance:	75 ohms with a VSWR better than 1.5
Insertion gain:	2 dB \pm 0.5
Desensitization:	100 μ V signal is compressed by 3 dB maximum when an 8 V peak-to-peak signal between 2 to 6 MHz is applied at the same time.
Off-band rejection:	-30 dB minimum from dc to 1.4 MHz and from 46 MHz to 1GHz.
Noise figure:	7 dB maximum
Intermodulation:	With two 0.5 volts rms input signals, 2nd order products, -65 dB 2 to 20 MHz. -60 dB 20 to 30 MHz. 3rd order products, -70 dB 2 to 30 MHz.
Isolation:	-40 dB minimum, output-to-output. -55 dB minimum, output-to-input.
Phase difference:	\pm 2 degrees between any two outputs.
Line filters:	-40 dB minimum attenuation, 14 KHz to 150 MHz.
Power Supply:	115 v \pm 6%, 48/62 Hz, power consumption approximately 20 watts.
Dimensions:	Width 19 inches Height 1 $\frac{3}{4}$ inches Depth 14 inches
Weight:	8 pounds approximately
MTBF:	20,000 hours average operational life.
Temperature Range:	Class 4 military requirements, operating 0 $^{\circ}$ to 50 $^{\circ}$ C non-operating -62 $^{\circ}$ to +75 $^{\circ}$ C
Humidity:	Operational up to 95%.

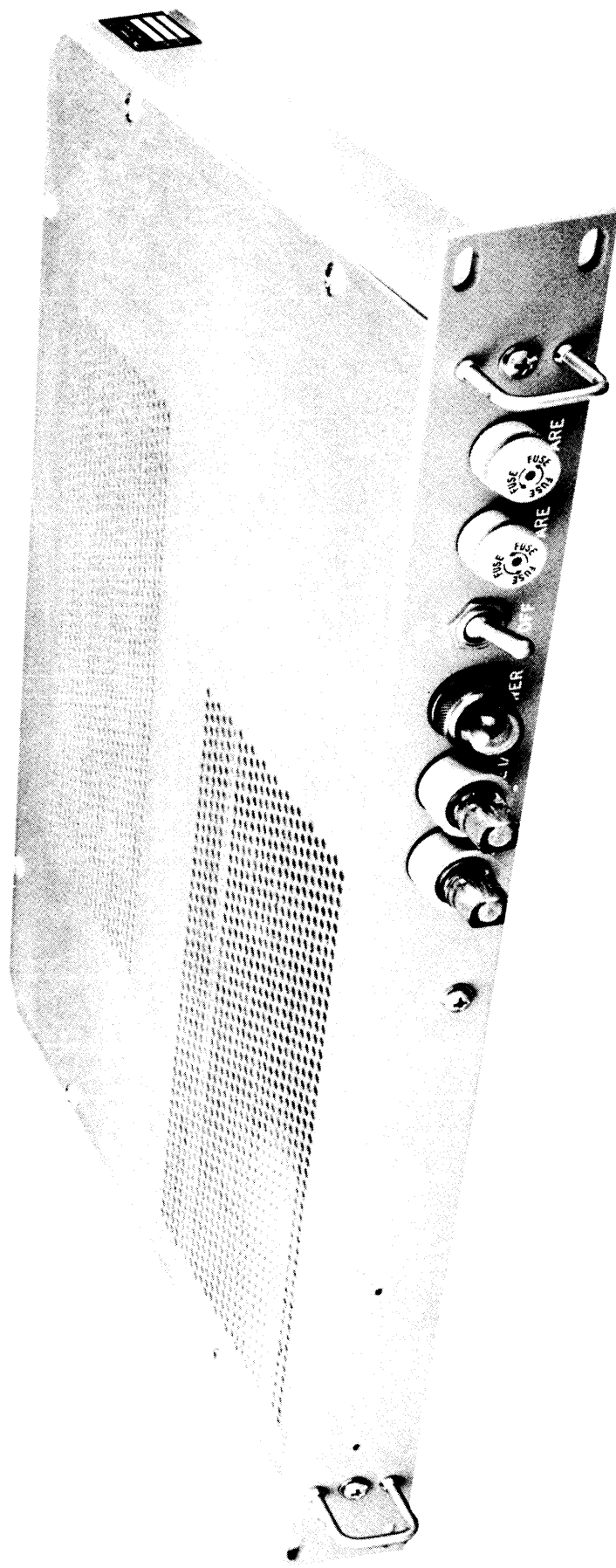


FIGURE 1-1 EIGHT OUTPUT ANTENNA MULTICOUPLER, MODEL AMC-8

SECTION 2 INSTALLATION

2-1 INITIAL INSPECTION

(1) Each AMC-8 is thoroughly tested and calibrated at the factory before being shipped. Upon receipt of the unit, check the packing case and its contents for possible damage. Unpack the equipment methodically taking care also to check the packing material for parts shipped as loose items. See table 1-2 for these. With respect to damaged equipment for which the carrier is liable, TMC (Canada) Limited will assist in describing methods of repair as well as furnishing of replacement parts.

2-2 POWER REQUIREMENTS & ELECTRICAL INSTALLATION

(1) The AMC-8 operates from a 115 volt ac, 50 to 60 Hz power source. The input is protected by two 0.5 amp fuses, one on each side of the line.

(2) The following external connections must be made to the AMC-8.

(a) Antenna: Attach a BNC connector to a coaxial cable and connect it to antenna jack 1J9 (ANTENNA INPUT) on the rear panel of the AMC-8. The other end is connected to an antenna.

(b) Power: Connect primary power to the unit by plugging the supplied power cable assembly into connector 1J10 (POWER INPUT) on the rear panel ensuring that the notch on the cable lines up with the pin at the top of 1J10.

(c) Outputs: Connect the outputs to the associated receivers as required via the BNC connectors, 1J1 to 1J8 inclusive, on the rear panel.

(3) All AMC-8 equipment should be located in such a way that sufficient clearance is obtained at the rear of the unit for making connections to the BNC connectors. The front panel controls should be within easy reach of an operator. Solid state design eliminates heat problems allowing the stacking of several AMC-8's one above the other in a rack.

2-3 PERFORMANCE CHECK

(1) When the AMC-8 has been installed and appropriate power connections have been made, turn POWER switch to the ON position. If the POWER lamp lights the Eight Output Antenna Multicoupler, Model AMC-8 is ready for use.

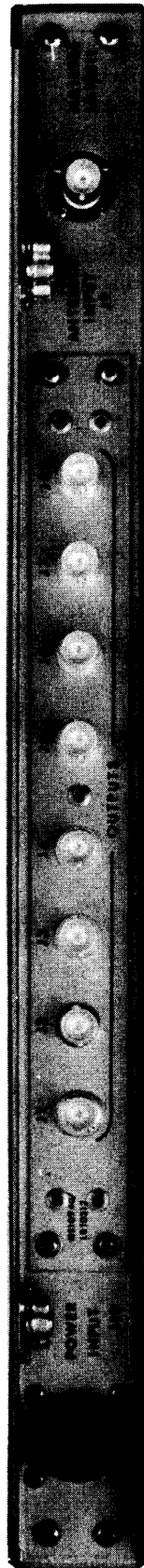


FIGURE 2-1 REAR PANEL, AMC-8

SECTION 3
OPERATION

3-1 GENERAL

(1) Controls: Table 3-1 contains a list of the operating, indicators and fuse holders on the front panel of the AMC-8.

(2) Procedures: Operating procedures for the AMC-8 are virtually non-existent. After the necessary connections have been made from the rear panel to the appropriate receivers the only procedure to perform is to turn on the power switch.

Table 3-1 CONTROLS AND INDICATORS

Item	Description
Power ON/OFF switch 1S1	Controls primary power to AMC-8
POWER lamp 1DS1	Lights when primary power is connected to the AMC-8 and switch 1S1 is turned on.
Fuse holders for 1F1 and 1F2	Failure of a fuse is indicated by illumination of the FUSE holder.
SPARE fuses	Two spare fuses are contained in storage holders located on the front panel.

SECTION 4 PRINCIPLES OF OPERATION

4-1 GENERAL

(1) The Eight Output Antenna Multicoupler is a broadband distribution system designed to operate between a single antenna and the antenna terminating points of eight communications receivers. Both the input and output impedance (75 ohms) of the AMC-8 are flat over the specified operating frequency range to ensure high performance when used in a communications receiving system. Four major circuits comprise the AMC-8 and they are described in the succeeding paragraphs in this section. See figure 4-1, Block Diagram, AMC-8 for further comprehension.

4-2 INPUT FILTER (FX10018-1)

(1) The antenna input is connected to a bandpass filter FX10018-1 mounted on its own printed circuit assembly 1A2 via ANTENNA INPUT connector 1J9. This filter is a seven pole bandpass type for frequencies between 2 to 32 MHz and has high attenuation to frequencies outside the bandpass range. All input signals pass through this filter before being fed via shielded cable to the preamplifier.

(2) A neon lamp 1A2DS1 is connected across the input. It prevents damage to components of the AMC-8 caused by lightning surges in the antenna. Any voltage over 40 volts will cause the lamp to fire redirecting the surge to ground.

4-3 PREAMPLIFIER AND OUTPUTS

(1) The preamplifier printed circuit assembly 1A3 encompasses on it a low noise, wideband amplifier having an input impedance of 75 ohms and a voltage gain of 8 db. The input to the preamplifier circuit is applied to step-up transformer 1A3T1. The voltage level across the output of 1A3T1 is fed through buffer amplifier 1A3Q1 to a complimentary push-pull amplifier circuit consisting of 1A3Q2 and 1A3Q3. The latter circuit acts as a balancing circuit minimizing second order intermodulation products at

the preamplifier output. The output signal appears at the output terminal after passing through dc blocking capacitor 1A3C7.

(2) The output signal is fed through external wiring from a terminal on the preamplifier printed circuit assembly 1A3 to an input terminal. This input terminal is on the 8 output printed circuit assembly 1A4, connected in common (through input capacitors 1A4C11 to 1A4C81 inclusive) with the inputs of 8 identical buffer amplifiers each of which has an output impedance of 75 ohms. Thus the original signal from the bandpass filter which was stepped-up 8 db by transformer 1A3T1, can be followed all the way through the preamplifier and output stages to appear at the emitter of each buffer amplifier transistor (1A4Q11 to 1A4Q81 inclusive). This level is attenuated about 6 db in each buffer by the output impedance matching circuit. For each of the 8 outputs an over-all insertion gain of +2 db is realized.

4-4 POWER SUPPLY AND REGULATOR

(1) The power supply components are chassis mounted except for the regulator which is described later. The primary power input to the AMC-8 is provided through two ac line filters: 1FL1 and 1FL2, both type FI 10001. They remove RF signals present in the line. When the POWER switch 1S1 is in the ON position, input power lights lamp 1DS1 on the front panel and is fed through fuses 1F1 and 1F2 to the power transformer 1T1. This transformer reduces the line voltage to the required 27 vac. This potential in turn is rectified by 1Z1, a diode bridge and filtered by capacitor 1C1.

(2) Printed circuit assembly 1A1 performs a regulating function which provides a -27 vdc regulated output. Transistor 1Q1 and 1K potentiometer 1A1R7 provide the regulated voltage. This is set at the factory and seldom needs any adjustment. The power supply board also provides short circuit protection for the AMC-8.

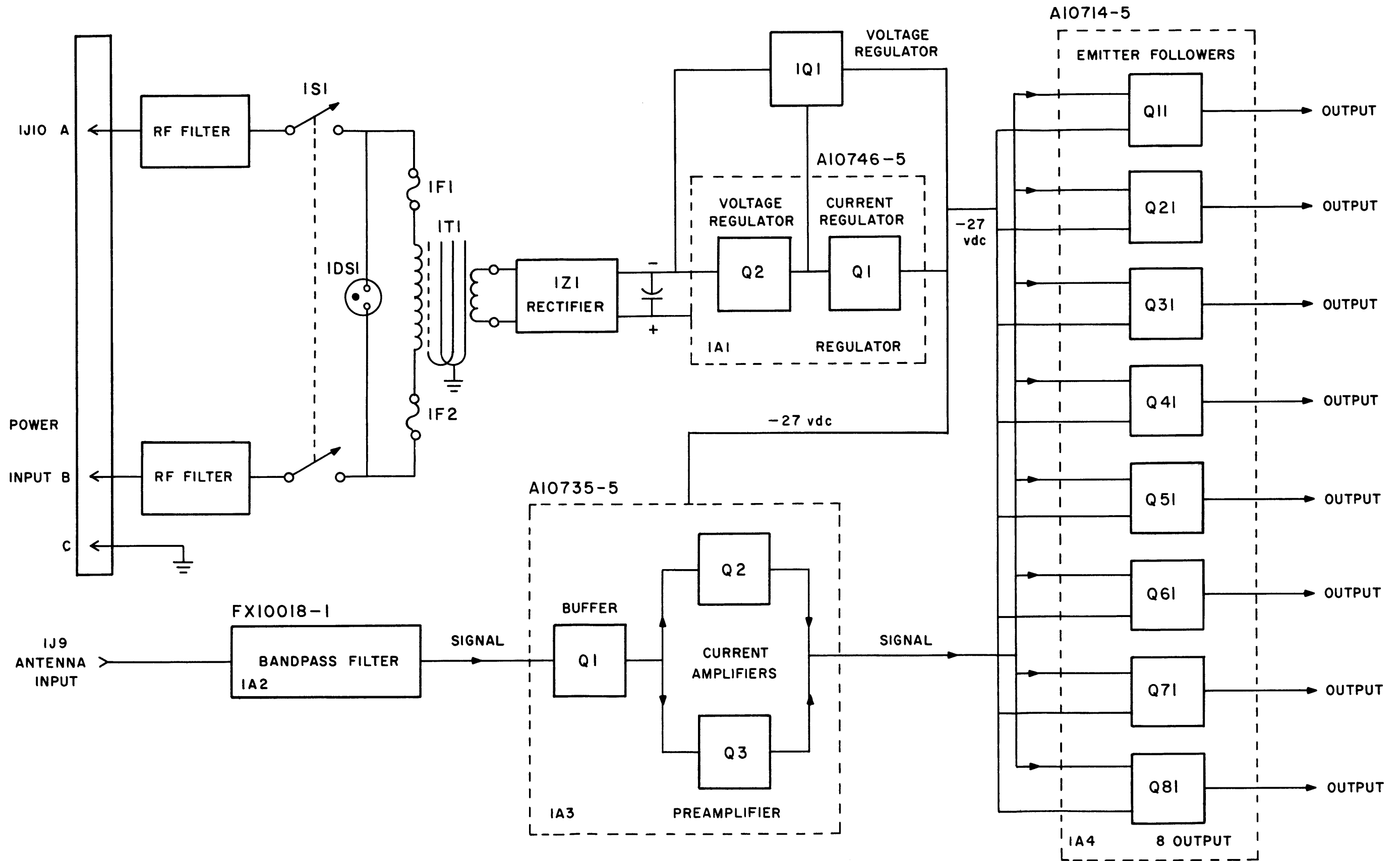


FIGURE 4-1 SYSTEM BLOCK DIAGRAM, AMC-8

SECTION 5 MAINTENANCE

5-1 GENERAL

(1) This section describes preventive maintenance, troubleshooting and repair procedures for the AMC-8. The following equipment is suggested in order to perform these procedures properly.

(a) RF Signal Generator, Hewlett Packard Model 606A, or equivalent.

(b) Oscilloscope, Tektronix Model 545, or equivalent.

(2) For aid in the location of components, refer to figures 5-1 to 5-5 inclusive.

5-2 PREVENTIVE MAINTENANCE

(1) In regard to the AMC-8 preventive maintenance consists of routine functions such as visual inspection and cleaning. Cleaning is strongly recommended as dust may build up on components and not only reduce the efficiency of the coupler unit but also increase component wear. To facilitate cleaning the unit, use a vacuum cleaner or a compressed air hose.

(2) A simple visual check of the unit when it is opened up for servicing or cleaning will often pick up potential trouble and hence reduce downtime due to component wear or failure. Signs of trouble are; discolouration, warped printed circuit boards, and damaged wiring. Any deteriorating component should be replaced immediately. In addition all hardware should be checked for tightness.

5-3 TROUBLESHOOTING

(1) The primary objective of this procedure is to narrow the problem area to one or two sections of the AMC-8. In order to minimize labour costs while locating the source of trouble, systematic troubleshooting will greatly speed up the process. During operation of the AMC-8 the following symptoms may be observed:

1. The failure of one or more outputs.
2. Weak or noisy signals in all receivers.
3. Weak or noisy signals in one receiver.
4. Complete loss of signals in all receivers.

(2) The following paragraphs contain information which may cause the four problem symptoms just mentioned. They could be construed as typical faults that could occur during normal operation of the AMC-8.

(a) The failure of one or more outputs: If a low output is observed at one particular output when connected to a specific receiver, failure of that output stage is indicated. All semiconductors and discrete components in the malfunctioning output stage should be checked.

(b) Weak or noisy signals in all receivers: If this phenomenon persists in all receivers, a rough check of the antenna system is required. Connect the antenna lead-in directly to the antenna terminals of a receiver. If the weakness and/or noise disappears, check the preamplifier circuit of the AMC-8.

(c) Weak or noisy signals in one receiver: When only one receiver in the system is involved, check these items:

1. The receiver unit itself.
2. The connections between the AMC-8 and the receiver.
3. Or the particular output section as outlined in paragraph (a).

(d) Complete loss of signals in all receivers: If the entire system fails, the method discussed in paragraph (b) may be used to determine if the trouble actually is in the AMC-8. If this appears to be the case, check each stage of the AMC-8 unit. The best method of doing this is to apply a test signal to the ANTENNA input jack on the rear of the unit. Use an RF signal generator and trace the signal back through the equipment with an oscilloscope. Start this procedure at the output jacks and work backwards towards the input.

5-4 REPAIR

(1) Repair work generally consists of the replacement of an electrical component, but the following precautions should be observed:

(a) Always replace a defective component with its exact duplicate.

(b) Place any new component in the same position as the one it replaces. It's generally not good practice to attempt to alter the existing layout. This includes the running of any wire as well as discrete component replacement.

(c) Never attempt to solder with an iron having a power rating of more than 100 watts. Use a pair of long-nose pliers as a heat sink to offer protection while soldering.

(d) Extreme caution is called for whenever replacement of components is warranted because

excessive heat applied to a board can cause the printed circuit wiring to lift off.

(e) Always double check any solder joints made as cold or loose solder connections can cause trouble at a later date.

5-5 ADJUSTMENTS

(1) There are three main areas in the AMC-8 circuitry that should be checked periodically and they may require adjustment. They are as follows:

(a) Regulator: There is a screwdriver adjustable potentiometer 1A1R7 on the regulator printed circuit assembly. An arrow on the schematic denotes clockwise adjustment which lowers the regulated output voltage. It adjusts to produce -27vdc.

(b) Preamplifier: There is a screwdriver adjustable potentiometer 1A3R6 on the preamplifier printed circuit assembly. Both wires must be removed from pin 3 of preamplifier assembly 1A3 to insert a meter in series. The meter is connected between the 2 wires and pin 3 and is adjusted for

90 ma. An arrow on the schematic denotes clockwise adjustment which lowers the standing current of the complimentary circuit.

(c) RF Input Filter: Most of the adjustable elements in the AMC-8 are contained in the RF filter. These elements are in the form of trimmer capacitors which are of the piston type. THESE TRIMMERS SHOULD NOT BE ADJUSTED AT ANY TIME UNLESS IT HAS BEEN DEFINITELY DETERMINED THAT ADJUSTMENT IS NECESSARY. The input filter was aligned during manufacture and certain tuning procedures were carried out during phases of assembly. Therefore, complete realignment is impossible without physically removing certain parts from the printed circuit board and it is for this reason that the realignment of the filter should be carried out at the factory. This is particularly true for any equipment supplied on contracts where phase co-relation is required from unit to unit. For such units adjustments were made at the factory against a master standard.

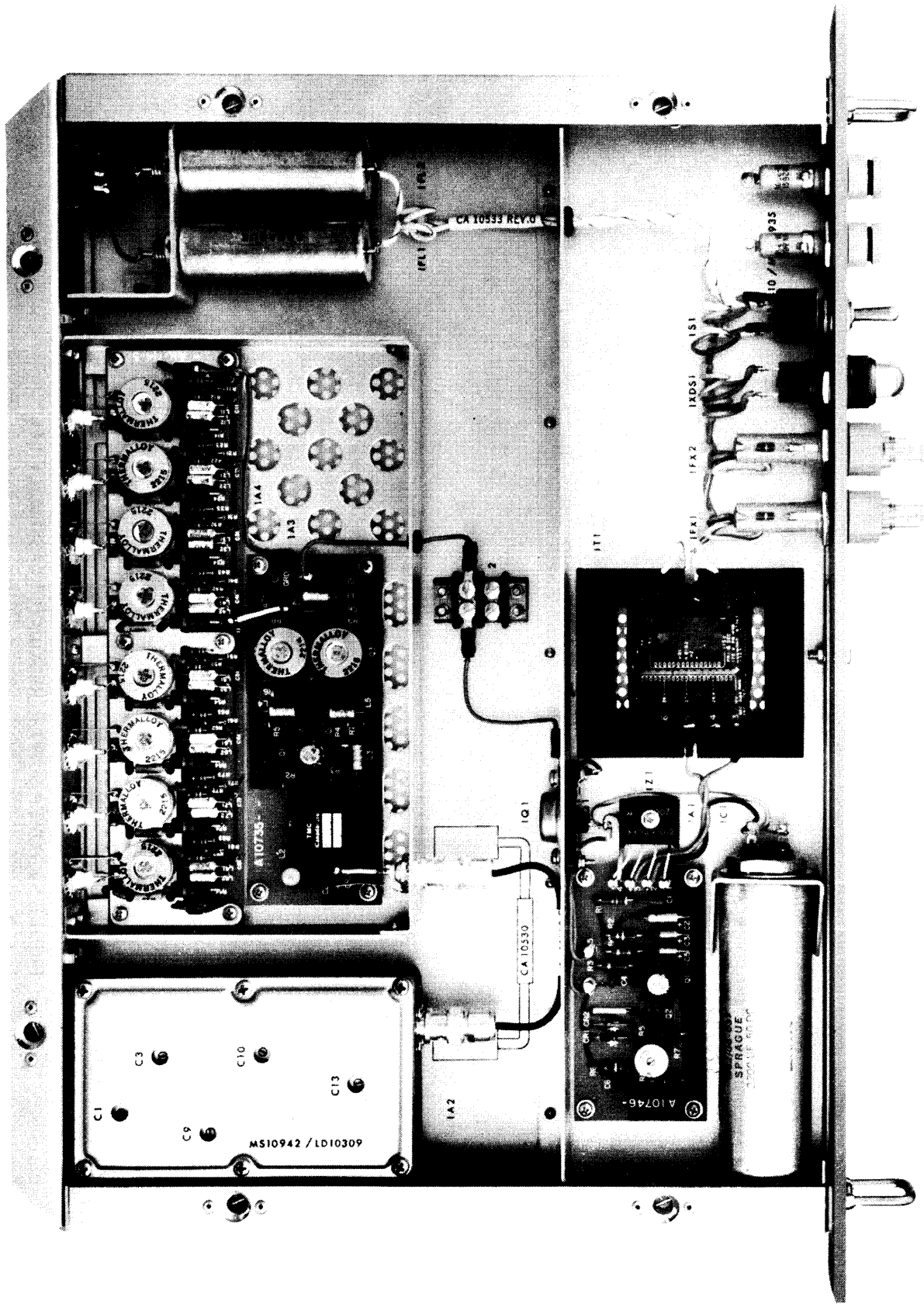


FIGURE 5-1 TOP VIEW WITH COVER OFF, AMC-8

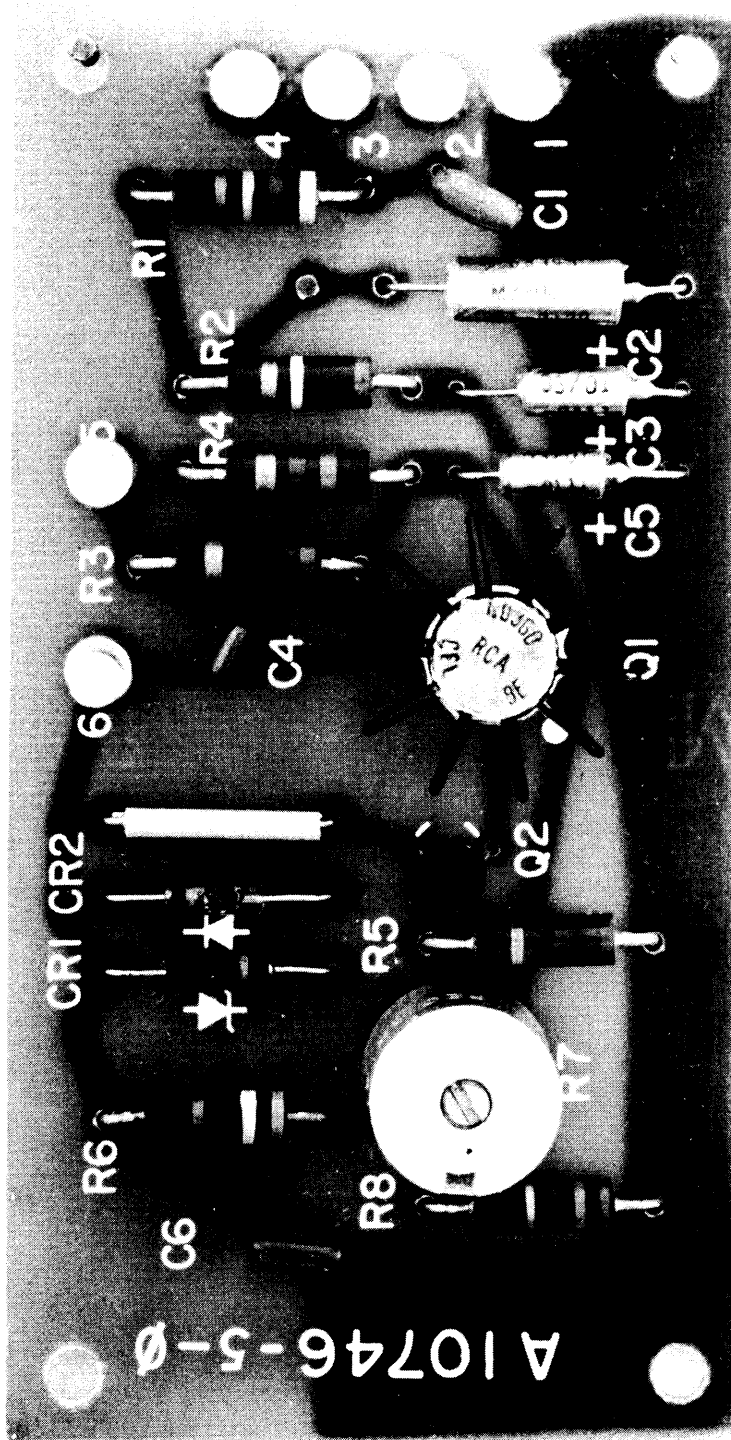


FIGURE 5-2 POWER SUPPLY (REGULATOR) ASSEMBLY 1A1

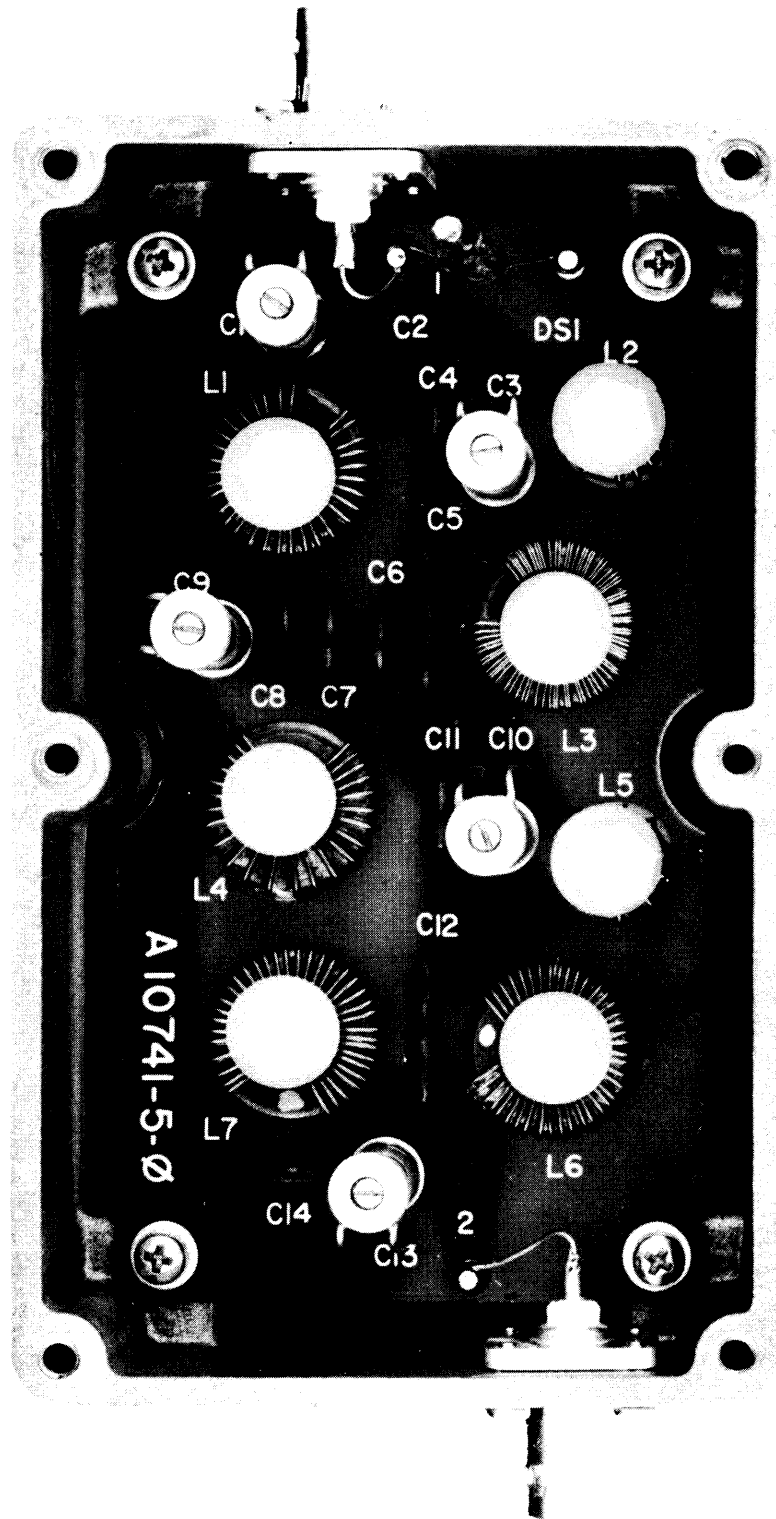


FIGURE 5-3 BANDPASS FILTER (FX10018-1) ASSEMBLY 1A2 COVER REMOVED

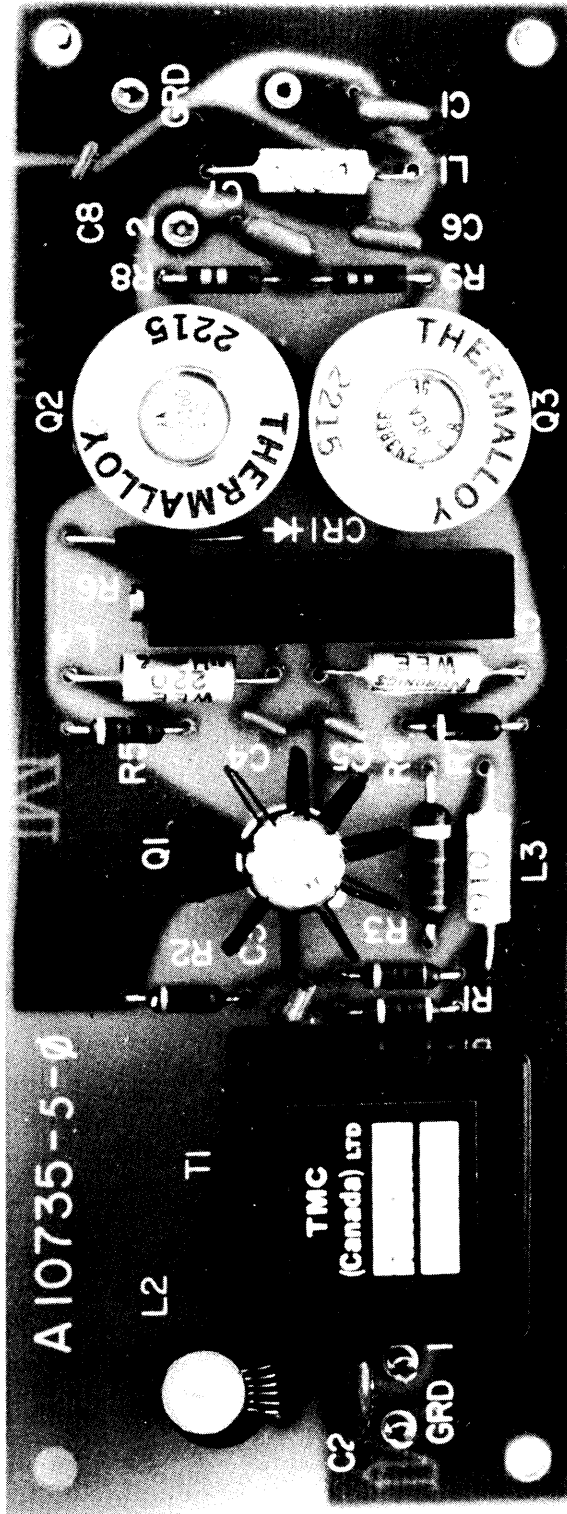


FIGURE 5-4 PREAMPLIFIER ASSEMBLY 1A3

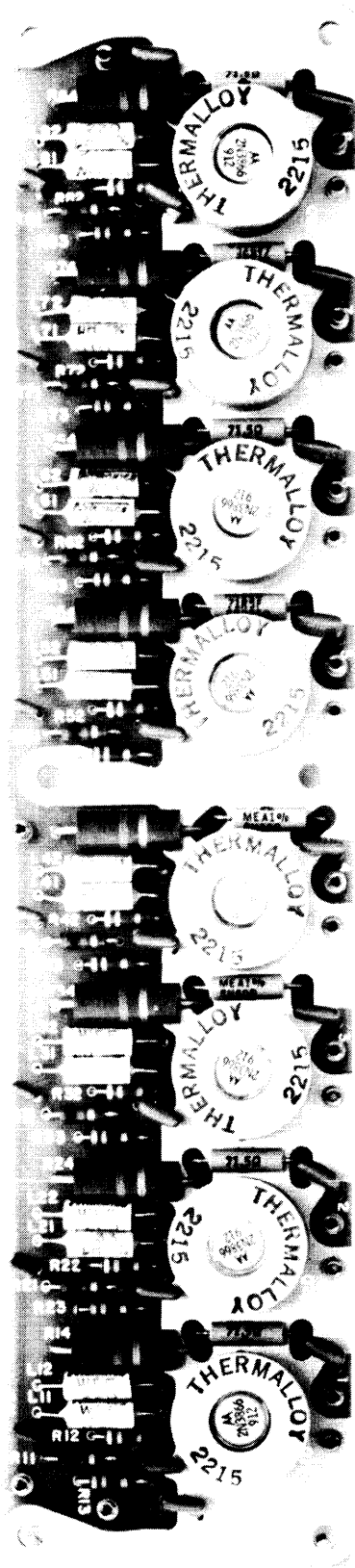


FIGURE 5-5 8 OUTPUT ASSEMBLY 1A4

SECTION 6
PARTS LIST

6-1 INTRODUCTION

- (1) Reference symbols have been assigned to identify all electrical parts. These symbols are marked on the equipment adjacent to the parts that they identify and are included on all drawings, diagrams and part lists. The letters of a reference symbol indicate the generic group of the part, such as capacitor, resistor transistor etc. The numeral differentiates between parts of the same generic group. Sockets associated with any particular plug-in device, such as a transistor or fuse, are identified by a reference symbol which incorporates the symbol used for that device as well as a prefix symbol.
- (2) Prefix symbols have also been assigned to each separate printed circuit board assembly (1A1, 1A2 etc.) to avoid confusion of identifying similar components in a different circuit.

- (3) To expedite delivery when ordering replacement parts, specify the TMC part number and the name and model number of the equipment.

6-2 NOTE

- (1) Re RF Cable Assembly CA10530-()
 - (a) The RF cable assembly is a coaxial cable having a male connector at each end. The length of this cable is determined on final testing of the unit, and may vary between units. Its purpose is to compensate for any phase difference between an individual unit and the master standard.
 - (b) Should the cable become separated from its original AMC-8 unit during the course of maintenance, the last digit of the part number will be found stamped on the chassis in order to match them up correctly. This last digit will be a number from one to ten.

MAIN CHASSIS, FRONT & REAR PANELS

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A1	PRINTED CIRCUIT ASSEMBLY: Regulator	A10746-5
1A2	PRINTED CIRCUIT ASSEMBLY: Bandpass Filter	FX10018 A10741-5
1A3	PRINTED CIRCUIT ASSEMBLY: Preamplifier	A10735-5
1A4	PRINTED CIRCUIT ASSEMBLY: 8 Outputs	A10714-5
1CA	CABLE: RF, coaxial with connectors	CA10530
1C1	CAPACITOR: Electrolytic, 2200 uf	CE44C222G
1DS1	LAMP: Neon	BI100-51
1F1	FUSE: Slo-blo, 0.5 amp	FU102-.5
1F2	SAME AS 1F1	
1FL1	FILTER: RF, line	FI10001
1FL2	SAME AS 1FL1	
1J1	CONNECTOR: BNC, receptacle	UG625 B/U
1J2	SAME AS 1J1	
1J3	SAME AS 1J1	
1J4	SAME AS 1J1	
1J5	SAME AS 1J1	
1J6	SAME AS 1J1	
1J7	SAME AS 1J1	
1J8	SAME AS 1J1	
1J9	SAME AS 1J1	
1J10	CONNECTOR: Receptacle, male	MS3102A-14S-7P
1S1	SWITCH: Toggle	ST22K
1T1	TRANSFORMER: Power	TF10046
1TB1	TERMINAL BOARD:	TM102-2
1Q1	TRANSISTOR: NPN	2N3055

MAIN CHASSIS, FRONT & REAR PANELS

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1Z1	NETWORK: Rectifier, diode bridge	NW10005
1XDS1	SOCKET: Neon lamp	LH77/1LC19CN
1XF1	SOCKET: Fuse	FHL17G1
1XF2	SAME AS 1XF1	
1XF1S	HOLDER: Spare fuse	FHN26G1
1XF2S	SAME AS 1XF1S	
1XQ1	SOCKET: Transistor	TS166-1

POWER SUPPLY (REGULATOR) ASSEMBLY 1A1

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A1C1	CAPACITOR: Fixed, ceramic, 0.1 uf	CC10015-X5V104M
1A1C2	CAPACITOR: Fixed, tantalum, 4.7 uf	CSR13G475ML
1A1C3	CAPACITOR: Fixed, tantalum, 0.47 uf	CSR13G474ML
1A1C4	CAPACITOR: Fixed, ceramic, 0.01 uf	CC10017-X5V103M
1A1C5	SAME AS 1A1C3	
1A1C6	SAME AS 1A1C1	
1A1CR1	DIODE: Zener	1N758A
1A1CR2	DIODE:	1N252
1A1R1	RESISTOR: Fixed, composition, 47 K, 1/2 w, 5%	RC20GF473J
1A1R2	RESISTOR: Fixed, composition, 120 K, 1/2 w, 5%	RC20GF124J
1A1R3	RESISTOR: Fixed, composition, 15 ohms, 1/2 w, 5%	RC20GF150J
1A1R4	RESISTOR: Fixed, composition, 560 ohms, 1/2 w, 5%	RC20GF561J
1A1R5	RESISTOR: Fixed, composition, 1.2 K, 1/2 w, 5%	RC20GF122J
1A1R6	RESISTOR: Fixed, composition, 3.9 K, 1/2 w, 5%	RC20GF392J
1A1R7	RESISTOR: Variable, composition, 1K, linear	RV111U102A
1A1R8	RESISTOR: Fixed, composition, 6.8 K, 1/2 w, 5%	RC20GF682J
1A1Q1	TRANSISTOR: NPN, Silicon	TX10001
1A1Q2	TRANSISTOR: PNP, Silicon	2N5086

BANDPASS FILTER (FX10018) ASSEMBLY 1A2

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A2C1	CAPACITOR: Variable, air 1-14 pf	CT10001
1A2C2	CAPACITOR: Fixed, mica 56 pf, 1%	CM04ED560F03
1A2C3	SAME AS 1A2C1	
1A2C4	CAPACITOR: Fixed, mica 5 pf	CM04CD050D03
1A2C5	CAPACITOR: Fixed, mica 820 pf, 1%	CM06FD821F03
1A2C6	SAME AS 1A2C2	
1A2C7	CAPACITOR: Fixed, mica 91 pf, 2%	CM04FD910G03
1A2C8	SAME AS 1A2C4	
1A2C9	SAME AS 1A2C1	
1A2C10	SAME AS 1A2C1	
1A2C11	CAPACITOR: Fixed, mica 27 pf, 2%	CM04ED270G03
1A2C12	CAPACITOR: Fixed, mica 1300 pf, 1%	CM06FD132F03
1A2C13	SAME AS 1A2C1	
1A2C14	CAPACITOR: Fixed, mica 43 pf, 2%	CM04Ed430G03
1A2DS1	LAMP: Neon glow	BI10005
1A2J1	CONNECTOR: BNC, receptacle	UG290A/U
1A2J2	SAME AS 1A2J1	
1A2L1	INDUCTOR: RF coil 5.61 uh	CL10042-2
1A2L2	INDUCTOR: RF coil .448 uh	CL10043-1
1A2L3	INDUCTOR: RF coil 29.2 uh	CL10042-5
1A2L4	INDUCTOR: RF coil 3.58 uh	CL10042-1
1A2L5	INDUCTOR: RF coil .306 uh	CL10043-2
1A2L6	INDUCTOR: RF coil 9.52 uh	CL10042-4
1A2L7	INDUCTOR: RF coil 7.5 uh	CL10042-3

PREAMPLIFIER ASSEMBLY 1A3

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A3C1	CAPACITOR: Fixed, ceramic 0.1 uf	CC10015-X5V104M
1A3C2	CAPACITOR: Fixed, mica 47 pf, 2%	CM04ED470G03
1A3C3	CAPACITOR: Fixed, ceramic .01 uf	CC10017-X5V103M
1A3C4	SAME AS 1A3C3	
1A3C5	SAME AS 1A3C3	
1A3C6	SAME AS 1A3C1	
1A3C7	SAME AS 1A3C1	
1A3C8	SAME AS 1A3C3	
1A3CR1	DIODE:	1N456A
1A3R1	RESISTOR: Fixed, film 910 ohms, 1/4 w, 2%	RL07S911G
1A3R2	RESISTOR: Fixed, film 8.2 K, 1/4 w, 2%	RL07S822G
1A3R3	RESISTOR: Fixed, film 3 K, 1/4 w, 2%	RL07S302G
1A3R4	RESISTOR: Fixed, comp, 330 ohms, 1/2 w, 5%	RC20GF331J
1A3R5	RESISTOR: Fixed, film 2K, 1/4 w, 2%	RL07S202G
1A3R6	RESISTOR: Variable, 500 ohm	RV10009-501AP
1A3R7	SAME AS 1A3R5	
1A3R8	RESISTOR: Fixed, composition, 7.5 ohms, 1/4 w, 5%	RC07GF7R5J
1A3R9	SAME AS 1A3R8	
1A3L1	INDUCTOR: RF coil, 33 uh	CL275-330
1A3L2	INDUCTOR: RF coil, 0.33 uh	CL10044
1A3L3	INDUCTOR: RF coil, 220 uh	CL275-221
1A3L4	SAME AS 1A3L3	
1A3L5	SAME AS 1A3L3	
1A3T1	TRANSFORMER: RF	TR10005

PREAMPLIFIER ASSEMBLY 1A3

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A3Q1	TRANSISTOR: PNP	2N5160
1A3Q2	SAME AS 1A3Q1	
1A3Q3	TRANSISTOR: NPN	2N3866

8 OUTPUT ASSEMBLY 1A4

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A4C1	CAPACITOR: Fixed, mica 0.1 uf	CC10015-X5V104M
1A4C2	SAME AS 1A4C1	
1A4C11	CAPACITOR: Fixed, mica 0.1 uf	CC10017-X5V103M
1A4C12	SAME AS 1A4C1	
1A4C13	SAME AS 1A4C1	
1A4C21	SAME AS 1A4C11	
1A4C22	SAME AS 1A4C1	
1A4C23	SAME AS 1A4C1	
1A4C31	SAME AS 1A4C11	
1A4C32	SAME AS 1A4C1	
1A4C33	SAME AS 1A4C1	
1A4C41	SAME AS 1A4C11	
1A4C42	SAME AS 1A4C1	
1A4C43	SAME AS 1A4C1	
1A4C51	SAME AS 1A4C11	
1A4C52	SAME AS 1A4C1	
1A4C53	SAME AS 1A4C1	
1A4C61	SAME AS 1A4C11	
1A4C62	SAME AS 1A4C1	
1A4C63	SAME AS 1A4C1	
1A4C71	SAME AS 1A4C11	
1A4C72	SAME AS 1A4C1	
1A4C73	SAME AS 1A4C1	
1A4C81	SAME AS 1A4C11	

8 OUTPUT ASSEMBLY 1A4

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A4C82	SAME AS 1A4C1	
1A4C83	SAME AS 1A4C1	
1A4L11	INDUCTOR: RF coil, 33 MH	CL275-330
1A4L12	INDUCTOR: RF coil, 220 MH	CL275-221
1A4L21	SAME AS 1A4L11	
1A4L22	SAME AS 1A4L12	
1A4L31	SAME AS 1A4L11	
1A4L32	SAME AS 1A4L12	
1A4L41	SAME AS 1A4L11	
1A4L42	SAME AS 1A4L12	
1A4L51	SAME AS 1A4L11	
1A4L52	SAME AS 1A4L12	
1A4L61	SAME AS 1A4L11	
1A4L62	SAME AS 1A4L12	
1A4L71	SAME AS 1A4L11	
1A4L72	SAME AS 1A4L12	
1A4L81	SAME AS 1A4L11	
1A4L82	SAME AS 1A4L12	
1A4R11	RESISTOR: Fixed, composition, 100 ohms, 1/4 w, 5%	RC07GF101J
1A4R12	RESISTOR: Fixed, composition, 4.3 K, 1/4 w, 5%	RC07GF432J
1A4R13	RESISTOR: Fixed, composition, 3.3 K, 1/4 w, 5%	RC07GF332J
1A4R14	RESISTOR: Fixed, composition, 220 ohms, 1 w, 5%	RC32GF221J
1A4R15	RESISTOR: Fixed, film, 71.5 ohms, 1/4 w, 1%	RC07D71R5F
1A4R21	SAME AS 1A4R11	
1A4R22	SAME AS 1A4R12	

8 OUTPUT ASSEMBLY 1A4

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A4R23	SAME AS 1A4R13	
1A4R24	SAME AS 1A4R14	
1A4R25	SAME AS 1A4R15	
1A4R31	SAME AS 1A4R11	
1A4R32	SAME AS 1A4R12	
1A4R33	SAME AS 1A4R13	
1A4R34	SAME AS 1A4R14	
1A4R35	SAME AS 1A4R15	
1A4R41	SAME AS 1A4R11	
1A4R42	SAME AS 1A4R12	
1A4R43	SAME AS 1A4R13	
1A4R44	SAME AS 1A4R14	
1A4R45	SAME AS 1A4R15	
1A4R51	SAME AS 1A4R11	
1A4R52	SAME AS 1A4R12	
1A4R53	SAME AS 1A4R13	
1A4R54	SAME AS 1A4R14	
1A4R55	SAME AS 1A4R15	
1A4R61	SAME AS 1A4R11	
1A4R62	SAME AS 1A4R12	
1A4R63	SAME AS 1A4R13	
1A4R64	SAME AS 1A4R14	
1A4R65	SAME AS 1A4R15	
1A4R71	SAME AS 1A4R11	
1A4R72	SAME AS 1A4R12	
1A4R73	SAME AS 1A4R13	

8 OUTPUT ASSEMBLY 1A4

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
1A4R74	SAME AS 1A4R14	
1A4R75	SAME AS 1A4R15	
1A4R81	SAME AS 1A4R11	
1A4R82	SAME AS 1A4R12	
1A4R83	SAME AS 1A4R13	
1A4R84	SAME AS 1A4R14	
1A4R85	SAME AS 1A4R15	
1A4Q11	TRANSISTOR: NPN, Silicon	2N3866
1A4Q21	SAME AS 1A4Q11	
1A4Q31	SAME AS 1A4Q11	
1A4Q41	SAME AS 1A4Q11	
1A4Q51	SAME AS 1A4Q11	
1A4Q61	SAME AS 1A4Q11	
1A4Q71	SAME AS 1A4Q11	
1A4Q81	SAME AS 1A4Q11	

SECTION 7
SCHEMATIC DIAGRAMS

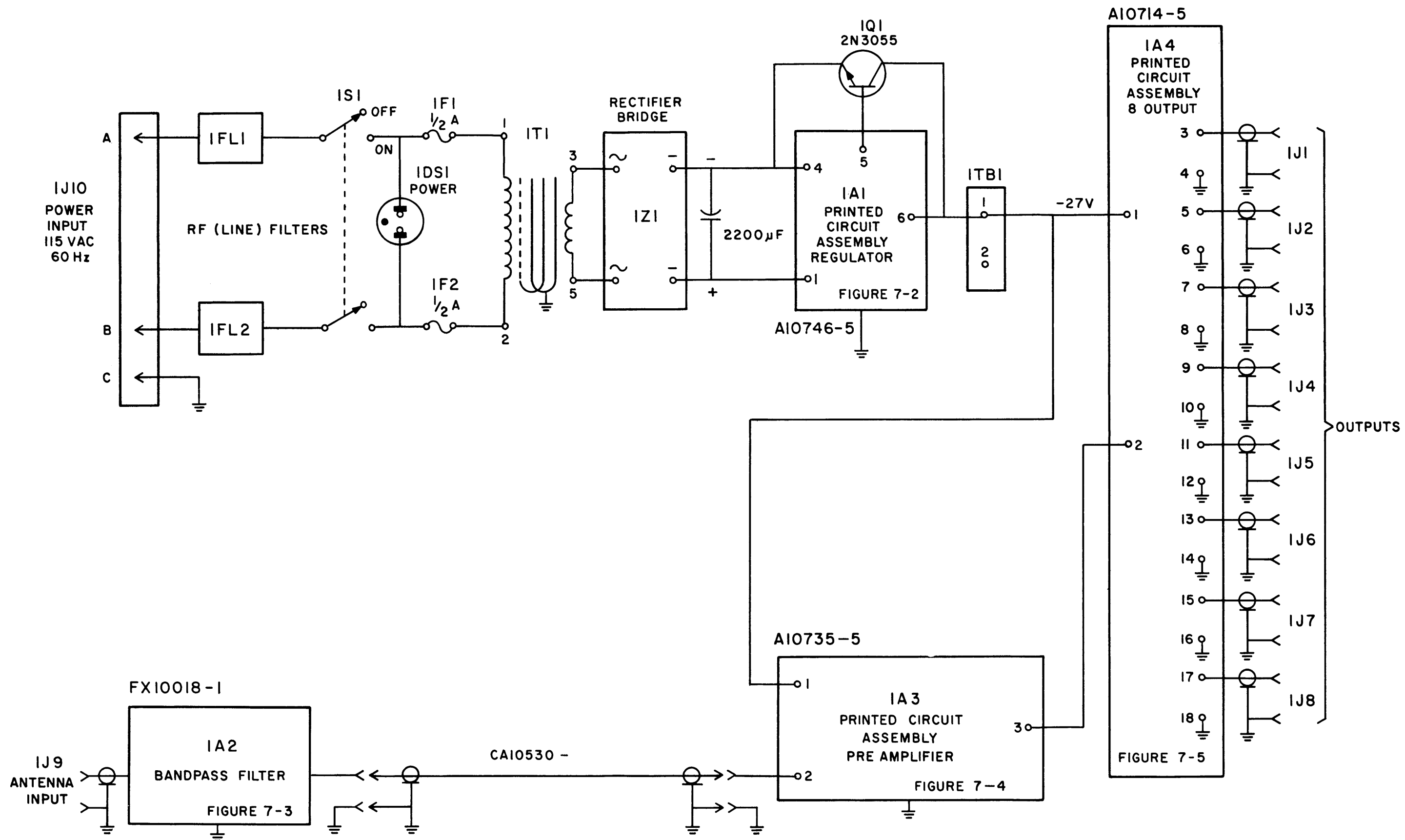


FIGURE 7-1 SYSTEM SCHEMATIC, AMC-8

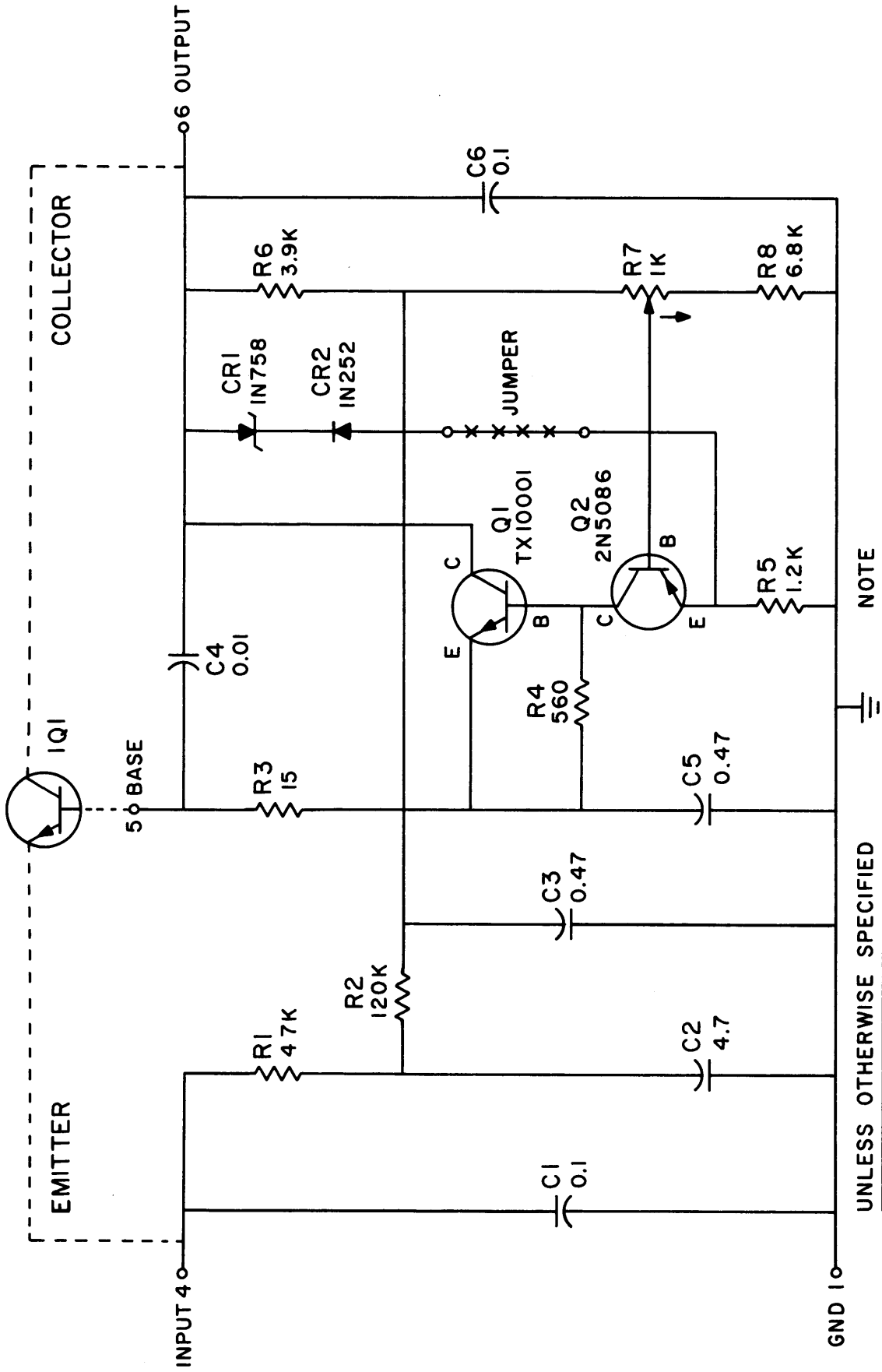
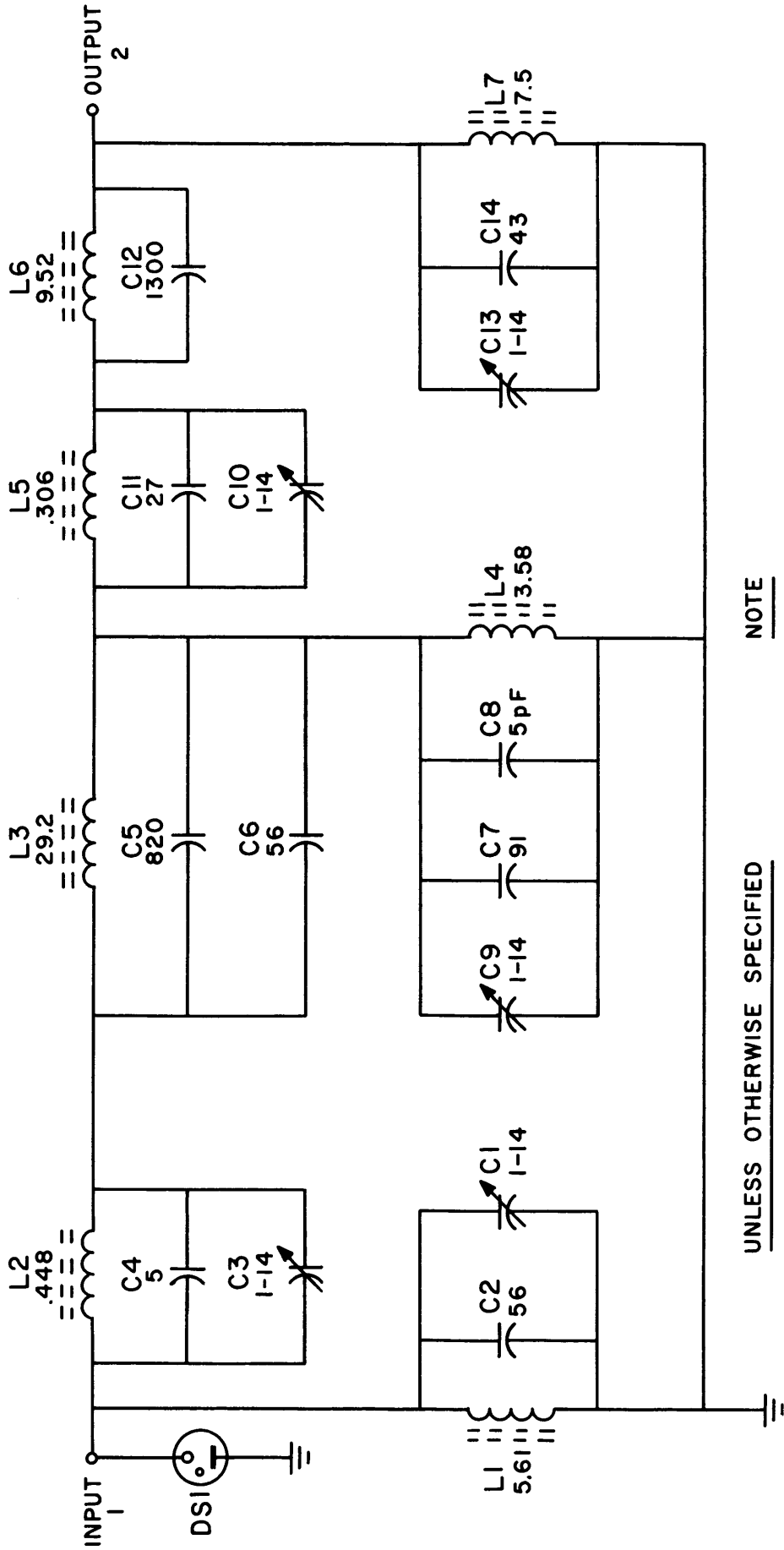


FIGURE 7-2 POWER SUPPLY (REGULATOR) SCHEMATIC 1A1

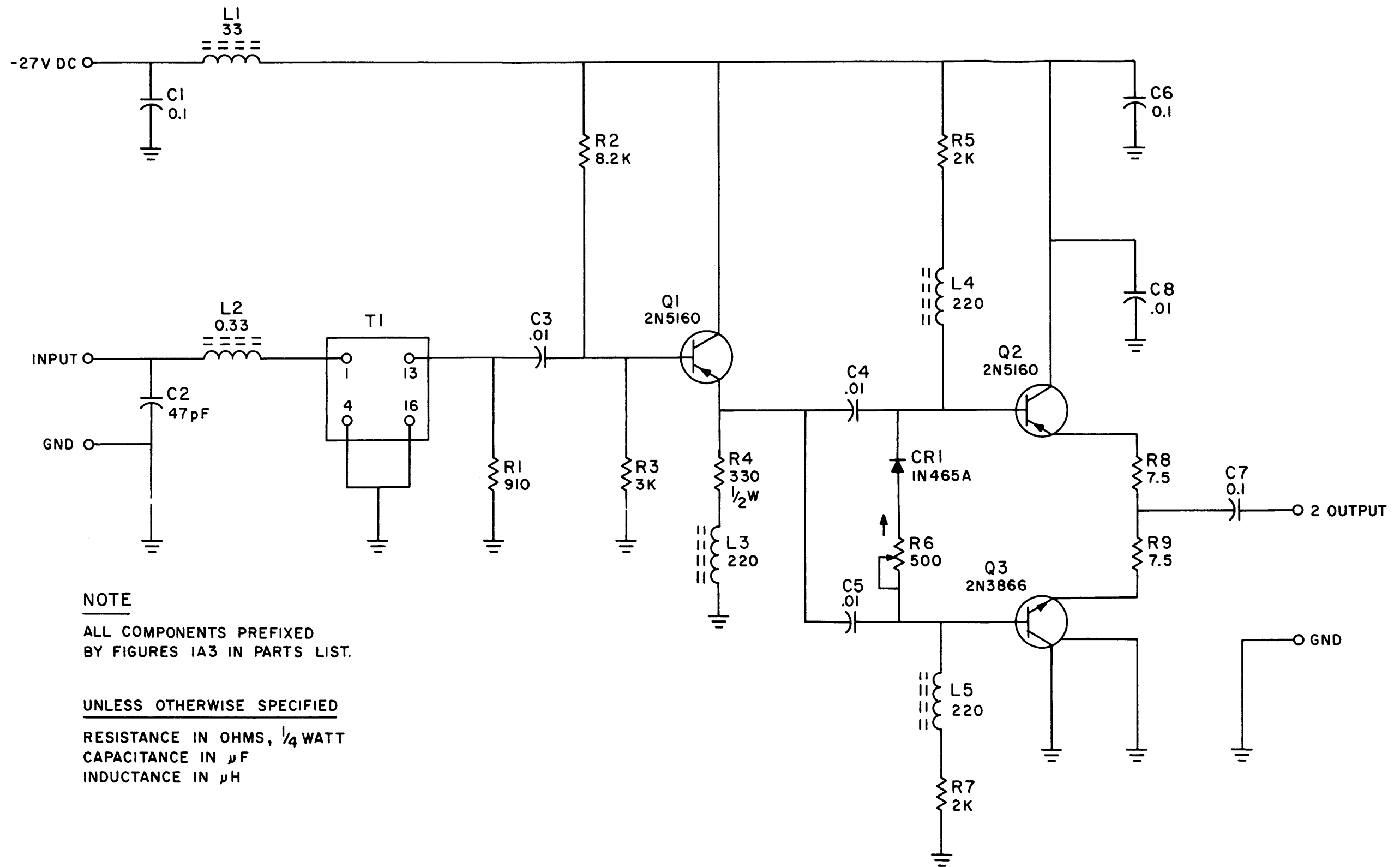


NOTE

UNLESS OTHERWISE SPECIFIED

ALL CAPACITANCE IN pF
ALL INDUCTANCE IN μH

ALL COMPONENTS PREFIXED
BY FIGURES 1A2 IN PARTS LIST.



NOTE
 ALL COMPONENTS PREFIXED
 BY FIGURES 1A3 IN PARTS LIST.

UNLESS OTHERWISE SPECIFIED
 RESISTANCE IN OHMS, 1/4 WATT
 CAPACITANCE IN μF
 INDUCTANCE IN μH

FIGURE 7-4 PREAMPLIFIER SCHEMATIC 1A3

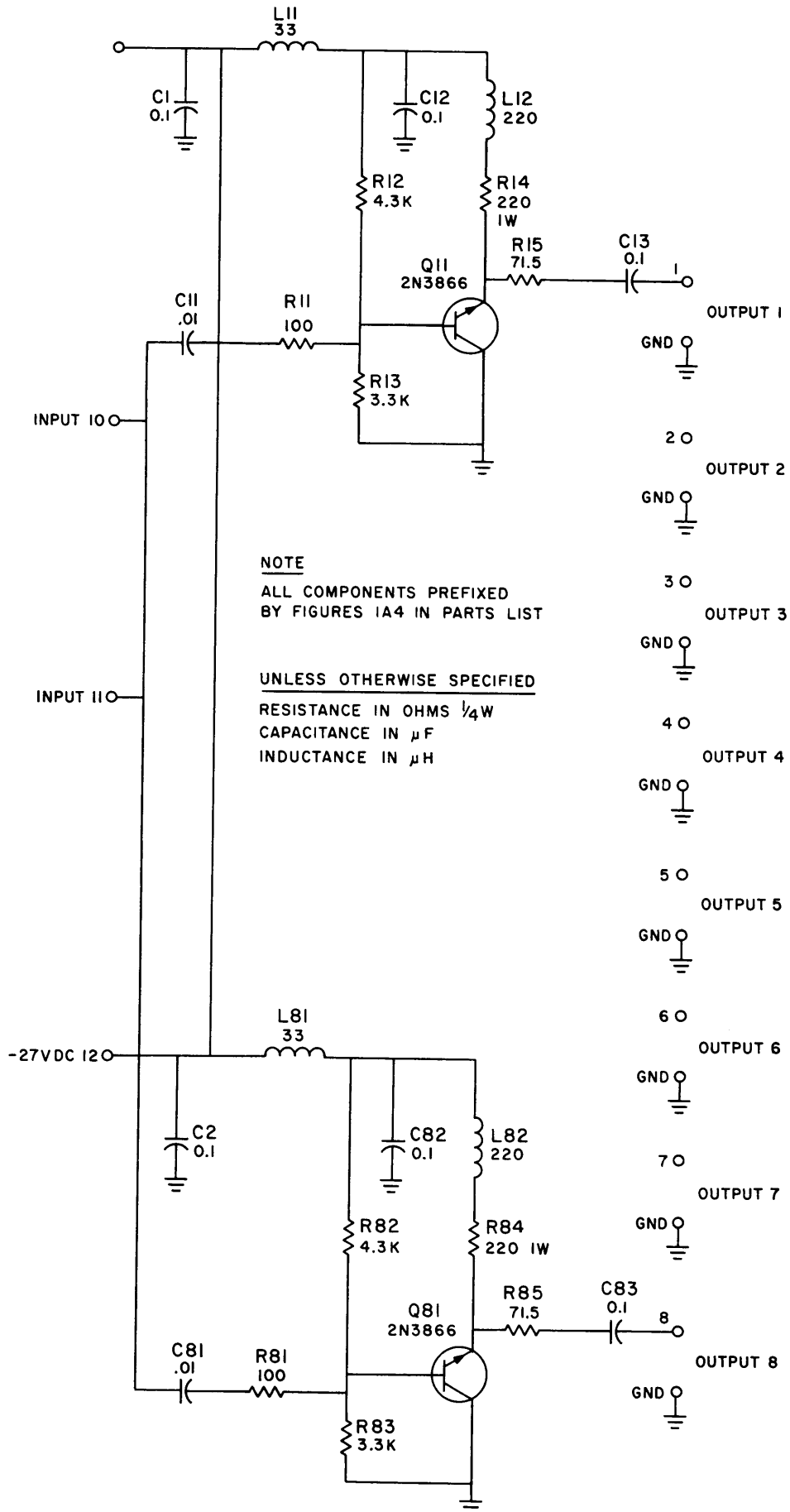


FIGURE 7-5 8 OUTPUT SCHEMATIC 1A4