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**TECHNICAL MANUAL  
FOR  
ANTENNA MULTICOUPLER  
MODEL AMC-21**

7626



**THE TECHNICAL MATERIEL CORPORATION**  
**MAMARONECK, N.Y.** **OTTAWA, CANADA**

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TABLE 1-1 SEMI-CONDUCTOR AND INTEGRATED CIRCUIT COMPLEMENT

REF. DESIGNATION	TYPE	FUNCTION
Power Supply CR1 to CR4 Q1 Q2 U1	1N4002 MPF104 2N2219A NW-WM110R	Rectifier Current Regulator Short Circuit Protection Regulator
Pre-Amplifier CR1 CR2 and CR3 Q1 Q2 Q3 Q4	1N4372A 1N483B 2N3823 2N4034 2N4034 2N2368	Voltage Regulator Bias Regulators Buffer (Impedance) Intermodulation Cancellation
Output Module CR1 Q1 Q2 Q3 and Q4	1N4370 2N3823 2N4034 2N3866	Voltage Regulator Buffer (Impedance) Emitter Followers
RF Protection Board CR1 to CR3	1N252	RF Input Protection

1-3 EQUIPMENT SUPPLIED

Table 1-2 lists the loose items supplied with the AMC-21.

TABLE 1-2 LOOSE ITEMS SUPPLIED

NAME	DESIGNATION	FUNCTION	QTY.
Power Cable Assembly	CA10507	For connection to power connector J2.	1
Connector Plug	UG88/U	For connection to antenna jack J1.	1
Connector Plugs	UG88/U	For connection to output modules.	2 per output module
Technical Manuals	IN8024	Instructions for operation and maintenance of AMC-21.	2

1-4 TECHNICAL SPECIFICATIONS

- Frequency Range: 100 kHz to 32 MHz (usable from 10 kHz to 40 MHz).
- Gain: 1 dB nominal.
- Frequency Response:  $\pm 1.0$  dB, 100 kHz to 32 MHz.
- Noise Figure: The noise figure is such that the minimum discernible signal (MDS) will not be degraded.
- VSWR: Better than 1.5 to 1.
- Input and Output Impedance: 50 ohms unbalanced (70 ohms optional).
- Number of Outputs: 4, 8 and 16 (20 or 24 on special order).
- Intermodulation Distortion: In no case are the second and third order inter-modulation products less than 70 dB below two 0.5V RMS signals applied at the input.
- Back-to-Front Isolation: Better than 60 dB down.
- Output-to-Output Isolation: 50 dB average.
- Output Phase Between Jacks:  $\pm 1^\circ$ .
- Filter Options: Any or all of -
- a. Broadcast band stop filter.
  - b. High pass filter (rejects frequencies below 2 MHz).
  - c. Low pass filter (rejects frequencies above 2 MHz).

**TECHNICAL SPECIFICATIONS (cont'd): —**

<b>Desensitization:</b>	2.0V RMS, 10% removed in frequency, will reduce a 100 microvolt signal by no more than 3 dB.
<b>Overload:</b>	Protective device prevents component failure due to high RF voltage at input (20V for a 50% duty cycle).
<b>MTBF:</b>	20,000 hours per RADC reliability handbook.
<b>Input Power:</b>	115 or 230 VAC, 50 to 400 Hz single phase.
<b>Power Consumption:</b>	25 watts (16 outputs).
<b>Dimensions:</b>	3-1/2'' High, 19'' Wide, 14'' Deep.
<b>Weight:</b>	25 pounds, approximately.

## SECTION 2 INSTALLATION

### 2-1 UNPACKING AND HANDLING

Each AMC-21 has been thoroughly tested and calibrated at the factory before shipment. Upon receipt of the unit, inspect the packing case and its contents for possible damage. Unpack the equipment carefully, checking the packing material for parts shipped as loose items. (See table 1-2). With respect to damage to the equipment for which the carrier is liable, TMC (Canada) Limited will assist in describing methods of repair and furnishing of replacement parts.

### 2-2 POWER REQUIREMENTS

The AMC-21 can operate from either 115 or 230 VAC, single phase, 50 to 400 Hz power. It is normally factory wired for operation from 115 VAC. If 230 VAC operation is required, the jumper connections of transformer T1 must be changed as shown in figure 7-1. For operation from 115 VAC, 0.75A fuses should be used in model AMC-21-16 and 0.5A fuses should be used in models AMC-21-4 and AMC-21-8. For operation from 230 VAC, 0.4A fuses should be used in model AMC-21-16 and 0.25A fuses should be used in models AMC-21-4 and AMC-21-8.

### 2-3 EQUIPMENT LOCATION

The AMC-21 should be located so that there is sufficient clearance at the rear of the unit for inser-

tion and removal of output modules. Front panel controls should be easily accessible to the operator. Because its solid state construction eliminates heat problems, several AMC-21's may be installed one above the other in a stack.

### 2-4 ELECTRICAL INSTALLATION

Make the following connections from external equipment to the AMC-21. (Refer to figure 2-1).

- (a) ANTENNA - Attach the coaxial plug furnished with the AMC-21 to the antenna cable and connect to ANTENNA jack J1 on the rear panel.
- (b) POWER - Connect primary power to pins A and C of POWER INPUT connector J2 on the rear panel using the power cord assembly provided. Ensure that the power transformer T1 is correctly wired and that fuses F1 and F2 are the proper values. (See paragraph 2-2).
- (c) OUTPUTS - Connect the outputs from the output modules to the associated receivers as required.

### 2-5 PERFORMANCE CHECK

Immediately after the AMC-21 has been installed it should be checked for proper operation by moving the power switch to the ON position. Illumination of the POWER lamp will indicate correct installation.

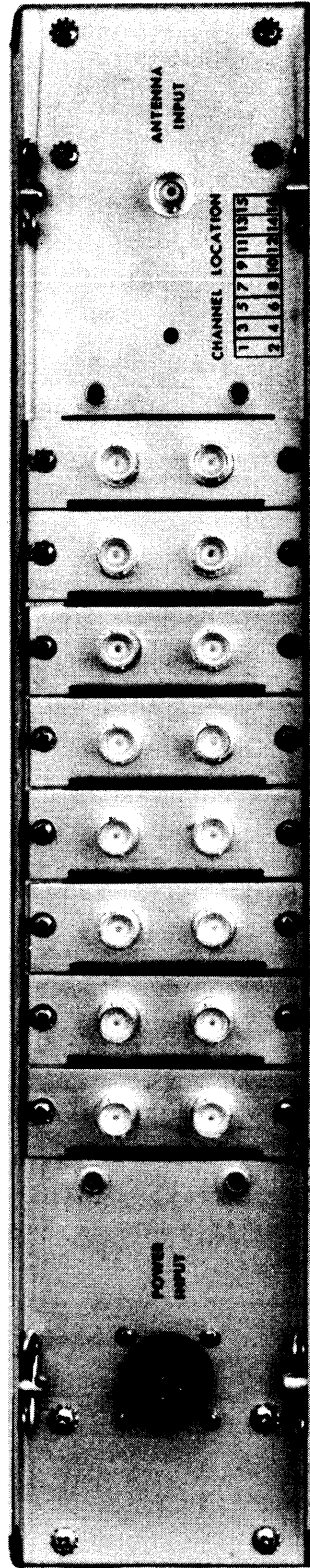


FIGURE 2-1. REAR PANEL, AMC-21



SECTION 3  
OPERATION

3-1 OPERATOR'S CONTROLS

Table 3-1 lists the operating controls, indicators and fuse holders on the front panel of the AMC-21.

TABLE 3-1            CONTROLS AND INDICATORS

CONTROL/INDICATOR	DESCRIPTION
FILTER switch S1	Switches into the circuit the broadcast band stop filter (position 1), the high pass filter (position 2), the low pass filter (position 3), or no filter (OUT position).
Power ON/OFF switch S2	Controls primary power to the AMC-21
POWER lamp DS1	Lights when primary power is connected to the AMC-21 and switch S2 is on.
FUSE holders for F1 and F2	Failure of a fuse is indicated by illumination of the FUSE holder.

3-2 OPERATING PROCEDURES

Operating procedures for the AMC-21 consist of turning on the power switch and selecting a filter if required.

## SECTION 4 PRINCIPLES OF OPERATION

### 4-1 GENERAL

The AMC-21 is a broadband distribution system interposed between a single antenna and the antenna terminals of a group of communications receivers. Impedances in and out of the AMC-21 are flat over the specified operating frequency range to ensure high performance when used in a communications receiving system. The AMC-21 has four major sections described in the following paragraphs. (Refer to figure 4-1).

### 4-2 INPUT CIRCUITS

The input impedance of the AMC-21 is normally 50 ohms, although other input impedances will be furnished on special request. The antenna input is connected to the pre-amplifier board through an RF overload protection circuit, rotary switch S1 and a filter when one has been selected.

The RF overload protection circuit prevents damage to components of the AMC-21 by RF voltages of 20V RMS or greater.

FILTER switch S1 may be positioned to insert one of three optional filters into the input circuit. When position 1 of the FILTER switch is selected, the input signal passes through the broadcast band stop filter which rejects all broadcast band frequencies, before being applied to the pre-amplifier. In position 2, the signal passes through the high pass filter which rejects all frequencies below 2MHz, and in position 3, the signal passes through the low pass filter which rejects all frequencies above 2MHz. When the OUT position of the FILTER switch is selected, the signal is provided directly to the pre-amplifier without passing through any filters.

### 4-3 PRE-AMPLIFIER BOARD

The pre-amplifier is a low noise, wideband, transistorized amplifier with a nominal gain of 8 dB. The input to the pre-amplifier board is applied to step-up transformer T1 and then to a buffer circuit

consisting of Q1, Q2 and CR1. This circuit is of low output impedance, minimizing the load on the following stages. The signal passes through a balancing circuit comprising push-pull transistors Q3 and Q4 and bias regulating diodes CR2 and CR3. The balancing circuit minimizes cross modulation products at the pre-amplifier output.

### 4-4 OUTPUT MODULES

Each output module has two output channels on which are provided identical low impedance outputs. The modules are fully interchangeable so that any module may be plugged into any position. The number of modules used does not affect the performance of the AMC-21.

The output module includes a circuit to minimize the output impedance (Q1, Q2 and CR1) and two emitter followers (Q3 and Q4). The output impedance is normally 50 ohms unbalanced, but other output impedances will be provided on special request.

### 4-5 POWER SUPPLY

The primary power input to the AMC-21 is provided through an AC line filter (FX10024) which removes any RF leakage in the line, to power ON/OFF switch S2. When this switch is in the ON position, the input power is provided through POWER lamp DS1 and fuses F1 and F2 to the power transformer T1. This transformer reduces the line voltage to 30 Vac as required by the power supply board. Jumper connections required across the primary winding of T1 for 115 or 230 Vac inputs are shown in figure 7-1.

On the power supply board, the 30 Vac signal is rectified by CR1 - CR4 and regulated by U1 to provide a -24 Vdc regulated output. Resistor R5 sets the output voltage, but normally requires factory adjustment only. The power supply board provides overload protection (Q1) and short circuit protection (Q2) for the AMC-21.



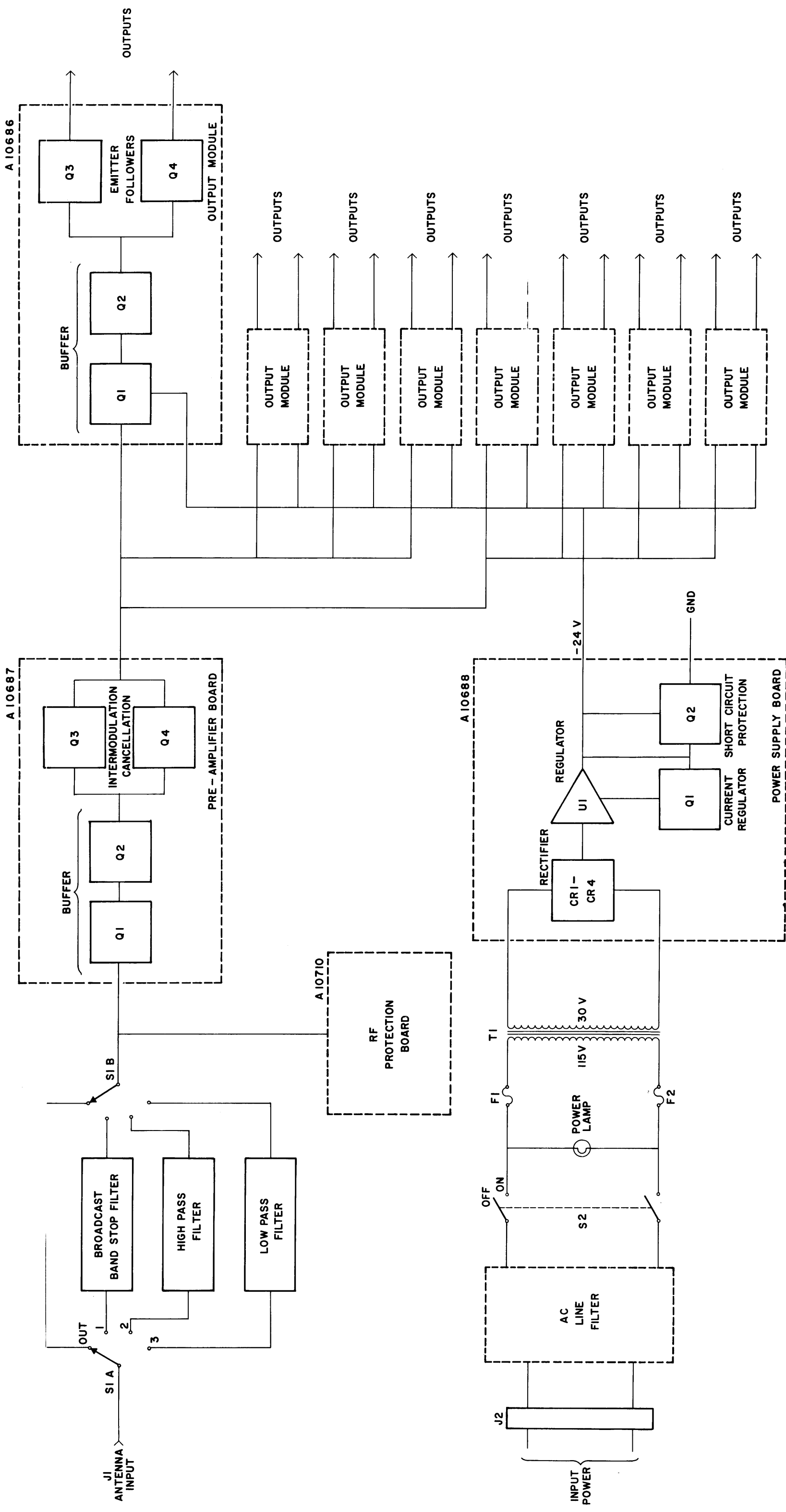


FIGURE 4-1. BLOCK DIAGRAM, AMC-21

## SECTION 5 MAINTENANCE

### 5-1 GENERAL

This section describes preventive maintenance, troubleshooting and repair procedures for the AMC-21. The following equipment is required to perform AMC-21 maintenance procedures.

- (a) RF Signal Generator, Hewlett Packard Model 606A, or equivalent.
- (b) Oscilloscope, Tektronix Model 545, or equivalent.

For aid in locating components, refer to figures 5-1 to 5-5.

### 5-2 PREVENTIVE MAINTENANCE

Preventive maintenance for the AMC-21 consists of routine visual inspection and cleaning. Cleaning is necessary because dust may accumulate on components and not only reduce the efficiency of the receiver, but also increase component wear. Either a vacuum cleaner or compressed air hose should be used to clean the unit.

Visually checking the unit when it is opened for cleaning can reduce downtime due to component failure. Often a deteriorating component will look bad before it actually affects the operation of the unit. Some indications of trouble are; discoloration, dirty or pitted switch or relay contacts, warped printed circuit boards, and damaged wiring. Any deteriorating component should be replaced. In addition, all hardware should be checked for tightness.

### 5-3 TROUBLESHOOTING

The general purpose of this procedure is to narrow the area of trouble to one or more sections of the AMC-21 in order to minimize the labour of locating the source of trouble. An orderly evaluation of symptoms will usually result in malfunction location in a very short time. During operation of the AMC-21 the following symptoms may be noted:

- 1. 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.

The following information is based upon specific troubles that may be encountered during operation of the AMC-21.

- (a) Failure of one or more outputs. If low output is observed at one output when connect-

ed to a specific receiver, failure of a particular output stage is indicated. Semiconductors and other components in the faulty output stage should be checked.

- (b) Weak or noisy signals in all receivers. If weak or noisy signals occur in all receivers, make a rough check of the antenna system by connecting the antenna lead-in directly to the antenna terminals of a receiver. If the weakness or noise disappears, check the semiconductors and other components in the pre-amplifier section of the AMC-21.
- (c) Weak or noisy signals in one receiver. When only one receiver in the system shows faulty performance, check:
  - 1. The receiver itself.
  - 2. The connections between the AMC-21 and the receiver.
  - 3. The particular output section as outlined in paragraph (a).
- (d) Complete loss of signals in all receivers. If the system fails (indicated by loss of signals in all receivers), the method discussed in paragraph (b) may be used to determine if the trouble is actually in the AMC-21. If this appears to be the case, check each stage of the AMC-21. This should be done by applying a test signal to the ANTENNA input jack using an RF signal generator and tracing the signal back from the output jacks using an oscilloscope.

### 5-4 REPAIR

In most cases, repair of the AMC-21 will consist of replacement of an electrical component. The following precautions should be observed -

- (a) Always replace a defective component with its exact duplicate.
- (b) Always place a new component in the same position as the one it replaces. In general, never change the existing layout, whether in the routing of wiring or component placement.
- (c) Never use a soldering iron with a power rating of more than 100 watts. Use a pair of long-nose pliers as a heat sink to protect components while soldering.
- (d) Be extremely careful when replacing components on printed circuit boards as excessive heat applied to a board may cause the printed wiring to lift off.
- (e) Always double check any solder joints made. Cold or loose solder connections can cause trouble at a later time.

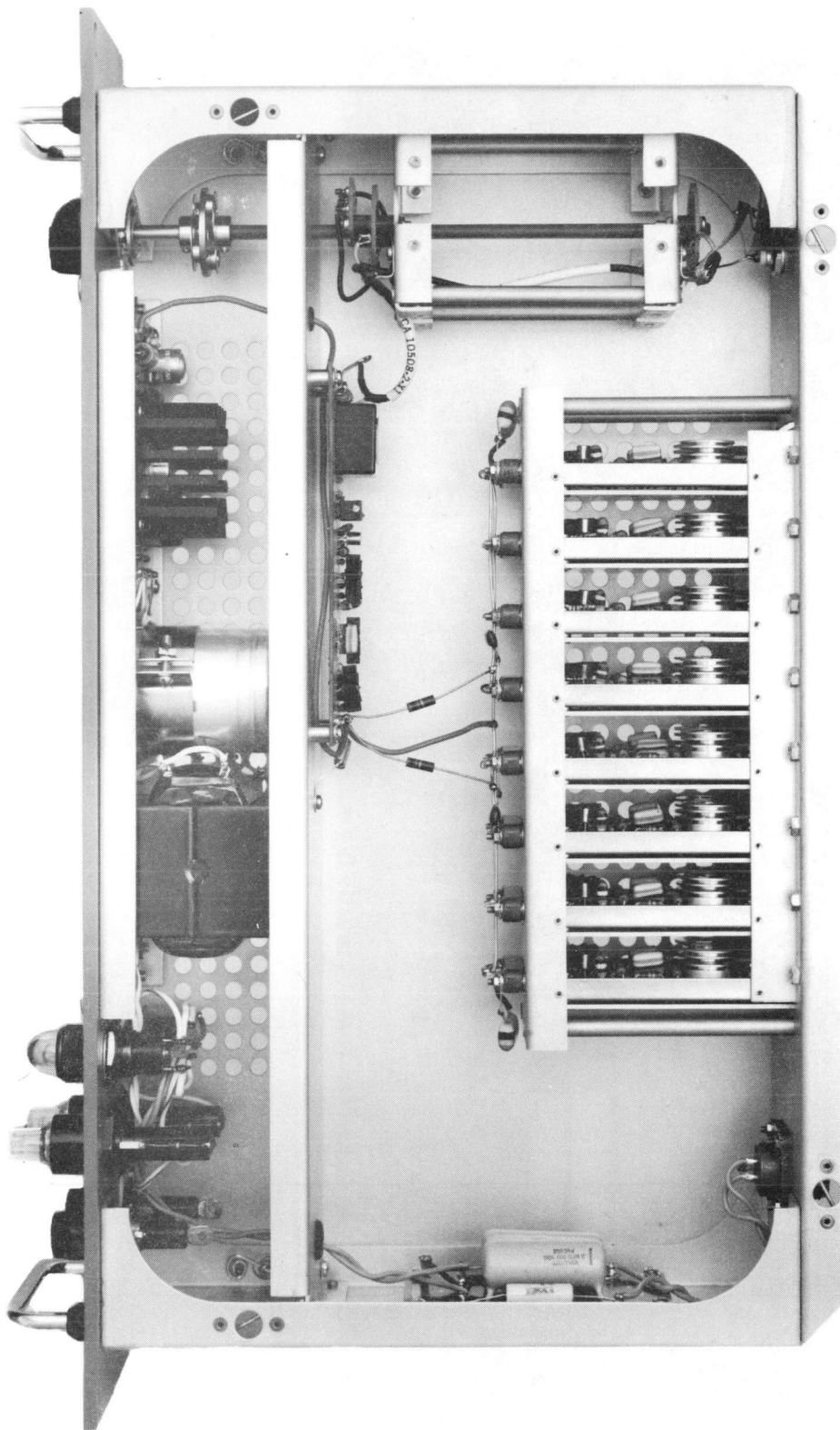


FIGURE 5-1. TOP VIEW WITH COVER REMOVED, AMC-21

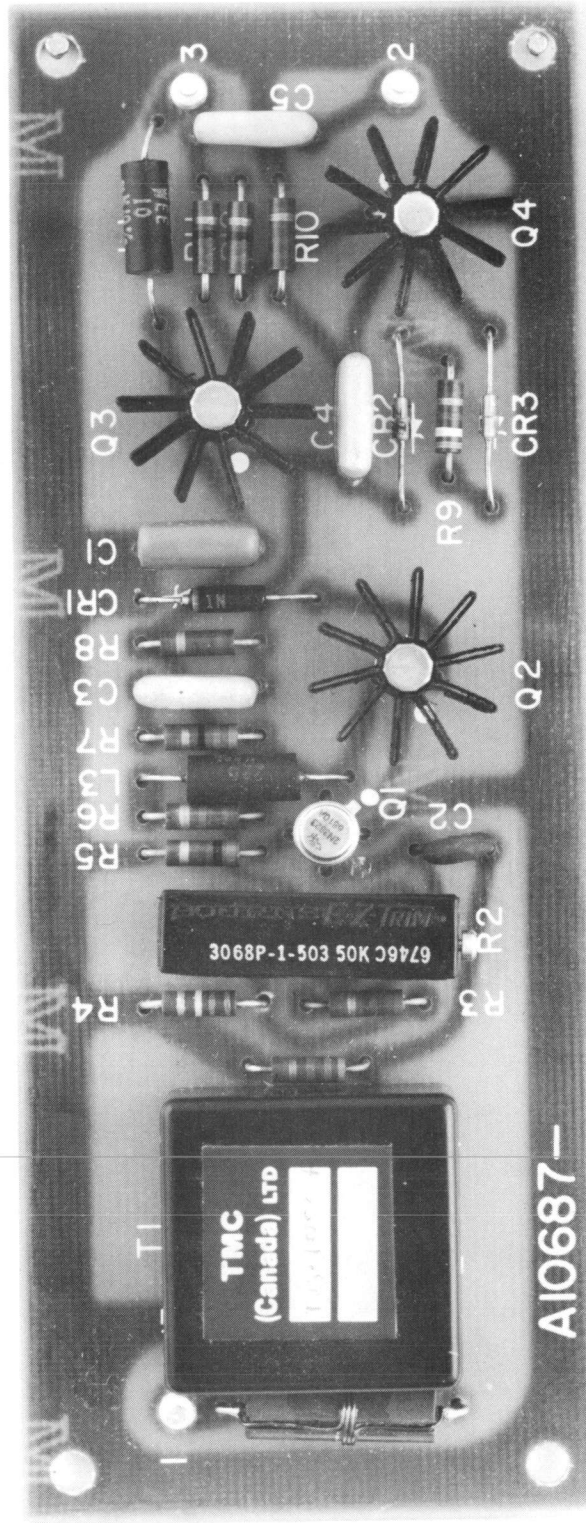


FIGURE 5-2. PRE-AMPLIFIER BOARD

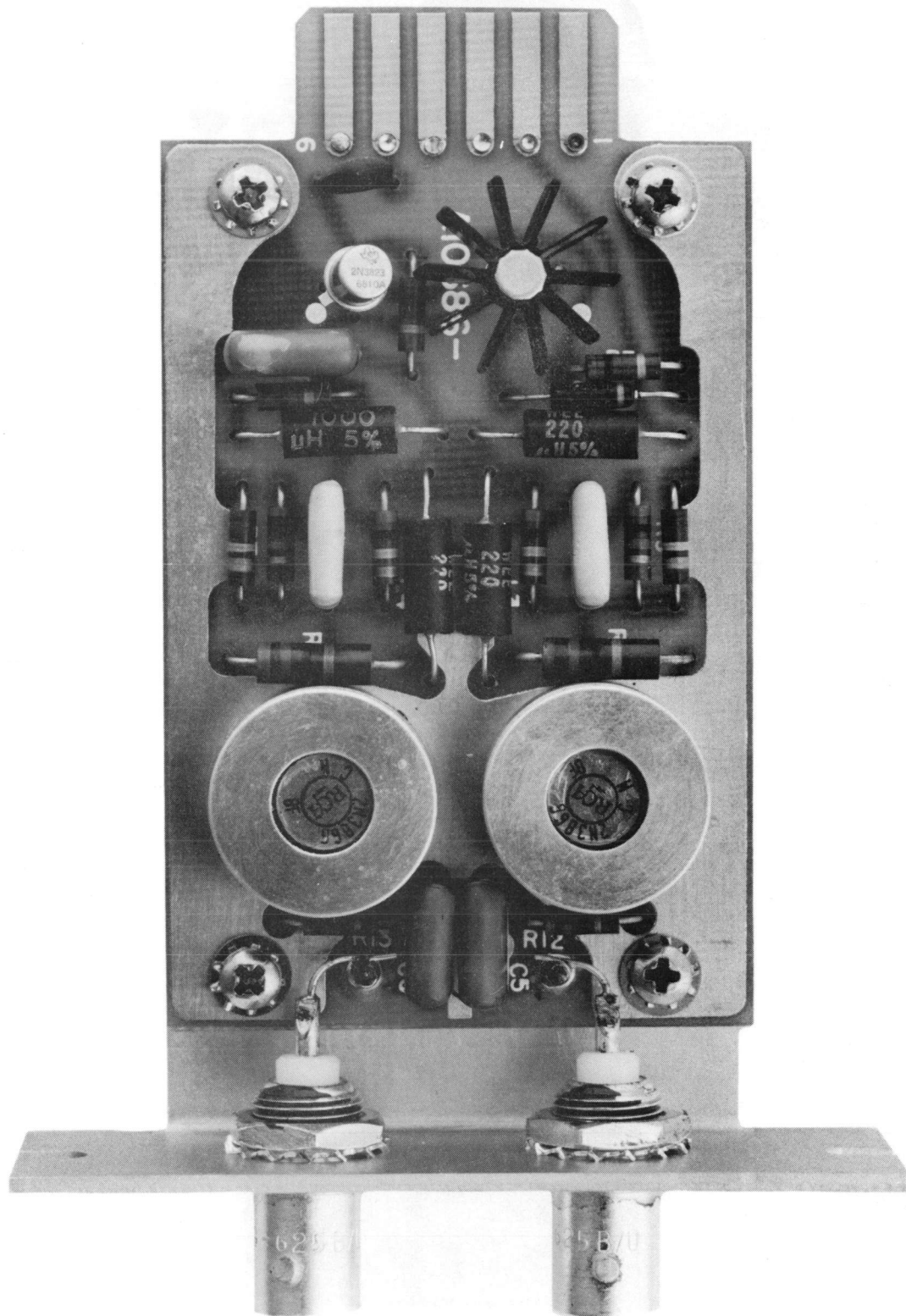


FIGURE 5-3. OUTPUT MODULE



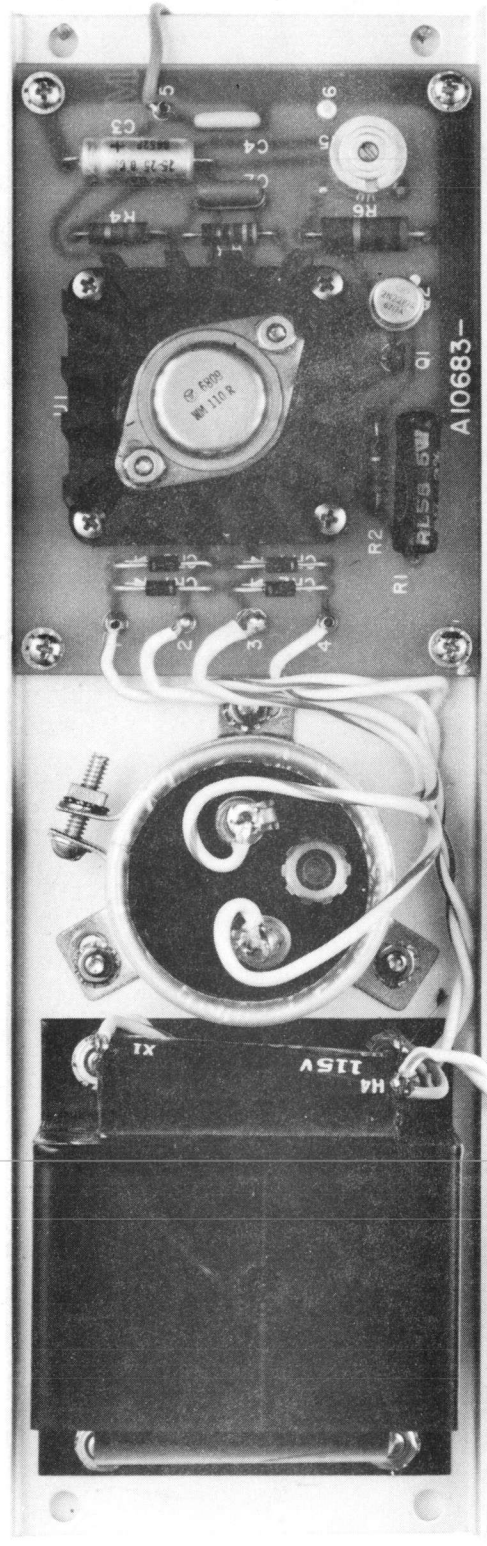


FIGURE 54. POWER SUPPLY BOARD

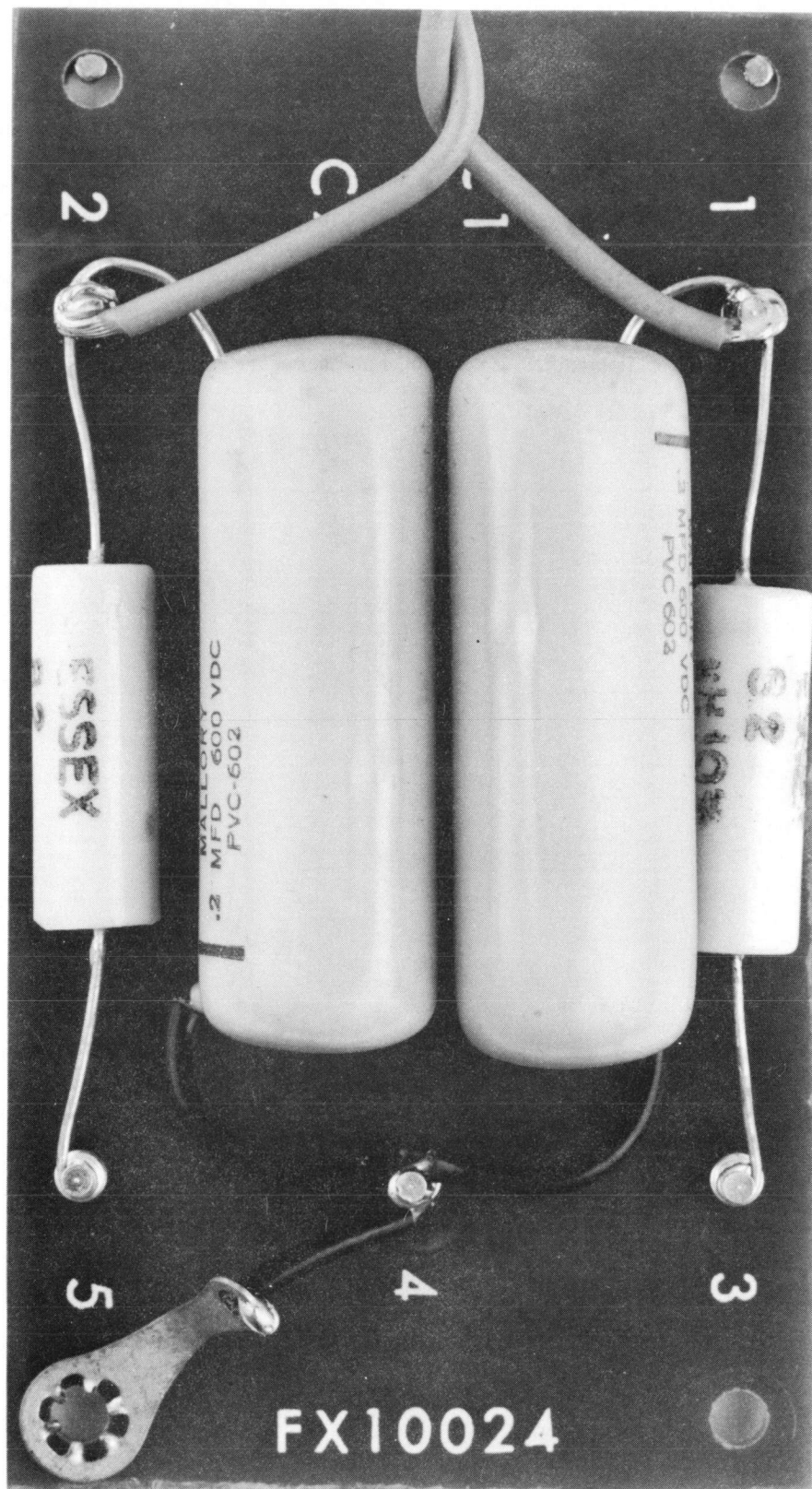


FIGURE 5-5. AC LINE FILTER

SECTION 6  
PARTS LIST

6-1 INTRODUCTION

Reference designations have been assigned to identify all electrical parts of the equipment. These designations are used for marking the equipment (adjacent to the parts 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, capacitor, transistor,

etc. The number differentiates between parts of the same generic group. Sockets associated with a particular plug-in device, such as transistor or fuse, are identified by a reference designation which includes the reference designation of the plug-in device. For example, the socket for crystal Y101 is designated XY101. To expedite delivery, when ordering replacement parts, specify the TMC part number and the model number of the equipment.

## MAIN CHASSIS

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
C1A	CAPACITOR, FIXED, MICA: 22 pF $\pm$ 10%; 500 WVdc	CM111C220K5S
C1B	Same as C1A	
C2	CAPACITOR, FLAT, FOIL: 0.1 $\mu$ F $\pm$ 20%; 250 WVdc	CC10011-8
C3	Same as C1A*	
C4	CAPACITOR, FLAT, FOIL: 0.22 $\mu$ F $\pm$ 20%; 250 WVdc	CC10011-10
C5	CAPACITOR, ELECTROLYTIC: 2400 $\mu$ F; 35 WVdc	CE10005-1
C6	Same as C4	
C7	Same as C1A*	
DS1	INDICATOR, NEON	BI100-51
F1	FUSE, CARTRIDGE: slow-blow; for 230 VAC operation, models AMC-21-4 and AMC-21-8	FU102-25
F1	FUSE, CARTRIDGE: slow-blow; for 230 VAC operation, model AMC-21-16	FU102-4
F1	FUSE, CARTRIDGE: slow-blow; for 115 VAC operation, models AMC-21-4 and AMC-21-8	FU102-500
F1	FUSE, CARTRIDGE: slow-blow; for 115 VAC operation, model AMC-21-16	FU102-750
F2	Same as F1	
J1	CONNECTOR, RF	UG625-B/U
J2	CONNECTOR, BOX, RECEPTACLE	MS3102R-14S-7P
J3	CONNECTOR, RECEPTACLE, FEMALE	JJ285-6
J4 thru J10	Same as J3	
R1	RESISTOR, FIXED, COMPOSITION: 100 ohms $\pm$ 5%; 1/2 watt	RC20GF101J
R2	Same as R1	

\* Value may be padded if necessary during manufacture.

MAIN CHASSIS

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
S1A	WAFER, SWITCH	SW10045-W
S1B	Same as S1A	
S2	SWITCH, TOGGLE, DPST	ST22K
T1	TRANSFORMER, POWER	TF10043
	OPTIONAL FILTERS:  BROADCAST BAND STOP FILTER  HIGH PASS FILTER  LOW PASS FILTER	FX10020  FX10021  FX10022

RF PROTECTION BOARD  
A10710

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
CR1	DIODE	1N252
CR2	Same as CR1	
CR3	Same as CR1	

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
C1	CAPACITOR, FLAT, FOIL: 0.1 uF $\pm$ 20%; 250 WVdc	CC10011-8
C2	CAPACITOR, FIXED, CERAMIC: 0.001 uF, GMV, 500 WVdc	CC100-29
C3	CAPACITOR, FLAT, FOIL: 0.047 uF $\pm$ 20%; 250 WVdc	CC10011-5
C4	Same as C3	
C5	Same as C3	
CR1	DIODE, SILICON, ZENER	1N4372A
CR2	DIODE, SILICON	1N483B
CR3	Same as CR2	
L1	COIL, RF, FIXED: 10 uH $\pm$ 10%, 500 WVdc	CL275-100
L2	COIL, RF, FIXED: 0.32 uH $\pm$ 20%, 500 WVdc	CL10041-1
L3	COIL, RF, FIXED: 220 uH $\pm$ 10%, 500 WVdc	CL275-221
Q1	TRANSISTOR, SILICON, FIELD EFFECT	2N3823
Q2	TRANSISTOR, SILICON, PNP, LOW POWER	2N4034
Q3	Same as Q2	
Q4	TRANSISTOR, SILICON, NPN, LOW POWER	2N2368
R1	RESISTOR, FIXED, COMPOSITION: 680 ohms $\pm$ 5%; 1/4 watt	RC07GF681J
R2	RESISTOR, VARIABLE, CARBON: 50K ohms $\pm$ 20%; 0.2 watt	RV10006-2P
R3	RESISTOR, FIXED, COMPOSITION: 1.2M ohms $\pm$ 5%; 1/4 watt	RC07GF125J
R4	RESISTOR, FIXED, COMPOSITION: 120K ohms $\pm$ 5%; 1/4 watt	RC07GF124J
R5	RESISTOR, FIXED, COMPOSITION: 1K ohm $\pm$ 5%; 1/4 watt	RC07GF102J

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
R6	RESISTOR, FIXED, COMPOSITION: 220 ohms ± 5%; 1/4 watt	RC07GF221J
R7	RESISTOR, FIXED, COMPOSITION: 68 ohms ± 5%; 1/4 watt	RC07GF680J
R8	RESISTOR, FIXED, COMPOSITION: 2.2K ohms ± 5%; 1/4 watt	RC07GF222J
R9	RESISTOR, FIXED, COMPOSITION: 390 ohms ± 5%; 1/4 watt	RC07GF391J
R10	Same as R8	
R11	RESISTOR, FIXED, COMPOSITION: 22 ohms ± 5%; 1/4 watt	RC07GF220J
R12	Same as R11	
T1	TRANSFORMER, RF	TR10004



AC LINE FILTER  
FX10024

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
C1	CAPACITOR, FIXED, MYLAR: 0.2 uF; 600 WVdc	CN10007
C2	Same as C1	
L1	COIL, RF, ENCAPSULATED: 8.2 uH	CL10028
L2	Same as L1	

OUTPUT MODULE

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
C1	CAPACITOR, FLAT, FOIL: 0.1 uF ± 20%, 250 WVdc	CC10011-8
C2	CAPACITOR, FIXED, CERAMIC: 0.001 uF, GMV, 500 WVdc	CC100-29
C3	CAPACITOR, FLAT, FOIL: 0.047 uF ± 20%; 250 WVdc	CC10011-5
C4	Same as C3	
C5	Same as C1	
C6	Same as C1	
CR1	DIODE, SILICON, ZENER	1N4370
J1	CONNECTOR, RF	UG625-B/U
J2	Same as J1	
L1	COIL, RF, FIXED: 220 uH ± 10%; 500 WVdc	CL275-221
L2	COIL, RF, FIXED: 1000 uH ± 10%; 500 WVdc	CL275-102
L3	Same as L1	
L4	Same as L1	
Q1	TRANSISTOR, SILICON, FIELD EFFECT	2N3823
Q2	TRANSISTOR, SILICON, PNP, LOW POWER	2N4034
Q3	TRANSISTOR, SILICON, NPN, HIGH POWER	2N3866
Q4	Same as Q3	
R1	RESISTOR, FIXED, COMPOSITION: 1.2M ohms ± 5%; 1/4 watt	RC07GF125J
R2	RESISTOR, FIXED, COMPOSITION: 220 ohms ± 5%; 1/4 watt	RC07GF221J
R3	RESISTOR, FIXED, COMPOSITION: 1K ohm ± 5%; 1/4 watt	RC07GF102J
R4	RESISTOR, FIXED, COMPOSITION: 100 ohms ± 5%; 1/4 watt	RC07GF101J
R5	Same as R4	

OUTPUT MODULE

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
R6	RESISTOR, FIXED, COMPOSITION: 10K ohms ± 5%; 1/4 watt	RC07GF103J
R7	RESISTOR, FIXED, COMPOSITION: 22K ohms ± 5%; 1/4 watt	RC07GF223J
R8	Same as R6	
R9	Same as R7	
R10	RESISTOR, FIXED, COMPOSITION: 68 ohms ± 5%; 1/2 watt	RC20GF680J
R11	Same as R10	
R12	RESISTOR, FIXED, COMPOSITION: 68 ohms ± 5%; 1/4 watt	RC07GF680J
R13	Same as R12	

POWER SUPPLY BOARD  
A10683-5

REFERENCE DESIGNATION	DESCRIPTION	TMC PART NUMBER
C1	Not used	
C2	CAPACITOR, FLAT, FOIL: 0.1 uF $\pm$ 20%; 250 WVdc	CC10011-8
C3	CAPACITOR, FIXED, ELECTROLYTIC: 20 uF + 150% -10%; 25 WVdc	CE105-20-25
C4	CAPACITOR, FLAT, FOIL: 0.047 uF $\pm$ 20%; 250 WVdc	CC10011-5
CR1	RECTIFIER, SILICON	1N4002
CR2	Same as CR1	
CR3	Same as CR1	
CR4	Same as CR1	
Q1	TRANSISTOR, SILICON, FIELD EFFECT (N CHANNEL)	MPF104
Q2	TRANSISTOR, SILICON, NPN, LOW POWER	2N2219A
R1	RESISTOR, FIXED, WIREWOUND: 6 ohms $\pm$ 3%; 5 watts	RW10005
R2	RESISTOR, FIXED, COMPOSITION: 820 ohms $\pm$ 5%; 1/2 watt	RC20GF821J
R3	RESISTOR, FIXED, COMPOSITION: 3.3 K ohms $\pm$ 5%; 1/2 watt	RC20GF332J
R4	RESISTOR, FIXED, COMPOSITION: 270 ohms $\pm$ 5%; 1/2 watt	RC20GF271J
R5	RESISTOR, VARIABLE, COMPOSITION: 500 ohms $\pm$ 10%; 1/4 watt	RV111U501A
R6	RESISTOR, FIXED, COMPOSITION: 1.2K ohms $\pm$ 5%; 1 watt	RC32GF122J
U1	REGULATOR, VOLTAGE, INTEGRATED CIRCUIT	NW-WM110R

**SECTION 7**  
**SCHEMATIC DIAGRAMS**

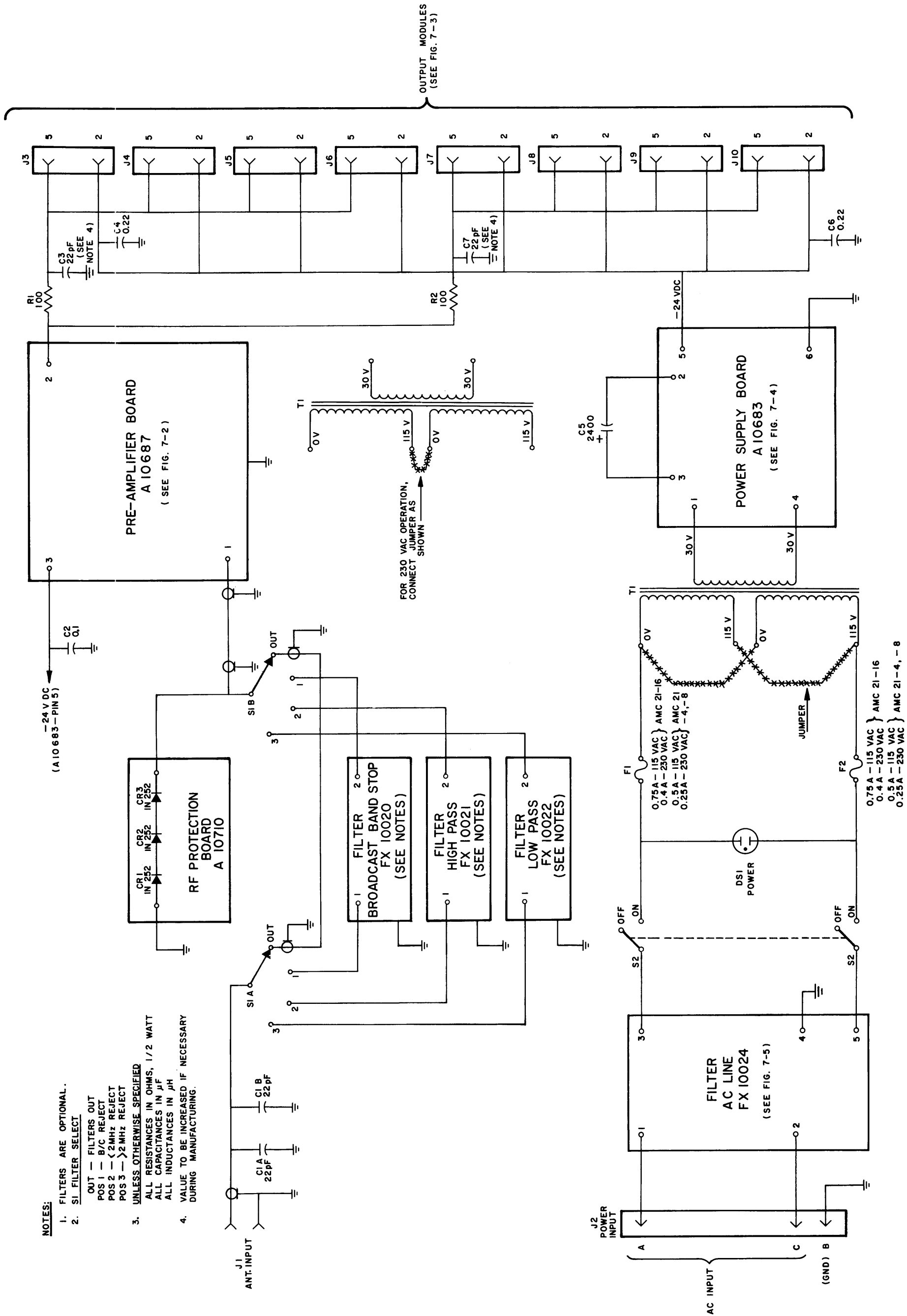
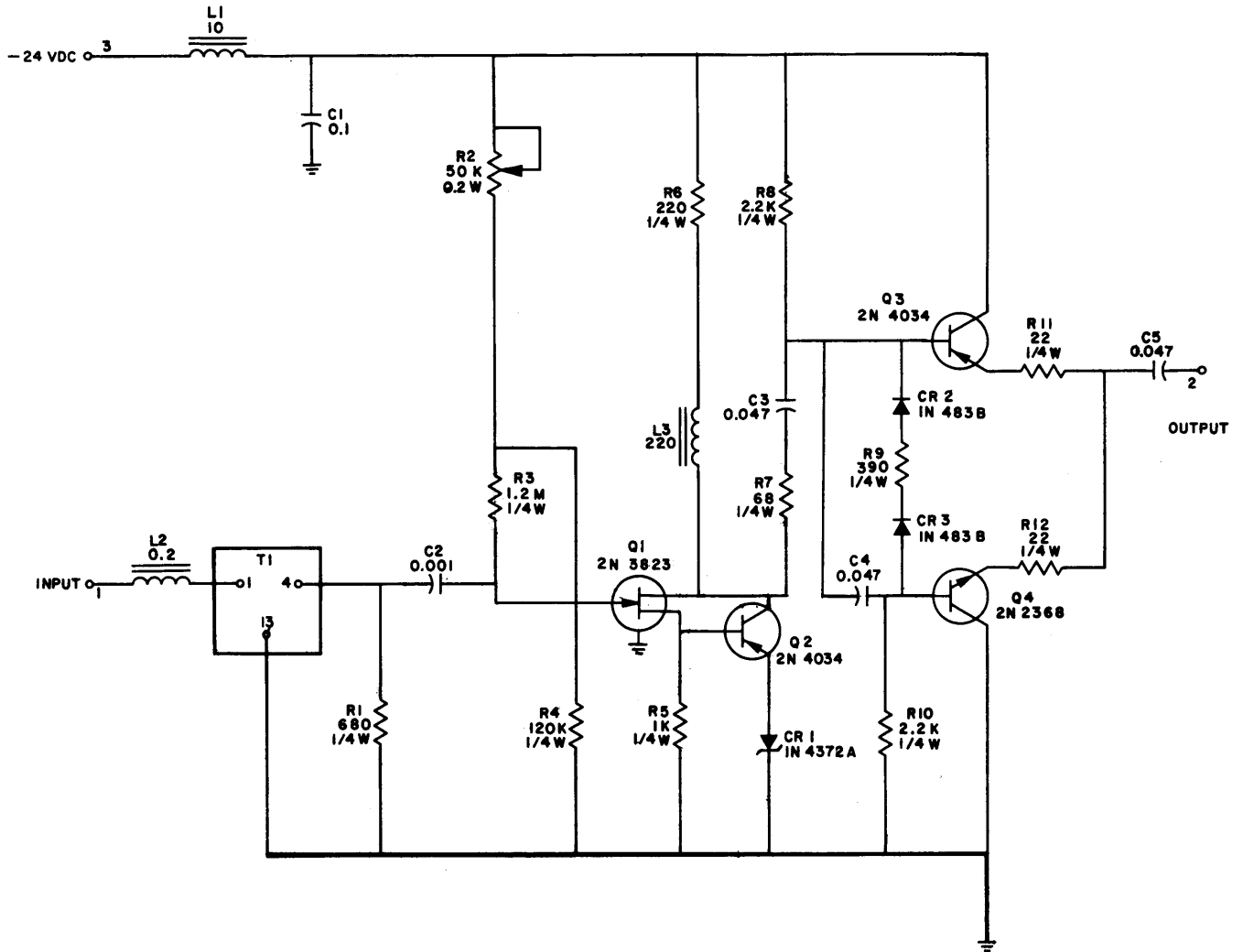
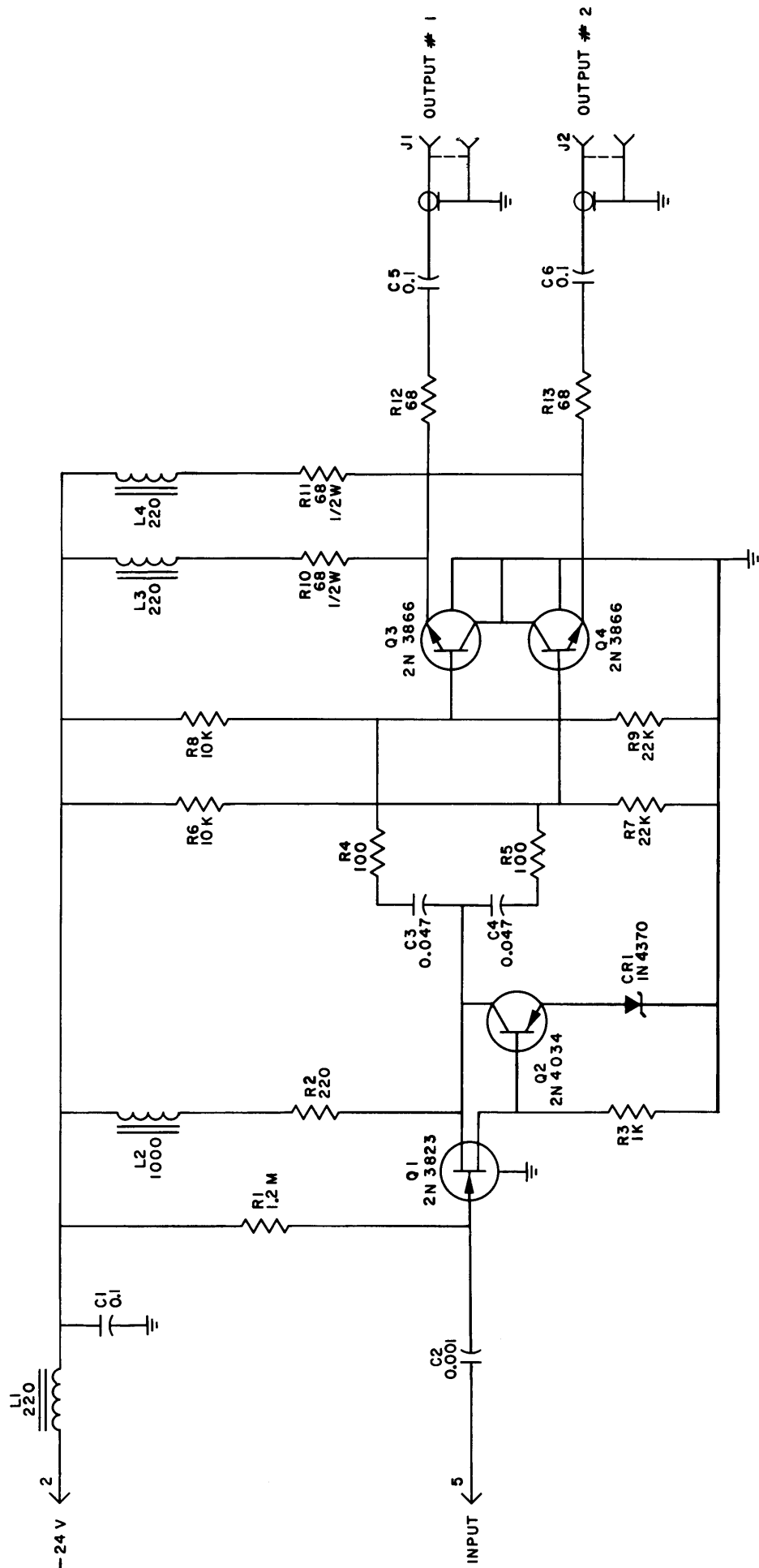


FIGURE 7-1. MAIN SCHEMATIC, AMC-21



UNLESS OTHERWISE SPECIFIED:  
 ALL RESISTANCES IN OHMS, 1/2 WATT  
 ALL CAPACITANCES IN  $\mu$ F.  
 ALL INDUCTANCES IN  $\mu$ H.

FIGURE 7-2. PRE-AMPLIFIER BOARD SCHEMATIC, AMC-21



NOTES:  
 UNLESS OTHERWISE STATED:  
 RESISTANCES IN OHMS, 1/4 WATT  
 CAPACITANCES IN  $\mu$ F  
 INDUCTANCES IN  $\mu$ H

FIGURE 7-3. OUTPUT MODULE SCHEMATIC, AMC-21



UNLESS OTHERWISE SPECIFIED:

ALL RESISTANCES IN OHMS, 1/2 WATT.  
ALL CAPACITANCES IN  $\mu\text{F}$ .

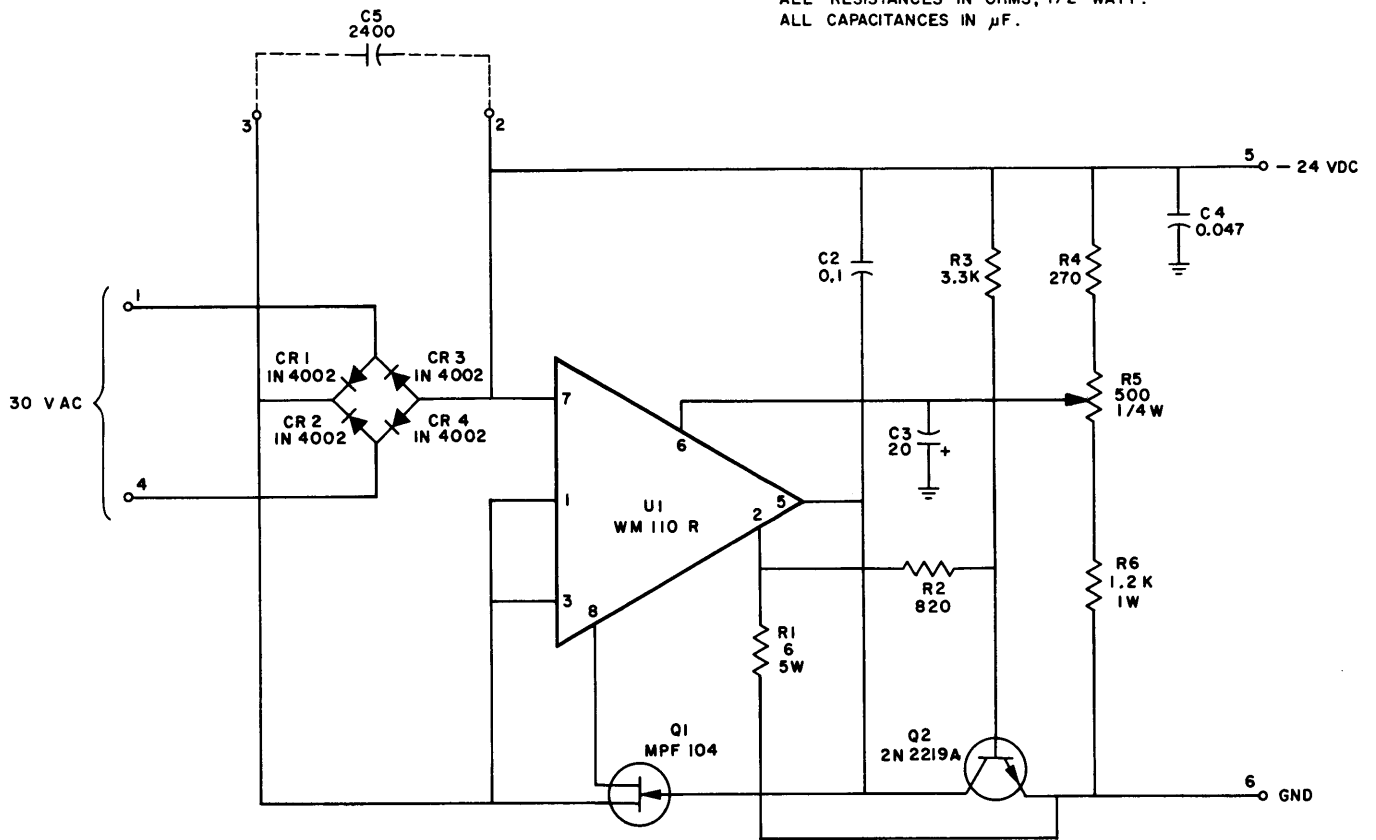
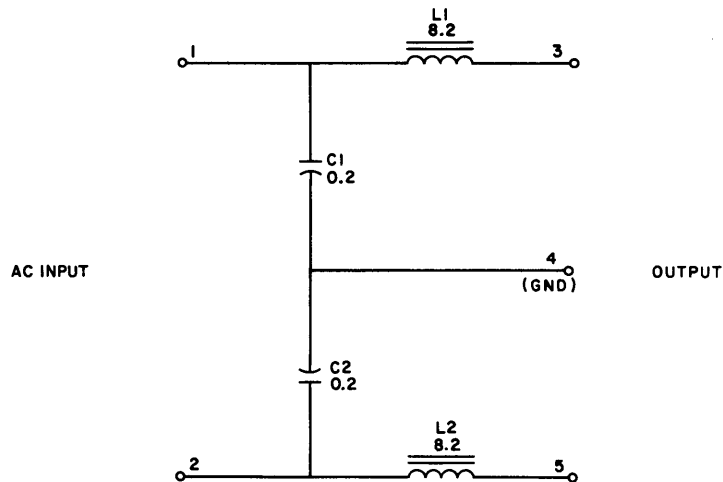


FIGURE 7-4. POWER SUPPLY SCHEMATIC, AMC-21



UNLESS OTHERWISE SPECIFIED:

ALL CAPACITANCES IN  $\mu\text{F}$ .  
ALL INDUCTANCES IN  $\mu\text{H}$ .

FIGURE 7-5. AC LINE FILTER SCHEMATIC, AMC-21