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TECHNICAL MANUAL

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**ANTENNA MULTICOUPLER  
MODEL AMC 6-5**

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THE TECHNICAL MATERIEL CORPORATION  
MAMARONECK, N.Y.

OTTAWA, ONTARIO

Printed in Canada

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# TMC (*Canada*) LIMITED

TELECOMMUNICATIONS ENGINEERS

MAILING ADDRESS: R.R. No. 5, Ottawa, Ontario

A Subsidiary of The Technical Materiel Corporation, Mamaroneck, N.Y.

## Warranty

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes\* fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes\*furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

\* Electron tubes also include semi-conductor devices.

### *PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT*

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

### *PROCEDURE FOR ORDERING REPLACEMENT PARTS*

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

### *PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT*

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

**T M C (*Canada*) LIMITED**  
Engineering Services Department  
R.R. No. 5, Ottawa, Ontario  
Telegraphic Address: TEPEI, Ottawa.

INSTRUCTION BOOK CHANGE NOTICE

DATE, 22 AUG 1966.

Manual affected: ANTENNA MULTICOUPLER  
MODEL AMC6-5.

IN-10058

SECTION 3

PARTS LIST.

Page 27. line C501.

Under description column change "CAPACITOR: fixed, ceramic, 27uuf,  $\pm 2\%$ , 500vdc" to read "CAPACITOR, FIXED, MICA DIELECTRIC: 27uuf,  $\pm 5\%$ , 500vdc.

Under TMC part number column change "CC-10003-2" to read "CML11E270J5S".

Page 42. line C565.

Under description column change "5-50uuf" to read "4-45uuf".

Under TMC part number column change "CV11D500" to read "CV11D450".

Page 42. line R548.

Under description column change "270 ohm" to read "47 ohm".

Under TMC part number column change "R0200F271J" to read "R0200F470J".

Page 45. A6 Schematic Diagram.

Change R548 from "270 " to "47 ".

CHANGE NO. 1 AMC 6-5



# INSTRUCTION BOOK CHANGE NOTICE

Date 6/8/66

Manual affected: Antenna Multicoupler IN -10058  
Model AMC 6-5 (Issue Date: March 1965)

1. Page 16. Paragraph 3. METER CIRCUIT.
  - a. Delete the second paragraph on Page 16.
  - b. Change the third paragraph on Page 16 to read as follows:

"This provides a comprehensive test of the unit and ensures that each stage is operating normally. The meter dial is marked with a calibrate position for the oscillator level which is set by the oscillator control C565; calibrate control R551 is adjusted to indicate in the green shaded area when output jacks are selected. Two shaded areas (black and green) indicate the normal output levels for loaded and unloaded jacks. For loaded condition, the indicator should be in the black area or below; for unloaded condition, the indicator should be in the green area or above."

2. Page 33. PARTS LIST.  
Ref. Symbol CR501 through CR507.

Change the TMC Part No. for CR501 through CR507 from 1N478 to 1N252.

3. Page 45, 46. Figure 8-2.  
Change figure 8-2 to conform to figure 1 of this change notice.

QASL  
5/18/66  
5/19/66  
6/3/66

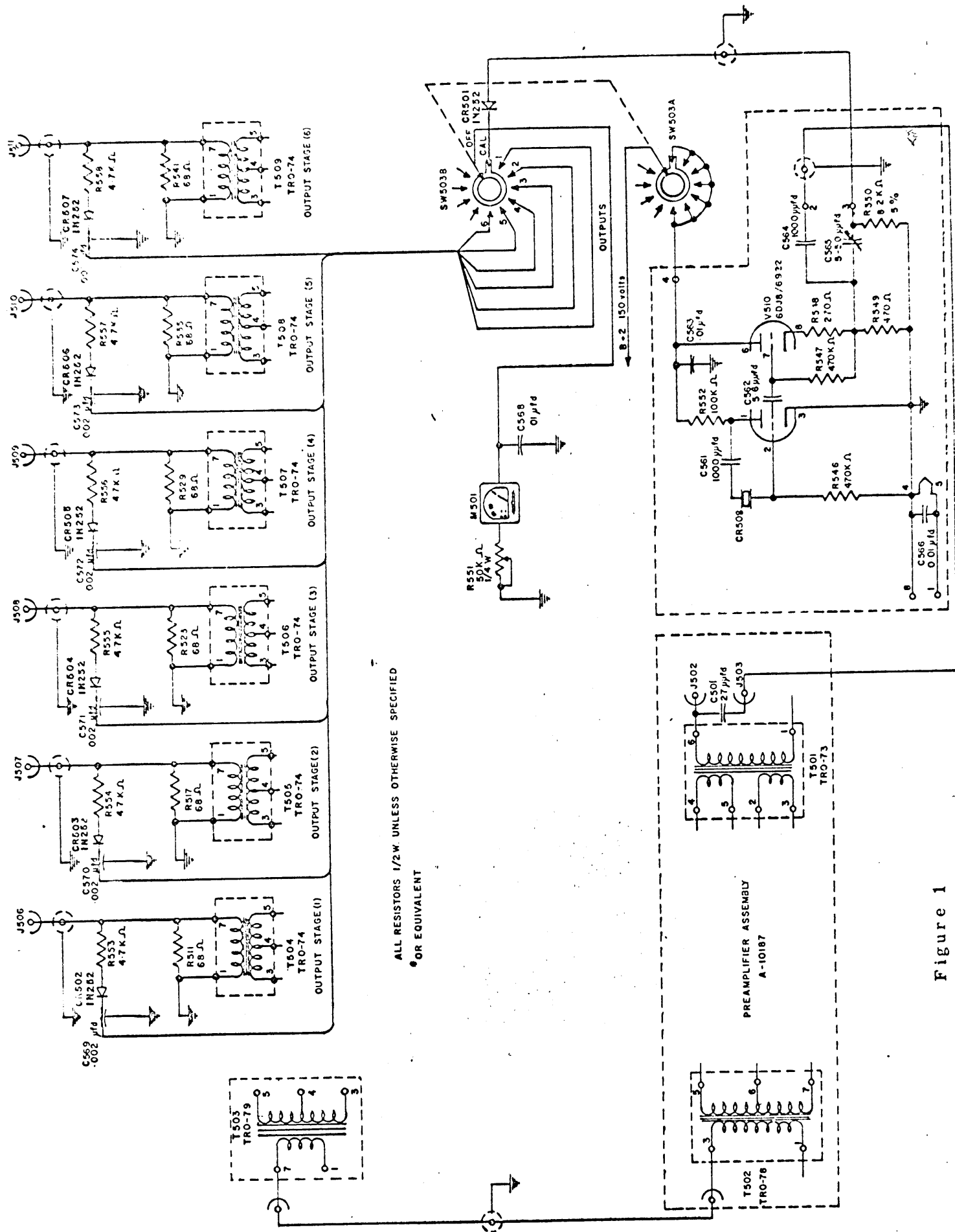


Figure 1

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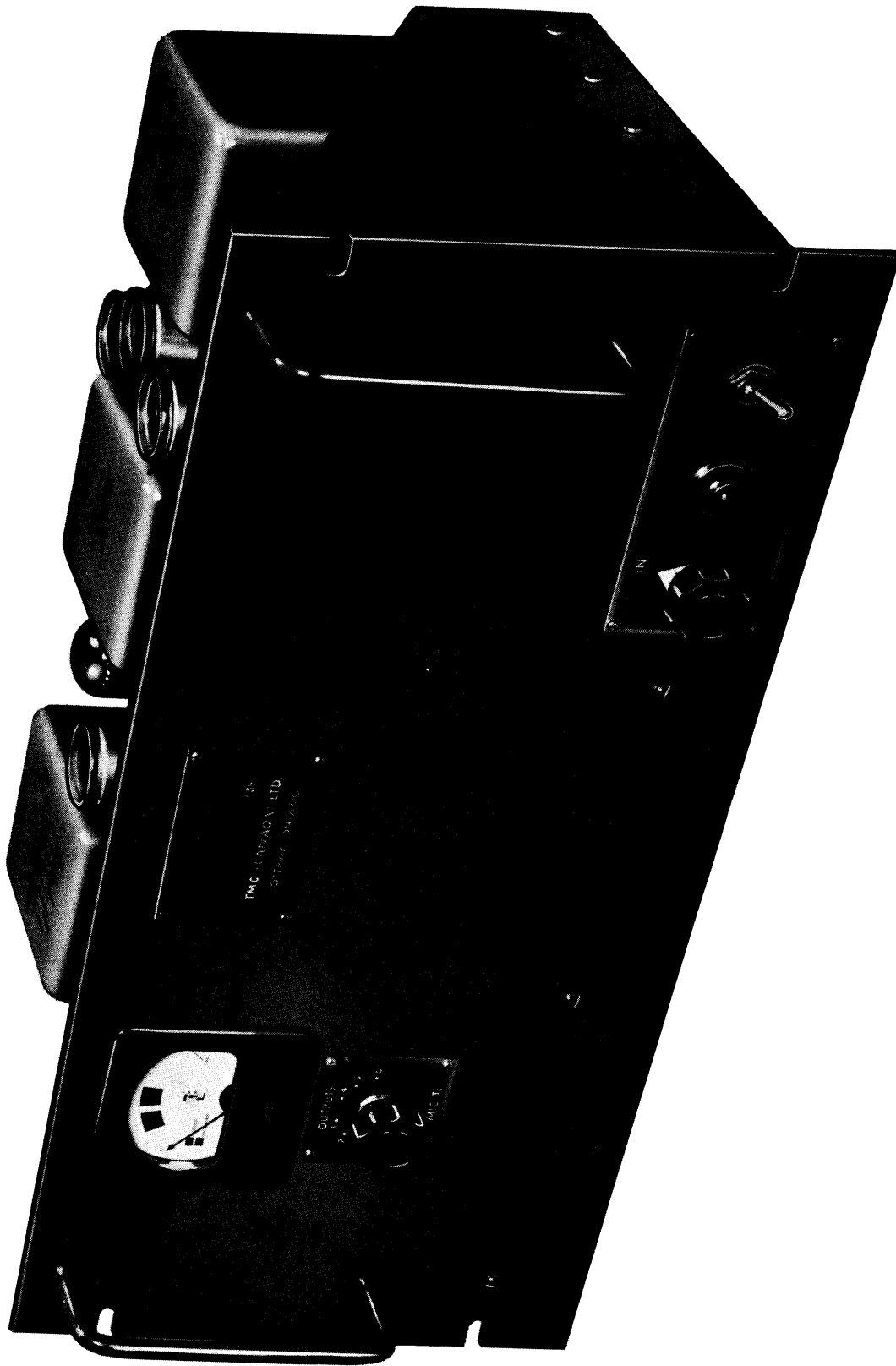


Figure 1-1 Three Quarter View, AMC 6-5

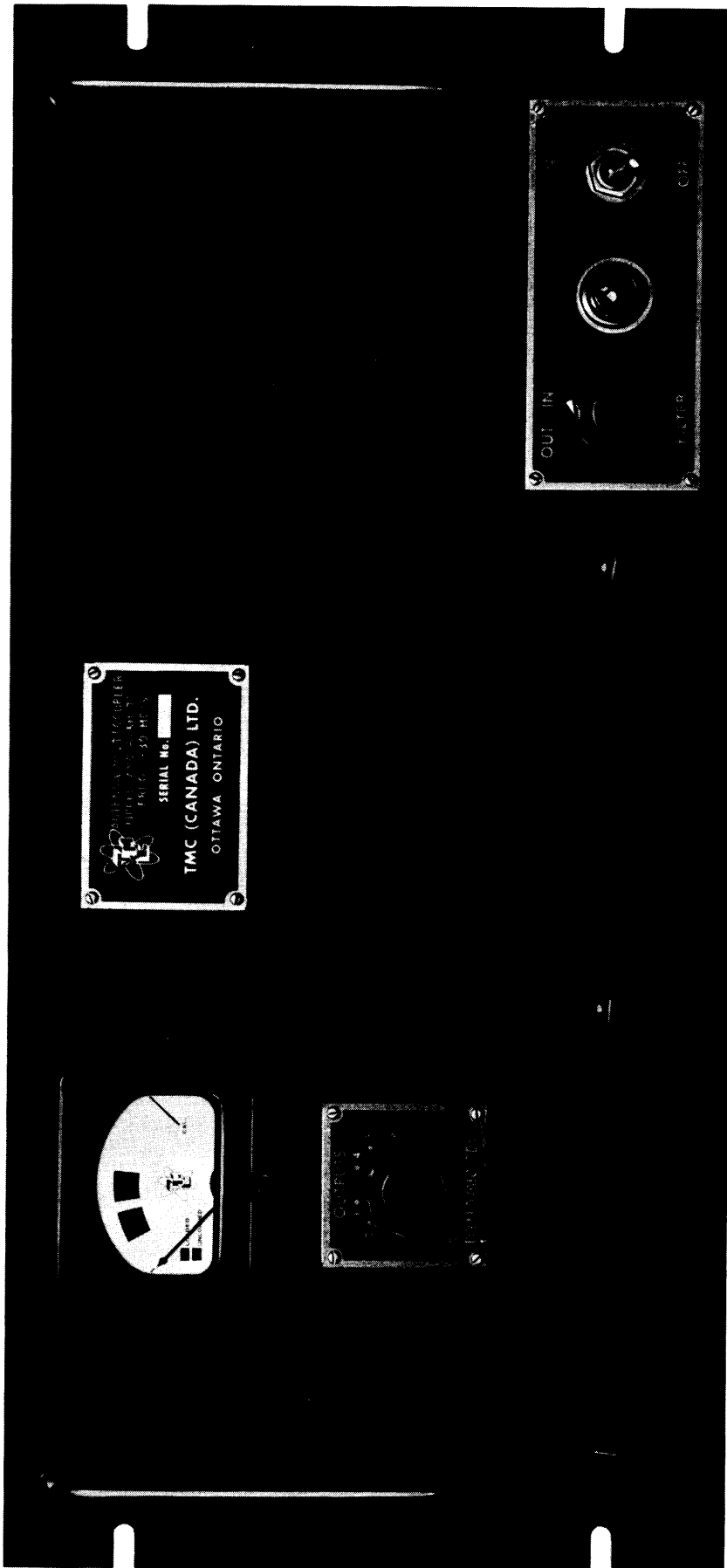


Figure 1-2 Front View, AMC 6-5

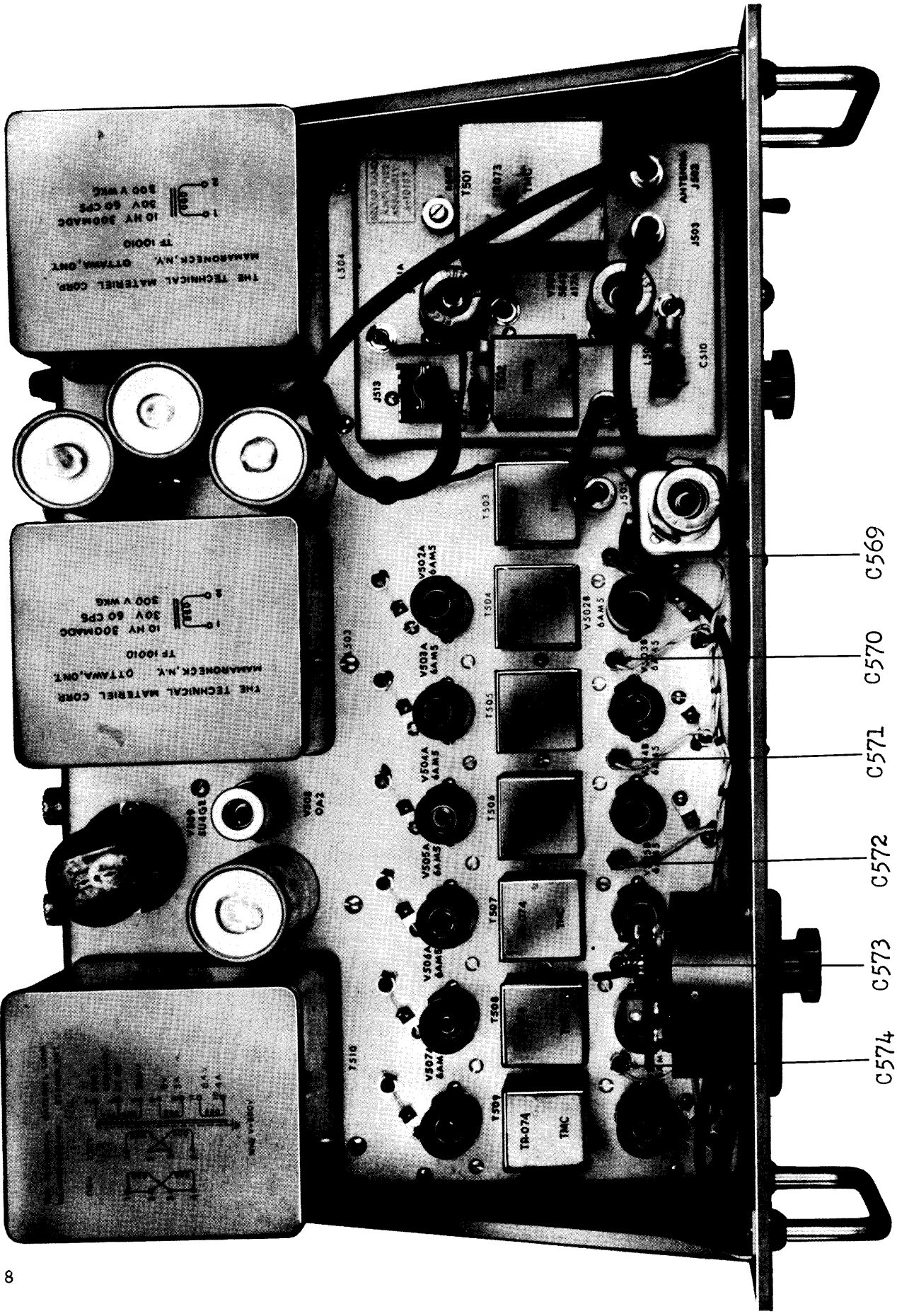


Figure 1-3 Top View, AMC 6-5

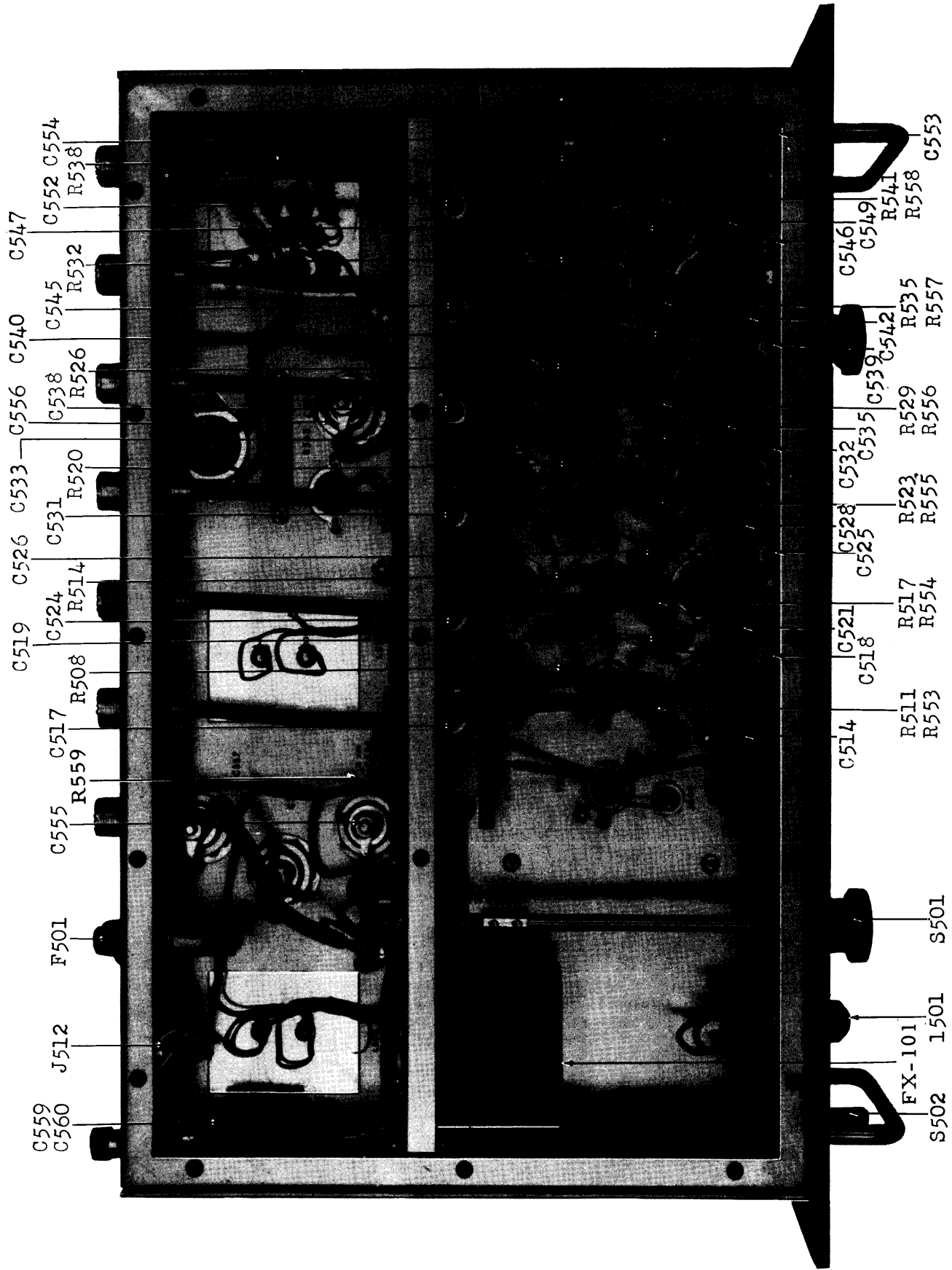


Figure 1-4 Bottom View (base cover plate removed) AMC 6-5

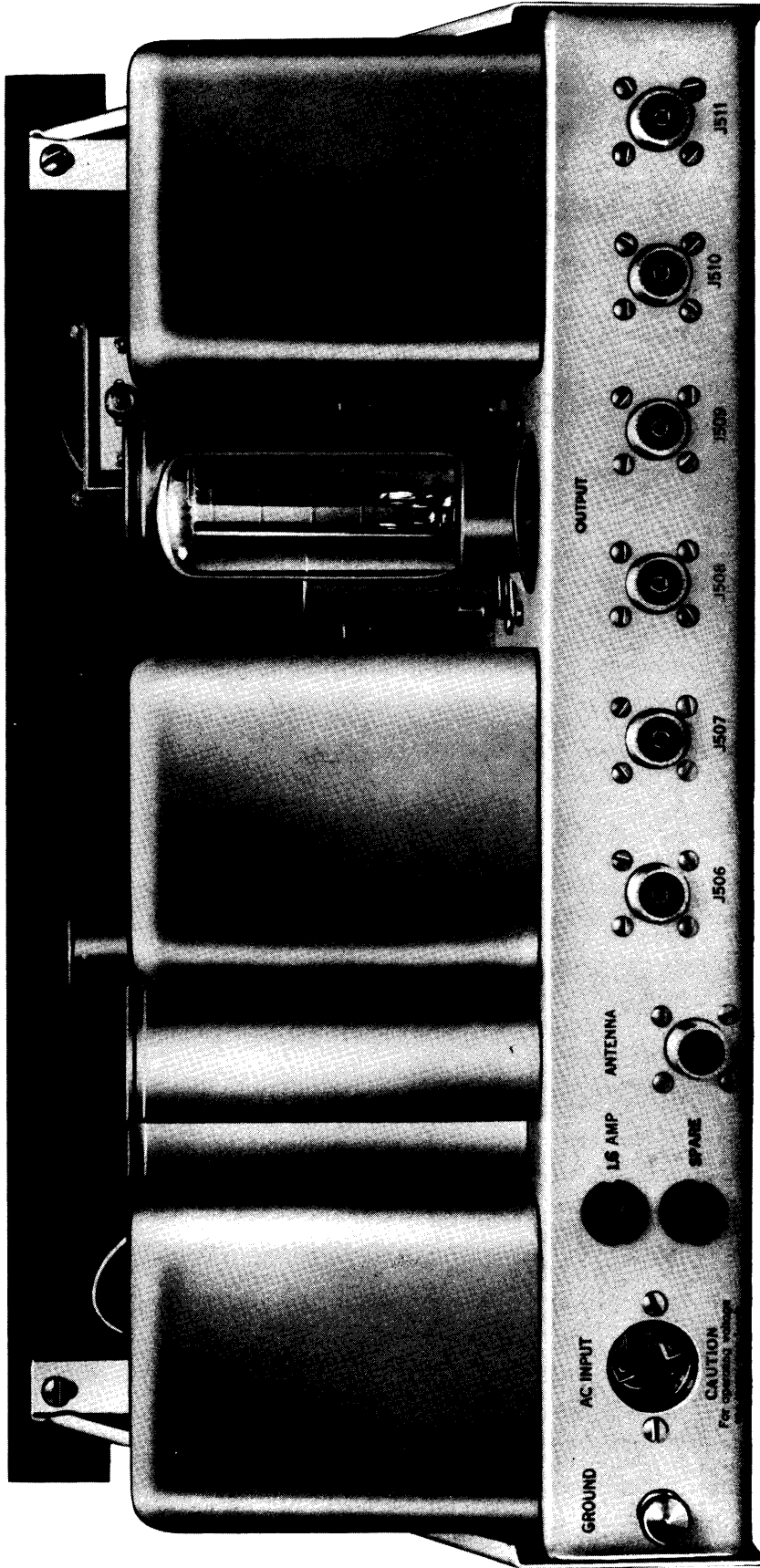


Figure 1-5 Rear View, AMC 6-5

## SECTION I

### GENERAL DESCRIPTION

#### 1. PURPOSE

The Antenna Multicoupler, Model AMC 6-5, is a broadband antenna coupling device normally installed at radio receiving stations where it is desirable to employ a common antenna for several communications receivers. The multicoupler allows six receivers to be independently operated over a band of 2 to 30 megacycles per second from a non-resonant type antenna. A range of models is available for use with antennas having impedances between 50 ohms and 600 ohms, balanced or unbalanced. All models have an output impedance of 70 ohms to match input impedances available at the antenna terminals of most receivers. When the equipment is used in a receiving system, it results in a general improvement in the noise-factor and a 3 decibel improvement in overall gain. Spurious response generated by the multicoupler is kept to a minimum and the design is such that a considerable reduction in the amplitude of signals re-radiated from receiver to receiver or receiver to the common antenna system is obtained.

#### 2. DESCRIPTION OF UNIT

a. The Antenna Multicoupler, Model AMC 6-5

is a broadband electronic amplifier with self-contained DC power supply. The unit is designed for operation from either a 115 V or 230 V, 50/60 cycles single phase source. The equipment is designed for unattended service.

b. The Model AMC 6-5 is intended for rack mounting. It is provided with a standard rack panel, which measures 8-3/4 inches in height and 19 inches in width. The front panel controls are the power ON/OFF switch, the DYNAMIC TEST SWITCH and the FILTER IN/OUT switch. All coaxial jacks carrying RF signals to or from the units are available on the rear chassis drop. A chassis which mounts the main electrical components, is held securely to the front panel by side brackets and occupies a rack depth of 12 inches. The DC power supply occupies the rear half of the chassis while the broadband amplifier circuit occupies the front half. The pre-amplifier sub-assembly comprising input and output transformers and the broadband push-pull amplifier stage is secured to the main chassis by means of four 6-32 screws. All connections to the pre-amplifier are quick release plug and socket connections. Power to the unit enters a socket on the rear apron of the chassis, while the main power fuse is located immediately to the right of this socket. Total weight of the unit is 46 pounds.

## SECTION II

### THEORY OF OPERATION

#### 1. GENERAL

The Antenna Multicoupler is essentially a broadband amplifier interposed between an antenna and the antenna terminals of conventional communications receivers. Impedances into and out of the amplifier are flat over the specified operating range to ensure high performance when operated in a receiving system. The amplifier consists of a detachable low noise, push-pull pre-amplifier, two distribution lines, and six push-pull isolation amplifier stages. A high-pass

filter (effective in the broadcast-band) at the input of the amplifier can be switched out to extend the low frequency range of the multicoupler.

#### 2. CIRCUIT ANALYSIS

a. The demountable pre-amplifier sub-chassis comprises a transformer coupled push-pull grounded grid stage having an input and output impedance of 70 ohms.

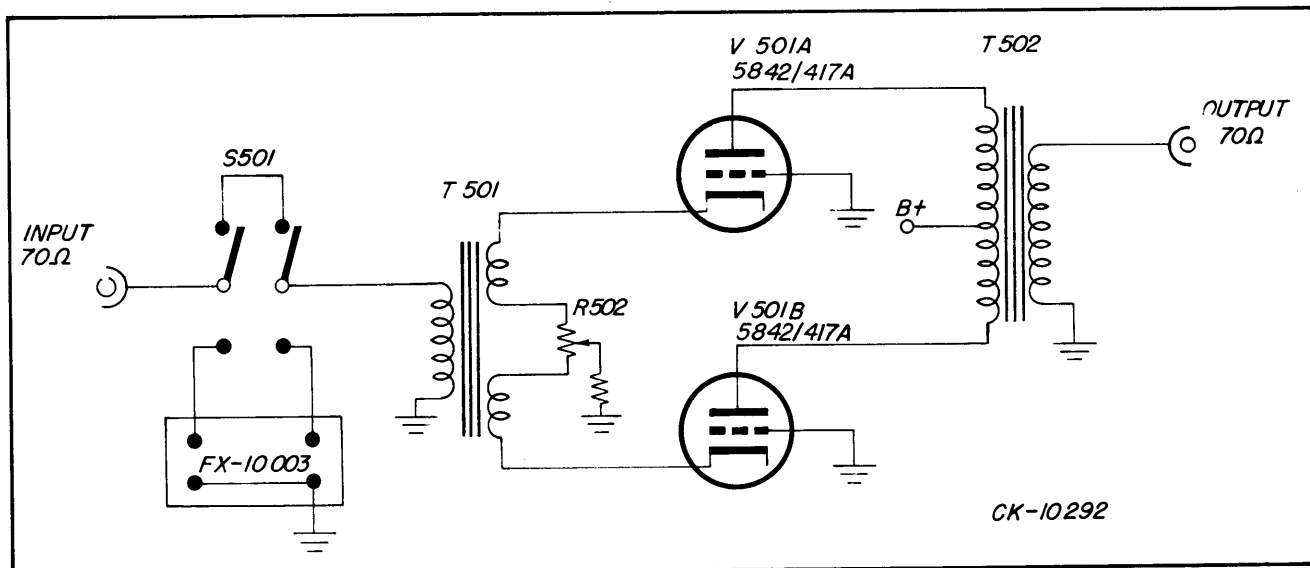


Figure 2-1 Pre-amplifier Circuit



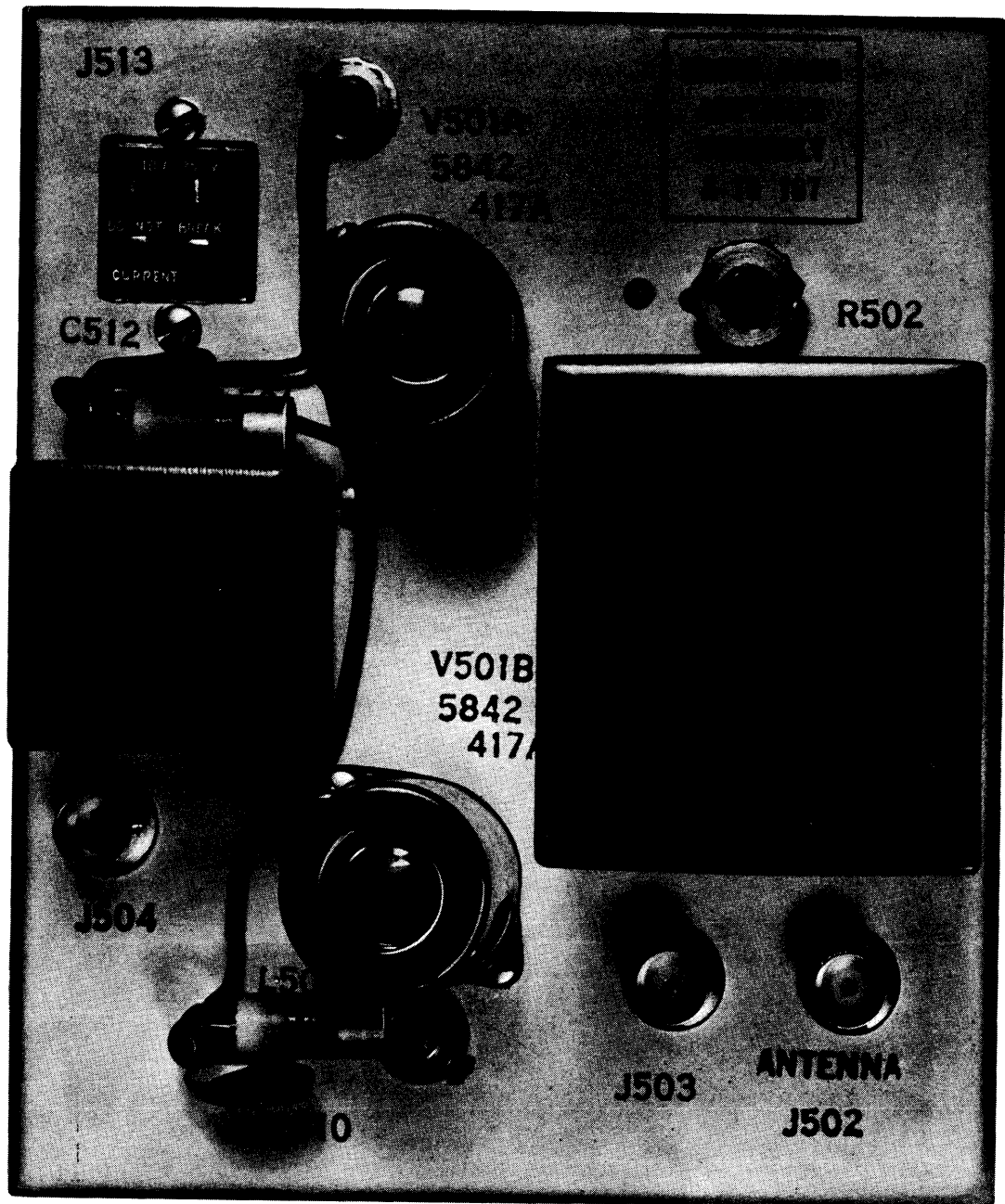


Figure 2-2 Pre-amplifier, A-10187, Top View

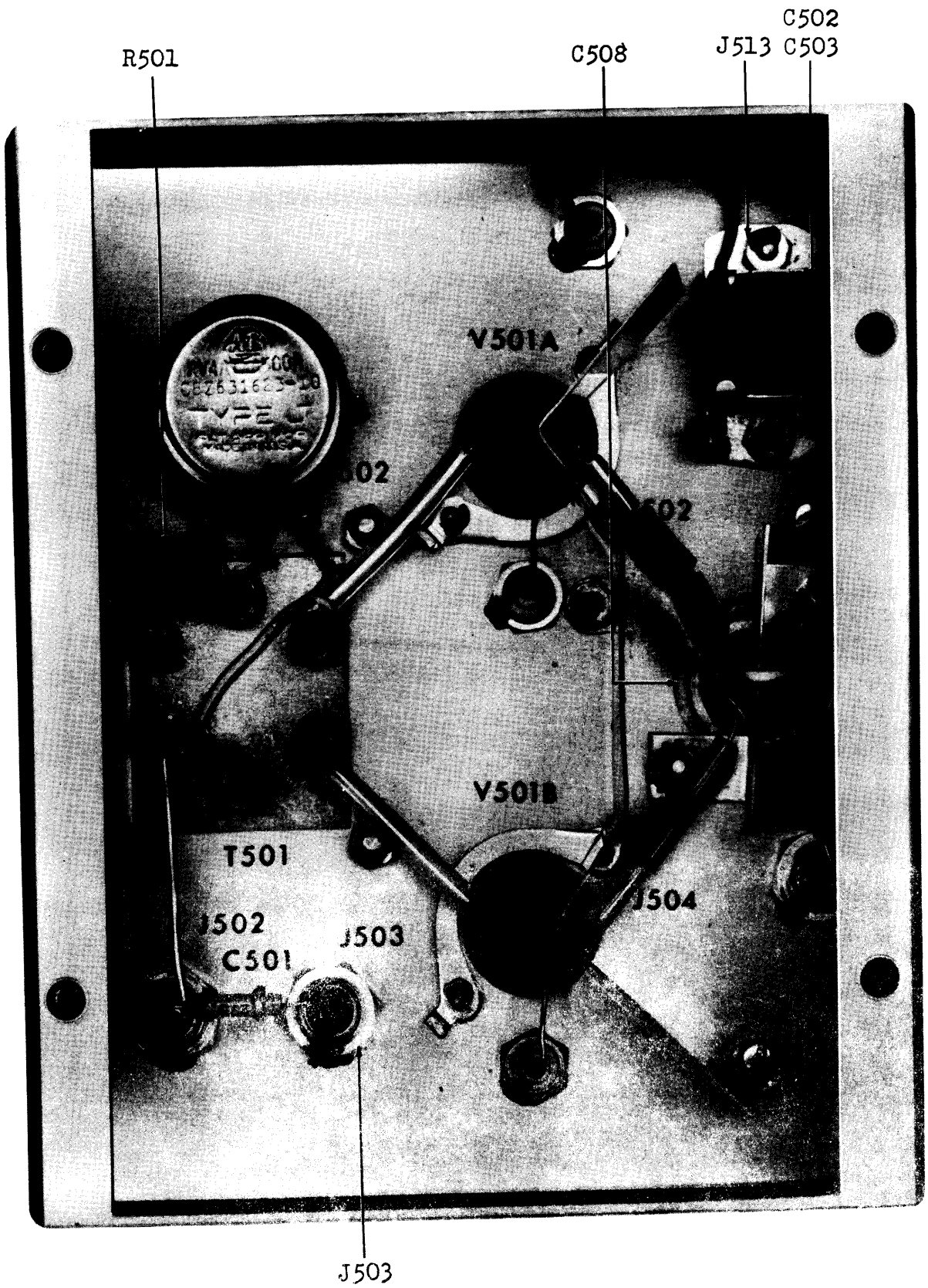


Figure 2-3 Pre-amplifier, A-10187, Bottom View

b. The main chassis comprises the power supply section, and the six push-pull isola-

tion amplifiers, which are driven by the distribution lines DL 501A and B.

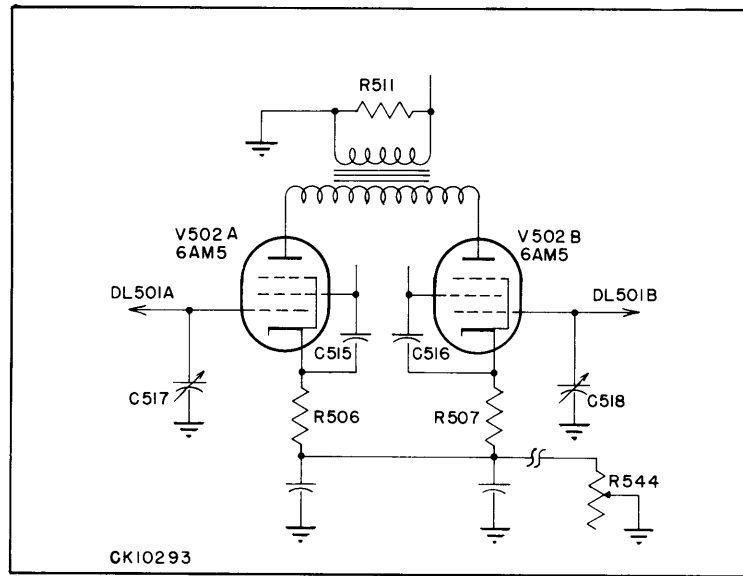


Figure 2-4 Typical Output Stage

The distribution lines are lumped constant delay lines with a characteristic impedance of 510 ohms, and are terminated with precision non-reactive resistors R 542 and R 543. The distribution lines are adjusted during manufacture by capacitors C 517, C 518, C 524, C 525, C 531, C 532, C 538, C 539, C 545, C 546, C 552, C 553.

**CAUTION**

THESE CAPACITORS SHOULD NOT BE ADJUSTED UNLESS ALL NECESSARY TEST GEAR AS SPECIFIED IN CORRECTIVE MAINTENANCE INSTRUCTIONS IS AVAILABLE.

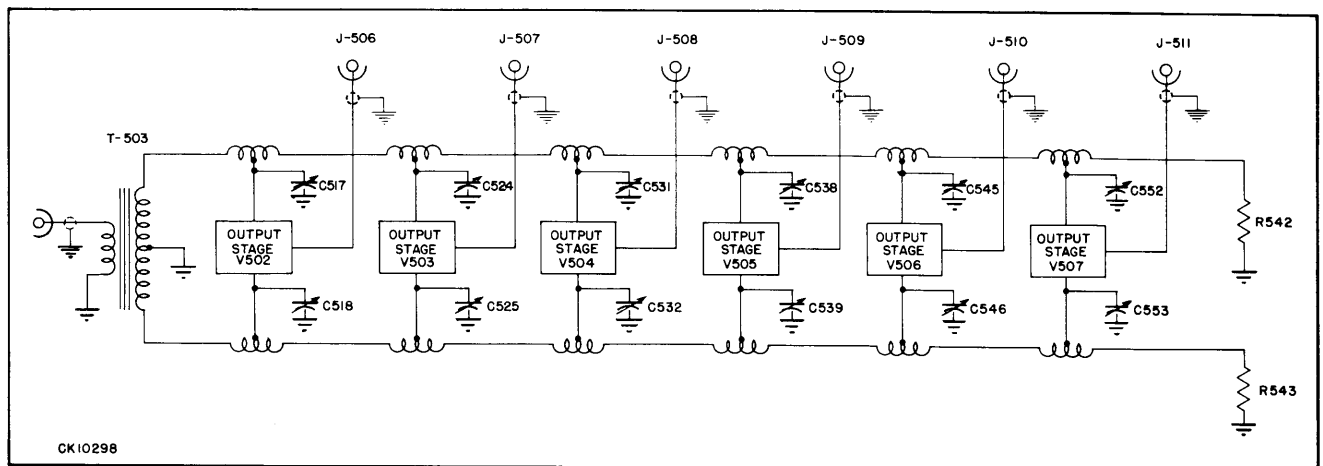


Figure 2-5 Distribution System

### 3. METER CIRCUIT

The Antenna Multicoupler AMC 6-5 is provided with a built in oscillator assembly A 10190 and metering circuit to provide for dynamic checking of the equipment in operation. The oscillator injects directly into the primary of the input transformer and the metering points are taken from the secondary windings of the output transformers.

This provides a comprehensive test of the unit and ensures that each stage is operating normally. The meter dial is marked with a calibrate position for the oscillator level which is set by the oscillator control C565; calibrate control R551 is adjusted to indicate in the green shaded area when output jacks are selected. Two shaded areas (black and green) indicate the normal output level for loaded and unloaded jacks. For loaded condition, the indicator should be in the black area or below; for unloaded condition, the indicator should be in the green area or above.

The oscillator V 510A is a modified Pierce oscillator, driving a cathode follower V 510B which injects into the T 501 primary winding through injection capacitor C 501.

The six output transformer secondary windings are connected through isolation resistors to the dynamic test switch S 503. Any failure in the oscillator metering circuit will not affect the normal operation of the multicoupler. The oscillator should be switched "OFF" when not in use.

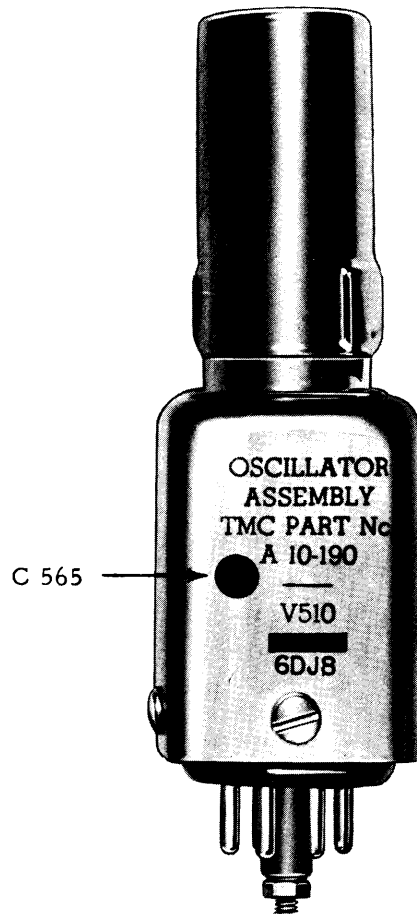


Figure 2-6 Oscillator, A-10190

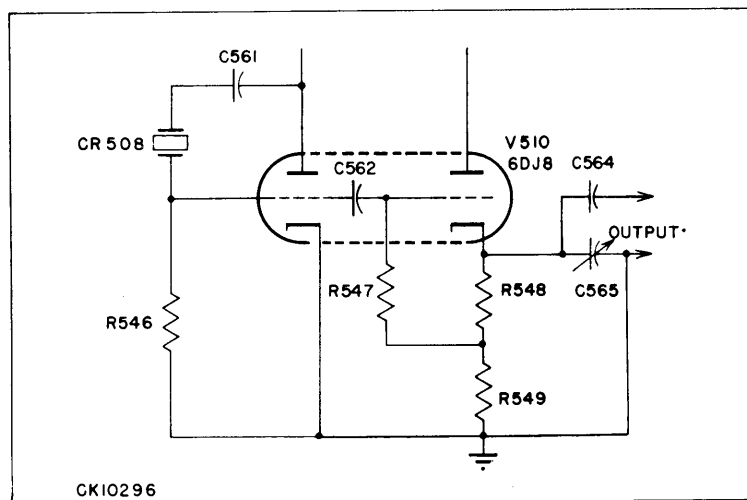


Figure 2-7 Oscillator Circuit

## SECTION III

### INSTALLATION

#### 1. GENERAL

a. To obtain optimum performance from a receiving system using a multicoupler, it is necessary to have the best impedance match between the antenna and the input jack of the AMC 6-5 over the operating frequency range. The last significant figures in the model number of the multicoupler, such as AMC 6-5/70U, is indicative of the input impedance which in this case is 70 ohms unbalanced.

b. In some installations it may be required to operate more than six receivers from a common antenna. It is possible in this case to cascade multicouplers. The output jacks of the first multicoupler are connected to the input jacks of up to six multicouplers which in turn provide output for as many as 36 receivers. Cascading multicouplers in this way does not seriously affect their operating performance.

c. The spurious signal amplitude to be expected from two signals of 250,000 microvolts each applied at the input of the multicoupler is at least 50 db below the level of the applied signal. Every precaution has been taken in the design of the instrument to minimize intermodulation effects in the receiving system. A high-pass filter (FX-10003) provides for attenuation of Broadcast Station signals. Sufficient attenuation is provided by the filter so that broadcast signals are reduced to a level where they are ineffective in the production of spurious signals. The filter may be switched out or in as desired. In some instances the location of the receiving station is such that excessive signals from a powerful local station may cause serious intermodulation effects in the receiving system. This, however should not be troublesome for signals under 3.0 volts. Should it be found that signals of a higher order than 3.0 volts are causing serious intermodulation effects, additional filters may be inserted in the antenna transmission line.

#### 2. UNPACKING

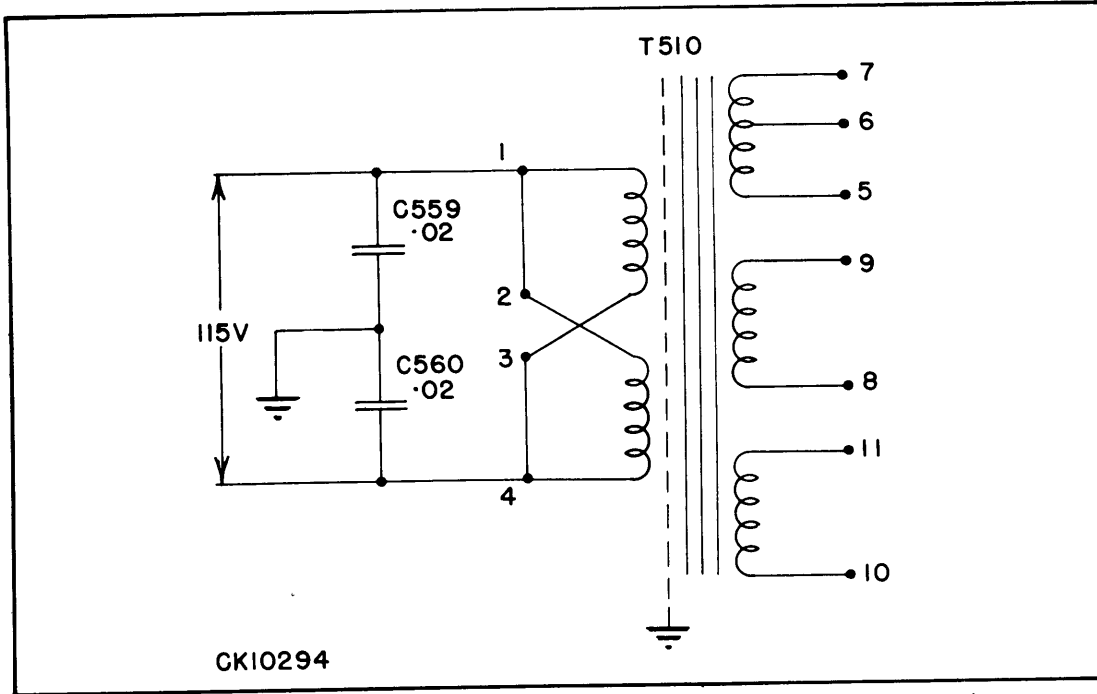
a. The Antenna Multicoupler, Model AMC 6-5, is shipped in its individual container and should be carefully unpacked. Seven coaxial plugs, TMC Part No. PL-259 are in a cloth bag tied to a handle of the unit. The power cord, wrapped in paper, is under the packing on top of the unit. A close visual inspection should be made to ascertain any physical damage due to rough handling during shipment.

#### 3. INSTALLATION

a. Mount the multicoupler in a standard rack using four machine screws with cup type washers.

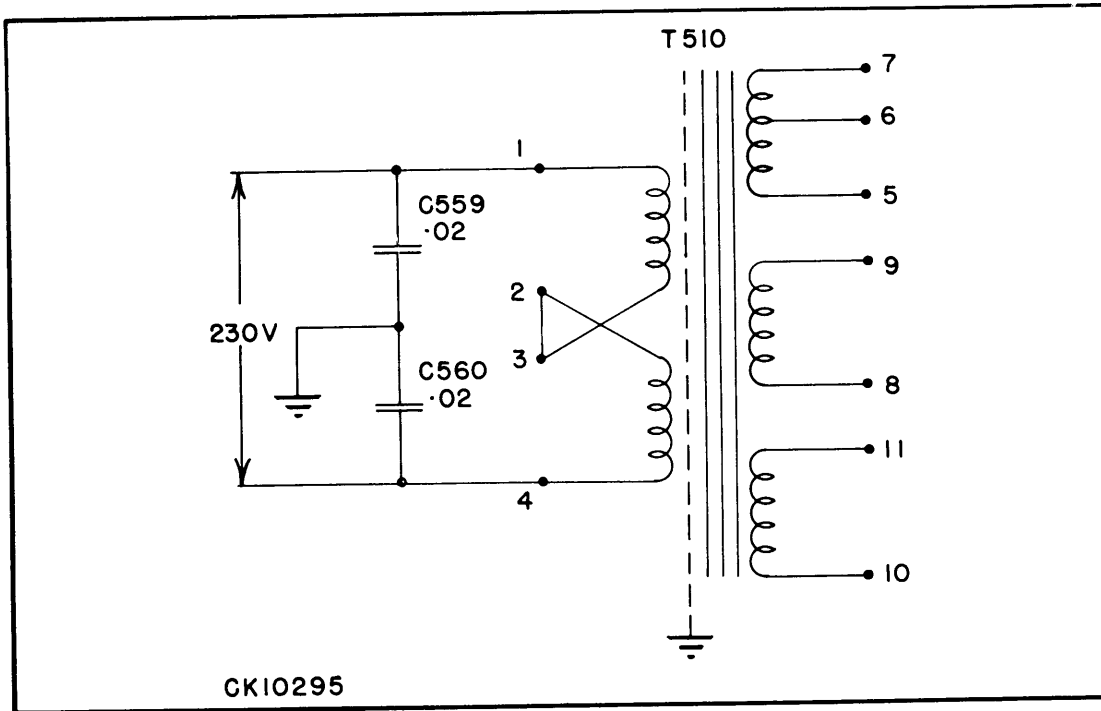
b. Connect one of the male type coaxial plugs to the antenna cable and insert this into J 501 marked ANTENNA. Attach the remaining plugs to the ends of the 70 ohm single conductor coaxial cables which are to be connected to the antenna input terminals of the receivers. If the receiver input is other than 70 ohms, it would be desirable to use an impedance matching transformer at the input to the receiver. TMC can supply transformers for this purpose. Insert the plugs into the output jacks of the multicoupler. These are marked J 506 to J 511 for receiver identification purposes. Where less than six receivers are employed, the unused output jacks of the AMC 6-5 may be left open circuited as this does not affect the performance of the multicoupler. When attaching coaxial plugs to coaxial cable solder both the inner and outer conductor to ensure trouble free service.

c. With the power switch in the "OFF" position, connect the plug on the power cord to J 512 and rotate it clockwise to ensure that it is locked in position. Plug the other end of the power cord into a 50/60 cycle power outlet. The unit is normally wired for 115 V AC unless otherwise requested.



CK10294

Figure 3-1 Power Transformer Connections for 115 V Operation



CK10295

Figure 3-2 Power Transformer Connections for 230 V Operation

d. Switch the unit on. Set the dynamic test switch to calibrate and adjust the calibration control to correct level as indicated on the meter.

e. Select outputs 1 to 6 and check that the output indication falls into the appropriate range for loaded and unloaded outputs.

f. Switch dynamic test switch off.

#### **NOTE**

1. Certain receivers have input impedance characteristics which are extremely low when not tuned to resonance. With such receivers it is necessary to tune the receiver to the calibration oscillator frequency (10.0 Mc/s.) to make this test.

2. The loaded condition indication is calibrated for a 70 ohm load. If when calibrating in the loaded condition the meter does not read in the correct sector of the dial, a recheck should first be made in the "unloaded" condition as the receiver connected may not present a true 70 ohm load when tuned.

## **SECTION IV OPERATION**

### **1. GENERAL**

Power is supplied for operation of the unit by operating the toggle switch on the front panel to the "ON" position. This condition is indicated by the illuminated pilot light on the front panel. Failure of the light indicates failure of the AC power line, a defective toggle switch, a burned out light, or a blown out primary power fuse.

The switch marked FILTER IN/OUT should be switched to the "IN" position.

This switch is moved to the "OUT" position only when an operator wishes to tune his receiver to frequencies below 2 megacycles per second.

The dynamic test switch should be in the "OFF" position when not in use.

#### **NOTE**

Refer to Section II, Paragraph 3, for operation of metering circuit.

## SECTION V

### MAINTENANCE

#### 1. EMERGENCY

- a. WARNING: NEVER REPLACE A FUSE WITH ONE OF HIGHER RATING. IF A FUSE BURNS OUT IMMEDIATELY AFTER REPLACEMENT, DO NOT REPLACE IT A SECOND TIME UNTIL THE CAUSE OF FAILURE HAS BEEN CORRECTED.
- b. In the event of a system failure, indicated by loss of signals in all receivers, the multicoupler should be checked by its internal metering circuit. Low output on all output jacks will indicate failure of the pre-amplifier assembly A 10187 and a check should be made of all interconnect cables. In emergency, service can be restored by removing the plug from J 502 and connecting it to J 505 thus removing the pre-amplifier from circuit. The pre-amplifier can then be removed and serviced.
- c. Failure of one or more outputs as indicated by low output on particular output jacks is most probably tube failure, and the tubes in the affected stages should be checked.
- d. In the event of a system failure as a result of weak or noisy signals 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 fault disappears, check the pre-amplifier of the multicoupler for security of interconnect cables and for noisy or low emission tubes. When only one receiver in the system gives faulty performance, check

the receiver itself or the particular output tubes in the multicoupler that supplies signals to the receiver.

e. In the event of complete loss of signals check the antenna system as in paragraph D. If signals are restored, check for a faulty multicoupler. The filaments of all tubes should be heated and there should be a glow from the voltage regulator tube V 508 when the DC power supply voltage is normal.

f. Where failures are difficult to locate in a faulty multicoupler, replace it with a spare unit and apply trouble tracing techniques outlined under paragraph 3, Corrective Maintenance.

#### 2. PREVENTIVE MAINTENANCE

Do not indiscriminately replace tubes in the multicoupler. When searching for faulty tubes replace a tube with a new one, but if there is not a definite improvement in performance of the equipment, replace the old tube in its original socket. In this way a tube which has passed a critical operating life is not replaced by a new one of indefinite life.

#### 3. CORRECTIVE MAINTENANCE

a. CAUTION: WHENEVER CORRECTIVE MAINTENANCE IS CARRIED OUT ON THE MULTICOUPLER THE USUAL PRECAUTIONS DEALING WITH HIGH VOLTAGE SHOULD BE OBSERVED SINCE THE UNIT OPERATES ON VOLTAGES DANGEROUS TO YOURSELF AND TO YOUR TEST EQUIPMENT.



Tube	Type	Function	Pin No. 1	Pin No. 2	Pin No. 3	Pin No. 4	Pin No. 5	Pin No. 6	Pin No. 7	Pin No. 8	Pin No. 9
V501A	5842/417A	Preamplifier	145	--	6.4*	0	0	--	0	0	0
V501B	5842/417A	Preamplifier	145	--	6.4*	0	0	--	0	0	0
V502A	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V502B	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V503A	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V503B	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V504A	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V504B	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V505A	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V505B	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V506A	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V506B	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V507A	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V507B	6AM5	Isolation Ampl.	0	10.25	6.4*	0	230	--	220	--	--
V508	OA2	Voltage Regulator	145	--	--	--	145	--	0	--	--
V509	5U4GB	Rectifier	--	300	--	300*	--	300*	--	308	--
V510	6DJ8	Oscillator	60	-32	0	0	6.3*	145	-3.9	9.4	0

Note: (1) Measurements made with AC power line voltage equal to 110V.  
(2) All DC voltages measured to ground with Hewlett-Packard Model 410B.  
(3) All AC voltages measured to ground with AVO Meter Model 8.  
(4) Voltages marked with an asterisk (\*) are AC.

Table 5-1 Tube Operating Voltages

Test Point	Location	A. C. Voltage
1	Input jack	0.25v
2	Primary of T 503 - pin 7	Approx. 0.88v
3	Output jack	Approx. 0.32v

- NOTE:**
- (1) Voltages in table are for Am
  - (2) S 501 is in FILTER IN position.
  - (3) Test frequency is 8 Mc/s.
  - (4) All AC Voltages measured to ground with a Hewlett-Packard Model 410B.

Table 5-2 Gain Test Points

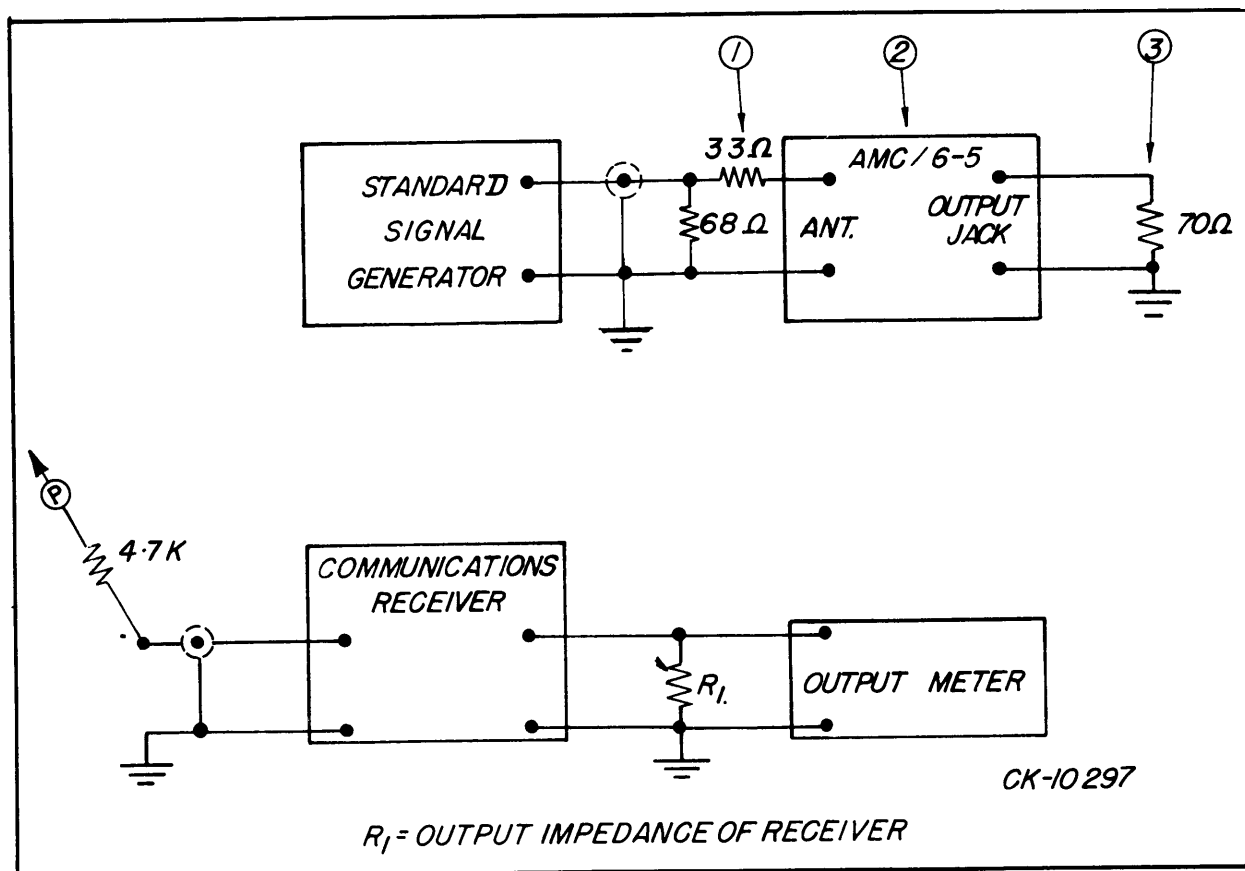


Figure 5-1 Test Set Up for Gain Measurements

b. With a voltmeter, check voltages given in Table 5-1. Where abnormal readings are obtained for a particular tube either the tube itself or the electrical components immediately associated with the tube are at fault.

c. ALIGNMENT OF PRE-AMPLIFIER - adjustment of the balance control R 502 should be carried out as follows:-

1. Inject two signals (a) 250,000 microvolts at 10.3 Mc/s and (b) 250,000 microvolts 30% modulated 1000 c/s at 3.9 Mc/s at J 501.

2. Tune receiver to 14.2 Mc/s (a + b) adjust balance control R 502 for minimum output.

IT IS MOST STRONGLY RECOMMENDED THAT THE FOLLOWING ADJUSTMENT BE CARRIED OUT ONLY BY A COMPETENT TECHNICIAN FAMILIAR WITH THE USE OF RF BRIDGES. IT SHOULD ONLY BE NECESSARY TO RE ALIGN THE DISTRIBUTION LINES AFTER SOME MAJOR REPAIR OR THE CHANGE OF A DISTRIBUTION LINE OR TRIMMER CAPACITORS.

d. ALIGNMENT OF DISTRIBUTION LINES DL 501 A AND B.

1. Disconnect the leads from T 503 at their junction with DL 501 A and B.

2. Remove the interconnect cable from sub chassis to T 503 input and load pre-amplifier output with 70 ohms.

3. Adjust all trimmer capacitors to capacity minimum.

4. Using GR radio frequency bridge type 916, suitable signal generator and detector, adjust line trimmers at 2.5 Mc/s for 510 ohms  $\pm j0$ .

5. Repeat step (4) at 7.0 Mc/s.

6. Repeat step (4) at 17.0 Mc/s.

7. Repeat step (4) at 30.0 Mc/s.

8. Repeat step (4) at 16.0 Mc/s.

9. Repeat step (4) at 30.0 Mc/s.

10. Repeat step (8) and (9) until satisfactory results are obtained.

11. Recheck at 17.0 Mc/s, 12 Mc/s and 2.5 Mc/s.

## SECTION VI

### TECHNICAL SPECIFICATIONS

#### 1. FREQUENCY RESPONSE:

2 to 30 Mc/s flat within  $\pm 2.0$  db.

#### 2. GAIN

Nominal 3 db, 2 to 30 Mc/s. (FILTER "OUT" condition).

#### 3. NOISE FACTOR:

The noise factor is less than 10 db over the specified frequency range.

#### 4. INTERMODULATION CHARACTERISTICS:

The equivalent antenna voltage of an intermodulated signal will be down at least 50 db with respect to the level of either of two equal amplitude signals whose equivalent antenna voltages to produce the intermodulated signal are:-

250,000  $\mu$ V for 70 ohm antenna

#### 5. HARMONIC DISTORTION:

Negligible under conditions shown in paragraph 4.

#### 6. INPUT FILTER FOR BROADCAST-BAND:

A filter is provided and may be inserted into the input of the multicoupler to provide an attenuation of not less than 35 db at frequencies below 1.2 Mc/s with no appreciable change in the multicoupler characteristics in the 2.5 to 30 Mc/s range. (See

Figure 6-2) Insertion loss at 2 Mc/s, 3 db; between 2.5 and 30 Mc/s, nil. By means of this filter, the increase in spurious response normally produced when the multicoupler is operated near powerful "broadcast" transmitters, is greatly reduced.

#### 7. INPUT IMPEDANCE CHARACTERISTICS:

VSWR less than 1.8/1 referred to nominal impedance.

#### 8. AVAILABLE OUTPUTS:

6 outputs on the AMC 6-5

#### 9. ISOLATION

- a. Output to Output: Better than 60 db average.
- b. Output to Input: Better than 60 db average.

#### 10. UNIFORMITY OF OUTPUT SIGNALS:

The minimum signal voltage from any one of the output jacks will not be less than 75% of the output voltage from any other jack, when using tubes having at least 80% of their rated mutual conductance.

#### 11. NOMINAL INPUT IMPEDANCE:

70 ohms unbalanced, other impedances available.

12. OUTPUT IMPEDANCE CHARACTERISTICS:

- 1 each OA2 - voltage regulator
- 1 each 6DJ8 - oscillator

Gives stated frequency response and gain when loaded with 70 ohms.

16. MOUNTING:

Standard 19 inch rack units.

13. PRIMARY POWER SUPPLY:

115/230 volts, 60 cycles, 150 watts.

17. SIZE AND WEIGHT:

AMC 6-5: 8-3/4 inches x 19 inches x 12 inches deep, 51 pounds.

14. DC POWER SUPPLY:

Self-contained in AMC 6-5

18. COMPONENTS AND CONSTRUCTION:

15. TUBE COMPLEMENT:

- 2 each 417A/5842 RF pre-amplifiers
- 12 each 6AM5/M8082 isolation amplifiers
- 1 each 5U4GB - rectifier

Equipment is manufactured in accordance with JAN specifications wherever practicable.

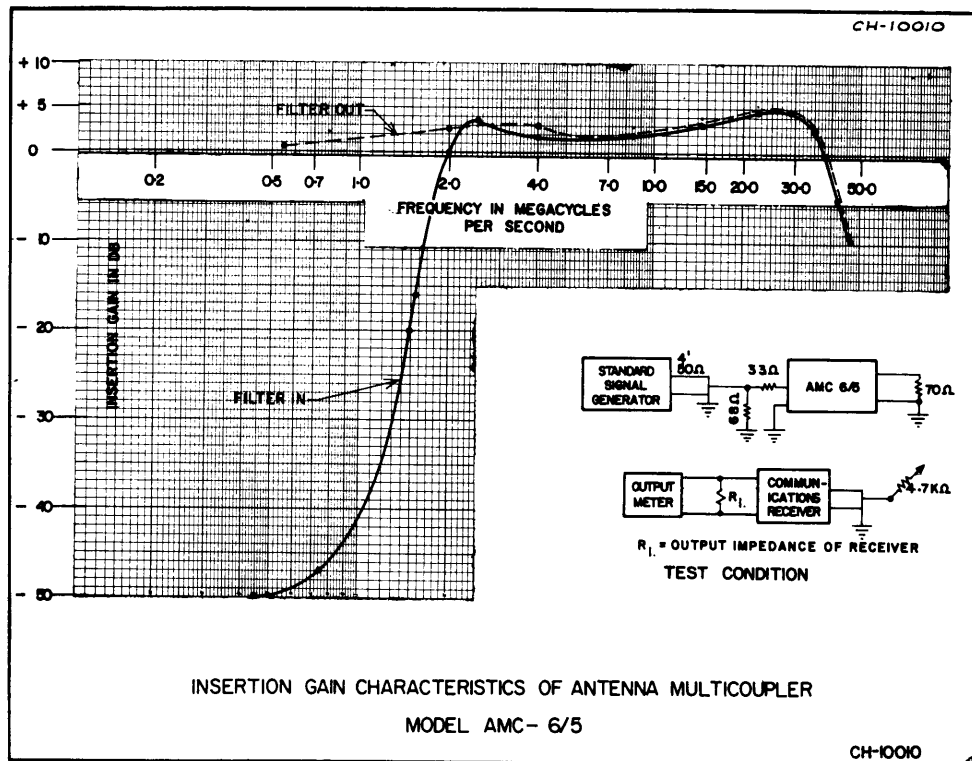


Figure 6-1 Frequency Response Characteristics

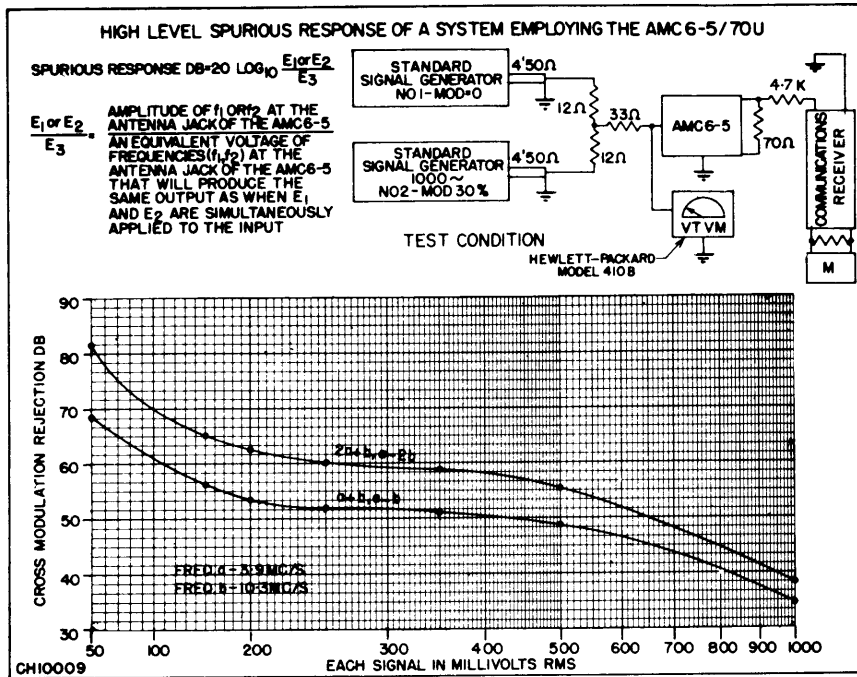


Figure 6-2 Typical Cross Modulation Characteristics

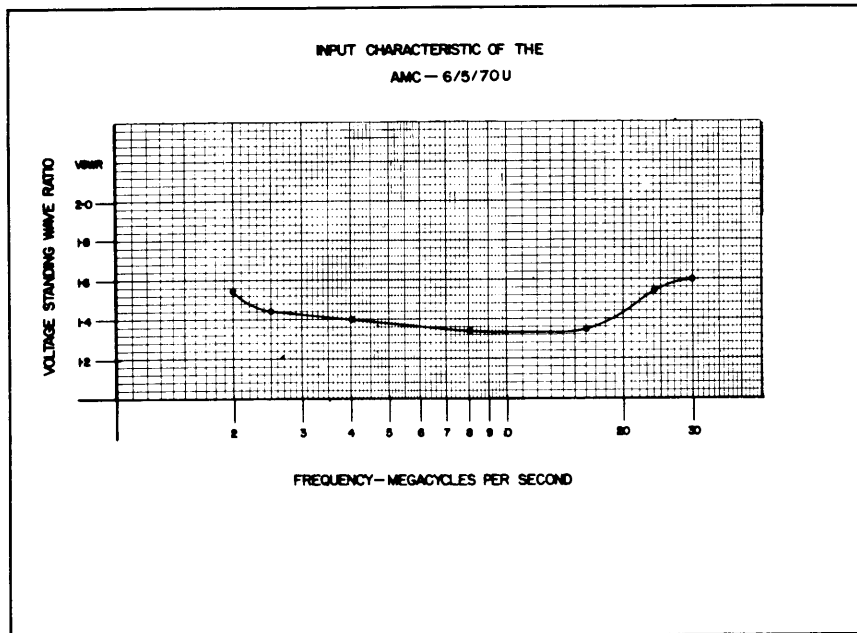


Figure 6-3 Input Impedance Characteristics

## SECTION VII

### PARTS LIST

#### PREAMPLIFIER ASSEMBLY A-10187

Ref. Symbol	Quan.	Description	Function	TMC Part No.	
C501		CAPACITOR: fixed, mica, 27 uuf, $\pm 5\%$ 500 wvdc.	Injection Capacitor	CM111E270J5	
C502		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002	
C503		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Heater Bypass	CC-10002	
C508		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002	
C510		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Heater Bypass	CC-10002	
C512		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Heater Bypass	CC-10002	
L501		CHOKE: encapsulated 6.8 uh	Decoupling Choke	CL-10005-1	
L502		CHOKE: encapsulated 6.8 uh	Decoupling Choke	CL-10005-1	
L505		CHOKE: encapsulated 3.3 uh	Compensation Choke	CL-10006-1	
L506		CHOKE: encapsulated 3.3 uh	Compensation Choke	CL-10006-1	
R501		RESISTOR: fixed, composition, 18 ohms $\pm 5\%$ , 1w	Cathode Bias Resistor	RC32GF180J	

Ref. Symbol	Quan	Description	Function	TMC Part No.
R502		POTENTIOMETER: molded composition, 50 ohm, 2W	Balancing Potentiometer	RV4LAYS500A
T501		TRANSFORMER: Input, non-repairable item, broadband RF, input terminal 6, impedance 70 ohm unbalanced, terminal 1 ground, terminals 2-5 centre tapped, terminals 3-4 output, balanced, impedance 60 ohm either side, frequency range 2-30 Mc/s, TR-073	Input Matching Transformer	TR-073
T502		TRANSFORMER: preamplifier output, non-repairable item, input terminals 5-7, impedance 1 K ohm either side, terminal 6 B+, output terminal 3 impedance 70 ohm unbalanced, terminal 1 ground, frequency range 2-30 Mc/s, TR-078	Preamplifier Output Matching Transformer	TR-078
V501A		TUBE: electron, 5842/417A VHF amplifier triode receiving type, 9 pin miniature	Preamplifier	5842/417A
V501B		TUBE: electron, 5842/417A VHF amplifier triode receiving type, 9 pin miniature	Preamplifier	5842/417A



## PARTS LIST

### MAIN ASSEMBLY CHASSIS A-10191

Ref. Symbol	Quan.	Description	Function	TMC Part No.
C513		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C514		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C515		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C516		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C517		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C518		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C519		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002
C520		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C521		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C522		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1

Ref. Symbol	Quan.	Description	Function	TMC Part No.
C523		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C524		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C525		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C526		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002
C527		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C528		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C529		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C530		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C531		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C532		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C533		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002
C534		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C535		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002

Ref. Symbol	Quan.	Description	Function	TMC Part No.
C536		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C537		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C538		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C539		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C540		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002
C541		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500V	Cathode Bypass	CC-10002
C542		CAPACITOR: fixed, ceramic, disc, .01uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002
C543		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C544		CAPACITOR: fixed, ceramic, tubular, .0033 uf, $\pm 10\%$ 500 vdcw	Screen Decoupling	CC-10004-1
C545		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C546		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C547		CAPACITCR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Plate Decoupling	CC-10002
C548		CAPACITOR: fixed, ceramic, disc, .01 uf, $\pm 10\%$ 500 vdcw	Cathode Bypass	CC-10002

Ref. Symbol	Quan.	Description	Function	TMC Part No.
C549		CAPACITOR: fixed, ceramic, disc, .01 uf, +10% 500 vdcw	Cathode Bypass	CC-10002
C550		CAPACITOR: fixed, ceramic, tubular, .0033 uf, +10% 500 vdcw	Screen Decoupling	CC-10004-1
C551		CAPACITOR: fixed, ceramic, tubular, .0033 uf, +10% 500 vdcw	Screen Decoupling	CC-10004-1
C552		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C553		CAPACITOR: air trimmer, 6.4 uuf	Tuning Element of Artificial Line	CB-10001-1
C554		CAPACITOR: fixed, ceramic, disc, .01 uf, +10% 500 vdcw	Plate Decoupling	CC-10002
C555		CAPACITOR: fixed, cylindrical case, 4 uf, +10% CP40C2FF405K, 600 vdcw	DC Power Supply Filter Capacitor	CP40C2FF405K
C556		CAPACITOR: fixed, cylindrical case, 4 uf, +10% 600 vdcw	DC Power Supply Filter Capacitor	CP40C2FF405K
C557		CAPACITOR: fixed, cylindrical case, 4 uf, +10% 600 vdcw	DC Power Supply Filter Capacitor	CP40C2FF405K
C558		CAPACITOR: fixed, cylindrical case, 4 uf, +10% 600 vdcw	DC Power Supply Filter Capacitor	CP40C2FF405K
C559		CAPACITOR: fixed, paper dielectric .02 uf, 600 vdcw	AC Line Filter Capacitor	CN-100-17
C560		CAPACITOR: fixed, paper dielectric .02 uf, 600 vdcw	AC Line Filter Capacitor	CN-100-17
C568		CAPACITOR: fixed, ceramic, disc, .01 uf, 500 vdcw	Meter Bypass	CC-10002

Ref. Symbol	Quan.	Description	Function	TMC Part No.
C569		CAPACITOR: fixed, feed thru, .002 ufd, $\pm$ 20%	Meter Bypass	CK70A202M
C570		CAPACITOR: fixed, feed thru, .002 ufd, $\pm$ 20%	Meter Bypass	CK70A202M
C571		CAPACITOR: fixed, feed thru, .002 ufd, $\pm$ 20%	Meter Bypass	CK70A202M
C572		CAPACITOR: fixed, feed thru, .002 ufd, $\pm$ 20%	Meter Bypass	CK70A202M
C573		CAPACITOR: fixed, feed thru, .002 ufd, $\pm$ 20%	Meter Bypass	CK70A202M
C574		CAPACITOR: fixed, feed thru, .002 ufd, $\pm$ 20%	Meter Bypass	CK70A202M
CR501		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
CR502		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
CR503		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
CR504		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
CR505		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
CR506		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
CR507		DIODE: germanium 1N252 or equivalent	Meter Rectifier	1N252
DL501A		ARTIFICIAL LINE: composed of inductive elements capacitive elements, input capacitance of tubes V502A - V507A and stray capacitance.	Distribution System between Preamplifier and output stages	DL-10006
DL501B		ARTIFICIAL LINE: composed of inductive elements, capacitive elements input capacitance of tubes V502B - V507B and stray capacitance.	Distribution System between Preamplifier and output stages	DL-10006

Ref. Symbol	Quan.	Description	Function	TMC Part No.	
F501		FUSE: cartridge 2.0 amp, slow blow	Primary Power Fuse	FU-102-2	
FX-101		FILTER: high pass, non-repairable item, impedance 70 ohm unbalanced terminal 4, terminal 2 output impedance 70 ohm unbalanced, terminal 1-3 ground.	Broadcast Attenuation	FX-10003	
I501		LAMP: incandescent bayonet base, 6-8V, .25 amp, T-3-1/8 bulb,	Pilot Light	BI-101-44	
L503		CHOKe: filter, non-repairable item, 10 H at 30V RMS 60 cps. for 300mA DC, winding resistance 90 ohm, 300 VDCW hermetically sealed steel case.	DC Power Supply Filter	TF-10010	
L504		CHOKe: filter, non-repairable item, 10 H at 30V RMS 60 cps. for 300mA DC, winding resistance 90 ohm, 300 VDCW hermetically sealed steel case.	DC Power Supply Filter	TF-10010	
M501		METER: 25 uA DC, Model No. 27	Dynamic Check Indicator	MR-10001	
R506		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J	
R507		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J	
R508		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J	
R509		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J	
R510		RESISTOR: fixed, composition, 510 ohm $\pm$ 5%, 1 W	Plate Decoupling Resistor	RC32GF511J	

Ref. Symbol	Quan.	Description	Function	TMC Part No.
R511		RESISTOR: fixed, film, 68 ohm $\pm$ 1%, 1/2 W	Load Resistor	RN70D68R0F
R512		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J
R513		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J
R514		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R515		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R516		RESISTOR: fixed, composition, 510 ohm $\pm$ 5%, 1 W	Plate Decoupling Resistor	RC32GF511J
R517		RESISTOR: fixed, film, 68 ohm $\pm$ 1%, 1/2 W	Load Resistor	RN70B68R0F
R518		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J
R519		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J
R520		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R521		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R522		RESISTOR: fixed, composition, 510 ohm $\pm$ 5%, 1 W	Plate Decoupling Resistor	RC32GF511J
R523		RESISTOR: fixed, film, 68 ohm $\pm$ 1%, 1/2 W	Load Resistor	RN70B68R0F
R524		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed-back Resistor	RC20GF470J

Ref. Symbol	Quan	Description	Function	TMC Part No.
R525		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed- back Resistor	RC20GF470J
R526		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R527		RESISTOR: fixed, composition, 4.7K ohm $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R528		RESISTOR: fixed, composition, 510 ohm, $\pm$ 5%, 1 W	Plate Decoup- ling Resistor	RC32GF511J
R529		RESISTOR: fixed, film, 68 ohm $\pm$ 1%, 1/2 W	Load Resistor	RN70B68R0F
R530		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed- back Resistor	RC20GF470J
R531		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed- back Resistor	RC20GF470J
R532		RESISTOR: fixed, composition, 4.7K ohm, $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R533		RESISTOR: fixed, composition, 4.7K ohm, $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J
R534		RESISTOR: fixed, composition, 510 ohm, $\pm$ 5%, 1 W	Plate Decoup- ling Resistor	RC32GF511J
R535		RESISTOR: fixed, film, 68 ohm, $\pm$ 1%, 1/2 W	Load Resistor	RN70B68R0F
R536		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed- back Resistor	RC20GF470J
R537		RESISTOR: fixed, composition, 47 ohm $\pm$ 5%, 1/2 W	Cathode Feed- back Resistor	RC20GF470J
R538		RESISTOR: fixed, composition, 4.7K ohm, $\pm$ 5%, 1/2 W	Screen Resistor	RC20GF472J



Ref. Symbol	Quan	Description	Function	TMC Part No.
R539		RESISTOR: fixed, composition, 4.7 K ohm, $\pm 5\%$ , 1/2 w	Screen Resistor	RC20GF472J
R540		RESISTOR: fixed, composition, 510 ohm, $\pm 5\%$ , 1 w	Plate Decoupling Resistor	RC32GF511J
R541		RESISTOR: fixed, film, 68 ohm, $\pm 1\%$ , 1/2 w	Load Resistor	RN70B68R0F
R542		RESISTOR: fixed, film, 510 ohm, $\pm 1\%$ , 1/2 w	Artificial Line Termination Resistor	RN70B5100F
R543		RESISTOR: fixed, film, 510 ohm, $\pm 1\%$ , 1/2 w	Artificial Line Termination Resistor	RN70B5100F
R544		RESISTOR: variable, wire wound, 75 ohm, 10 w	Cathode Bias Resistor	RA-108-750-10
R545		RESISTOR: fixed, wire wound, 1500 ohm $\pm 5\%$ , 10 w	Series Dropping Resistor	RW-109-26
R551		POTENTIOMETER: trimmer type, 50K ohm 1/4 w sub-miniature	Oscillator Calibration	RV-10002-9
R553		RESISTOR: fixed, composition, 4.7K ohm, $\pm 5\%$ , 1/2 w	Isolation Resistor	RC20GF472J
R554		RESISTOR: fixed, composition, 4.7K ohm, $\pm 5\%$ , 1/2 w	Isolation Resistor	RC20GF472J
R555		RESISTOR: fixed, composition, 4.7K ohm, $\pm 5\%$ , 1/2 w	Isolation Resistor	RC20GF472J
R556		RESISTOR: fixed, composition, 4.7K ohm, $\pm 5\%$ , 1/2 w	Isolation Resistor	RC20GF472J

Ref. Symbol	Quan.	Description	Function	TMC Part No.	
R557		RESISTOR: fixed, composition, 4.7K ohm, + 5%, 1/2 W	Isolation Resistor	RC20GF472J	
R558		RESISTOR: fixed, composition, 4.7K ohm, + 5%, 1/2 W	Isolation Resistor	RC20GF472J	
R559		RESISTOR: fixed, wire wound, 100 ohms, ± 1%, 15 Watts	B + Voltage Dropping Resistor	RE70G1000	
S501		SWITCH: rotary, DPDT, shorting type, mycalex wafer, angle of throw 30 degrees	High Pass Filter Switch	SW-10004-2	
S502		SWITCH: toggle, DPST, 1 amp, 250V, 28 degrees	Power Switch	ST-22K	
S503		SWITCH: 2 section rotary, 8 position non-shorting type ceramic wafer, 30 degree throw; 1 section ON/OFF.	Selector Switch for Dynamic Test	SW-10010	
T503		TRANSFORMER: line driver non-repairable item, broadband RF, input terminal 7 impedance 70 ohms unbalanced, terminal 1 ground, output terminals 5-3 impedance 510 ohms balanced, terminal 4 ground, frequency range 2-30 Mc/s TR-079.	Distribution Line Driving Transformer	TR-079	
T504		TRANSFORMER: output, non-repairable item, broadband RF, input terminals 3-5 impedance 330 ohm balanced terminal 4 B+, output terminal 7 impedance 70 ohm unbalanced, terminal 1 ground, frequency range 2-30 Mc/s, TR-074	Output Matching Transformer	TR-074	
T505		TRANSFORMER: output, non-repairable item, broadband RF, input terminal	Output Matching Transformer	TR-074	

Ref. Symbol	Quan.	Description	Function	TMC Part No.	
T506		<p>nals 3-5 impedance 330 ohm balanced, terminal 4 B+, output terminal 7 impedance 70 ohm unbalanced, terminal 1 ground, frequency range 2-30 Mc/s, TR-074</p> <p>TRANSFORMER: output, non-repairable item, broadband RF, input terminals 3-5 impedance 330 ohm balanced, terminal 4 B+, output terminal 7 impedance 70 ohm unbalanced, terminal 1 ground, frequency range 2-30 Mc/s, TR-074</p>	Output Matching Transformer	TR-074	
T507		<p>TRANSFORMER: output, non-repairable item, broadband RF, input terminals 3-5 impedance 330 ohm balanced, terminal 4 B+, output terminal 7 impedance 70 ohm unbalanced, terminal 1 ground, frequency range 2-30 Mc/s, TR-074</p>	Output Matching Transformer	TR-074	
T508		<p>TRANSFORMER: output, non-repairable item, broadband RF, input terminals 3-5 impedance 330 ohm balanced, terminal 4 B+, output terminal 7 impedance 70 ohm unbalanced, terminal 1 ground, frequency range 2-30 Mc/s, TR-074</p>	Output Matching Transformer	TR-074	
T509		<p>TRANSFORMER: output, non-repairable item, broadband RF, input terminals 3-5 impedance 330 ohm balanced, terminal 4 B+,</p>	Output Matching Transformer	TR-074	

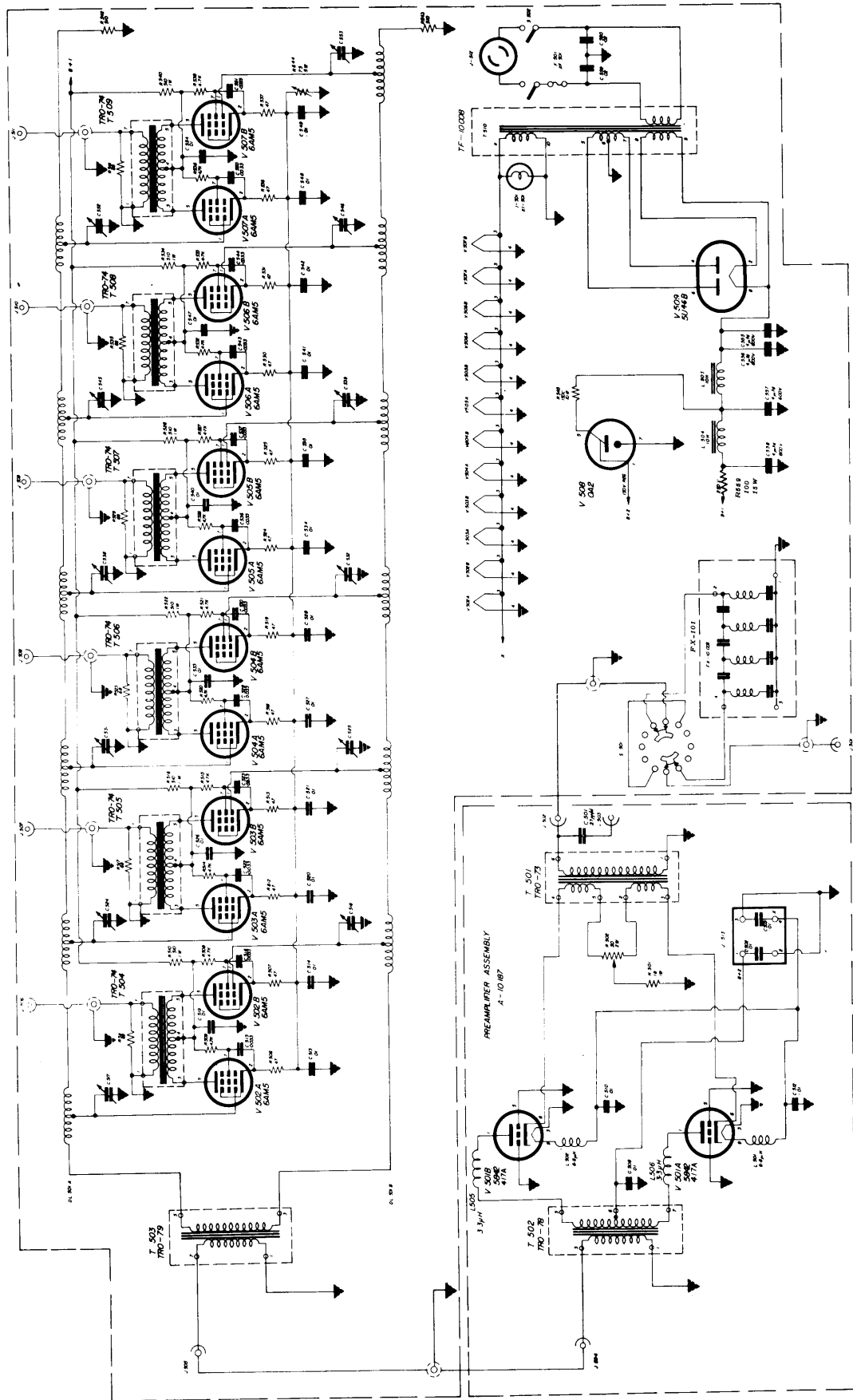
Ref. Symbol	Quan.	Description	Function	TMC Part No.	
T510		<p>output terminals 7 impedance 70 ohm unbalanced, terminal 1 ground frequency range 2-30 Mc/s, TR-074</p> <p>TRANSFORMER: power, single phase, non-repairable item, primary 115-230V 60 cps, three output windings: rectifier high tension winding centre tapped 300 V AC either side, 300 mA DC rating; rectifier filament winding 5V 3A; filament winding 6.4 V 4 amp. 300 VDCW; temperature rise 40 degrees centigrade full load electrostatic shield provided, hermetically sealed steel case, TF-10008</p>	Power Transformer	TF-10008	
V502A		TUBE: electron, 6AM5 power amplifier pentode, receiving type 7 pin	Isolation Amplifier	6AM5	
V502B		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5	
V503A		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5	
V503B		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5	
V504A		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5	
V504B		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5	

Ref. Symbol	Quan.	Description	Function	TMC Part No.
V505A		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5
V505B		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5
V506A		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5
V506B		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5
V507A		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5
V507B		TUBE: electron, 6AM5 power amplifier pentode receiving type 7 pin	Isolation Amplifier	6AM5
V508		TUBE: electron, OA2, miniature 7 pin voltage regulator	Voltage Regulator	OA2
V509		TUBE: electron, 5U4GB, rectifier, octal receiving type.	Rectifier	5U4GB

**PARTS LIST**  
**OSCILLATOR ASSEMBLY A-10190**

Ref. Symbol	Quan.	Description	Function	TMC Part No.
C561		CAPACITOR: fixed, ceramic, 1000 uuf, $\pm 10\%$ , 500 vdcw	DC Plate Blocking	CC-10005-1
C562		CAPACITOR: fixed, ceramic, 5.6 uuf, $\pm 2\%$ , NPO, 500 vdcw	Grid Coupling	CC-10003-4
C563		CAPACITOR: fixed, ceramic, disc., .01 uf, 500 vdcw	Plate Decoupling	CC-10002
C564		CAPACITOR: fixed, ceramic, 1000 uuf, $\pm 10\%$ , 50 vdcw	DC Cathode Blocking	CC-10005-1
C565		CAPACITOR: variable, 5-45 uuf.	DC Cathode	CV11D450
C566		CAPACITOR: fixed, ceramic, disc., .01 uf, 500 vdcw	Heater Decoupling	CC-10002
CR503		CRYSTAL: quartz, 10 Mc/s	Part of 10 Mc/s Oscillator	CR-10002
R546		RESISTOR: fixed, composition, 470K ohm, $\pm 10\%$ , 1/2 w	Grid Return	RC20GF474K
R547		RESISTOR: fixed, composition, 470K ohm, $\pm 10\%$ , 1/2 w	Grid Return	RC20GF474K
R548		RESISTOR: fixed, composition, 47 ohm, $\pm 5\%$ , 1/2 w	Cathode Bias	RC20GF470J
R549		RESISTOR: fixed, composition, 470 ohm, $\pm 5\%$ , 1/2 w	Load Resistor	RC20GF471J

Ref. Symbol	Quan.	Description	Function	TMC Part No.	
R550		RESISTOR: fixed, composition, 8.2K ohm, + 5%, 1/2 W	Load Resistor	RC20GF822J	
R552		RESISTOR: fixed, composition, 100K ohm, + 10%, 1/2 W	Plate Decoupling Resistor	RC20GF104K	
V510		TUBE: electron, 6DJ8, 9 pin miniature receiving type	10 Mc/s Oscillator	6DJ8	



NOTE: ALL CAPACITORS IN  $\mu$ M UNLESS OTHERWISE STATED  
ALL RESISTORS IN  $\Omega$  UNLESS OTHERWISE STATED

Figure 8-1 Schematic Diagram



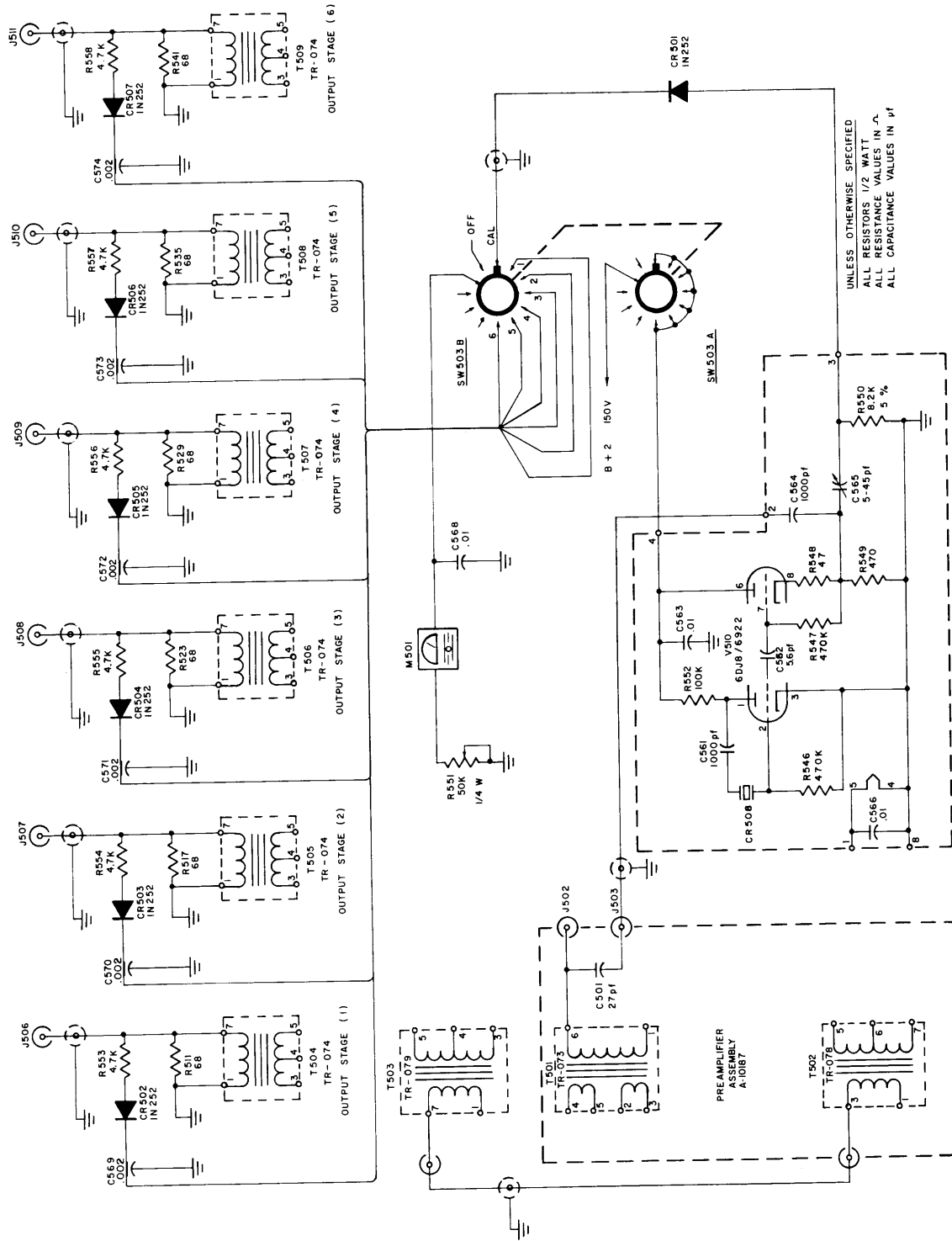


FIGURE 8-2 OSCILLATOR METERING CIRCUIT