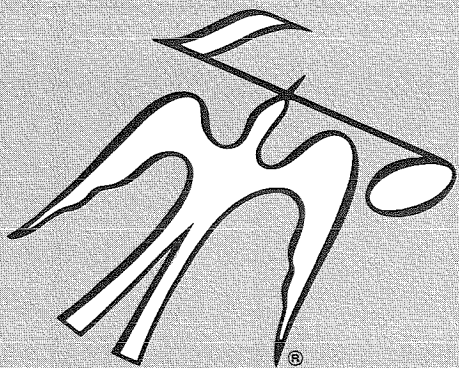
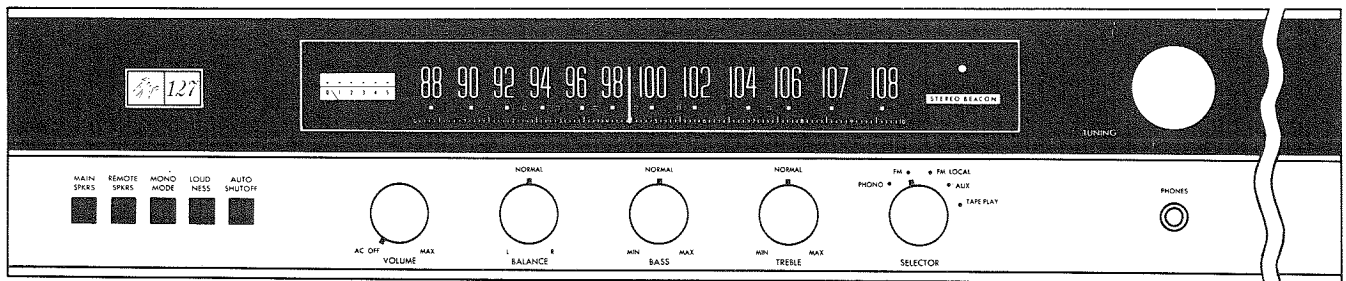


Service Manual

THE FISHER®



127™

CHASSIS SERIAL NUMBERS
BEGINNING 10001

PRICE \$1.00

FISHER RADIO • 11-40 45th ROAD • LONG ISLAND CITY, N.Y. 11101

REQUIRED TEST EQUIPMENT

The following equipment is required to completely test and align modern high-fidelity amplifiers, tuners, and receivers.

Line Voltage Autotransformer or Voltage Regulator	10.7 MHz Sweep Generator
DC Vacuum Tube Voltohmmeter	Multiplex Generator (preferably with RF output — FISHER 300)
Accurately Calibrated AC Vacuum Tube Voltmeter	455 kHz Sweep Generator
Oscilloscope ((Flat to 100 kHz Minimum)	Ferrite Test Loop Stick
Low-Distortion Audio (Sine Wave) Generator	2 — Full Range Speakers for Listening Tests
Intermodulation Distortion Analyzer	Stereo Source — Turntable, Tape Recorder, etc.
Harmonic Distortion Analyzer	Soldering Iron with Small Tip, Fully Insulated from AC Line
2 — Load resistors, 8-Ohms, 100 Watt (Minimum Rating)	Suction Desoldering Tool
AM/FM Signal Generator	

CAUTION: This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.

Many of these items are included only as a reminder — they are normal procedures for experienced technicians. Shortcuts may be taken, but these often cause additional damage to transistors, circuit components, or printed circuit boards.

SOLDERING: A well-tinned, hot, clean soldering iron tip will make soldering easier, without causing damage to the printed circuit board or the components mounted on it. Regular use of a sponge cleaner will maintain a clean soldering surface. The heat available at the tip, (not the wattage of the iron) is important. Some 50-watt irons reach temperatures of 1,000° F, while others will hardly melt solder. Small-diameter tips should be used for single solder connections, pyramid and chisel tips for large areas.

Always disconnect the AC power cord from the line when soldering. Turning the power switch OFF is not sufficient. Power-line leakage paths, through the heating element of the iron, may destroy transistors.

PARTS REMOVAL: If a part is not being returned for in-warranty factory replacement, it may be cut in half (with diagonal cutting pliers) to make removal easier. Multiple terminal parts, such as IF transformers, or electrolytic capacitors, should be removed using special de-soldering tips made especially for this purpose. Removing solder from terminals, reduces the possibility of breaking the printed circuit board when the part is removed.

ACCIDENTAL SHORTS: A clean working area, free of metal particles, screws, etc., is an important preventive in avoiding servicing problems. Screws, removed from the chassis during servicing, should be stored in a box until needed. While a set is operating, it takes only an instant for a base-to-collector short to destroy a transistor (and others direct-coupled to it). In the time it takes for a dropped machine screw, washer, or screwdriver, to contact a pair of socket terminals (or terminal and chassis), a transistor can be ruined.

SOLID-STATE DEVICES: Integrated Circuits contain the equivalent of many circuit parts, including transistors, diodes, resistors, and capacitors. The preferred troubleshooting procedure requires isolating the trouble to one stage using AC signal tracing methods. Once the suspected stage is located, the DC voltages at the input and output leads are measured to give an accurate indication of the operating conditions of the IC. DO NOT use an ohmmeter to check continuity with the IC mounted on the printed circuit board. Forward biasing the internal junctions within the IC may burn out the transistors. Do not replace a defective IC until all external resistors, capacitors, and transformers are checked first, to prevent the replacement IC from failing immediately due to a defect in the connecting components. Solder and unsolder each lead separately using a pliers or other heat sink on the lead to prevent damage from excessive heat. Check that the leads are

connected to the correct locations on the printed circuit board before turning the set on.

Whenever possible, a transistor tester should be used to determine the condition of a transistor or diode. Ohmmeter checks do not provide conclusive data, and may even destroy the junction(s) within the device.

Never attempt to repair a transistor power amplifier module until the power supply filter-capacitors are fully discharged.

If an output or driver transistor becomes defective (opens or shorts), always check ALL direct-coupled transistors and diodes in that channel. In addition, check the bias pot., and other parts in the bias network, before installing replacement transistors. All output and driver transistors in one channel may be destroyed if the bias network is defective. After parts replacement, always check the bias adjustment for specified idling current.

In some applications, replacement of transistors must be made from the same beta group as the original type. The beta group is indicated by a colored marking on the transistor. Be sure to include this information when ordering replacement transistors.

When mounting a replacement power transistor, be sure the bottom of the flange, mica insulator, and the surface of the heat sink, are free of foreign matter. Dust and grit will prevent flat contact, reducing heat transfer to the heat sink. Metallic particles can puncture the insulator, cause a short, and destroy the transistor.

Silicone grease must be used between the transistor and the mica insulator, and between the mica and the heat sink, for best heat transfer. Use Dow-Corning DC-3, or an equivalent compound made for power transistor heat conduction.

Use care when making connections to speakers and output terminals. To reduce the possibility of shorts, lugs should be used on the exposed ends, or stranded wire should be tinned to prevent frayed wire ends. Current in the speakers and output circuitry is quite high — poor contacts, or small sized wire, can cause significant power losses in the system. For wire lengths greater than 30 feet, 16 AWG, or heavier, should be used.

VOLTAGE MEASUREMENTS: All voltages are measured with the line voltage adjusted to 120 volts. All measured voltages are $\pm 10\%$. DC voltages are measured to ground with a VTVM, with no signal input unless otherwise noted. AC signal voltages are measured under the conditions specified on the schematic.

ALIGNMENT PROCEDURES: DO NOT attempt realignment unless the required test equipment is available, and the alignment procedure is thoroughly understood.

BECAUSE ITS PRODUCTS ARE SUBJECT TO CONTINUOUS IMPROVEMENT, FISHER RADIO CORPORATION RESERVES THE RIGHT TO MODIFY ANY DESIGN OR SPECIFICATION WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION.

SERVICE PROCEDURES

REMOVING MOTORBOARD

To gain access to the chassis for servicing, remove the motorboard using the following procedure:

- (1) Disconnect AC power cord.
- (2) Unscrew the two shipping screws (near the left-rear and right-front corners of the turntable baseplate) fully out to lock the changer to the motorboard.
- (3) Remove the six screws in the motorboard and lift the motorboard at the front. Unplug the two audio cables and the power plug from the underside of the changer. Remove the four audio plugs and the power plug from the back of the cassette recorder. Label the recorder's audio cables with the appropriate INPUT or OUTPUT designation for easy replacement later.
- (4) Remove the motorboard (with recorder and changer mounted) from the top of the chassis.
- (5) To reinstall the motorboard, reverse the procedure. Be sure to reconnect the audio cables with the red plugs to the jacks labeled Right.

REMOVING DRESS PANEL

- (1) Disconnect AC power cord.
- (2) Gently pull the VOLUME, BALANCE, BASS, TREBLE, SELECTOR, and TUNING knobs off the dress panel control shafts. Remove the hex nuts from the shafts and remove panel by pulling forward over the shafts.
- (3) Reverse the procedure for reassembly.

DIAL STRINGING

- (1) Disconnect AC power cord.
- (2) Remove motorboard. Refer to REMOVING MOTORBOARD procedure.
- (3) Remove dress panel. Refer to REMOVING DRESS PANEL procedure.
- (4) Prop the unit on its back panel. Remove the two slotted screws (near the feet) which hold the extension chassis to the main chassis.
- (5) Set the unit on its feet. Lift the extension chassis and pull forward. Swing the extension chassis away from the main chassis (at the front) to provide access to the tuning drive-drum.
- WARNING:** Be careful to avoid breaking the wires interconnecting the main chassis and the extension chassis.
- (6) Remove the dial pointer from the dial cord.
- (7) Rotate the tuning capacitor drive-drum to its maximum CW position. Loosen the machine screw in the center of the drum and remove the old dial cord.
- (8) Tie end of new dial cord to one end of dial spring. Fasten to top right ear inside drive-drum. See Figure 1.
- (9) Run the dial cord through the slot in the rim of the drum and set in the bottom of the outside groove. Guide the dial cord around pulley "A", across and underneath the tuning shaft. Wrap 2 full turns (CCW viewed from back) around the tuning shaft.
- (10) Guide the dial cord over pulley "B", across the front, around pulley "C", and back and around pulley "D". Keep the dial cord taut during this procedure.
- (11) Rotate the drive-drum to its maximum CCW position, allowing the cord to wind onto the drive-drum. Keep the dial cord taut during this procedure.

- (12) Run the dial cord over the top of the drive-drum (in inside groove) and into the rim slot. Bring the cord around the drive-drum ear and place the cord under the beveled washer.
- (13) With the machine screw loosened, pull the dial cord taut and tighten the screw.
- (14) Turn the tuning shaft to rotate the drive-drum fully CW and fully CCW to distribute the tensioning along the dial cord. Repeat steps (13) and (14) until spring is tensioned.
- (15) Place the dial cord over and under the tabs on the rear of the dial pointer, and place the pointer on the top of the rail.
- (16) Turn the tuning shaft fully CCW. Slide the dial pointer to zero (0) calibration mark on the logging scale while holding tuning shaft fully CCW. Cement dial pointer to dial cord to prevent slippage. Allow cement to thoroughly dry. Check dial calibration. Refer to FM FRONT END ALIGNMENT.
- (17) Reconnect extension chassis. Dress audio cables away from tuning drive-drum.
- (18) Reinstall the dress panel.
- (19) Reinstall the motorboard.

REPLACING DIAL LAMPS

- (1) Disconnect AC power cord.
- (2) Remove dress panel. Refer to REMOVING DRESS PANEL procedure.
- (3) Remove the defective lamp (with its metal shade) from its bayonet base by pressing the lamp in, and rotating 1/8 turn CCW. Slide the metal shade off the lamp. Install the replacement lamp by pressing in, and turning CW 1/8 turn. Slide the shade onto the lamp and adjust it to direct the light towards the edge of the dial glass.
- (4) Reinstall the dress panel.

REPLACING STEREO BEACON LAMP

- (1) Disconnect AC power cord.
- (2) Remove motorboard. Refer to REMOVING MOTORBOARD procedure.
- (3) Unsolder the two leads from the terminals on the rear of the STEREO BEACON lamp assembly.
- WARNING:** Damage to the nylon lamp holder assembly may result from excessive heating of the terminals. Use a pair of pliers (as a heat sink) to hold each terminal when soldering or unsoldering leads.
- (4) Gently pry off the nylon lamp holder assembly. Press the replacement assembly into the mount and resolder the leads removed previously.
- (5) Reinstall the motorboard.

REPLACING METER LAMP

- (1) Disconnect AC power cord.
- (2) Remove motorboard. Refer to REMOVING MOTORBOARD procedure.
- (3) Remove the defective meter lamp (with its metal shade) from its bayonet base by pressing the lamp in, and rotating 1/8 turn CCW. Slide the shade off the lamp. Install the replacement lamp by pressing in, and turning CW 1/8 turn. Slide the shade onto the lamp and adjust it to direct the light towards the back of the tuning meter.
- (4) Reinstall the motorboard.

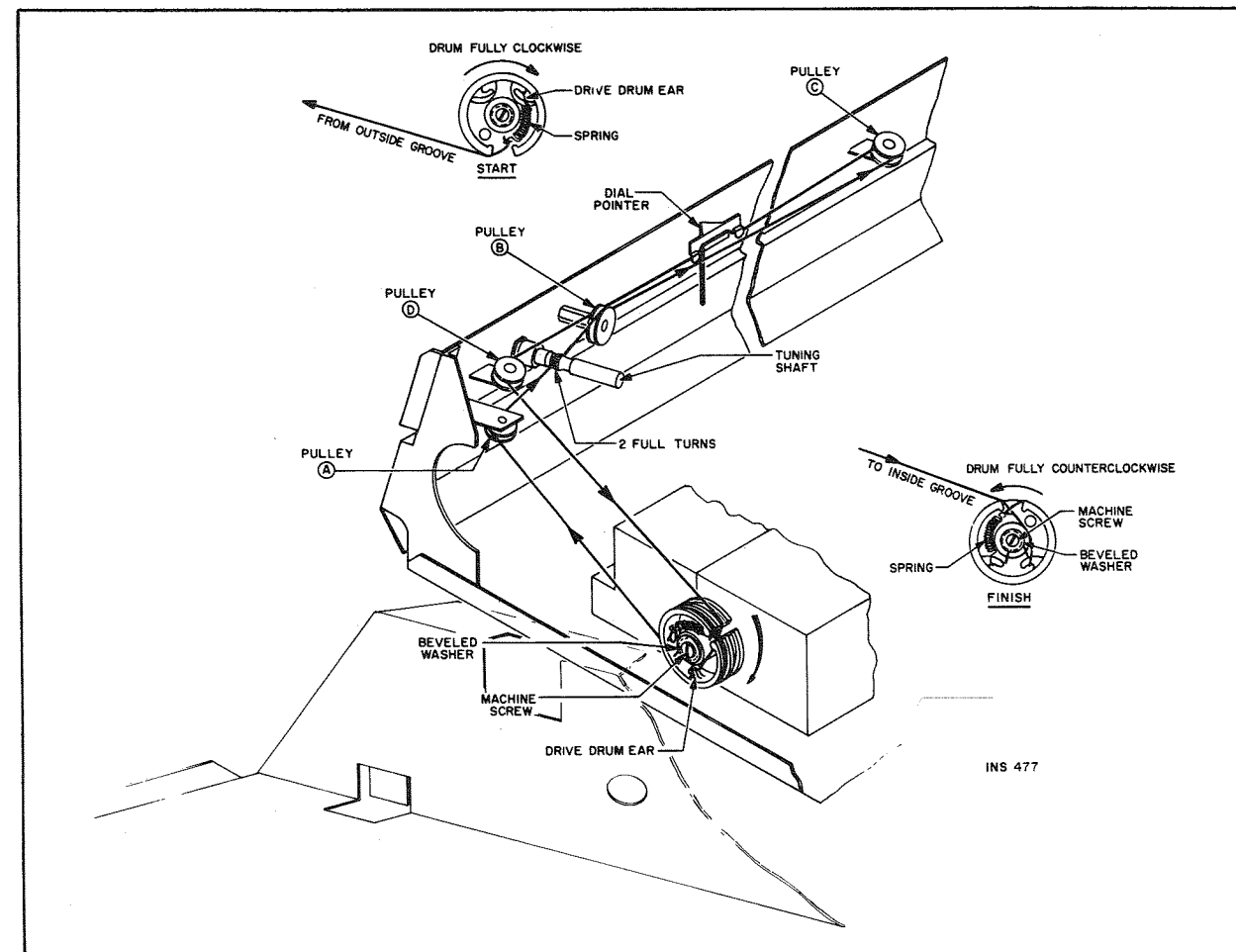


Figure 1.

REPLACING METER

- (1) Remove motorboard. Refer to REMOVING MOTORBOARD procedure.
- (2) Unsolder the two leads from the terminals on the rear of the meter and label each wire with its associated pin location for easy replacement later.
- WARNING:** Damage to the meter may result from excessive heating of the meter terminals. Use a pair of pliers (as a heat sink) to hold each terminal when soldering or unsoldering leads.
- (3) Gently pull the meter retainers away from the rear of the tuning meter and lift out the meter.
- (4) Slide the replacement meter behind the retainers and fit meter into panel cutout. Resolder the meter leads removed previously.
- (5) Reinstall the motorboard.

REMOVING P.C. BOARDS

To remove a board from its nylon mounts, squeeze the loop of each mounting clip (using pliers), and lift each corner of the board. To remount the board, align the mounting holes over the clips, and press firmly.

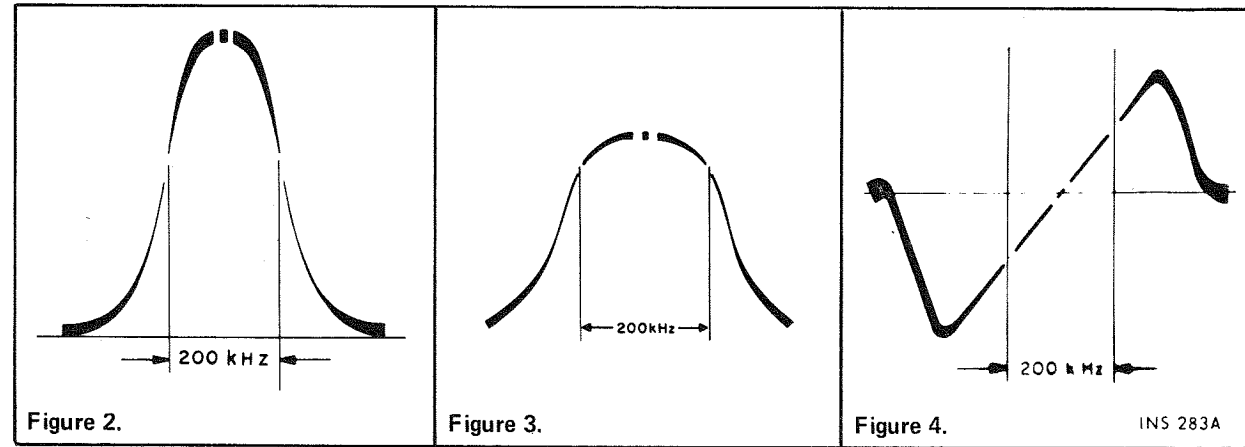
CLEANING FRONT PANEL

WARNING: Use only plain lukewarm water for moistening a freshly laundered, soft lint-free cloth to clean the front dress panel.

POWER AMPLIFIER CENTER VOLTAGE TEST

- Turn VOLUME control to minimum. Depress MAIN SPKRS pushbutton switch.
- (1) Connect an 8-ohm load resistor across the LEFT SPKRS MAIN terminals and an 8-ohm load resistor across the RIGHT SPKRS MAIN terminals.
 - (2) Connect two 10k $\pm 1\%$ resistors in series across capacitor C953 (1500 μ F). Connect the common lead of a DC VTVM to the junction of the two resistors.
 - (3) Connect the probe of the DC VTVM to Test Point 8S (junction of R835 and R837) on left channel of dual channel power amplifier module. Meter should read 0 volt (± 1.5 volts).
 - (4) Connect the probe of the DC VTVM to Test Point 8DD (junction of R836 and R838) on right channel of power amplifier module. Meter should read 0 volt (± 1.5 volts).
 - (5) Disconnect the two 10k resistors.

SERVICE PROCEDURES



POWER AMPLIFIER IDLING CURRENT ADJUSTMENT

NOTE: Power amplifier center voltage test should be performed before starting the following procedure.

Turn VOLUME control to minimum.

- Connect DC VTVM across resistor R835 (0.56 ohms) on left channel of power amplifier module. Meter should read between 10 mV and 35 mV.
- If necessary, adjust R825 (OUTPUT BIAS ADJUST) pot. on predriver/driver board for reading between 10 mV and 35 mV on DC VTVM. Optimum amplifier performance will be achieved with 15 mV setting.
- Connect DC VTVM across resistor R836 on right channel of power amplifier module. Meter should read between 10 mV and 35 mV. If necessary, adjust R826 pot. on predriver/driver board for reading between 10 mV and 35 mV on DC VTVM.

POWER OUTPUT MEASUREMENT

The output amplifier of this unit is designed to deliver its full-rated power with program material (voice or music) into 8-ohm loads for an indefinite period of time. When a constant audio tone is used as a signal to measure the maximum continuous RMS power output, the following precautions must be taken:

- Measure the power output of one channel at a time.
- Limit the measurement period to 10 minutes with a load resistance of 8 ohms.
- Use a load resistor with a power rating of at least 50 watts.

WARNING: If the power output of both channels is measured simultaneously, use a load of 8 ohms per channel and limit measurements to a period not longer than 5 minutes.

HARMONIC DISTORTION TEST

Set BALANCE, BASS, and TREBLE controls to their center positions. Set SELECTOR switch to AUX. Depress MAIN SPKRS pushbutton switch. Unplug AC power cord.

- Connect an 8-ohm, 50-watt resistor across the LEFT

SPKRS MAIN terminals. In parallel with the load resistor, connect the input leads of an HD analyzer and the input leads of an accurately calibrated AC VTVM.

- Connect a low-distortion audio sine-wave generator, set for 1,000 Hz, to the Left channel AUX IN jack.
- Connect AC power cord and rotate VOLUME control to maximum.
- Increase audio generator level for 14 watts output (10.6 V RMS across 8-ohm load). HD meter should read 0.5% or less.
- Repeat preceding steps for right channel.

INTERMODULATION DISTORTION TEST

Set BALANCE, BASS and TREBLE controls to their center positions. Set SELECTOR switch to AUX. Depress MAIN SPKRS pushbutton switch. Unplug AC power cord.

- Connect an 8-ohm, 50-watt resistor across the LEFT SPKRS MAIN terminals. In parallel with the load resistor, connect the input leads of an IM distortion analyzer and the input leads of an accurately calibrated AC VTVM.
- Connect IM-analyzer generator output to the Left AUX IN jack. Set level of IM-analyzer generator for 300 mV output.
- Connect AC power cord and adjust VOLUME control for 12 watts output (7.95 V RMS across 8-ohm load). AFTER ONE FULL MINUTE OF WARM-UP, PROCEED TO NEXT STEP.
- IM meter should read 0.8% or less.
- Repeat preceding steps for right channel.

NOTE: If this procedure differs from those in the IM analyzer manual, it is best to follow the instructions in the manual. If a load resistor of 50-watt rating is built into the IM analyzer, a separate load resistor is not required.

FM IF AND DETECTOR ALIGNMENT

Set SELECTOR switch to FM. Turn VOLUME control to minimum.

- Disconnect the jumper lead from FM Test Point 301 (pin 3N on FM IF, MPX, METER board) and connect vertical input of scope to Test Point 301. Connect ground lead of scope to nearest chassis ground.

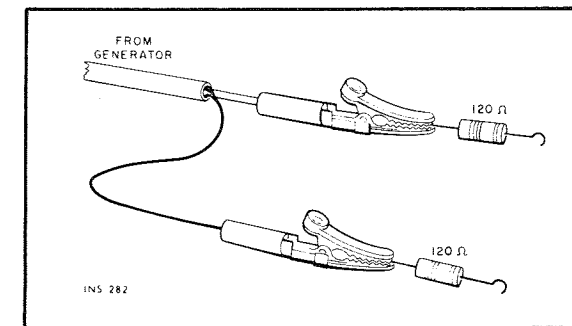


Figure 5. Connections To Provide 300-Ohm Generator Output Impedance. Matching Resistors Reduce Generator Voltage By Half At Antenna Terminals.

- Connect an 82k resistor across scope input and set scope input for AC. Adjust scope vertical sensitivity to approximately 100 mV/cm.
- Connect 10.7 MHz sweep generator to Test Point 501 (pin 5F on FM RF board). Connect ground lead of generator to pin 5G. Adjust generator level and sweep to observe IF response curve.
- Adjust top and bottom cores of Z305, Z304, and Z302 (on FM IF, MPX, METER board) for symmetry and maximum gain.
- Adjust top and bottom cores of L505 (on FM RF board) for maximum gain and symmetry. Repeat alignment until maximum gain and symmetry are obtained (see Figure 2).
- Increase generator level to full output (approximately 100,000 uV). If necessary, slightly readjust top core of Z305 to center 10.7 MHz marker (see Figure 3).
- Reconnect the jumper lead to FM Test Point 301 (pin 3N on FM IF, MPX, METER board) removed previously. Disconnect the 82k resistor across scope input connected previously.
- Reduce generator sweep to zero (sweep off). Adjust FM METER ADJ. pot. R328 (on FM IF, MPX, METER board) for front panel tuning meter reading of 4.5.
- Connect vertical input of scope to Test Point 3M (on FM IF, MPX, METER board). Use same scope sensitivity setting (100 mV/cm).
- Adjust generator level and sweep to observe detector "S" curve. Adjust bottom core of Z306 first, then top core for maximum gain and symmetry (see Figure 4).
- Connect DC VTVM to Test Point 3M. Use most sensitive meter scale setting.
- Readjust top core of Z306 for zero (0) reading (within ± 0.2 volt) on DC VTVM.

FM FRONT END ALIGNMENT

NOTE: FM IF alignment must be performed before starting this procedure.

Set SELECTOR switch to FM. Turn VOLUME control to minimum. Depress MONO MODE pushbutton switch.

- Set TUNING dial pointer to zero (0) calibration mark on the logging scale. If the dial pointer is not centered on the 0 at the extreme end of knob rotation, reposition the pointer assembly on the dial cord and cement the pointer in place to prevent slippage. Allow cement to thoroughly dry.
- Connect an FM generator to the FM ANTenna terminals. Use a 120-ohm composition resistor in series with each lead from the generator (see Figure 5).
- Connect a scope and an AC VTVM to either Left or Right OUT TO EXT RCDR jack.

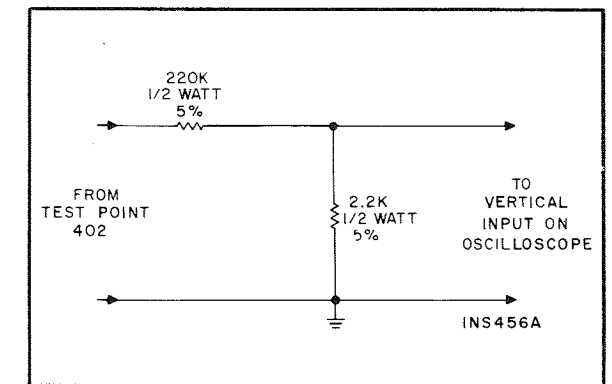


Figure 6. Voltage Divider Probe.

- Set FM generator frequency and TUNING dial pointer to 90 MHz. Modulate generator with 400 Hz, ± 75 kHz deviation. Set generator level as low as possible.
- Align (oscillator coil) L504 first, then (mixer coil) L503 and (RF coil) L502 for maximum reading on AC VTVM and tuning meter, and maximum waveform amplitude and symmetry.
- Set generator frequency and TUNING dial pointer to 106 MHz.
- Align (oscillator trimmer) C512 first, then (mixer trimmer) C511 and (RF trimmer) C503 for maximum reading on AC VTVM and tuning meter, and maximum waveform amplitude and symmetry.
- Repeat alignment several times until accurate dial calibration and maximum gain are obtained. Keep the generator output as low as possible during all adjustments.

TUNING METER CALIBRATION

NOTE: If the FM IF AND DETECTOR ALIGNMENT procedure (including calibration of tuning meter) has been completed, omit the following procedure. Use the following procedure to calibrate the tuning meter without IF alignment; i.e., after meter replacement.

Set SELECTOR switch to FM. Turn VOLUME control to minimum.

- Connect an FM generator to the FM ANTenna terminals. Use a 120-ohm composition resistor in series with each lead from the generator (see Figure 5).
- Set generator frequency to same frequency as receiver. Set generator RF output level to full output (approximately 100,000 uV) with audio modulation off.
- Adjust generator frequency for peak tuning meter reading.
- Adjust FM METER ADJ. pot. R328 (on FM IF, MPX, METER board) for tuning meter reading of 4.5.

MULTIPLEX ALIGNMENT

Two methods of aligning the multiplex decoder are given. The preferred procedure uses a multiplex generator with RF and 19 kHz outputs and with 1 kHz modulation, such as the FISHER 300 Multiplex Generator. This is the better method of alignment because the front end and IF stages are also checked through the use of this procedure. An alternative procedure for use with multiplex generators not having an RF output is also given.

SERVICE PROCEDURES

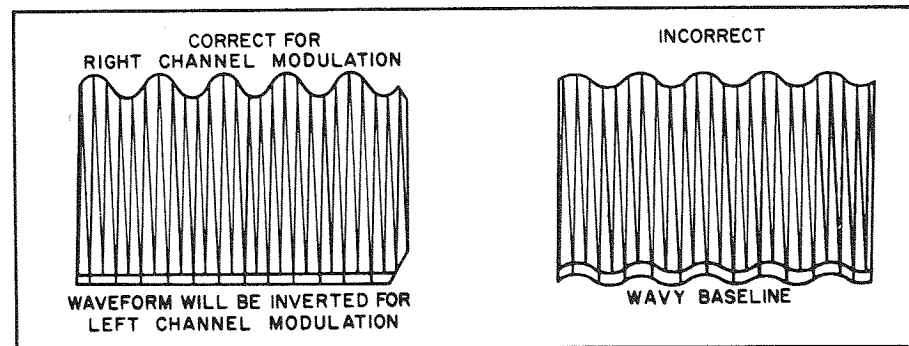


Figure 7. Waveform At Test Point 402.

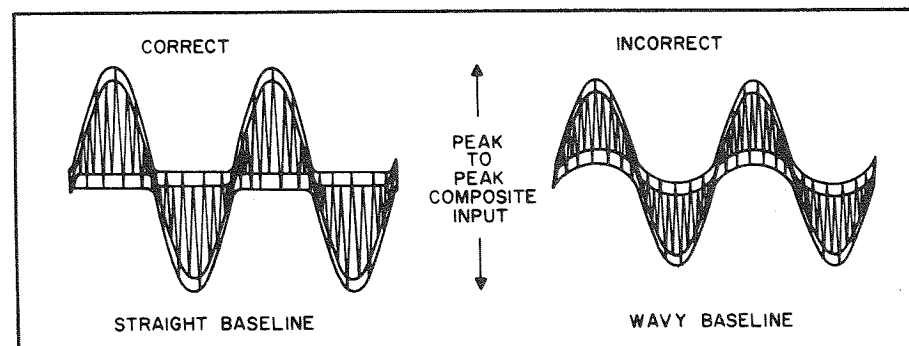


Figure 8. Composite Input To Multiplex Decoder.

PREFERRED ALIGNMENT PROCEDURE

NOTE: Check the alignment of the IF amplifier before aligning the multiplex decoder. Poor IF alignment can make proper MPX adjustment impossible.

Set SELECTOR switch to FM, and VOLUME control to minimum.

- (1) Connect RF output of multiplex generator to the FM ANTenna terminals. Use a 120-ohm composition resistor in series with each lead from RF output (see Figure 5). Set MPX generator for external modulation with 19 kHz pilot carrier, ± 7.5 kHz deviation (10% pilot, no audio). Tune receiver to RF frequency of MPX generator.
- (2) Connect DC VTVM to Test Point 403 (pin 4G on FM IF, MPX, METER board).
- (3) Adjust cores of Z401 and Z402 (on FM IF, MPX, METER board) for maximum reading on DC VTVM (2.5 to 4 VDC).
- (4) Connect output of audio generator, set for 1 kHz, to the external modulation input of MPX generator and to external sync input of an oscilloscope. Adjust audio generator level for composite signal ± 75 kHz deviation (10% pilot, 90% audio). Modulate right channel only.
- (5) Connect AC VTVM to Left OUT TO EXT RCDR jack. Connect scope through voltage divider probe (see Figure 6) to Test Point 402 (pin 4K on FM IF, MPX, METER board).
- (6) Turn R107 SEPARATION CONTROL (on PREAMPLIFIER board) CW to maximum resistance setting. Adjust core of Z403 (on FM IF, MPX, METER board) for maximum gain and as straight a base-line as possible on scope (see Figure 7). AC VTVM should read minimum.
- (7) With MPX generator modulated on right channel only, connect AC VTVM to Right OUT TO EXT RCDR jack. Record reading on AC VTVM.
- (8) Set MPX generator to modulate left channel only. Adjust R107 SEPARATION CONTROL (on PREAMPLIFIER board)

- for minimum reading on AC VTVM; at least 30 dB below reading recorded in step (7). Record reading.
- (9) Connect AC VTVM to Left OUT TO EXT RCDR jack. Same reading ± 2 dB as recorded in step (7).
- (10) Set MPX generator to modulate right channel only. Same reading ± 3 dB as recorded in step (8).

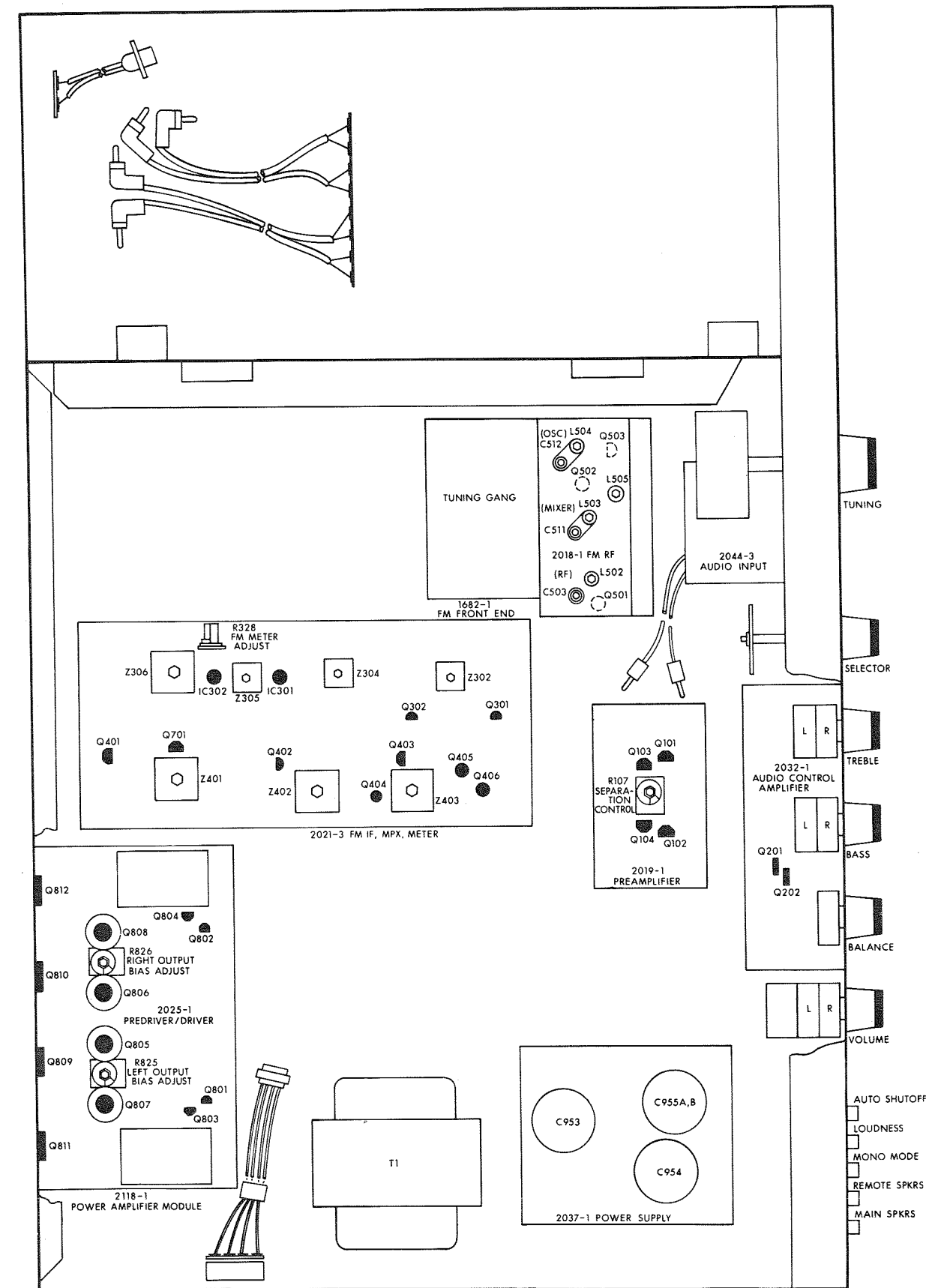
NOTE: If equal readings cannot be obtained in steps (8) and (10), readjust Z402 slightly (on FM IF, MPX, METER board) and repeat steps (7) through (10).

ALTERNATE ALIGNMENT PROCEDURE

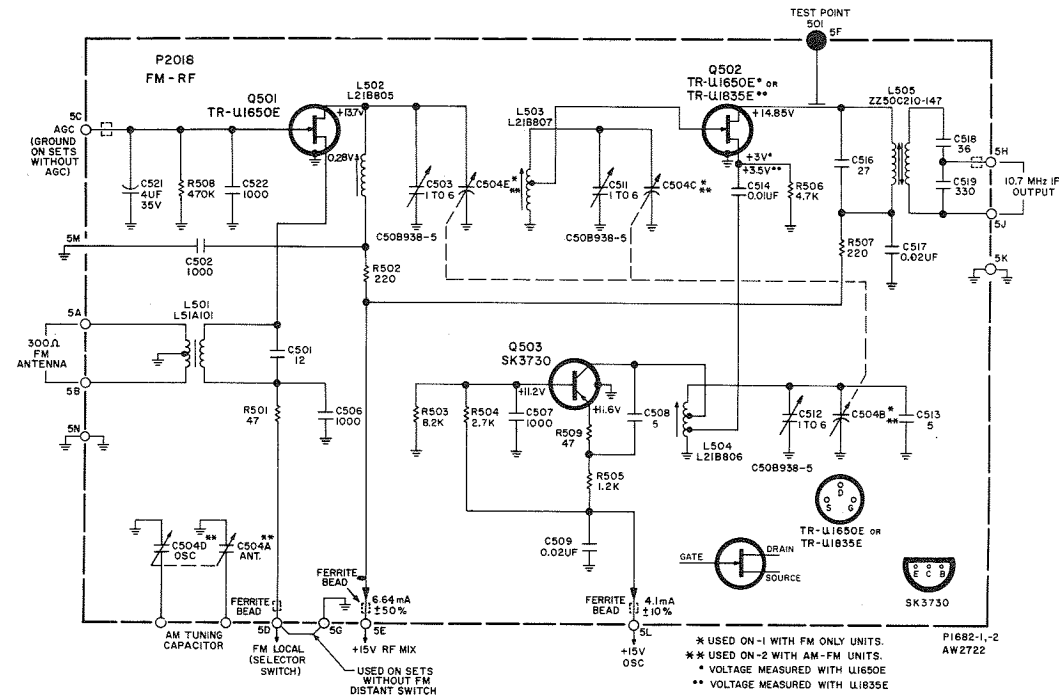
Set SELECTOR switch to FM, and VOLUME control to minimum.

- (1) Disconnect the jumper lead going to pin 4A (on FM IF, MPX, METER board) and connect the output of the multiplex generator through a 15k resistor to pin 4A.
- (2) Connect DC VTVM to Test Point 403 (on FM IF, MPX, METER board). Connect the vertical input of the scope to pin 4A.
- (3) Set MPX generator for 19 kHz pilot carrier output only. Adjust pilot level for approximately 120 mV peak-to-peak input at pin 4A.
- (4) Adjust cores of Z401 and Z402 (on FM IF, MPX, METER board) for maximum reading on DC VTVM (2.5 to 4 VDC).
- (5) Connect output of audio generator, set for 1 kHz, to the external modulation input of MPX generator and to the external sync input of an oscilloscope. Adjust audio generator level for 1.2 volts peak-to-peak composite MPX input (10% pilot, 90% audio). See Figure 8. Modulate right channel only. Proceed with steps (5) through (10) of PREFERRED ALIGNMENT PROCEDURE.
- (6) Reconnect the jumper lead going to pin 4A (on FM IF, MPX, METER board) removed previously.

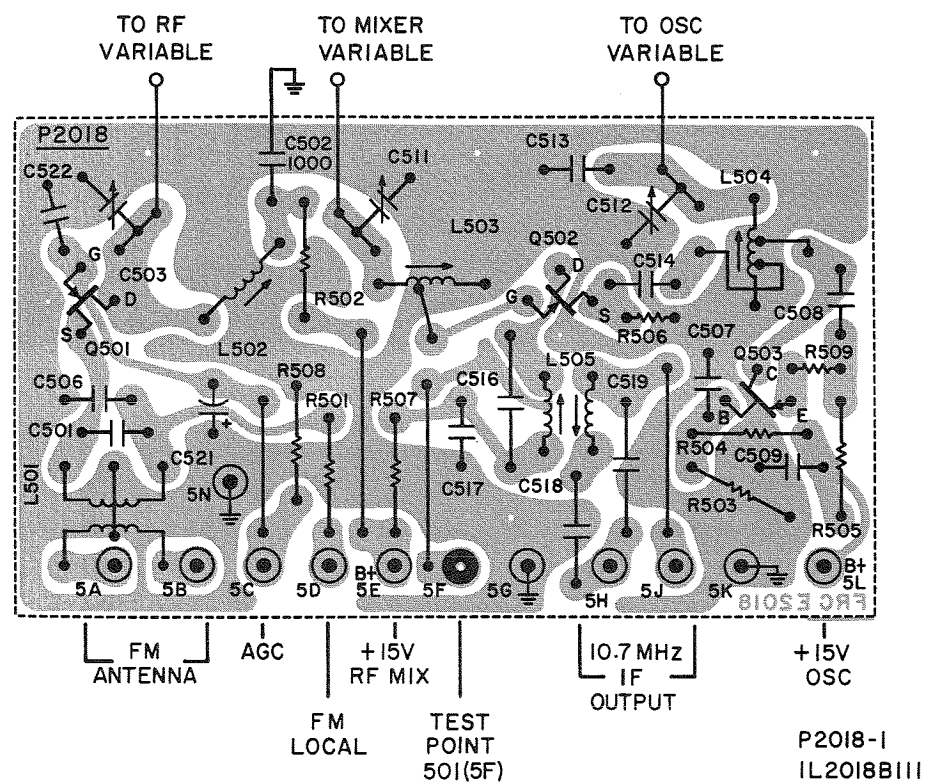
CHASSIS LAYOUT



2018-1 FM RF



BOARD VIEWED FROM COMPONENT SIDE

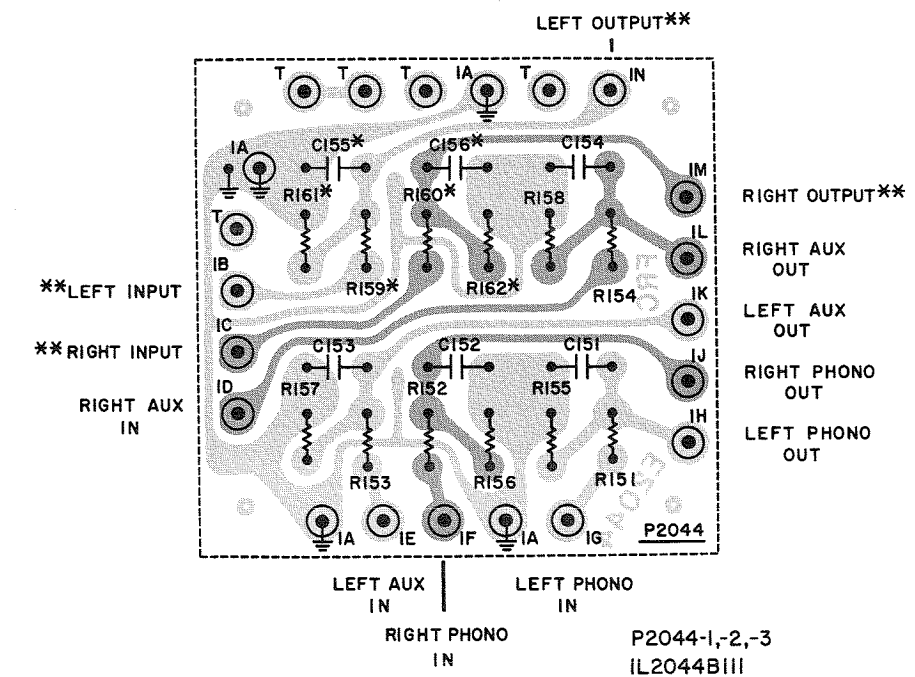


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2044-3 AUDIO INPUT

SCHEMATIC SHOWN ON MAIN CHASSIS DIAGRAM

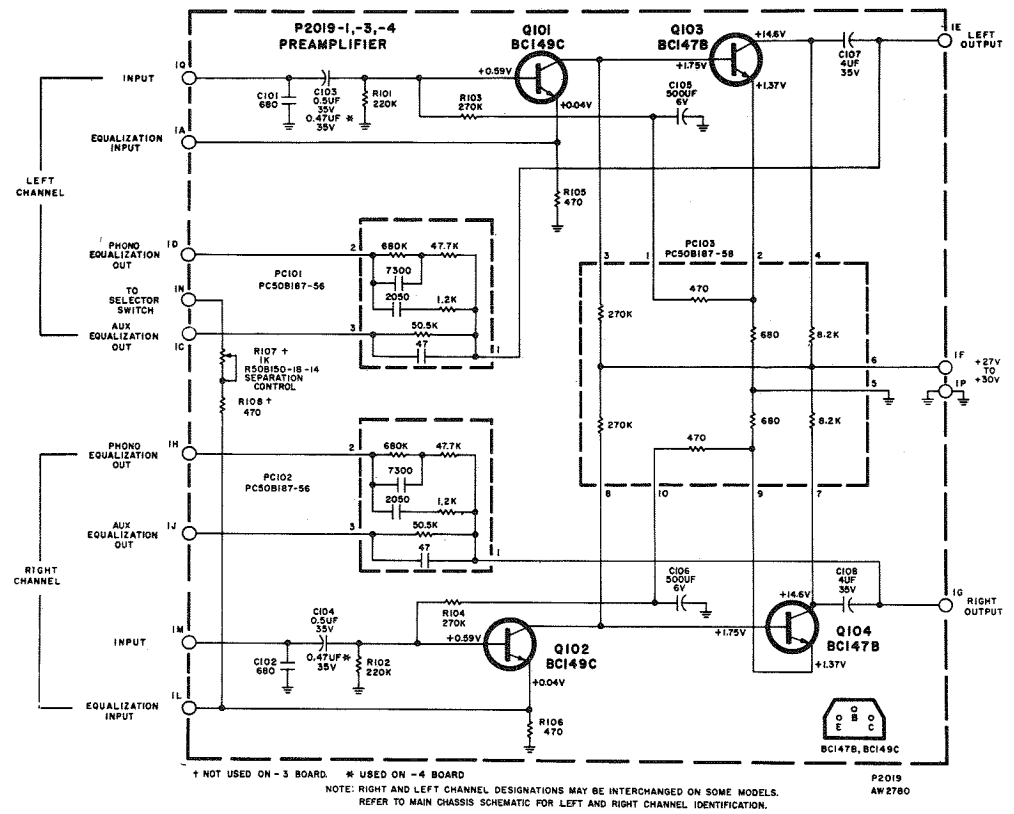
BOARD VIEWED FROM COMPONENT SIDE



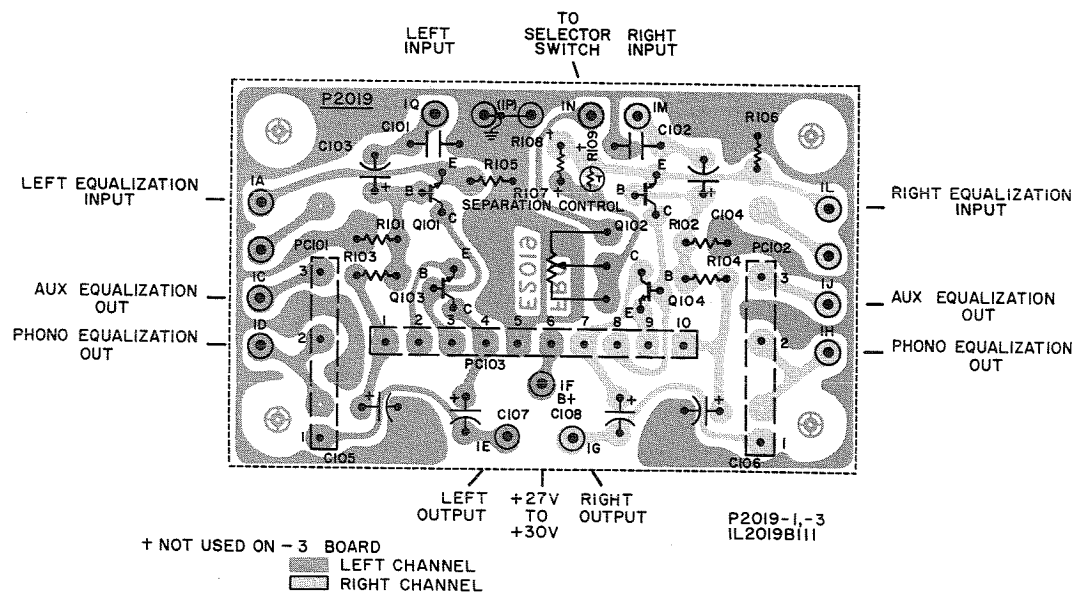
T= TERMINAL LUG USED FOR EASE IN WIRING.
 *= NOT USED ON - I
 **= CASSETTE OR TUNER

RIGHT CHANNEL
 LEFT CHANNEL

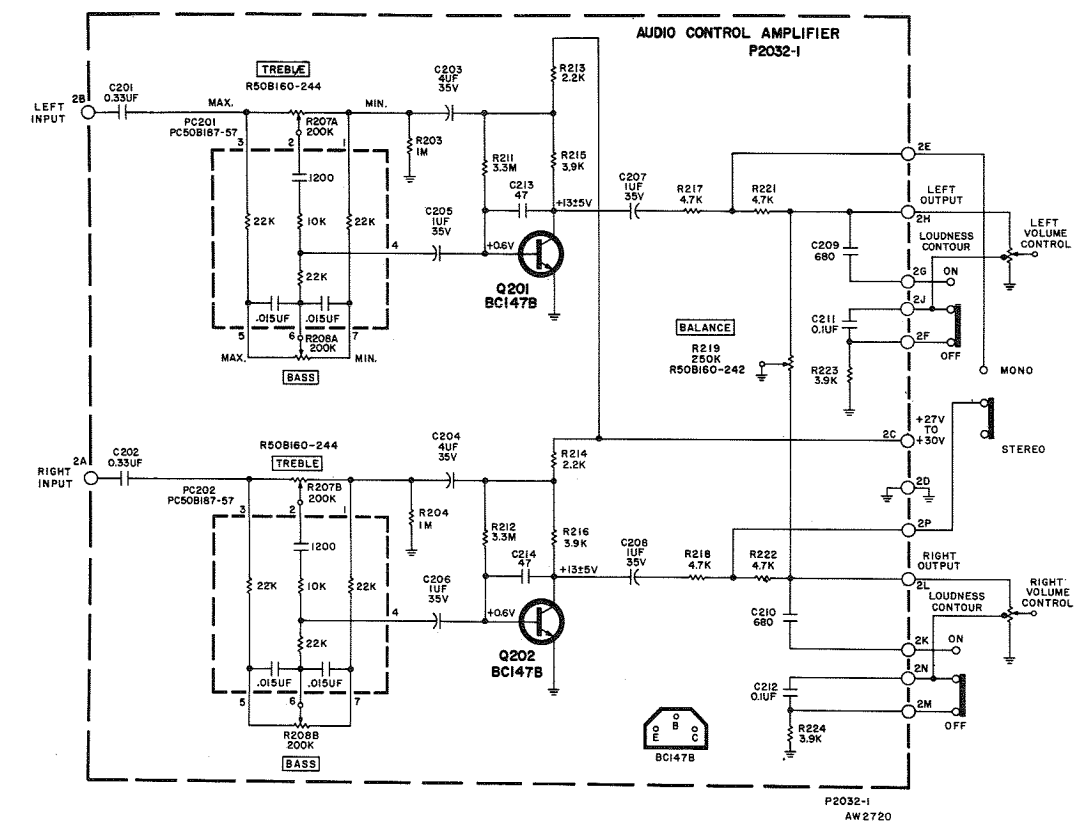
2019-1 PREAMPLIFIER



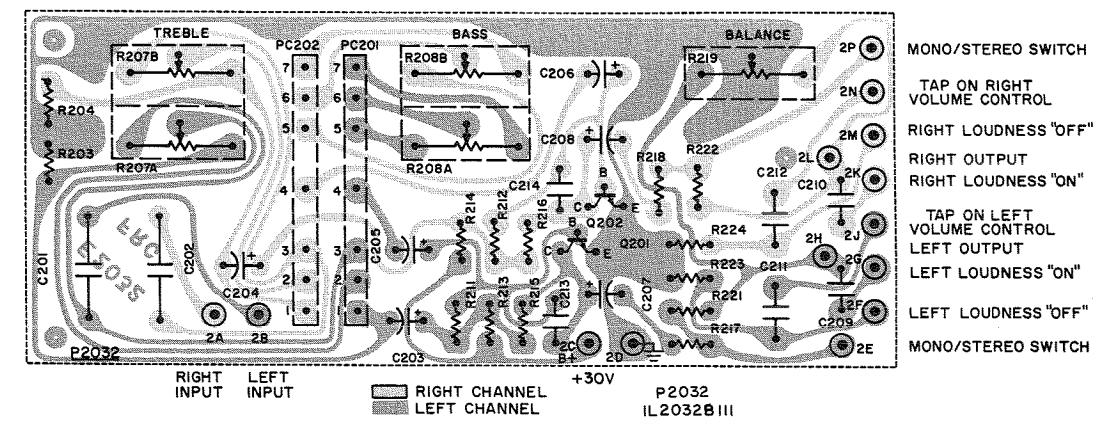
BOARD VIEWED FROM COMPONENT SIDE



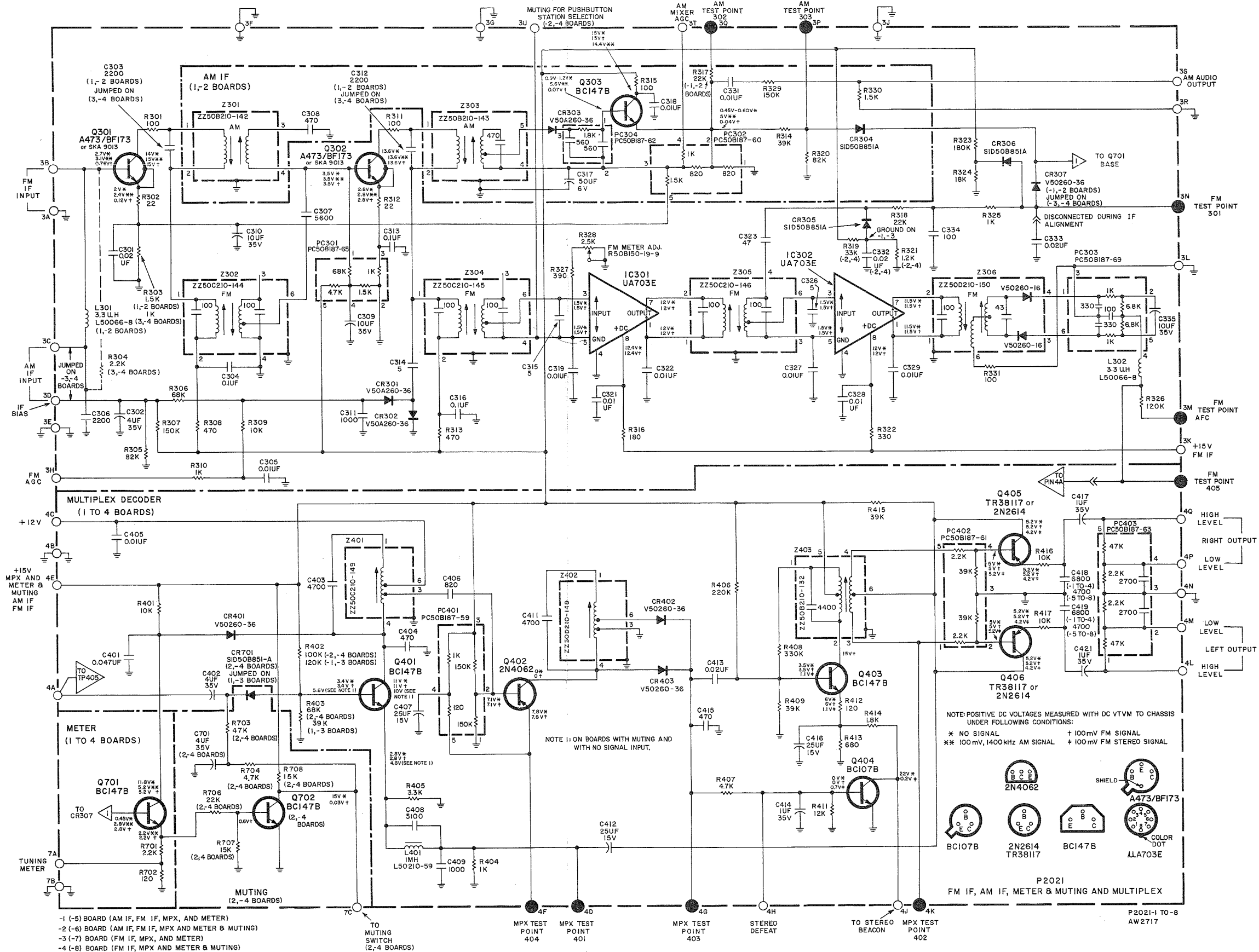
2032-1 AUDIO CONTROL AMPLIFIER



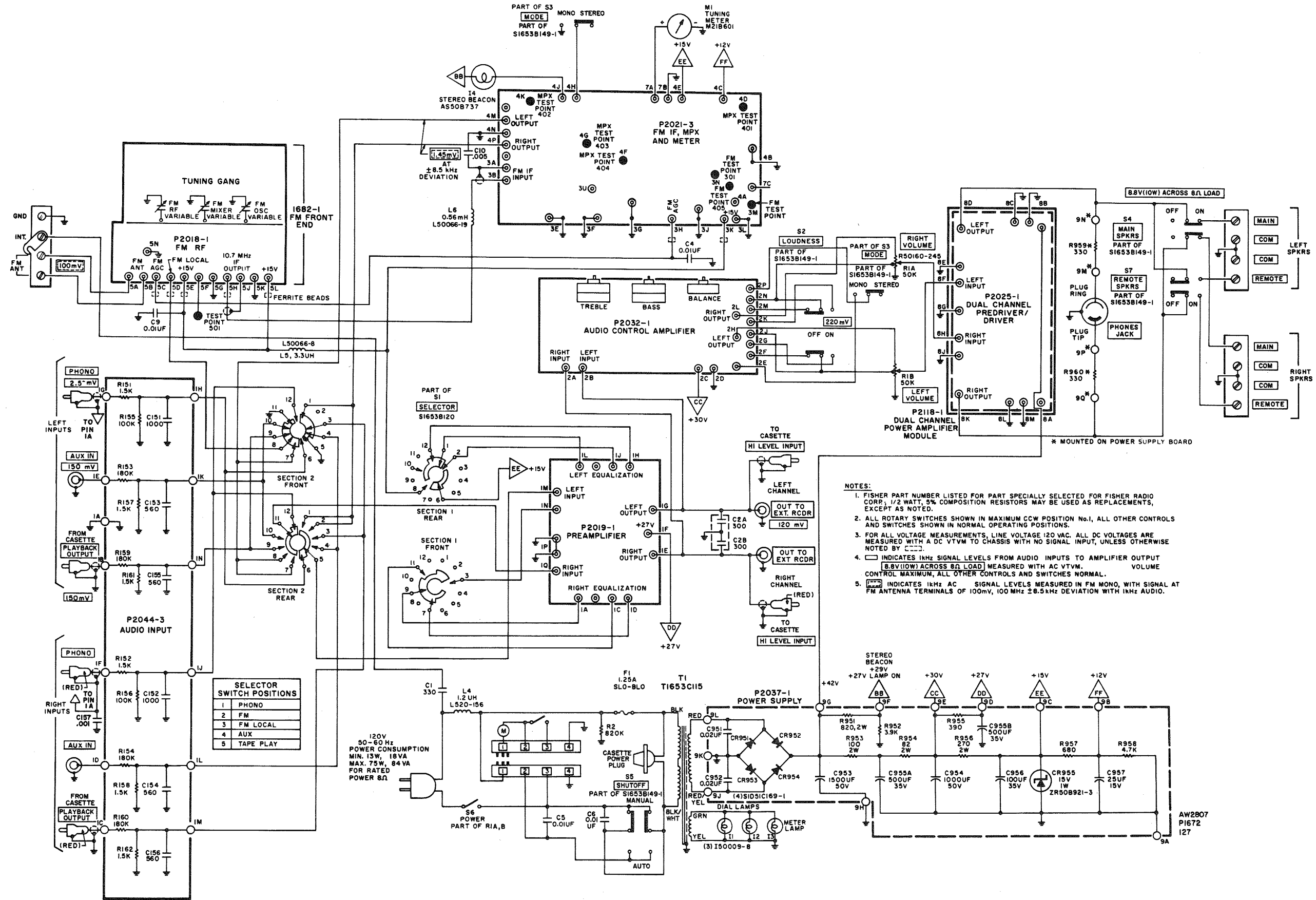
BOARD VIEWED FROM COMPONENT SIDE



2021-3 FM IF, MPX, METER



MAIN CHASSIS



- NOTES:**
1. FISHER PART NUMBER LISTED FOR PART SPECIALLY SELECTED FOR FISHER RADIO CORP. 1/2 WATT, 5% COMPOSITION RESISTORS MAY BE USED AS REPLACEMENTS, EXCEPT AS NOTED.
 2. ALL ROTARY SWITCHES SHOWN IN MAXIMUM CCW POSITION No.1, ALL OTHER CONTROLS AND SWITCHES SHOWN IN NORMAL OPERATING POSITIONS.
 3. FOR ALL VOLTAGE MEASUREMENTS, LINE VOLTAGE 120 VAC. ALL DC VOLTAGES ARE MEASURED WITH A DC VTVM TO CHASSIS WITH NO SIGNAL INPUT, UNLESS OTHERWISE NOTED BY [Symbol].
 4. [Symbol] INDICATES 1kHz SIGNAL LEVELS FROM AUDIO INPUTS TO AMPLIFIER OUTPUT [Symbol] MEASURED WITH AC VTVM. VOLUME CONTROL MAXIMUM, ALL OTHER CONTROLS AND SWITCHES NORMAL.
 5. [Symbol] INDICATES 1kHz AC SIGNAL LEVELS MEASURED IN FM MONO, WITH SIGNAL AT FM ANTENNA TERMINALS OF 100mV, 100 MHz \pm 8.5 kHz DEVIATION WITH 1kHz AUDIO.

SELECTOR SWITCH POSITIONS

1	PHONO
2	FM
3	FM LOCAL
4	AUX
5	TAPE PLAY

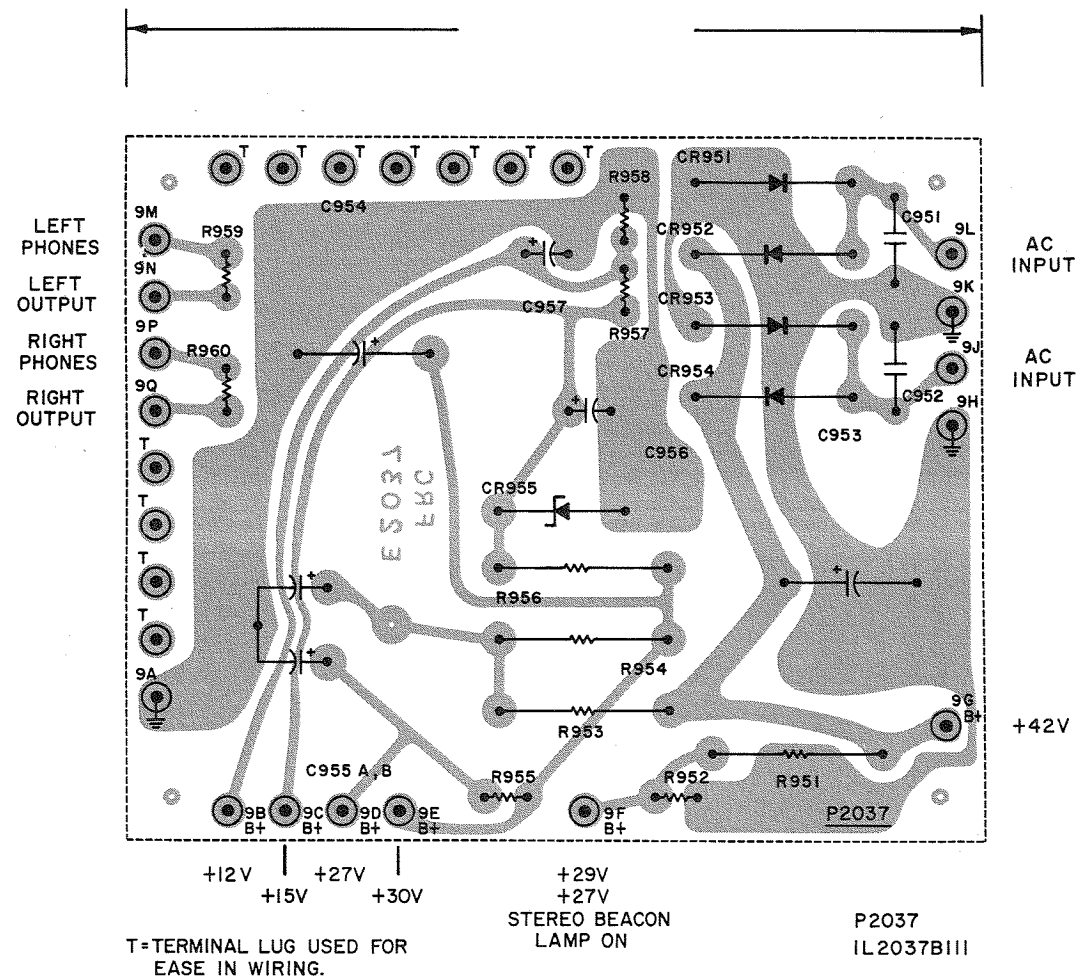
120V
50-60 Hz
POWER CONSUMPTION
MIN. 13W, 18VA
MAX. 75W, 84 VA
FOR RATED
POWER 8Ω

AW2807
PI672
127

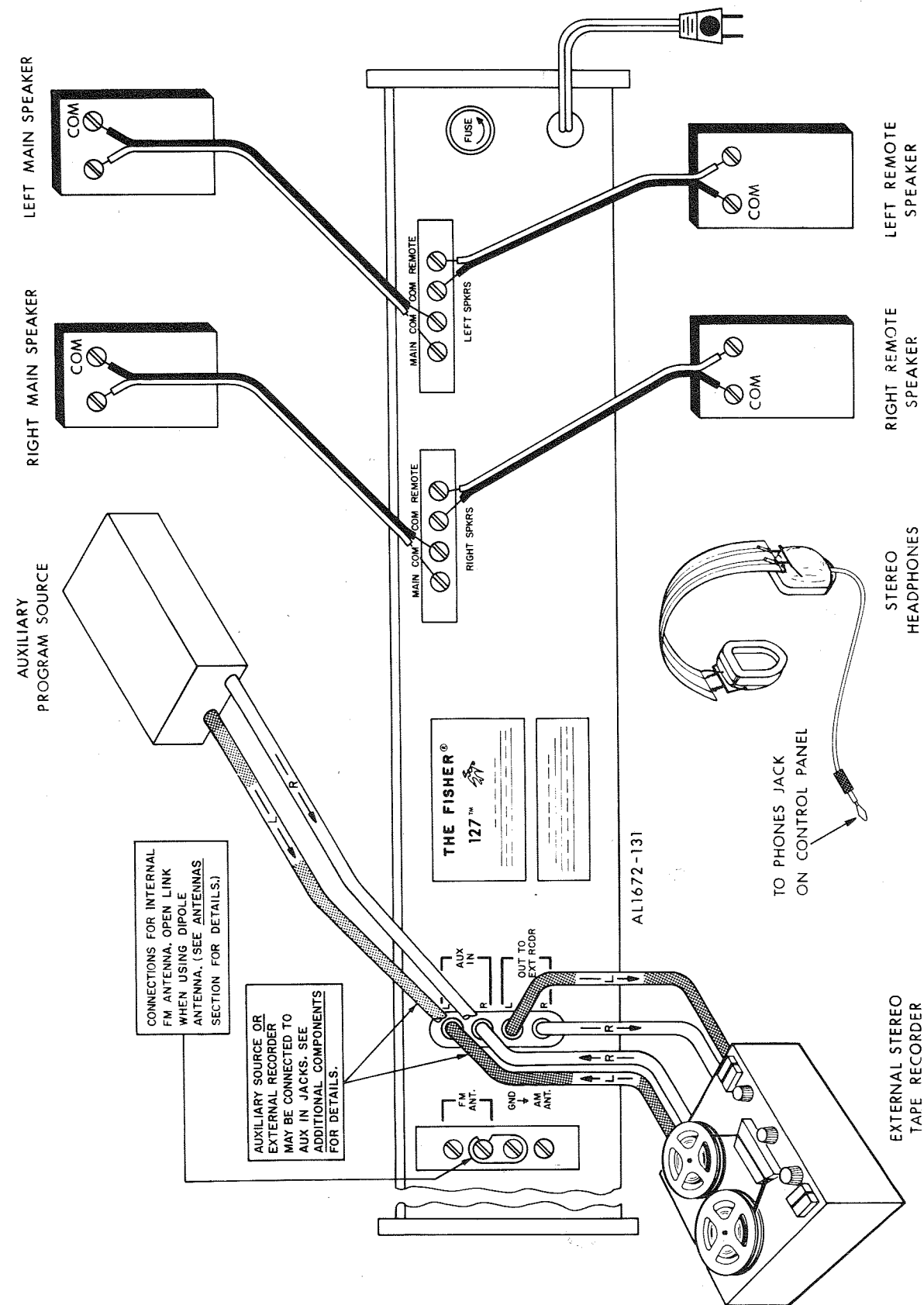
2037-1 POWER SUPPLY

SCHEMATIC SHOWN ON MAIN CHASSIS DIAGRAM

BOARD VIEWED FROM COMPONENT SIDE



COMPONENT CONNECTIONS



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