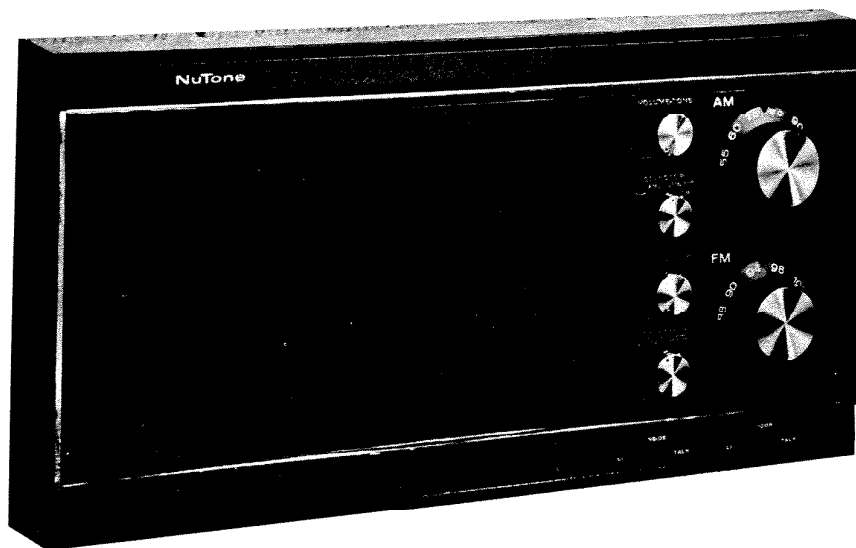


NuTone

SERVICE MANUAL



AM-FM TRANSISTOR RADIO and INTERCOM

Models 2561-2562

NuTone Housing Products

Madison & Red Bank Roads, Cincinnati, Ohio 45227

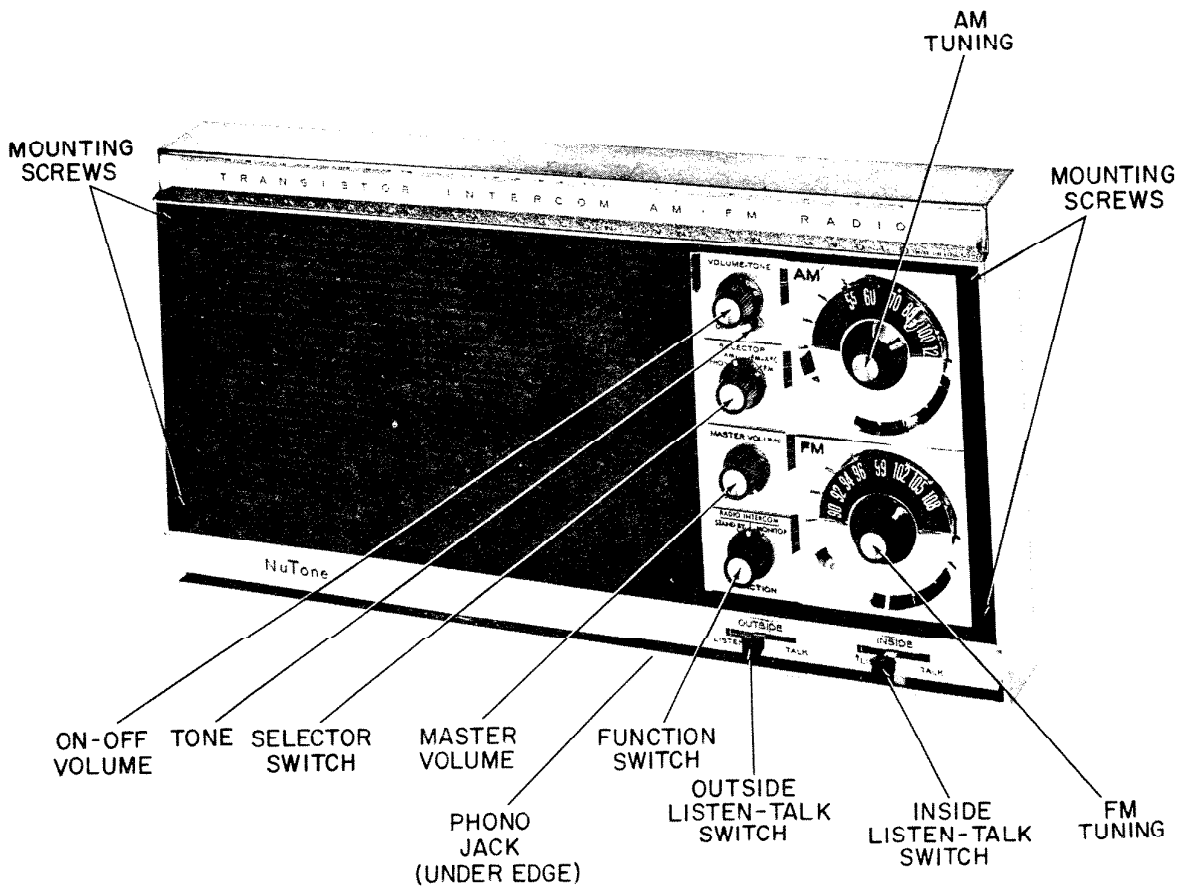


Fig. 1. Master station front panel.

CHECK-OUT PROCEDURE

1. Set Master Function switch in Radio-Intercom position.
2. Rotate Master Speaker Volume control fully clockwise.
3. Turn unit on with On-Off Volume knob and set control two-thirds clockwise. AM and FM tuning dial will be illuminated.
4. Set Selector switch to AM position.
5. Tune in AM radio station and check reception.
6. Set Selector switch to FM or FM-AFC position. Tune in FM radio station and check reception.
7. With radio playing, set Function switch on each Remote Speaker station to Radio-Intercom position and check for radio reception. Check operation of all Remote Speaker Volume controls.
8. Talk from Master to the Remote Speaker Stations (except door speaker) by operating Master Inside Talk-Listen switch to right (Talk position). Check for intercom reception at all Remote Speakers: Radio will be automatically silenced when Talk—Listen switch of Master or Remote Speaker is operated.
9. Push Inside Talk—Listen switch of Master to left (Listen position), to hear reply from Remote Stations. Operation of Talk-Listen switch on Remote Speaker is not required.
10. Return Inside Talk-Listen switch of Master to center position. Push Inside Talk-Listen switch of Remote Speakers to right (Talk position). Check for Intercom reception at Master and other Remote Speakers.
11. Set Function Switch of Master and all Remote Speakers to Stand-by position. Push Inside Talk-Listen switch of a Remote Speaker to right (Talk position). Check for intercom reception at Master and Remote Speakers set on Stand-by.
12. Push Inside Talk-Listen Switch of Remote to left (Special Listen position), to hear reply from speakers on Stand-by. Operation of Talk-Listen switch on Remote Speaker is not required.
13. Set Function switch of all Remote Speakers to Monitor position. Leave Inside Talk-Listen switch in center position and talk from each Remote to Master.
14. Re-set Function switch of Master and Remotes to Radio Intercom position. Push Outside Talk-Listen switch of Master to right (Talk Position). Talk to Door Remote speaker.
15. Push Outside Talk-Listen switch of Master to left (Listen Position) to hear reply from Door Remote speaker.

NOTE: When outside Talk-Listen Switch of Master or Remote Speaker is in center position, door speaker is in-operative.

16. Repeat steps 14 and 15 from all Remote Speakers.

MASTER STATION DISASSEMBLY INSTRUCTIONS

Partial Disassembly

1. Turn On-Off Power and Volume control to OFF position.
2. Remove four (4) front panel mounting screws (Fig. 1).
3. Slide master unit forward. Support with hand, and disconnect power and antenna plugs from chassis. Power plug is equipped with special wire handle to assist in removal. To avoid broken leads of power and antenna plug, do not pull on leads of plug assemblies.

NOTE: To operate unit after removal from wall, extension leads will be required from the antenna plug (P1) and pins J, K, and L of Power Plug (P2).

Alternate Method: Connect auxiliary power transformer and plug assembly as described in bench test procedure.

Complete Disassembly

1. Perform Steps 1, 2, and 3 under "Partial Disassembly".
2. Pull and remove front panel control and switch knobs.
3. Remove four (4) screws (Fig. 3) from main chassis side support brackets and remove front panel.
4. To gain access to components of the power supply, audio output, audio amplifier, and IF sub assemblies, remove four (4) screws securing master speaker to main chassis.
5. For access to components of the FM tuner assembly, remove AM tuning dial. Remove two (2) hex head screws under AM tuning dial, and one (1) hex head screw below FM tuning dial. Disconnect any associated wiring necessary for removal and temporarily re-connect for test.

OPERATION AND TESTING FOR BENCH SERVICE

1. To apply power to unit for testing, an auxiliary power transformer assembly will be required. Fabricate the auxiliary power transformer assembly as shown in Fig. 2. This assembly can also be used in conjunction with an auxiliary speaker (45 ohm or less) to test output distribution and intercom functions of the unit.
2. With Function switch of Master set to Radio-Intercom position, connect auxiliary speaker to pins C and G of J2 to check output distribution and intercom calls from Master.
3. Connect auxiliary speaker to pins B and F of J2 to make intercom call to Master. To check muting function (Radio cut-off) short pins E and G of J2. Remove short and observe intercom reception at Master with radio playing.
4. Connect auxiliary speaker to pins A and E of J2. Set Function switch of Master to Stand-by position. Push Master Inside Talk-Listen switch to

Talk position and observe intercom reception at auxiliary speaker. Push Master Inside Talk-Listen switch to left (Listen position) and talk into auxiliary speaker. Check for intercom reception at master. Return Function switch of Master to Radio-Intercom position.

5. Connect auxiliary speaker to pins D and H of J2. Push Master Outside Talk-Listen switch to right (Talk position) and observe intercom reception at auxiliary speaker. Push Master Outside Talk-Listen switch to left (Listen position) and talk into auxiliary speaker. Check for intercom reception at Master.

NOTE: As auxiliary test speaker will usually be in close proximity to Master unit, proper function of intercom tests will be noted by feedback oscillations of speakers.

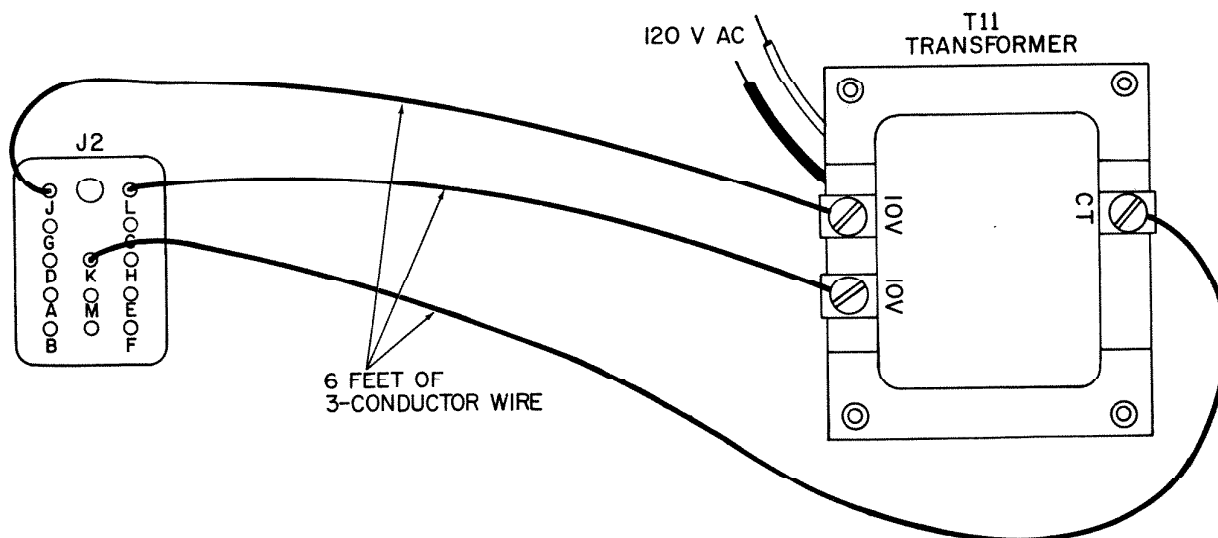


Fig. 2. Auxiliary power transformer assembly.

TROUBLESHOOTING

The following trouble chart is useful in isolating the more common troubles. Remembering that common circuitry is connected to perform several different operations of the Radio-Intercom System, one source of trouble may appear in several functions of operation.

As the Master unit is completely transistorized, extreme caution must be taken during servicing procedures to avoid accidental damage to the transistors. Turn power to Master OFF whenever performing any soldering. Use low wattage soldering equipment

and solder or un-solder components as fast as possible.

A VTVM, with a DC scale of 0 to 1.5 volts, will be required to measure most transistor base and emitter voltages. Components should be removed from the circuit when making resistance measurements to avoid incorrect polarity battery voltage of the ohmmeter being applied to a transistor. It is also important that circuit components are not inadvertently shorted during service functions.

TROUBLE CHART

| TROUBLE | SUGGESTED CHECK POINTS |
|--|--|
| System "dead" | Check that AC power is being applied to power transformer. Check for secondary low voltage on pins J, K, and L of J2. Check fuses M8 and M9. Check switch (M2) on volume control (R55). Check diodes D7, D8, D9, D10 and associated circuitry. Check amplifier stages TR-7, TR-8, TR-9, TR-10, TR-11 and associated circuitry. Check M1 switch or for open T-10 transformer. |
| AM & FM radio and phono "dead"—Intercom operation normal. | Momentarily disconnect J2 signal plug from master to eliminate remote station or wiring errors causing muting diodes D5 and D6 to conduct. Check wiring of M4 and M5 of master for shorts. Check associated wiring of D5 and D6 for possible short to negative DC voltage. |
| No AM radio. Other operations normal. | Check voltage reading of TR-4, TR-5, and TR-6 and associated circuitry of L5, L6, T5, T6, and T7. Check M1 switch. |
| No FM radio. Other operations normal. | Check voltage readings of TR-1, TR-2, TR-3, TR-4, TR-5, TR-6, and associated circuitry of FM tuner assembly, T1, T2, T3, and T4. Check M1 switch. |
| No intercom operation. Other functions normal. | Check for open input transformer T8 and associated circuitry. Check connections of pins B and F of J2. |
| One or more remote stations inoperative in transmissions, receptions, or both. | Check inoperative remote stations for defective wiring connections at remote, master, or preceding remote station. Check remote station selector switch M201 and Talk-Listen switches M202 and M203 for proper contact. Check for open volume control R201 or open speakers. |

ALIGNMENT INSTRUCTIONS— READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Prealignment Instructions

Output of signal generator should be no higher than necessary to obtain an output reading.
Volume control should be at minimum position.
Alignment Tools—Standard hex and slotted type.

AM RF and IF Alignment

Set Selector switch on AM position.

| Dummy Antenna | Sig. Gen. Couplina | Sig. Gen. Frequency | Radio Dial Setting | Connect VTVM | Adjust | Remarks |
|---------------|--|-------------------------|---------------------------|----------------------|-------------|---|
| 1. .01 mfd | High side to point A. Low side to chassis. | 455KC (400 cycle mod.) | Mid scale | DC probe to point B. | A1, A2, A3. | Adjust for maximum deflection. Keep generator output at minimum to obtain output reading. |
| 2. .01 mfd | High side to point A. Low side to chassis. | 1620KC (400 cycle mod.) | Tuning gang fully open. | DC probe to point B. | A4 | Adjust for maximum deflection. |
| 3. .01 mfd | High side to point A. Low side to chassis. | 537KC (400 cycle mod.) | Tuning gang fully closed. | DC probe to point B. | A5 | Adjust for maximum deflection. Repeat Steps 2 and 3. |
| 4. 50 mmf | High side to point C. | 1400KC (400 cycle mod.) | 1400KC | DC probe to point B. | A6 | Adjust for maximum deflection. |
| 5. 50 mmf | High side to point C. | 600KC (400 cycle mod.) | 600KC | DC probe to point B. | A7 | Adjust for maximum deflection. Repeat Steps 4 and 5. |

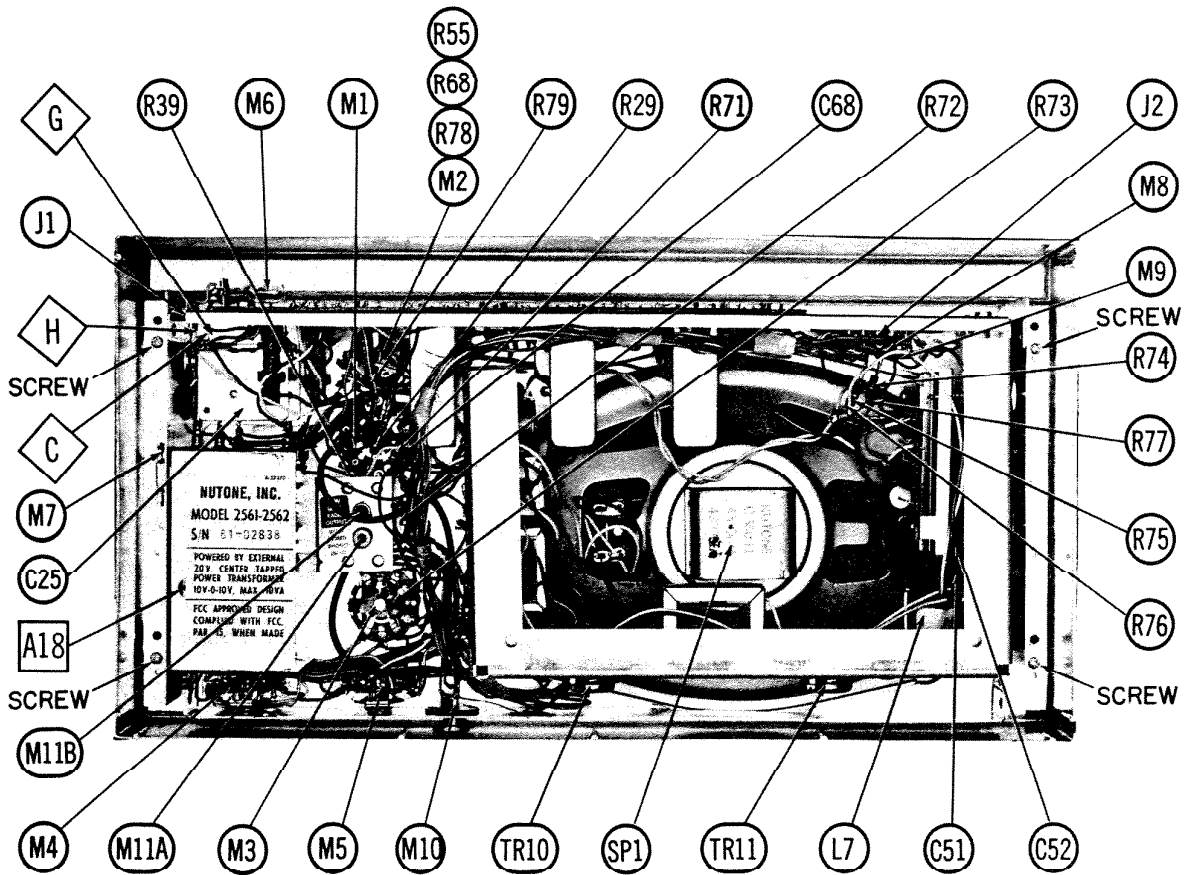


Fig. 3. Rear view of master station.

ALIGNMENT INSTRUCTIONS—(cont'd)

FM RF and IF Alignment

Set Selector switch on FM position.
Use frequency modulated signal with 450 KC sweep.
Use 60 cycle sawtooth voltage in scope for horizontal deflection.

| Dummy Antenna | Sig. Gen. Coupling | Sig. Gen. Frequency | Radio Dial Setting | Oscilloscope | Adjust | Remarks |
|---|--|---------------------|----------------------------|---|--------------------|---|
| 6. .01 mfd | High side to point D. Low side to chassis. | 10.7MC | Point of non-interference. | Vert. amp. to point E. Low side to chassis. | A8, A9 | Adjust for symmetrical "S" curve (Fig. B). |
| 7. .01 mfd | High side to point A. Low side to chassis. | 10.7MC | 10.7MC | Vert. amp. to point F. Low side to chassis. | A10, A11, A12, A13 | Adjust for curve of maximum amplitude and symmetry (Fig. A). |
| 8. 270 ohm resistor | High side to point G. Low side to point H. | 106MC | 106MC | Vert. amp. to point E. Low side to chassis. | A14, A15, A16, A17 | Adjust for symmetrical "S" curve (Fig. B). Reduce sweep width if necessary. |
| Only make following adjustment if unit will not track properly. | | | | | | |
| 9. 270 ohm resistor | High side to point G. Low side to point H. | 108.5MC | 108.5MC | Vert. amp. to point E. Low side to chassis. | A18 | Adjust for symmetrical "S" curve (Fig. B). |
| 10. 270 ohm resistor | High side to point G. Low side to point H. | 87.5MC | 87.5MC | Vert. amp. to point E. Low side to chassis. | L4 | Expand or compress coil for symmetrical "S" curve (Fig. B). Reduce sweep width if necessary. Repeat Steps 9 and 10 until no further improvement is noted. Repeat Steps 7 and 8. |

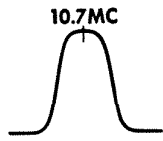


Fig. A.



Fig. B.

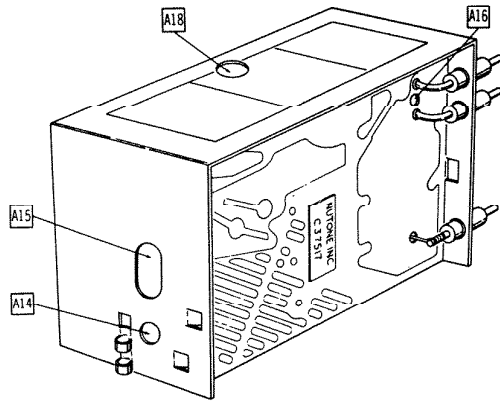


Fig. 4. Alignment points on FM tuner assembly.

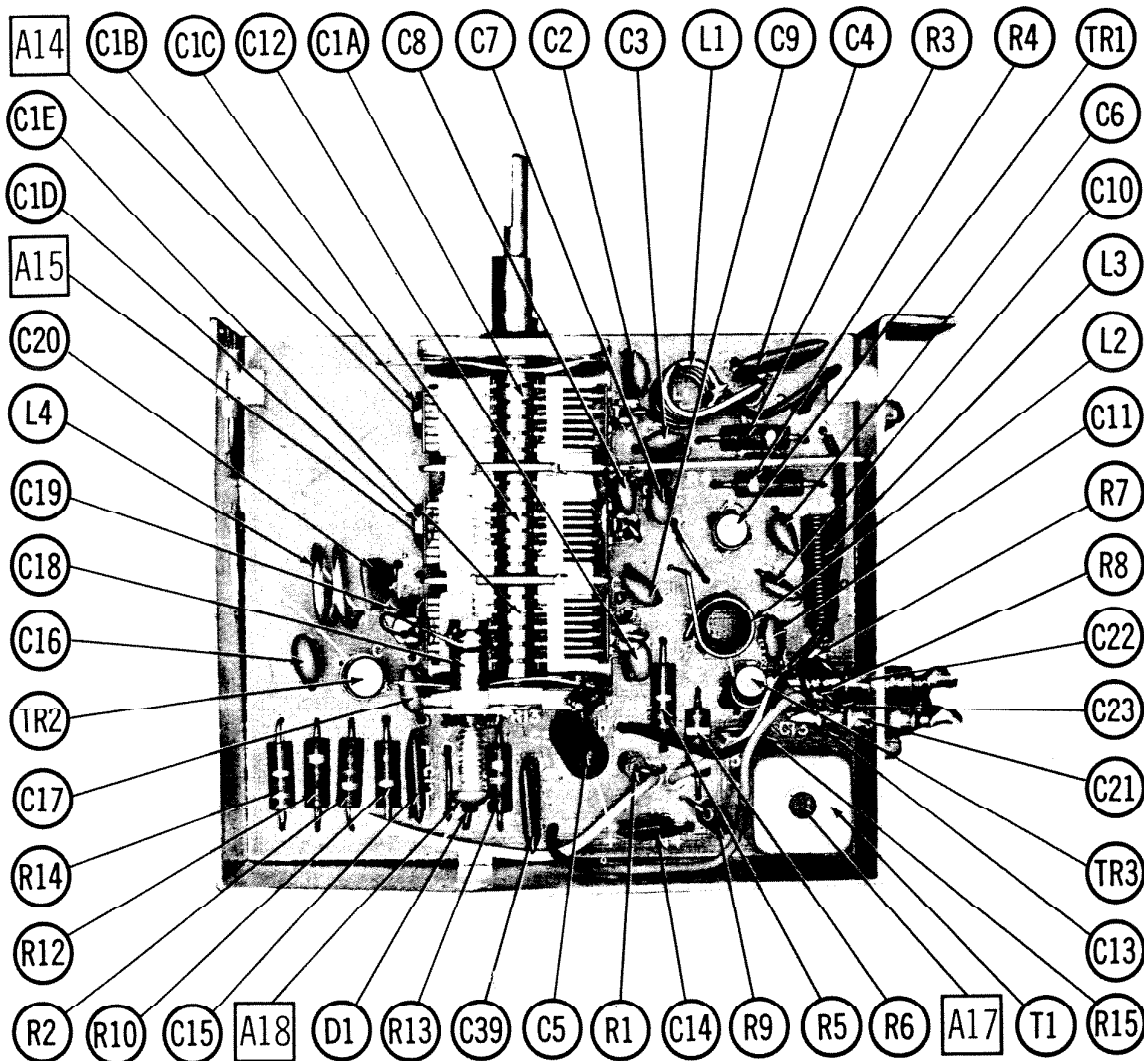


Fig. 5. Top view of FM tuner printed board.

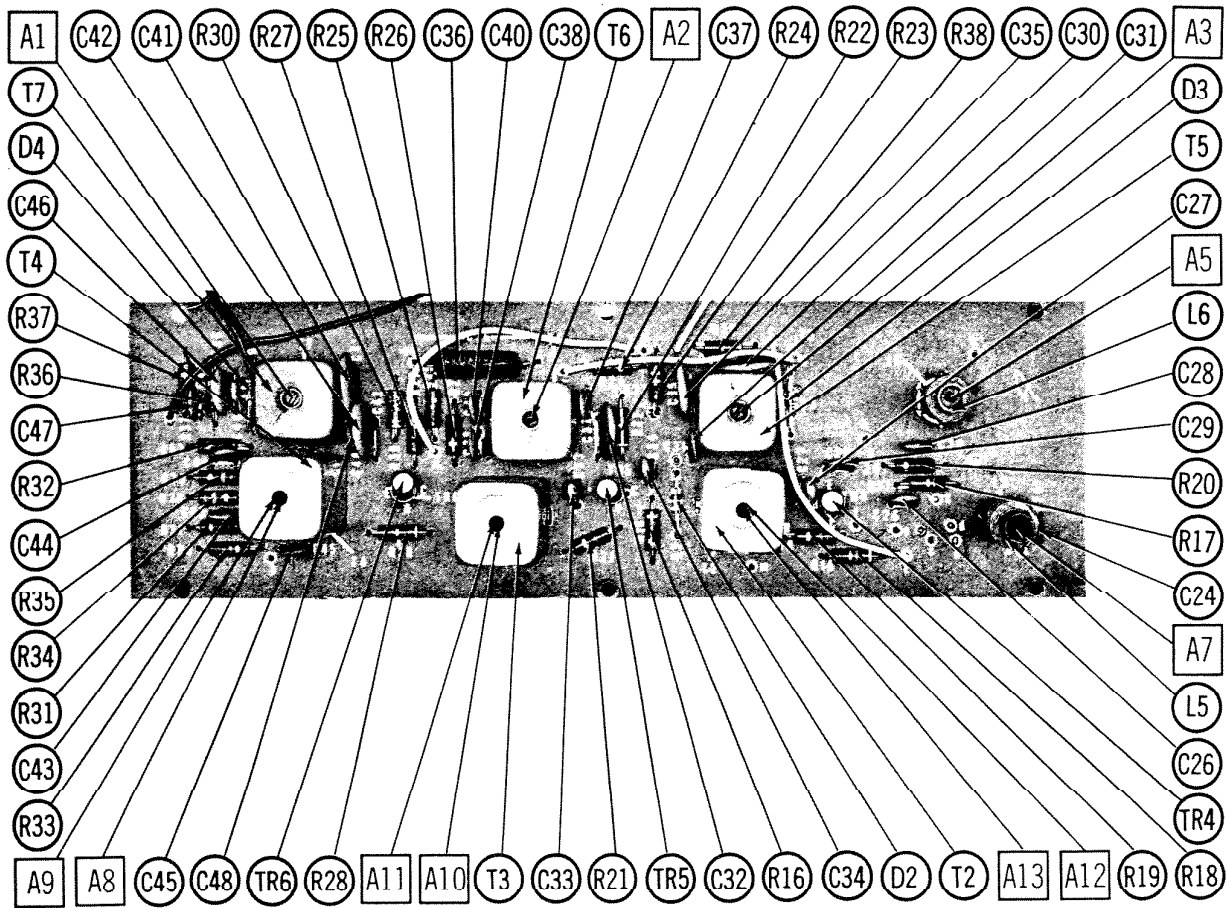


Fig. 6. Top view of IF printed board.

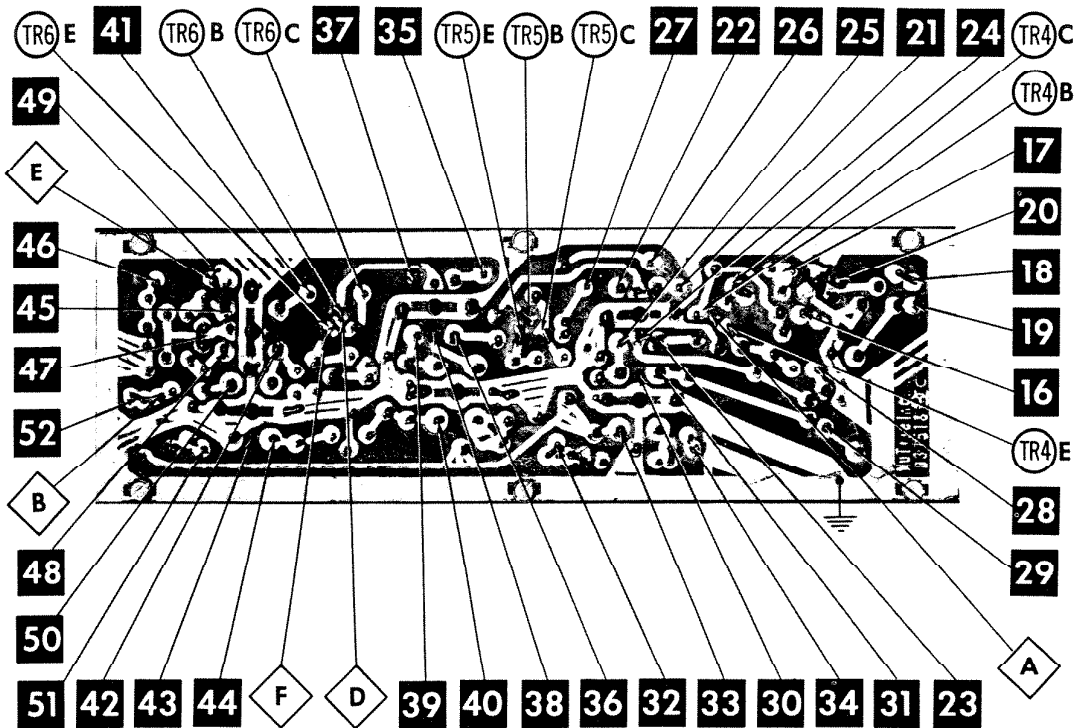


Fig. 7. Bottom view of IF printed board.

INSTALLATION INSTRUCTIONS

REMOTE SPEAKER STATIONS

General

The following four models of remote speakers can be used in conjunction with the Model 2561-62 AM-FM Radio and Intercom system, provided the necessary and proper rough-in frames have been previously installed.

1. Model 2570—5 inch speaker (Fig. 8).
2. Model 2571—3½ inch speaker (Fig. 10).
3. Model 2572—8 inch speaker (Fig. 12).
4. Model 2573—8 inch speaker (Fig. 14).

The Model 2570 is an inside remote assembly complete with controls.

The Model 2571 is an outside door speaker assembly supplied with protecting grille and bezel but no controls.

The Model 2572 is a Hi-Fi inside speaker assembly fitted with "break-away" controls that can be removed from the speaker assembly and installed in a separate wall box to operate as a remote control.

The Model 2573 is a patio speaker supplied with a remote control to be installed in a separate wall box at a convenient location.

Installing Model 2570 Remote Speaker Station (Figs. 8 and 9).

1. Connect 8-conductor cable in wall frame to terminal board as color indicates (Red to Red and Red/White to Red/White, etc).
When speakers are jumpered together, connect the 8-conductor in parallel on the terminal board.
2. Mount the speaker assembly to the wall frame with the two screws provided.

Installing Model 2571 Door Speaker (Figs. 10 and 11).

1. Connect two wires in wall frame to the two screws on the speaker terminal strip.

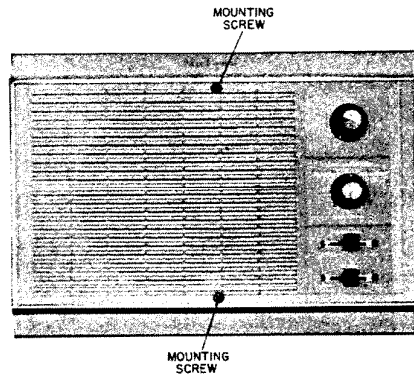


Fig. 8. Model 2570 inside remote speaker station.

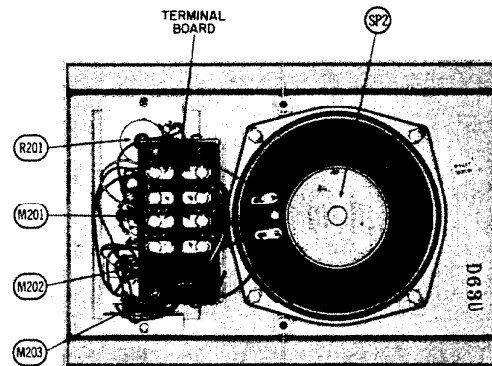


Fig. 9. Rear view of Model 2570 inside remote speaker station.

2. Mount speaker assembly to the wall frame with the two screws provided. Mount bezel over speaker and secure with the screws at top and bottom edges.

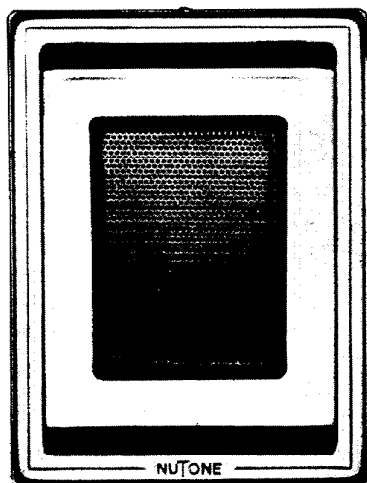


Fig. 10. Model 2571 outside door remote speaker station.

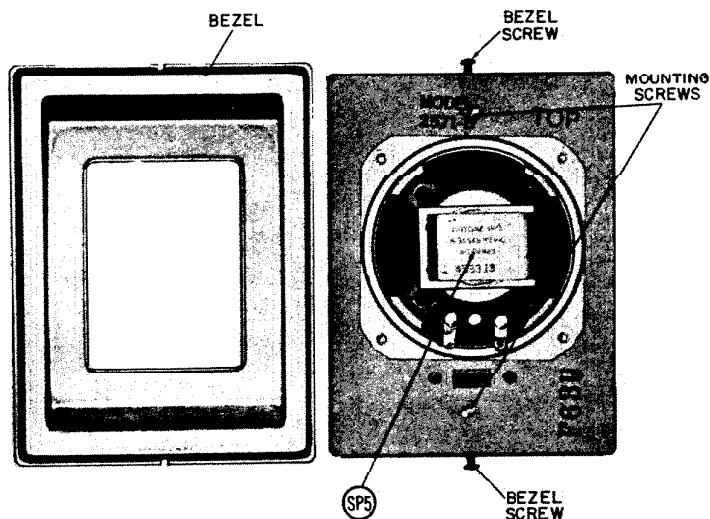


Fig. 11. Rear view of Model 2571 outside door remote speaker station.

Installing Model 2572 Hi-Fi Speaker (Figs. 12 and 13).

Controls Installed On Speaker Panel.

1. Connect the 8-conductor cable in the wall frame to the terminal board on the control as color indicates (Red to Red and Red/White to Red/White, etc).
When speakers are jumpered together, connect 8-conductor cables in parallel on terminal board.
2. Mount the speaker assembly to the wall frame with the four screws provided.

Installed with Control in Remote Location.

1. Remove and discard the two wires connecting the speaker terminals to the terminal board.
2. Remove screw from top of control panel and remove remote control.

3. Remove blank panel from remote control bezel and install blank panel in open space in speaker panel. Secure with screw.
4. Connect 2 wire cable, from remote location of control, to the two terminals on the speaker.
5. Mount the speaker assembly to the wall frame with the four screws provided.
6. Install the remote control in the control bezel and secure with screw.
7. Connect the 2 wire cable from the speaker to the terminals marked speaker on the terminal board.
8. Connect 8-conductor cable to terminal board as color indicates. When speakers are jumpered, connect 8-conductor cables in parallel on the terminal board.
9. Mount the control assembly on the wall box with the four screws provided.

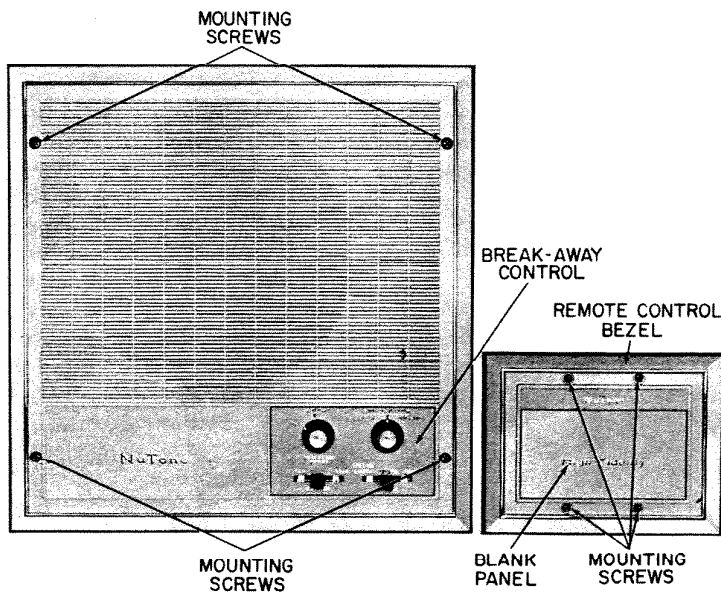
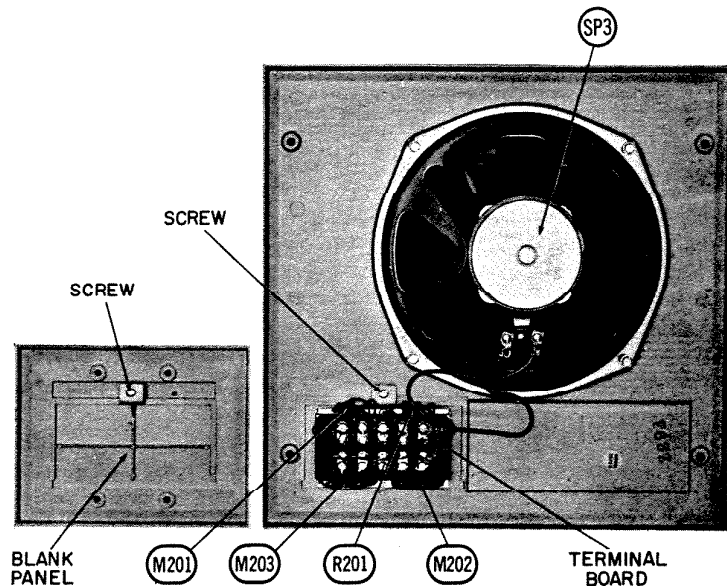


Fig. 12. Model 2572 HiFi inside speaker station with "break-away control."

Fig. 13. Rear view of Model 2572 HiFi inside speaker station with "break-away" control.



Installing Model 2573 Patio Speaker (Figs. 14, 15 and 16).

1. Connect the 2 wire cable (previously installed from the remote control wall box to the speaker wall frame) to the speaker terminals.
2. Mount the speaker assembly to the wall frame with the four screws provided.
3. Connect the 2 wire cable from the speaker to the terminals marked "speaker" on the control terminal board.
4. Connect the 8-conductor cable in the wall box to the control terminal board as color indicates.
5. Mount control on wall box with the four screws provided.

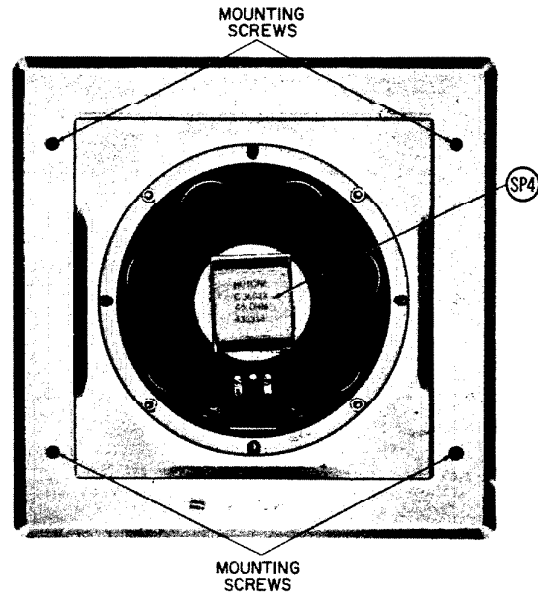


Fig. 14. Rear view of Model 2573 patio remote speaker station.

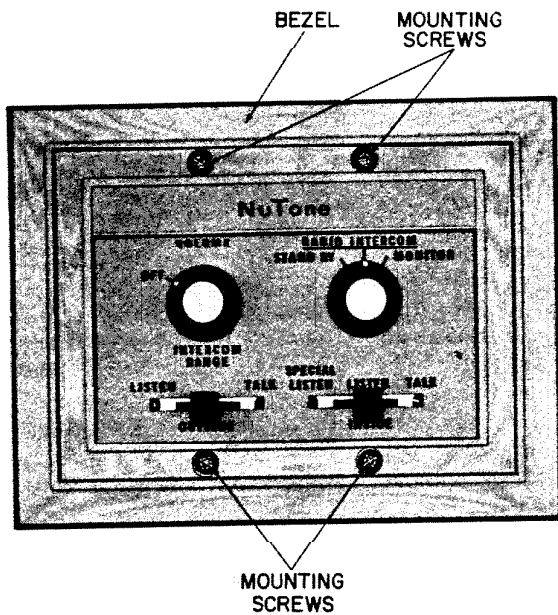


Fig. 15. Remote control used with Model 2573 patio remote speaker station.

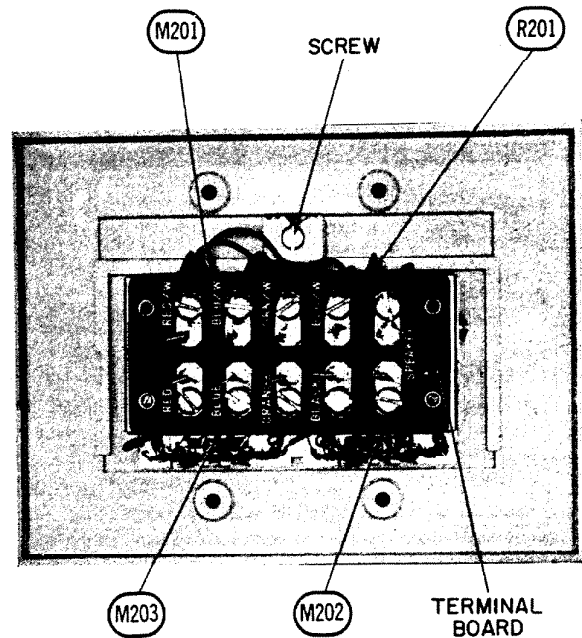


Fig. 16. Rear view of remote control used with Model 2573 patio remote speaker station.

MASTER STATION

Wiring

Plug-in Terminal Block

The three mounting screws are started in three holes provided in the top of the master wall frame (Fig. 17). The terminal block is slipped in place over the three screws, with the wiring labels up. The screws are tightened to secure the block. All wiring (power transformer, remote stations, chimes and antennas) is connected to the plug-in terminal block.

Power

Connect ground wire to terminal screw labeled GND. Connect 3-conductor wire from 10V, CT and 10V terminals of power transformer to the corresponding terminals on the terminal block.

CAUTION: The CT terminal of the power transformer must be connected to the CT terminal of the terminal block or serious delayed damage will result.

Remote Stations

Connect 8-conductor cable to terminal block as color indicates (Red to Red and Red/White to Red/White, etc).

Door Speaker

Connect the 2-conductor cable from the remote door speaker to the black and black/white terminals (in parallel with the black and black/white wires of the 8-conductor cable) of the Master or any remote station terminal strip.

Electronic Chime

The 2-conductor cable from a NuTone Electronic Chime is connected to the two terminals labeled Chime on the Master terminal block.

Antennas

The AM antenna (blue wire) is connected to the AM ANT terminal on the terminal block.

The two conductor ribbon lead of the FM antenna is connected to the FM ANT 1 and 2 terminals of the terminal block.

After all connections are made to the terminal block, the three mounting screws are loosened and the terminal block is slid out. Rotate the terminal block so the terminals are to the rear and then slide the terminal block under the screws and secure in place.

Master Mounting Brackets

Two mounting brackets are installed on the wall frame, with the four screws supplied (Fig. 17). The brackets are interchangeable. Be sure the wall frame and brackets are flush with the finished wall surface.

Remove the plastic bag from the terminal block plugs.

Mounting Master Unit

Position the Master unit in front of the wall frame and plug in the signal/power and antenna plugs. Slide the Master unit over the mounting brackets and into the wall frame. Secure unit with the four mounting screws provided (Fig. 1).

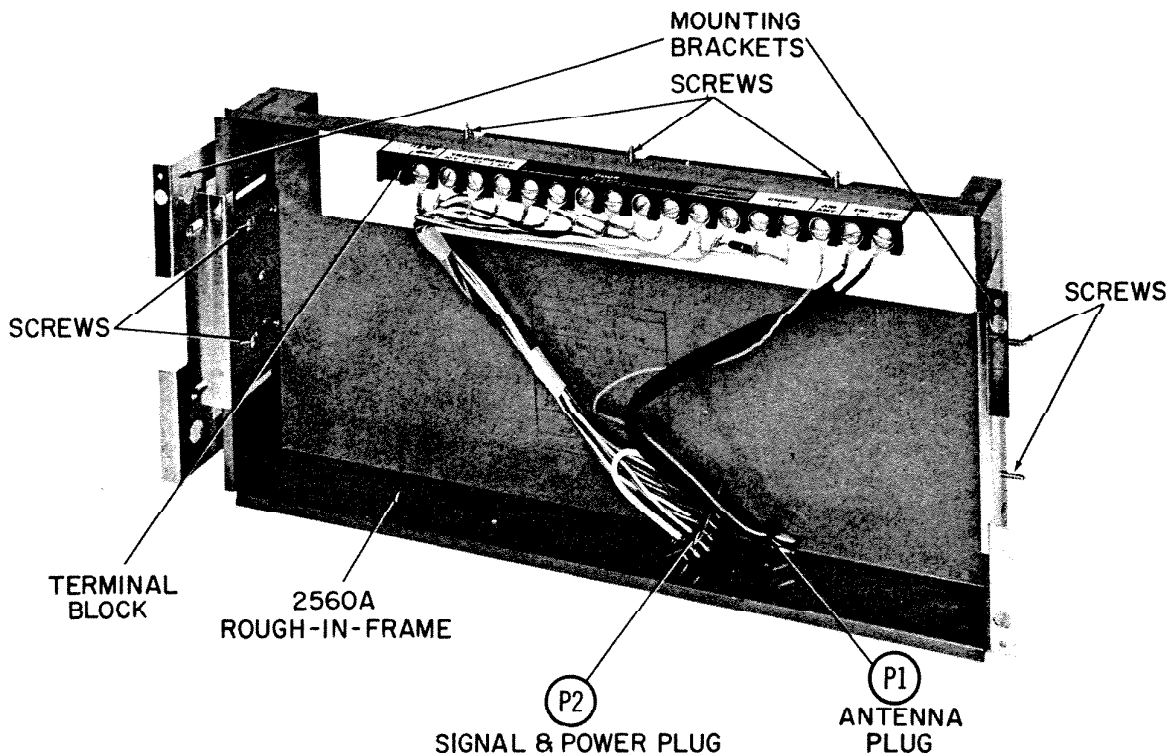


Fig. 17. Master station "rough-in" wall frame.

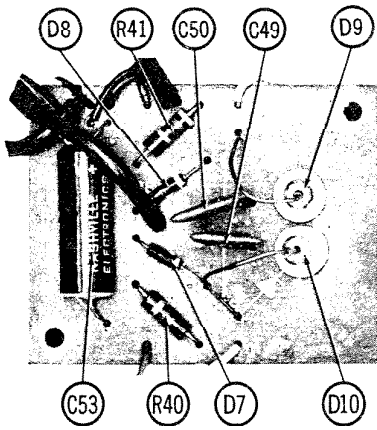


Fig. 18. Top view of power supply printed board.

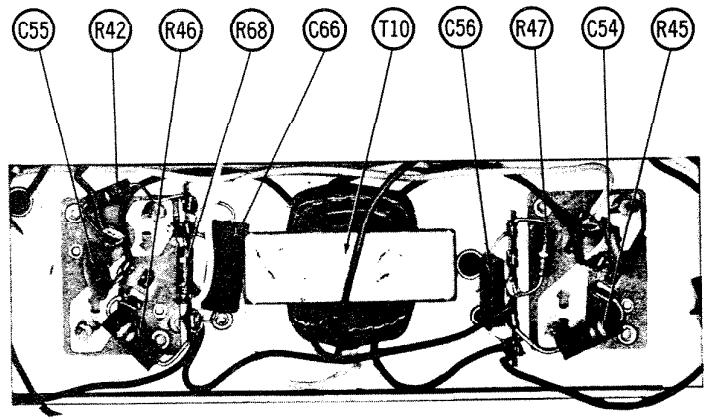


Fig. 19. Top view of output chassis.

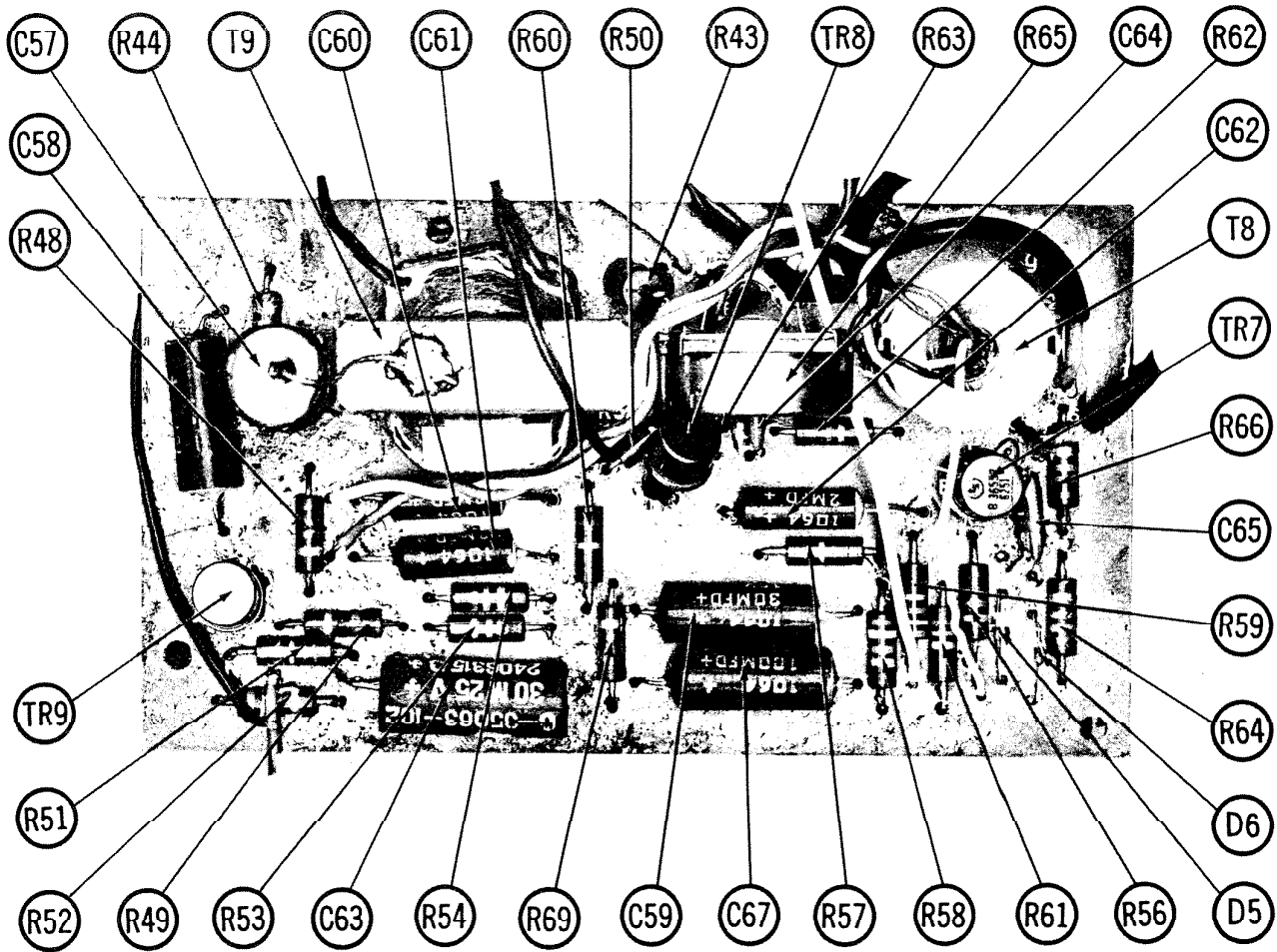


Fig. 20. Top view of intercom printed board.

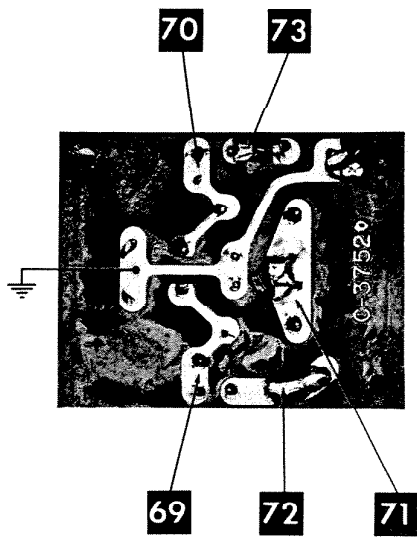


Fig. 21. Bottom view of power supply printed board.

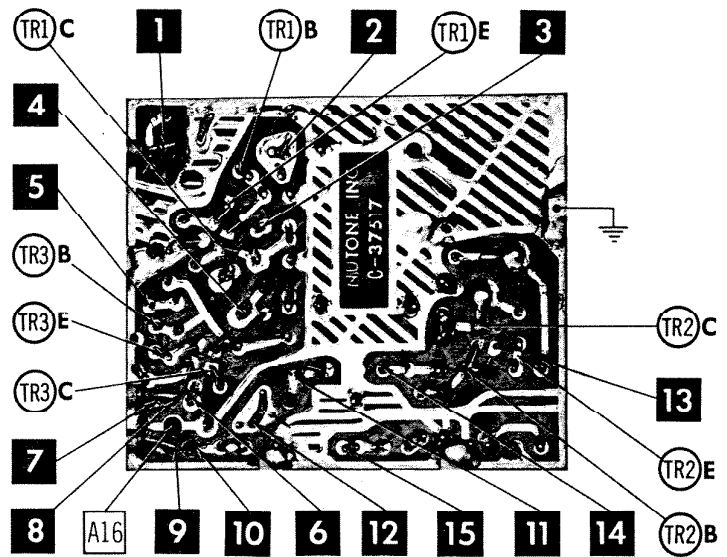


Fig. 22. Bottom view of FM tuner printed board.

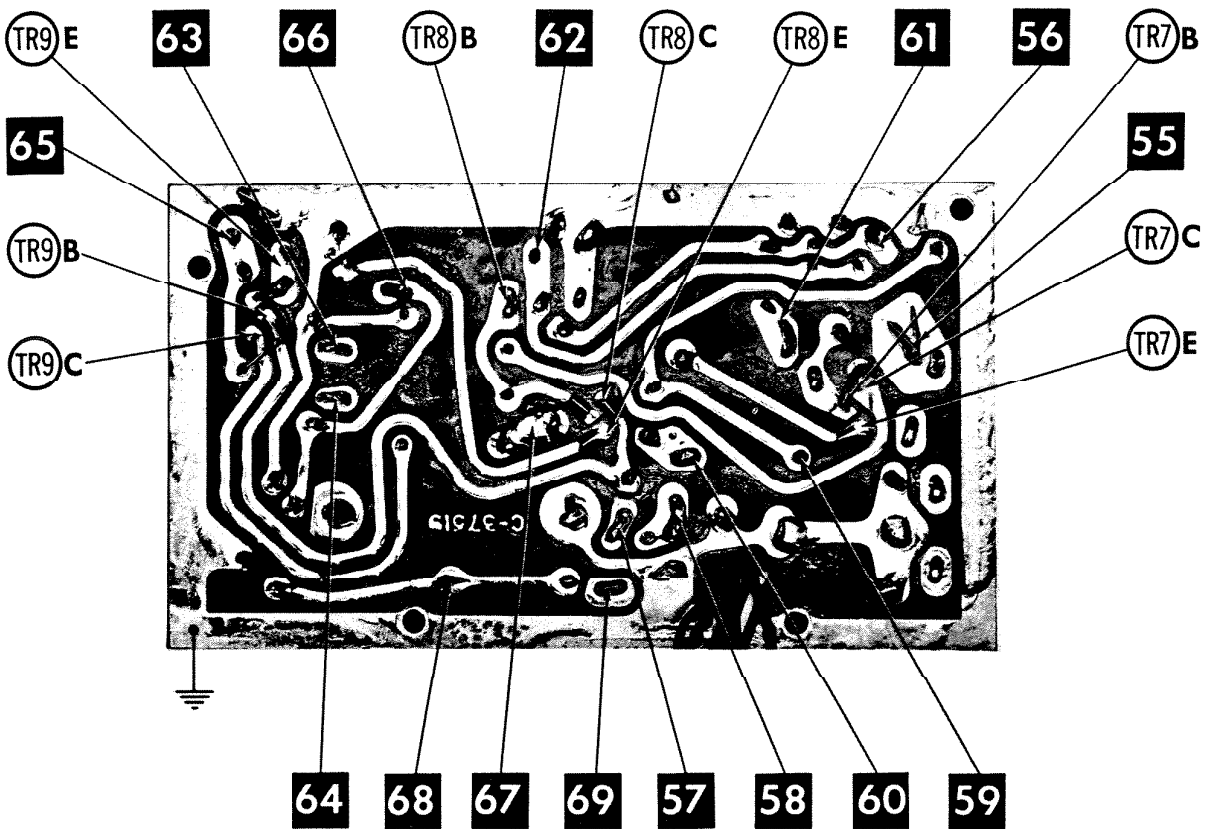


Fig. 23. Bottom view of intercom printed board.

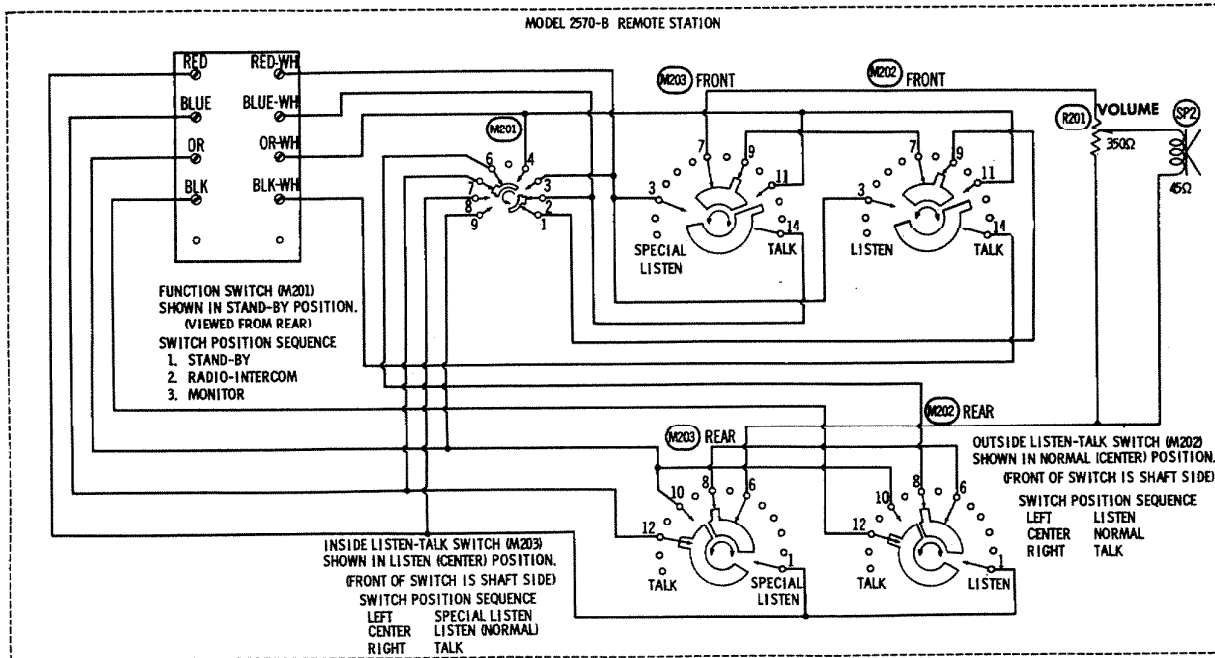


Fig. 24. Model 2570 remote speaker station schematic.

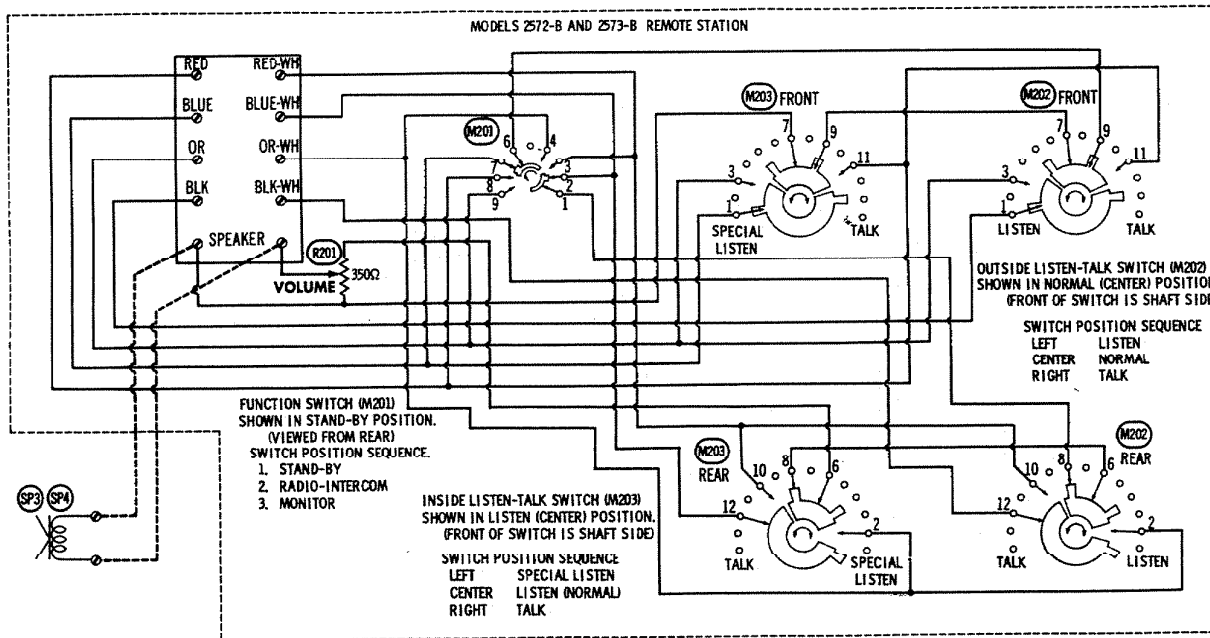
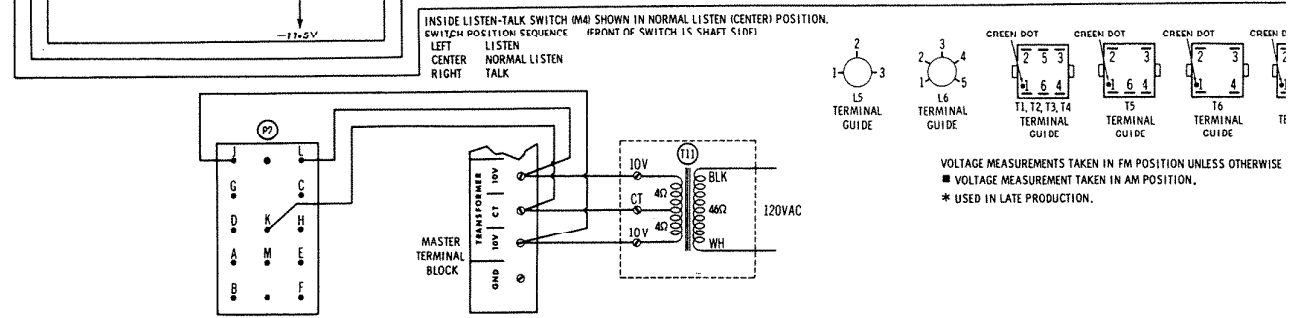
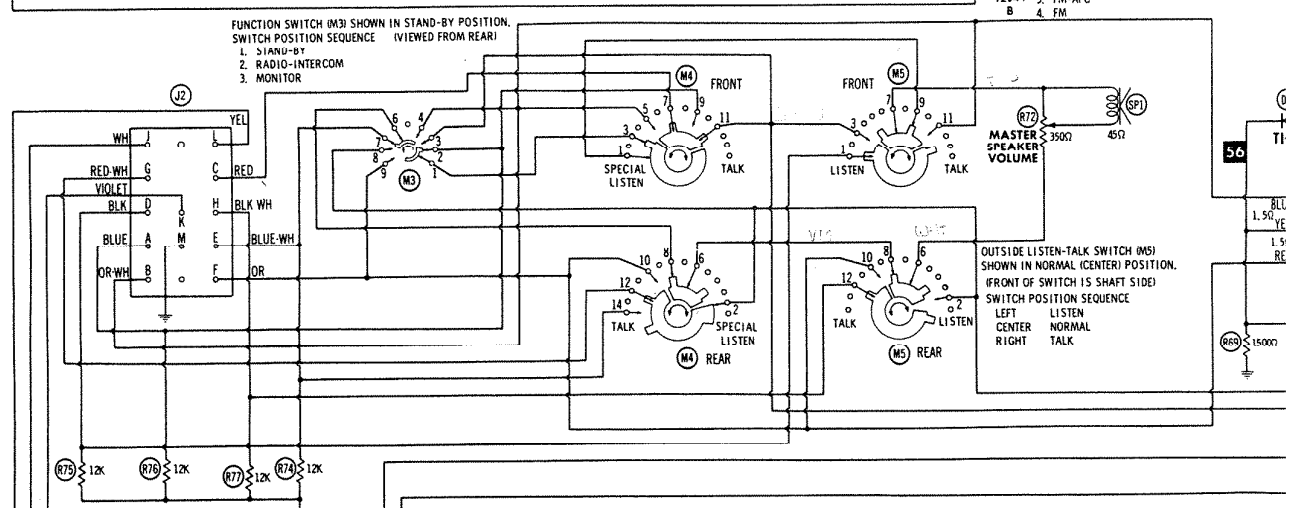
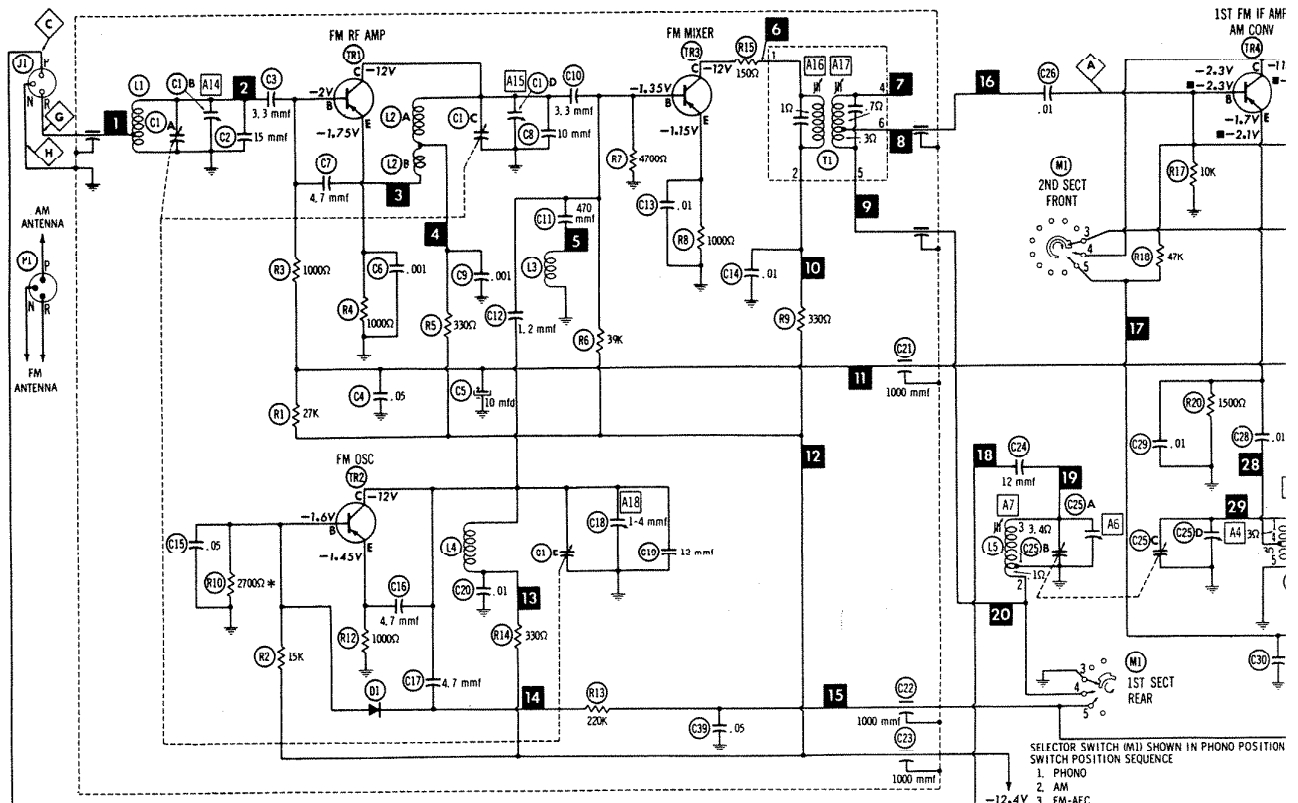


Fig. 25. Models 2572 and 2573 remote speaker stations schematic.

PARTS LIST

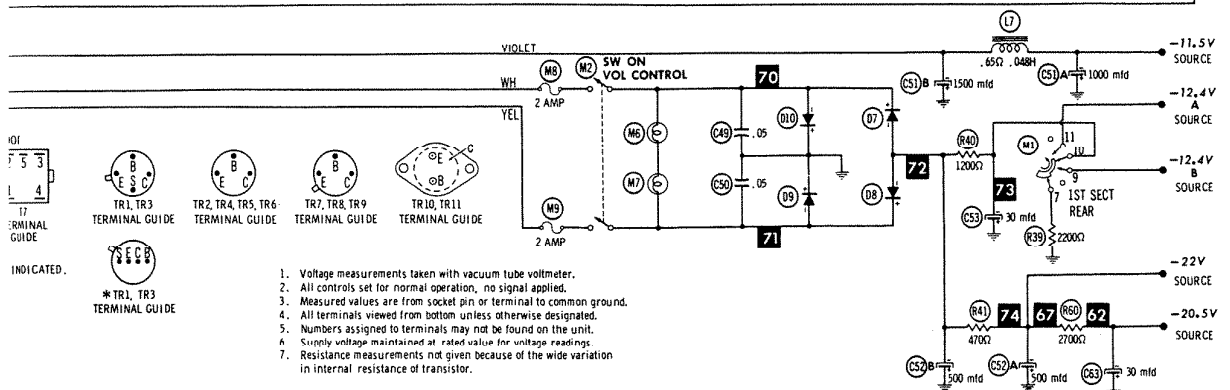
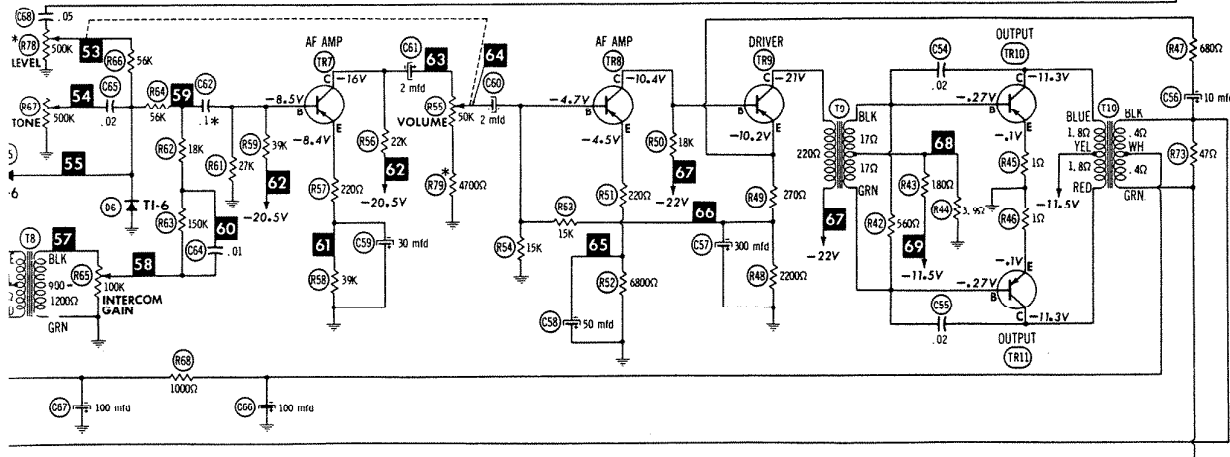
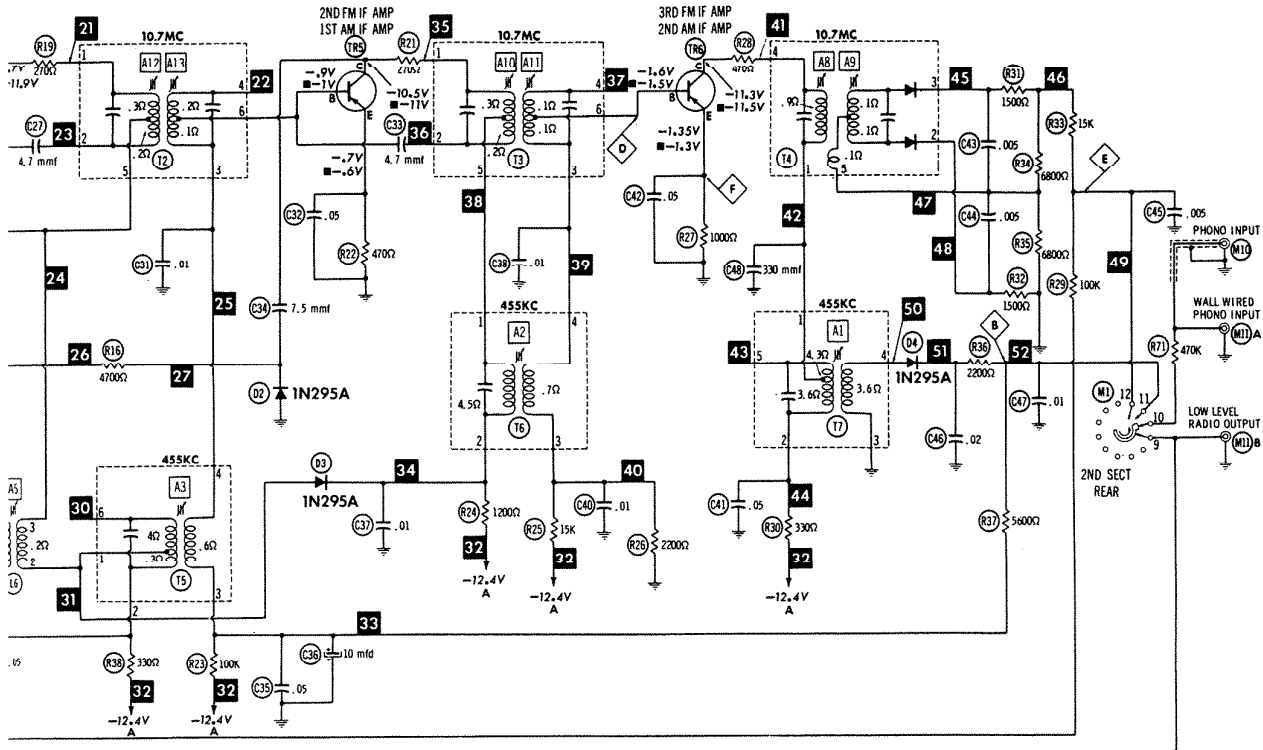
| Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
|-------------|----------|--|----------------------|----------|-------------------------------------|
| TRANSISTORS | | | TRANSISTORS—(cont'd) | | |
| TR1 | 36550 | TI390, FM RF Amp TI400, FM RF Amp (Late production) | TR4 | 36559 | TI388, 1st FM IF Amp, AM Converter |
| TR2 | 36552 | TI387, FM Oscillator | TR5 | 36559 | TI388, 2nd FM IF Amp, 1st AM IF Amp |
| TR3 | 36551 | TI391, FM Mixer TI401, FM Mixer (Late production) | TR6 | 36560 | TI389, 3rd FM IF Amp, 2nd AM IF Amp |

Continued on page 17.



VOLTAGE MEASUREMENTS TAKEN IN FM POSITION UNLESS OTHERWISE INDICATED
 ■ VOLTAGE MEASUREMENT TAKEN IN AM POSITION.
 * USED IN LATE PRODUCTION.

Fig. 26. Master station

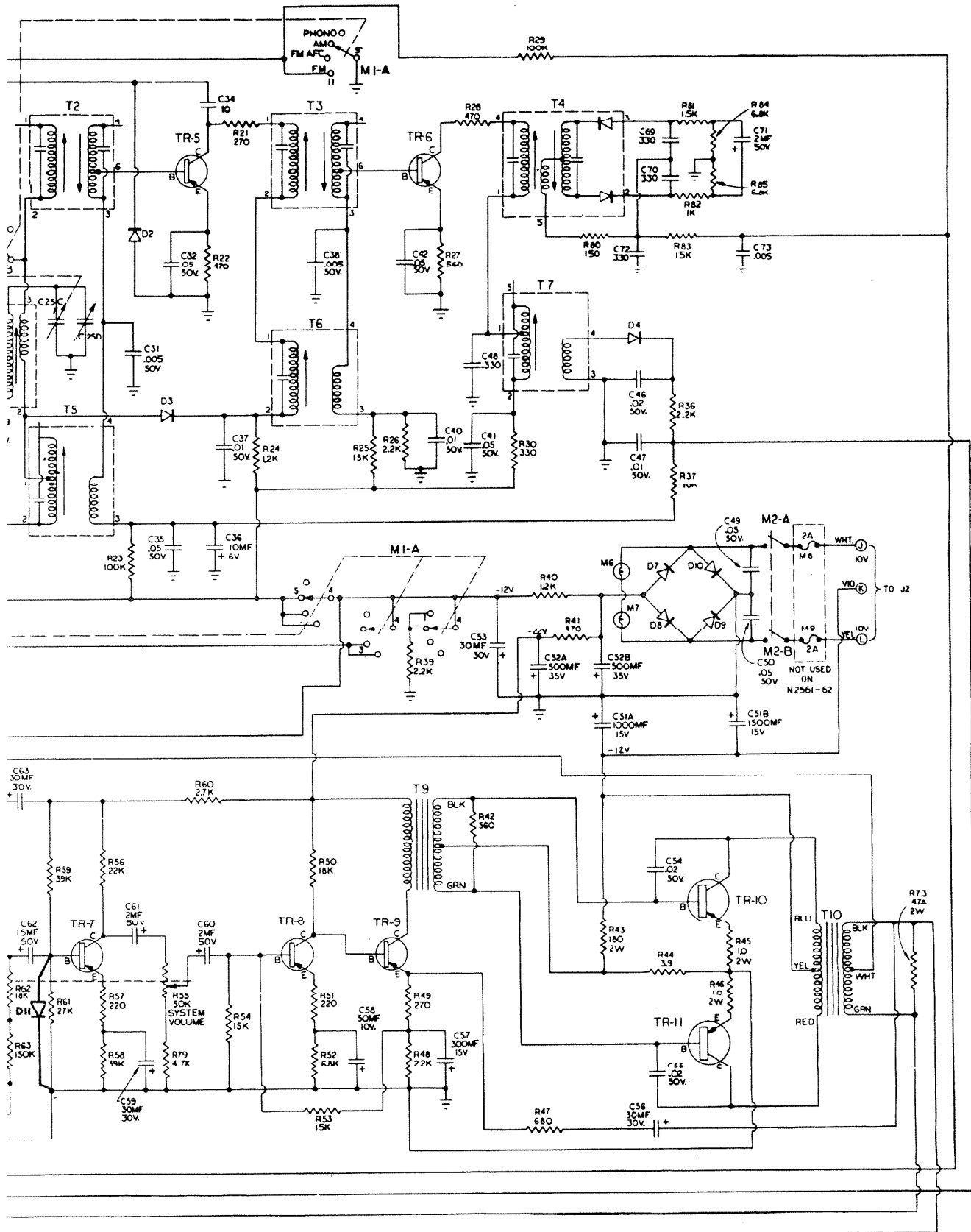


1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

| Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
|----------------------|----------|--------------------------------|---------------------|----------|---|
| TRANSISTORS—(cont'd) | | | CAPACITORS—(cont'd) | | |
| TR7 | 36558 | 2N408, 2N382, AF Amp | C47 | | .01 mfd @ 50V, Ceramic |
| TR8 | 36558 | 2N408, 2N382, AF Amp | C48 | | 330 mmf 10%, Ceramic Disc |
| TR9 | 36557 | 2N591, 2N382, Driver | C49 | | .05 mfd @ 50V, Ceramic |
| TR10 | 36556 | 2N301, 2N242, Output | C50 | | .05 mfd @ 50V, Ceramic |
| TR11 | 36556 | 2N301, 2N242, Output | C51A | 35119 | 1000 mfd @ 15V, Electrolytic |
| | | DIODES | B | | 1500 mfd @ 15V, Electrolytic |
| D1 | 35060 | AFC | C52A | 35120 | 500 mfd @ 35V, Electrolytic |
| D2 | 36508 | 1N295A, FM AGC | B | | 500 mfd @ 35V, Electrolytic |
| D3 | 36508 | 1N295A, AM Overload | C53 | | 30 mfd @ 30V, Electrolytic |
| D4 | 36508 | 1N295A, AM Detector | C54 | | .02 mfd @ 50V, Ceramic Disc |
| D5 | 36553 | TI-6, Muting | C55 | | .02 mfd @ 50V, Ceramic Disc |
| D6 | 36553 | TI-6, Muting | C56 | | 10 mfd @ 15V, Electrolytic |
| D7 | 36554 | TI-55, Silicon Rectifier | C57 | | 300 mfd @ 15V, Electrolytic |
| D8 | 36554 | TI-55, Silicon Rectifier | C58 | | 50 mfd @ 10V, Electrolytic |
| D9 | 36555 | 1N536, Silicon Rectifier | C59 | | 30 mfd @ 15V, Electrolytic |
| D10 | 36555 | 1N536, Silicon Rectifier | C60 | | 2 mfd @ 20V, Electrolytic |
| | | CAPACITORS | C61 | | 2 mfd @ 20V, Electrolytic |
| C1 | 35064 | FM Tuning | C62 | | .1 mfd @ 50V, Ceramic Disc (Late production) |
| C2 | | 15 mmf N330 10%, Ceramic Disc | | | .15 mfd @ 50V, Tubular (Late production) |
| C3 | | 3.3 mmf 10%, Ceramic Disc | | | 2 mfd @ 20V, Electrolytic (Early production) |
| C4 | | .05 mfd @ 50V, Ceramic | | | |
| C5 | | 10 mfd @ 6V, Electrolytic | C63 | | 30 mfd @ 25V, Electrolytic |
| C6 | | .001 mfd, Ceramic Disc | C64 | | .01 mfd @ 50V, Ceramic Disc |
| C7 | | 4.7 mmf NPO 10%, Ceramic Disc | C65 | | .02 mfd @ 50V, Ceramic Disc |
| C8 | | 10 mmf 10%, Ceramic Disc | C66 | | 100 mfd @ 3V, Electrolytic |
| C9 | | .001 mfd, Ceramic Disc | C67 | | 100 mfd @ 3V, Electrolytic |
| C10 | | 3.3 mmf 10%, Ceramic Disc | C68 | | .05 mfd @ 100V, Ceramic Disc |
| C11 | | 470 mmf 10%, Ceramic Disc | | | CONTROLS & RESISTORS |
| C12 | | 1.2 mmf ±.25 mmf, Ceramic Disc | R1 | | 27K, 10%, ½ Watt, Carbon |
| C13 | | .01 mfd @ 50V, Ceramic | R2 | | 15K, 10%, ½ Watt, Carbon |
| C14 | | .01 mfd @ 50V, Ceramic | R3 | | 1000Ω, 10%, ½ Watt, Carbon |
| C15 | | .05 mfd @ 50V, Ceramic | R4 | | 1000Ω, 10%, ½ Watt, Carbon |
| C16 | | 4.7 mmf NPO 10%, Ceramic Disc | R5 | | 330Ω, 10%, ½ Watt, Carbon |
| C17 | | 4.7 mmf NPO 10%, Ceramic Disc | R6 | | 39K, 10%, ½ Watt, Carbon |
| C18 | 35062 | 1-4 mmf, Trimmer | R7 | | 4700Ω, 10% ½ Watt, Carbon |
| C19 | | 12 mmf 10%, Ceramic Disc | R8 | | 1000Ω, 10%, ½ Watt, Carbon |
| C20 | | .01 mfd @ 50V, Ceramic | R9 | | 330Ω, 10%, ½ Watt, Carbon |
| C21 | 35061 | 1000mmf, Feed-thru | R10 | | 2700Ω, 10%, ½ Watt Carbon (Late production) |
| C22 | 35061 | 1000mmf, Feed-thru | | | 2200Ω, 10%, ½ Watt, Carbon (Early production) |
| C23 | 35061 | 1000mmf, Feed-thru | | | Not Used |
| C24 | | 12 mmf N330 10%, Ceramic Disc | R11 | | 1000Ω, 10%, ½ Watt, Carbon |
| C25 | 35065 | AM Tuning | R12 | | 220K, 10%, ½ Watt, Carbon |
| C26 | | .01 mfd @ 50V, Ceramic | R13 | | 330Ω, 10%, ½ Watt, Carbon |
| C27 | | 4.7 mmf NPO 10%, Ceramic Disc | R14 | | 150Ω, 10%, ½ Watt, Carbon |
| C28 | | .01 mfd @ 50V, Ceramic | R15 | | 4700Ω, 10%, ½ Watt, Carbon |
| C29 | | .01 mfd @ 50V, Ceramic | R16 | | 10K, 10%, ½ Watt, Carbon |
| C30 | | .05 mfd @ 50V, Ceramic | R17 | | 47K, 10%, ½ Watt, Carbon |
| C31 | | .01 mfd @ 50V, Ceramic | R18 | | 270Ω, 10%, ½ Watt, Carbon |
| C32 | | .05 mfd @ 50V, Ceramic | R19 | | 1500Ω, 10%, ½ Watt, Carbon |
| C33 | | 4.7 mmf NPO 10%, Ceramic Disc | R20 | | 270Ω, 10%, ½ Watt, Carbon |
| C34 | | 7.5 mmf NPO 10%, Ceramic Disc | R21 | | 470Ω, 10%, ½ Watt, Carbon |
| C35 | | .05 mfd @ 50V, Ceramic | R22 | | 100K, 10%, ½ Watt, Carbon |
| C36 | | 10 mfd @ 6V, Electrolytic | R23 | | 1200Ω, 10%, ½ Watt, Carbon |
| C37 | | .01 mfd @ 50V, Ceramic | R24 | | 15K, 10%, ½ Watt, Carbon |
| C38 | | .01 mfd @ 50V, Ceramic | R25 | | 2200Ω, 10%, ½ aWtt, Carbon |
| C39 | | .05 mfd @ 50V, Ceramic | R26 | | 1000Ω, 10% ½ Watt, Carbon |
| C40 | | .01 mfd @ 50V, Ceramic | R27 | | 470Ω, 10%, ½ Watt, Carbon |
| C41 | | .05 mfd @ 50V, Ceramic | R28 | | 100K, 10%, ½ Watt, Carbon |
| C42 | | .05 mfd @ 50V, Ceramic | R29 | | 330Ω, 10%, ½ Watt, Carbon |
| C43 | | .005 mfd @ 50V, Ceramic Disc | R30 | | 1500Ω 10%, ½ Watt, Carbon |
| C44 | | .005 mfd @ 50V, Ceramic Disc | R31 | | |
| C45 | | .005 mfd @ 50V, Ceramic Disc | | | |
| C46 | | .02 mfd @ 50V, Ceramic Disc | | | |

| Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
|---------------------------------|----------|---|--------------|----------|--|
| CONTROLS AND RESISTORS—(cont'd) | | | TRANSFORMERS | | |
| R32 | | 1500Ω, 10%, ½ Watt, Carbon | T1 | 30535 | 1st FM IF |
| R33 | | 15K, 10%, ½ Watt, Carbon | T2 | 30539 | 2nd FM IF |
| R34 | | 6800Ω, 10%, ½ Watt, Carbon | T3 | 30539 | 3rd FM IF |
| R35 | | 6800Ω, 10%, ½ Watt, Carbon | T4 | 30538 | FM Discriminator |
| R36 | | 2200Ω, 10%, ½ Watt, Carbon | T5 | 30542 | 1st AM IF |
| R37 | | 5600Ω, 10%, ½ Watt, Carbon | T6 | 30540 | 2nd AM IF |
| R38 | | 330Ω, 10%, ½ Watt, Carbon | T7 | 30541 | 3rd AM IF |
| R39 | | 2200Ω, 10%, ½ Watt, Carbon | T8 | 30536 | Intercom Input |
| R40 | | 1200Ω, 10%, ½ Watt, Carbon | T9 | 30537 | Audio Driver |
| R41 | | 470Ω, 10%, ½ Watt, Carbon | T10 | 30543 | Audio Output |
| R42 | | 560Ω, 10%, ½ Watt, Carbon | T11 | ** | Power |
| R43 | | 180Ω, 10%, 2 Watt, Wirewound | | 40228 | |
| R44 | | 3.9Ω, 10%, ½ Watt, Carbon | L1 | 30050 | COILS |
| R45 | | 1Ω, 10%, 2 Watt, Wirewound | L2A | 30053 | FM Antenna |
| R46 | | 1Ω, 10%, 2 Watt, Wirewound | L2B | 30052 | FM Mixer |
| R47 | | 680Ω, 10%, ½ Watt, Carbon | L3 | 30058 | FM Neutralizer |
| R48 | | 2200Ω, 10%, ½ Watt, Carbon | L4 | 30051 | RF Choke |
| R49 | | 270Ω, 10%, ½ Watt, Carbon | L5 | 30057 | FM Oscillator |
| R50 | | 18K, 10%, ½ Watt, Carbon | L6 | 30056 | AM Antenna |
| R51 | | 220Ω, 10%, ½ Watt, Carbon | L7 | 30055 | AM Oscillator |
| R52 | | 6800Ω, 10%, ½ Watt, Carbon | | | Choke |
| R53 | | 15K, 10%, ½ Watt, Carbon | | | SPEAKERS |
| R54 | | 15K, 10%, ½ Watt, Carbon | SP1 | 36041 | 6" × 9", 45Ω, Master Station |
| R55 | 34025 | 50K Volume Control with R67 500K Tone Control, R78 Level Control and M2 On-Off Power Switch (Late Production) | SP2 | ** | 5", 45Ω, Model 2570 |
| | 34526 | 50K Volume Control with R67 500K Tone Control and M2 On-Off Power Switch (Early production) | SP3 | ** | 8", 45Ω, Model 2572 |
| | | | SP4 | ** | 8", 45Ω, Model 2573 |
| | | | SP5 | ** | 3½", 45Ω, Model 2571 |
| | | | M1 | 34532 | MISCELLANEOUS |
| R56 | | 22K, 10%, ½ Watt, Carbon | M2 | | Selector Switch, 4 pos. Rotary |
| R57 | | 220Ω, 10%, ½ Watt, Carbon | | | Part of R55, R67, R78 & M2 (Late production) |
| R58 | | 39K, 10%, ½ Watt, Carbon | | | Part of R55, R67 & M2 (Early production) |
| R59 | | 39K, 10%, ½ Watt, Carbon | M3 | 34531 | Function Switch, 3 pos. Rotary |
| R60 | | 2700Ω, 10%, ½ Watt, Carbon | M4 | 34534 | Inside Talk-Listen Switch |
| R61 | | 27K, 10%, ½ Watt, Carbon | M5 | 34533 | Outside Talk-Listen Switch |
| R62 | | 18K, 10%, ½ Watt, Carbon | M6 | 31450 | Dial Lamp, #161 |
| R63 | | 150K, 10%, ½ Watt, Carbon | M7 | 31450 | Dial Lamp, #161 |
| R64 | | 56K, 10%, ½ Watt, Carbon | M8 | 31160 | Fuse, 2 Amp |
| R65 | 34525 | 100K, Intercom Gain Control | M9 | 31160 | Fuse, 2 Amp |
| R66 | | 56K, 10%, ½ Watt, Carbon | M10 | 31105 | Phono Jack |
| R67 | | 500K, Tone Control | M11 | 31021 | Phono Jack, Dual |
| | | Part of R55, R67, R78 and M2 (Late production) | J1 | 31446 | Antenna Socket, 3 pin |
| | | Part of R55, R67, and M2 (Early production) | J2 | 31444 | Signal & Power Socket, 14 pin |
| R68 | | 1000Ω, 10%, ½ Watt, Carbon | P1 | 40291 | Antenna Plug & Wire Assembly |
| R69 | | 1500Ω, 10%, ½ Watt, Carbon | P2 | 40293 | Signal & Power Plug & Wire Assembly |
| R70 | | Not Used | | 31449 | Output Transistor Socket |
| R71 | | 470K, 10%, ½ Watt, Carbon | M201 | ** | Remote Station Function Switch, 3 pos. Rotary (Models 2570, 2572 & 2573) |
| R72 | 34024 | 350Ω Master Speaker Volume Control | M202 | ** | Remote Station Outside Talk-Listen Switch (Models 2572 & 2573) |
| R73 | | 47Ω, 10%, 2 Watt, Wirewound | M202 | ** | Remote Station Outside Listen-Talk Switch (Model 2570) |
| R74 | | 12K, 10%, ½ Watt, Carbon | M203 | ** | Remote Station Outside Listen-Talk Switch (Models 2572 & 2573) |
| R75 | | 12K, 10%, ½ Watt, Carbon | M203 | ** | Remote Station Inside Listen-Talk Switch (Model 2570) |
| R76 | | 12K, 10%, ½ Watt, Carbon | | | |
| R77 | | 12K, 10%, ½ Watt, Carbon | | | |
| R78 | | Part of R55, R67, R78 & M2 (Late production) | | | |
| R79 | | 4700Ω, 10%, ½ Watt, Carbon | | | |
| R201 | ** | 350Ω Remote Station Volume Control | | | |

**See NUTONE Factory Parts Price List for Parts Numbers.



OTHERWISE VALUES IN OHMS.
 ARE MICRO AND SHOWN AS
 UNLESS OTHERWISE NOTED.
 UNLESS NOTED.
 N.
 P (OR PLUG END) VIEWS.
 1 SET. (TH)
 TERMINAL SWITCH CONNECTION.

Master station schematic.

MODELS - N2561 - N2562

FOR ALIGNMENT AND VOLT-
 AGE CHARTS, REFER TO
 PERMANENT SERVICE MANUAL.

REVISED CIRCUIT PARTS LIST

The following parts have been changed, added or deleted in late production units - effective with unit chassis number designated.

NOTE: Revised circuit component parts are not interchangeable with earlier production units unless so designated.

LATE PRODUCTION PRIOR TO CHASSIS NUMBER DESIGNATION

| REF. NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION |
|----------|----------|----------------------------------|--|----------|-----------------------------|
| Change: | | | *R37 | | 10K 10% 1/2 watt Carbon |
| *D1 | 35019 | AFC | *T1 | 30550 | 1st FM IF |
| *D7,D8 | 36549 | T1-55 Silicon Rectifier | *T2,T3 | 30551 | 2nd & 3rd FM IF |
| *C27 | | 2.2 mmf NPO Ceramic Disc | *L3 | 30062 | RF Choke |
| *C33 | | 2.2 mmf NPO Ceramic Disc | *M1 | 34552 | Selector Switch, 4-Pos. Rot |
| *C34 | | 15 mmf NPC Ceramic Disc | *M4 | 34527 | Inside Talk-Listen Switch |
| *C51A | 35018 | 1000 mfd 15V Electrolytic | *M5 | 34528 | Outside Talk-Listen Switch |
| B | | 1500 mfd 15V Electrolytic | Add: (Omitted from basic service manual) | | |
| *C52A | 35017 | 500 mfd 35V Electrolytic | D11 | 36549 | T155 Silicon Rectifier |
| B | | 500 mfd 35V Electrolytic | * - | 40220 | FM Tuner Assembly |
| C56 | | 30 mfd 30V Electrolytic | | | |
| Delete: | | | <u>CHASSIS NUMBER 561C</u> | | |
| L7 | 30055 | Choke | | | |
| Change: | | | <u>CHASSIS NUMBER 561D</u> | | |
| | | | Add: | | |
| TR2 | 36571 | (TIMX 203) FM Oscillator | C69 | | 330 mmf @ 1000V Ceramic Di |
| TR3 | 36572 | (TIMX 202) FM Mixer | C70 | | 330 mmf @ 1000V Ceramic Di |
| TR4 | 36573 | (TI 403) 1st FM IF, AM Converter | C71 | | 2 mfd @ 50V Electrolytic |
| TR5 | 36573 | (TI 403) 2nd FM IF, 1st AM IF | C72 | | 330 mmf @ 1000V Ceramic Di |
| TR6 | 36573 | (TI 403) 3rd FM IF, 2nd AM IF | C73 | | .005 mfd @ 100V Ceramic Di |
| *TR7,TR8 | 36569 | (2N 408) AF Amp | R80 | | 150, 1/2 Watt, Carbon |
| *TR9 | 36569 | (2N 581) Driver | R81 | | 1500, 1/2 Watt, Carbon |
| C8 | | 12 mmf 10% Ceramic Disc | R82 | | 1000, 1/2 Watt, Carbon |
| C10 | | 15 mmf N 330 Ceramic Disc | R83 | | 15K, 1/2 Watt, Carbon |
| C16 | | 3.3 mmf NPO Ceramic Disc | R84 | | 6800, 1/2 Watt, Carbon |
| C31 | | .005 mfd @ 100V Ceramic Disc | R85 | | 6800, 1/2 Watt, Carbon |
| C34 | | 10 mmf NPO Ceramic Disc | Delete: | | |
| C38 | | .005 mfd @ 100V Ceramic Disc | C7 | | 4.7 mmf NPO Ceramic Disc |
| *C59 | | 30 mfd @ 30V Electrolytic | C27 | | 4.7 mmf NPO Ceramic Disc |
| *C60,C61 | | 2 mfd @ 50V Electrolytic | C33 | | 4.7 mmf NPO Ceramic Disc |
| *C63 | | 30 mfd @ 30V Electrolytic | C43 | | .005 mfd @ 50V Ceramic Dis |
| R2 | | 18K, 10%, 1/2 Watt, Carbon | C44 | | .005 mfd @ 50V Ceramic Dis |
| R10 | | 2200, 10%, 1/2 Watt, Carbon | C45 | | .005 mfd @ 50V Ceramic Dis |
| R18 | | 22K, 10%, 1/2 Watt, Carbon | R31 | | 1500, 1/2 Watt, Carbon |
| R27 | | 560, 10%, 1/2 Watt, Carbon | R32 | | 1500, 1/2 Watt, Carbon |
| T1 | 30570 | 1st FM IF | R33 | | 15K, 1/2 Watt, Carbon |
| T2 | 30567 | 2nd FM IF | R34 | | 6800, 1/2 Watt, Carbon |
| T3 | 30568 | 3rd FM IF | R35 | | 6800, 1/2 Watt, Carbon |
| T4 | 30566 | Ratio Detector | L2B | 30052 | FM Neutralizer |
| L2 | 30061 | FM Mixer | | | |
| - | 40318 | FM Tuner Assembly | | | |

* Interchangeable with earlier production units.

NUTONE

Supplemental Information

No. 2

REVISED CIRCUIT & PARTS LIST

AM-FM TRANSISTOR RADIO & INTERCOM

Models N2561-N2562

CHASSIS NO. 561-E

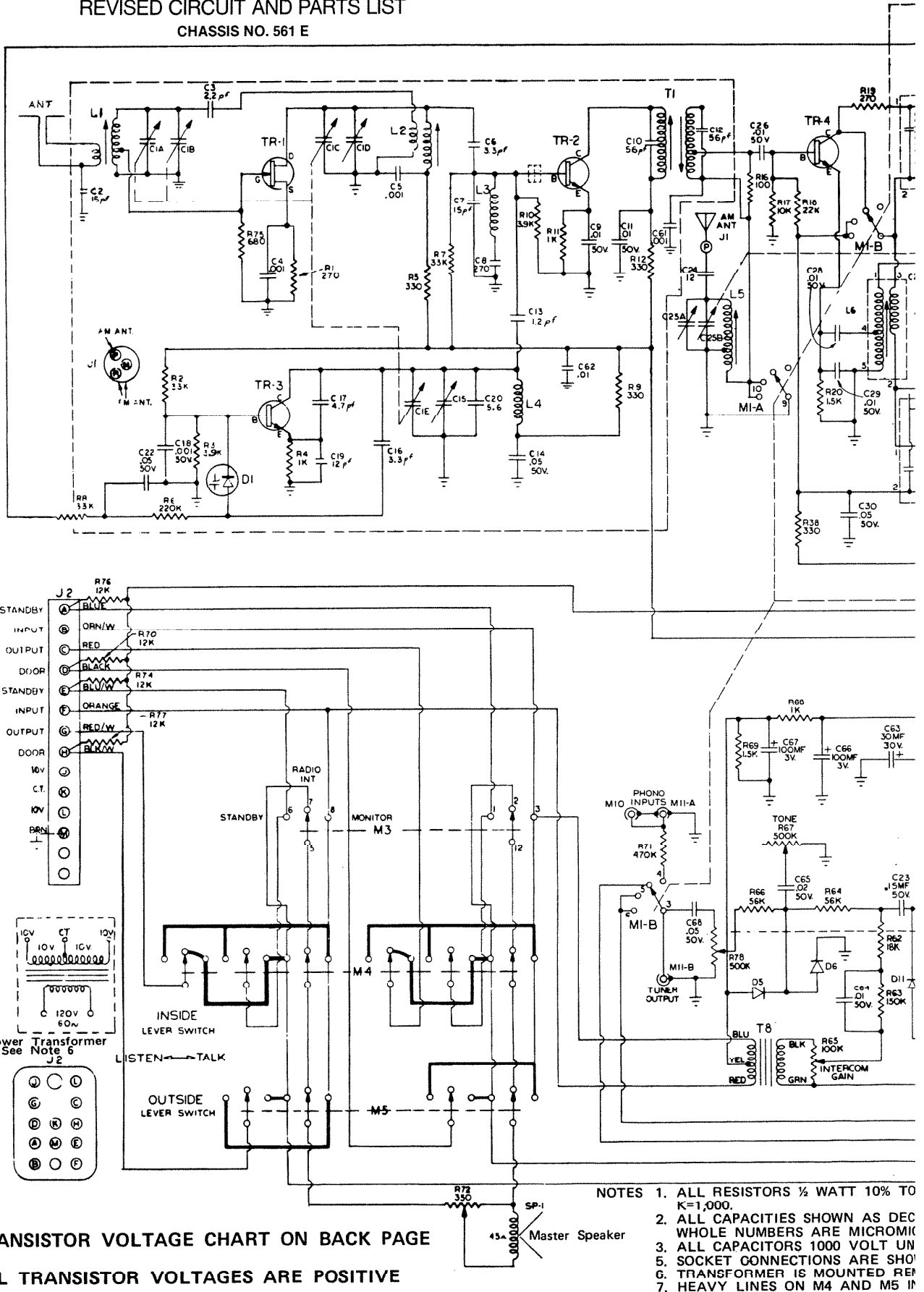


Supplemental Information NO. 2

FOR ALIGNMENT, IF, RF, SEE FRONT SECTION THIS SERVICE MANUAL

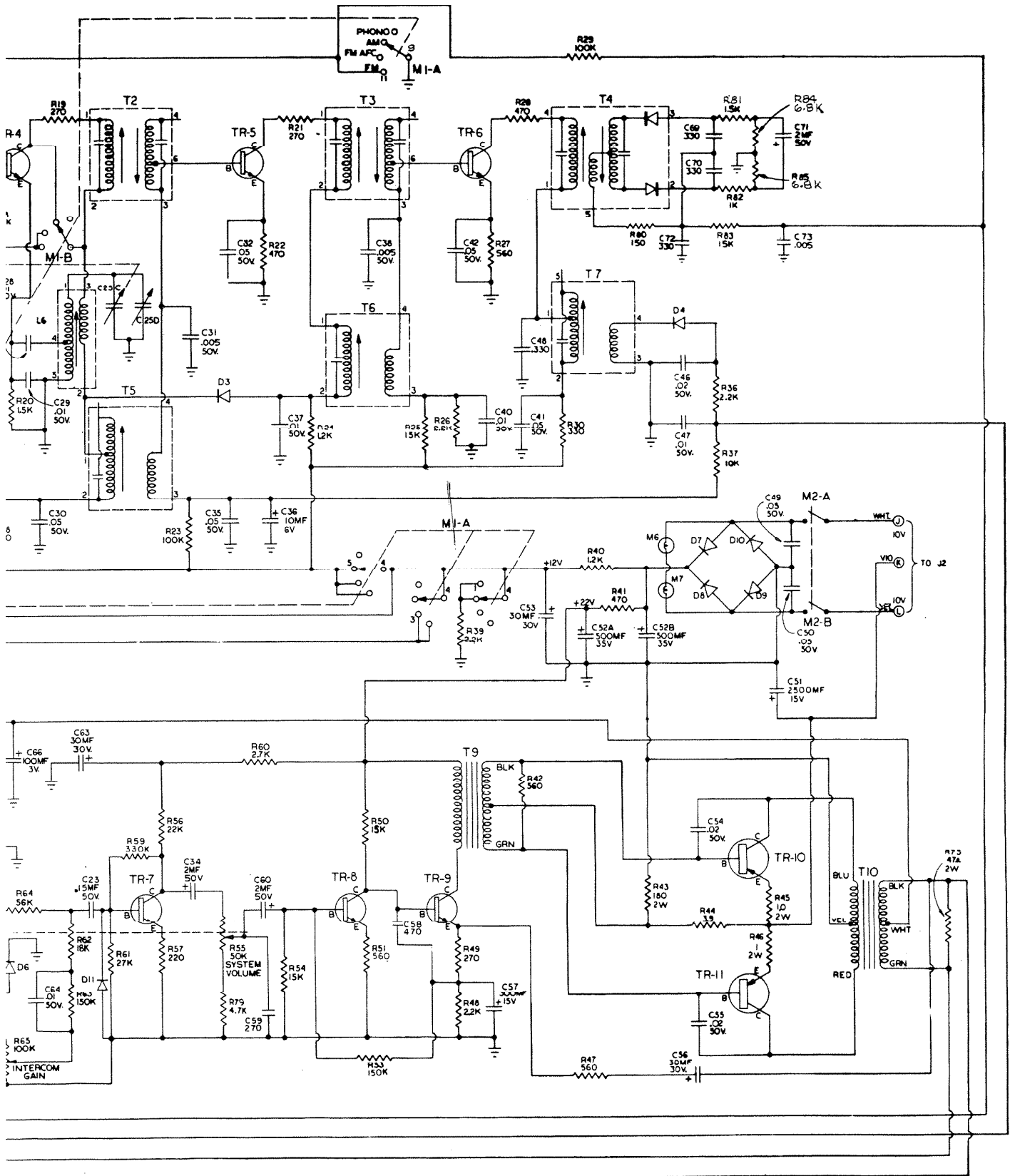
REVISED CIRCUIT AND PARTS LIST

CHASSIS NO. 561 E



- NOTES
1. ALL RESISTORS 1/2 WATT 10% TO K=1,000.
 2. ALL CAPACITIES SHOWN AS DEC WHOLE NUMBERS ARE MICROMIC
 3. ALL CAPACITORS 1000 VOLT UN
 5. SOCKET CONNECTIONS ARE SHO
 6. TRANSFORMER IS MOUNTED REF
 7. HEAVY LINES ON M4 AND M5 IF

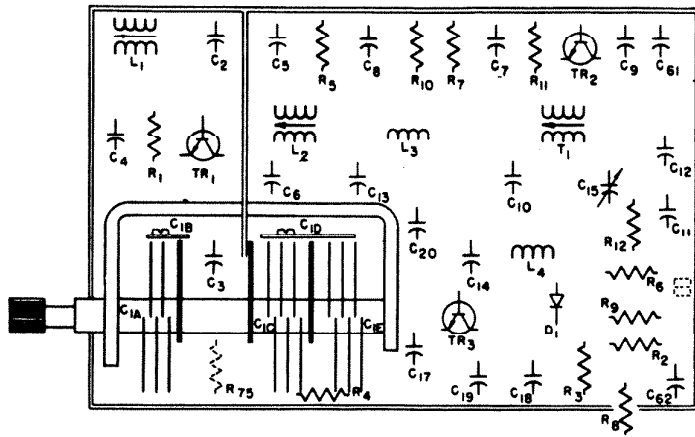
TRANSISTOR VOLTAGE CHART ON BACK PAGE
 ALL TRANSISTOR VOLTAGES ARE POSITIVE



WATT 10% TOLERANCE UNLESS OTHERWISE NOTED, VALUES IN OHMS,

HOWN AS DECIMAL FRACTIONS ARE MICROFARADS AND SHOWN AS ARE MICROMICROFARADS UNLESS OTHERWISE NOTED, 1000 VOLT UNLESS OTHERWISE NOTED. ONS ARE SHOWN AS TOP (OR PLUG END) VIEWS. MOUNTED REMOTE FROM SET. (T11) M4 AND M5 INDICATE INTERNAL SWITCH CONNECTION.

NUTONE
Model N2561B - N2562B
Chassis No. 561E
FET FM RF AMPLIFIER
All Silicon Transistors



F. M. TUNER

NUTONE MODEL N2561-N2562 RADIO INTERCOM PARTS CHANGES IN LATEST PRODUCTION UNIT - CHASSIS 561-E - USING ALL SILICON TRANSISTORS AND POSITIVE POWER SUPPLY.

PARTS LISTED BELOW ARE NOT INTERCHANGEABLE WITH EARLIER PRODUCTION UNITS.

| REF. NO. | DESCRIPTION | REF. NO. | DESCRIPTION | REF. NO. | DESCRIPTION |
|-------------------|-------------|------------------|-------------|----------|-------------|
| CAPACITORS | | | | | |
| C3 | 2.2 pf | C23 | .15 mf | R7 | 220 K |
| C4 | .001 mf | C34 | 2 mf | R8 | 33 K |
| C5 | .001 mf | C39 | Not Used | R10 | 3.9 K |
| C6 | 3.3 pf | C51 | 2500 mf | R11 | 1 K |
| C7 | 15 pf | C58 | 470 pf | R12 | 330 |
| C8 | 270 pf | C59 | 270 pf | R13-15 | Not Used |
| C9 | .01 mf | C61 | .001 mfq | R16 | 100 K |
| C10 | 56 pf | C62 | .01 mf | R31-35 | Not Used |
| C11 | .01 mf | C69 | 330 pf | R47 | 560 |
| C12 | 56 pf | C70 | 330 pf | R48 | 3.3 K |
| C13 | 1.2 pf | C71 | 2 mf | R50 | 15 K |
| C14 | .05 mf | C72 | 330 pf | R51 | 560 |
| C18 | .001 mf | C73 | .005 mf | R52 | Not Used |
| C19 | 12 pf | RESISTORS | | R53 | 150 K |
| C20 | 5.6 pf | R1 | 270 K | R58 | Not Used |
| C21 | Not Used | R2 | 33 K | R59 | 330 K |
| C22 | .05 mf | R3 | 3.9 K | R70 | 12 K |
| | | R6 | 220 K | R75 | 680 |

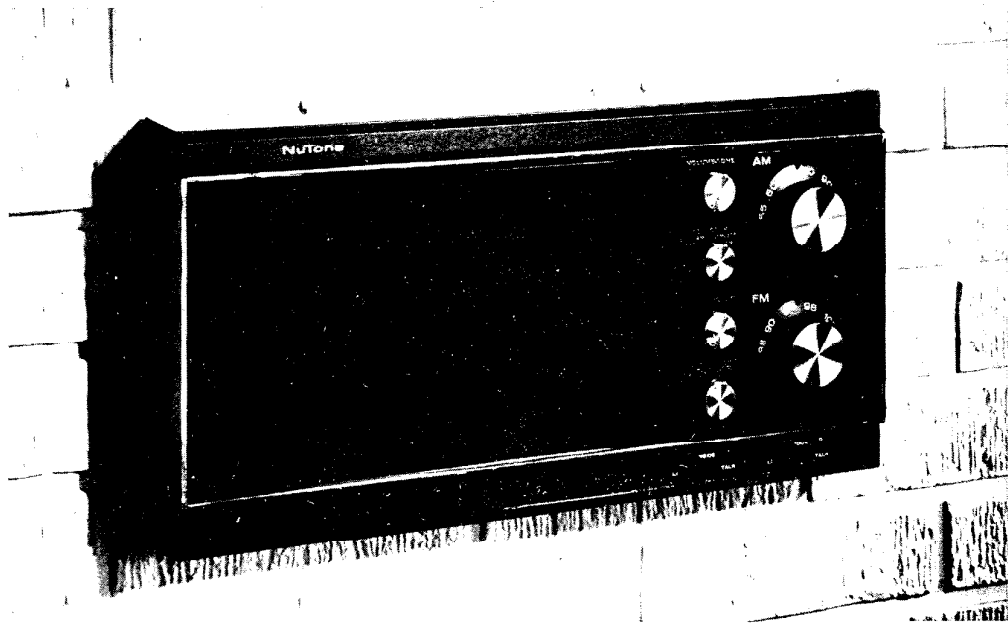
| REF. NO. | NUTONE PART NO. | DESCRIPTION | REF. NO. | NUTONE PART NO. | DESCRIPTION |
|----------------------------|-----------------|-------------------------------|----------------------|-----------------|--|
| VARIABLE CAPACITORS | | | | | |
| C1 | 35084 | FM Tuning Capacitor | L1C | 30070 | Ant. Trap |
| C15 | 35078 | Tubular-FM Oscillator Trimmer | L2A | 30071 | Mixer |
| TRANSFORMERS | | | | | |
| T1 | 30524 | FM IF Transformer | L4 | 30063 | FM Oscillator |
| T3 | 30567 | FM IF Transformer | DIODES | | |
| T4 | 30574 | FM Radio Detector | D2 | | Not Used |
| Coils | | | D7-10 | 36549 | Silicon Diodes Used In B+ Power Supply |
| L1A | 30068 | Ant. Primary | MISCELLANEOUS | | |
| L1B | 30069 | FM Ant. | M1 | 34550 | 4 Pos. Rotary Switch |
| | | | | 40807 | FM Tuner Assembly |

| REF. NO. | NUTONE PART NO. | DESCRIPTION | AVERAGE DC VOLTAGES SELECTOR SWITCH IN FM POSITION | | |
|----------|-----------------|---------------------------|---|------|-------|
| TR1 | 36582 | FET FM RF Amplifier | Ed | Eg | Es |
| | | | 10.9 | 0 | .97 |
| | | | Ec | Eb | Ee |
| TR2 | 36578 | FM Mixer | 12 | 1.22 | .69 |
| TR3 | 36581 | FM Oscillator | 12.4 | 1.1 | .89 |
| TR4 | 36570 | Am Mixer-1st FM IF Anp | 10.7 | 3.4 | 2.76 |
| TR5 | 36578 | 1st AM-2nd FM IF Amp | 10.2 | 1.28 | .58 |
| TR6 | 36578 | 2nd AM-3rd FM IF Amp | 10.6 | 1.5 | .8 |
| TR7 | 36580 | 1st Audio (Low Noise NPN) | 9.8 | .72 | .12 |
| TR8 | 36580 | 2nd Audio | 12.6 | .998 | .394 |
| TR9 | 36580 | Driver | 21.5 | 12.6 | 11.98 |
| TR10-11 | 36556 | Push Pull Audio Output | .231 | 12 | 12.1 |

**Supplemental Information
NO. 3**

REVISED CIRCUIT AND PARTS LIST

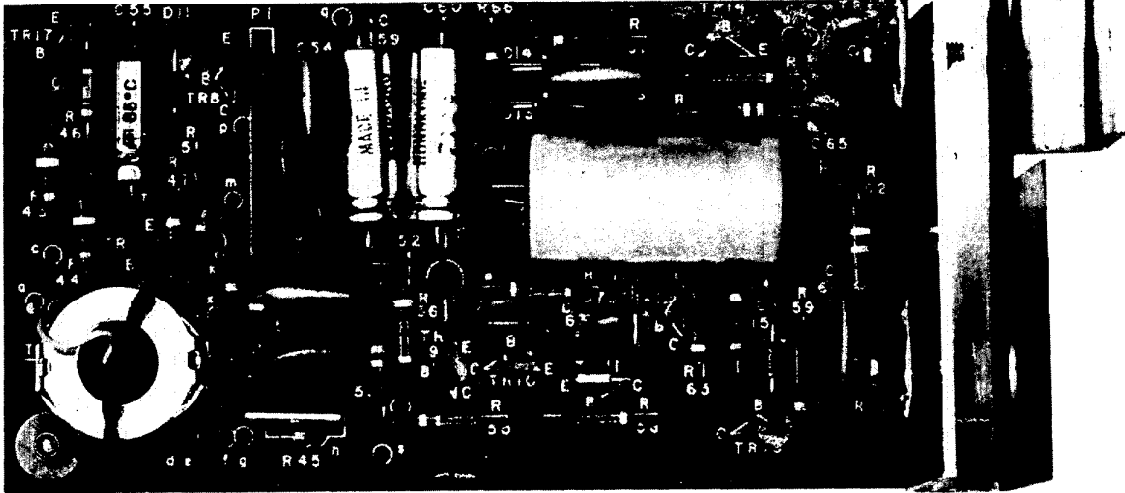
CHASSIS NO. 561 H



AM-FM TRANSISTOR RADIO and INTERCOM

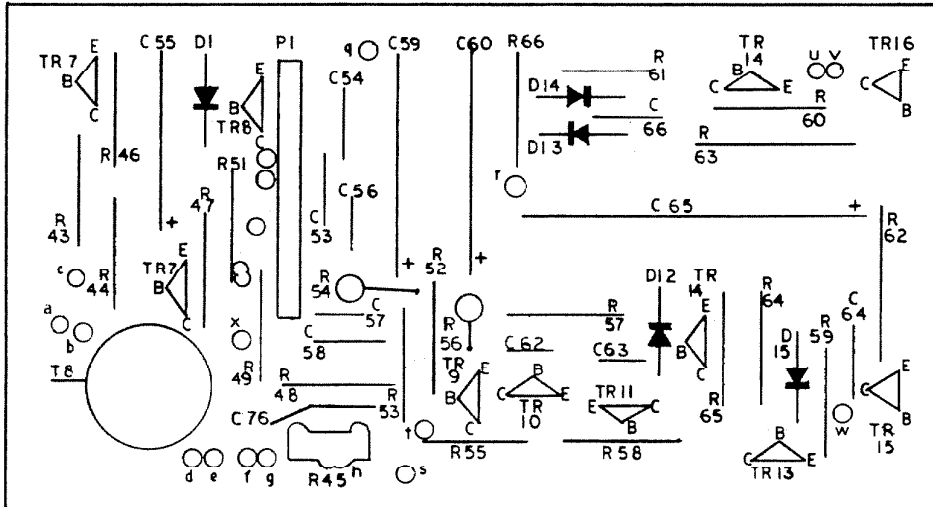
Models N2561-N2562

AMPLIFIER P/C BOARD

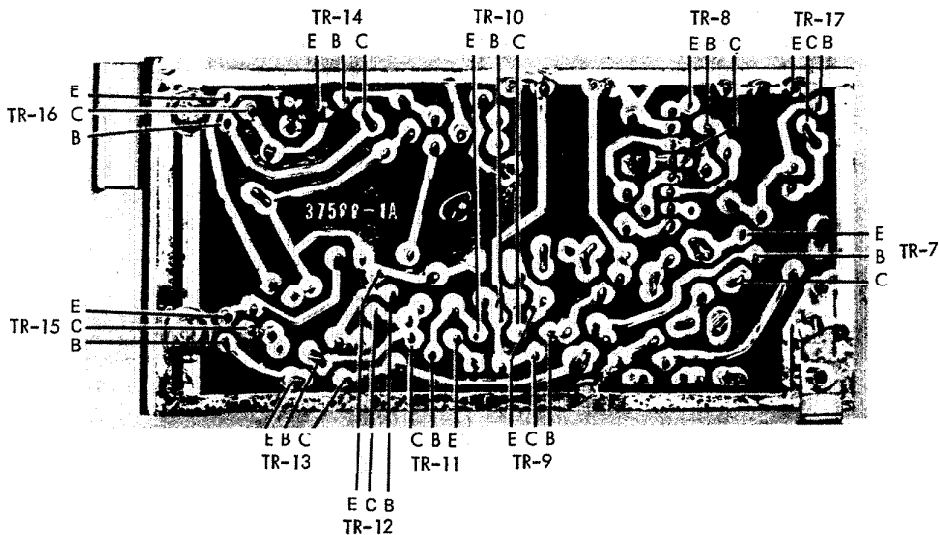


P/C BOARD COMPONENT LOCATION

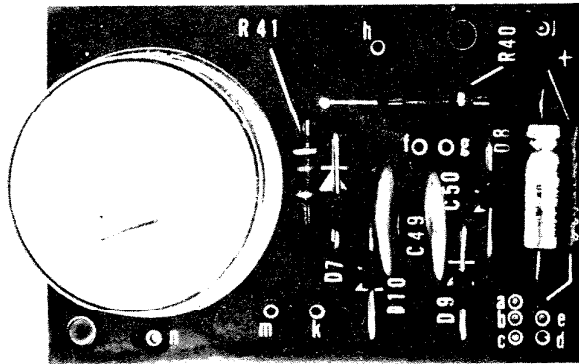
C53 is mislabeled. Should be C51.



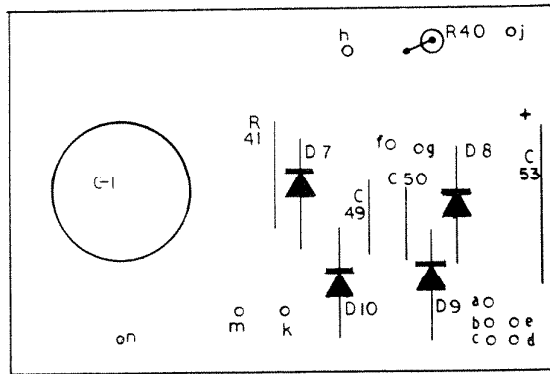
FOIL SIDE CALL OUTS



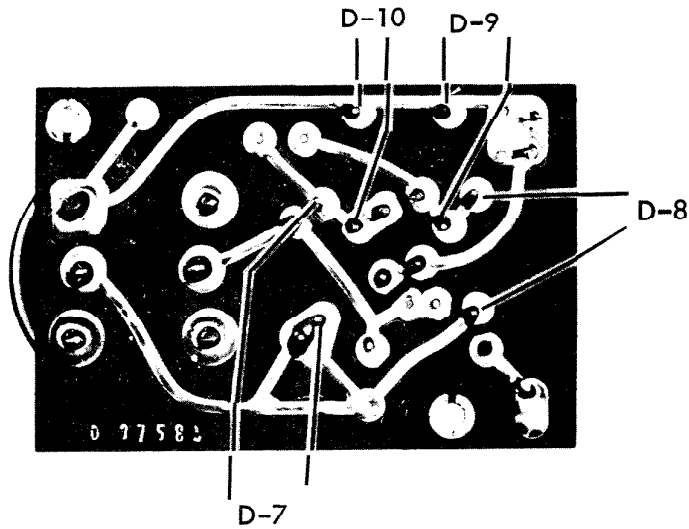
POWER SUPPLY P/C BOARD



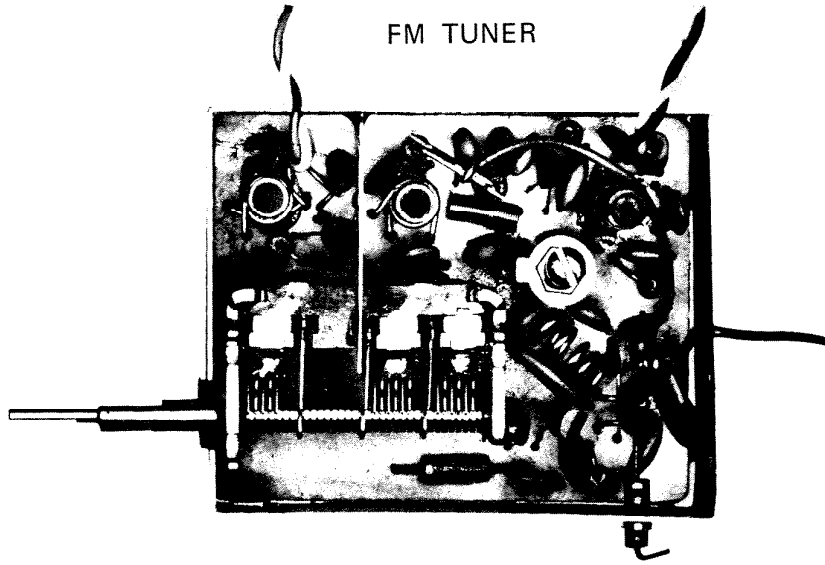
P/C BOARD COMPONENT LOCATION



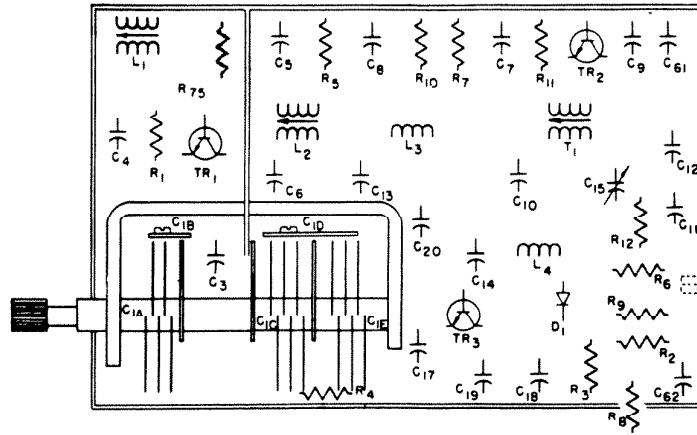
FOIL SIDE CALLOUTS



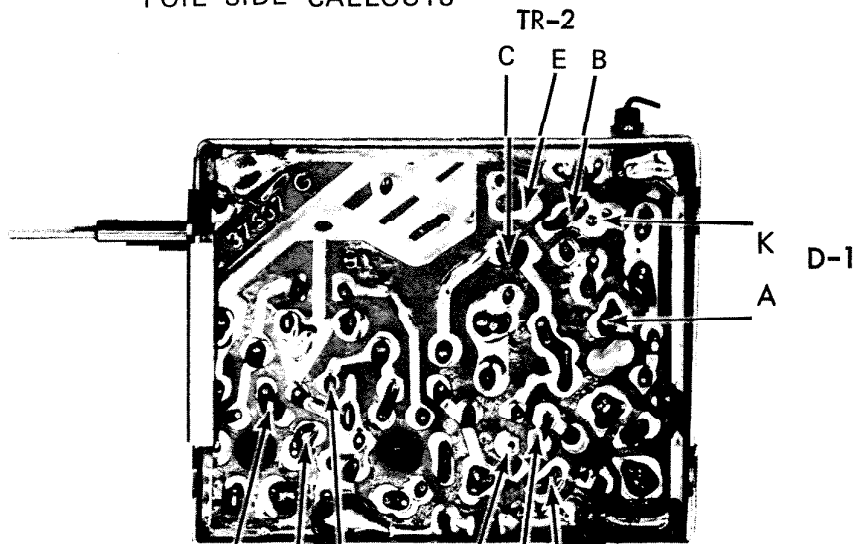
FM TUNER



P/C BOARD COMPONENT LOCATION



FOIL SIDE CALLOUTS



S G D
TR-1

B C E
TR-3

AMPLIFIER PARTS LIST

CHASSIS 561H - SUPPLEMENT NO.3

| Ref. No. | NuTone Part No. | Description | Ref. No. | NuTone Part No. | Description |
|--------------------|--------------------------|-------------------|-------------------------------|-------------------------|--------------------|
| TRANSISTORS | | | RESISTORS (contd) | | |
| TR-7 | 36606 (Motorola M052) | Driver | R-65 | 33101-272 | 2.7 K ohms |
| TR-8 | 36580 (Motorola M-7) | | R-66 | 33101-101 | 100 ohms |
| TR-9 | 36580 (Motorola M-7) | | CAPACITORS | | |
| TR-10 | 36606 (Motorola M052) | Driver | *C-51 | 35100-140 | .02 mfd @ 50V |
| TR-11 | 36606 (Motorola M052) | Driver | C-54 | 35100-141 | .05 mfd @ 50V |
| TR-12 | 36613 (Motorola MPS A20) | Driver | C-55 | 35068-107 | 100 mfd @ 3V |
| TR-13 | 36613 (Motorola MPS A20) | Driver | C-56 | 35100-134 | 470 pf |
| TR-14 | 36606 (Motorola M052) | Driver | C-57 | 35100-142 | 330 pf |
| TR-15 | 36614 | Power Output | C-58 | 35100-127 | .1 mfd @ 100V |
| TR-16 | 36614 | Power Output | C-59 | 35068-115 | 100 mfd @ 25V |
| TR-17 | 36613 (Motorola MPS A20) | Driver | C-60 | 35068-115 | 100 mfd @ 25V |
| DIODES | | | C-62 | 35100-144 | 56 pf |
| D-11 | 36549 (Motorola 1N4002) | Silicon Rectifier | C-63 | 35100-144 | 56 pf |
| D-12 | 36549 (Motorola 1N4002) | Silicon Rectifier | C-64 | 35100-127 | .1 mfd @ 100V |
| D-13 | 36549 (Motorola 1N4002) | Silicon Rectifier | C-65 | 35085-101 | 500 mfd @ 25V |
| D-14 | 36549 (Motorola 1N4002) | Silicon Rectifier | C-66 | 35100-141 | .05 mfd @ 25V |
| D-15 | 36549 (Motorola 1N4002) | Silicon Rectifier | C-76 | 35100-140 | .02 mfd @ 50V |
| RESISTORS | | | *Shown as C-53 on P/C board. | | |
| R-43 | 33101-393 | 39 K ohms | TRANSFORMERS | | |
| R-44 | 33101-393 | 39 K ohms | T-1 | 30587 | Input |
| R-45 | 34023 | Potentiometer | COMPONENT COMBINATIONS | | |
| R-46 | 33101-153 | 15 K ohms | P-1 | 33032 | Resistor Pack |
| R-47 | 33101-103 | 10 K ohms | POWER SUPPLY | | |
| R-48 | 33101-272 | 2.7 K ohms | DIODES | | |
| R-49 | 33101-102 | 1 K ohms | D-7 | 36549 (Motorola 1N4002) | Silicon Rectifier |
| R-51 | 33101-104 | 100 K ohms | D-8 | 36549 (Motorola 1N4002) | Silicon Rectifier |
| R-52 | 33101-473 | 47 K ohms | D-9 | 36549 (Motorola 1N4002) | Silicon Rectifier |
| R-53 | 33101-104 | 100 K ohms | D-10 | 36549 (Motorola 1N4002) | Silicon Rectifier |
| R-54 | 33101-124 | 120 K ohms | RESISTORS | | |
| R-55 | 33101-683 | 68 K ohms | R-40 | 33101-102 | 1 K ohm |
| R-56 | 33101-820 | 82 ohms | R-41 | 33101-470 | 47 ohms |
| R-57 | 33101-473 | 47 K ohms | CAPACITORS | | |
| R-59 | 33101-221 | 220 K ohms | C-1 | 35083 | 500/500 mfd. @ 40V |
| R-60 | 33101-221 | 220 K ohms | C-49 | 35100-141 | .05 mfd. @ 50V |
| R-61 | 33101-152 | 1.5 K ohms | C-50 | 35100-141 | .05 mfd. @ 50V |
| R-62 | 33101-010 | 1 ohm 2 watt W/W | C-53 | 35068-104 | 30 mfd. @ 30V |
| R-63 | 33101-010 | 1 ohm 2 watt W/W | | | |
| R-64 | 33101-471 | 470 ohms | | | |

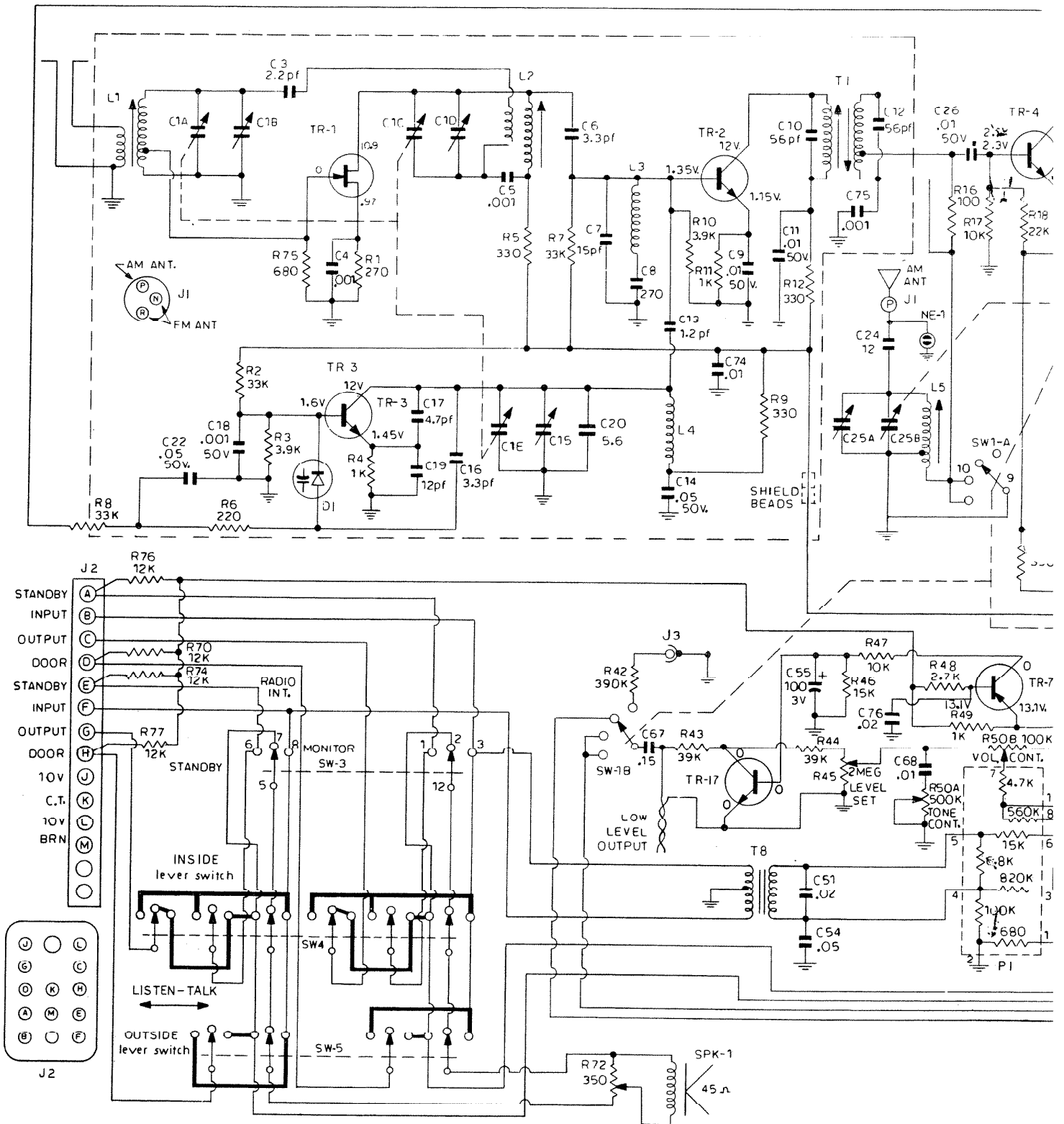
Supplemental Information No. 3

FOR ALIGNMENT, IF, RF, SEE FRONT SECTION THIS SERVICE MANUAL

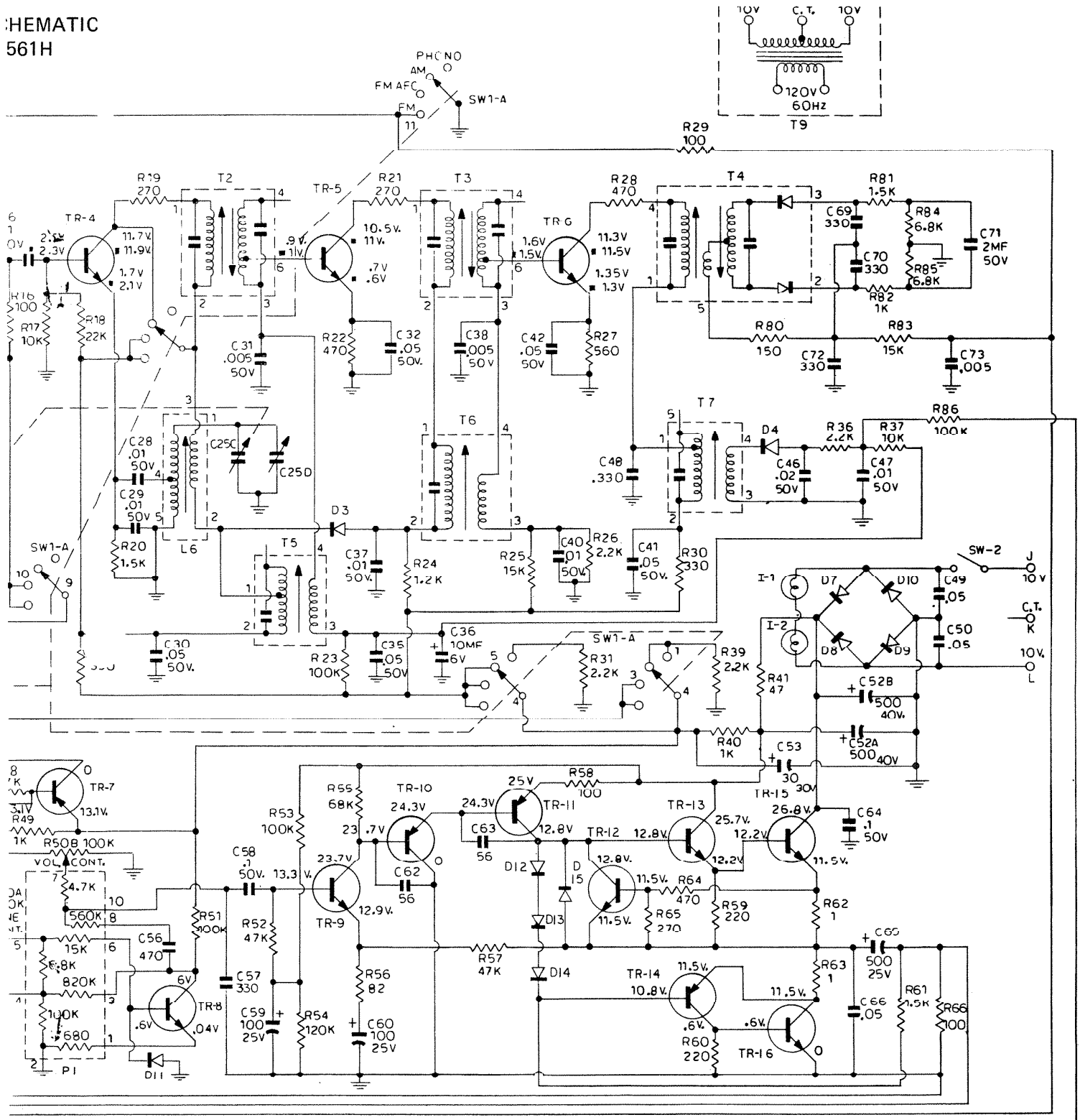
REVISED CIRCUIT AND PARTS LIST

CHASSIS NO. 561 H

N 2561-62 SCHEMATIC CHASSIS 561H



SCHEMATIC
561H



NOTE: IF STRIP, TRANSISTOR VOLTAGES
NOT MARKED: (SELECTOR SWITCH IN
AM MODE)
MARKED ■: (SELECTOR SWITCH IN
FM MODE)

MODEL N2561-N2562
SCHEMATIC DIAGRAM
FOR PRODUCTION MODELS
CHASSIS NO. 561-H

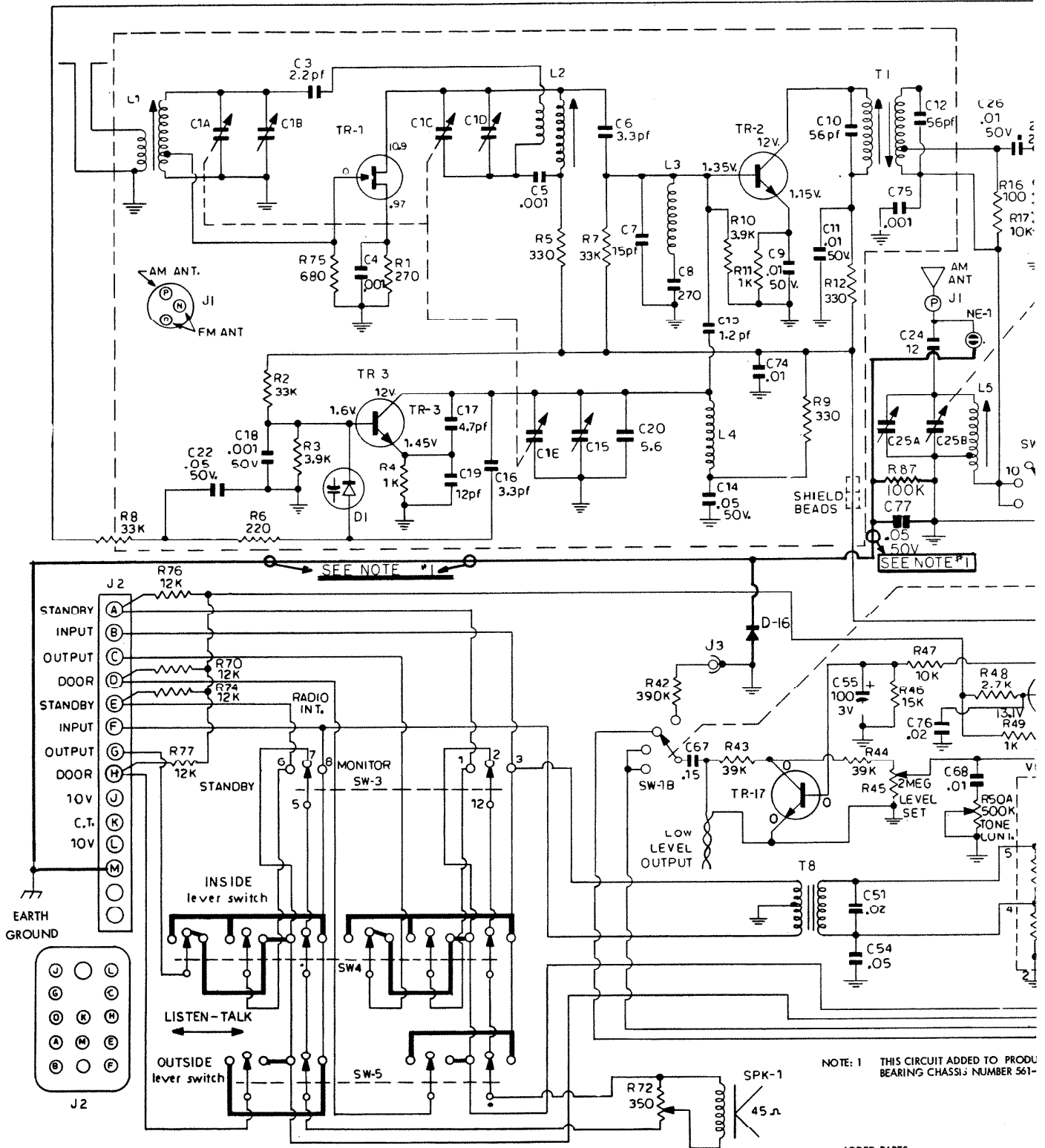
Supplemental Information No. 4

FOR ALIGNMENT, IF, RF, SEE FRONT SECTION THIS SERVICE MANUAL

REVISED CIRCUIT AND PARTS LIST

CHASSIS NO. 561 J

MODEL N2561-N25
SCHEMATIC DIAGR
FOR PRODUCTION
CHASSIS NO. 561-J



NOTE: 1 THIS CIRCUIT ADDED TO PRODU BEARING CHASSIS NUMBER 561-J

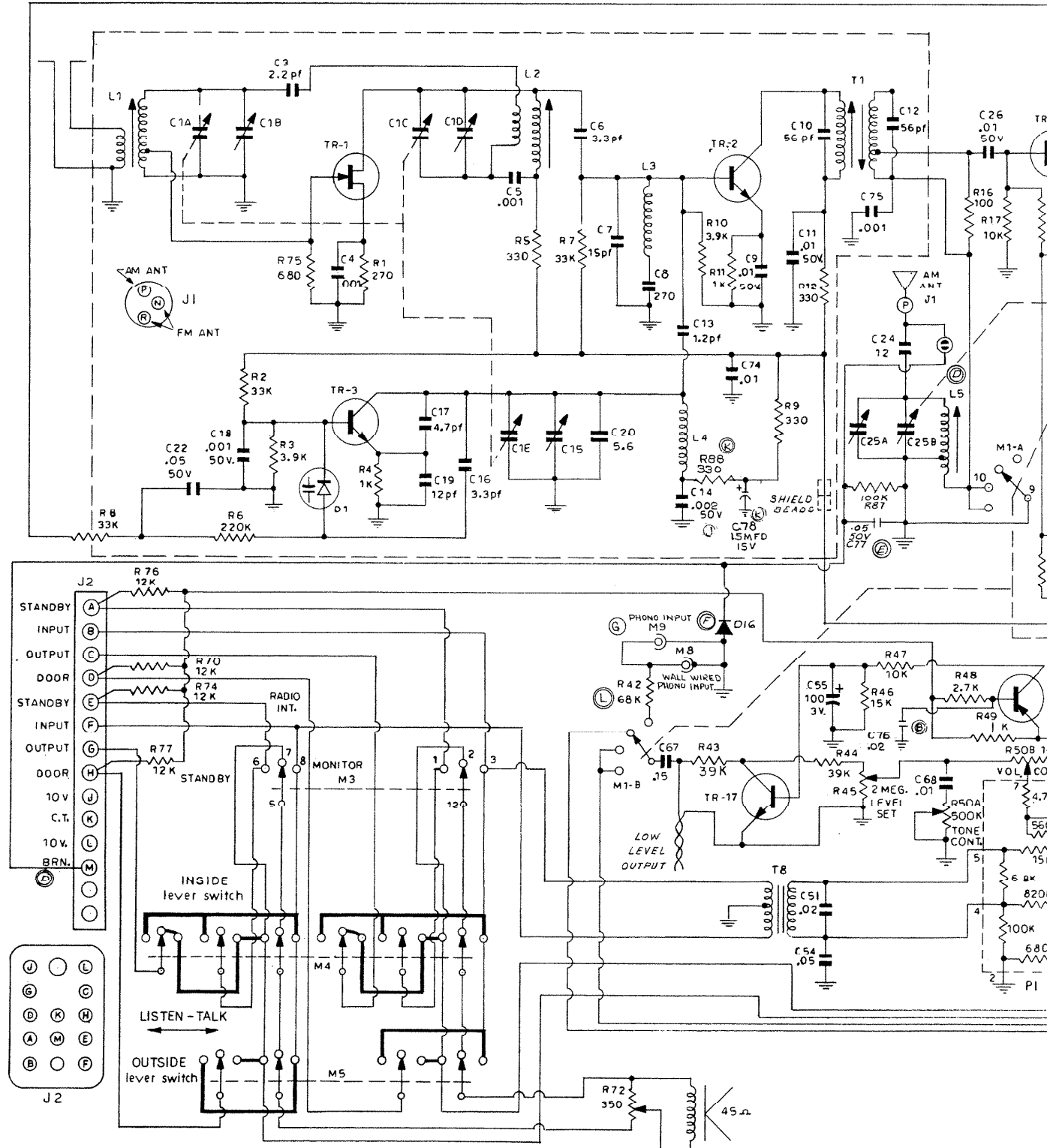
| ADDED PARTS: | NUTONE PART NO. |
|--------------|-----------------|
| REF. NO. | |
| D-16 | #36612 |
| R-87 | 31101-104 |
| C-77 | 35100-141 |

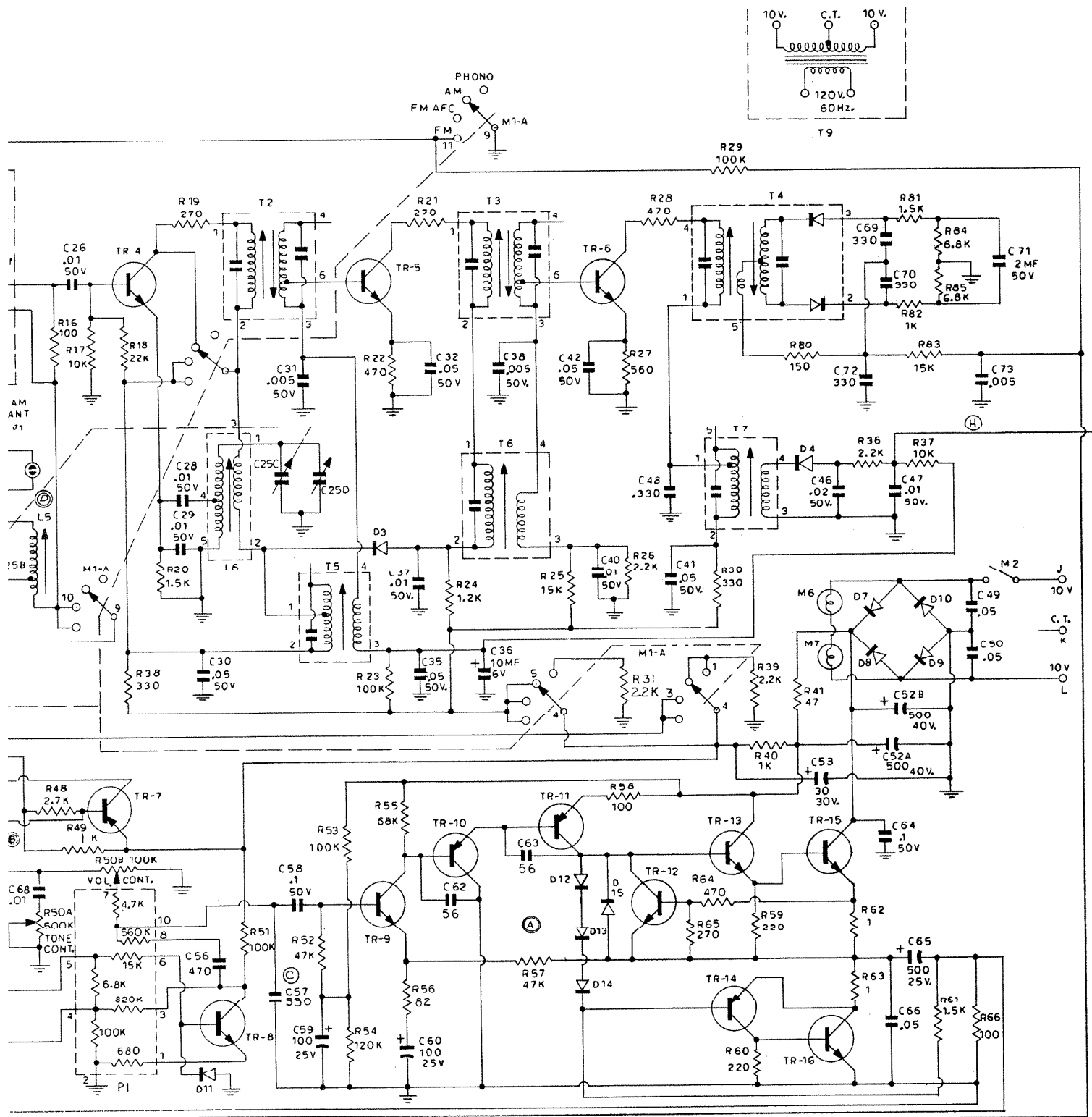
Supplemental Information No. 5

FOR ALIGNMENT, IF, RF, SEE FRONT SECTION THIS SERVICE MANUAL

REVISED CIRCUIT AND PARTS LIST

CHASSIS NO. 561 K





SCHEMATIC
Models N-2561 - N2562

TUNER PARTS LIST

CHASSIS 561K - SUPPLEMENT NO.5

| Ref. No. | NuTone Part No. | Description | Ref. No. | NuTone Part No. | Description |
|--------------------|-----------------|---------------------|---|-----------------|-------------------------------|
| TRANSISTORS | | | RESISTORS (contd) | | |
| TR-1 | 36582 | FET FM RF Amplifier | R-8 | 33101-333 | 33 K ohms |
| TR-2 | 36578 | FM Mixer | R-10 | 33101-392 | 3.9 K " |
| TR-3 | 36581 | FM Oscillator | R-11 | 33101-102 | 1 K ohm |
| C-3 | 35101-127 | 2.2 pf | R-12 | 33101-331 | 330 ohms |
| C-4 | 35100-120 | .001 mfd | R-75 | 33101-681 | 680 ohms |
| C-5 | 35100-120 | .001 mfd | VARIABLE CAPACITORS | | |
| C-6 | 35101-134 | 3.3 pf | C-1 | 35084 | FM Tuning Capacitor |
| C-7 | 35101-130 | 15 pf | C-15 | 35078 | Tubular FM Oscillator Trimmer |
| C-8 | 35100-124 | 270 pf | TRANSFORMERS | | |
| C-9 | 35100-139 | .01 mfd | T-1 | 30524 | FM IF Transformer |
| C-10 | 35100-144 | 56 pf | T-2 | 30567 | FM IF Transformer |
| C-11 | 35100-139 | 01 mfd | T-3 | 30574 | FM Ratio Detector |
| C-12 | 35100-144 | 56 pf | COILS | | |
| C-13 | 35101-126 | 1.2 pf | L-1A | 30068 | Antenna Primary |
| C-14 | 35100-141 | .05 mfd | L-1B | 30069 | FM Antenna |
| C-18 | 35100-120 | .001 mfd | L-1C | 30070 | Antenna Trap |
| C-19 | 35101-132 | 12 pf | L-2A | 30071 | Mixer |
| C-20 | 35101-137 | 5.6 pf | L-4 | 30063 | FM Oscillator |
| C-22 | 35100-141 | .05 mfd | COMPLETE FM TUNER ASSEMBLY 41301 | | |
| C-74 | 35100-120 | .001 mfd | NOTE: This Tuner is not interchangeable with prior Production Units. | | |
| C-75 | 35100-139 | .01 mfd | | | |
| RESISTORS | | | | | |
| R-1 | 33101-271 | 270 K ohms | | | |
| R-2 | 33101-333 | 33 K " | | | |
| R-3 | 33101-392 | 3.9 K " | | | |
| R-4 | 33101-102 | 1 K " | | | |
| R-5 | 33101-331 | 330 " | | | |
| R-6 | 33101-224 | 220 K " | | | |
| R-7 | 33101-333 | 33 K " | | | |

REVISED CIRCUIT PARTS LIST AND VOLTAGE DATA

CHASSIS 561K - SUPPLEMENT NO.5

The following parts have been changed or added to stabilize FM reception and prevent drift.

ADD:

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|--|
| C-78 | 35068-109 | 15 Mfd. 15 Volt Electrolytic Capacitor |
| R-88 | 33101-331 | 330 Ohm 1/2 Watt Carbon Resistor |

CHANGE:

| | | |
|------|-----------|---|
| C-14 | 35100-141 | .05Mfd. 50V TO .002Mfd. 50V—Part #35110-106 |
|------|-----------|---|

The following part has been changed in order to allow the Nutone Model 2603 Record Changer and 2605 8-Track Tape Player to be utilized without any circuit modifications.

CHANGE:

R-42 FROM 390K Ohms Part #33101-394 TO 68K Part #33101-683

The following resistor was removed in order to obtain increased sensitivity of radio operation.

REMOVE:

R-86 100K Ohms

TRANSISTOR VOLTAGE CHART (Average DC Voltages)

| | <u>S</u> | <u>G</u> | <u>D</u> | | <u>E</u> | <u>B</u> | <u>C</u> |
|-----------|----------|----------|----------|-------|----------|----------|----------|
| TR-1 | 1.5 | 0 | 10 | TR-7 | *11.9 | 11.2 | 11.8 |
| | | | | TR-8 | .04 | .6 | 6 |
| | <u>E</u> | <u>B</u> | <u>C</u> | TR-9 | 12.9 | 13.3 | 23.7 |
| TR-2 | .7 | 1.2 | 11.5 | TR-10 | 24.3 | 23.7 | 0 |
| TR-3 | .7 | 1.1 | 12 | TR-11 | 25 | 24.3 | 12.8 |
| TR-4 (FM) | 2.7 | 3.3 | 11.3 | TR-12 | 11.5 | 11.5 | 12.8 |
| TR-4 (AM) | 3 | 3.6 | 12.8 | TR-13 | 12.2 | 12.8 | 25.7 |
| TR-5 (FM) | .5 | 1.2 | 11 | TR-14 | 11.5 | 10.8 | .6 |
| TR-5 (AM) | .6 | 1.3 | 11.5 | TR-15 | 11.5 | 12.2 | 26.8 |
| TR-6 (FM) | .8 | 1.5 | 11.5 | TR-16 | 0 | .6 | 11.5 |
| TR-6 (AM) | .9 | 1.6 | 12 | TR-17 | 0 | 0 | 0 |
| TR-7 | 13.1 | 13.1 | 0 | TR-17 | *0 | .7 | 0 |

* Voltages during Intercom Operation (Inside Listen Talk or Outside Listen Talk)

NuTone

Madison and Red Bank Roads
Cincinnati, Ohio 45227

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