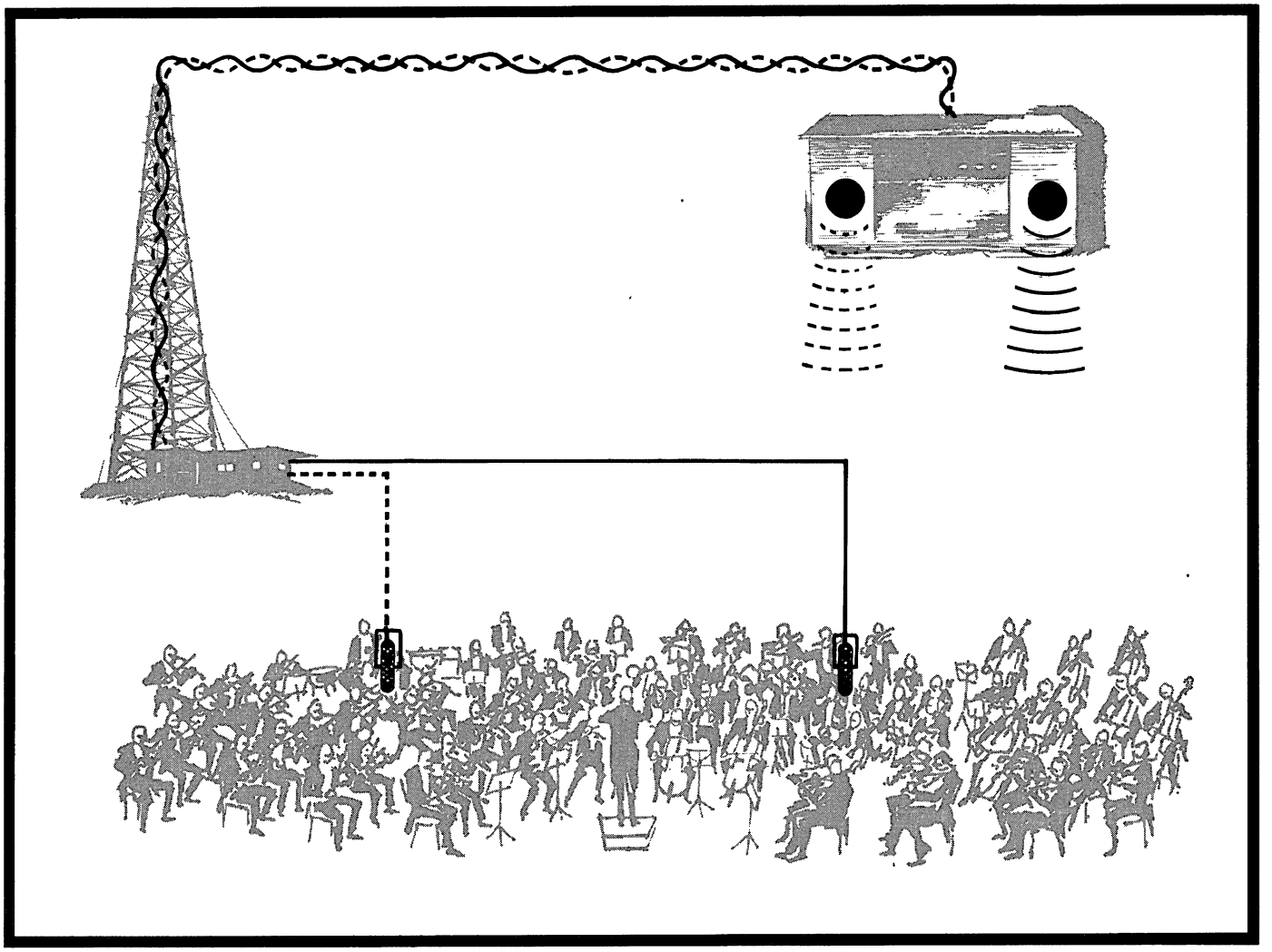
ZENITH®

SERVICE MANUAL



HIGH FIDELITY
AND STEREO FM MODELS

ZENITH RADIO CORPORATION
1900 N. AUSTIN AVENUE CHICAGO, ILLINOIS 60639

HF 29S1
24M – RR

PRINTED IN U.S.A.
DEC., 1973

PART NO. 923-762
$1.95

To the Service Technician

PRODUCT SAFETY SERVICING GUIDELINES FOR ALL AUDIO AMPLIFIERS AND RADIO RECEIVERS

CAUTION: No modification of the circuit should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following precautions. To do otherwise increases the risk of potential hazards and injury to the user.

SAFETY CHECKS

SUBJECT: Fire & Shock Hazard

1. Be sure that all components are positioned in such a way to avoid possibility of adjacent components shorts. This is especially important on those chassis which are transported to and from the repair shop.

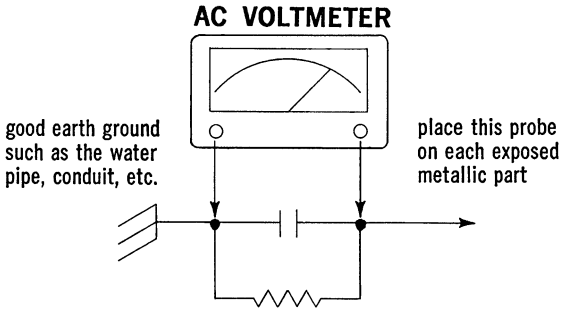
2. Always replace all protective devices such as insulators and barriers after working on a set.

3. Check for frayed insulation on wires including the AC cord.

4. Check across-the-line components for damage and replace if necessary.

5. After re-assembly of the set always perform an AC leakage test on the exposed metallic parts of the cabinet such as the knobs, antenna terminals, etc. to be sure the set is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this test. Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner: Connect a 1500 ohm 10 watt resistor, paralleled by .15 mfd. AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination 1500 ohm resistor and .15 mfd. capacitor. Reverse the AC plug on the set and repeat AC voltage measurements again for each exposed metallic part. Voltage measured must not exceed .3 volts RMS. This corresponds to 0.2 milliamp AC.

Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



INDEX

HF 18 is Part No. 923-558 **HF 18-1 is Part No. 923-576** **HF 18-2 is Part No. 923-592**
HF 19 is Part No. 923-606 **HF 20 is Part No. 923-610** **HF 21 is Part No. 923-626**
HF 22 is Part No. 923-642 **HF 23 is Part No. 923-646** **HF 24 is Part No. 923-653**
HF 25 is Part No. 923-669 **HF 26 is Part No. 923-702** **HF 27 is Part No. 923-707**
HF 28 is Part No. 923-718 **HF 28S1 is Part No. 923-734** **HF 29 is Part No. 923-740**

Solid State Device Theory and Circuit Applications are found in the following Service Manuals:

HF18: Theory – Diodes (Including Zener and SCR), Transistors, (PNP, NPN, Darlington, and JFET). Applications – Chassis 29AT24 (JFET FM-RF, Multiplex, Electronic Touch Switching), Complementary Symmetry, Chassis 11ZT27 (Electronic Filter).

HF22: Theory – JFET, IGFET, MOSFET, Applications – Dual Gate MOSFET FM-RF, JFET Biplex Detector, Quasi-Complementary Symmetry.

HF23: Applications – Model C9029/Chassis 15WCA10 Four Channel Decoder.

HF26: Applications – Chassis 15WDR51 (JFET Meter Circuit, Multiplex IC, Four Channel Decoding).

HF27: Applications – Model SD2568 Speaker Switching Circuitry.

HF28: Applications – Model D9013W Allegro Speaker System.

HF29: Theory – Light Emitting Diodes (LED), Applications – Three Light Tuning (Target Tuning), Multiplex IC.

PRODUCT FEATURES

SEE NOTES FOR FURTHER DETAILS

CABINET			CHASSIS			SPEAKERS		
MODEL	COLOR	STYLE NOTE A	MODEL	MPO OUTPUT NOTE B	TYPE	PART NUMBER	IMPED. (In Ohms)	QTY. AND SIZE (In Inches)
E543W	Walnut	M	—	2x2W	Phono Only	849-100	8	2-6
E543W1	Walnut	M	—	2x2W	Phono Only	849-100	8	2-6
E585X	White	M, LL	15WER56	2x15W	FM/AM Phono	49-1168 49-1254	8 16	2-3½ 2-8
E743W	Walnut	M	—	2x2W	Phono Only	849-100	8	4-6
E743W1	Walnut	M	—	2x2W	Phono Only	849-100	8	4-6
D9011W	Walnut	M, SP	—	—	—	49-1237 49-1239	8 8	1-3 1-6½
E9012W	Walnut	M, SP	—	—	—	49-1168 49-1249	8 8	1-3½ 1-6½
E9014W E9014X	Walnut	M, SP	—	—	—	49-1168 49-1254	8 16	1-3½ 1-8
D9016W	Walnut	M, SP	—	—	—	849-82 849-83	16 16	1-6x9 1-2½
E9018W	Walnut	M, SP	—	—	—	49-1168 49-1240	8 16	1-3½ 1-10
E9029W	Walnut	M	15WEA10	2x15W	Decoder Amp.	Note E:X	—	—

NOTES

NOTE A – CABINET STYLE:

C = Console, M = Modular, P = Portable, H = Handle, DS = Detachable Speaker Enclosure, LL = Lift Lid, 2LL = Two Lift Lids, RL = Removable Lid, SP = Speaker System.

NOTE B – POWER OUTPUT:

Indicates number of channels and Momentary Power Output (MPO) per channel. Less than 5% Total Harmonic Distortion (THD), all channels added.

NOTE C – STYLUS:

Stylus: D = Diamond, S = Manufactured Sapphire.

NOTE D – TAPE INPUT AND OUTPUT PROVISION:

Field Installed: TM = Top of Set Model for installation with the designated console or modular models:
Model D635 - Cartridge Tape Player.
Model A636 - Cassette Tape Player/Recorder.
Model D638 - Cartridge Tape Player/Recorder.
Model D762 - Cartridge Tape Player.

NOTE E – SPEAKER PROVISIONS:

2+2 = Speaker Matrix or Conventional.
A1 = Model E9012W Allegro 1000 Speaker System may be used.
A2 = Model E9014W Allegro 2000 Speaker System may be used.
A3 = Model E9018W Allegro 3000 Speaker System may be used.
D = Model D9016W Speaker System may be used.
X = Speaker Systems not supplied. Use E9012, E9014, or E9018.

NOTE F – MISCELLANEOUS FEATURES:

A1 = Speaker System is Allegro 1000.
A2 = Speaker System is Allegro 2000.
A3 = Speaker System is Allegro 3000.
H = Headphone Jack.
PL = Power Indicator Light.
AUX = Auxiliary input accepts Record Changer E9026 or Tape Players listed under Note D.

PRODUCT FEATURES

SEE NOTES FOR FURTHER DETAILS

RECORD CHANGER					OTHER FEATURES			
MOUNTING	PART NUMBER	CARTRIDGE	STYLUS NOTE C	45 RPM ADAPTER	TAPE PROVISION NOTE D	RECORD WELL OR STORAGE	SPEAKER PROV. NOTE E	MISC. NOTE F
Shelf	169-477	142-179	D-S 56-629	808-2	–	–	–	H
Shelf	169-477	142-179	D-S 56-629	808-2	–	–	–	H
Shelf	169-466	142-167	D-S S-82621	S-82964	TM	–	2+2 A2, A3	A2, DGL, TT, H
Shelf	169-477-01	142-179	D-S 56-629	808-5	TM	–	2+2	H
Shelf	169-477-01	142-179	D-S 56-629	808-5	TM	–	2+2	H
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	A1
–	–	–	–	–	–	–	–	A2
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	A3
–	–	–	–	–	TM	–	A1, A2,A3,X	AUX

RECORD CHANGER FEATURES

Part No.	Mfg.	Baseplate	Turntable
169-466	VM	Black	Black
169-477	BSR	Beige	Black
169-477-01	BSR	Beige	Black

SECTION TWO
GENERAL INFORMATION

THEORY

From time to time Zenith includes the use of new components and circuit applications in product design. Theory and explanation of such components and circuits is included in various manuals. Refer to the index for further information.

CIRCUIT BOARD COMPONENT IDENTIFICATION

As a special feature to aid the Service Technician, Zenith has identified the location of components which are mounted on certain circuit boards. This information is printed on the circuit boards and also appears on the schematic. We have also prepared a drawing of the foil side of the circuit board showing the relationship between the components and the foil. This will aid the Technician in quickly tracing circuits, as not only are the components shown, but also the voltages at various check points. Components are identified by a letter/number combination. A letter prefix to indicate the type of component: C=Capacitor, L=Coil, R=Resistor, CR=Diode, etc. The numbers are assigned in blocks to identify the circuit, in which it is used, as follows.

Block	Stage	Example
1 - 99	FM Tuner	R1, C1, L1.
101 - 199	AM Tuner	R101, C101, L101.
201 - 299	IF	R201, C201, L201.
301 - 399	Multiplex	R301, C301, L301.
401 - 449	Audio, Right Channel	R401, C401, L401.
451 - 499	Audio, Left Channel	R451, C451, L451.
501 - 599	Power Supply	R501, C501, L501.
601 - 699	Switching Circuits	R601, C601, L601.
701 - 799	Special Applications	R701, C701, L701.
801 - 849	Audio, Right Back Channel	R801, C801, L801.
851 - 899	Audio, Left Back Channel	R851, C851, L851.

POWER AMPLIFIERS

Power transistors and their circuits are unique in operation, therefore, repair procedure differs from those steps followed when repairing tube type-circuits.

1. Each channel of the following amplifiers use a pair of matched power transistors in the final output stage. Therefore, should one transistor fail, both transistors must be replaced simultaneously, since they will not perform properly unless matched. (In chassis using complementary symmetry circuits a matched pair consists of one NPN and one PNP transistor.): 3AT20Z1, 3AT20Z2, 5WER50, 5WER51, 5WER53, 6AT24, 15WEA10, 15WDR50Z1, 15WDR51, 15WER55, 15WER56, 35WDR50, 35WDR50Z1.

2. When a power transistor is replaced the insulator (when used) between the transistor and the heat sink should also be replaced. On the following be certain to apply Dow Corning No. 340 heat conductive grease between the transistor and the insulator. Also between the insulator and the chassis. The Dow Corning grease can be obtained in 1 c.c. quantities by ordering Part No. 205-51: 5WER50, 5WER51, 5WER53, 6AT24, 15WEA10, 15WDR50Z1, 15WDR51, 15WER55, 15WER56, 35WDR50, 35WDR50Z1.

3. Do not operate these amplifiers without their proper speaker load.

4. Do not short out the audio output of either channel when the amplifier is operating.

5. Should a power transistor fail (short) be certain to replace the emitter resistors for the specific channel. Also be certain to check the condition of the silicon diode rectifiers and driver transistors.

6. Remove plug-in transistors from their sockets before doing any soldering to the socket lugs.

SECTION THREE
APPLICATIONS

SNAP-OFF ESCUTCHEON AND OUT FRONT CHASSIS REMOVAL

Many "E" line modular and console models are designed with a "snap-off" escutcheon that is held in place by three (quantity may vary, depending on model) studs and clips. This facilitates access for cleaning the back side of the escutcheon.

These same models are designed with chassis mounting screws located behind the escutcheon. The chassis may be removed thru the front of the modular models, or thru the top of the console models as explained later in this section.

Models and chassis which have the above provisions include the following:

CHASSIS 5WER50
MODELS E902W, ET902W, E903M, ET903M, E904DE, ET904DE

CHASSIS 15WER55
MODELS E911W, E912M, E913DE, E913P, ET914W, ET915DE, ET915P, E921DE, E921P, E922M

CHASSIS 5WER51
MODELS E584W, E587W, E588W

CHASSIS 15WER56
MODELS E585J, E589W, E594W

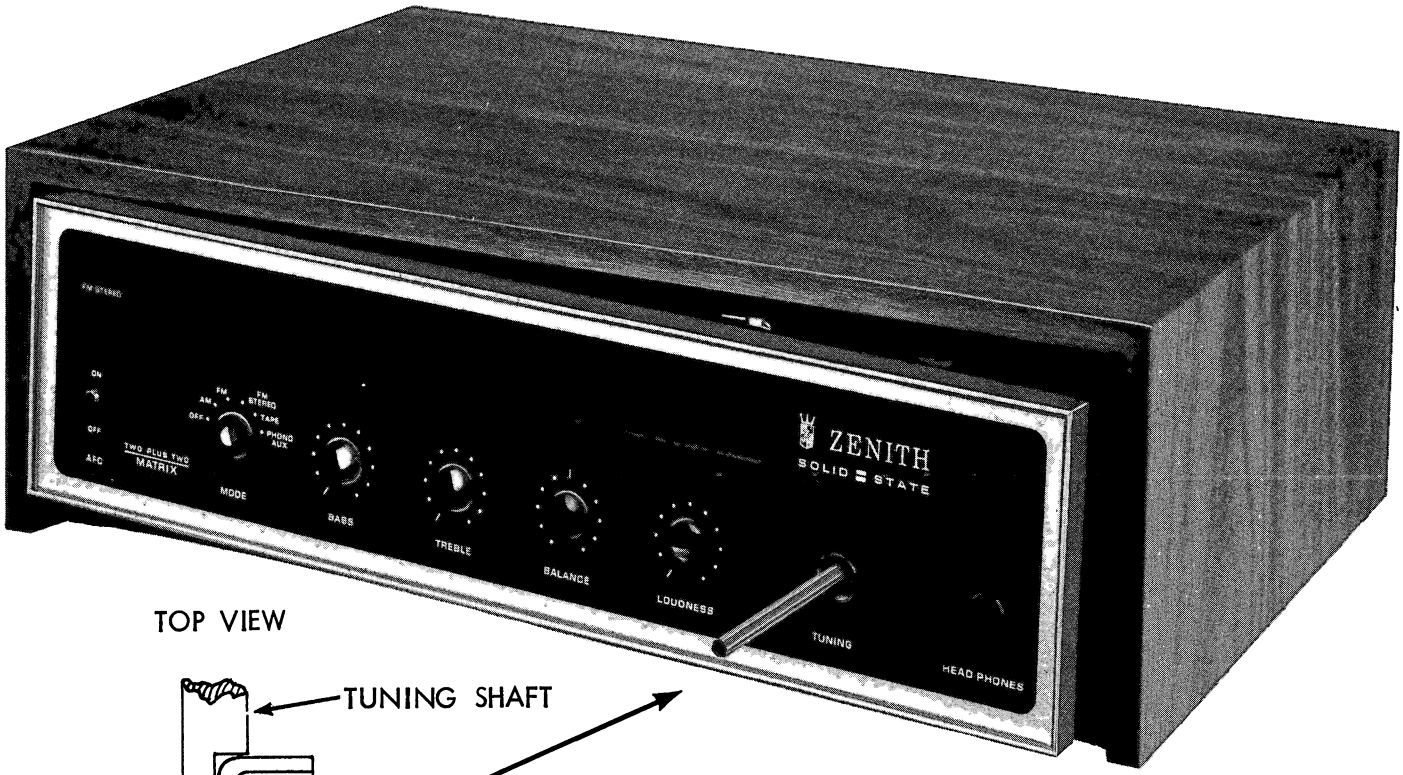
CHASSIS 5WER53
MODELS E445W, E680W, E685W

Model E445W is representative of those models which have the above features, and will be used in the following explanation.

ESCUTCHEON REMOVAL

Figure 1 illustrates the technique used:

1. Remove all knobs (except AFC) from the control panel.
2. Rotate tuning shaft so that the "flat" is vertical, and the cut-away portion is facing the headphone jack.
3. Refering to the top view in Figure 1A, insert the short end of a 1/8" (size may vary) "L" shaped Allen hex wrench between the shaft and the escutcheon.



TOP VIEW

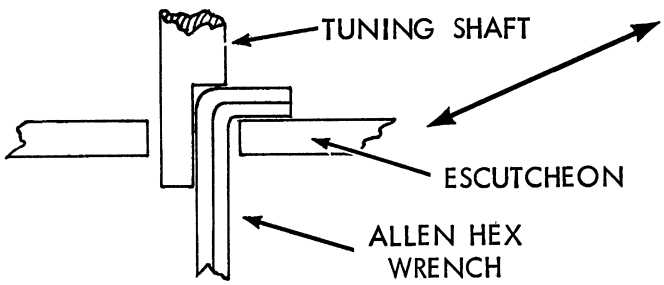


FIGURE 1A

FIGURE 1

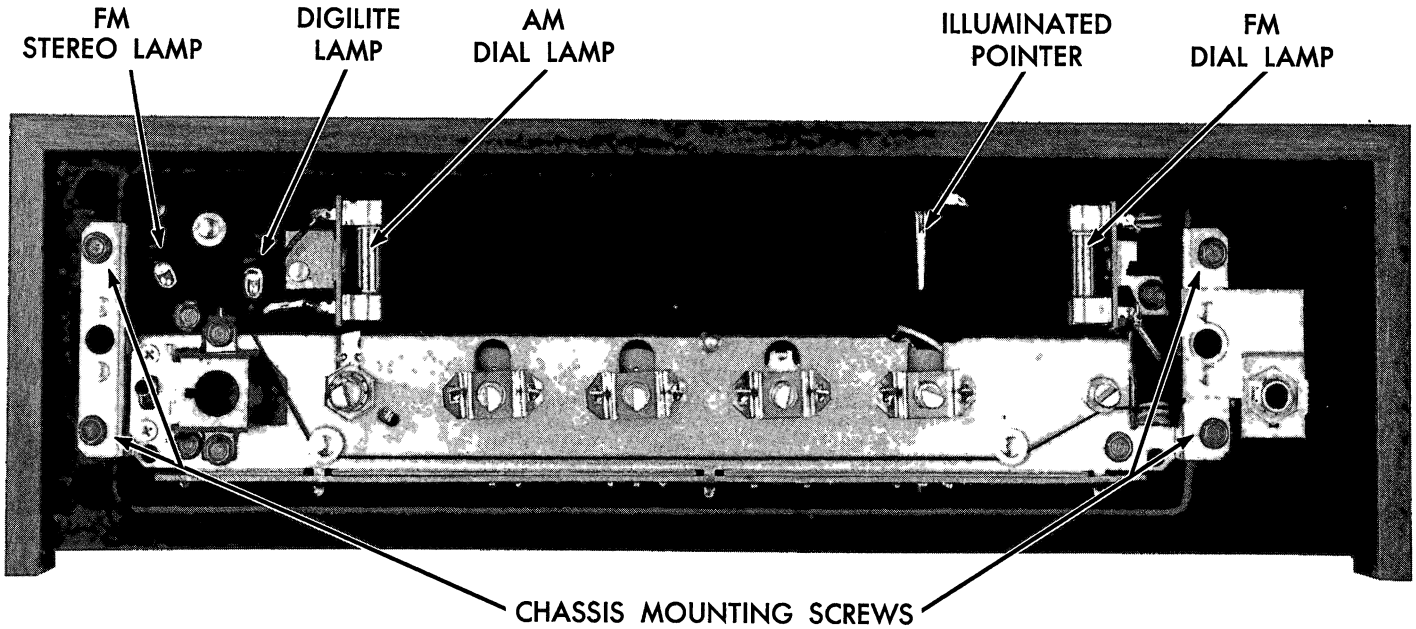


FIGURE 2

4. Position the short end of the wrench behind the escutcheon, with the wrench against the step of the shaft.

5. Moving wrench to left will apply pressure to the back of the escutcheon, causing the nearest stud and clip to disengage.

6. Remove wrench.

7. Grasp loosened end of escutcheon, and firmly pull escutcheon outward until all studs and clips are disengaged.

CAUTION – Refer to Figure 2. On some models the Stereo Indicator and Digilite Indicator lamps are mounted in gromments on the chassis, while on other models these lamps (in gromments) are fitted into the escutcheon.

8. Escutcheon is now removed.

FRONT CHASSIS REMOVAL

Figure 2 identifies the location of certain components involved. While Model E445W is representative of the disassembly procedure for the above models, there are some minor variations that must be noted. These variations will be denoted with the model number and variation shown in ( ).

1. Remove escutcheon as explained above.

2. Remove screws holding cabinet back and remove back (E584W, E585J - Remove screws holding cabinet bottom, and remove bottom).

3. Unmount both the Speaker Jack Assembly Bracket and the Antenna/Tape/Phono Connector Assembly Bracket from the cabinet back.

4. Untie cable retainers. (Disconnect record changer and tape unit cables when used.)

5. Remove one screw from bottom of cabinet under center of chassis (E584W, – Two screws.) (E585J – Four screws to remove bottom base, then two screws under chassis.) (E587W, E680W – Also four screws under tape assembly.)

6. Remove four screws from front of chassis. (E587W, E680W – Tape unit is secured to radio chassis with a bracket. There are two additional screws to the left of the tape unit.)

7. Slide radio chassis (E587W, E680W – Tape unit is mounted to radio chassis with a bracket), with attached brackets and cables, out thru front of cabinet.

This completes chassis removal.

When reinstalling chassis, be certain to reconnect cables, retie cable retainers, etc. Tape unit disassembly procedures are explained in the respective tape unit service manuals.

CHASSIS 5WER50

REFER TO SERVICE MANUAL HF29

CHASSIS 5WER51

REFER TO SERVICE MANUAL HF29

CHASSIS 5WER53

REFER TO SERVICE MANUAL HF29

CHASSIS 15WEA10

11-259	LINE CORD
12-5880	CHASSIS SUPPORT BRACKET (2 REQ.)
19-492	WIRE RETAINING CLIP (3 REQ.)
22-2939	680 PF CERAMIC CAPACITOR +10% -10% - 500V. (6 REQ.)
22-3034	.05 MF CERAMIC CAPACITOR +100% -50% - 25V. (2 REQ.)
22-3599	.015 MF TUBUALR CAPACITOR +10% -10% - 50V. (2 REQ.)
22-3687	1 MFD ELECTROLYTIC CAPACITOR +10% -10% - 50V. (2 REQ.)
22-3721	200 MFD ELECTROLYTIC CAPACITOR +100% -10% - 35V. (2 REQ.)
22-3891	6800 PFD TUBULAR CAPACITOR +10% -10% - 100V. (4 REQ.)
22-3937	100 MFD ELECTROLYTIC CAPACITOR +100% -10% - 25V. (2 REQ.)
22-4572	500 MFD ELECTROLYTIC CAPACITOR +100% -10% - 15V.
22-5159	.047 MFD TUBULAR CAPACITOR +10% -10% - 100V.
22-5816	.33 MFD POLY. CAPACITOR +10% -10% - 100V. (2 REQ.)
22-5862	.1 MFD MYLAR CAPACITOR +10% -10% - 100V. (2 REQ.)
22-6005	.01 MF CERAMIC CAPACITOR
22-6112	1000 MFD ELECTROLYTIC CAPACITOR +100% -10% - 65V.
22-6707	7 MFD ELECTROLYTIC CAPACITOR +30% -30% - 10V.
22-7142-01	2.2 MFD ELECTROLYTIC CAPACITOR +100% -10% - 25V. (2 REQ.)
33-397	PRINTED CIRCUIT BOARD FRAME
52-1287	3 CONDUCTOR CABLE
52-1642	2 CONDUCTOR SHIELDED CABLE
52-1991	SHIELDED CABLE - WITH LEAD & PLUG
54-139	3/8-32 X 9/16 PALNUT (4 REQ.)
54-334	FLAT RECTANGULAR SPRING NUT (4 REQ.)
63-1708	15 OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1740	82 OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1774	560 OHM RESISTOR - 1/2W. 5% (2 REQ.)
63-1777	680 OHM RESISTOR - 1/2W. 5% (2 REQ.)
63-1785	1K OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1792	1.5K OHM RESISTOR - 1/2W. 10%
63-1798	2.2K OHM RESISTOR - 1/2W. 5% (2 REQ.)
63-1810	3.9K OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1817	5.6K OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1824	8.2K OHM RESISTOR - 1/2W. 10%
63-1827	10K OHM RESISTOR - 1/2W. 10% (4 REQ.)
63-1831	12K OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1838	18K OHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1860	62K OHM RESISTOR - 1/2W. 5% (2 REQ.)
63-1918	1.5 MEGOHM RESISTOR - 1/2W. 10% (2 REQ.)
*63-1925	2.2 MEGOHM RESISTOR - 1/2W. 10% (2 REQ.)
63-1933	3.3 MEGOHM RESISTOR - 1/2W. 20%
63-7681	DUAL TREBLE CONTROL - 50K OHM
63-7682	DUAL BASS CONTROL - 100K OHM
63-9000	BALANCE CONTROL - 250K OHM
63-9784	.47 OHM RESISTOR - 2W. 10% (4 REQ.)
63-10224	CONTROL - LOUDNESS
78-2066	SOCKET - BAYNET LAMP, WITH MTG.
79-31-8	SLEEVING
79-174-12	#18 SLEEVING - YELLOW (2 REQ.)
79-243-12	3/8" SLEEVING
83-6192	5 LUG TERMINAL STRIP
83-6208	SINGLE LUG TERMINAL STRIP
*83-8297	INSULATING STRIP
83-8298	INSULATING STRIP (2 REQ.)
85-925-01	SLIDE SWITCH (PART OF S-96556)
85-1212	ROCKER SWITCH
85-1274	ROCKER SWITCH
85-1296	SLIDE SWITCH (PART OF S-96556)
85-1337	ROCKER SWITCH
86-543	MINIATURE SPRING TERMINAL (18 REQ.)
94-1586	PLAIN SHOULDER BUSHING (4 REQ.)
95-2981	AUTO TRANSFORMER (2 REQ.)
95-3008	POWER TRANSFORMER
100-249	PILOT LIGHT BULB
101-4712	WARNING OR CAUTION LABEL - FUSE REPLACEMENT
101-4716	WARNING OR CAUTION LABEL - FUSE REPLACEMENT
103-222	LOW VOLTAGE SILICON DIODE (2 REQ.)
112-793	6-20 X .250 RD. HD. PHILLIPS SCREW-STAT. BRONZE (4 REQ.)
114-159	6-18 X .250 HEX HD. SCREW - CADMIUM PLATE (6 REQ.)
114-802	8-18 X .312 HEX WASHER HD. SCREW-STAT. BRONZE (2 REQ.)
114-806	8-18 X 1/4 X 1/4 HEX WASHER HD. SELF-TAP. SCREW-STAT. BRONZE (1 USED ON EA. 12-5880)
114-1144	4-24 X .500 HEX WASHER HD. SCREW-STAT. BRONZE (2 USED ON EA. 121-926, 121-927)
121-430	PHASE INVERTER SOUND AMPLIFIER TRANSISTOR (2 REQ.)
121-433	TRANSISTOR (2 REQ.)
121-889	TRANSISTOR - NPN (2 REQ.)
121-926	TRANSISTOR - PNP (2 REQ.)
121-927	TRANSISTOR - NPN (2 REQ.)
125-140	LINE CORD RETAINING BUSHING (2 REQ.)
136-96	FUSE 1 AMP. 3AG - WITH LEAD - 125V.
136-103	FUSE - .750 AMP. - WITH LEADS
212-76	SILICON RECTIFIER (2 REQ.)
*S-91142	PHONE, JACK & STRIP ASSEM.
S-96556	SWITCH & BRACKET & JACK ASSEM.

* DENOTES PARTS NOT PREVIOUSLY USED

CHASSIS 15WER55

REFER TO SERVICE MANUAL HF29

CHASSIS 15WER56

REFER TO SERVICE MANUAL HF29

CHASSIS 35WDR50Z1

REFER TO SERVICE MANUAL HF29

MODEL E543W & E543W1

CHASSIS COMPONENTS

822-1069	.0015 MF CAPACITOR (2 REQ.)
822-1075	5 MF ELECTROLYTIC 25V. (2 REQ.)
822-1076	250 MF ELECTROLYTIC 16V. (2 REQ.)
*822-1317	500 MF ELECTROLYTIC 25V.
*822-1318	20 PF CAPACITOR (2 REQ.)
*822-1319	75 PF CAPACITOR (2 REQ.)
*844-49	HEADPHONE JACK (PART OF 844-69)
*844-69	HEADPHONE JACK ASSEM.
*863-843	150 OHM RESISTOR 1/2W. 10% (2 REQ.)
*863-844	330K OHM RESISTOR 1/2W. 10% (2 REQ.)
*863-845	LOUDNESS CONTROL
*863-846	TONE CONTROL
*863-847	BALANCE CONTROL
*863-848	4.7 MEGOHM RESISTOR 1/2W. 10% (2 REQ.)
*903-128	DIODE
*905-45	INTEGRATED CIRCUIT (2 REQ.)

CABINET COMPONENTS

*169-477	RECORD CHANGER
808-2	45 RPM ADAPTOR
*811-63	AC LINE CORD
*812-571	CONTROL MTG. BRACKET
*812-572	HEADPHONE JACK MTG. BRACKET (USED ON MODEL E543W ONLY)
*812-573	HEADPHONE JACK MTG. BRACKET (USED ON MODEL E543W1 ONLY)
*814-289	REMOTE SPEAKER CABINET (2 REQ.)
814-290	MAIN CABINET ASSEM.
*816-157	PACKING CARTON
*821-38	COLLAR FOR RECORD CHANGER PACKING
*824-254	DUST COVER ASSEM.
*824-255	REMOTE SPEAKER CABINET BACK COVER (2 REQ.)
827-26	LOGO (45 RPM ADAPTOR)
827-38	INSERT DISC - ZENITH - (PART OF 824-254)
*846-447	CONTROL KNOB LOUDNESS, TONE & BALANCE (3 REQ.)
849-79	SPEAKER 6" (2 REQ.)
*852-101	PHONO CABLE ASSEM.
852-102	SPEAKER CABLE ASSEM. (2 REQ.)
854-123	PALNUT (2 MT. EACH 849-78)
854-127	NUT (PART OF 844-49)
*854-159	TINNERMAN NUT (2 MT. 857-775)
*857-775	NAMEPLATE (2 REQ.)
*883-457	BEADED TIE
*886-120	TERMINAL (2 PART OF 852-102)
*886-121	TERMINAL (3 PART OF 852-101)
*893-414	WASHER (4 PART OF 169-477)
*894-119	SPACER BUSHING (4 PART OF 169-477)
*901-202	LAYOUT LABEL
*901-203	FUSE LABEL (USED ON E543W1 ONLY)
*901-1288	INSTRUCTION BOOK
*912-981	6 X 3/8 SCREW TYPE 25 (3 MT. CHASSIS AND 1 MTS. EACH 812-571 & 812-572 OR 812-573)
*912-982	8 X 5/8 SHEET METAL SCREW (4 MT. 824-255)
*912-983	8 X 1 1/8 SCREW TYPE 25 (4 REQ.)
*925-13	STRAIN RELIEF GROMMET
*925-14	RUBBER MOUNTING (4 REQ.)
*936-23	FUSE .6 AMP (USED ON E543W1 ONLY)
*957-10	ONSERT - SPEED NUT (4 REQ.)

MODEL E743W & E743W1

CHASSIS COMPONENTS

REF. NO.	PART NO.	DESCRIPTION
C401	822-1069	.0015 MF CAPACITOR
C402	822-1318	20 PF CAPACITOR
C403	822-1075	5 MF ELECTROLYTIC 25V.
C404	822-1319	75 PF CAPACITOR
C405	822-1076	250 MF ELECTROLYTIC 16V.
C451	822-1069	.0015 MF CAPACITOR
C452	822-1318	20 PF CAPACITOR
C453	822-1075	5 MF ELECTROLYTIC 25V.
C454	822-1319	75 PF CAPACITOR

MODEL E743W & E743W1

CHASSIS COMPONENTS CONT'D

REF. NO.	PART NO.	DESCRIPTION
C455	822-1076	250 MF ELECTROLYTIC 16V.
C501	822-1317	500 MF ELECTROLYTIC 25V.
R401	863-765	100K OHM RESISTOR 1/2W. 10%
R402	863-197	220K OHM RESISTOR 1/2W. 10%
R403	863-846	DUAL TONE CONTROL 3 MEGOHM
R404	863-845	DUAL LOUDNESS CONTROL 3 MEGOHM
R405	863-847	BALANCE CONTROL 3 MEGOHM
R406	863-848	4.7 MEGOHM RESISTOR 1/2W. 10%
R407	863-843	150 OHM RESISTOR 1/2W. 10%
R408	863-874	2.7 OHM RESISTOR 1/2W. 10%
R409	863-875	15 OHM RESISTOR 12W. 10%
R451	863-765	100K OHM RESISTOR 1/2W. 10%
R452	863-197	220K OHM RESISTOR 1/2W. 10%
R453		PART OF R403
R454		PART OF R404
R456	863-848	4.7 MEGOHM RESISTOR 1/2W. 10%
R457	863-843	150 OHM RESISTOR 1/2W. 10%
R458	863-874	2.7 OHM RESISTOR 1/2W. 10%
F501	136-87	FUSE (USED ON E743W1 ONLY)
J401		PART OF 812-596
J402		PART OF 812-596
J403	844-49	HEADPHONE JACK
J404		PART OF 812-596
J451		PART OF 812-596
J452		PART OF 812-596
J454		PART OF 812-596
J801		PART OF 812-596
J851		PART OF 812-596
S401	885-196	ROTARYPHONO - TAPE SWITCH
S402	885-194	SLIDE SWITCH (MATRIX)
S501		PART OF S-401
T501	895-519	TRANSFORMER ASSEMBLY
CR501	903-128	DIODE
IC401	905-45	INTEGRATED CIRCUIT
IC451	905-45	INTEGRATED CIRCUIT
LS401	849-100	6" SPEAKER 8 OHM
LS451	849-100	6" SPEAKER 8 OHM
LS801	849-100	6" SPEAKER 8 OHM
LS851	849-100	6" SPEAKER 8 OHM
P404	852-102	SPEAKER CABLE ASSEM.
P454	852-102	SPEAKER CABLE ASSEM.
P801	852-113	SPEAKER CABLE ASSEM.
P851	852-113	SPEAKER CABLE ASSEM.

CABINET COMPONENTS

169-477-01	RECORD CHANGER
808-5	45 RPM ADAPTOR
811-63	LINE CORD
812-593	FRONT BRACKET (MTS HEADPHONE JACK AND SLIDE SWITCH)
812-594	REAR BRACKET WITH JACKS FOR REMOTE SPEAKERS
814-289	REMOTE SPEAKER CABINET (4 REQ.)
814-296	CASE ASSEMBLY
816-158	FILLERS FOR PACKING CARTON
816-179	PACKING CARTON
823-14	BUTT SPLICE
824-254	DUST COVER ASSEM.
824-255	BACK COVER FOR REMOTE SPEAKER CABINET (4 REQ.)
827-26	NAMEPLATE (PART OF 808-5)
827-38	NAMEPLATE (PART OF 824-254)
846-447	CONTROL KNOB (TONE-LOUDNESS-BALANCE) (3 REQ.)
846-462	KNOB-PHONO/TAPE SWITCH
852-111	INPUT CABLE ASSEM. (12" LONG)
852-112	PHONE CABLE ASSEM. (6" LONG)
854-126	NUT (MTS 885-196)
854-127	NUT (PART OF 844-49)
854-159	TINNERMAN SPEED NUT (MTS 857-775)
855-60	CONTROL PANEL
857-775	NAMEPLATE (1 USED ON EACH 814-289)
878-24	RECEPTACLE (3 PART OF EACH 852-111, 844-49 AND 2 PART OF 895-519)
883-456	PLASTIC WIRE TIES (5 REQ.)
886-89	TERMINAL (8 REQ.)
886-120	TERMINAL (2 PART OF 852-102)
886-121	FASTON (3 PART OF 852-112)
893-414	WASHER (4 PART OF 169-477-01)
902-1327	INSTRUCTION BOOK
912-981	SCREW (2 MTS EACH 895-519, 855-60, 812-594 AND PRINTED CIRCUIT BOARD)
912-982	SCREW (4 MTS 824-255)
912-983	CHANGER MTG SCREW (4 REQ.)
925-13	STRAIN RELIEF GROMMET (USED ON AC CORD)
925-14	RUBBER MOUNTINGS (4 REQ.)

MODEL D9011W

*2-3694	CABINET BACK (2 PART OF 14-10605)
*14-10605	MAIN SPEAKER CABINET (2 REQ.)
*16-4394	CARTON
22-4588	2 MF ELECTROLYTIC - 30V. (2 REQ.)
*30-463	EMBLEM
46-4649	AC CORD RETAINER (4 REQ.)
46-4650	CORD RETAINER (4 REQ.)
*49-1237	ROUND SPEAKER - 3" (2 REQ.)
*49-1239	ROUND SPEAKER - 6.5" (2 REQ.)
54-423	6-32 X 5/16 HEX PALNUT WASHER (16 REQ.)
*54-910	SPRING FLAT NUT (USED ON 30-463)
83-4016	CUSHIONING CELLULOSE WADDING - 30 X 54

* DENOTES PARTS NOT PREVIOUSLY USED

MODEL D9011 CONT'D

83-8481	SOUND PAD (2 REQ.)
86-329	CONNECTOR TERMINAL (8 REQ.)
112-1636	6-18 X 3/4 PHILLIPS SCREW (12 REQ.)
114-1011	8-18 X 1" X 1/4 SELF-TAP. SCREW (4 REQ.)
883-394	TRIM (2 REQ.)
910-832	GRILLE CLOTH (2 REQ.)
912-801	138-32 UNC - 2A X 1.00 NIBBED SCREW (16 REQ.)
*S-92889	SPEAKER LEAD & PLUG ASSEM. (2 REQ.)

MODEL E9012W

PART NO.	DESCRIPTION
*14-10757	MAIN SPEAKER CABINET
*16-4607	CARTON
*22-5053	4MF ELECTROLYTIC - 30V. +30% -10%
30-517	DECORATIVE ITEM - NAME PLATE
49-1168	HORN SPEAKER
49-1249	ROUND SPEAKER - 6 1/2 INCH
54-423	6-32 X 5/16 PALNUT WASHER (1 USED ON EA. 112-2269)
54-929	SPRING NUT (4 REQ.)
54-930	PUSH TWIST NUT
80-2318	COMPRESSION SPRING
83-5872	TERMINAL STRIP
83-8466	SOUND DEADENING - RECTANGLE
83-8495	SOUND DEADENING - RECTANGLE
86-329	CONNECTOR TERMINAL (4 REQ.)
93-1871	INSULATING WASHER
112-2269	8-18 X 1 PHILLIPS OVAL HD. SCREW (6 REQ.)
138-1544	CABINET GRILLE
157-22	COIL FASTENER (2 REQ.)
196-571	SPEAKER GASKET
*196-572	RECTANGLE GASKET
*220-335	PACKING CUSHIONING MATERIAL
S-81641	FILTER COIL ASSEM.
S-92881	REMOTE SPEAKER CABLE ASSEM.
S-92899	SPEAKER LEAD AND PLUG ASSEM.

MODEL E9014W

PART NO.	DESCRIPTION
*14-10754	MAIN SPEAKER CABINET
*16-4608	CARTON
20-3580	CROSS-OVER COIL
*22-5053	4MF ELECTROLYTIC - 30V. +30% -10%
30-517	DECORATIVE ITEM - NAME PLATE
49-1168	HORN SPEAKER
49-1254	ROUND SPEAKER - 8 INCH
54-423	6-32 X 5/16 PALNUT WASHER (1 USED ON EA. 112-2269)
54-929	SPRING NUT (4 REQ.)
54-930	PUSH TWIST NUT
63-5961	2.7 OHM RESISTOR - 1W. 10%
80-2318	COMPRESSION SPRING
83-4234	CABLE RETAINER (2 REQ.)
83-7320	TERMINAL BOARD
83-8466	SOUND DEADENING - RECTANGLE
83-8495	SOUND DEADENING - RECTANGLE
86-329	CONNECTOR TERMINAL (6 REQ.)
86-452	CONNECTOR TERMINAL (2 REQ.)
112-2269	8-18 X 1 PHILLIPS OVAL HD. SCREW (6 REQ.)
138-1544	CABINET GRILLE
157-22	COIL FASTENER (2 REQ.)
196-571	SPEAKER GASKET
*196-572	RECTANGLE GASKET
*220-395	PACKING CUSHIONING MATERIAL
S-92881	REMOTE SPEAKER CABLE ASSEM.
S-92899	SPEAKER LEAD AND PLUG ASSEM.

MODEL E9014X

PART NO.	DESCRIPTION
*14-10754-01	MAIN SPEAKER CABINET
*16-4608	CARTON
20-3580	CROSS-OVER COIL
*22-5053	4MF ELECTROLYTIC - 30V. +30% -10%
30-517	DECORATIVE ITEM - NAME PLATE
49-1168	HORN SPEAKER
49-1254	ROUND SPEAKER - 8 INCH
54-423	6-32 X 5/16 PALNUT WASHER (1 USED ON EA. 112-2269)
54-929	SPRING NUT (4 REQ.)
54-930	PUSH TWIST NUT
63-5961	2.7 OHM RESISTOR - 1W. 10%
80-2318	COMPRESSION SPRING
83-4234	CABLE RETAINER (2 REQ.)
83-7320	TERMINAL BOARD
83-8466	SOUND DEADENING - RECTANGLE
83-8495	SOUND DEADENING - RECTANGLE
86-329	CONNECTOR TERMINAL (6 REQ.)
86-452	CONNECTOR TERMINAL (2 REQ.)
112-2269	8-18 X 1 PHILLIPS OVAL HD. SCREW (6 REQ.)
138-1544	CABINET GRILLE
157-22	COIL FASTENER (2 REQ.)
196-571	SPEAKER GASKET
*196-572	RECTANGLE GASKET
*220-395	PACKING CUSHIONING MATERIAL
S-92881	REMOTE SPEAKER CABLE ASSEM.
S-92899	SPEAKER LEAD AND PLUG ASSEM.

MODEL D9016

812-458B	BISS (USED ON 939-548)
814-228B	CABINET
816-114B	CARTON & FILLER
822-1118B	1.5 MF CAPACITOR - 100V.
849-82B	SPEAKER - 6 X 9

MODEL D9016 CONT'D

849-83B	SPEAKER - 2 1/2"
852-84B	CORD, VINYL
854-134B	NUT, SPEED (MTS. 857-662B)
854-135B	NUT (MTS. 849-82B)
*854-136B	NUT (MTS. 886-100B)
857-662B	NAME PLATE (ZENITH)
*883-346B	VINYL TIE (USED ON 891-39B)
*884-18B	BISS (USED ON 886-100B)
886-100B	TERMINAL BOARD
886-101B	RELAY TERMINAL
891-36B	CORD, VINYL (JOINS TERMINAL & 849-82B)
891-37B	CORD, VINYL (JOINS 849-82B & 849-83B)
891-38B	CORD, VINYL (JOINS 822-1118B & 849-83B)
891-39B	CORD, VINYL
*893-338B	WASHER, SPRING
910-831B	GRILLE CLOTH
939-54B	BAFFLE BOARD

MODEL E9018W

PART NO.	DESCRIPTION
*14-10756	MAIN SPEAKER CABINET
*16-4609	CARTON
20-3580	CROSS-OVER COIL
*22-5053	4MF ELECTROLYTIC - 30V. +30% -10%
30-517	DECORATIVE ITEM - NAME PLATE
49-1168	HORN SPEAKER
49-1240	ROUND SPEAKER - 10 INCH
54-423	6-32 X 5/16 PALNUT WASHER (1 USED ON EA. 112-2269)
54-424	8-32 X 11/32 PALNUT WASHER (1 USED ON EA. 112-2269)
54-929	SPRING NUT (4 REQ.)
54-930	PUSH TWIST NUT
63-5961	2.7 OHM RESISTOR - IW. 10%
80-2318	COMPRESSION SPRING
83-4234	CABLE RETAINER (2 REQ.)
83-7320	TERMINAL BOARD
83-8466	SOUND DEADENING - RECTANGLE (3 REQ.)
86-329	CONNECTOR TERMINAL (6 REQ.)
86-452	CONNECTOR TERMINAL (2 REQ.)
112-2269	8-18 X 1 PHILLIPS OVAL HD. SCREW (6 REQ.)
138-1544	CABINET GRILLE
157-22	COIL FASTENER (2 REQ.)
196-571	SPEAKER GASKET
*196-572	RECTANGLE GASKET
*220-358	PACKING CUSHIONING MATERIAL
S-92881	REMOTE SPEAKER CABLE ASSEM.
S-92899	SPEAKER LEAD AND PLUG ASSEM.

MODEL E9029

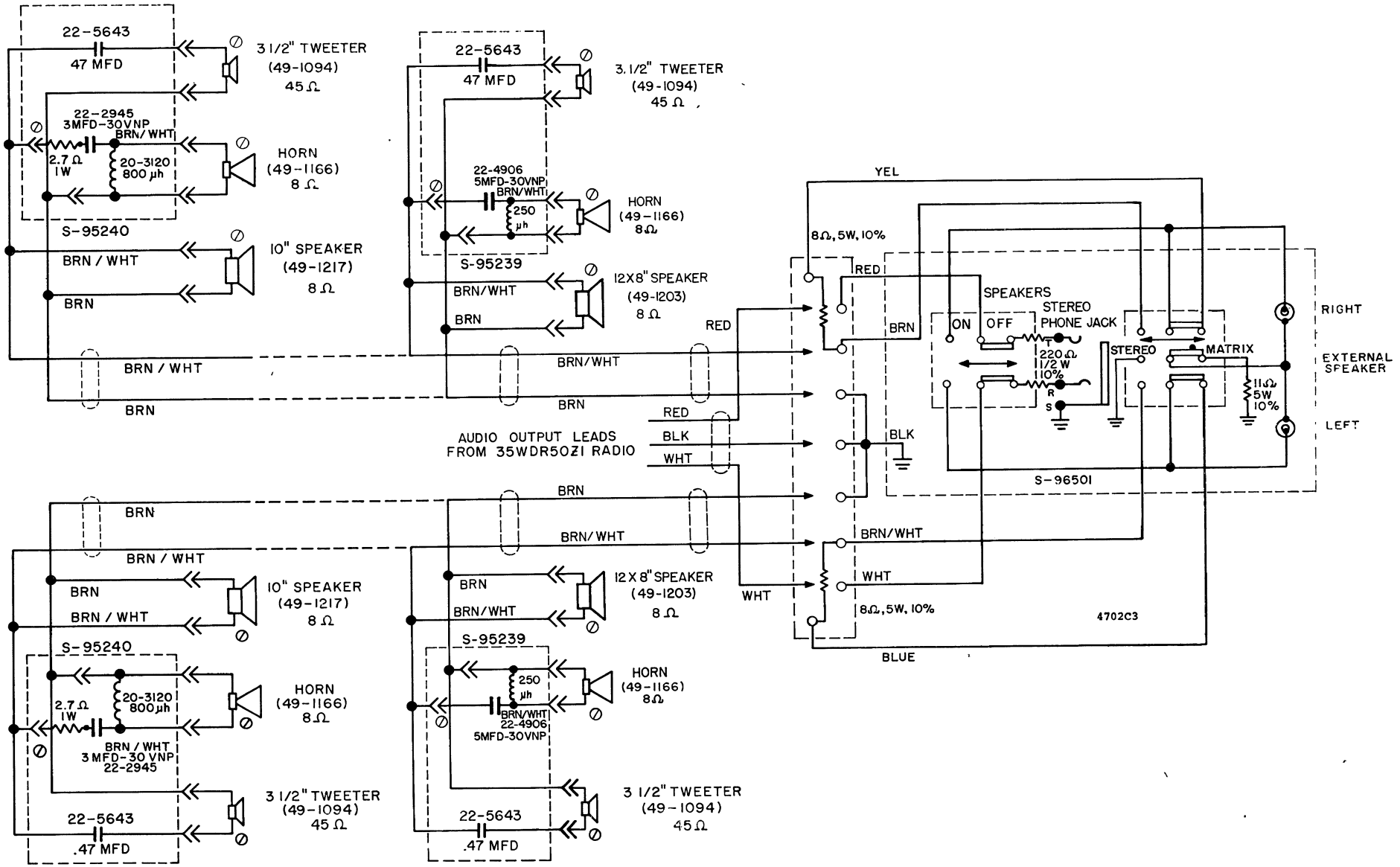
USING CHASSIS 15WEA10

2-3597-01	CABINET BACK
*14-10465-01	CABINET
15-265	PLASTIC END CAP (2 PART OF S-91213)
*16-4610	PACKING CARTON
46-9054	CONTROL KNOB - BASS, TREBLE, BALANCE & LOUDNESS (4 REQ.)
57-8735	CONTROL ESCUTCHEON
78-2094	DUAL PHONO JACK (2 REQ.)
83-4263	SOUND DEADENING PAD
*101-5556	TRANSISTOR LAYOUT & PATENT LABEL
114-159	6-18 X .250 HEX HD. SCREW (4 REQ.)
114-329	6-18 X 3/8 HEX HD. SCREW (4 REQ.)
114-803	6-20 X .250 HEX HD. SELF-TAP. SCREW (4 REQ.)
114-862	8-18 X .5 HEX HD. SELF-TAP. SCREW (4 REQ.)
114-1055	8-18 X 1/2 HEX HD. SELF-TAP. SCREW-STAT. BRONZE (4 REQ.)
126-1312	STEREO INDICATOR SHIELD
192-509	JEWEL INDICATOR LIGHT (PART OF S-91213)
*202-3649	INSTRUCTION BOOK
*220-359	PACKING CUSHIONING MATERIAL (2 REQ.)
*S-91213	CONTROL ESCUTCHEON ASSEM.
S-91346	SHIELDED LEAD & PLUG ASSEM.
S-91432	SHIELDED LEAD & PLUG ASSEM.

* DENOTES PARTS NOT PREVIOUSLY USED

SPEAKER WIRING FOR MODELS: E931W, E935M & E939P

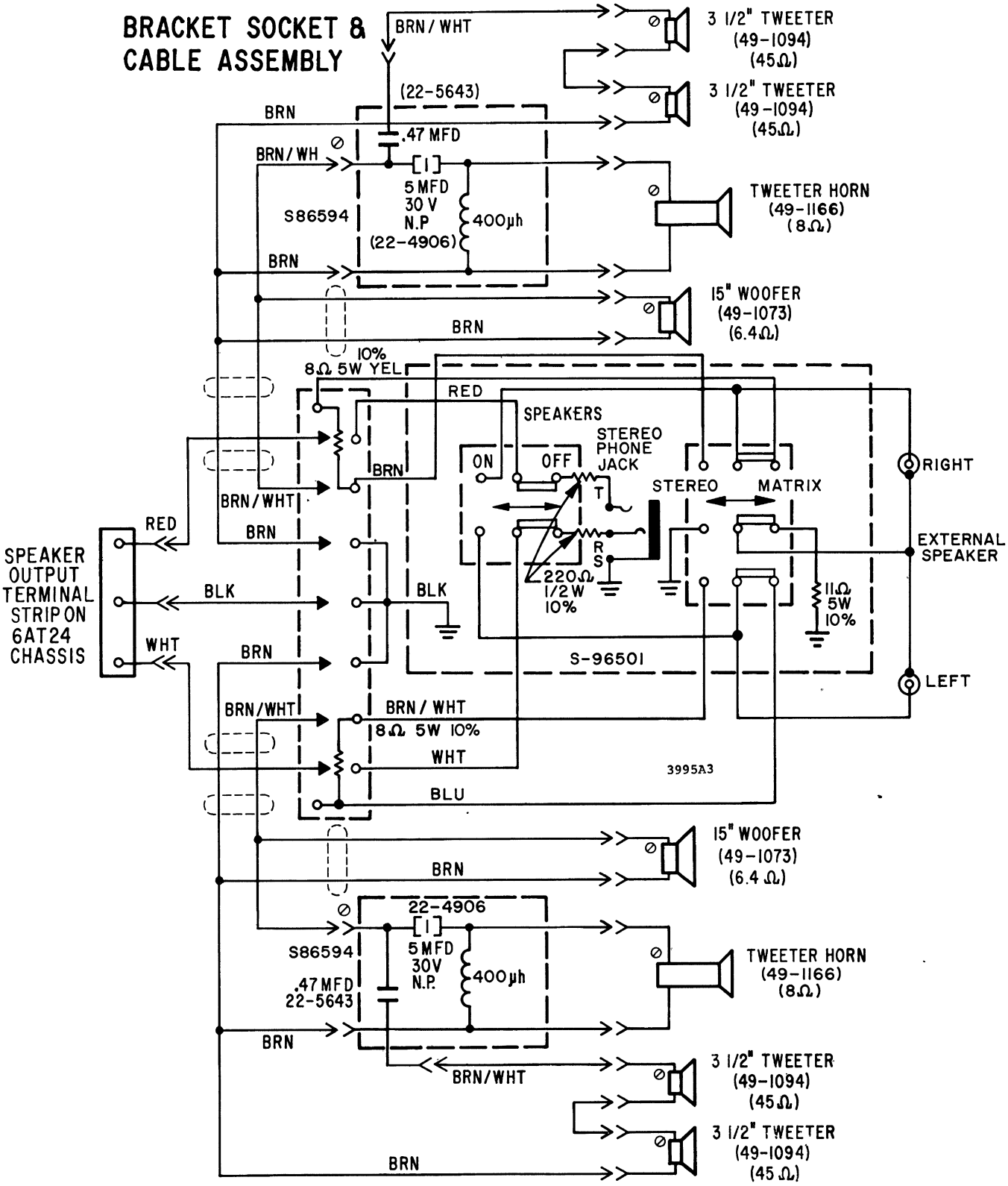
SPEAKER WIRING FOR MODEL E945DE



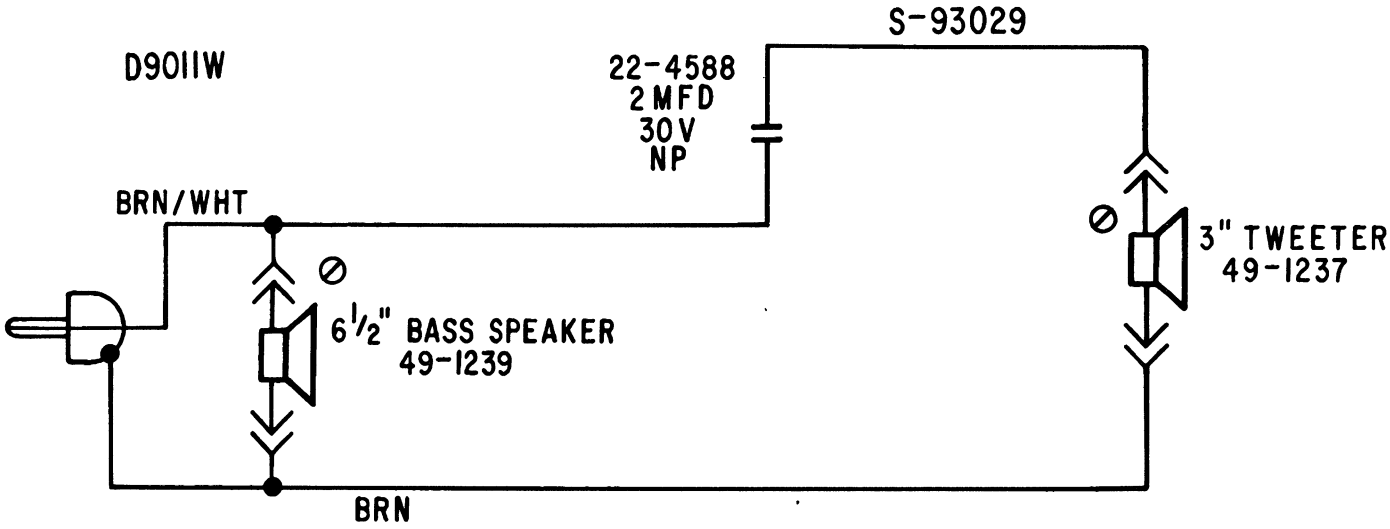
⊘ INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER

SPEAKER HOOKUP FOR MODELS:

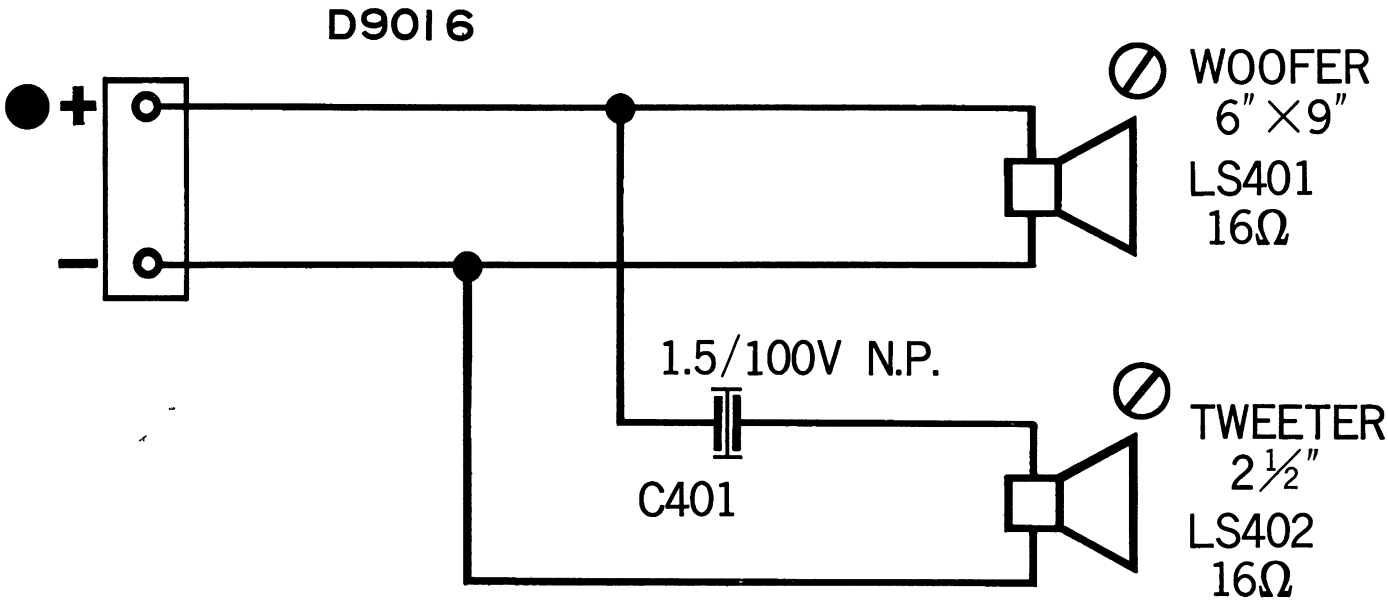
E966DE, E966P



SPEAKER WIRING SCHEMATICS



⊘INDICATES SPEAKER POLARIZATION

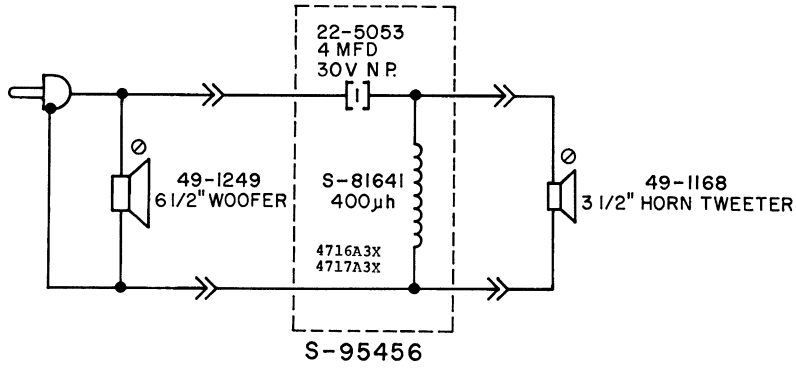


⊘ INDICATES VOICE COIL POLARITY IDENTIFICATION MARK ON SPEAKER

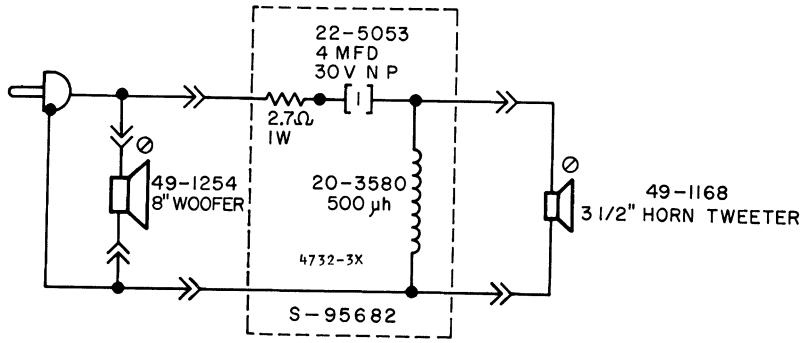
● COLOR DOT INDICATES SPEAKER SYSTEM POLARITY

MODELS D9011W AND D9016W – SPEAKER WIRING SCHEMATICS

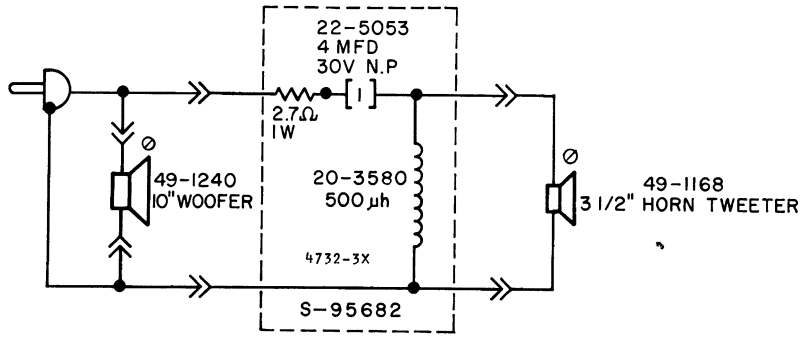
ALLEGRO 1000
MODELS: E445W, E680W, E685W
E584W, E587W, E588W
E9012W



ALLEGRO 2000
MODELS: E585J, E586W
E9014W, X

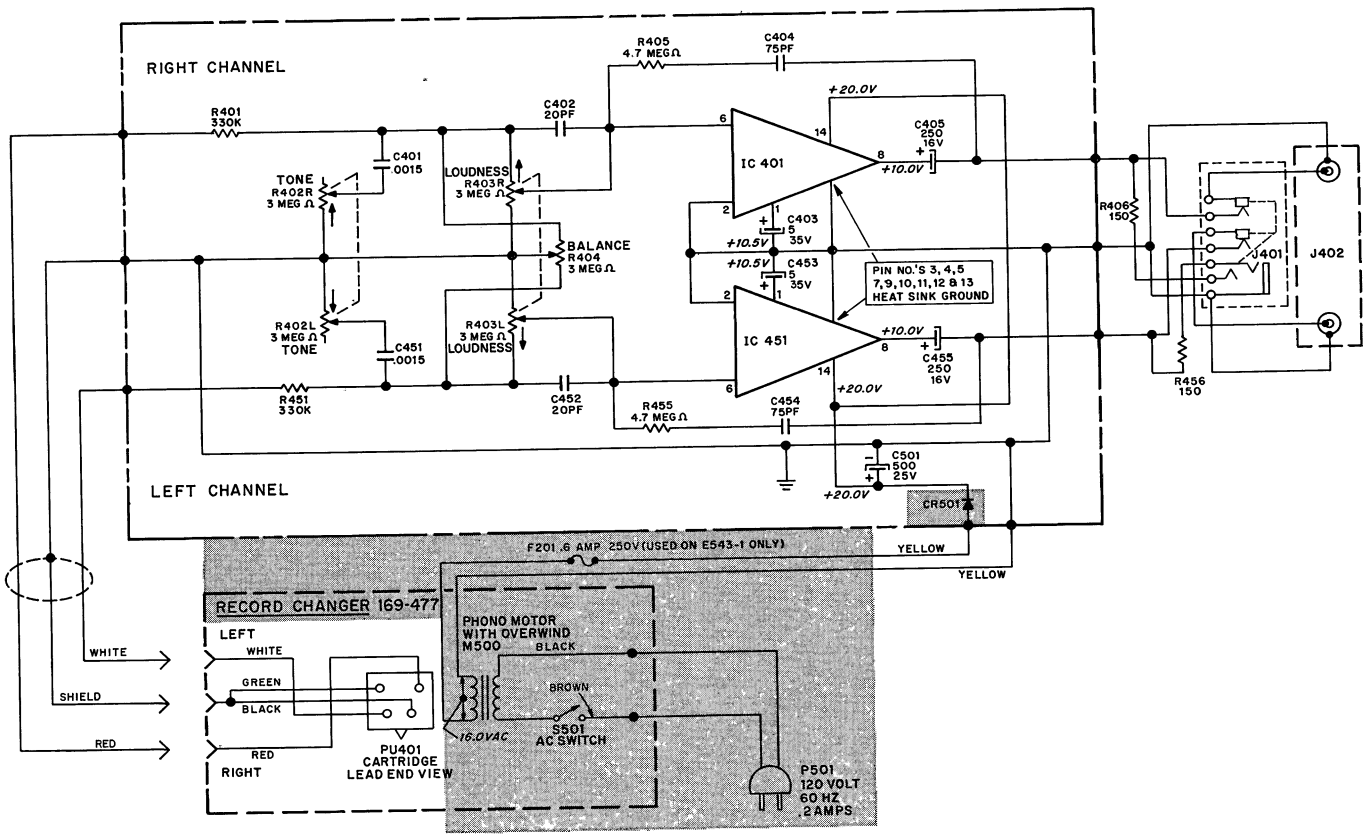


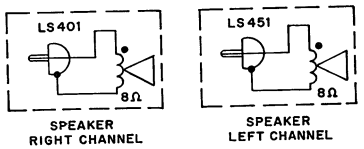
ALLEGRO 3000
MODELS: E589W, E594W
E9018W

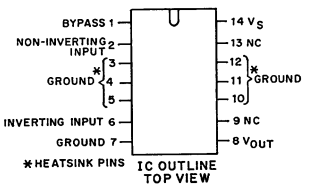


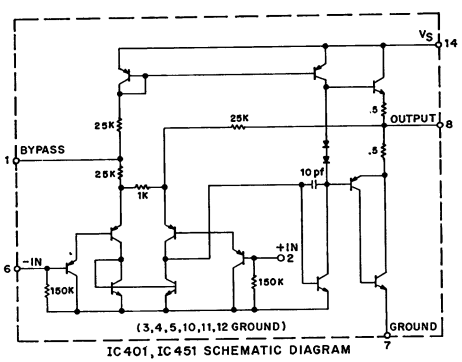
NOTE:
Ø INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER.

MODELS E9012, E9014 AND E9018 – SPEAKER WIRING SCHEMATICS









IC401, IC451 SCHEMATIC DIAGRAM

MODEL E543W & E543W1

REF NO.	PART NO.	DESCRIPTION
C401	822-1069	.0015 MF CAPACITOR
C402	822-1318	20 PF CAPACITOR
C403	822-1075	5 MF ELECTROLYTIC 25V
C404	822-1319	75 PF CAPACITOR
C405	822-1076	250 MF ELECTROLYTIC 16V
C451	822-1069	.0015 MF CAPACITOR
C452	822-1318	20 PF CAPACITOR
C453	822-1075	5 MF ELECTROLYTIC 25V.
C454	822-1319	75 PF CAPACITOR
C455	822-1076	250 MF ELECTROLYTIC 16V
C501	822-1317	500 MF ELECTROLYTIC 25V.
R401	863-844	330K OHM RESISTOR 1/2W. 10%
R402	863-846	DUAL TONE CONTROL 3 MEGOHM
R403	863-845	DUAL LOUDNESS CONTROL 3 MEGOHM
R404	863-847	BALANCE CONTROL 3 MEGOHM
R405	863-848	4.7 MEGOHM RESISTOR 1/2W. 10%
R406	863-843	150 OHM RESISTOR 1/2W. 10%
R451	863-844	330K OHM RESISTOR 1/2W. 10%
R455	863-848	4.7 MEGOHM RESISTOR 1/2W. 10%
R456	863-843	150 OHM RESISTOR 1/2W. 10%
F501	836-23	FUSE (USED ON E543W1 ONLY)
J401	844-49	HEADPHONE JACK
CR501	903-123	DIODE
IC401	905-45	INTEGRATED CIRCUIT
IC451	905-45	INTEGRATED CIRCUIT
LS401	849-79	6" SPEAKER 8 OHM
LS451	849-79	6" SPEAKER 8 OHM
P404	852-102	SPEAKER CABLE ASSEM.
P454	852-102	SPEAKER CABLE ASSEM.

Z050973

IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADED ON THE SCHEMATIC AND PARTS LISTS FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

NOTES:

ALL RESISTORS IN OHMS ±10%, 1/2 WATT CARBON UNLESS OTHERWISE SPECIFIED.

ALL CAPACITORS IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

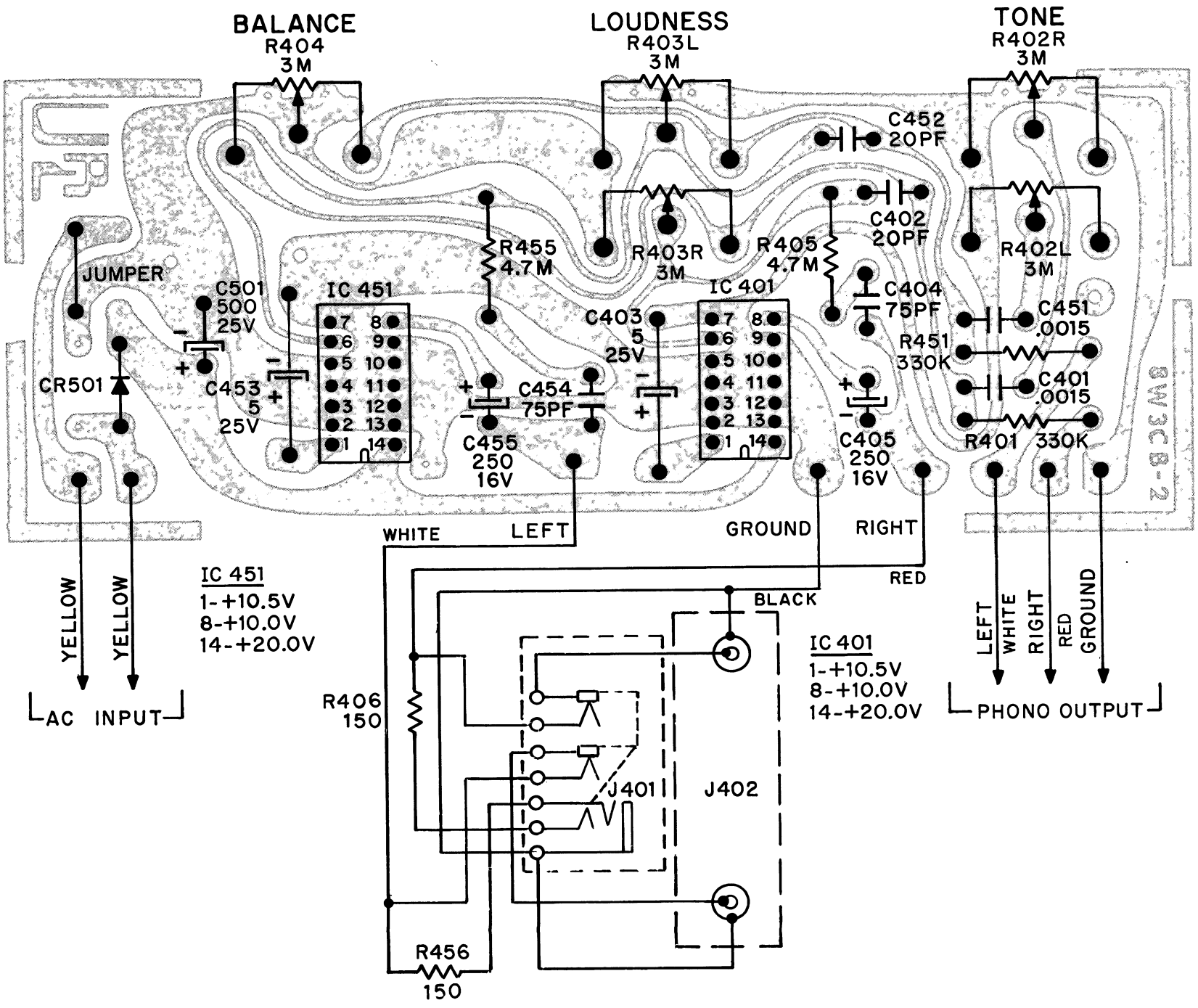
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED. D.C. VOLTAGES ARE MEASURED FROM CHASSIS WITH NO SIGNAL AND VOLUME CONTROL AT MINIMUM USING A HIGH INPUT IMPEDANCE V.T.V.M. LINE VOLTAGE AT 120 V.D.C.

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.

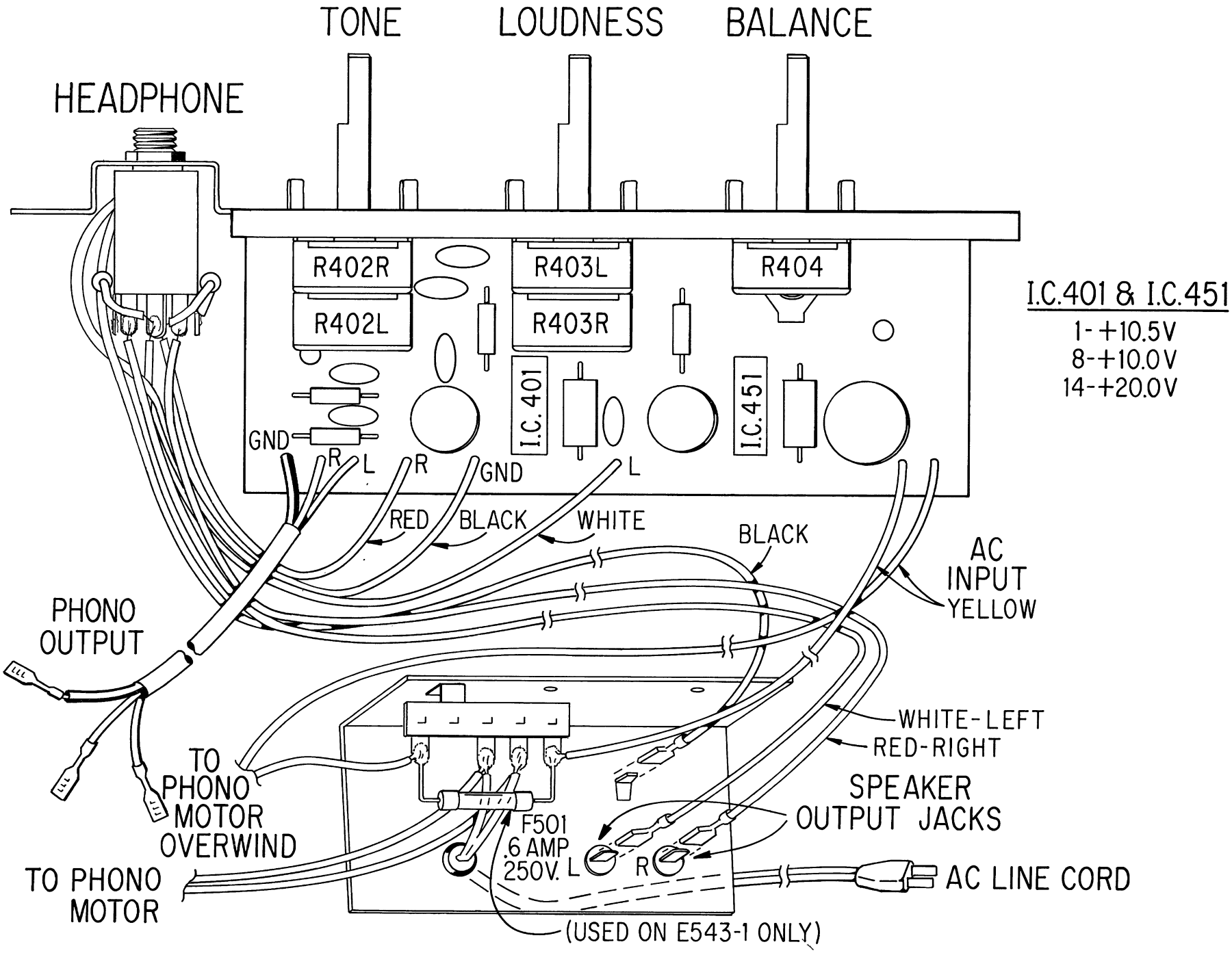
⏚ INDICATES CHASSIS GROUND.

→ ⟩— INDICATES CONNECTOR TIE POINTS.

MODEL E543(-1) – SCHEMATIC



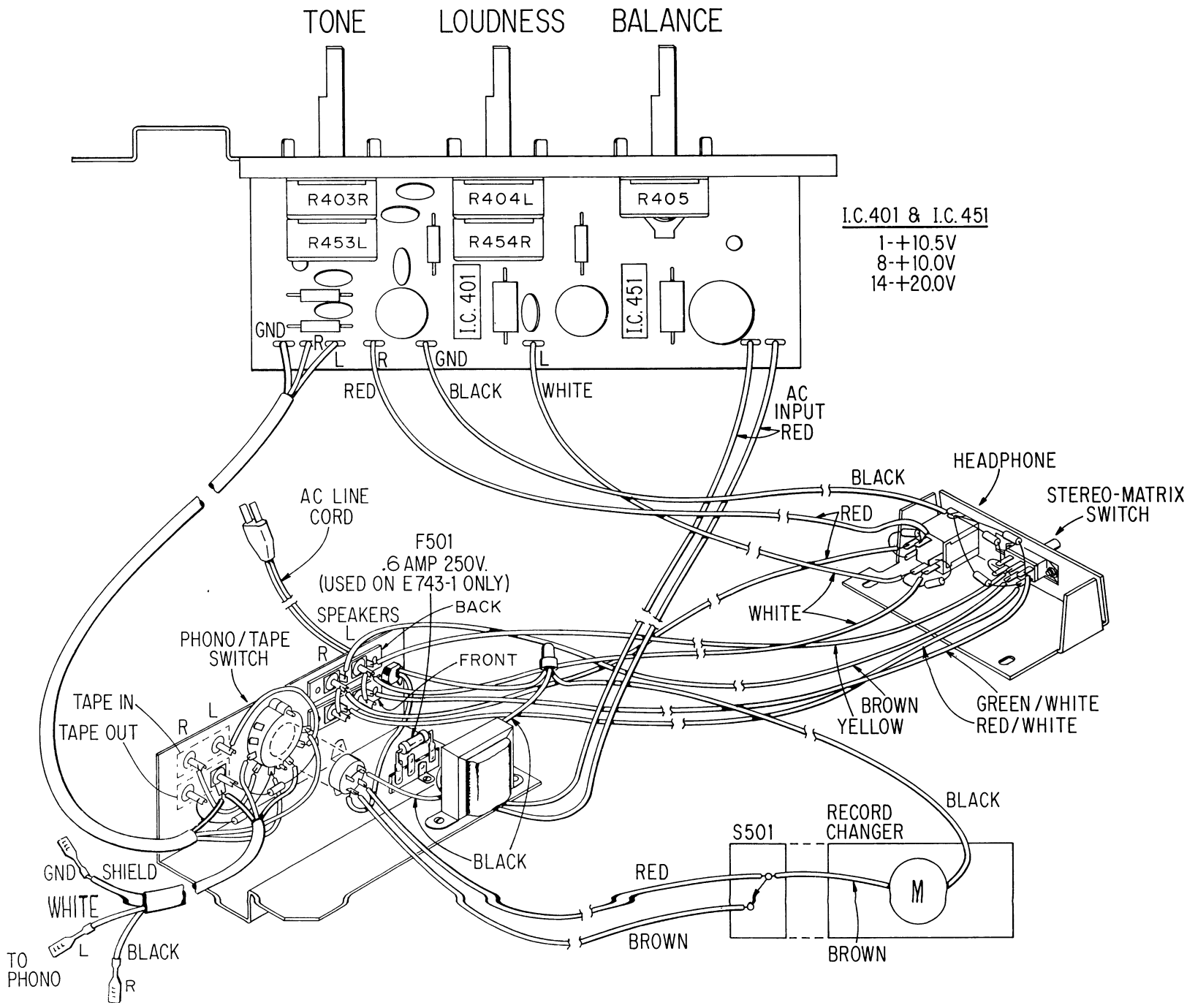
MODEL E543W (-1) – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



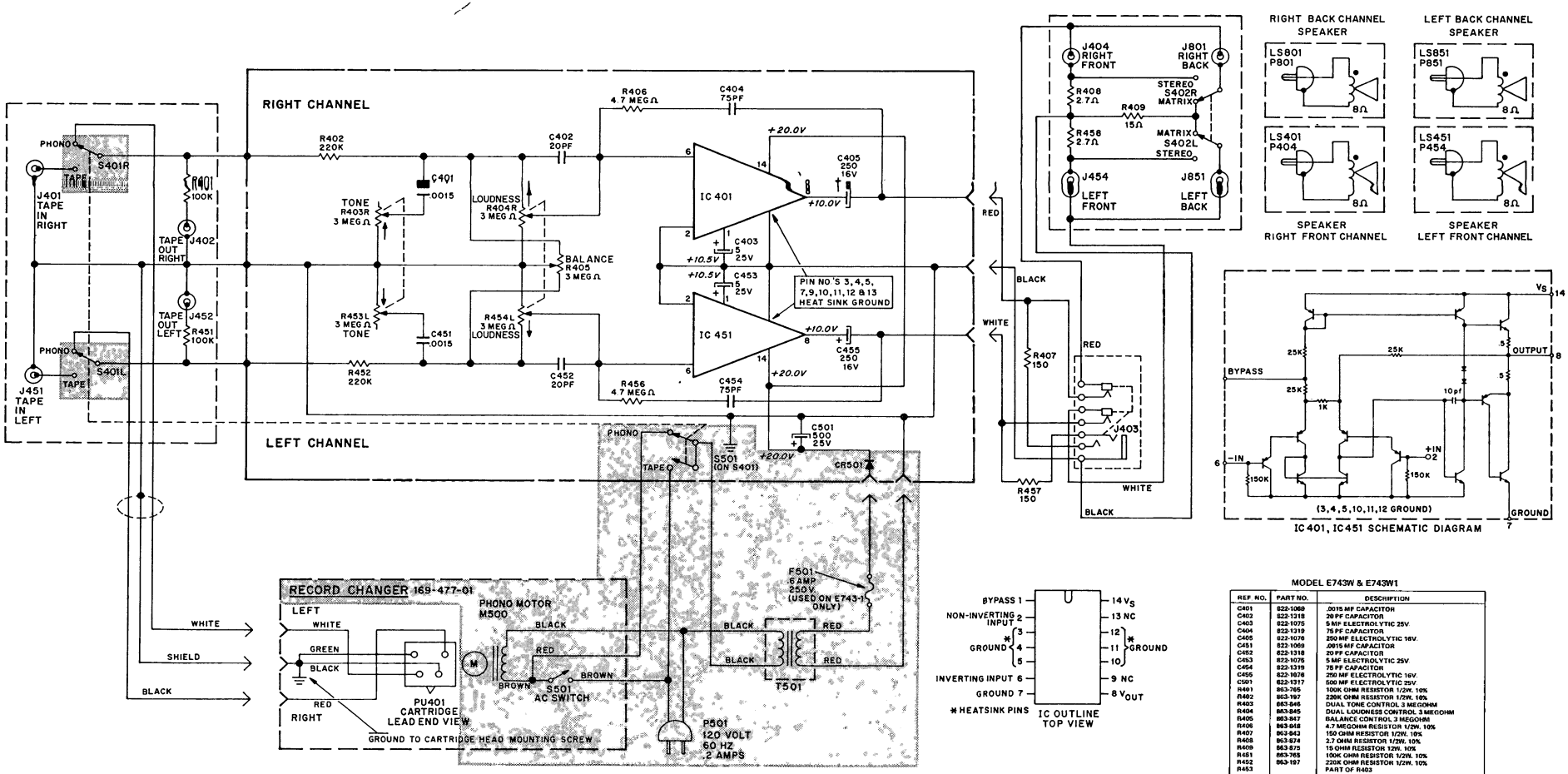
I.C.401 & I.C.451

1- +10.5V
8- +10.0V
14- +20.0V

MODEL E543(-1) – CHASSIS LAYOUT



MODEL E743W (-1) – CHASSIS LAYOUT



MODEL E743W & E743W1

REF. NO.	PART NO.	DESCRIPTION
C401	822-1069	.0015 MF CAPACITOR
C402	822-1318	20 PF CAPACITOR
C403	822-1075	5 MF ELECTROLYTIC 25V.
C404	822-1319	75 PF CAPACITOR
C405	822-1076	250 MF ELECTROLYTIC 16V.
C451	822-1069	.0015 MF CAPACITOR
C452	822-1318	20 PF CAPACITOR
C453	822-1075	5 MF ELECTROLYTIC 25V
C454	822-1319	75 PF CAPACITOR
C455	822-1076	250 MF ELECTROLYTIC 16V.
C501	822-1317	500 MF ELECTROLYTIC 25V.
R401	863-765	100K OHM RESISTOR 1/2W. 10%
R402	863-197	220K OHM RESISTOR 1/2W. 10%
R403	863-846	DUAL TONE CONTROL 3 MEGOHM
R404	863-845	DUAL LOUDNESS CONTROL 3 MEGOHM
R405	863-847	BALANCE CONTROL 3 MEGOHM
R406	863-848	4.7 MEGOHM RESISTOR 1/2W. 10%
R407	863-843	150 OHM RESISTOR 1/2W. 10%
R408	863-874	2.7 OHM RESISTOR 1/2W. 10%
R409	863-875	15 OHM RESISTOR 1/2W. 10%
R451	863-765	100K OHM RESISTOR 1/2W. 10%
R452	863-197	220K OHM RESISTOR 1/2W. 10%
R453		PART OF R403
R454		PART OF R404
R456	863-848	4.7 MEGOHM RESISTOR 1/2W. 10%
R457	863-843	150 OHM RESISTOR 1/2W. 10%
R458	863-874	2.7 OHM RESISTOR 1/2W. 10%
F501	126-87	FUSE (USED ON E743W1 ONLY)
J401		PART OF 812-596
J402		PART OF 812-596
J403	844-48	HEADPHONE JACK
J404		PART OF 812-596
J451		PART OF 812-596
J452		PART OF 812-596
J454		PART OF 812-596
J801		PART OF 812-596
J851		PART OF 812-596
S401	885-196	ROTARY PHONO/TAPE SWITCH
S402	885-194	SLIDE SWITCH (MATRIX)
S501		PART OF S401
T501	850-510	TRANSFORMER ASSEMBLY
CR501	913-128	DIODE
IC401	905-45	INTEGRATED CIRCUIT
IC451	905-45	INTEGRATED CIRCUIT
LS401	849-109	6" SPEAKER 8 OHM
LS451	849-109	6" SPEAKER 8 OHM
LS801	849-109	6" SPEAKER 8 OHM
LS851	849-109	6" SPEAKER 8 OHM
P404	852-102	SPEAKER CABLE ASSEM.
P454	852-102	SPEAKER CABLE ASSEM.
P801	852-113	SPEAKER CABLE ASSEM.
P851	852-113	SPEAKER CABLE ASSEM.

Z082473

IMPORTANT SAFETY NOTICE

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THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

NOTES:

ALL RESISTORS IN OHMS ±10%, 1/2 WATT CARBON UNLESS OTHERWISE SPECIFIED.

ALL CAPACITORS IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

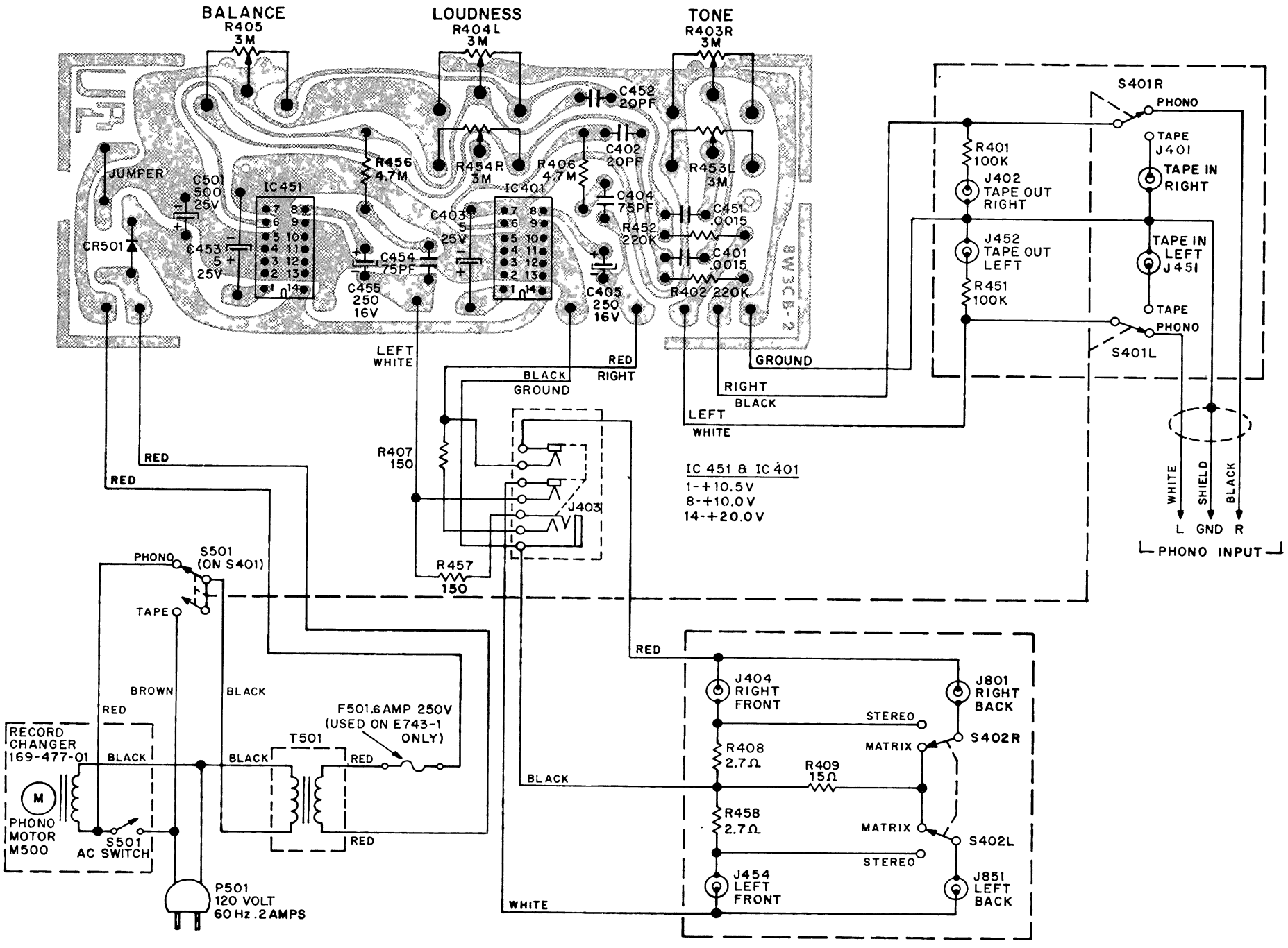
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED. D.C VOLTAGES ARE MEASURED FROM CHASSIS WITH NO SIGNAL AND VOLUME CONTROL AT MINIMUM USING A HIGH INPUT IMPEDANCE VTVM. LINE VOLTAGE AT 120 V A.C.

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.

⏚ INDICATES CHASSIS GROUND

→)— INDICATES CONNECTOR TIE POINTS.

MODEL E743W (-1) – SCHEMATIC

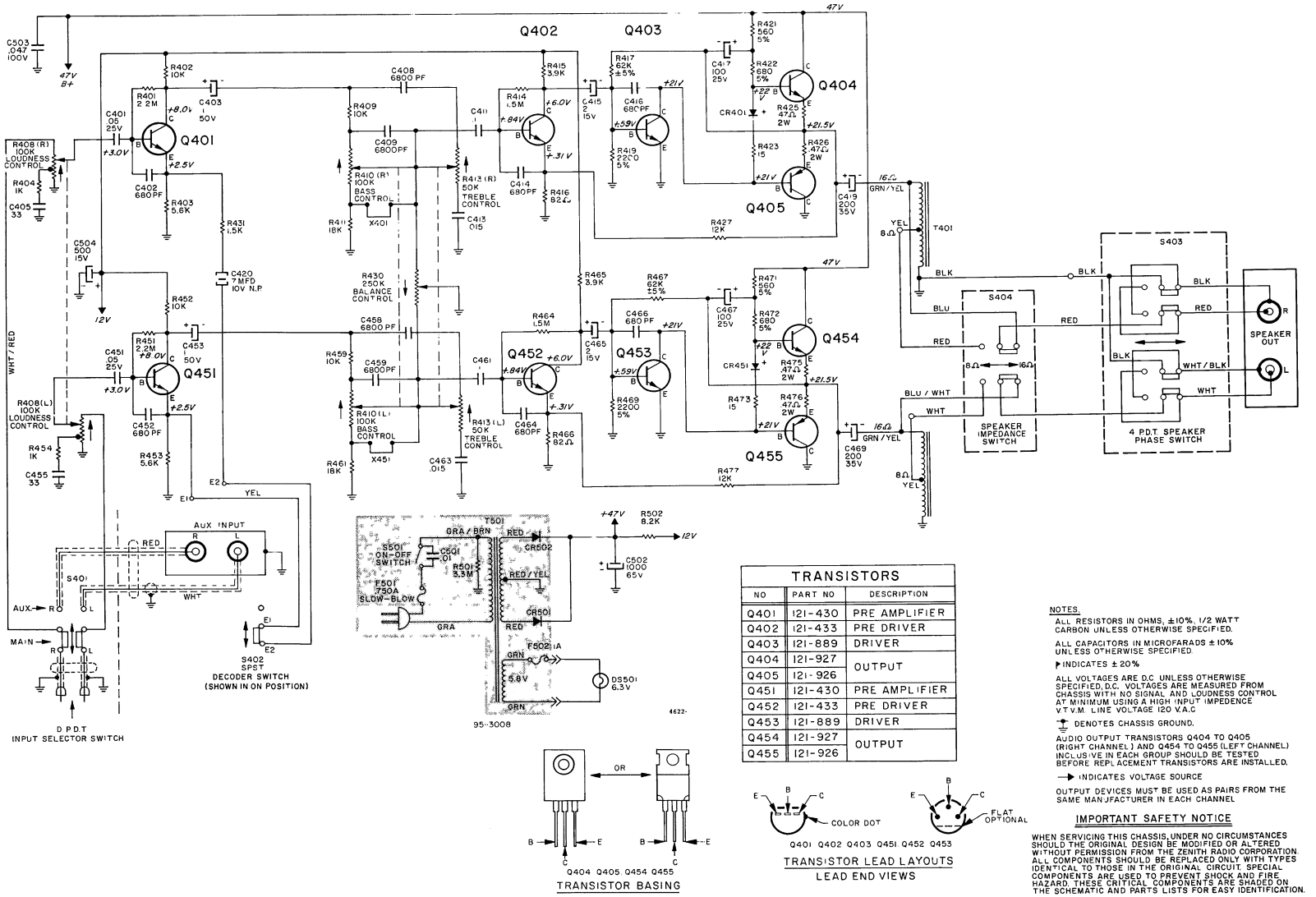


MODEL E743W (-1) – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

LEGEND CHASSIS 15WEA10

ITEM NO.	PART NUMBER	DESCRIPTION
C401	22-3034	.05 MFD DISC 25V
C402	22-2939	680 PF DISC 500V
C403	22-3687	1 MFD ELECTROLYTIC 50V
C405	22-5816	.33 MFD CAPACITOR 100V
C408	22-3891	6800 PF 100V
C409	22-3891	6800 PF 100V
C411	22-5862	1 MFD 100V
C413	22-3599	.015 MFD 50V
C414	22-2939	680 PF DISC 500V
C415	22-5091	2 MFD ELECTROLYTIC 15V
C416	22-2939	680 PF DISC 500V
C417	22-3973	100 MFD ELECTROLYTIC 25V
C419	22-3721	200 MFD ELECTROLYTIC 35V
C420	22-6707	7 MFD N.P. 10V
C451	22-3034	.05 MFD DISC 25V
C452	22-2939	680 PF DISC 500V
C453	22-3687	1 MFD ELECTROLYTIC 50V
C455	22-5816	.33 MFD CAPACITOR 100V
C458	22-3891	6800 PF 100V
C459	22-3891	6800 PF 100V
C461	22-5862	1 MFD 100V
C463	22-3599	.015 MFD 50V
C464	22-2939	680 PF DISC 500V
C465	22-5091	2 MFD ELECTROLYTIC 15V
C466	22-2939	680 PF DISC 500V
C467	22-3973	100 MFD ELECTROLYTIC 25V
C469	22-3721	200 MFD ELECTROLYTIC 35V
C501	22-6005	.05 MFD DISC 250VAC
C502	22-6112	1000 MFD 65V
C503	22-6159	.047 10% 100V
C504	22-4572	500 MFD ELECTROLYTIC 15V
R401	63-1925	2.2 MEG OHM
R402	63-1827	10K OHM
R403	63-1817	5.6K OHM
R404	63-1785	1K OHM
R408	63-10224	100K OHM LOUDNESS CONTROL
R409	63-1827	10K OHM
R410	63-7682	100K OHM DUAL BASS CONTROL
R411	63-1838	18K OHM
R413	63-7681	50K OHM DUAL TREBLE CONTROL
R414	63-1918	1.5 MEG OHM
R415	63-1810	3.9K OHM
R416	63-1740	82 OHM
R417	63-1860	62K OHM 5%
R419	63-1798	2.2K OHM 5%
R421	63-1774	560 OHM 5%
R422	63-1777	680 OHM 5%
R423	63-1708	15 OHM
R425	63-9784	.47 OHM 2W
R426	63-9784	.47 OHM 2W
R427	63-1831	12K OHM
R430	63-9000	250K OHM BALANCE CONTROL
R431	63-1792	1.5K OHM
R451	63-1925	2.2 MEG OHM
R452	63-1827	10K OHM
R453	63-1817	5.6K OHM
R454	63-1785	1K OHM
R459	63-1827	10K OHM
R461	63-1838	18K OHM
R464	63-1918	1.5 MEG OHM
R465	63-1810	3.9K OHM
R466	63-1740	82 OHM
R467	63-1860	62K OHM 5%
R469	63-1798	2.2K OHM 5%
R471	63-1774	560 OHM 5%
R472	63-1777	680 OHM 5%
R473	63-1708	15 OHM
R475	63-9784	.47 OHM 2W
R476	63-9784	.47 OHM 2W
R477	63-1831	12K OHM
R501	63-1833	3.3 MEG OHM 20%
R502	63-1824	8.2K
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	212-76	RECTIFIER
CR502	212-76	RECTIFIER
T401	95-2981	AUTO FORMER
T451	95-2981	AUTO FORMER
T501	95-3008	POWER TRANSFORMER
DS501	100-249	PILOT LIGHT NO. 1847
S401	85-1212	INPUT FUNCTION SWITCH
S402	85-1274	DECODER (S.P.S.T ROCKER SWITCH)
S403	85-1296	4 P.D.T SLIDE SWITCH
S501	85-1337	ON-OFF SWITCH
S404	85-925-01	D.P.D.T. SLIDE SWITCH
F501	136-103	.750 AMP. SLOW BLOW FUSE
F502	136-96	1 AMP FUSE (PILOT LIGHT)
X401		JUMPER WIRE
X451		JUMPER WIRE

4622-



TRANSISTORS

NO	PART NO	DESCRIPTION
Q401	121-430	PRE AMPLIFIER
Q402	121-433	PRE DRIVER
Q403	121-889	DRIVER
Q404	121-927	OUTPUT
Q405	121-926	
Q451	121-430	PRE AMPLIFIER
Q452	121-433	PRE DRIVER
Q453	121-889	DRIVER
Q454	121-927	OUTPUT
Q455	121-926	

Q404 Q405 Q454 Q455

TRANSISTOR BASING

Q401 Q402 Q403 Q451 Q452 Q453

TRANSISTOR LEAD LAYOUTS
LEAD END VIEWS

NOTES.

ALL RESISTORS IN OHMS, ±10%, 1/2 WATT CARBON UNLESS OTHERWISE SPECIFIED.

ALL CAPACITORS IN MICROFARADS ± 10% UNLESS OTHERWISE SPECIFIED.

▶ INDICATES ± 20%

ALL VOLTAGES ARE D.C UNLESS OTHERWISE SPECIFIED, D.C. VOLTAGES ARE MEASURED FROM CHASSIS WITH NO SIGNAL AND LOUDNESS CONTROL AT MINIMUM USING A HIGH INPUT IMPEDENCE V.T.V.M. LINE VOLTAGE 120 V.A.C

⏚ DENOTES CHASSIS GROUND.

AUDIO OUTPUT TRANSISTORS Q404 TO Q405 (RIGHT CHANNEL) AND Q454 TO Q455 (LEFT CHANNEL) INCLUSIVE IN EACH GROUP SHOULD BE TESTED BEFORE REPLACEMENT TRANSISTORS ARE INSTALLED.

→ INDICATES VOLTAGE SOURCE

OUTPUT DEVICES MUST BE USED AS PAIRS FROM THE SAME MANUFACTURER IN EACH CHANNEL

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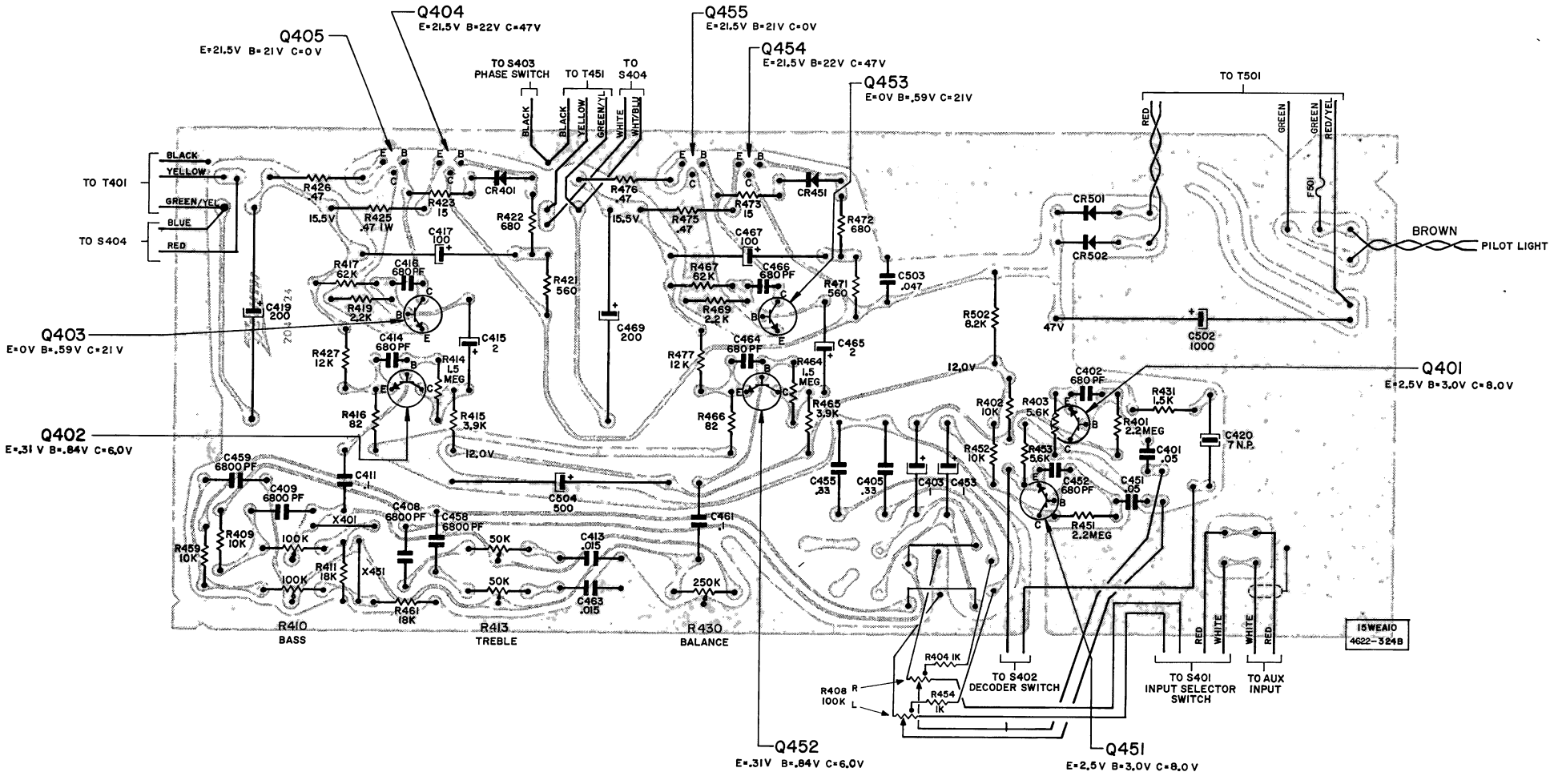
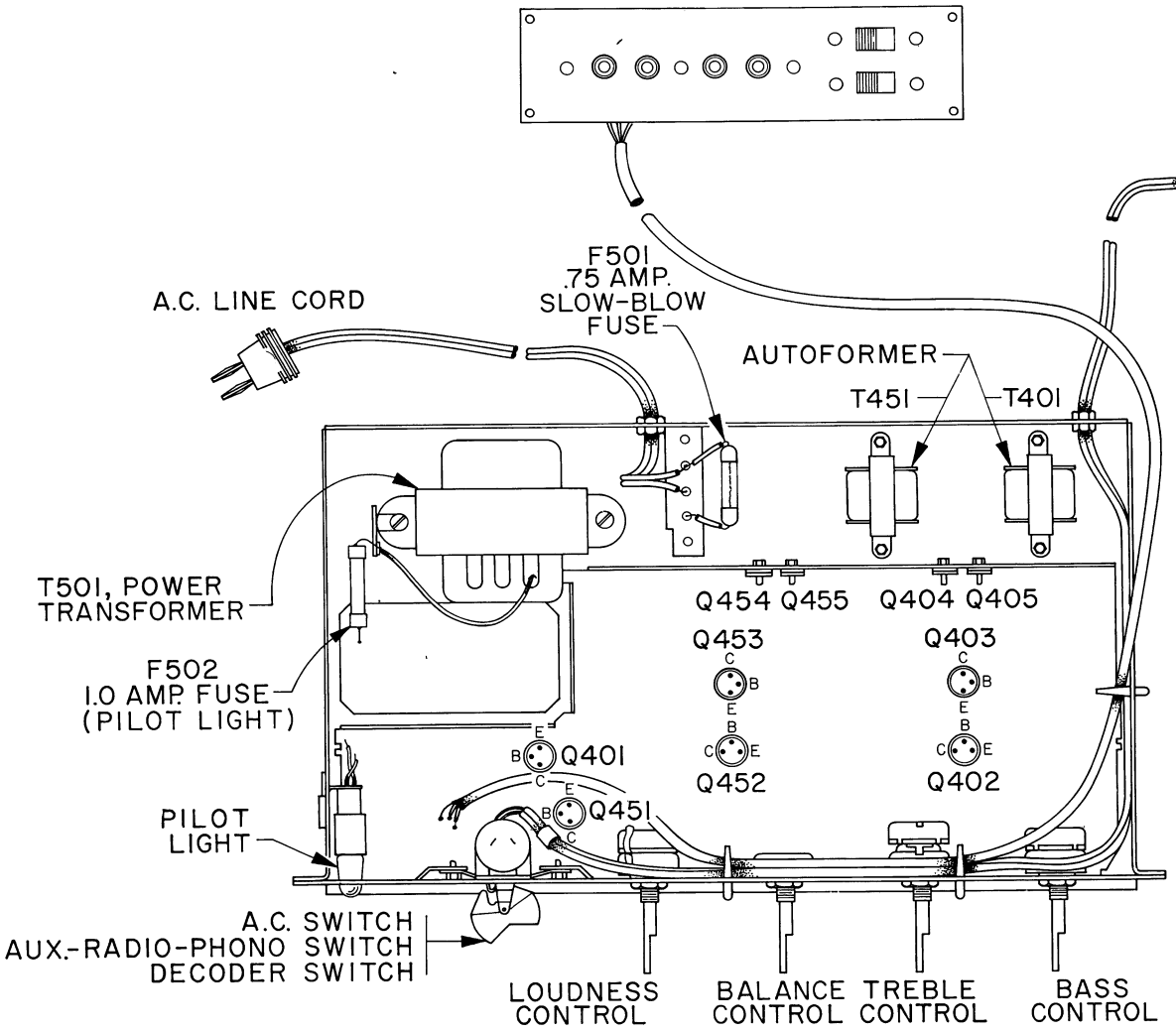
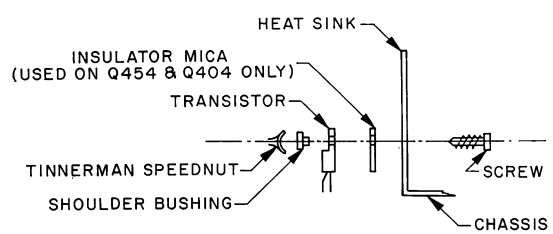
CHASSIS 15WEA10 — SCHEMATIC



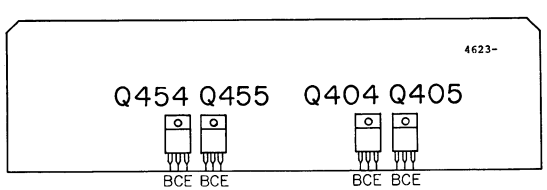
CHASSIS 15WEA10 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



TRANSISTORS		
NO	PART NO	DESCRIPTION
Q401	121-430	PRE AMPLIFIER
Q402	121-433	PRE DRIVER
Q403	121-889	DRIVER
Q404	121-927	OUTPUT
Q405	121-926	
Q451	121-430	PRE AMPLIFIER
Q452	121-433	PRE DRIVER
Q453	121-889	DRIVER
Q454	121-927	OUTPUT
Q455	121-926	



TRANSISTOR MOUNTING VIEW

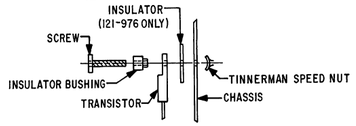


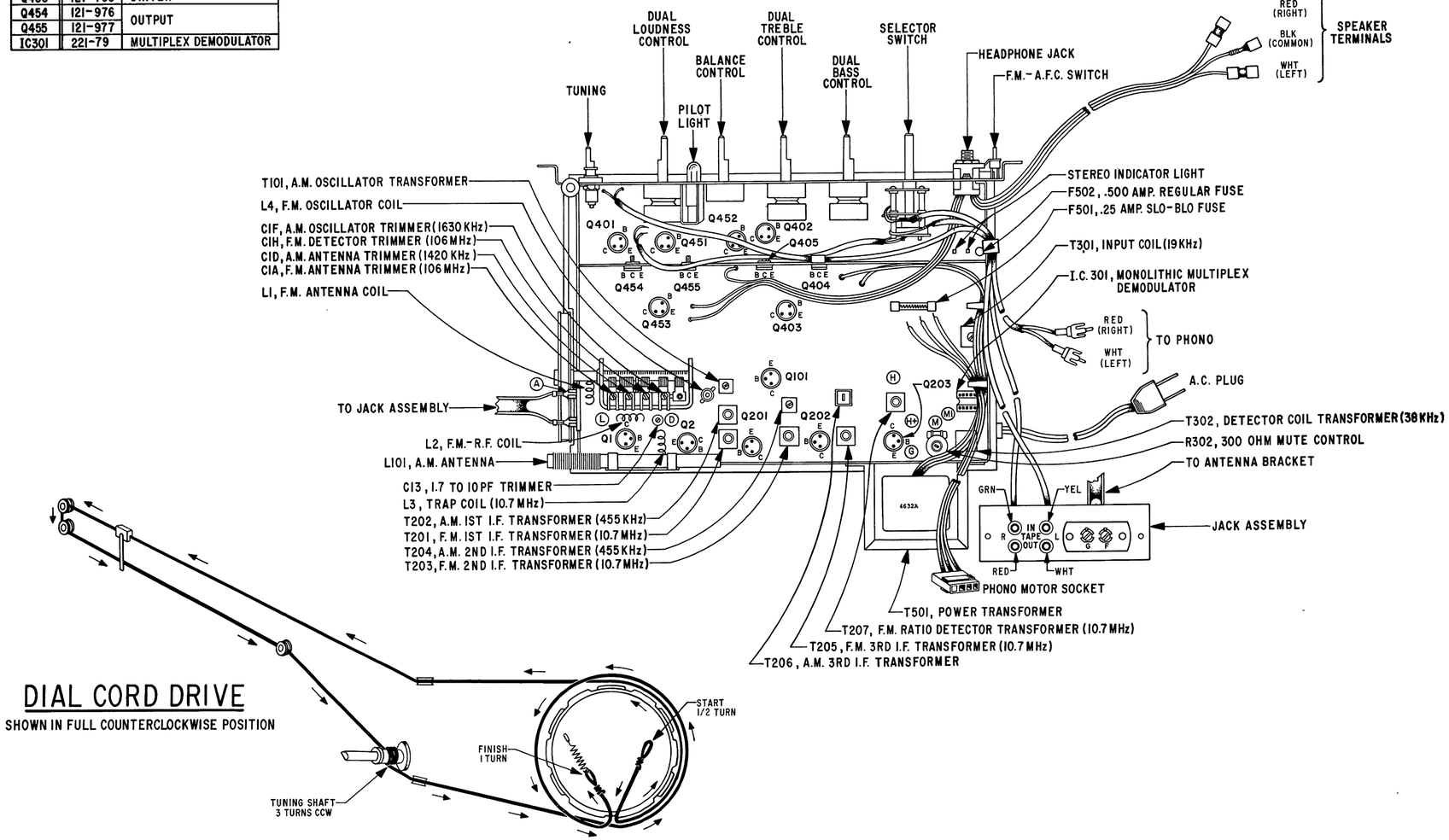
CHASSIS 15WEA10 – CHASSIS LAYOUT

TRANSISTORS		
No.	PART No.	DESCRIPTION
Q1	121-612	F.M.-R.F.
Q2	121-613	F.M. CONVERTER
Q101	121-735	A.M. CONVERTER
Q201	121-614	A.M.-F.M. 1st I.F.
Q202	121-950	A.M.-F.M. 2nd I.F.
Q203		F.M. 3rd I.F.
Q401	121-433	PRE-AMPLIFIER
Q402		PRE-DRIVER
Q403	121-768	DRIVER
Q404	121-976	OUTPUT
Q405	121-977	
Q451	121-433	PRE-AMPLIFIER
Q452		PRE-DRIVER
Q453	121-768	DRIVER
Q454	121-976	OUTPUT
Q455	121-977	
IC301	221-79	MULTIPLEX DEMODULATOR

TEST POINTS	
A	F.M. ANTENNA INPUT
D	1st F.M. I.F. INPUT
G	3rd F.M. OUTPUT
H	F.M. DETECTOR OUTPUT
H+	RATIO DETECTOR PRIMARY TUNING
L	A.M. R.F. & I.F. INPUT
M	19KHz A.C. GAIN
M1	19KHz D.C. GAIN

TRANSISTOR MOUNTING VIEW
121-976 & 121-977

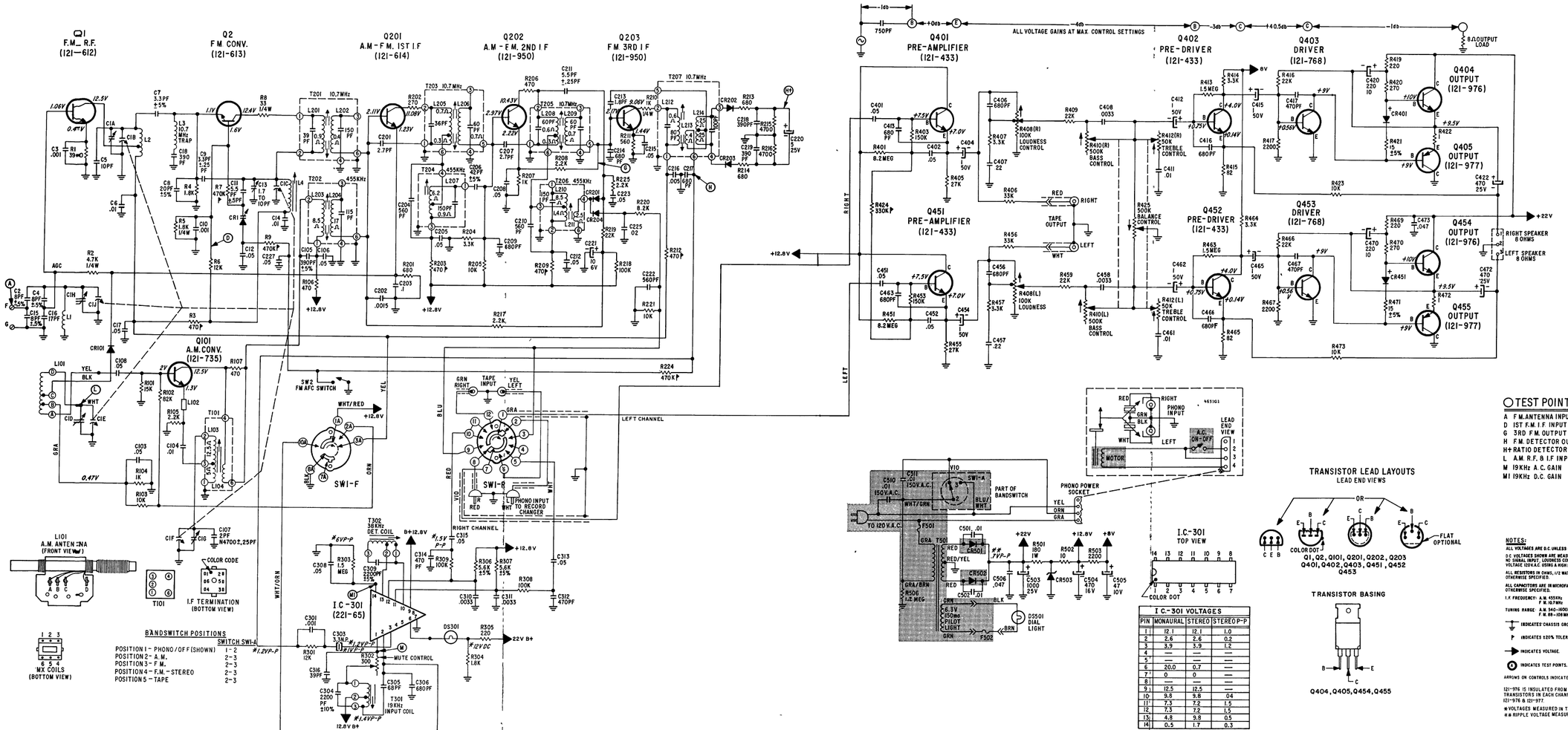




DIAL CORD DRIVE

SHOWN IN FULL COUNTERCLOCKWISE POSITION

CHASSIS 5WER50 – CHASSIS LAYOUT



TEST POINTS

A F.M. ANTENNA INPUT
D 1ST F.M. I.F INPUT
G 3RD F.M. OUTPUT
H F.M. DETECTOR OUTPUT
H+ RATIO DETECTOR PRIMARY TUNING
L A.M. R.F. & I.F INPUT
M 19KHz A.C. GAIN
M1 19KHz D.C. GAIN

TRANSISTOR LEAD LAYOUTS

LEAD END VIEWS

Q1, Q2, Q101, Q201, Q202, Q203
Q401, Q402, Q403, Q451, Q452
Q453

TRANSISTOR BASING

Q404, Q405, Q454, Q455

NOTES:

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

D.C. VOLTAGES SHOWN ARE MEASURED FROM CHASSIS, WITH NO SIGNAL INPUT, LOUDNESS CONTROL AT MINIMUM, LINE VOLTAGE 120 V.A.C. 60 CPS & HIGH IMPEDANCE V.T.V.M.

ALL RESISTORS IN OHMS, 1/2 WATT CARBON, ±10% UNLESS OTHERWISE SPECIFIED.

ALL CAPACITORS ARE IN MICROFARADS ±10% UNLESS OTHERWISE SPECIFIED.

I.F. FREQUENCY: A.M. 455KHz
F.M. 10.7MHz

TUNING RANGE: A.M. 540-1600KHz
F.M. 88-108 MHz

⏚ INDICATES CHASSIS GROUND.

▼ INDICATES ±20% TOLERANCE.

→ INDICATES VOLTAGE.

⊙ INDICATES TEST POINTS.

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.

121-976 IS INSULATED FROM CHASSIS. OUTPUT TRANSISTORS IN EACH CHANNEL SHALL BE A PAIR 121-976 & 121-977.

*VOLTAGES MEASURED IN THE F.M. STEREO POSITION, **& RIPPLE VOLTAGE MEASURED WITH NO SIGNAL INPUT.

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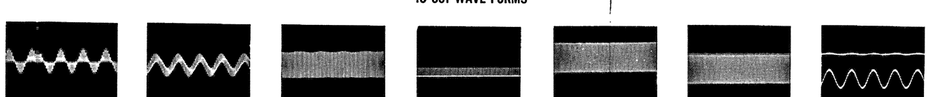
IC 301 WAVE FORMS



PIN 3 COMPOSITE L&R, L-R (1 KHZ LEFT ONL_Y) 19 KHZ PILOT 10% 1 V P/P

PIN 2 19 KHZ (WITH L ONLY) 200 MV P/P

PIN 1 19 KHZ 1.2 V P/P

PIN 10 38 KHZ PULSES 80MV P/P

38 KHZ TANK END 38 KHZ 13 V P/P

PIN 13 38 KHZ 1.4 V P/P

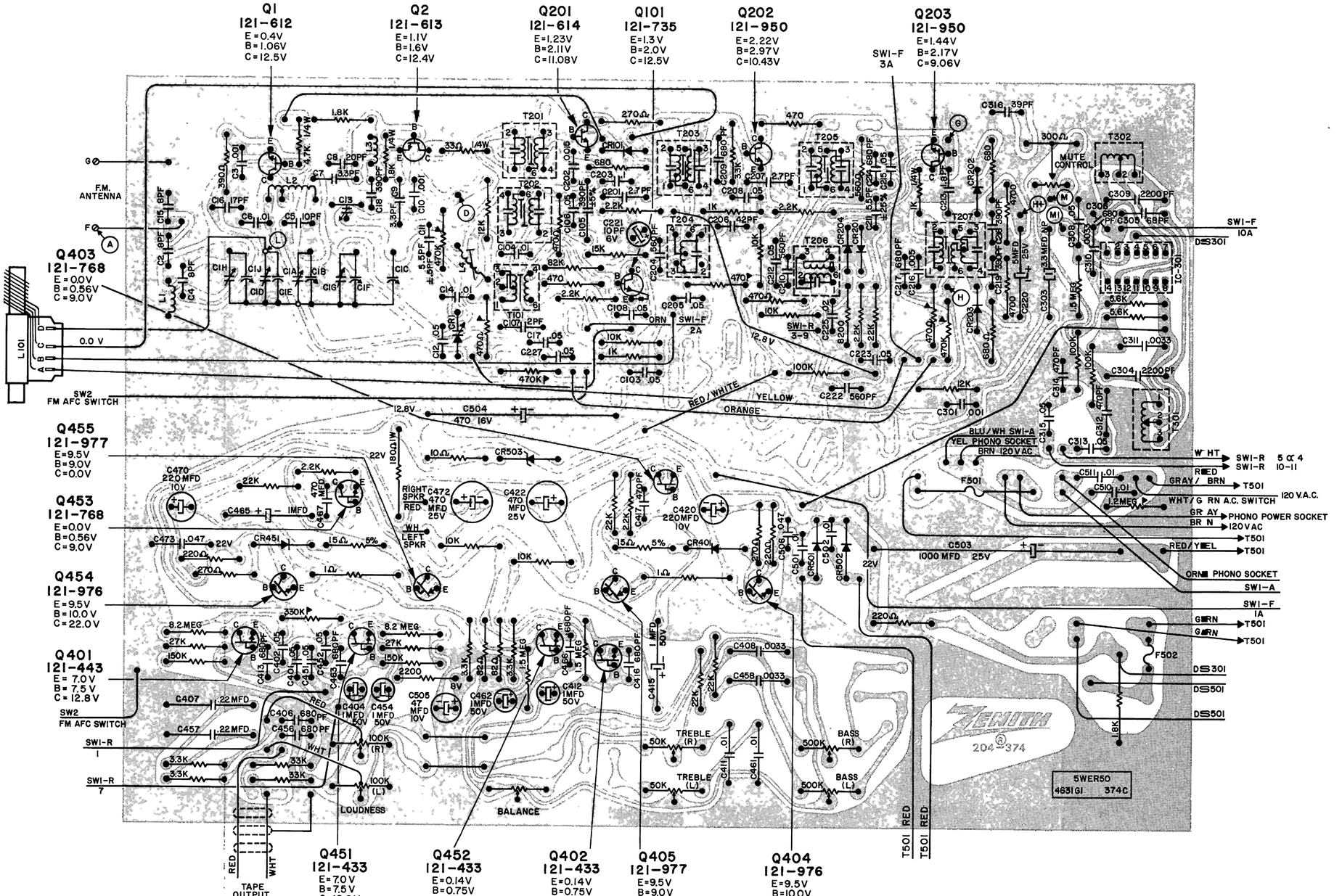
PIN 12 (UPPER) RIGHT OUTPUT PIN 11 (LOWER) LEFT OUTPUT (L INPUT ONLY) 1 V P/P

CHASSIS 5WER50 — SCHEMATIC

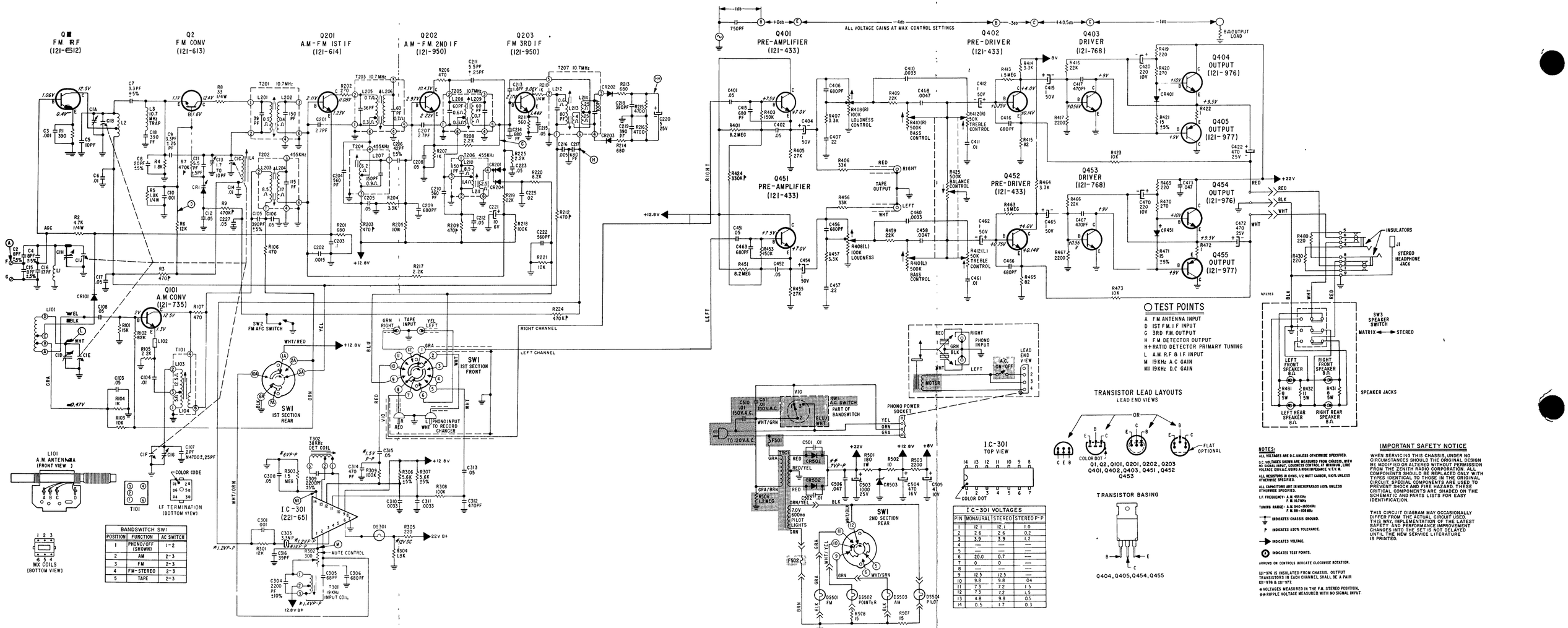
LEGEND CHASSIS 5WER50

ITEM NO.	PART NUMBER	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER
C1B		F.M. DETECTOR TUNING
C1C		F.M. OSCILLATOR TUNING
C1D		A.M. ANTENNA TRIMMER
C1E		A.M. ANTENNA TUNING
C1F	22-7134	A.M. OSCILLATOR TUNING
C1G		A.M. OSCILLATOR TRIMMER
C1H		F.M. ANTENNA TRIMMER
C1J		F.M. ANTENNA TUNING
C2	22-2481	8 PF DISC ±0.5% 500V
C3	22-2729	.001 MFD DISC 25V
C4	22-2481	8 PF DISC ±0.5% 500V
C5	22-3575	10 PF DISC ±5% 500V
C6	22-3393	.01 MFD DISC 25V
C7	22-3541	3.3 PF GIMMICK ±5% 500V
C8	22-3751	20 PF DISC ±5% 500V
C9	22-5879	3.3 PF DISC ±.25 PF 25V
C10	22-2729	.001 MFD DISC 25V
C11	22-5878	5.5 PF DISC ±0.5 PF 25V
C12	22-3034	.05 MFD DISC 25V
C13	22-6470	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25V
C15	22-2481	8 PF DISC ±0.5% 500V
C16	22-3792	17 PF DISC ±5% 500V
C17	22-3034	.05 MFD DISC 25V
C18	23-3177	390 PF DISC 500V
C103	22-3034	.05 MFD DISC 25V
C104	22-3393	.01 MFD DISC 25V
C105	22-5872	390 PF ±5% POLYSTYRENE 125V
C106	22-3034	.05 MFD DISC 25V
C107	22-4819	2 PF N4700 ±.25 PF 500V
C108	22-3034	.05 MFD DISC 25V
C201	22-3310	2.7 PF GIMMICK ±10% 500V
C202	22-5483	.0015 MFD DISC 500V
C203	22-3652	.1 MFD DISC 10V
C204	22-5481	560 PF DISC 500V
C205	22-3034	.05 MFD DISC 25V
C206	22-3791	42 PF DISC ±5% 500V
C207	22-3310	2.7 PF GIMMICK ±10% 500V
C208	22-3034	.05 MFD DISC 25V
C209	22-5482	680 PF DISC 500V
C210	22-5481	560 PF DISC 500V
C211	22-3770	5.5 PF DISC ±.25 PF 500V
C212	22-3034	.05 MFD DISC 25V
C213	22-2428	1.8 PF GIMMICK ±10% 500V
C214	22-5482	680 PF DISC 500V
C215	22-3034	.05 MFD DISC 25V
C216	22-3080	.005 MFD DISC 25V
C217	22-5482	680 PF DISC 500V
C218	22-3177	390 PF DISC 500V
C219	22-3177	390 PF DISC 500V
C220	22-3896	5 MFD ELECTROLYTIC 25V
C221	22-5486	10 MFD ELECTROLYTIC 6V
C222	22-3362	560 PF DISC
C223	22-3034	.05 MFD DISC 25V
C225	22-3033	.02 MFD 25V
C227	22-3034	.05 MFD DISC 25V
C301	22-2729	.001 MFD DISC 25V
C303	22-6246	3.3 MFD N.P. 16V
C304	22-6055	2200 PF MICA ±10% 100V
C305	22-3606	68 PF DISC 500V
C306	22-5482	680 PF DISC 500V
C308	22-3034	.05 MFD DISC 25V
C309	22-5782	2200 PF POLYSTYRENE ±5% 500V
C310	22-13	.0033 MFD DISC 500V
C311	22-13	.0033 MFD DISC 500V
C312	22-16	470 PF DISC 500V
C313	22-3034	.05 MFD DISC 25V
C314	22-16	470 PF DISC 500V
C315	22-3034	.05 MFD DISC 25V
C316	23-3381	39 PF ±5% DISC 500V
C401	22-3034	.05 MFD DISC 25V
C402	22-3034	.05 MFD DISC 25V
C404	22-7153	1 MFD ELECTROLYTIC 50V
C406	22-2939	680 PF DISC 500V
C407	22-6048	.22 MFD MYLAR 50V
C408	22-13	.0033 MFD DISC 500V
C411	22-3513	.01 MFD DISC 500V
C412	22-7153	1 MFD ELECTROLYTIC 50V
C413	22-5482	680 PF DISC 500V
C415	22-7143	1 MFD ELECTROLYTIC 50V
C416	22-5482	680 PF DISC 500V
C417	22-16	.00047 MFD DISC 500V
C420	22-7150-09	220 MFD ELECTROLYTIC 10V
C422	22-7152-11	470 MFD ELECTROLYTIC 25V
C451	22-3034	.05 MFD DISC 25V
C452	22-3034	.05 MFD DISC 25V
C454	22-7153	1 MFD ELECTROLYTIC 50V
C456	22-2939	680 PF DISC 500V
C457	22-6048	.22 MFD MYLAR 50V
C458	22-13	.0033 MFD DISC 500V
C461	22-3513	.01 MFD DISC 500V
C462	22-7153	1 MFD ELECTROLYTIC 50V
C463	22-5482	680 PF DISC 500V
C465	22-7143	1 MFD ELECTROLYTIC 50V
C466	22-5482	680 PF DISC 500V
C467	22-16	.00047 MFD DISC 500V
C470	22-7150-09	220 MFD ELECTROLYTIC 10V
C472	22-7152-11	470 MFD ELECTROLYTIC 25V
C473	22-6447-01	.047 MFD MYLAR 20% 100V
C501	22-4617	.01 MFD DISC 500V
C502	22-4617	.01 MFD DISC 500V
C503	22-7142-12	1000 MFD ELECTROLYTIC 25V
C504	22-7141-11	470 MFD ELECTROLYTIC 16V
C505	22-7150-07	47 MFD ELECTROLYTIC 10V
C506	22-6447-01	.047 MFD MYLAR 20% 100V
C510	22-8005	.01 MFD DISC 150 VAC
C511	22-8005	.01 MFD DISC 150 VAC
R1	63-1768	390 OHM
R2	63-4213	4.7K OHM 1/4W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4W
R6	63-1831	12K OHM
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4W
R9	63-1898	470K OHM 20%
R101	63-1834	15K OHM
R102	63-1866	82K OHM
R103	63-1827	10K OHM
R104	63-1785	1K OHM
R105	63-1799	2.2K OHM
R106	63-1771	470 OHM
R107	63-1771	470 OHM
R201	63-1776	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1806	3.3K OHM
R205	63-1827	10K OHM
R206	63-1771	470 OHM
R207	63-1785	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4185	1K OHM 1/4W
R211	63-1775	560 OHM 1/4W
R212	63-1772	470 OHM 20%
R213	63-1778	680 OHM
R214	63-1778	680 OHM
R215	63-1813	4700 OHM
R216	63-1813	4700 OHM
R217	63-1799	2.2K OHM
R218	63-1869	100K OHM
R219	63-1841	22K OHM
R220	63-1824	5200 OHM
R221	63-1827	10K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R301	63-1831	12K OHM
R302	63-4328	300 OHM MUTE CONTROL
R303	63-1918	1.5 MEG OHM
R304	63-1796	1.8K OHM
R305	63-1757	220 OHM
R306	63-1816	5.6K OHM 5%
R307	63-1816	5.6K OHM 5%
R308	63-1869	100K OHM
R309	63-1869	100K OHM
R401	63-1950	8.2 MEG OHM
R403	63-1876	150K OHM
R405	63-1845	27K OHM
R406	63-1848	33K OHM
R407	63-1806	3.3K OHM
R408R	63-9255	100K DUAL LOUDNESS CONTROL (ALTERNATE 63-10160)
R408L		
R410	63-1841	22K OHM
R410R	63-9257	500K DUAL BASS CONTROL (ALTERNATE 63-10162)
R410L		
R412R	63-9256	50K DUAL TREBLE CONTROL (ALTERNATE 63-10161)
R412L		
R413	63-1918	1.5 MEG OHM
R414	63-1806	3.3K OHM
R415	63-1740	82 OHM
R416	63-1841	22K OHM
R417	63-1799	2200 OHM
R419	63-1757	220 OHM
R420	63-1761	270 OHM
R421	63-1707	15 OHM 5%
R422	63-4501	1 OHM
R423	63-1827	10K OHM
R424	63-1891	330K OHM 20%
R425	63-9254	500K BALANCE CONTROL (ALTERNATE 63-10159)
R451	63-1950	8.2 MEG OHM
R453	63-1876	150K OHM
R455	63-1845	27K OHM
R456	63-1848	33K OHM
R457	63-1806	3.3K OHM
R459	63-1841	22K OHM
R463	63-1918	1.5 MEG OHM
R464	63-1806	3.3K OHM
R465	63-1740	82 OHM
R466	63-1841	22K OHM
R467	63-1799	2200 OHM
R469	63-1757	220 OHM
R470	63-1761	270 OHM
R471	63-1707	15 OHM 5%
R472	63-4501	1 OHM
R473	63-1827	10K OHM
R501	63-6038	180 OHM 1W
R502	63-1701	10 OHM
R503	63-1799	2.2K OHM
R506	63-1918	1.5 MEG OHM
L1	20-3291	FM ANTENNA COIL
L2	20-1648	FM RF COIL
L3	20-1631	TRAP COIL 10.7 MHz
L4	20-3597	FM OSCILLATOR COIL
L101	5-93292	AM ANTENNA ASSEMBLY
L102	149-311	FERRITE CORE SLEEVE
L103	IN T101	AM OSCILLATOR TRANS. PRI.
L104	IN T101	AM OSCILLATOR TRANS. SEC.
L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI.
L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
L203	IN T202	1ST IF AM 455 KHz PRI.
L204	IN T202	1ST IF 455 KHz SEC.
L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
L207	IN T204	2ND IF AM 455 KHz
L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI.
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T206	3RD IF AM 455 KHz PRI.
L211	IN T206	3RD IF AM 455 KHz SEC.
L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI.
L213	IN T207	RATIO DETECTOR TRANS. 10.7 MHz TERTIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
T101	95-3077	AM OSCILLATOR TRANSFORMER
T201	95-2546	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2541	AM 1ST IF AM 455 KHz
T203	95-2547	FM 2ND IF TRANSFORMER 10.7 MHz
T204	95-2542	AM 2ND IF AM 455 KHz
T205	95-2548	FM 3RD IF TRANSFORMER 10.7 MHz
T206	95-2689	AM 3RD IF AM 455 KHz
T207	95-2545	FM RATIO DETECTOR 10.7 MHz
T301	95-3021	INPUT COIL 19 KHz
T302	95-3023	DETECTOR COIL 38 KHz
T501	95-2651	POWER TRANSFORMER
SW1	85-1370	BAND SWITCH
SW2	85-1372	AFC SWITCH (SLIDE SP-DT)
CR1	103-47 OR 103-189	AFC DIODE
CR101	103-142	SILICON DIODE
CR201	103-23	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODES
CR203	103-90	(MATCHED PAIR)
CR204	103-23	GERMANIUM DIODE
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	212-76	SILICON RECTIFIER
CR502	212-76	SILICON RECTIFIER
CR503	103-96	DIODE
IC-301	221-65	MONOLITHIC MULTIPLEX DEMODULATOR
DS501	100-249	PILOT LIGHT NO. 1847
DS301	100-611	STEREO INDICATOR LIGHT
PC	204-374	PRINTED CIRCUIT BOARD
F601	136-101	.25 AMP SLO-BLO FUSE
F502	136-107	.6 AMP REGULAR FUSE

4631G2



CHASSIS 5WER50 — CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



BANDSWITCH SW1		
POSITION	FUNCTION	AC SWITCH
1	PHONO/OFF (SHOWN)	1-2
2	AM	2-3
3	FM	2-3
4	FM-STEREO	2-3
5	TAPE	2-3

IC-301 TOP VIEW

14 13 12 11 10 9 8
1 2 3 4 5 6 7
COLOR DOT

IC-301 VOLTAGES			
PIN	MONAURAL	STEREO	STEREO P-P
1	12.1	12.1	1.0
2	2.6	2.6	0.2
3	3.9	3.9	1.2
4	—	—	—
5	—	—	—
6	20.0	0.7	—
7	0	0	—
8	—	—	—
9	12.5	12.5	—
10	9.8	9.8	04
11	7.3	7.2	1.5
12	7.3	7.2	1.5
13	4.8	9.8	0.5
14	0.5	1.7	0.3

TRANSISTOR LEAD LAYOUTS
LEAD END VIEWS

Q1, Q2, Q101, Q201, Q202, Q203
Q401, Q402, Q403, Q451, Q452
Q453

TRANSISTOR BASING

Q404, Q405, Q454, Q455

NOTES:
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
D.C. VOLTAGES SHOWN ARE MEASURED FROM CHASSIS, WITH NO SIGNAL INPUT, LOUDNESS CONTROL AT MINIMUM, LINE VOLTAGE 120 V.A.C. USING A HIGH IMPEDANCE V.T.V.M.
ALL RESISTORS IN OHMS, 1/2 WATT CARBON, ±10% UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS ARE IN MICROFARADS ±10% UNLESS OTHERWISE SPECIFIED.
I.F. FREQUENCY: A.M. 455KHz, F.M. 10.7 MHz
TUNING RANGE: A.M. 540-1600KHz, F.M. 88-108 MHz
⏚ INDICATES CHASSIS GROUND.
P INDICATES ±20% TOLERANCE.
→ INDICATES VOLTAGE.
⊙ INDICATES TEST POINTS.
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.
121-976 IS INSULATED FROM CHASSIS. OUTPUT TRANSISTORS IN EACH CHANNEL SHALL BE A PAIR 121-976 & 121-977.
✱ VOLTAGES MEASURED IN THE F.M. STEREO POSITION, ✱✱ RIPPLE VOLTAGE MEASURED WITH NO SIGNAL INPUT.

IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADED ON THE SCHEMATIC AND PARTS LISTS FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

IC 301 WAVE FORMS

PIN 3 COMPOSITE L&R, L-R (1 KHZ LEFT ONLY) 19 KHZ PILOT 10% 1 V P/P

PIN 2 19 KHZ (WITH L ONLY) 200 MV P/P

PIN 1 19 KHZ 1.2V P/P

PIN 10 38KHZ PULSES 80MV P/P

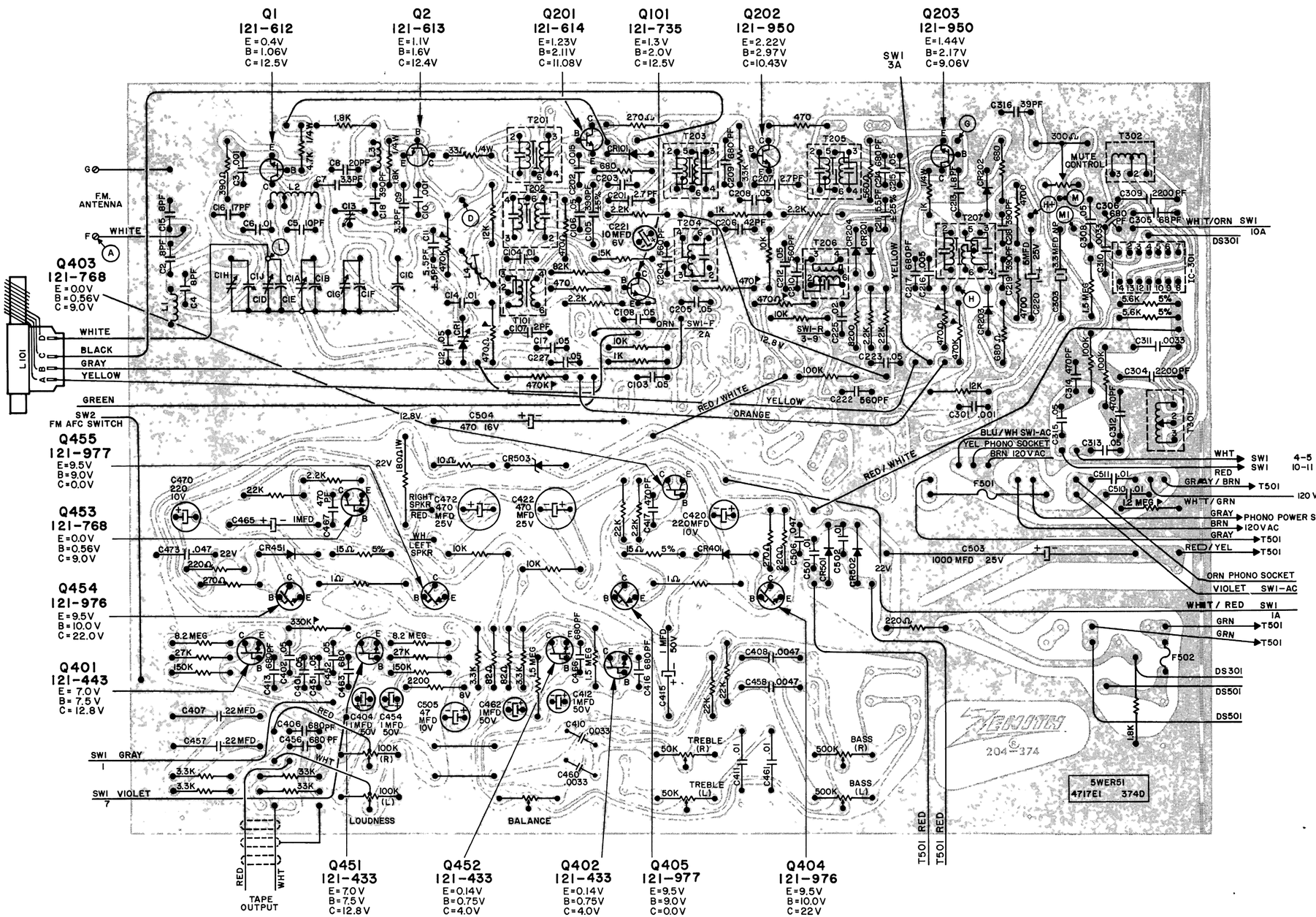
38 KHZ TANK END 38 KHZ 13V P/P

PIN 13 38 KHZ 1.4 V P/P

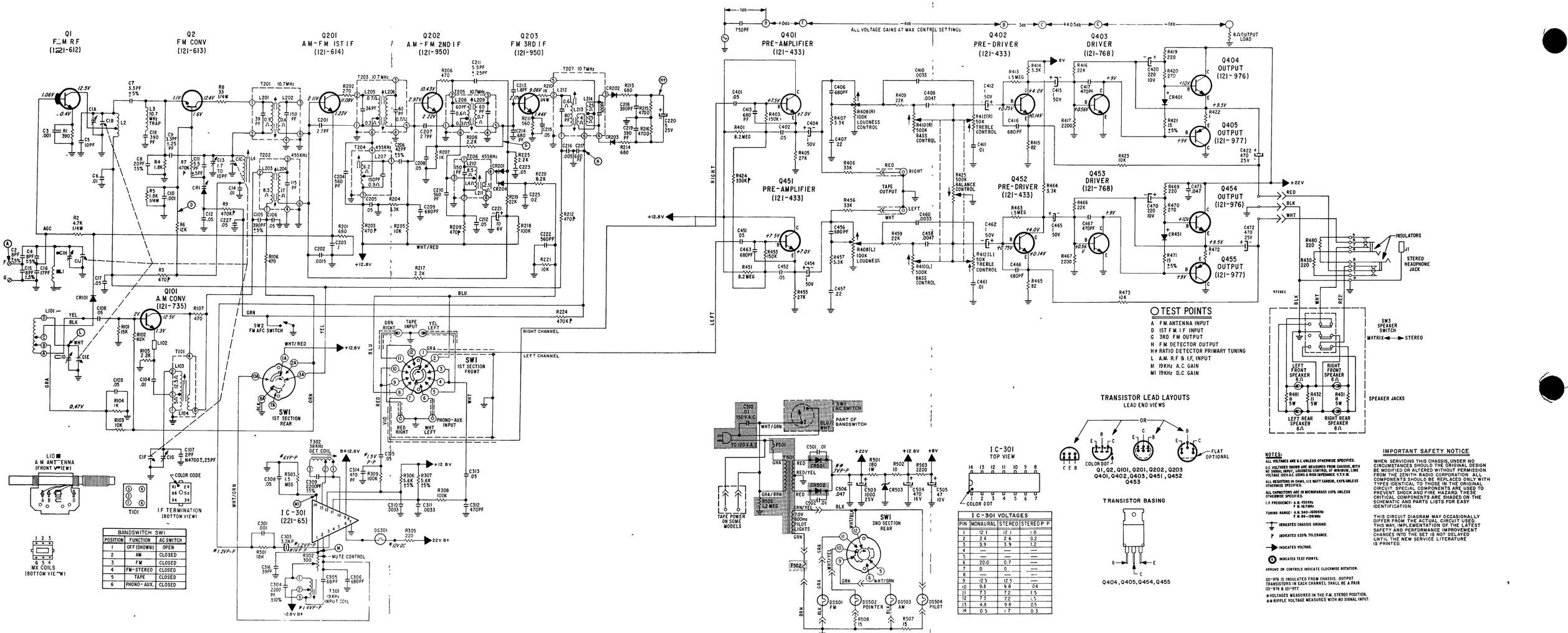
PIN 12 (UPPER) RIGHT OUTPUT PIN 11 (LOWER) LEFT OUTPUT (L INPUT ONLY) 1 V P/P

LEGEND CHASSIS 5WER51

ITEM NO.	PART NUMBER	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER
C1B		F.M. DETECTOR TUNING
C1C		F.M. OSCILLATOR TUNING
C1D		A.M. ANTENNA TRIMMER
C1E		A.M. ANTENNA TUNING
C1F	22-7134	A.M. OSCILLATOR TUNING
C1G		A.M. OSCILLATOR TRIMMER
C1H		F.M. ANTENNA TRIMMER
C1J		F.M. ANTENNA TUNING
C2	22-2481	8 PF DISC ± .5% 500V
C3	22-2729	.001 MFD DISC 25V
C4	22-2481	8 PF DISC ± .5% 500V
C5	22-3875	10 PF DISC ± 5% 500V
C6	22-3393	.01 MFD DISC 25V
C7	22-3541	3.3 PF GIMMICK ± 5% 500V
C8	22-3751	20 PF DISC ± 5% 500V
C9	22-5879	3.3 PF DISC ± .25 PF 25V
C10	22-2729	.001 MFD DISC 25V
C11	22-5878	5.5 PF DISC ± 0.5 PF 25V
C12	22-3034	.05 MFD DISC 25V
C13	22-4470	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25V
C15	22-2481	8 PF DISC ± .5% 500V
C16	22-3792	17 PF DISC ± 5% 500V
C17	22-3034	.05 MFD DISC 25V
C18	22-3177	390 PF DISC 500V
C103	22-3034	.05 MFD DISC 25V
C104	22-3393	.01 MFD DISC 25V
C105	22-5872	390 PF ± 5% POLYSTYRENE 125V
C106	22-3034	.05 MFD DISC 25V
C107	22-4819	2 PF N4700 ± .25 PF 500V
C108	22-3034	.05 MFD DISC 25V
C201	22-3310	2.7 PF GIMMICK ± 10% 500V
C202	22-5453	.0015 MFD DISC 500V
C203	22-3862	1 MFD DISC 10V
C204	22-5481	560 PF DISC 500V
C205	22-3034	.05 MFD DISC 25V
C206	22-3791	42 PF DISC ± 5% 500V
C207	22-3310	2.7 PF GIMMICK ± 10% 500V
C208	22-3034	.05 MFD DISC 25V
C209	22-5482	680 PF DISC 500V
C210	22-5481	560 PF DISC 500V
C211	22-3770	5.5 PF DISC ± .25 PF 500V
C212	22-3034	.05 MFD DISC 25V
C213	22-2428	1.8 PF GIMMICK ± 10% 500V
C214	22-5482	680 PF DISC 500V
C215	22-3034	.05 MFD DISC 25V
C216	22-3080	.005 MFD DISC 25V
C217	22-5482	680 PF DISC 500V
C218	22-3177	390 PF DISC 500V
C219	22-3177	390 PF DISC 500V
C220	22-3896	5 MFD ELECTROLYTIC 25V
C221	22-5486	10 MFD ELECTROLYTIC 6V
C222	22-1362	560 PF DISC 500V
C223	22-3034	.05 MFD DISC 25V
C225	22-3033	.02 MFD 25V
C227	22-3034	.05 MFD DISC 25V
C301	22-2729	.001 MFD DISC 25V
C303	22-6246	3.3 MFD N.P. 15V
C304	22-6055	2200 PF MICA ±10% 100V
C305	22-3608	68 PF DISC 500V
C306	22-5482	680 PF DISC 500V
C308	22-3034	.05 MFD DISC 25V
C309	22-5782	2200 PF POLYSTYRENE ± 5% 500V
C310	22-13	.0033 MFD DISC 500V
C311	22-13	.0033 MFD 500V
C312	22-16	470 PF DISC 500V
C313	22-3034	.05 MFD DISC 25V
C314	22-16	470 PF DISC 500V
C315	22-3034	.05 MFD DISC 25V
C316	22-3381	39 PF ± 5% DISC 500V
C401	22-3034	.05 MFD DISC 25V
C402	22-3034	.05 MFD DISC 25V
C404	22-7163	1 MFD ELECTROLYTIC 50V
C406	22-2939	680 PF DISC 500V
C407	22-6048	.22 MFD MYLAR 50V
C408	22-14	.0047 MFD DISC 500V
C410	22-13	3300 PF DISC 500V
C411	22-3513	.01 MFD DISC 500V
C412	22-7153	1 MFD ELECTROLYTIC 50V
C413	22-5482	680 PF DISC 500V
C415	22-7143	1 MFD ELECTROLYTIC 50V
C416	22-5482	680 PF DISC 500V
C417	22-16	470 PF DISC 500V
C420	22-7150-09	220 MFD ELECTROLYTIC 10V
C422	22-7152-11	470 MFD ELECTROLYTIC 25V
C451	22-3034	.05 MFD DISC 25V
C452	22-3034	.05 MFD DISC 25V
C454	22-7153	1 MFD ELECTROLYTIC 50V
C456	22-2939	680 PF DISC 500V
C457	22-6048	.22 MFD MYLAR 50V
C458	22-14	.0047 MFD DISC 500V
C460	22-13	3300 PF DISC 500V
C461	22-3513	.01 MFD DISC 500V
C462	22-7153	1 MFD ELECTROLYTIC 50V
C463	22-5482	680 PF DISC 500V
C465	22-7143	1 MFD ELECTROLYTIC 50V
C466	22-5482	680 PF DISC 500V
C467	22-16	470 PF DISC 500V
C470	22-7150-09	220 MFD ELECTROLYTIC 10V
C472	22-7152-11	470 MFD ELECTROLYTIC 25V
C473	22-6447-01	.047 MFD MYLAR 100V
C501	22-4617	.01 MFD DISC 500V
C502	22-4617	.01 MFD DISC 500V
C503	22-7142-12	1000 MFD ELECTROLYTIC 25V
C504	22-7141-11	470 MFD ELECTROLYTIC 16V
C505	22-7150-07	47 MFD ELECTROLYTIC 10V
C506	22-6447-01	.047 MFD MYLAR 100V
C510	22-6005	.01 MFD DISC 150VAC
C511	22-6005	.01 MFD DISC 150VAC
R1	63-1768	390 OHM
R2	63-4213	4.7K OHM 1/4W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4W
R6	63-1831	12K OHM
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4W
R9	63-1898	470 K OHM 20%
R101	63-1834	15K OHM
R102	63-1866	82K OHM
R103	63-1827	10K OHM
R104	63-1775	1K OHM
R105	63-1799	2.2K OHM
R106	63-1771	470 OHM
R107	63-1771	470 OHM
R201	63-1778	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1806	3.3K OHM
R205	63-1827	10K OHM
R206	63-1771	470 OHM
R207	63-1785	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4185	1K OHM 1/4W
R211	63-1775	560 OHM
R212	63-1772	470 OHM 20%
R213	63-1778	680 OHM
R214	63-1778	680 OHM
R215	63-1813	4700 OHM
R216	63-1813	4700 OHM
R217	63-1799	2.2K OHM
R218	63-1869	100K OHM
R219	63-1841	22K OHM
R220	63-1824	8200 OHM
R221	63-1827	10K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R301	63-1831	12K OHM
R302	63-8328	300 OHM MUTE CONTROL
R303	63-1918	1.5 MEG OHM
R304	63-1796	1.8K OHM
R305	63-1757	220 OHM
R306	63-1816	5.6K OHM 5%
R307	63-1818	5.6K OHM 5%
R308	63-1869	100K OHM
R309	63-1869	100K OHM
R401	63-1950	8.2 MEG OHM
R403	63-1876	150K OHM
R405	63-1845	27K OHM
R406	63-1848	33K OHM
R407	63-1806	3.3K OHM
R408(R)	63-9255	100K DUAL LOUDNESS CONTROL
R408(L)		(ALTERNATE 63-10160)
R409	63-1841	22K OHM
R410(R)	63-9257	500K DUAL BASS CONTROL
R410(L)		(ALTERNATE 63-10162)
R412(R)	63-9256	50K DUAL TREBLE CONTROL
R412(L)		(ALTERNATE 63-10161)
R413	63-1918	1.5 MEG OHM
R414	63-1806	3.3K OHM
R415	63-1796	82 OHM
R416	63-1841	22K OHM
R417	63-1799	2200 OHM
R419	63-1757	220 OHM
R420	63-1761	270 OHM
R421	63-1707	15 OHM 5%
R422	63-4501	1 OHM
R423	63-1827	10K OHM
R424	63-1891	330K OHM 20%
R425	63-9254	500K BALANCE CONTROL
		(ALTERNATE 63-10159)
R430	63-1757	220 OHM
R431	63-10282	8 OHM 5W
R432	63-10135	11 OHM 5W
R451	63-1950	8.2 MEG OHM
R453	63-1876	150K OHM
R455	63-1845	27K OHM
R456	63-1848	33K OHM
R457	63-1806	3.3K OHM
R459	63-1841	22K OHM
R463	63-1918	1.5 MEG OHM
R464	63-1806	3.3K OHM
R465	63-1740	82 OHM
R466	63-1841	22K OHM
R467	63-1799	2200 OHM
R469	63-1757	220 OHM
R470	63-1761	270 OHM
R471	63-1707	15 OHM 5%
R472	63-4501	1 OHM
R473	63-1827	10K OHM
R480	63-1757	220 OHM
R481	63-10282	8 OHM 5W
R501	63-6038	180 1W
R502	63-1707	15 OHM
R503	63-1799	2.2K OHM
R506	63-1915	1.2 MEG OHM
R507	63-1708	15 OHM
R508	63-1708	15 OHM
L1	20-3291	FM ANTENNA COIL
L2	20-1648	FM RF COIL
L3	20-1631	TRAP COIL 10.7 MHz
L4	20-3597	FM OSCILLATOR COIL
L101	5-93292	AM ANTENNA ASSEMBLY
L102	149-311	FERRITE CORE SLEEVE
L103	IN T101	AM OSCILLATOR TRANS. PRI.
L104	IN T101	AM OSCILLATOR TRANS. SEC.
L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI
L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
L203	IN T202	1ST IF AM 455 KHz PRI
L204	IN T202	1ST IF AM 455 KHz SEC.
L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
L207	IN T204	2ND IF AM 455 KHz
L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T206	3RD IF AM 455 KHz PRI.
L211	IN T206	3RD IF AM 455 KHz SEC.
L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI
L213	IN T207	RATIO DET. TRANS. 10.7 MHz TERITIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
T101	95-3077	AM OSCILLATOR TRANSFORMER
T201	95-2546	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2541	AM 1ST IF AM 455 KHz
T203	95-2547	FM 2ND IF TRANSFORMER 10.7 MHz
T204	95-2542	AM 2ND IF AM 455 KHz
T205	95-2548	FM 3RD IF TRANSFORMER 10.7 MHz
T206	95-2689	AM 3RD IF AM 455 KHz
T207	95-2545	FM RATIO DETECTOR 10.7 MHz
T301	95-3021	INPUT COIL 19 KHz
T302	95-3023	DETECTOR COIL 38 KHz
T501	95-3107	POWER TRANSFORMER
SW1	85-1395	BAND SWITCH
SW2	85-1372	AFC SWITCH (SLIDE 9P-DT)
SW3	85-1410	SPEAKER SWITCH (SLIDE 3P-DT)
J1	78-2137-01	STEREO HEADPHONE JACK
CR1	103-47 OR 103-189	AFC DIODE
CR101	103-142	SILICON DIODE
CR201	103-23	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR203	103-90	
CR204	103-23	GERMANIUM DIODE
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	212-76	SILICON RECTIFIER
CR502	212-76	SILICON RECTIFIER
CR503	103-96	DIODE
IC-301	221-65	MONOLITHIC MULTIPLEX DEMOD.
DS501	100-604	FM DIAL LIGHT
DS502	100-625	POINTER LIGHT
DS503	100-604	AM DIAL LIGHT
DS504	100-610	PILOT LIGHT
DS301	100-611	STEREO INDICATOR LIGHT
PC	204-374	PRINTED CIRCUIT BOARD
F501	136-101	.25 AMP SLO-BLO FUSE
F502	136-109	1 AMP REGULAR FUSE
		4717E2



CHASSIS 5WER51 — CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



BANDSWITCH SW1		
POSITION	FUNCTION	AC SWITCH
1	OFF (SHOWN)	OPEN
2	AM	CLOSED
3	FM	CLOSED
4	FM-STEREO	CLOSED
5	TAPE	CLOSED
6	PHONO-AUX.	CLOSED

I C-301 VOLTAGES			
PIN	MONAURAL	STEREO	STEREO P P
1	12.1	12.1	1.0
2	2.6	2.6	0.2
3	3.9	3.9	1.2
4	—	—	—
5	—	—	—
6	20.0	0.7	—
7	0	0	—
8	—	—	—
9	12.5	12.5	—
10	9.8	9.8	.04
11	7.3	7.2	1.5
12	7.3	7.2	1.5
13	6.8	9.8	0.5
14	0.5	1.7	0.3

NOTES:
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
D.C. VOLTAGES SHOWN ARE MEASURED FROM CHASSIS, WITH NO SIGNAL INPUT, LOUDNESS CONTROL AT MINIMUM, LINE VOLTAGE 120 V.A.C. USING A HIGH IMPEDANCE V.T.V.M.
ALL RESISTORS IN OHMS, 1/2 WATT CARBON, 10% UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS ARE IN MICROFARADS ±10% UNLESS OTHERWISE SPECIFIED.
I.F. FREQUENCY: A.M. 455KHz, F.M. 10.7MHz
TUNING RANGE: A.M. 540-1600KHz, F.M. 88-108 MHz
⏚ INDICATES CHASSIS GROUND.
P INDICATES ±20% TOLERANCE.
→ INDICATES VOLTAGE.
⊙ INDICATES TEST POINTS.
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.
121-976 IS INSULATED FROM CHASSIS. OUTPUT TRANSISTORS IN EACH CHANNEL SHALL BE A PAIR 121-976 & 121-977.
*VOLTAGES MEASURED IN THE F.M. STEREO POSITION.
**RIPPLE VOLTAGE MEASURED WITH NO SIGNAL INPUT.

IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADED ON THE SCHEMATIC AND PARTS LISTS FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

IC 301 WAVE FORMS

PIN 3
COMPOSITE L&R — L-R (15KHZ LEFT ONLY) 19 KHZ PILOT 10% 1 V P/ P

PIN 2
19 KHZ (WITH L ONLY) 200 MV P/P

PIN 1
19 KHZ
1.2 V P/P

PIN 10
38 KHZ PULSES
80MV P/P

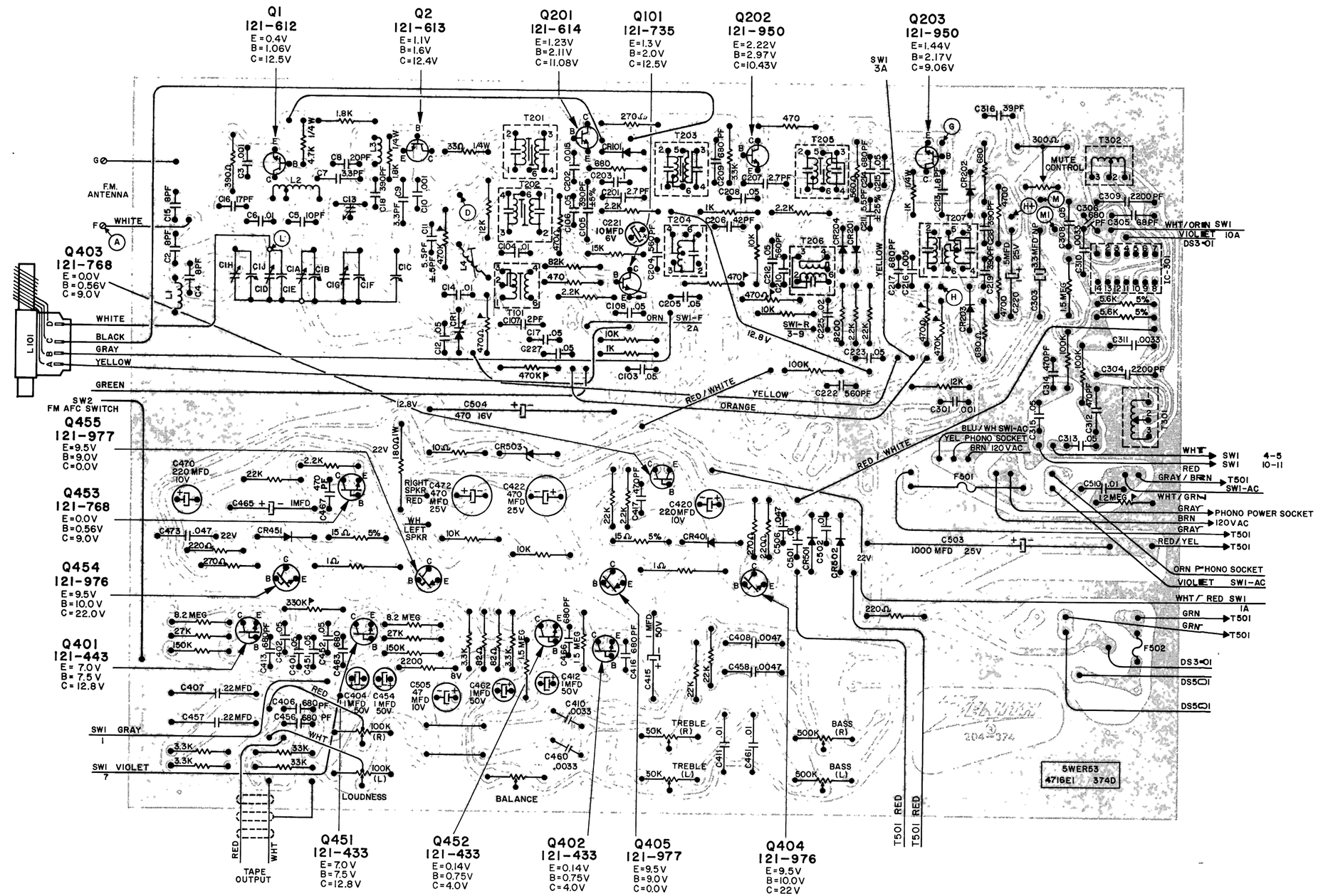
38 KHZ TANK END
38 KHZ
13 V P/P

PIN 13
38 KHZ
1.4 V P/P

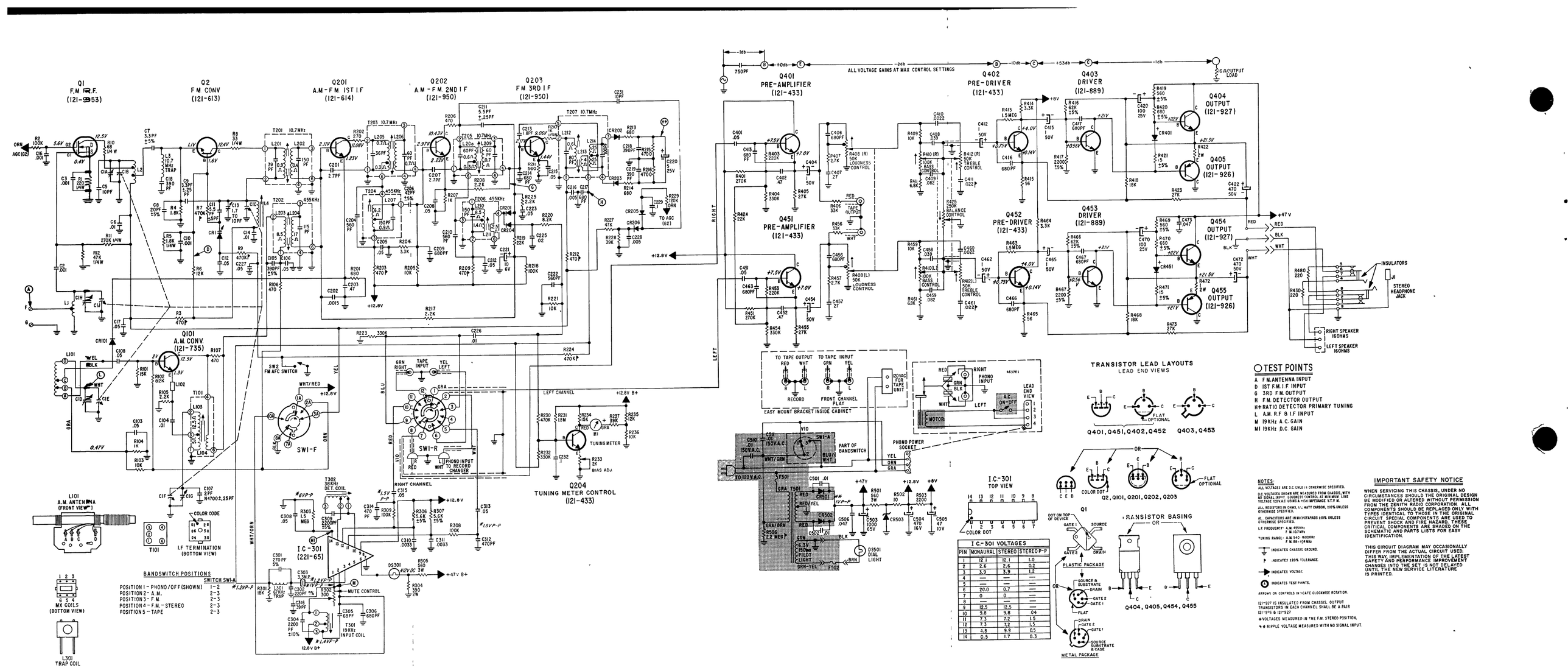
PIN 12 (UPPER) RIGHT OUTPUT
PIN 11 (LOWER) LEFT OUTPUT
(L INPUT ONLY) 1 V P/P

LEGEND CHASSIS 5WER53

ITEM NO.	PART NUMBER	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER
C1B		F.M. DETECTOR TUNING
C1C		F.M. OSCILLATOR TUNING
C1D		A.M. ANTENNA TRIMMER
C1E		A.M. ANTENNA TUNING
C1F	22-7134	A.M. OSCILLATOR TUNING
C1G		A.M. OSCILLATOR TRIMMER
C1H		F.M. ANTENNA TRIMMER
C1J		F.M. ANTENNA TUNING
C2	22-2481	8 PF DISC ±0.5% 500V
C3	22-2729	.001 MFD DISC 25V
C4	22-2481	8 PF DISC ±0.5% 500V
C5	22-3675	10 PF DISC ±5% 500V
C6	22-3393	.01 MFD DISC 25V
C7	22-3541	3.3 PF GIMMICK ±.5% 500V
C8	22-3751	20 PF DISC ±5% 500V
C9	22-5879	3.3 PF DISC ±.25 PF 25V
C10	22-2729	.001 MFD DISC 25V
C11	22-5878	5.5 PF DISC ±0.5 PF 25V
C12	22-3034	.05 MFD DISC 25V
C13	22-6470	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25V
C15	22-2481	8 PF DISC ±0.5% 500V
C16	22-3792	17 PF DISC ±5% 500V
C17	22-3034	.05 MFD DISC 25V
C18	22-3177	390 PF DISC 500V
C103	22-3034	.05 MFD DISC 25V
C104	22-3393	.01 MFD DISC 25V
C105	22-5972	390 PF ±5% POLYSTYRENE 125V
C106	22-3034	.05 MFD DISC 25V
C107	22-4819	2 PF MONO DISC PF 500V
C108	22-3034	.05 MFD DISC 25V
C201	22-3310	2.7 PF GIMMICK ± 10% 500V
C202	22-5483	.0015 MFD DISC 500V
C203	22-3652	.1 MFD DISC 10V
C204	22-5481	560 PF DISC 500V
C205	22-3034	.05 MFD DISC 25V
C206	22-3791	42 PF DISC ±5% 500V
C207	22-3310	2.7 PF GIMMICK ± 10% 500V
C208	22-3034	.05 MFD DISC 25V
C209	22-5482	680 PF DISC 500V
C210	22-5481	560 PF DISC 500V
C211	22-3770	5.5 PF DISC ± .25 PF 500V
C212	22-3034	.05 MFD DISC 25V
C213	22-2428	1.8 PF GIMMICK ± 10% 500V
C214	22-5482	680 PF DISC 500V
C215	22-3034	.05 MFD DISC 25V
C216	22-3080	.005 MFD DISC 25V
C217	22-5482	680 PF DISC 500V
C218	22-3177	390 PF DISC 500V
C219	22-3177	390 PF DISC 500V
C220	22-3896	5 MFD ELECTROLYTIC 25V
C221	22-5486	10 MFD ELECTROLYTIC 6V
C222	22-3362	560 PF DISC 500V
C223	22-3034	.05 MFD DISC 25V
C225	22-3033	.02 MFD 25V
C227	22-3034	.05 MFD DISC 25V
C301	22-2729	.001 MFD DISC 25V
C303	22-6246	3.3 MFD N.P. 15V
C304	22-6055	2200 PF MICA ±10% 100V
C305	22-3808	68 PF DISC 500V
C308	22-5482	680 PF DISC 500V
C309	22-3034	.05 MFD DISC 25V
C310	22-5792	2200 PF POLYSTYRENE ±5% 500V
C311	22-13	.0033 MFD DISC 500V
C312	22-13	.0033 MFD 500V
C313	22-16	470 PF DISC 500V
C314	22-3034	.05 MFD DISC 25V
C315	22-16	470 PF DISC 500V
C316	22-3034	.05 MFD DISC 25V
C401	22-3381	39 PF ±5% DISC 500V
C402	22-3034	.05 MFD DISC 25V
C404	22-7153	1 MFD ELECTROLYTIC 50V
C406	22-2939	680 PF DISC 500V
C407	22-6048	.22 MFD MYLAR 50V
C408	22-14	.0047 MFD DISC 500V
C410	22-13	.0033 PF DISC 500V
C411	22-3513	.01 MFD DISC 500V
C412	22-7153	1 MFD ELECTROLYTIC 50V
C413	22-5482	680 PF DISC 500V
C414	22-7143	1 MFD ELECTROLYTIC 50V
C415	22-5482	680 PF DISC 500V
C416	22-16	.00047 MFD DISC 500V
C417	22-16	.00047 MFD DISC 500V
C420	22-7150-09	220 MFD ELECTROLYTIC 10V
C422	22-7152-11	470 MFD ELECTROLYTIC 25V
C451	22-3034	.05 MFD DISC 25V
C452	22-3034	.05 MFD DISC 25V
C454	22-7153	1 MFD ELECTROLYTIC 50V
C456	22-2939	680 PF DISC 500V
C457	22-6048	.22 MFD MYLAR 50V
C458	22-14	.0047 MFD DISC 500V
C460	22-13	.0033 PF DISC 500V
C461	22-3513	.01 MFD DISC 500V
C462	22-7153	1 MFD ELECTROLYTIC 50V
C463	22-5482	680 PF DISC 500V
C465	22-7143	1 MFD ELECTROLYTIC 50V
C466	22-5482	680 PF DISC 500V
C467	22-16	.00047 MFD DISC 500V
C470	22-7150-09	220 MFD ELECTROLYTIC 10V
C472	22-7152-11	470 MFD ELECTROLYTIC 25V
C473	22-6447-01	.047 MFD MYLAR ± 20% 100V
C501	22-4617	.01 MFD DISC 500V
C502	22-4617	.01 MFD DISC 500V
C503	22-7142-12	1000 MFD ELECTROLYTIC 25V
C504	22-7141-11	470 MFD ELECTROLYTIC 16V
C505	22-7150-07	47 MFD ELECTROLYTIC 10V
C506	22-6447-01	.047 MFD MYLAR ± 20% 100V
C510	22-6005	.01 MFD DISC 150VAC
R1	63-1768	390 OHM
R2	63-4213	4.7K OHM 1/4W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4W
R6	63-1831	12K OHM
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4W
R9	63-1898	470K OHM 20%
R101	63-1834	15K OHM
R102	63-1866	82K OHM
R103	63-1827	10K OHM
R104	63-1785	1K OHM
R105	63-1799	2.2K OHM
R106	63-1771	470 OHM
R107	63-1771	470 OHM
R201	63-1778	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1806	3.3K OHM
R205	63-1827	10K OHM
R206	63-1771	470 OHM
R207	63-1785	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4185	1K OHM 1/4W
R211	63-1775	560 OHM
R212	63-1772	470 OHM 20%
R213	63-1778	680 OHM
R214	63-1778	680 OHM
R215	63-1813	4700 OHM
R216	63-1813	4700 OHM
R217	63-1799	2.2K OHM
R218	63-1869	100K OHM
R219	63-1841	22K OHM
R220	63-1824	8200 OHM
R221	63-1827	10K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R301	63-1831	12K OHM
R302	63-8328	300 OHM MUTE CONTROL
R303	63-1918	1.5 MEG OHM
R305	63-1757	220 OHM
R306	63-1816	5.6K OHM 5%
R307	63-1816	5.6K OHM 5%
R308	63-1869	100K OHM
R309	63-1869	100K OHM
R401	63-1950	6.2 MEG OHM
R403	63-1878	150K OHM
R405	63-1845	27K OHM
R406	63-1848	33K OHM
R407	63-1806	3.3K OHM
R408R	63-8255	100K DUAL LOUDNESS CONTROL (ALTERNATE 63-10160)
R408L		
R409	63-1841	22K OHM
R410R	63-9257	500K DUAL BASS CONTROL (ALTERNATE 63-10162)
R410L		
R412R	63-9256	50K DUAL TREBLE CONTROL (ALTERNATE 63-10161)
R412L		
R413	63-1918	1.5 MEG OHM
R414	63-1806	3.3K OHM
R415	63-1740	82 OHM
R416	63-1841	22K OHM
R417	63-1799	2200 OHM
R419	63-1757	220 PHM
R420	63-1761	270 OHM
R421	63-1707	15 OHM 5%
R422	63-4501	1 OHM
R423	63-1827	10K OHM
R424	63-1891	330K OHM 20%
R425	63-9254	500K BALANCE CONTROL (ALTERNATE 63-10159)
R430	63-1757	220 OHM
R431	63-10282	8 OHM 5W
R432	63-10135	11 OHM 5W
R451	63-1950	6.2 MEG OHM
R453	63-1876	150K OHM
R455	63-1845	27K OHM
R456	63-1848	33K OHM
R457	63-1806	3.3K OHM
R459	63-1841	22K OHM
R463	63-1918	1.5 MEG OHM
R464	63-1806	3.3K OHM
R465	63-1740	82 OHM
R466	63-1841	22K OHM
R467	63-1799	2200 OHM
R469	63-1757	220 OHM
R470	63-1761	270 OHM
R471	63-1707	15 OHM 5%
R472	63-4501	1 OHM
R473	63-1827	10K OHM
R480	63-1757	220 OHM
R481	63-10282	8 OHM 5W
R501	63-6038	180 OHM 1W
R502	63-1701	10 OHM
R503	63-1799	2.2K OHM
R506	63-1815	1.2 MEG OHM
R507	63-1708	15 OHM
R508	63-1708	15 OHM
L1	20-3291	FM ANTENNA COIL
L2	20-1648	FM RF COIL
L3	20-1631	TRAP COIL 10.7 MHz
L4	20-3597	FM OSCILLATOR COIL
L101	S-93292	AM ANTENNA ASSEMBLY
L102	148-311	FERRITE CORE SLEEVE
L103	IN T101	AM OSCILLATOR TRANS. PRI.
L104	IN T101	AM OSCILLATOR TRANS. SEC.
L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI.
L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
L203	IN T202	1ST IF AM 455 KHz PRI.
L204	IN T202	1ST IF 455 KHz SEC.
L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
L207	IN T204	2ND IF AM 455 KHz
L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI.
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T206	3RD IF AM 455 KHz PRI.
L211	IN T206	3RD IF AM 455 KHz SEC.
L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI.
L213	IN T207	RATIO DET. TRANS. 10.7 MHz TERTIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
T101	95-3077	AM OSCILLATOR TRANSFORMER
T201	95-2546	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2541	AM 1ST IF AM 455 KHz
T203	95-2547	FM 2ND IF TRANSFORMER 10.7 MHz
T204	95-2542	AM 2ND IF AM 455 KHz
T205	95-2548	FM 3RD IF TRANSFORMER 10.7 MHz
T206	95-2689	AM 3RD IF AM 455 KHz
T207	95-2545	FM RATIO DETECTOR 10.7 MHz
T301	95-3021	INPUT COIL 19 KHz
T302	95-3023	DETECTOR COIL 38 KHz
T501	95-3107	POWER TRANSFORMER
SW1	85-1401	BAND SWITCH
SW2	85-1372	AFC SWITCH (SLIDE 3P-DT)
SW3	85-1410	SPEAKER SWITCH (SLIDE 3P-DT)
J1	78-2137-01	STEREO HEADPHONE JACK
CR1	103-47 OR 103-189	AFC DIODE
CR101	103-142	SILICON DIODE
CR201	103-23	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR203	103-90	
CR204	103-23	GERMANIUM DIODE
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	213-76	SILICON RECTIFIER
CR502	213-76	SILICON RECTIFIER
CR503	103-96	DIODE
IC-301	221-65	MONOLITHIC MULTIPLEX DEMOD.
DS501	100-604	FM DIAL LIGHT
DS502	100-625	POINTER LIGHT
DS503	100-604	AM DIAL LIGHT
DS504	100-610	PILOT LIGHT
DS301	100-611	STEREO INDICATOR LIGHT
PC	298-374	PRINTED CIRCUIT BOARD
F501	136-101	.25 AMP SLO-BLO FUSE
F502	136-109	1 AMP REGULAR FUSE
		4716E2



CHASSIS 5WER53 — CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



TEST POINTS

- A F.M. ANTENNA INPUT
- D IST F.M. I.F INPUT
- G 3RD F.M. OUTPUT
- H F.M. DETECTOR OUTPUT
- H+ RATIO DETECTOR PRIMARY TUNING
- L A.M. R.F. & I.F INPUT
- M 19KHz A.C. GAIN
- M1 19KHz D.C. GAIN

IC-301 VOLTAGES

PIN	MONAURAL	STEREO	STEREO P-P
1	12.1	12.1	1.0
2	2.6	2.6	0.2
3	3.9	3.9	1.2
4	—	—	—
5	—	—	—
6	20.0	0.7	—
7	0	0	—
8	—	—	—
9	12.5	12.5	—
10	9.8	9.8	0.4
11	7.3	7.2	1.5
12	7.3	7.2	1.5
13	4.8	9.8	0.5
14	0.5	1.7	0.3

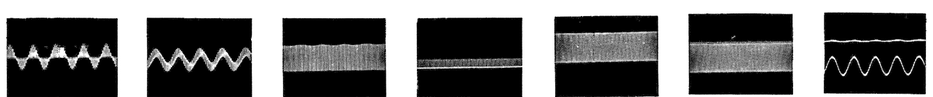
NOTES:
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
D.C VOLTAGES SHOWN ARE MEASURED FROM CHASSIS, WITH NO SIGNAL INPUT. LOUDNESS CONTROL AT MINIMUM. LINE VOLTAGE 120 V.A.C USING A HIGH IMPEDANCE V.T.V.M.
ALL RESISTORS IN OHMS, 1/2 - WATT CARBON, ±10% UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS ARE IN MICROFARADS ±10% UNLESS OTHERWISE SPECIFIED.
I.F. FREQUENCY: A.M. 455 KHz, F.M. 10.7 MHz
TUNING RANGE: A.M. 540 - 1600 KHz, F.M. 88 - 108 MHz
INDICATES CHASSIS GROUND.
INDICATES ±20% TOLERANCE.
INDICATES VOLTAGE
INDICATES TEST POINTS.
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.
121-927 IS INSULATED FROM CHASSIS. OUTPUT TRANSISTORS IN EACH CHANNEL SHALL BE A PAIR 121-926 & 121-927
*VOLTAGES MEASURED IN THE F.M. STEREO POSITION.
** RIPPLE VOLTAGE MEASURED WITH NO SIGNAL INPUT.

IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADED ON THE SCHEMATIC AND PARTS LISTS FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

IC 301 WAVE FORMS



PIN 3
COMPOSITE L & R, L-R (1 KHZ LEFT ONLY) 100 KHZ PILOT 10% 1 V P/P

PIN 2
19 KHZ (WITH L ONLY) 200 MV P/P

PIN 1
19 KHZ
1.2 V P/P

PIN 10
38 KHZ PULSES
80MV P/P

38 KHZ TANK END
38 KHZ
13V P/P

PIN 13
38 KHZ
1.4 V P/P

PIN 12 (UPPER) RIGHT OUTPUT
PIN 11 (LOWER) LEFT OUTPUT
(L INPUT ONLY) 1 V P/P

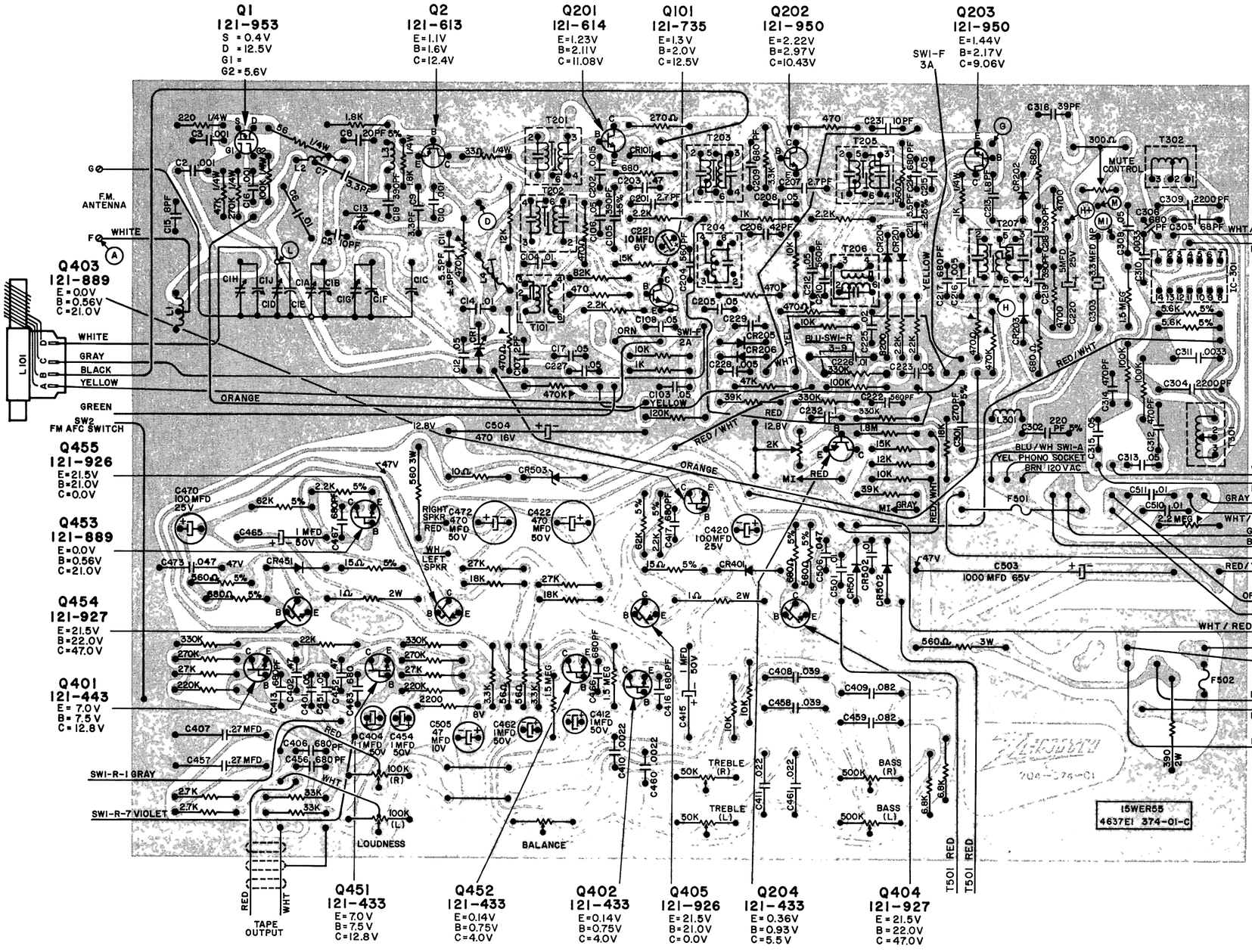
CHASSIS 15WER55 — SCHEMATIC

LEGEND CHASSIS 15WER55

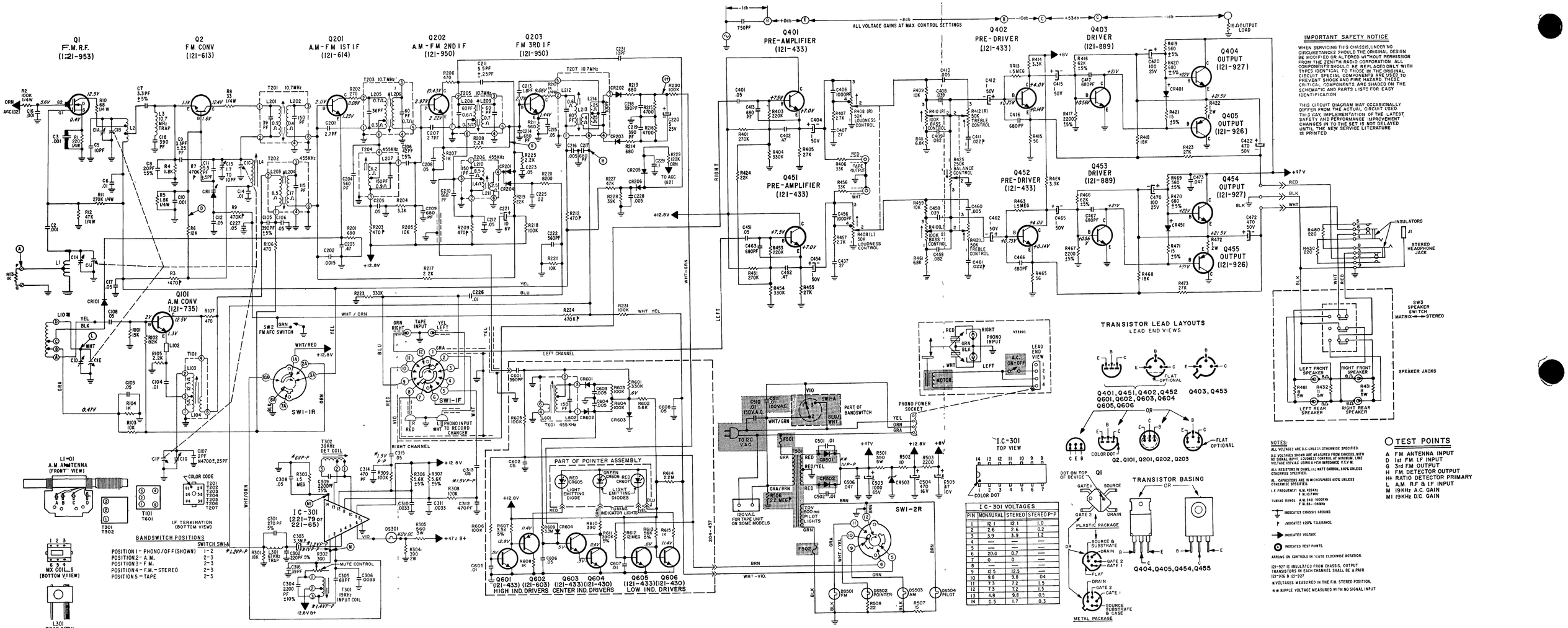
ITEM NO.	PART NUMBER	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER
C1B		F.M. DETECTOR TUNING
C1C		F.M. OSCILLATOR TUNING
C1D		A.M. ANTENNA TRIMMER
C1E		A.M. ANTENNA TUNING
C1F	22-7134	A.M. OSCILLATOR TUNING
C1G		A.M. OSCILLATOR TRIMMER
C1H		F.M. ANTENNA TRIMMER
C1J		F.M. ANTENNA TUNING
C2	22-2729	.001 MFD DISC 25V
C3	22-2729	.001 MFD DISC 25V
C5	22-3675	10 PF DISC ± 5% 500V
C6	22-3393	.01 MFD DISC 25V
C7	22-3541	3.3 PF GIMMICK ± 5% 500V
C8	22-3791	20 PF DISC ± 5% 500V
C9	22-5879	3.3 PF DISC ± .25 PF 25V
C10	22-2729	.001 MFD DISC 25V
C11	22-5878	5.0 PF DISC ± 0.5 PF 500V
C12	22-3034	.05 MFD DISC 25V
C13	22-6470	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25V
C16	22-2729	.001 PF DISC ± 5% 25V
C17	22-3034	.05 MFD DISC 25V
C18	22-3177	390 PF DISC 500V
C103	22-3034	.05 MFD DISC 25V
C104	22-3393	.01 MFD DISC 25V
C105	22-5972	390 PF ± 5% POLYSTYRENE 125V
C106	22-3034	.05 MFD DISC 25V
C107	22-4819	2 PF N4700 ± .25 PF 500V
C108	22-3034	.05 MFD DISC 25V
C201	22-3310	2.7 PF GIMMICK ± 10% 500V
C202	22-5483	.0015 MFD DISC 500V
C203	22-5487	.47 MFD DISC 10V
C204	22-5481	560 PF DISC 500V
C205	22-3034	.05 MFD DISC 25V
C206	22-3791	42 PF DISC ± 5% 500V
C207	22-3310	2.7 PF GIMMICK ± 10% 500V
C208	22-3034	.05 MFD DISC 25V
C209	22-5482	680 PF DISC 500V
C210	22-5481	560 PF DISC 500V
C211	22-3770	5.6 PF DISC ± .25 PF 500V
C212	22-3034	.05 MFD DISC 25V
C213	22-2428	1.8 PF GIMMICK ± 10% 500V
C214	22-5482	680 PF DISC 500V
C215	22-3034	.05 MFD DISC 25V
C216	22-3080	.006 MFD DISC 25V
C217	22-5482	680 PF DISC 500V
C218	22-3177	390 PF DISC 500V
C219	22-3177	390 PF DISC 500V
C220	22-3896	5 MFD ELECTROLYTIC 25V
C221	22-5486	10 MFD ELECTROLYTIC 6V
C222	22-3362	560 PF DISC 500V
C223	22-3034	.05 MFD DISC 25V
C225	22-3033	.02 MFD 25V
C226	22-3393	.01 MFD DISC 25V
C227	22-3034	.05 MFD DISC 25V
C228	22-3080	.005 MFD DISC 25V
C229	22-3652	1 MFD DISC 10V
C231	22-3675	10 PF DISC 500V
C232	22-3652	1 MFD DISC 10V
C301	22-5780	270 PF POLYSTYRENE ± 5% 500V
C302	22-3976	220 PF DISC N750 ± 5% 500V
C303	22-6246	3.3 MFD N.P. 15V
C304	22-5665	2200 PF MICA ± 1% 100V
C305	22-3608	68 PF DISC 500V
C306	22-5482	680 PF DISC 500V
C308	22-3034	.05 MFD DISC 25V
C309	22-5782	2200 PF POLYSTYRENE ± 5% 500V
C310	22-13	.0033 MFD DISC 500V
C311	22-13	.0033 MFD DISC 500V
C312	22-16	470 PF DISC 500V
C313	22-3034	.05 MFD DISC 25V
C314	22-18	470 PF DISC 500V
C315	22-3034	.05 MFD DISC 25V
C316	22-3381	39 PF ± 5% DISC 500V
C401	22-3034	.05 MFD DISC 25V
C402	22-5487	.47 MFD DISC 10V
C404	22-7153	1 MFD ELECTROLYTIC 50V
C406	22-2939	680 PF DISC 500V
C407	22-5964	.27 MFD MYLAR 50V
C408	22-7202	.039 MFD MYLAR 50V
C409	22-5684	.082 MFD MYLAR 100V
C410	22-18	.0022 MFD DISC 500V
C411	22-5614	.022 MFD MYLAR 100V
C412	22-7153	1 MFD ELECTROLYTIC 50V
C413	22-5482	680 PF DISC 500V
C415	22-7143	1 MFD ELECTROLYTIC 50V
C416	22-5482	680 PF DISC 500V
C417	22-2939	680 PF DISC 500V
C420	22-7152-08	100 MFD ELECTROLYTIC 25V
C422	22-7153-11	470 MFD ELECTROLYTIC 50V
C451	22-3034	.05 MFD DISC 25V
C452	22-5487	.47 MFD DISC 3V
C454	22-7153	1 MFD ELECTROLYTIC 50V
C456	22-2939	680 PF DISC 500V
C457	22-6964	.27 MFD MYLAR 50V
C458	22-7202	.039 MFD POLYSTYRENE 50V
C459	22-5884	.082 MFD MYLAR 100V
C460	22-18	.0022 MFD DISC 500V
C461	22-5614	.022 MFD MYLAR 100V
C462	22-7153	1 MFD ELECTROLYTIC 50V
C463	22-5482	680 MFD ELECTROLYTIC 500V
C465	22-7143	1 MFD ELECTROLYTIC 50V
C466	22-5482	680 PF DISC 500V
C467	22-2939	680 PF DISC 500V
C470	22-7152-08	100 MFD ELECTROLYTIC 25V
C472	22-7153-11	470 MFD ELECTROLYTIC 50V
C473	22-6447-01	.047 MFD MYLAR 100V
C501	22-4617	.01 MFD DISC 500V
C502	22-4617	.01 MFD DISC 500V
C503	22-6112	1000 MFD ELECTROLYTIC 65V
C504	22-7441-11	470 MFD ELECTROLYTIC 16V
C505	22-7150-07	47 MFD ELECTROLYTIC 10V
C506	22-6447-01	.047 MFD MYLAR 100V
C510	22-4005	.01 MFD DISC 1500VAC
C511	22-4005	.01 MFD DISC 1500VAC
R1	63-4157	220 OHM 1/4W
R2	63-4269	100K OHM 1/4W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4W
R6	63-1831	12K OHM
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4W
R9	63-1898	470K OHM 20%
R10	63-4136	68 OHM 1/4W
R11	63-4287	270K OHM 1/4W
R12	63-4255	47K OHM 1/4W
R101	63-1834	15K OHM
R102	63-1866	82K OHM
R103	63-1827	10K OHM
R104	63-1785	1K OHM
R105	63-1799	2.2K OHM
R106	63-1771	470 OHM
R107	63-1771	470 OHM
R201	63-1778	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1806	3.3K OHM
R205	63-1827	10K OHM
R206	63-1771	470 OHM
R207	63-1785	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4185	1K OHM 1/4W

ITEM NO.	PART NUMBER	DESCRIPTION
R211	63-1775	560 OHM
R212	63-1772	470 OHM 20%
R213	63-1778	680 OHM
R214	63-1778	680 OHM
R215	63-1813	4700 OHM
R218	63-1813	4700 OHM
R217	63-1799	2.2K OHM
R218	63-1869	100K OHM
R219	63-1841	22K OHM
R220	63-1824	6200 OHM
R221	63-1827	10K OHM
R223	63-1890	330K OHM
R224	63-1896	470K OHM 20%
R226	63-1798	2.2K OHM
R227	63-1855	47K OHM
R228	63-1852	39K OHM
R229	63-1873	120K OHM
R230	63-1857	470K OHM
R231	63-1922	1.8 MEG OHM
R232	63-1890	330K OHM
R233	63-6250	2K OHM METER CONTROL
R234	63-1834	15K OHM
R235	63-1831	12K OHM
R236	63-1827	10K OHM
R237	63-1852	39K OHM
R301	63-1838	18K OHM
R302	63-6328	300 OHM MUTE CONTROL
R303	63-1918	1.5 MEG OHM
R304	63-1858	390 OHM 2W
R305	63-6442	560 OHM 3W
R306	63-1818	5.6K OHM 5%
R307	63-1816	5.6K OHM 5%
R308	63-1869	100K OHM
R309	63-1869	100K OHM
R401	63-1887	270K OHM
R403	63-1883	220K OHM
R404	63-1890	330K OHM
R405	63-1845	27K OHM
R406	63-1848	33K OHM
R407	63-1803	2.7K OHM
R408F	63-9955	50K DUAL LOUDNESS CONTROL
R408L		
R409	63-1827	10K OHM
R410F	63-9956	100K DUAL BASS CONTROL
R410L		
R411	63-1820	6.8K OHM
R412R	63-9256	50K DUAL TREBLE CONTROL
R412L		
R413	63-1918	1.5 MEG OHM
R414	63-1806	3.3K OHM
R416	63-1733	56 OHM
R416	63-1860	62K OHM 5%
R417	63-1798	2200 OHM 5%
R418	63-1838	18K OHM
R419	63-1774	560 OHM 5%
R420	63-1777	680 OHM 5%
R421	63-1707	15 OHM 5%
R422	63-9982	1 OHM 2W
R423	63-1845	27K OHM
R424	63-1841	22K OHM
R425	63-9963	250K BALANCE CONTROL
R430	63-1757	220 OHM
R451	63-1887	270K OHM
R453	63-1883	220K OHM
R454	63-1890	330K OHM
R455	63-1845	27K OHM
R456	63-1848	33K OHM
R457	63-1803	2.7K OHM
R459	63-1827	10K OHM
R461	63-1820	6.8K OHM
R463	63-1918	1.5 MEG OHM
R464	63-1806	3.3K OHM
R465	63-1733	56 OHM
R466	63-1860	62K OHM 5%
R467	63-1798	2200 OHM 5%
R468	63-1838	18K OHM
R469	63-1774	560 OHM 5%
R470	63-1777	680 OHM 5%
R471	63-1707	15 OHM 5%
R472	63-9982	1 OHM 2W
R473	63-1845	27K OHM
R480	63-1757	220 OHM
R501	63-6442	560 OHM 3W
R502	63-1701	10 OHM
R503	63-1799	2.2K OHM
R506	63-1826	2.2 MEG OHM 20%
L1	20-3076	FM ANTENNA COIL
L2	20-3526	FM RF COIL
L3	20-1631	TRAP COIL 10.7 MHz
L4	20-3697	FM OSCILLATOR COIL
L101	S-93292	AM ANTENNA ASSEMBLY
L102	149-311	FERRITE CORE SLEEVE
L103	IN T101	AM OSCILLATOR TRANS. PRI.
L104	IN T101	AM OSCILLATOR TRANS. SEC.
L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI.
L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
L203	IN T202	1ST IF AM 455 KHz PRI.
L204	IN T202	1ST IF 455 KHz SEC.
L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
L207	IN T204	2ND IF AM 455 KHz
L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI.
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T206	3RD IF AM 455 KHz PRI.
L211	IN T206	3RD IF AM 455 KHz SEC.
L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI.
L213	IN T207	RATIO DET TRANS. 10.7 MHz TERTIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
L301	20-3080	67 KHz TRAP
T101	95-3077	AM OSCILLATOR TRANSFORMER
T201	95-2548	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2541	AM 1ST I F AM 455 KHz
T203	95-2547	FM 2ND IF TRANSFORMER 10.7 MHz
T204	95-2542	AM 2ND IF AM 455 KHz
T205	95-2546	FM 3RD IF TRANSFORMER 10.7 MHz
T206	95-2549	AM 3RD IF AM 455 KHz
T207	95-2545	FM RATIO DETECTOR 10.7 MHz
T301	95-3021	INPUT COIL 19 KHz
T302	95-3023	DETECTOR COIL 38 KHz
T501	85-3001	POWER TRANSFORMER
SW1	85-1370	BAND SWITCH
SW2	85-1372	AFC SWITCH (SLIDE 3P-DT)
CR1	109-47	AFC DIODE
	OR 103-189	
CR101	103-142	SILICON DIODE
CR201	103-23	GERMANIUM DIODE
CR202	103-90	
CR203	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR204	103-23	GERMANIUM DIODE
CR205	103-23	GERMANIUM DIODE
CR206	103-23	GERMANIUM DIODE
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	212-76	SILICON RECTIFIER
CR502	212-76	SILICON RECTIFIER
CR503	103-96	DIODE
IC-301	221-65	MONOLITHIC MULTIPLEX DEMOD.
DS101	100-249	PILOT LIGHT NO. 1847
DS301	100-611	STEREO INDICATOR LIGHT
PC	204-374-01	PRINTED CIRCUIT BOARD
FS01	120-105	.6 AMP SLO-BLO FUSE
FS02	120-107	.5 AMP REGULAR FUSE
M1	122-68	TUNING METER

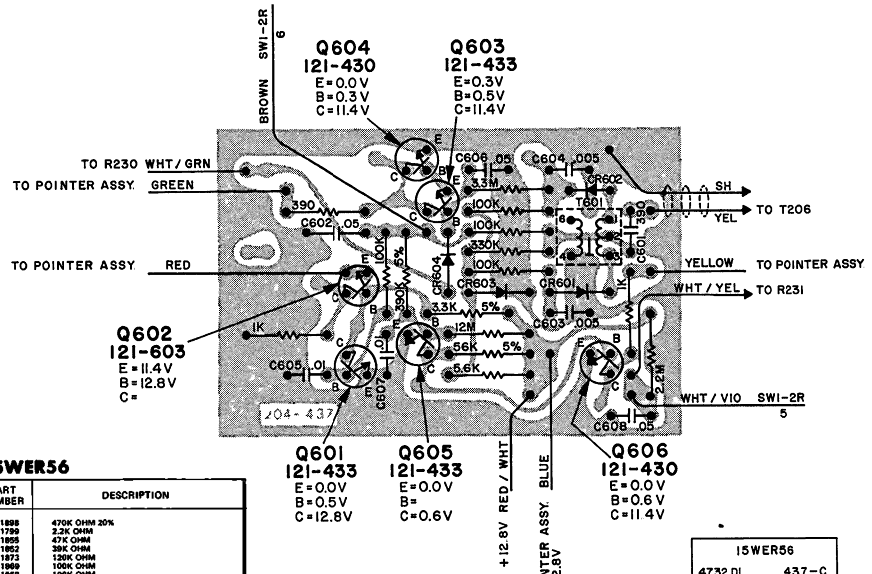
4637E2



CHASSIS 15WER55 — CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



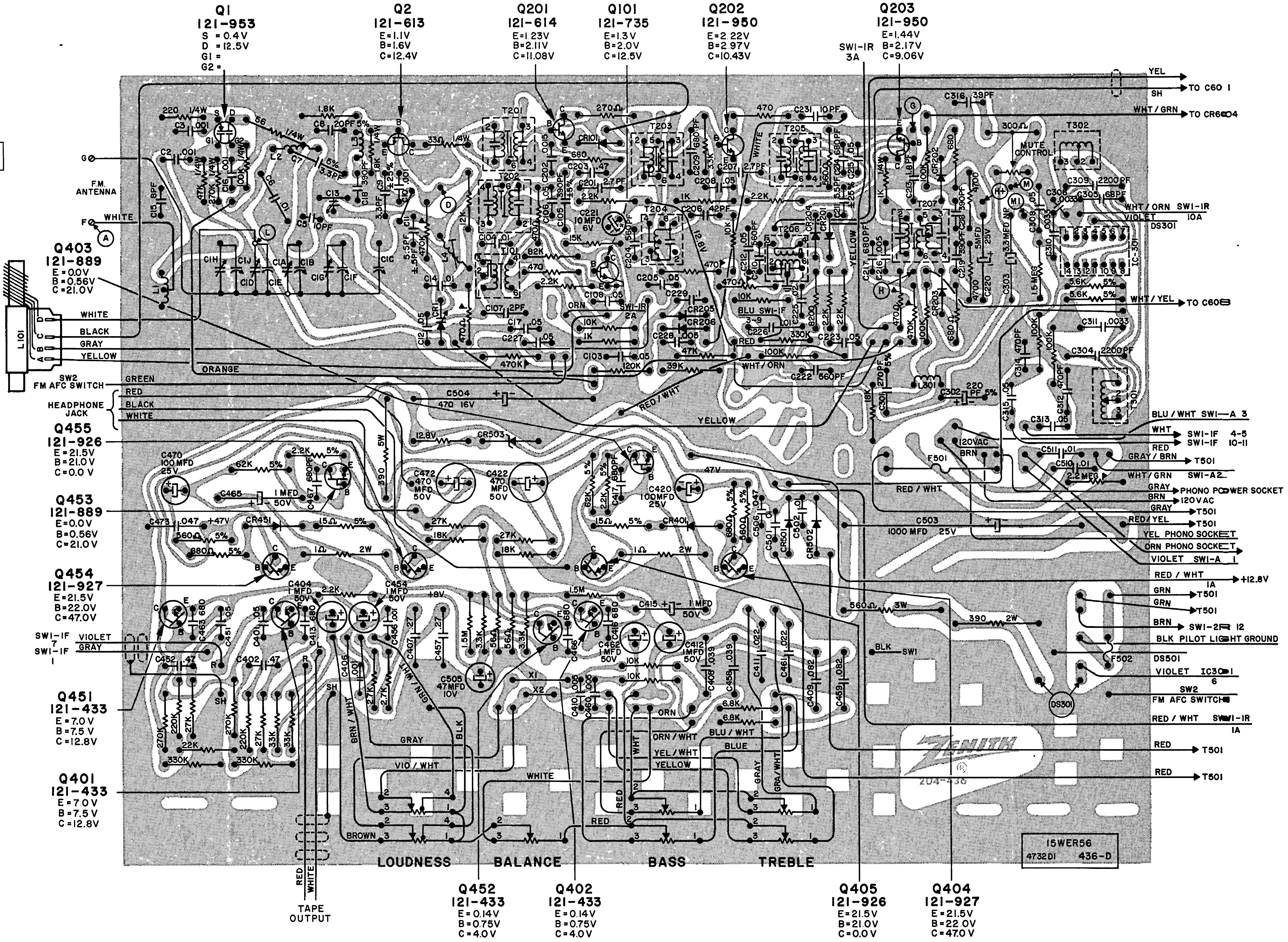
CHASSIS 15WER56 – SCHEMATIC



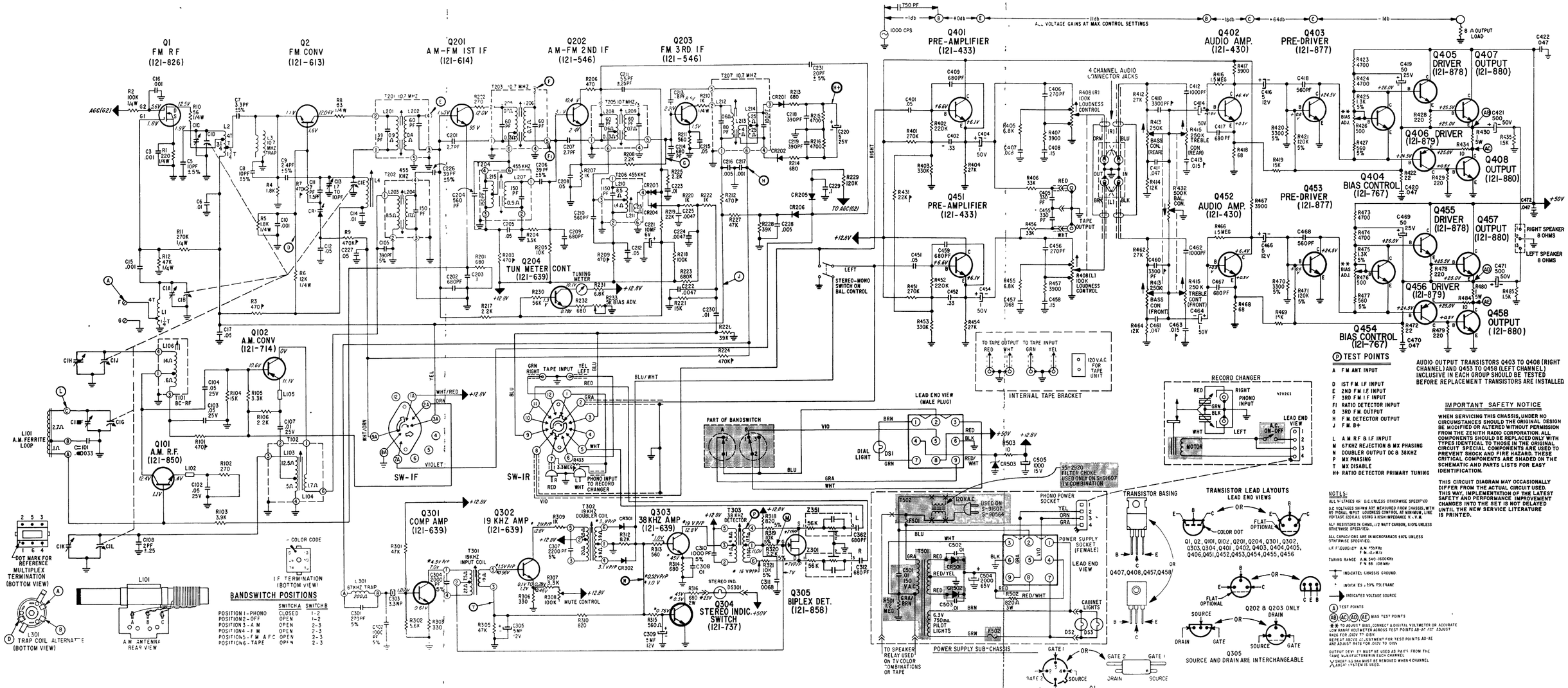
LEGEND CHASSIS 15WER56

ITEM NO.	PART NUMBER	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER
C1B		F.M. DETECTOR TUNING
C1C		F.M. OSCILLATOR TUNING
C1D		A.M. ANTENNA TRIMMER
C1E		A.M. ANTENNA TUNING
C1F	22-7134	A.M. OSCILLATOR TUNING
C1G		A.M. OSCILLATOR TRIMMER
C1H		F.M. ANTENNA TRIMMER
C1J		F.M. ANTENNA TUNING
C2	22-2729	.001 MFD DISC 25V
C3	22-2729	.001 MFD DISC 25V
C5	22-3676	10 PF DISC ± 5% 500V
C6	22-3393	.01 MFD DISC 25V
C7	22-3541	3.3 PF GIMMICK ± 5% 500V
C8	22-3761	20 PF DISC ± 5% 500V
C9	22-5879	3.3 PF DISC ± .25 PF 25V
C10	22-2729	.001 MFD DISC 25V
C11	22-5878	5.5 PF DISC ± 0.5 PF 500V
C12	22-3034	.05 MFD DISC 25V
C13	22-6470	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25V
C16	22-2729	.001 MFD DISC 25V
C17	22-3034	.05 MFD DISC 25V
C18	22-3177	390 PF DISC 500V
C103	22-3034	.05 MFD DISC 25V
C104	22-3393	.01 MFD DISC 25V
C105	22-5972	390 PF ± 5% POLYSTYRENE 125V
C106	22-3034	.05 MFD DISC 25V
C107	22-4819	2 PF N4700 ± .25 PF 500V
C108	22-3034	.05 MFD DISC 25V
C201	22-3310	2.7 PF GIMMICK ± 10% 500V
C202	22-5483	.0015 MFD DISC 500V
C203	22-5487	.47 MFD DISC 10V
C204	22-5481	560 PF DISC 500V
C205	22-3034	.05 MFD DISC 25V
C206	22-3791	42 PF DISC ± 5% 500V
C207	22-3310	2.7 PF GIMMICK ± 10% 500V
C208	22-3034	.05 MFD DISC 25V
C209	22-5482	680 PF DISC 500V
C210	22-5481	560 PF DISC 500V
C211	22-3770	5.5 PF DISC ± .25 PF 500V
C212	22-3034	.05 MFD DISC 25V
C213	22-2428	1.8 PF GIMMICK ± 10% 500V
C214	22-5482	680 PF DISC 500V
C215	22-3034	.05 MFD DISC 25V
C216	22-3080	.005 MFD DISC 25V
C217	22-5482	680 PF DISC 500V
C218	22-3177	390 PF DISC 500V
C219	22-3177	390 PF DISC 500V
C220	22-3896	5 MFD ELECTROLYTIC 25V
C221	22-5486	10 MFD ELECTROLYTIC 6V
C222	22-3382	560 PF DISC 500V
C223	22-3034	.05 MFD DISC 25V
C225	22-3033	.02 MFD 25V
C226	22-3393	.01 MFD DISC 25V
C227	22-3034	.05 MFD DISC 25V
C228	22-3080	.005 MFD DISC 25 V
C229	22-3652	1 MFD DISC 10V
C231	22-3676	10 PF DISC 500V
C301	22-5780	270 PF POLYSTYRENE ±5% 500V
C302	22-2976	220 PF DISC N750 ±5% 500V
C303	22-6246	3.3 MFD N.P. 15V
C304	22-6066	2200 PF DISC ±10% 100V
C305	22-3606	68 PF DISC 500V
C306	22-13	.0033 MFD DISC 500V
C308	22-3034	.05 MFD DISC 25V
C309	22-5782	2200 PF POLYSTYRENE ±5% 500V
C310	22-13	.0033 MFD DISC 500V
C311	22-13	.0033 MFD DISC 500V
C312	22-16	470 PF DISC 500V
C313	22-3034	.05 MFD DISC 25V
C314	22-16	470 PF DISC 500V
C315	22-3034	.05 MFD 25V
C316	22-3381	39PF ±5% DISC 500V
C401	22-3034	.05 MFD DISC 25V
C402	22-5487	.47 MFD DISC 3V
C404	22-7153	1 MFD ELECTROLYTIC 50V
C406	22-17	1000 PF DISC 500V
C407	22-5964	.27 MFD MYLAR 50V
C408	22-7202	.039 MFD MYLAR 50V
C409	22-5884	.082 MFD MYLAR 100V
C410	22-5037	.005 MF DISC 500V
C411	22-5814	.022 MFD MYLAR 100V
C412	22-7153	1 MFD ELECTROLYTIC 50V
C413	22-5482	680 PF DISC 500V
C415	22-7143	1 MFD ELECTROLYTIC 50V
C416	22-5482	680 PF DISC 500V
C417	22-2939	680 PF DISC 500V
C420	22-7152-08	100 MFD ELECTROLYTIC 25V
C422	22-7153-11	470 MFD ELECTROLYTIC 50V
C451	22-3034	.05 MFD DISC 25V
C452	22-5487	.47 MFD DISC 3V
C454	22-7153	1 MFD ELECTROLYTIC 50V
C456	22-17	1000 PF DISC 500V
C457	22-5964	.27 MFD MYLAR 50V
C458	22-7202	.039 MFD POLYSTYRENE 50V
C459	22-5884	.082 MFD MYLAR 100V
C460	22-5037	.005 MFD DISC 500V
C461	22-5814	.022 MFD MYLAR 100V
C462	22-7153	1 MFD ELECTROLYTIC 50V
C463	22-5482	680 PF DISC 500V
C465	22-7143	1 MFD ELECTROLYTIC 50V
C466	22-5482	680 PF DISC 500V
C467	22-2939	680 PF MFD DISC 500V
C470	22-7152-08	100 MFD ELECTROLYTIC 25V
C472	22-7153-11	470 MFD ELECTROLYTIC 50V
C473	22-6447-01	.047 MFD MYLAR 100V
C501	22-4617	.01 MFD DISC 500V
C502	22-4617	.01 MFD DISC 500V
C503	22-6112	1000 MFD ELECTROLYTIC 65V
C504	22-7141-11	470 MFD ELECTROLYTIC 16V
C505	22-7150-07	47 MFD ELECTROLYTIC 10V
C506	22-6447-01	.047 MFD MYLAR 100V
C510	22-6005	.01 MFD DISC 150 VAC
C511	22-6005	.01 MFD DISC 150 VAC
C601	22-3177	390 PF DISC 500V
C602	22-3034	.05 MFD DISC 25V
C603	22-3080	.005 MFD DISC 25V
C604	22-3080	.005 MFD DISC 25V
C605	22-3393	.01 MFD DISC 25V
C606	22-3034	.05 MFD DISC 25V
C607	22-3393	.01 MFD DISC 25V
C608	22-3034	.05 MFD DISC 25V
R1	63-4157	220 OHM 1/4W
R2	63-4269	100K OHM 1/4W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4W
R6	63-1831	12K OHM
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4W
R9	63-1898	470K OHM 20%
R10	63-4136	68 OHM 1/4W
R11	63-4287	270K OHM 1/4W
R12	63-4255	47K OHM 1/4W
R13	63-1785	1K OHM
R101	63-1834	15K OHM
R102	63-1866	82K OHM
R103	63-1827	10K OHM
R104	63-1785	1K OHM
R105	63-1799	2.2K OHM
R106	63-1771	470 OHM
R107	63-1771	470 OHM
R201	63-1778	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1806	3.3K OHM
R205	63-1827	10K OHM
R206	63-1771	470 OHM
R207	63-1785	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4185	1K OHM 1/4W
R211	63-1775	560 OHM
R212	63-1772	470 OHM 20%
R213	63-1778	680 OHM
R214	63-1778	680 OHM
R215	63-1813	4700 OHM
R216	63-1813	4700 OHM
R217	63-1799	2.2K OHM
R218	63-1869	100K OHM
R219	63-1841	22K OHM
R220	63-1824	8200 OHM
R221	63-1827	10K OHM
R223	63-1890	330K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R227	63-1855	47K OHM
R228	63-1852	39K OHM
R229	63-1873	120K OHM
R230	63-1869	100K OHM
R231	63-1869	100K OHM
R301	63-1838	18K OHM
R302	63-8328	300 OHM MUTE CONTROL
R303	63-1918	1.5 MEG OHM
R304	63-1458	390 OHM 2W
R305	63-6442	560 OHM 3W
R306	63-1816	5.6K OHM 5%
R307	63-1816	5.6K OHM 5%
R308	63-1869	100K OHM
R309	63-1869	100K OHM
R401	63-1887	270K OHM
R403	63-1883	220K OHM
R404	63-1890	330K OHM
R405	63-1845	27K OHM
R406	63-1848	33K OHM
R407	63-1803	2.7K OHM
R408R, R408L	63-10189	50K DUAL LOUDNESS CONTROL
R409	63-1827	10K OHM
R410R, R410L	63-8982	100K DUAL BASS CONTROL
R411	63-1820	6.8K OHM
R412R, R412L	63-8983	50K DUAL TREBLE CONTROL
R413	63-1918	1.5 MEG OHM
R414	63-1806	3.3K OHM
R415	63-1733	56 OHM
R416	63-1860	62K OHM 5%
R417	63-1798	2200 OHM 5%
R418	63-1838	18K OHM
R419	63-1774	560 OHM 5%
R420	63-1777	680 OHM 5%
R421	63-1707	15 OHM 5%
R422	63-9982	1 OHM 2W
R423	63-1845	27K OHM
R424	63-1841	22K OHM
R425	63-8981	250K BALANCE CONTROL
R430	63-1757	220 OHM
R431	63-10282	8 OHM 5W
R432	63-10135	11 OHM 5W
R451	63-1887	270 OHM
R453	63-1883	220K OHM
R454	63-1890	330K OHM
R455	63-1845	27K OHM
R456	63-1848	33K OHM
R457	63-1803	2.7K OHM
R459	63-1827	10K OHM
R461	63-1820	6.8K OHM
R463	63-1918	1.5 MEG OHM
R464	63-1806	3.3K OHM
R465	63-1733	56 OHM
R466	63-1860	62K OHM 5%
R467	63-1798	2200 OHM 5%
R468	63-1838	18K OHM
R469	63-1774	560 OHM 5%
R470	63-1777	680 OHM 5%
R471	63-1707	15 OHM 5%
R472	63-9982	1 OHM 2W
R473	63-1845	27K OHM
R481	63-10282	8 OHM 5W
R480	63-1757	220 OHM 5W
R501	63-10271	390 OHM 5W
R502	63-1701	10 OHM
R503	63-1799	2.2K OHM
R505	63-1928	2.2 MEG OHM
R507	63-1708	16 OHM
R508	63-1715	22OHM
R601	63-1890	330K OHM
R602	63-1817	5.6K OHM
R603	63-1869	100K OHM
R604	63-1869	100K OHM
R605	63-1869	100K OHM
R606	63-1869	100K OHM
R607	63-1805	3.3K OHM 5%
R608	63-1785	1000 OHM
R609	63-1932	3.3M OHM
R610	63-1768	390 OHM
R611	63-1893	390K OHM 5%
R612	63-1957	12 MEG OHM
R613	63-1858	56K OHM 5%
R614	63-1925	2.2M OHM
R615	63-1785	1K OHM
L1	20-3076	FM ANTENNA COIL
L2	20-3535	FM RF COIL
L3	20-1631	TRAP COIL 10.7 MHz
L4	20-3597	FM OSCILLATOR COIL
L101	S-93292	AM ANTENNA ASSEMBLY
L102	149-311	FERRITE CORE SLEEVE
L103	IN T101	AM OSCILLATOR TRANS. PRI.
L104	IN T101	AM OSCILLATOR TRANS. SEC.
L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI.
L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
L203	IN T202	1ST IF AM 455 KHz PRI.
L204	IN T202	1ST IF 455 KHz SEC.
L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
L207	IN T204	2ND IF AM 455 KHz
L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI.
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T206	3RD IF AM 455 KHz PRI.
L211	IN T206	3RD IF AM 455 KHz SEC.
L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI.
L213	IN T207	RATIO DET TRANS. 10.7 MHz TERTIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
L301	20-3090	67 KHz TRAP
L601	IN T601	455 KHZ PHASE DETECTOR SEC.
L602	IN T601	455 KHZ PHASE DETECTOR PRI.
T101	95-3077	AM OSCILLATOR TRANSFORMER
T201	95-2546	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2541	AM 1ST IF AM 455 KHz
T203	95-2547	FM 2ND IF TRANSFORMER 10.7 MHz
T204	95-2542	AM 2ND IF AM 455 KHz
T205	95-2548	FM 3RD IF TRANSFORMER 10.7 MHz
T206	95-2689	AM 3RD IF AM 455 KHz
T207	95-2545	FM RATIO DETECTOR 10.7 MHz
T301	95-3021	INPUT COIL 19 KHz
T302	95-3023	DETECTOR COIL 38 KHz
T501	95-3108	POWER TRANSFORMER
T601	S-94835	455 KHz PHASE DETECTOR TRANSFORMER
SW1 & SW1A	85-1395	BAND SWITCH & AC SWITCH
SW2	85-1372	AFC SWITCH (SLIDE SP-DT)
SW3	85-1410	SPEAKER SWITCH (SLIDE 2PDT)
J1	78-2137	STEREO HEADPHONE JACK
CR1	103-47 OR 103-189	AFC DIODE
CR101	103-142	SILICON DIODE
CR201	103-23	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR203	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR204	103-23	GERMANIUM DIODE
CR205	103-23	GERMANIUM DIODE
CR206	103-23	GERMANIUM DIODE
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	212-76	SILICON RECTIFIER
CR502	212-76	SILICON RECTIFIER
CR503	103-256	DIODE (ZENER)
CR601	103-142	DIODE
CR602	103-142	DIODE
CR603	103-142	DIODE
CR604	103-142	DIODE
CR605	103-253	HIGH INDICATOR L.E.D.
CR606	103-253-01	CENTER INDICATOR L.E.D.
CR607	103-253	LOW INDICATOR L.F.D.
IC301	221-79 OR 221-65	MONOLITHIC MULTIPLEX DEMODULATOR
DS301	100-611	STEREO INDICATOR LIGHT
DS501	100-604	FM DIAL LIGHT
DS502	100-625	POINTER LIGHT
DS503	100-604	AM DIAL LIGHT
DS504	100-610	PILOT LIGHT
PC	204-436	PRINTED CIRCUIT BOARD
PC	204-437	PRINTED CIRCUIT BOARD
F501	136-108	.8 AMP SLO-BLO
F502	136-109	1 AMP REGULAR FUSE

473202



CHASSIS 15WER56 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



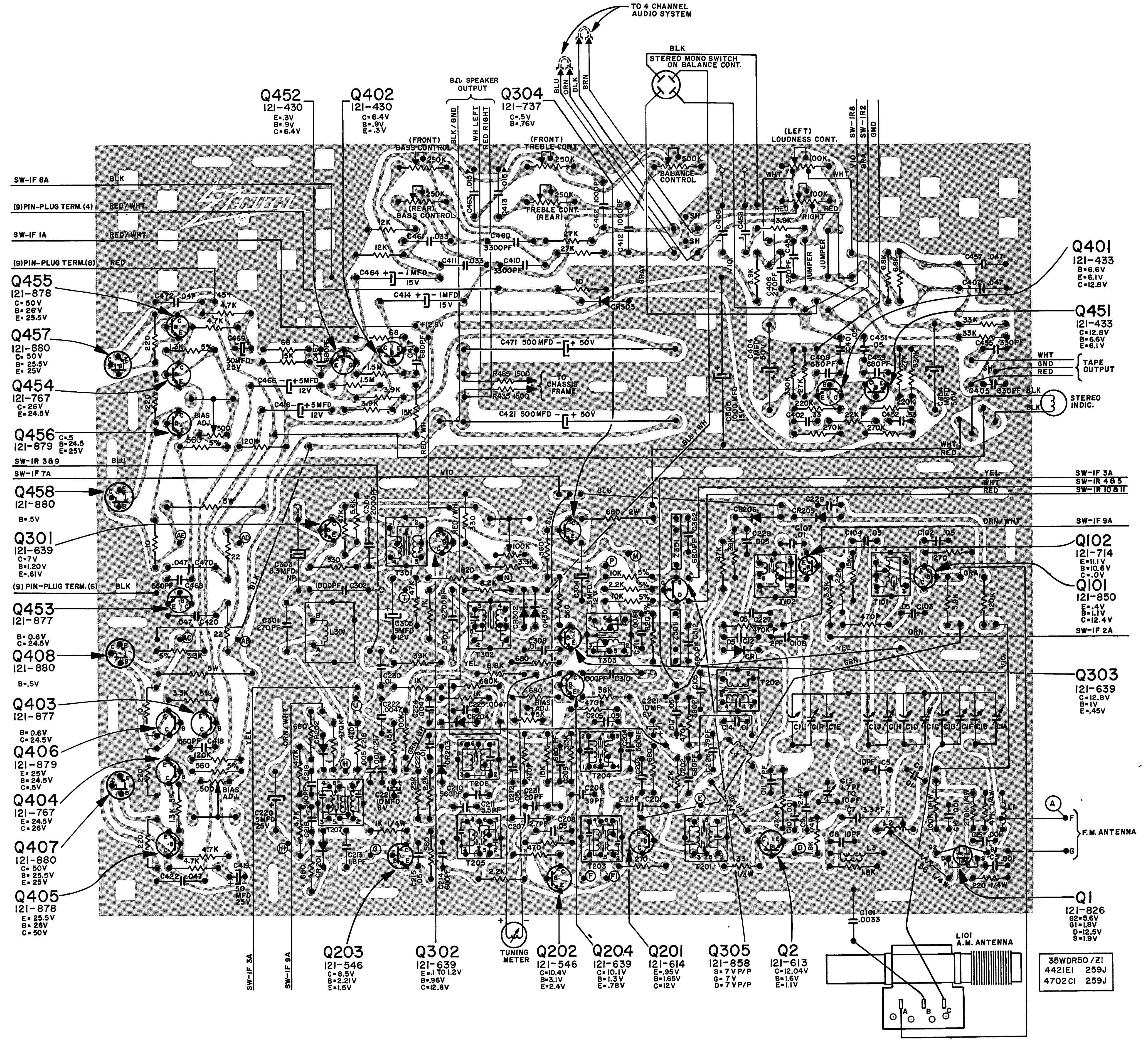
CHASSIS 35WDR50Z1 – SCHEMATIC

LEGEND CHASSIS 35WDR50Z1

ITEM NO.	PART NUMBER	DESCRIPTION
C1A		FM ANT TRIMMER
C1B		FM ANT TUNING
C1C		FM DETECTOR TRIMMER
C1D		FM DETECTOR TUNING
C1E		FM OSC. TUNING
C1F	22-6752	AM ANT. TRIMMER
C1G		AM ANT. TUNING
C1H		AM DETECTOR TRIMMER
C1J		AM DETECTOR TUNING
C1K		AM OSC. TRIMMER
C1L		AM OSC. TUNING
C3	22-2729	.001 MFD DISC 25V
C5	22-3675	10 PF DISC ± 5% 500V
C6	22-3393	.01 MFD DISC 25V
C7	22-3541	3.3 PF GIMMICK ± 5% 500V
C8	22-3675	10 PF DISC ± 5% 500V
C9	22-6469	2.4 PF GIMMICK 5% 500V
C10	22-2729	.001 MFD DISC 25V
C11	22-6344	7 PF ± .5 PF 500V
C12	22-3034	.05 MFD DISC 25V
C13	22-4855	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25V
C15	22-2729	.001 MFD DISC 25V
C16	22-2729	.001 MFD DISC 25V
C17	22-3034	.05 MFD DISC 25V
C101	22-13	.0033 MFD DISC ± 10%
C102	22-3034	.05 MFD DISC 25V
C103	22-3034	.05 MFD DISC 25V
C104	22-3034	.05 MFD DISC 25V
C105	22-5972	390 PF MICA ± 5% 125V
C107	22-3393	.01 MFD DISC
C108	22-4819	2 PF ± .25 500V
C201	22-3310	2.7 PF GIMMICK 500V
C202	22-5482	680 PF DISC 500V
C203	22-3652	1 MFD DISC 10V
C204	22-5481	560 PF DISC 500V
C205	22-3034	.05 MFD DISC 25V
C206	22-3381	39 PF DISC ±5% 500V
C207	22-3310	2.7 PF GIMMICK 500V
C208	22-3034	.05 MFD DISC 25V
C209	22-5482	680 PF DISC 500V
C210	22-5481	560 PF DISC 500V
C211	22-3770	5.5 PF DISC ± .25 PF 500V
C212	22-3034	.05 MFD DISC 25V
C213	22-2428	1.8 PF GIMMICK 500V
C214	22-5482	680 PF DISC 500V
C215	22-3034	.05 MFD DISC 25V
C216	22-3080	.005 MFD DISC 25V
C217	22-2729	.001 MFD DISC 25V
C218	22-3177	390 PF DISC 500V
C219	22-3177	390 PF DISC 500V
C220	22-3896	5 MFD ELECTROLYTIC 25V
C221	22-5486	10 MFD ELECTROLYTIC 6V
C222	22-14	.0047 MFD 500V
C223	22-3393	.01 MFD DISC 25V
C224	22-14	.0047 MFD 500V
C225	22-14	.0047 MFD 500V
C226	22-3381	39 PF DISC ± 5%
C227	22-3034	.05 MFD DISC 25V
C228	22-3080	.005 MFD DISC 25V
C229	22-3652	1 MFD DISC 10V
C230	22-3393	.01 MFD DISC 25V
C231	22-3751	20 PF ± 5% 500V
C301	22-5780	270 PF POLYSTYRENE ± 5% 500V
C302	22-5781	1000 PF POLYSTYRENE ± 5% 500V
C303	22-6246	3.3 MFD N.P. 15V
C304	22-6347	2000 PF ± 5% POLYSTYRENE 50V
C305	22-2884	5 MFD ELECTROLYTIC 12V
C307	22-5782	2200 PF POLYSTYRENE ± 5% 500V
C308	22-3393	.01 MFD DISC 25V
C309	22-2884	5 MFD ELECTROLYTIC 12V
C310	22-5781	1000 PF POLYSTYRENE ± 5% 500V
C311	22-3415	.0068 MFD 25V
C312	22-5482	680 PF DISC 500V
C362	22-5482	680 PF DISC 500V
C401	22-3034	.05 MFD DISC 25V
C402	22-6343	.33 MFD ± 20% 50V
C404	22-3687	1 MFD ELECTROLYTIC 50V
C405	22-3255	330 PF DISC 500V
C406	22-6343	270 PF 500V
C407	22-5722	.068 MFD 100V
C408	22-6134	15 MFD 100V
C409	22-5482	680 PF DISC 500V
C410	22-5971	3300 PF 20% 50V
C411	22-5866	.047 MFD 100V
C412	22-6111	1000 PF 50V
C413	22-5233	.015 ± 20% 50V
C414	22-3687	1 MFD ELECTROLYTIC 50V
C416	22-2884	5 MFD ELECTROLYTIC 12V
C417	22-5482	680 PF DISC 500V
C418	22-3362	560 PF 500V
C419	22-5986	50 MFD ELECTROLYTIC 25V
C420	22-5866	.047 MFD 100V
C421	22-5316	500 MFD ELECTROLYTIC 50V
C422	22-5866	.047 MFD 100V
C451	22-3034	.05 MFD DISC 25V
C452	22-6343	.33 MFD ± 20% 50V
C454	22-3687	1 MFD ELECTROLYTIC 50V
C455	22-3255	330 PF DISC 500V
C456	22-6363	270 PF 500V
C457	22-5722	.068 MFD 100V
C458	22-6134	.15 MFD 100V
C459	22-5482	680 PF DISC 500V
C460	22-5971	3300 PF 20% 50V
C461	22-5866	.047 MFD 100V
C462	22-6111	1000 PF 50V
C463	22-5233	.015 ± 20% 50V
C464	22-3687	1 MFD ELECTROLYTIC 50V
C466	22-2884	5 MFD ELECTROLYTIC 12V
C467	22-5482	680 PF DISC 500V
C468	22-3362	560 PF 500V
C469	22-5986	50 MFD ELECTROLYTIC 25V
C470	22-5866	.047 MFD 100V
C471	22-5316	500 MFD ELECTROLYTIC 50V
C472	22-5866	.047 MFD 100V
C501	22-6005	.01 MFD DISC 150VAC
C502	22-4617	.01 MFD DISC 500V
C503	22-4617	.01 MFD DISC 500V
C504	22-6417	2000 MFD ELECTROLYTIC 75V
C505	22-4573	1000 MFD ELECTROLYTIC 15V
R1	63-4157	220 OHM 1/4W
R2	63-4269	100K OHM 1/4W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4W
R6	63-4231	12K OHM 1/4W
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4W
R9	63-1898	470K OHM 20%
R10	63-4133	56 OHM 1/4W
R11	63-4287	270K OHM 1/4W
R12	63-4255	47K OHM 1/4W
R101	63-1772	470 OHM 20%
R102	63-1761	270 OHM
R103	63-1810	3.9K OHM
R104	63-1834	15K OHM
R105	63-1806	3.3K OHM
R106	63-1799	2.2K OHM
R201	63-1778	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1806	3.3K OHM
R205	63-1827	10K OHM
R206	63-1771	470 OHM
R207	63-1785	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4185	1K OHM 1/4W
R211	63-1775	560 OHM
R212	63-1772	470 OHM 20%
R213	63-1778	680 OHM
R214	63-1778	680 OHM
R215	63-1813	4700 OHM
R216	63-1813	4700 OHM
R217	63-1799	2.2K OHM
R218	63-1869	100K OHM
R219	63-1841	22K OHM
R220	63-1785	1K OHM
R221	63-1834	15K OHM
R222	63-1785	1K OHM

ITEM NO.	PART NUMBER	DESCRIPTION
R223	63-1904	680K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R226	63-1852	39K OHM
R227	63-1855	47K OHM
R228	63-1852	39K OHM
R229	63-1873	120K OHM
R230	63-1859	56K OHM
R231	63-1820	6.8K OHM
R232	63-1778	680 OHM
R233	63-8708	5K BIAS ADJUST
R234		
R301	63-1855	47K OHM
R302	63-1817	5.6K OHM
R303	63-1764	330 OHM
R304		
R305	63-1855	47K OHM
R306	63-1764	330 OHM
R307	63-1806	3.3K OHM
R308	63-6495	100K MUTE CONTROL
R309	63-1785	1K OHM
R310	63-1782	820 OHM
R311		
R312	63-1824	8.2K OHM
R313	63-1775	560 OHM
R314	63-1778	680 OHM
R315	63-1775	450 OHM
R316	63-5663	680 OHM 2W
R317		
R318	63-1781	820 OHM 5%
R319	63-1826	10K 5%
R320	63-1798	2.2K 5%
R321	63-1826	10K 5%
R322		
R401	63-1887	270K OHM
R402	63-1883	220K OHM
R403	63-1890	330K OHM
R404	63-1845	27K OHM
R405	63-1820	6.8K OHM
R406	63-1848	33K OHM
R407	63-1810	3900 OHM
R408R / R408L	63-8967	100K DUAL LOUDNESS CONTROL
R412	63-1845	27K OHM
R413R / R413L	63-8965	250K DUAL BASS CONTROL
R414	63-1831	12K OHM
R415R / R415L	63-8964	250K DUAL TREBLE CONTROL
R416	63-1918	1.5 MEG
R417	63-1810	3900 OHM
R418	63-1736	68 OHM
R419	63-1834	15K OHM
R420	63-1805	3.3K OHM 5%
R421	63-1872	120K OHM 5%
R422	63-1715	22 OHM
R423	63-1813	4700 OHM
R424	63-1813	4700 OHM
R425	63-1790	1300 OHM 5%
R426	63-9261	500 OHM BIAS ADJUST
R427	63-1774	560 OHM 5%
R428	63-1757	220 OHM
R429	63-1757	220 OHM
R430	63-6424	1 OHM 5W
R431	63-1842	22K 20%
R432	63-8966	500K BALANCE CONTROL & SW.
R433	63-1933	3.3 MEG OHM 20%
R434	63-1701	10 OHM
R435	63-1792	1500 OHM
R451	63-1887	270K
R452	63-1883	220K OHM
R453	63-1890	330K
R454	63-1845	27K OHM
R455	63-1820	6.8K
R456	63-1848	33K OHM
R457	63-1810	3900 OHM
R462	63-1845	27K OHM
R464	63-1831	12K
R465		
R466	63-1918	1.5 MEG
R467	63-1810	3900 OHM
R468	63-1736	68 OHM
R469	63-1834	15K OHM
R470	63-1805	3.3K OHM 5%
R471	63-1872	120K OHM 5%
R472	63-1715	22 OHM
R473	63-1813	4700 OHM
R474	63-1813	4700 OHM
R475	63-1790	1300 OHM 5%
R476	63-9261	500 OHM BIAS ADJUST
R477	63-1774	560 OHM 5%
R478	63-1757	220 OHM
R479	63-1757	220 OHM
R480	63-6424	1 OHM
R484	63-1701	10 OHM
R485	63-1792	1500 OHM
R501	63-1915	1.2 MEG OHM
R502	63-4694	820 OHM
R503	63-1701	10 OHM
L1	20-3076	FM ANTENNA COIL
L2	20-3077	FM DETECTOR COIL
L3	20-1256	TRAP COIL 10.7 MHz
L4	20-3545	FM OSCILLATOR COIL
L101	S-88463	AM ANTENNA COIL ASSEMBLY
L102	149-311	FERRITE CORE SLEEVE
L103	IN T102	AM OSCILLATOR TRANS. PRI.
L104	IN T102	AM OSCILLATOR TRANS. SEC.
L105	149-311	FERRITE CORE SLEEVE
L106	IN T101	BC-RF TRANS.
L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI.
L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
L203	IN T202	1ST IF AM 455 KHz PRI.
L204	IN T202	1ST IF AM 455 KHz SEC.
L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
L207	IN T204	2ND AM 455 KHz
L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI.
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T206	3RD IF AM 455 KHz PRI.
L211	IN T206	3RD IF AM 455 KHz SEC.
L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI.
L213	IN T207	RATIO DETECTOR TRANS. 10.7 MHz TERTIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
L215	IN T204	2ND AM 455 KHz PRI.
L301	20-3080	67 KHz TRAP COIL (PREFERRED)
	S-79435	67 KHz TRAP COIL (ALTERNATE)
T101	95-2750	B.C. R.F. TRANSFORMER
T102	95-2544	AM OSCILLATOR TRANSFORMER
T201	95-2753	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2751	AM 1ST IF AM 455 KHz
T203	95-2754	FM 2ND IF TRANSFORMER 10.7 MHz
T204	95-2752	AM 2ND IF AM 455 KHz
T205	95-2755	FM 3RD IF TRANSFORMER 10.7 MHz
T206	95-2543	AM 3RD IF AM 455 KHz
T207	95-2756	FM RATIO DETECTOR 10.7 MHz
T301	95-2858	INPUT TRANSFORMER 19 KHz
T302	95-2856	DOUBLER TRANSFORMER 19 KHz
T303	95-2857	DETECTOR TRANSFORMER 38 KHz
T501	95-2965	POWER TRANSFORMER
T502	95-2920	FILTER CHOKE ON S-91607, POWER SUPPLY
F501	136-79	1.25 AMP SLOW-BLOW FUSE
F502	136-96	1.0 AMP FUSE (PILOT LIGHT)
SW-1	85-1344	BAND SWITCH
CR1	103-47	AFC DIODE
CR201	103-90	GERMANIUM DIODE MATCHED PAIR
CR202	103-90	GERMANIUM DIODE
CR203	103-23	GERMANIUM DIODE
CR204	103-23	GERMANIUM DIODE
CR205	103-23	GERMANIUM DIODE
CR206	103-23	GERMANIUM DIODE
CR301	103-23	GERMANIUM DIODE
CR302	103-23	GERMANIUM DIODE
CR501	212-76	SILICON RECTIFIER
CR502	212-76	SILICON RECTIFIER
CR503	103-98	DIODE (ZENER)
Z301	105-107	INTEGNET
Z351	105-107	INTEGNET
DS1	100-249	PILOT LIGHT NO. 1847
DS2	100-249	PILOT LIGHT NO. 1847
DS3	100-249	PILOT LIGHT NO. 1847
DS301	100-507	STEREO INDICATOR LIGHT
M1	122-62	METER (TUNING)

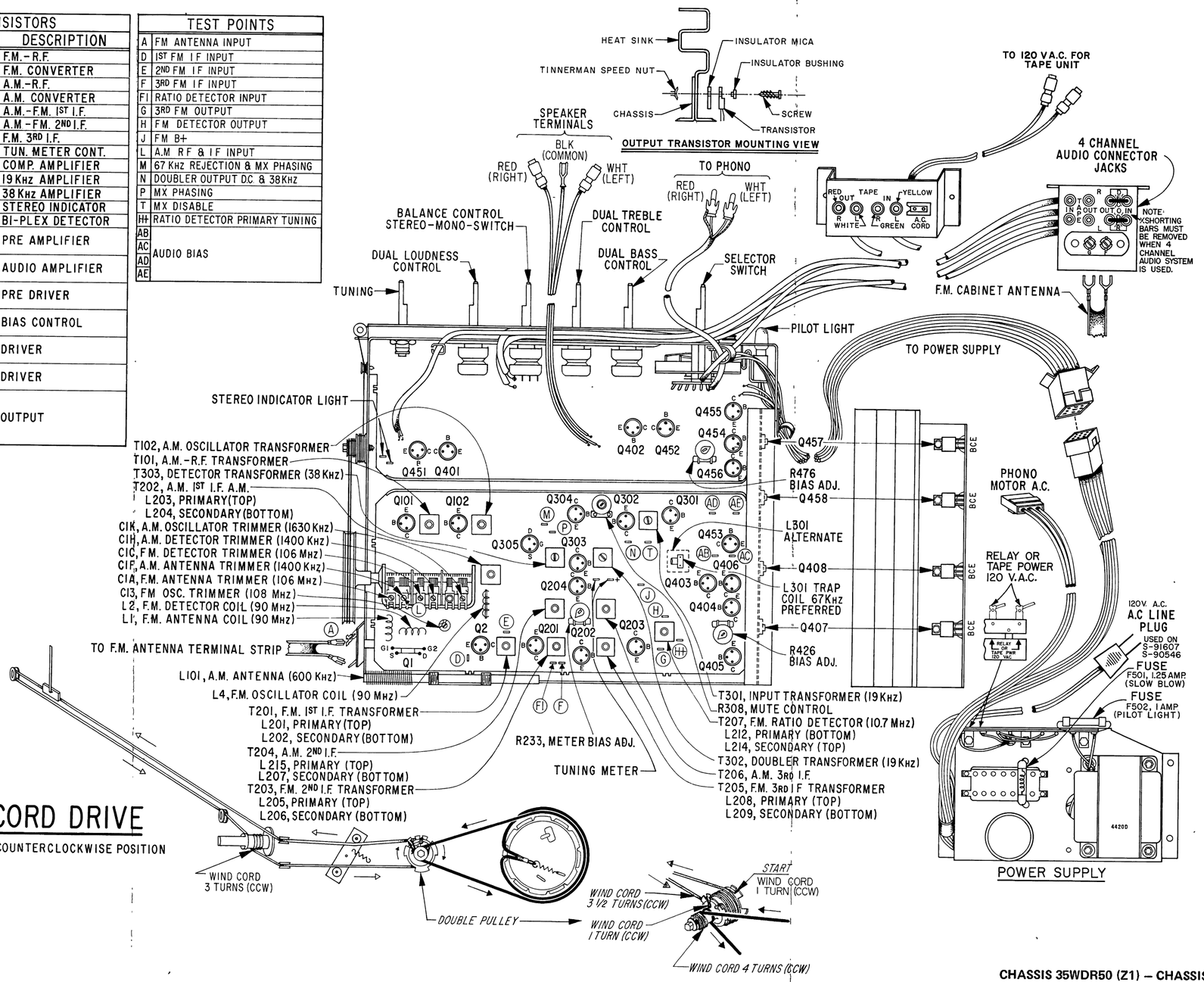
4702C2



CHASSIS 35WDR50Z1 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

TRANSISTORS		
No.	PART No.	DESCRIPTION
Q1	121-826	F.M.-R.F.
Q2	121-613	F.M. CONVERTER
Q101	121-850	A.M.-R.F.
Q102	121-714	A.M. CONVERTER
Q201	121-614	A.M.-F.M. 1ST I.F.
Q202	121-546	A.M.-F.M. 2ND I.F.
Q203	121-546	F.M. 3RD I.F.
Q204	121-639	TUN. METER CONT.
Q301	121-639	COMP. AMPLIFIER
Q302	121-639	19 KHz AMPLIFIER
Q303	121-639	38 KHz AMPLIFIER
Q304	121-737	STEREO INDICATOR
Q305	121-858	BI-PLEX DETECTOR
Q401, Q451	121-433	PRE AMPLIFIER
Q402, Q452	121-430	AUDIO AMPLIFIER
Q403, Q453	121-877	PRE DRIVER
Q404, Q454	121-767	BIAS CONTROL
Q405, Q455	121-878	DRIVER
Q406, Q456	121-879	DRIVER
Q407, Q457, Q408, Q458	121-880	OUTPUT

TEST POINTS	
A	FM ANTENNA INPUT
D	1ST FM I F INPUT
E	2ND FM I F INPUT
F	3RD FM I F INPUT
FI	RATIO DETECTOR INPUT
G	3RD FM OUTPUT
H	FM DETECTOR OUTPUT
J	FM B+
L	A.M R F & I F INPUT
M	67 KHz REJECTION & MX PHASING
N	DOUBLER OUTPUT D.C. & 38KHz
P	MX PHASING
T	MX DISABLE
HH	RATIO DETECTOR PRIMARY TUNING
AB, AC, AD, AE	AUDIO BIAS



CHASSIS 35WDR50 (Z1) – CHASSIS LAYOUT