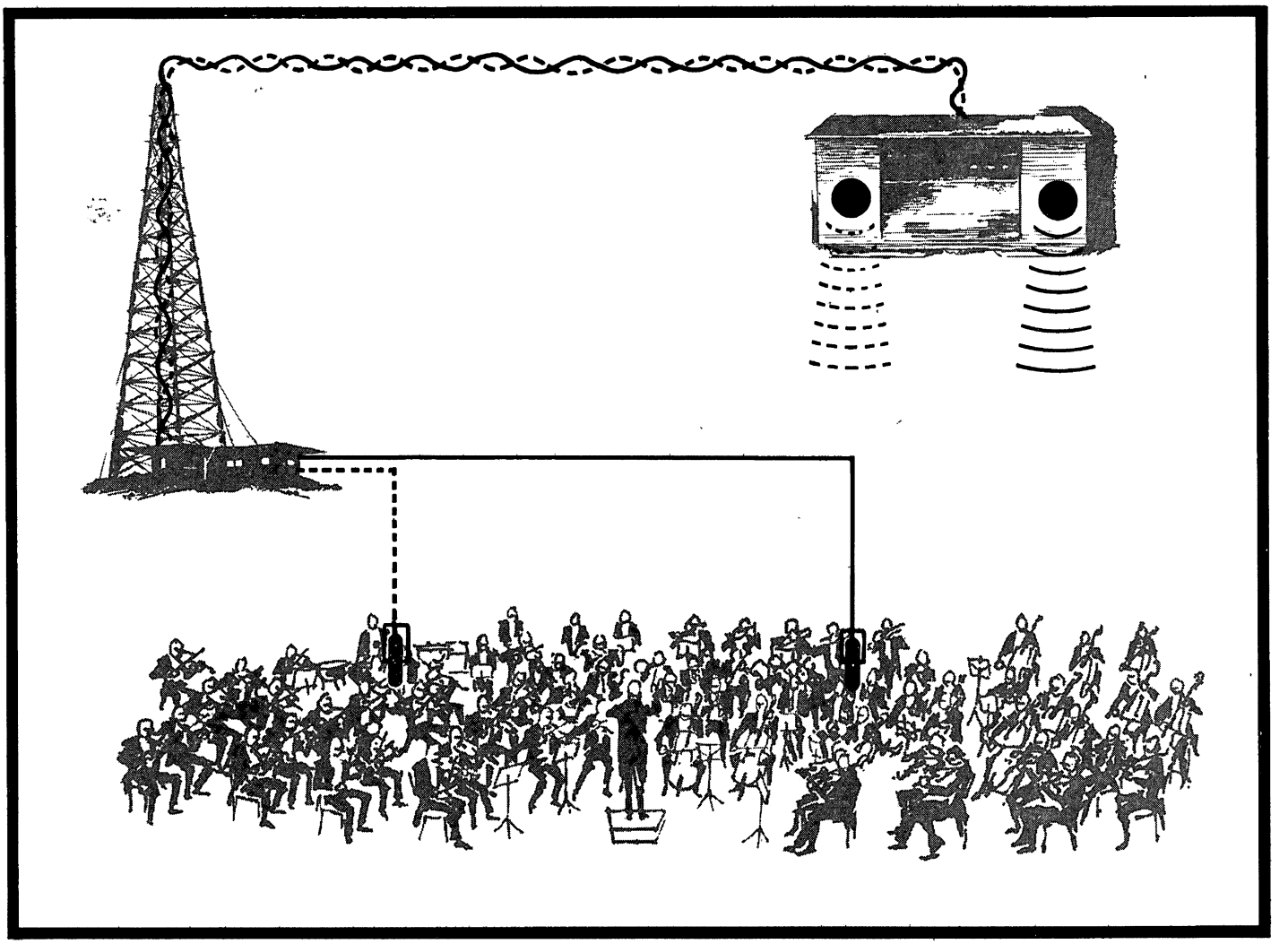
HF 22

ZENITH

SERVICE MANUAL



HIGH FIDELITY
AND STEREO FM MODELS

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

PRICE $2.50 HF 22 PART NO. 923-642

INDEX

CHASSIS OR MODEL	SCHEMATIC PAGE	CHASSIS LAYOUT PAGE	PARTS LIST PAGE
1Y20Z	Refer to HF18		
2ZT21	Refer to HF18		
2ZT22	Refer to HF18		
2YT23	Refer to HF18		
2ZT24	Refer to HF18		
2AT30	Refer to HF18, HF19		
3AT20	Refer to HF 18-1, HF18-2, HF19, HF21		
6ZT20	65	64	30
6ZT20	Refer to HF18		
6AT24	66	85	30, 31
6AT24	Refer to HF18, HF19		
8BT20	Refer to HF19, HF21		
8ZT20	Refer to HF18, HF19		
9AT27	Refer to HF18, HF19		
10AT26	67	68	31
10AT26	Refer to HF18-2, HF20		
10YT26	Refer to HF18, HF18-2, HF20		
10ZT30	Refer to HF18, HF19, HF20		
10ZT31	Refer to HF18		
10ZT33	Refer to HF18		
10AT37	Refer to HF18, HF19, HF20		
10ZT38	Refer to HF18		
11ZT27	Refer to HF18, HF19, HF20, HF21		
11AT30	Refer to HF18, HF19		
16CT21	70, 71	69	31, 32
20AT21(Z)	Refer to HF18, HF21		
20AT30(Z)	Refer to HF18, HF18-2, HF19		
20AT31Z	Refer to HF18, HF19, HF20		
21BT30	Refer to HF18-2, HF19		
21BT34	72, 73	74	32, 33, 34
21BT34	Refer to HF19, HF20, HF21		
21BT34Z1	72, 73	74	34, 35, 36
25AT20	Refer to HF18, HF18-1, HF19		
25BT22	Refer to HF19		
27BT30	76, 77	75	36, 37
27BT30	Refer to HF19, HF21		
29CT20	78, 79, 80	81	37, 38, 39
29CT21	80, 82, 83	81	39, 40, 41
29AT24	84, 87	85	41, 42, 43, 44
29AT24	Refer to HF18, HF19		
29AT24Z1	86, 87	85	44, 45, 46, 47
29CT30	88, 89	90	47, 48
B545W	Refer to HF21		
A550W	Refer to HF18		
B553W	62, 63	61	48, 49
B553W	Refer to HF21		
X560W1	Refer to HF17		
X560W2	Refer to HF21		
S9017W	59	—	49
S9017W	Refer to HF18		
S9017W	59	—	49, 50
S9017W1	Refer to HF18		
S-79987	Refer to HF17, HF21		
S-82931	Refer to HF18-1, HF19		
S-83179	60	—	50
S-83179	Refer to HF18, HF18-1, HF19		
SPEAKER	52, 53, 54, 55, 56, 57, 58		
WIRING			

HF17 is Zenith No. 923-521
HF17-1 is Zenith No. 923-529
HF17-2 is Zenith No. 923-555
HF18 is Zenith No. 923-558
HF18-1 is Zenith No. 923-576
HF18-2 is Zenith No. 923-592
HF19 is Zenith No. 923-606
HF20 is Zenith No. 923-610
HF21 is Zenith No. 923-626

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

CABINET			CHASSIS			SPEAKERS		
MODEL	STYLE	COLOR	MODEL	TYPE	EIA POWER OUTPUT	PART NUMBER	VOICE COIL IMPED. (In Ohms)	SIZE (In Inches)
B505B Note 2 (RA7)	Portable (Removable Lid)	Blue & White	—	Phono Only	—	849-48B	8	1-3½
B505F Note 2 (RA7)	Portable (Removable Lid)	Green & White	—	Phono Only	—	849-48B	8	1-3½
A507F Note 2 (HF21)	Portable (With Handle, Lift Lid)	Green	3AT20	Phono Only	—	49-1184	32	1-2x6
A507L Note 2 (HF21)	Portable (With Handle, Lift Lid)	Beige	3AT20	Phono Only	—	49-1184	32	1-2x6
A507V Note 2 (HF21)	Portable (With Handle, Lift Lid)	Coral	3AT20	Phono Only	—	49-1184	32	1-2x6
B525J Note 2 (RA7)	Portable (Removable Lid)	Brown & Beige	—	AM/Phono	—	849-48B	8	1-3½
B535J Note 2 (HF21)	Portable (With Handle, Lift Lid, Detachable Speaker Enclosures)	Brown & Walnut	8BT20	Phono Only	2x1W	49-1189	32	2-4
B535J1 Note 2 (HF21)	Portable (With Handle, Lift Lid, Detachable Speaker Enclosures)	Brown & Walnut	8BT20	Phono Only	2x1W	49-1189	32	2-4
B535Y Note 2 (HF21)	Portable (With Handle, Lift Lid, Detachable Speaker Enclosures)	Black & Rosewood	8BT20	Phono Only	2x1W	49-1189	32	2-4
B535Y1 Note 2 (HF21)	Portable (With Handle, Lift Lid, Detachable Speaker Enclosures)	Black & Rosewood	8BT20	Phono Only	2x1W	49-1189	32	2-4
B545W Note 2 (HF21)	Portable (With Handle, Detachable Speaker Enclosures)	Walnut	—	Phono Only	2x1W	964-24020	16	2-5¼

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

RECORD CHANGER					OTHER FEATURES			
PART NUMBER	MOUNTING	CARTRIDGE	STYLUS NOTE 1	45 RPM ADAPTER	POWER INDICATOR LIGHT	TAPE PROVISION	RECORD STORAGE	RECORD SPEAKER PROVISION
Manual Player	Integral	942-8B	S 856-15B	827-18B	–	–	–	–
Manual Player	Integral	942-8B	S 856-15B	827-18B	–	–	–	–
169-374 OR 169-413	Integral	142-170	D-S 56-567	S-84995 OR S-85021	–	–	–	–
169-373 OR 169-412	Integral	142-170	D-S 56-567	S-84995 OR S-85021	–	–	–	–
169-375 OR 169-414	Integral	142-170	D-S 56-567	S-84995 OR S-85021	–	–	–	–
Manual	Integral	942-8B	S 856-15B	827-17B	–	–	–	–
169-389	Integral	142-171	S-S 56-598	S-72910	–	–	–	–
169-405	Integral	142-171	S-S 56-598	S-72910	–	–	–	–
169-388	Integral	142-171	S-S 56-598	S-72910	–	–	–	–
169-404	Integral	141-171	S-S 56-598	S-72910	–	–	–	–
169-407	Hinged Shelf	142-175	D-S 56-560	S-72648	–	–	–	–

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

CABINET			CHASSIS			SPEAKERS		
MODEL	STYLE	COLOR	MODEL	TYPE	EIA POWER OUTPUT	PART NUMBER	VOICE COIL IMPED. (In Ohms)	SIZE (In Inches)
B553W	Portable (With Handle, Detachable Speaker Enclosures)	Walnut	–	Phono Only	2x4W	964-25775	8	2-6x9
C556W Note 2 (*)	Modular Table (Lift Lid)	Walnut	–	Phono Only	2x10W	849-56B	8	2-6x9
C565W	Modular Table (Lift Lid) (Circle Of Sound Speakers)	Walnut	16CT21	Phono Only	2x25W	49-1168 49-1214	8 6.4	2-Horn 2-6
C585W Note 2 (*)	Modular Table (Lift Lid)	Walnut	–	FM/AM/Phono	2x10W	849-56B	8	2-6x9
C587W	Modular Table (Lift Lid)	Walnut	29CT20	FM/AM/Phono	2x25W	49-1168 49-1220	8 8	2-Horn 2-6
C590W	Modular Table (Lift Lid) (Circle Of Sound Speakers)	Walnut	29CT21	FM/AM/Phono	2x25W	49-1168 49-1214	8 6.4	2-Horn 2-6
C906W	Console (Lift Lid)	Walnut	21BT34	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	2-3½ 2-6x9
C907M	Console (Lift Lid)	Maple	21BT34	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C908DE	Console (Lift Lid)	Dark Oak	21BT34	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C908P	Console (Lift Lid)	Pecan	21BT34	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C910W	Console (Lift Lid)	Walnut	21BT34	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x5
C911W	Console (Lift Lid)	Walnut	21BT34	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C920W	Console (Lift Lid)	Walnut	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1166 49-1218	45 8 16	2-3½ 2-Horn 2-10

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

RECORD CHANGER					OTHER FEATURES			
PART NUMBER	MOUNTING	CARTRIDGE	STYLUS NOTE 1	45 RPM ADAPTER	POWER INDICATOR LIGHT	TAPE PROVISION	RECORD STORAGE	REMOTE SPEAKER PROVISION
169-408	Hinged Shelf	142-175	D-S 56-560	S-72648	—	—	—	—
169-409	Shelf	142-172	D-S 56-597	S-78980	—	Note 7	—	Note 6
169-403	Shelf	142-167	D-S S-82621	S-82964	—	Note 7	—	Note 6
169-409	Shelf	142-172	D-S 56-597	S-78980	—	Note 7	—	Note 6
169-381	Shelf	142-167	D-S S-82621	S-72648 OR S-72910	—	Note 7	—	Note 6
169-403	Shelf	142-167	D-S S-82621	S-82964	—	Note 7	—	Note 6
169-361	Shelf	142-164	D-S 56-560	S-82965	—	Note 7	Yes	Note 5
169-392	Shelf	142-167	D-S S-82621	S-82965	—	Note 7	Yes	Note 5
169-392	Shelf	142-167	D-S S-82621	S-82965	—	Note 7	Yes	Note 5
169-392	Shelf	142-167	D-S S-82621	S-82965	—	Note 7	Yes	Note 5
169-392	Shelf	142-167	D-S S-82621	S-82965	—	Note 7	Yes	Note 5
169-392	Shelf	142-167	D-S S-82621	S-82965	—	Note 8	Yes	Note 5
169-411	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

CABINET			CHASSIS			SPEAKERS		
MODEL	STYLE	COLOR	MODEL	TYPE	EIA POWER OUTPUT	PART NUMBER	VOICE COIL IMPED. (In Ohms)	SIZE (In Inches)
C921DE	Console (Lift Lid)	Dark Oak	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1166 49-1222	45 8 16	2-3½ 2-Horn 2-10
C922M	Console (Lift Lid)	Maple	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1166 49-1218	45 8 16	2-3½ 2-Horn 2-10
C930W	Console (Lift Lid)	Walnut	29CT30	FM/AM/Phono	2x25W	49-1094 49-1166 49-1217	45 8 8	2-3½ 2-Horn 2-10
C937M	Console (Lift Lid)	Maple	29CT30	FM/AM/Phono	2x25W	49-1094 49-1166 49-1217	45 8 8	2-3½ 2-Horn 2-10
C939DE	Console (Lift Lid)	Dark Oak	29CT30	FM/AM/Phono	2x25W	49-1094 49-1166 49-1217	45 8 8	2-3½ 2-Horn 2-10
C947DE1	Console (Lift Lid)	Dark Oak	29CT30	FM/AM/Phono	2x25W	49-1094 49-1151 49-1203	45 6.4 8	2-3½ 2-Horn 2-8x12
C947DE2	Console (Lift Lid)	Dark Oak	27BT30	FM/AM/Phono	2x25W	49-1094 49-1151 49-1203	45 6.4 8	2-3½ 2-Horn 2-8x12
CT947DE	Console (Lift Lid)	Dark Oak	29CT30	FM/AM/Phono	2x25W	49-1094 49-1151 49-1203	45 6.4 8	2-3½ 2-Horn 2-8x12
C950W1	Console (Lift Lid)	Walnut	25BT22	FM/AM/Phono	2x50W	49-1094 49-1162 49-1171	45 6.4 6.4	4-3½ 2-Horn 2-12
CT951M	Console (Lift Lid)	Maple	29CT30	FM/AM/Phono	2x25W	49-1094 49-1162 49-1171	45 6.4 6.4	4-3½ 2-Horn 2-12
CT951M1	Console (Lift Lid)	Maple	29CT30	FM/AM/Phono	2x25W	49-1094 49-1162 49-1171	45 6.4 6.4	4-3½ 2-Horn 2-12
CT953DE	Console (Lift Lid)	Dark Oak	29CT30	FM/AM/Phono	2x25W	49-1094 49-1162 49-1171	45 6.4 6.4	4-3½ 2-Horn 2-12
CT953DE1	Console (Lift Lid)	Dark Oak	29CT30	FM/AM/Phono	2x25W	49-1094 49-1162 49-1171	45 6.4 6.4	4-3½ 2-Horn 2-12
C966DE	Console (Lift Lid)	Dark Oak	29AT24 6AT24	FM/AM/Phono	2x80W	49-1073 49-1094 49-1190	6.4 45 6.4	2-15 4-3½ 2-Horn

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

RECORD CHANGER					OTHER FEATURES			
PART NUMBER	MOUNTING	CARTRIDGE	STYLUS NOTE 1	45 RPM ADAPTER	POWER INDICATOR LIGHT	TAPE PROVISION	RECORD STORAGE	REMOTE SPEAKER PROVISION
169-411	Shelf	142-167	D-S 9-00021 S-82621	S-82965	Yes	Note 7	Yes	Note 5
169-411	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 4
169-399	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	Yes	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C631	—	Note 4
169-366	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	Yes	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	—	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	—	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	—	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	—	Note 4
169-364	Shelf	142-167	D-S S-82621	S-82718	Yes	Note 8	Yes	Note 4

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

CABINET			CHASSIS			SPEAKERS		
MODEL	STYLE	COLOR	MODEL	TYPE	EIA POWER OUTPUT	PART NUMBER	VOICE COIL IMPED. (In Ohms)	SIZE (In Inches)
C966DE1	Console (Lift Lid)	Dark Oak	29AT24Z1 6AT24	FM/AM/Phono	2x80W	49-1073 49-1094 49-1190	6.4 45 6.4	2-15 4-3½ 2-Horn
C966P	Console (Lift Lid)	Pecan	29AT24 6AT24	FM/AM/Phono	2x80W	49-1073 49-1094 49-1190	6.4 45 6.4	2-15 4-3½ 2-Horn
C966P1	Console (Lift Lid)	Pecan	29AT24Z1 6AT24	FM/AM/Phono	2x80W	49-1073 49-1094 49-1190	6.4 45 6.4	2-15 4-3½ 2-Horn
C8720W1	Console Combination (Lift Lids)	Walnut	27BT30 Note 3	FM/AM/Phono Color TV	2x25W	49-1162 49-1204	6.4 8	2-Horn 2-12
C8720W11	Console Combination (Lift Lids)	Walnut	29CT30 Note 3	FM/AM/Phono Color TV	2x25W	49-1162 49-1204	6.4 8	2-Horn 2-12
C8775P	Console Combination (Lift Lids)	Pecan	29CT30 Note 3	FM/AM/Phono Color TV	2x25W	49-1094 49-1162 49-1177	45 6.4 6.4	2-3½ 2-Horn 2-9x15
S9017W1	Table Extension Speaker	Walnut	—	—	—	49-1102 49-1166	6.4 8	1-12 1-Horn

NOTES

1. Stylus: S = Manufactured Sapphire, D = Diamond.

2. Model listed for reference only. For chassis information refer to Service Manual shown in parenthesis ( ).
   (*) Denotes Service Manual number has not been assigned.

3. Refer to Color TV Service Manuals for Color chassis information.

4. Built-in Sound Control Center with external speaker terminals and headphone jack.

5. External speaker terminals.

6. Headphone Jack.

7. Tape Input and Output - May be used with the following:
   Model C635 - Cartridge Tape Player,
   Model A636 - Cassette Tape Player/Recorder.

8. Tape Input and Output - May be used with the following:
   Model C631 - Cartridge Tape Player,
   Model C632 - Cassette Tape Player/Recorder,
   Model C635 - Cartridge Tape Player,
   Model A636 - Cassette Tape Player/Recorder.

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

RECORD CHANGER					OTHER FEATURES			
PART NUMBER	MOUNTING	CARTRIDGE	STYLUS NOTE 1	45 RPM ADAPTER	POWER INDICATOR LIGHT	TAPE PROVISION	RECORD STORAGE	REMOTE SPEAKER PROVISION
169-417	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 4
169-364	Shelf	142-167	D-S S-82621	S-82718	Yes	Note 8	Yes	Note 4
169-417	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 4
169-399	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	–	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	–	Note 4
169-395	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	–	Note 4
–	–	–	–	–	–	–	–	–

RECORD CHANGER FEATURES

PART NO.	MFG.	BASE PLATE	TURNTABLE
169-361	(VM)	Tree Bark Brown	Light Beige
169-364	(G)	Bronze Gold	Dark Brown
169-366	(VM)	Tree Bark Brown	Light Beige
169-373	(BSR)	Off White	Yellow
169-374	(BSR)	Off White	Dark Green
169-375	(BSR)	Off White	Gray
169-381	(BSR)	Black	Light Gray and Metal
169-388	(BSR)	Light Gray	Black
169-389	(BSR)	Off White	Dark Brown
169-392	(VM)	Tree Bark Brown	Light Beige
169-395	(VM)	Dark Brown	Light Beige
169-399	(VM)	Tree Bark Brown	Light Beige
169-403	(VM)	Black	Light Gray and Metal
169-404	(BSR)	Light Gray	Black
169-405	(BSR)	Off White	Dark Brown
169-407	(BSR)	Black	Black
169-408	(BSR)	Silver	Black
169-409	(BSR)	Black	Light Gray and Metal
169-411	(VM)	Tree Bark Brown	Light Beige
169-412	(BSR)	Off White	Yellow
169-413	(BSR)	Off White	Dark Green
169-414	(BSR)	Off White	Gray
169-417	(VM)	Beige	Dark Brown and Nickel Gold

SECTION TWO
SEMI-CONDUCTOR DEVICE THEORY

During the past few years, a number of new semi-conductor devices have been introduced to the consumer product market. Service Manual HF-18 (Zenith Part No. 923-558) contains a brief theory review of diodes (including zeners and SCR's) and transistors (including the Darlington configuration and Junction Field Effect Transistors–JFET–).

FIELD EFFECT TRANSISTORS

Field Effect Transistors (FET) are semi-conductor devices in which the internal current flow is controlled by means of an electric field within the device. FET's can be divided into two basic groups, based on their construction, and are known as Junction (JFET) or Insulated Gate (IGFET or MOSFET) devices. Both groups of devices are similar in operation, so lets start with the JFET and then go on to the IG or MOSFET. The reason for the names JFET, IGFET, and MOSFET will become clear as we go along.

Much has been heard about electrons, holes, majority and minority carriers, bipolar and unipolar devices. Let us briefly mention that regular NPN and PNP transistors depend on both majority and minority carriers for operation since both "N" and "P" type materials are used, and are therefore called bipolar. The following chart shows the relationship of these terms.

BIPOLAR DEVICES

NPN AND PNP TRANSISTORS

MATERIAL	MAJORITY CARRIERS	MINORITY CARRIERS
"N"	ELECTRONS	HOLES
"P"	HOLES	ELECTRONS

UNIPOLAR DEVICES

MATERIAL	MAJORITY CARRIERS
"N"	ELECTRONS
"P"	HOLES

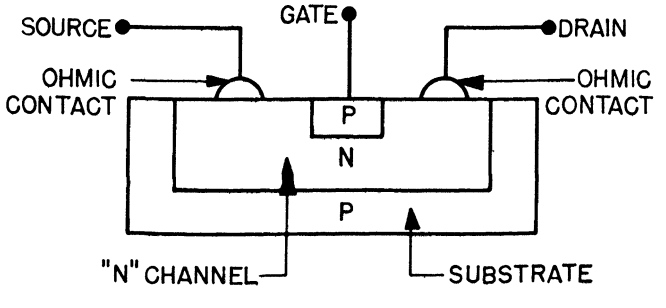


Figure 2-1

You will notice that we have not shown minority carriers for Unipolar devices. The reason being that Unipolar devices (FET's) rely on majority carriers for operation, since the current flow is only thru the one material used in the channel.

JUNCTION FIELD EFFECT TRANSISTORS

Basic construction of a "N" channel JFET is illustrated in Fig. 2-1. It starts with a substrate block of "P" material, into which is diffused a "N" area, (which becomes the "N" channel).

In order to make it easier to visualize FET operation let's go to Fig. 2-2 which has been reduced to the minimum number of elements. There is a "N" channel or bar as in Fig. 2-1. Terminals are connected to each end of the bar and are identified as Drain and Source. There are no junctions existing at these points, only the ohmic contacts. A "P" type material is then diffused into both sides of the "N" bar or channel forming "PN" junctions. The diffused "P" sections are connected together and called the Gate. The Drain, Source and Gate of the FET correspond to the Collector, Emitter and Base of conventional transistors.

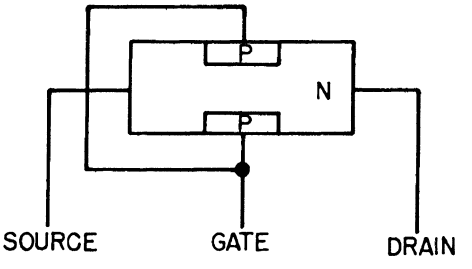


Figure 2-2

External voltages are connected as shown in Fig. 2-3, with the positive end of the drain-source battery (VDS) connected to the drain, while the negative end is connected to the source terminal. Drain current (ID) flows in the channel, through the load (RL) and battery (VDS). At zero gate voltage, drain current will be limited by only the load resistance and "N" channel resistance. Gate voltage supply (VGS) is connected with the positive end to the source terminal and the negative end to the gate terminal, reverse biasing the gate.

As gate reverse bias voltage is increased (in the negative direction for "N" channel F.E.T.'s) areas will develop adjacent to the "P" gate electrodes which are called depletion regions. A depletion region develops due to the loss of majority carriers and results in a reduction of the channel width. This region is shown shaded in Fig. 2-3. Increasing reverse bias voltage increases the size of the depletion regions and reduces channel width. A reduction in channel width reduces current flow in the channel, thereby effectively controlling electron flow in the channel. Later we will explain the term 'depletion' in more detail and also introduce the term 'enhancement' along with a comparison of the two.

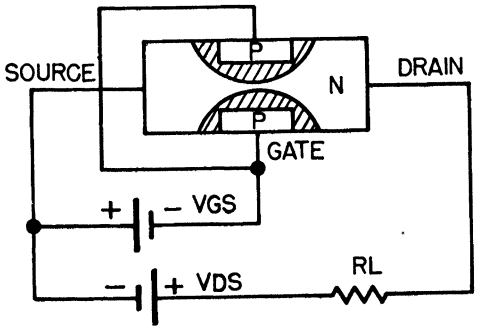


Figure 2-3

The JFET does have certain advantages over conventional NPN and PNP transistors. Some of these are: low input capacitance, low noise at high operating frequencies, and high input resistance. It should be noted that the high input resistance will exist only while the device is reverse-biased. This resistance will drop sharply if forward bias is applied to the depletion type JFET.

Fig. 2-4 shows the schematic symbols for both the "N" and "P" channel JFET's. Note that the arrow of the Gate points inward for the "N" channel and outward for the "P" (the opposite of the identification on transistor emitters).

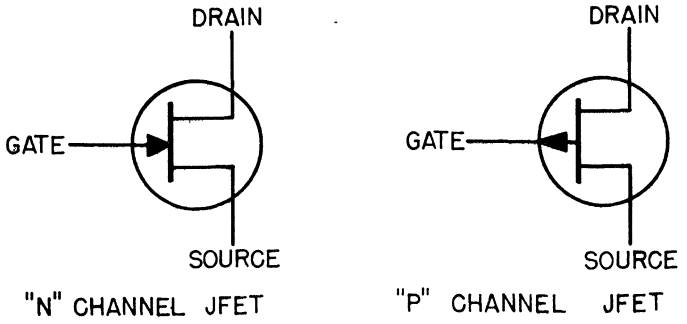


Figure 2-4

One possible use for "N" channel JFET's is as a RF Amplifier as shown in Fig. 2-5

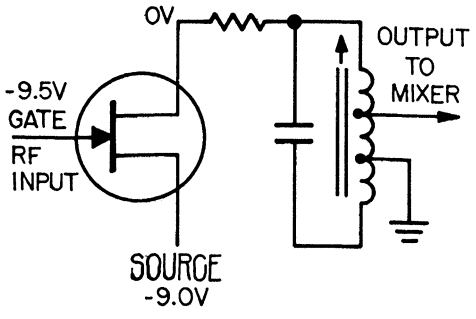


Figure 2-5

The electrode voltages established are; source: –9.0 volts; drain: 0 volts; with the gate voltage at –9.5 volts. Under this condition the FET is biased for optimum circuit performance and also low noise. As signal level increases, reverse AGC voltage will increase. This voltage will add to the gate bias causing a reduction in drain current (ID) and a reduction in the RF amplifier gain, thereby reducing possibility of overload distortion.

INSULATED GATE FIELD EFFECT TRANSISTORS

While describing JFET's we said that they had a gate diffused into the channel. In the case of IGFET or MOSFET devices the gate is insulated from the channel by a layer of silicon dioxide. The letters MOS are derived from Metal Oxide Semi-Conductor and refer to use of the insulating material. Both MOSFET and IGFET are used to describe these devices. Since MOSFET is in more common use we will stick with it for this discussion.

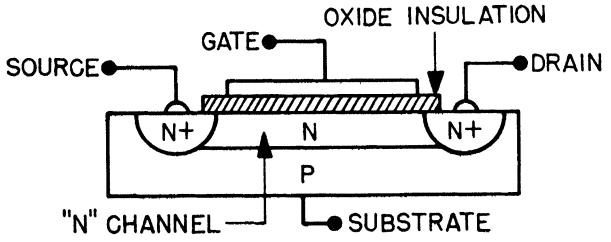


Figure 2-6

An illustration of a N Channel Depletion Type MOSFET is illustrated in Fig. 2-6. This device is made in a manner similar to that of the JFET, except that separate, lightly doped "N+" regions for the Drain and Source are diffused into the "P" substrate, with a separate "N" channel being diffused between the "N+" regions. The oxide insulating layer is then applied. After this the metal Gate is applied over the oxide. There is another type of device that is called an Enhancement MOSFET, and the channel is constructed in such a way to permit channel width to increase (see Fig. 2-7).

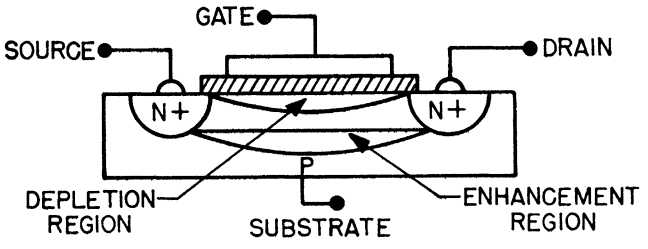


Figure 2-7

Fig. 2-8 shows the schematic symbols for each. Up to this point we have discussed "N" channel devices and will continue to do so, but it should be noted that any discussion for the "N" channel device also is true for the "P" type just by changing the "N" and "P" materials, etc. As noted for the JFET the arrow on the gate will show if a "N" or "P" channel is used, but in MOSFET devices the arrow is on the Bulk or Substrate lead (which is normally connected internally to the Source). One other clue in the symbol is that the channel line is solid if it is a depletion type or broken if of the enhancement type.

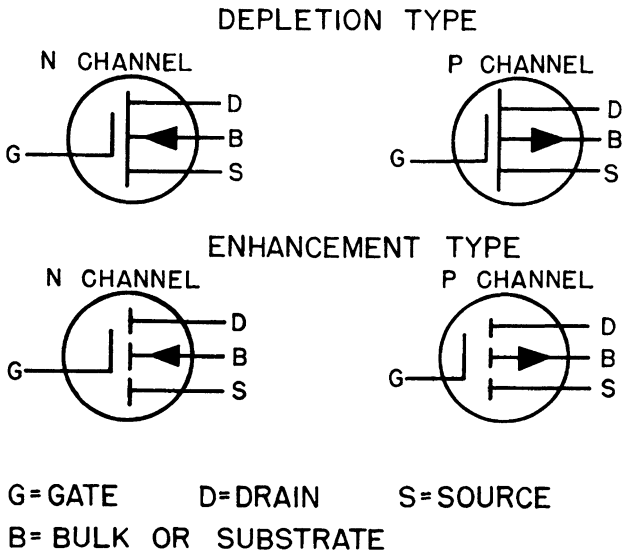


Figure 2-8

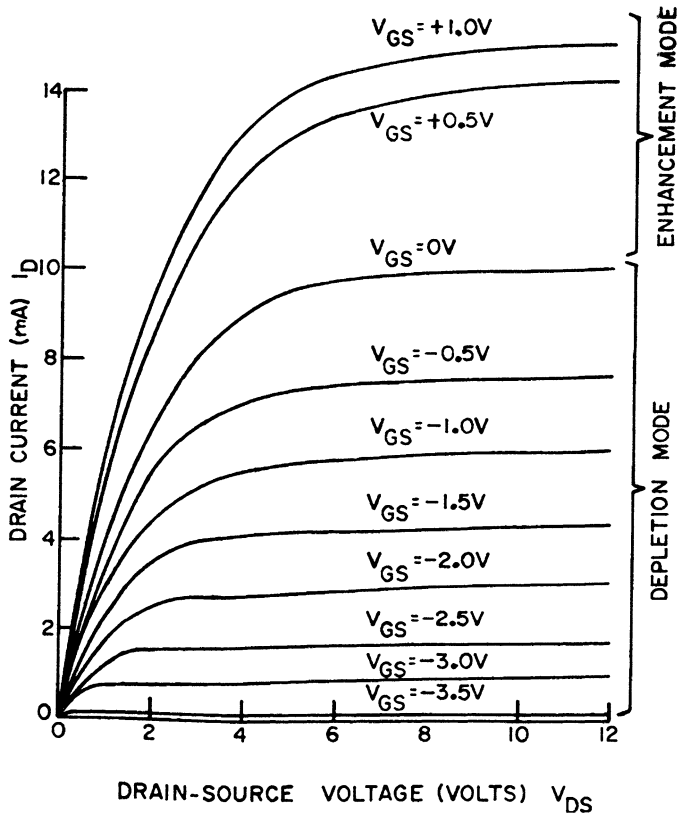


Figure 2-9

MOSFET devices have added features when compared to the JFET's. These include; the gates have lower leakage because they are less sensitive to temperature, higher frequency operation, and higher input resistance. Since the Gate is insulated the input resistance/ impedance will not change due to the applied bias voltage.

During this discussion, we have used the terms depletion and enhancement. These two terms refer to the effect on the FET channel when gate voltage is applied. In the case of the JFET we explained that reverse bias voltage (VGS) would create a depletion region, that is an area in the channel where there would be no majority carriers. This depletion region would become larger as the reverse bias increased. The channel would be reduced in size, thereby reducing the channel current. In the case of the enhancement FET, the channel current would be a fixed valve until a forward bias were applied gate to source. A region (called the Enhancement Region) is created which increases the effective channel area, allowing increased current flow. As the forward bias is increased, the channel current will also increase. The same as applying forward bias to a transistor. Refer to Fig. 2-9 which illustrates the Drain-Source Voltage (VDS) vs. Drain Current (ID) curves showing the relationship of the characteristics for a FET which can operate in both the depletion and enhancement modes. It is very important to note that some FET's can operate in both modes while others can operate in only one.

DUAL INSULATED GATE

There are MOSFET devices which are designed with two gates as illustrated in Fig. 2-10. Since these devices have two separate gates, they have two separate elements which control current flow in the channel.

A typical use for these devices could be as a RF amplifier in which the RF signal is applied to one gate (G1) while an AGC voltage is applied to the other gate (G2). This way each input is isolated and can provide its own independent control of the device.

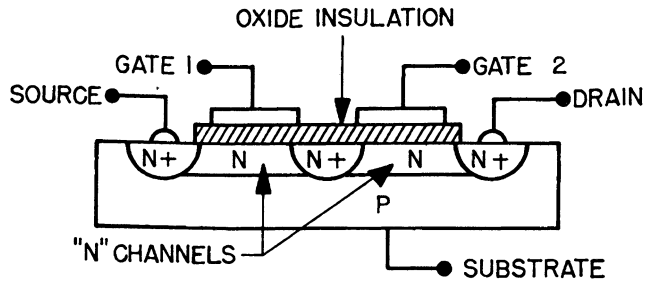


Figure 2-10

FET DEVICE PROTECTION

When these devices are being handled out of circuit it is possible for static charges to build up across gate and source. This charge could reach a valve which would exceed the gate breakdown voltage. To reduce this problem FET's would be shipped with all leads twisted together or with a wire wrapped around all leads. With all leads shorted there should be no impedance across which a voltage could develop.

The above method was effective, but could be eliminated if protection were included within the FET package. A schematic of the internal configuration of such a package is shown in Fig. 2-11. You will note that Fig. 2-11 includes back-to-back zener diodes connected from each gate to the source. When a voltage of sufficient value is developed across the zeners, they will conduct, bypassing any voltage transients which approach the gate breakdown voltage, thereby protecting the gate structure. These back-to-back diodes can be diffused into the FET while it is being constructed. They will also allow the FET to retain the wide dynamic signal range.

While this has been a brief discussion of basic device theory it will provide a Service Technician with a basic knowledge of these devices.

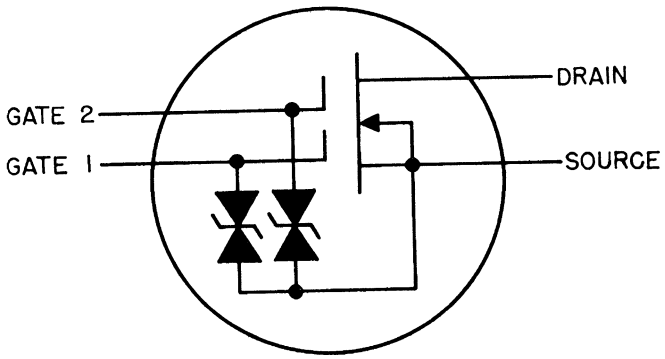


Figure 2-11

SECTION THREE
CIRCUIT APPLICATIONS

In prior service manuals we have discussed the function of circuits of a complete receiver (such as the combination of chassis 29AT24 and 6AT24 as shown in Service Manual HF18, Zenith Part Number 923-558). At this time we will discuss three selected circuits from chassis 29CT30. The circuits are: FM RF (using a dual insulated gate MOSFET), Multiplex (with a JFET for biplex detector), and Audio Output (direct coupled quasi-complementary symmetry).

DUAL INSULATED GATE RF AMPLIFIER

Operation of this stage is similar to that of standard NPN or PNP RF devices. Refer to Fig. 3-1 for the following explanation.

FM antenna coil (L1), FM RF coil (L2), and Oscillator coil (L4) are all precisely tuned to insure that the tuner will reject unwanted and undesired combinations of RF signals present in many areas due to the current day complex communication systems. Coil L3 is a 10.7 megahertz trap in the emitter lead of the converter transistor.

Under no signal conditions the following voltages are applied to the MOSFET elements. Resistors R11 and R12 form a voltage divider across the B+ line and provide a fixed bias to Gate 1 (G1). The FM RF signal from L1 is also applied to G1. A second voltage divider consisting of R227 and R228, in conjunction with the voltage doubler circuit of CR205 and CR206 provides fixed bias, via R229, to G2 under no signal conditions. Drain voltage is applied, from B+ via the RF coil L2.

At this point lets recap the existing voltage conditions:
Gate 1 to Source – approx. -0.3 volts.
Gate 2 to Source – approx. +4.0 volts.
Drain to Source – approx. +10.0 volts.
Drain current – approx. 10 milliamp.
(A variation can be expected due to circuit component tolerances.)

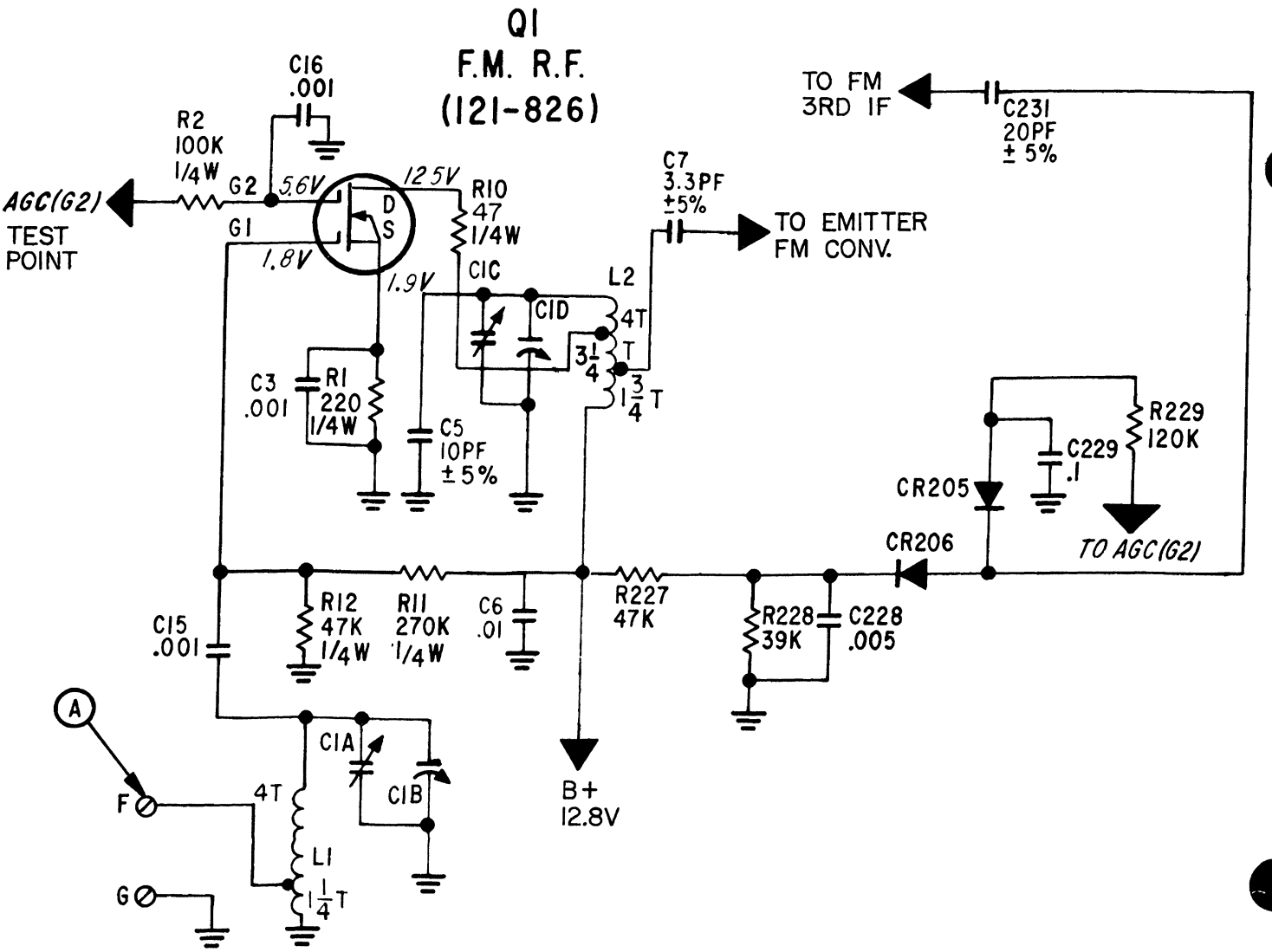


Figure 3-1 FM RF AMPLIFIER – DUAL GATE MOSFET

As the gain of the IF stages increases, reverse AGC voltage will be developed at diodes CR205 and CR206, and applied to the gate terminal (G2) of the FET. This increasing AGC voltage, when added to the gate bias voltage, will cause the gate voltage to be more negative, driving the FET toward cut-off. When this occurs, the current flow is reduced, thereby reducing the FET's gain. This stage is designed for optimum circuit performance and minimum noise. In this application, the drain current is at approximately one-half of the saturation current (IDSS).

When a FET is compared with conventional NPN and PNP bipolar transistors, under similar applications, the FET is normally capable of handling higher level signals without waveform distortion. For illustration purposes a signal in excess of normal RF levels was applied to the RF inputs of both a conventional NPN Bipolar transistor and a "N" channel dual insulated gate MOSFET.

A dual trace scope was connected to the tuners as follows:

A. The NPN transistor operating in a common emitter circuit with the scope connected at the collector.
B. The MOSFET was operated in a common source circuit with the scope connected at the drain.

With each of the RF stages operating under equivalent conditions, the same RF signal (in excess of normal field strength) was applied to both tuner inputs at the same time. Fig. 3-2 is a photo of the scope traces showing the output waveform of each tuner. The lower waveform is of the NPN RF stage and shows severe waveform distortion while the upper waveform of the MOSFET is relatively clean.

Since the same signal level was applied to both RF stages at the same time it is clear that the MOSFET does have much better signal handling capabilities than that of NPN or PNP transistors with similar characteristics under similar conditions.

67 KHz TRAP

This composite information is fed to the input of the 67 KHz trap L301 (Figure 3-3). Assuming that this FM multiplex station to which we are tuned is also broadcasting 67 KHz store cast material that cannot be allowed to enter the multiplex detector or distortion will result, then a very high "Q" trap with approximately 30 db of attenuation must be placed in the path of composite signal. Since this 67 KHz trap is fixed tuned for minimum 67 KHz output we eliminate all of the 67 KHz SCA information from being passed on through the multiplex detector where it would cause cross talk and distortion.

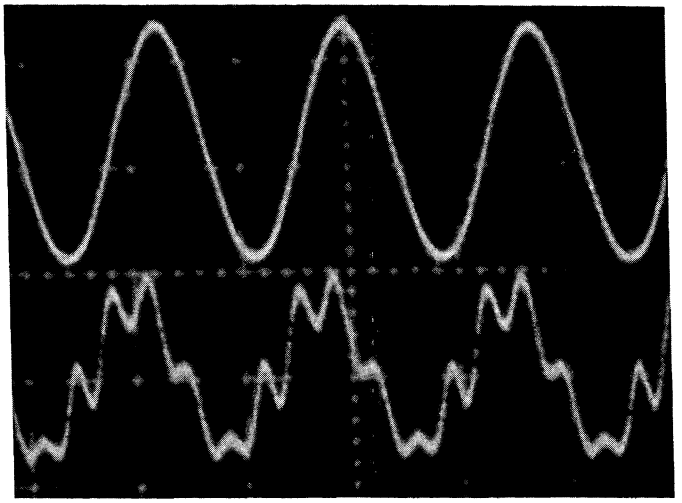


Figure 3-2 MOSFET vs. BIPOLAR SIGNAL

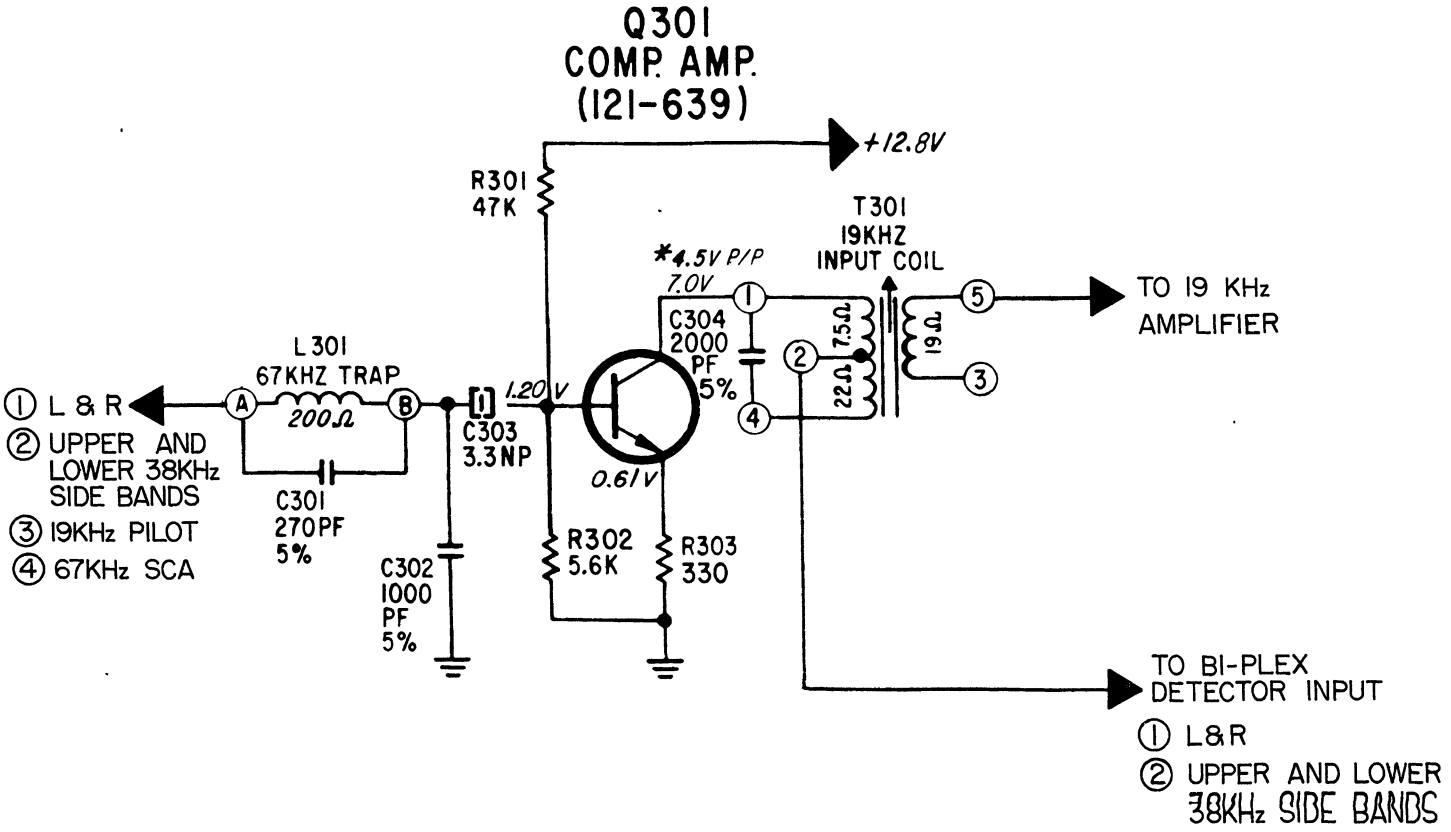


Figure 3-3 67 KHz TRAP AND COMPOSITE AMPLIFIER

COMPOSITE AMPLIFIER

Now that the 67 KHz SCA material has been eliminated it is necessary to amplify the remaining three elements of the composite signal. These are fed into the composite amplifier (Figure 3-3), which has a gain of approximately 6. In the collector circuit, the output of this composite amplifier is fed to two channels. The L + R audio voltage and the 38 KHz L - R upper and lower sidebands are fed directly to the base of the JFET detector, and await recombination with the developed 38KHz sub-carrier as well as simultaneous detection, into L and R audio voltages. The 19 KHz signal is taken off the secondary of T301 and fed to the base of the 19 KHz pilot amplifier.

19KHz PILOT AMPLIFIER AND DOUBLER

The 19KHz pilot signal from the collector of the composite amplifier is fed into a 19KHz amplifier with both input and output circuits sharply tuned to 19KHz. This is done to eliminate any undesired signals from triggering the 19KHz pilot amplifier (Figure 3-4). To insure that the 19KHz pilot amplifier will only operate on signals of sufficient amplitude for practical noise free stereophonic reception, a mute voltage is impressed on the emitter of this transistor. Under static conditions, the transistor is biased at cutoff and is not conducting. The amount of reverse bias or mute voltage on the base of the 19KHz amplifier is controlled by the mute control R308. When the incoming 19KHz pilot signal peak to peak voltage is sufficient to overcome the back bias or cutoff condition of the 19KHz amplifier, then this transistor will conduct. It requires a 19KHz pilot signal of approximately 1.8 volts peak to peak to do this. When the incoming 19KHz signal is sufficient to cause the 19KHz amplifier to conduct, it amplifies and passes signal on to the secondary of T302, which is center tapped. Two solid state diodes CR301 and CR302 operate as a full wave unfiltered rectifier, across this secondary and act as a frequency doubler. The output of this full wave rectifier is a series of 38KHz DC pulses. These 38KHz DC pulses perform two functions. These DC pulses are fed through resistor R310 and are filtered by capacitor C305 connected to ground. A DC voltage will be developed which will be fed back to the base of the 19KHz amplifier. As this DC voltage increases the conduction of 19KHz amplifier will greatly increase effectively locking the 19KHz amplifier in a state of heavy conduction. This amplifier will remain in conduction until the 19KHz pilot signal is lost.

STEREO INDICATOR SWITCH

The stereo indicator switch transistor and the stereo indicator lamp are in series with a voltage (Figure 3-4). They could be compared to a series resistance group with the stereo indicator switch being a variable resistor and the stereo indicator lamp as being a large fixed resistor. In the monaural mode there is zero volts on the base and a +45 volts on the collector with the emitter grounded. In the monaural mode this transistor is reverse biased and is not conducting. When a 19KHz signal is sufficiently strong to trigger the 19KHz amplifier, the switch transistor will begin to conduct. As this occurs, the collector voltage drops toward zero volts and the indicator lamp begins to draw current, illuminating the lamp, indicating that the receiver is operating in the stereo mode.

38KHz SUBCARRIER AMPLIFIER

Another portion of the 38KHz DC pulses from the doubler is used to create the 38KHz carrier for insertion with the two L - R 38KHz sidebands. These pulses are fed to the base of the 38KHz amplifier transistor (Figure 3-5). The collector circuit of the 38KHz amplifier is tuned to 38KHz and when pulses are injected into a resonant circuit so that the pulses and the tuned circuit are of the same frequency, ringing occurs in the tuned circuit. . .in this manner a sine wave is created. Looking at the collector of the 38KHz amplifier, you would see a 38KHz sine wave. This 38KHz sine wave (subcarrier) is now ready for reinsertion with the two L - R 38KHz side bands that were obtained from the output of the composite amplifier.

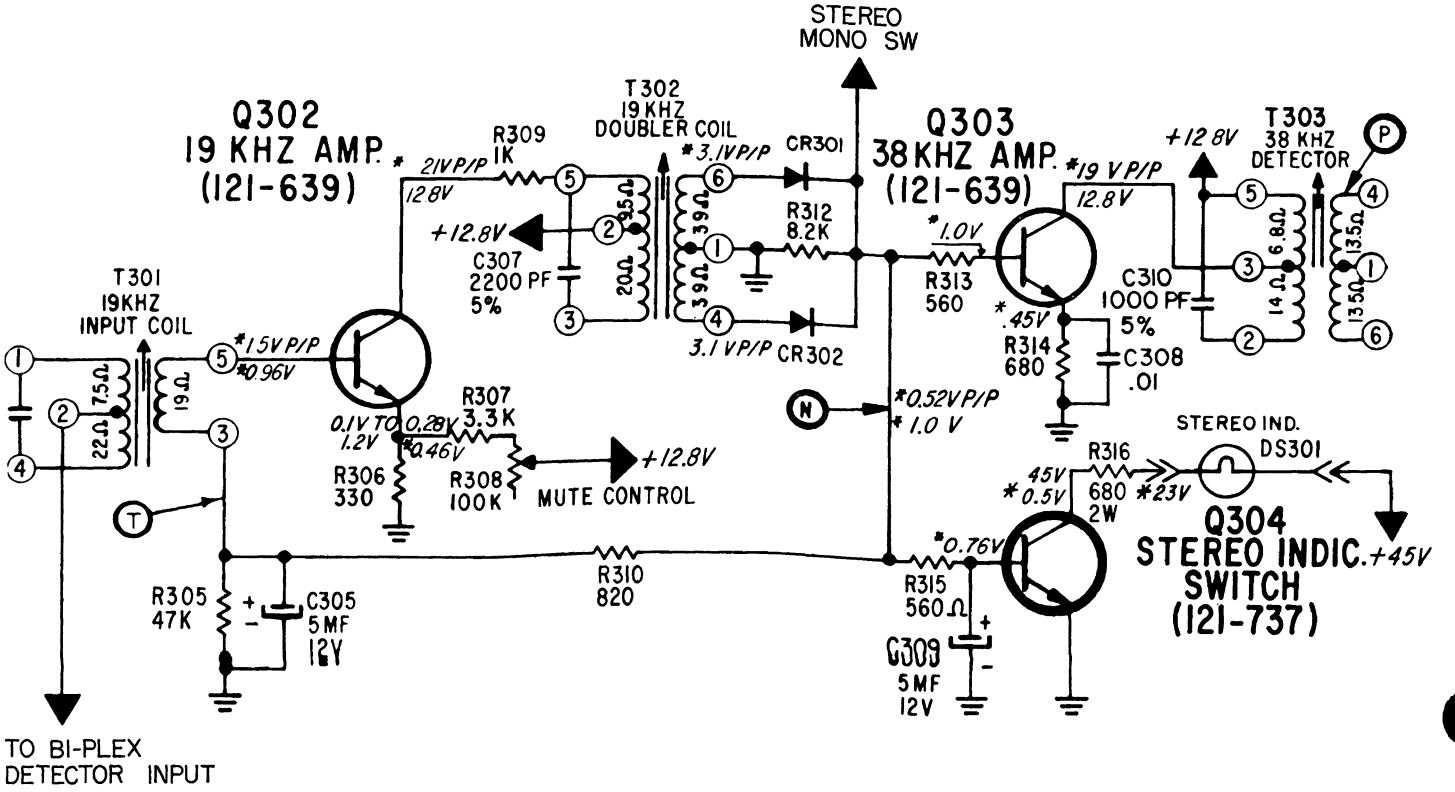


Figure 3-4 19 KHz AMPLIFIER, DOUBLER AND STEREO INDICATOR SWITCH

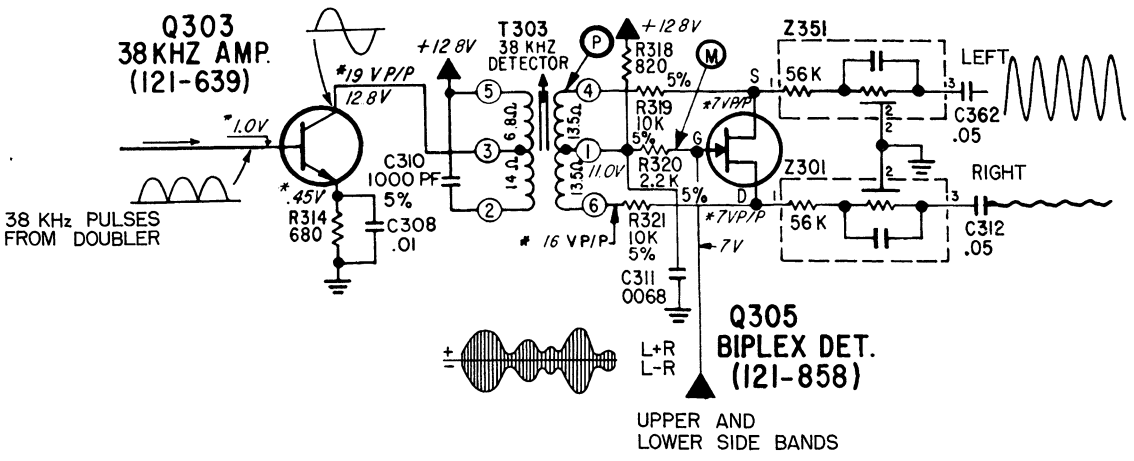


Figure 3-5 BI-PLEX DETECTOR

THE BIPLEX DETECTOR

The "N" channel JFET used in the Biplex detector circuit of the 29CT30 exhibits bilateral characteristics.

A bilateral transistor is a special type transistor that due to its uniform design, the collector will serve as the emitter and the emitter will serve as the collector under certain conditions. When switched by a properly applied AC voltage, in push-pull, sufficient in value to overcome the cut-off bias normally applied, the bilateral transistor will pass current in both directions in accordance with the alternations of the switching voltage. The switching voltage in this case is the regenerated 38KHz subcarrier signal. In the case of the JFET the drain and source can function in the same manner as the emitter and collector.

The JFET is not biased in the conventional manner. For the following refer to Figure 3-5. The base is biased at 7 volts, while the drain and source are both biased at 11 volts (as shown at the center-tap, terminal No. 1 of transformer T303). The 7 and 11 volts are obtained from the voltage divider consisting of the 2.2K & 820 resistors. Note that the collector and emitter are connected to the opposite ends of the 38KHz output transformer secondary winding (part of T303). Under no-switching voltage conditions, the transistor is biased to cut off due to the 4 volts difference between the 7 volts at the base and the 11 volts at the emitter. To forward bias the FET, to cause current to flow, the voltage at the source must be positive or less negative than the voltage at the gate. This required forward bias is supplied by regenerated 38KHz subcarrier (a CW signal) when the value of the 38KHz voltage exceeds the reverse bias.

Referring to Figure 3-6 showing the input and output waveforms of the 38KHz switching signal only, note that the upper 38KHz input wave supplies the positive bias from the source to the gate on the first half-cycle, while at the same time, the lower wave supplies the negative bias from the drain to the gate. During the second half-cycle just the reverse is true, but the action of the FET is the same, due to the bilateral effect.

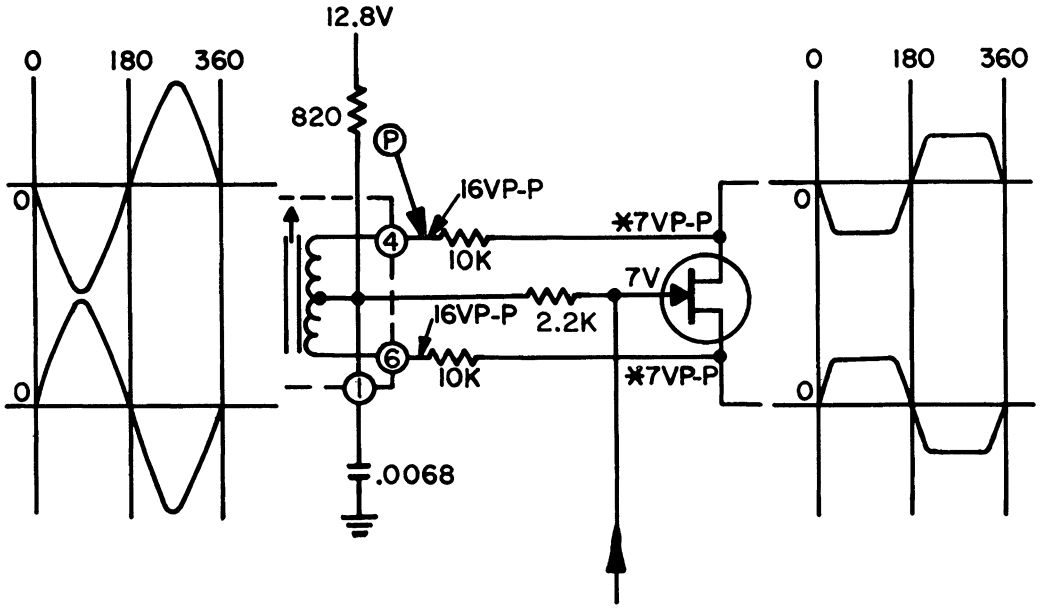


Figure 3-6 BI-PLEX DETECTOR WITH THEORETICAL 38KHz INPUT AND OUTPUT WAVEFORMS

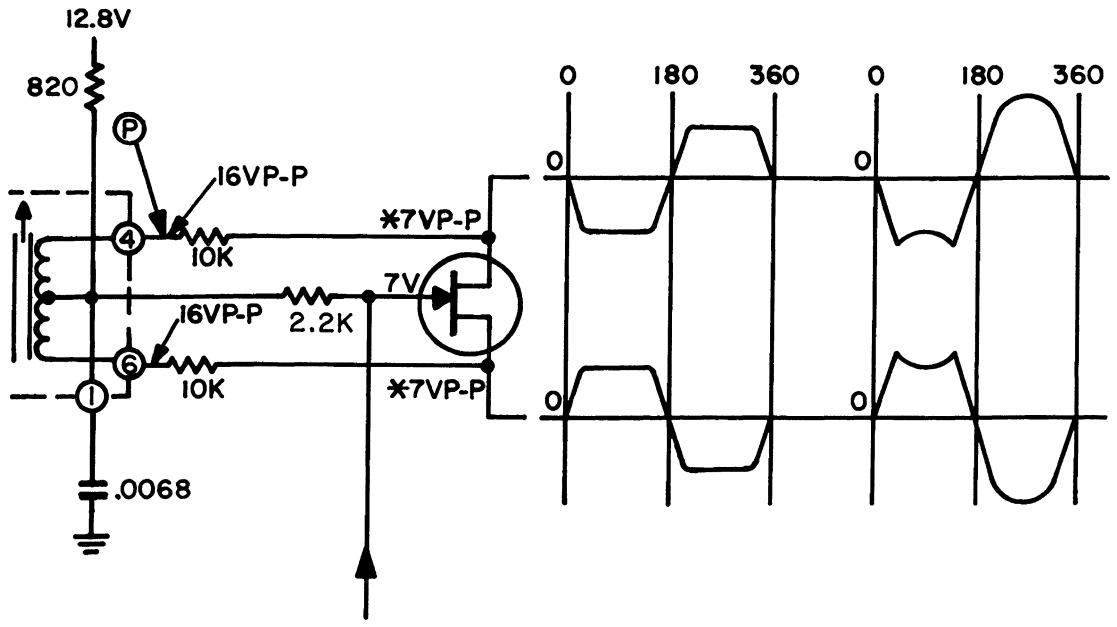


Figure 3-7 BI-PLEX DETECTOR WITH THEORETICAL 38KHz SIDE BAND WAVEFORMS

An important point here is that because the FET has bilateral characteristics, the source is as shown in the schematic for the first half-cycle but the source and drain change places when the switching signal changes polarity in the second half-cycle. As a result, current flows between the drain and source in both half-cycles, reversing directions in accordance with the alterations of the 38KHz switching signal. The path of current flow in the external circuit is through the two load resistors and the secondary winding of T303. The output is taken from across the emitter and collector of the transistor.

Referring to Figure 3-7 showing input and output waveforms for operation of the circuit with 38KHz & (L-R) 38KHz side band inputs. Note that the composite stereo signal, taken off in the receiver from (T301) the collector load for the composite amplifier and is applied to the gate of the FET while it is being switched at the 38KHz rate. The composite signal consists of two interleaved components, the (L+R)or regular audio signal and (L - R) 38KHz sidebands. The (L + R) signal can appear at the L and R output terminals only by the way of the T301 transformer secondary, because any (L + R) signal passing through via the gate of the FET is modulated upward and out of the audio range by the 38KHz switching signal. The demodulated (L - R) signal can appear at the L and R output terminals only by way of the gate circuit of the FET, because the two (L - R) 38KHz side bands are greatly attenuated at pin 6 of the transformer (T303) by the network consisting of the 2.2K & 820 ohm resistor to B+, shunted by the .0068 MF capacitor to ground.

In operation, the (L + R) audio signal appears at the "L" and "R" output circuits in equal magnitudes of the same polarity. The relatively few turns of wire in the 38KHz transformer secondary winding represents a low impedance path for the (L + R) signal. The (L - R) 38KHz side bands are demodulated by the action of the FET into two equal amplitude but opposite polarity (L - R) regular audio signals in the same L and R outputs circuits. The biplex circuit thus acts to reinsert the

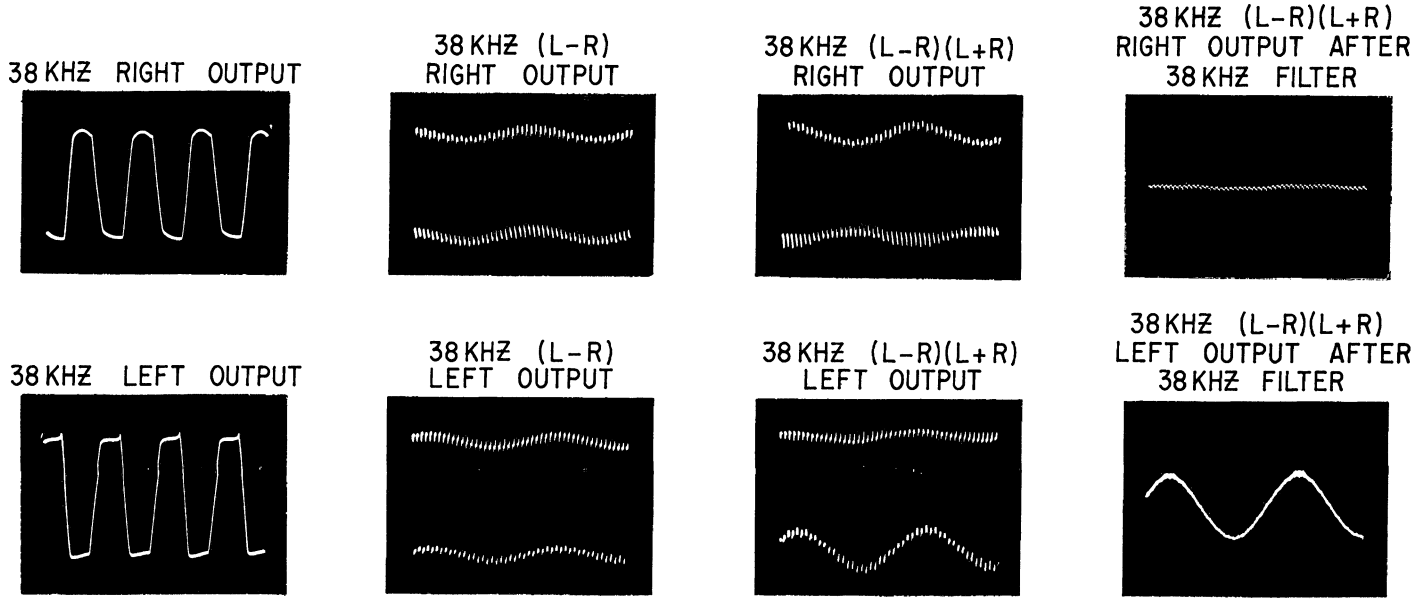


Figure 3-8 BI-PLEX DETECTOR SIGNAL WAVEFORMS

38KHz CW (the subcarrier) into the (L - R) 38KHz side bands and at the same time demodulates this signal into the (L - R) audio signal and also provides the matrixing of the two sets of audio signal (L + R) and (L - R) according to the formulae:

$$(L - R) + (L + R) = 2L$$
$$-(L - R) + (L + R) = 2R$$

The demodulation efficiency of the Multiplex "average type" detectors used previously was around 30%. The demodulation efficiency of the Biplex Detector circuit is around 60%. Furthermore, the L and R channel separation is improved about 6DB at the higher audio frequencies between 8KHz and 15KHz. The present circuit is designed to provide about 25 db of separation of the L and R signals at 1000 cycles.

One of the most desirable features of the Biplex detector is that when tuning across the dial, both stereo and non-stereo (monophonic) stations are received at approximately the same volume level.

During monophonic (non-stereo) FM transmissions, the 19KHz pilot signal is not transmitted. If the 38KHz switching signal is not applied to the transistor, it will remain at cut-off. In this case the (L + R) audio signal will be divided equally in the two channels via the two half - sections of the transformer (the secondary winding of T303).

SIMPLIFIED CHECK OF THE BIPLEX FET

A simple quality check on the biplex transistor can be made as follows:

Connect a large (5-10MF) capacitor from pin 1 of the transformer T303 to chassis ground, to kill the signal at this point so that only the (L-R) signal is obtained in the output via the gate of the FET.

The FET is good, if after tuning across the dial only stereo stations are received. The FET is defective, if both stereo and non-stereo stations are heard at or near the same volume level. (The stereo stations will light up the stereo indicator lamp.)

QUASI COMPLEMENTARY SYMMETRY

Chassis 29CT30 uses quasi complementary symmetry output circuits which are similar to the complementary symmetry output circuits used in other chassis. Since complementary symmetry has been explained in detail in Service Manual HF18 (No. 923-558) you may wish to review that material.

Transistors Q453, Q454 and Q455 of Fig. 3-9 (complementary symmetry) can be compared with Q453, Q455, and Q456 respectively of Fig. 3-10 (quasi complementary symmetry). Voltage changes on the collector of Q453 appear on the base of Q456 (directly) and the base of Q455 (via Q454). AC signals will see Q454 as a short circuit.

When a positive going voltage appears on the base of Q455, a similar change occurs on its emitter, and also on the base of Q457 which is then forward biased into conduction. During this time, the positive going voltage will bias Q456 to cut off, and neither Q456 nor Q458 will conduct. When the base voltage on Q455 goes in a negative direction, Q455 will be biased towards cut off, while Q456 will be forward biased and in turn causes Q458 to conduct.

Up to this point, operation of Fig. 3-10 is similar to Fig. 3-9 with the addition of power output transistors Q457 and Q458. It should be noted that Q456 provides phase inversion while Q455 is an emitter follower with no inversion.

Bias on output transistors Q454 and Q455 (Fig. 3-9) is determined by diode CR451 connected between their bases. CR451 has temperature characteristics similar to the output transistors. When an increase in temperature causes an increase in transistor current, a similar voltage decrease occurs across the diode providing compensation by changing the base to base voltage of Q454 and Q455.

Quasi complementary symmetry of Fig. 3-10 uses a transistor (Q454) for bias control, instead of a diode. Q454 not only serves to stablize base voltage, but also has the advantage of allowing manual presetting of the bias. Bias adjustment Control

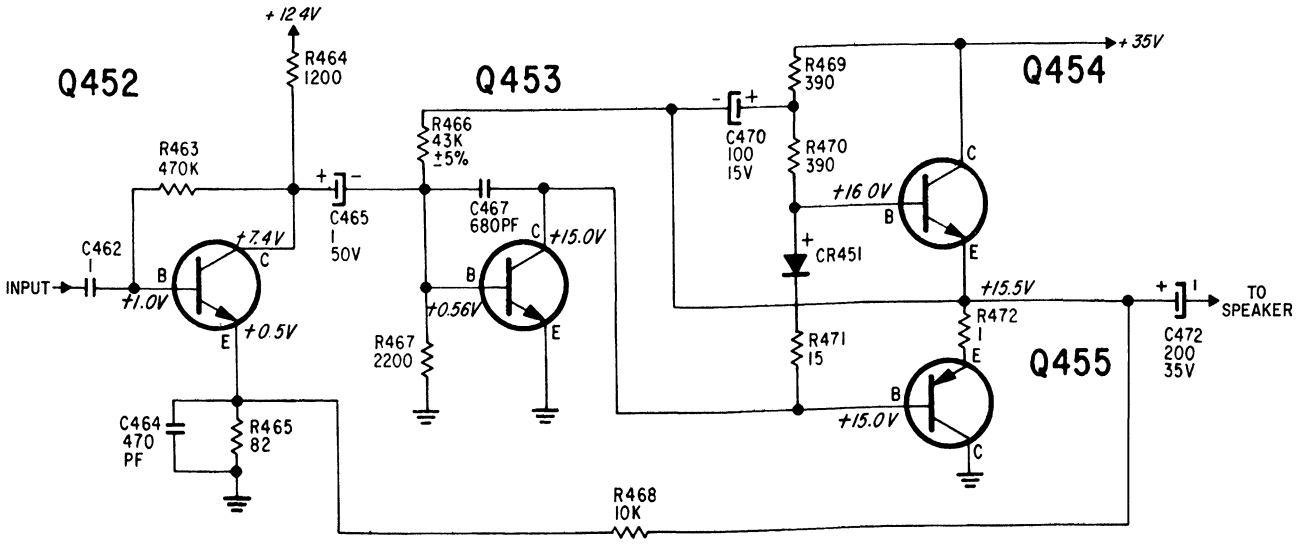


Figure 3-9 COMPLEMENTARY SYMMETRY OUTPUT CIRCUIT

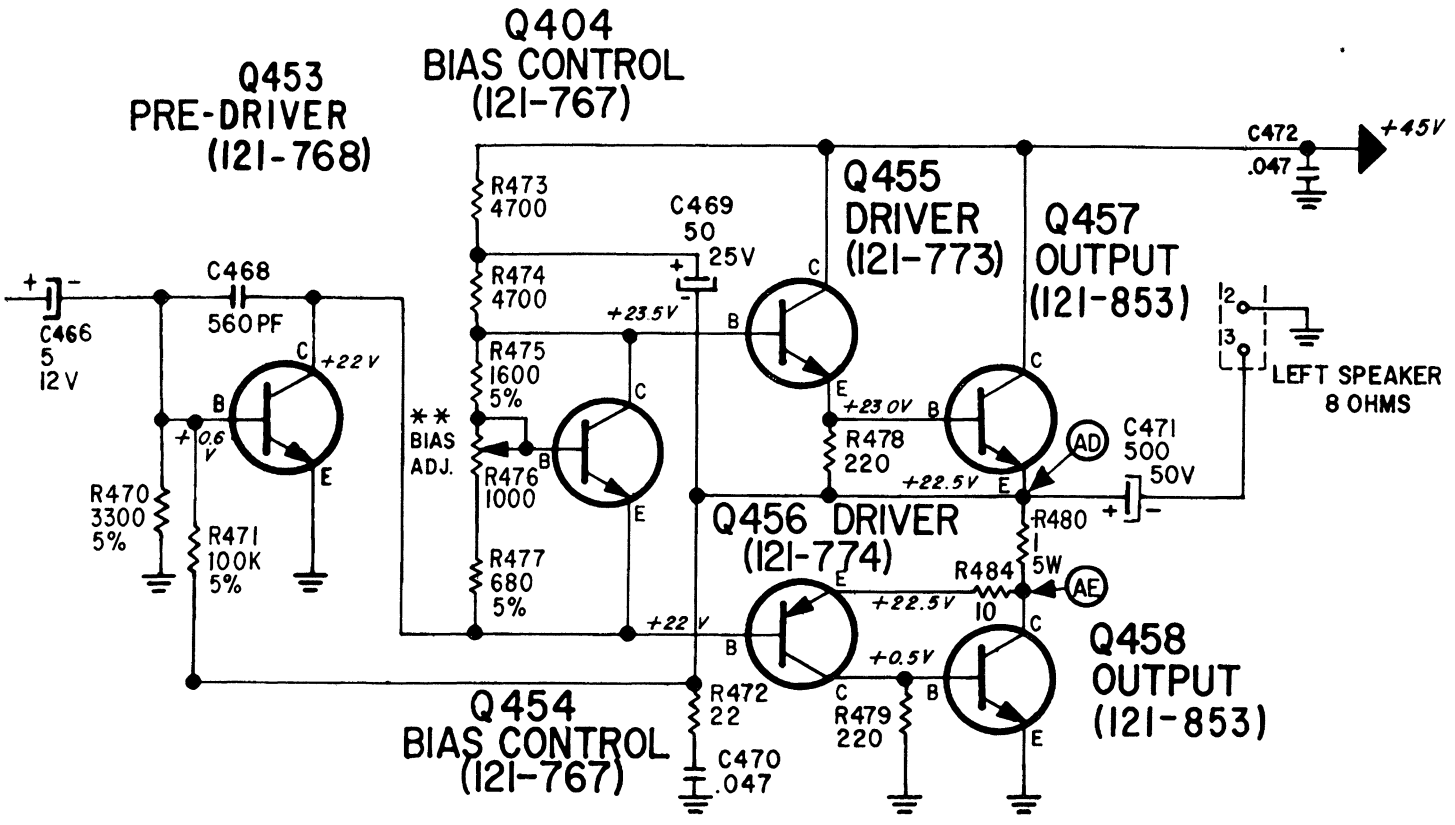


Figure 3-10 QUASI COMPLEMENTARY SYMMETRY OUTPUT CIRCUIT

(R476) is part of the voltage divider network (R475, R477) between collector and emitter of Q454. Setting of R476 determines the bias on Q454, which in turn sets the bias and idling current of the output transistors. Q454 is subject to the same temperature changes as the output transistors. Any increase in temperature that causes increased current flow in Q454 will offset the increased current flow in the other transistors and will stabilize bias voltages.

Proper idling current in the output circuit (29CT30) is obtained when Bias Control (R476) is set to to provide 0.010 to 0.015 volts across the 1 ohm resistor (R480).

SECTION FOUR
FM/MX/AM ALIGNMENT AND GENERAL INFORMATION

THEORY

For theory and operation, of circuits not covered in this manual, refer to Service Manuals HF 18 (Zenith Part No. 923-558), and HF 19 (Zenith Part No. 923-606).

MULTIPLEX ALIGNMENT

These receivers have been properly aligned at the factory and will not require further adjustment. As a result, it is not recommended that any attempt be made to alter the multiplex stages. However, should any major components in these circuits require replacement or should anyone tamper with the multiplex adjustments then, of course, realignment will be necessary.

MUTING CONTROL

A muting control, which supplies a reverse bias voltage to the base of the 19KHz amplifier, is factory adjusted, and should not require readjustment. However, if the receiver is operated in an extremely noisy area, there is a possibility that there may be noise bursts of sufficient magnitude to overcome this mute voltage . . . when this occurs, the Stereophonic.FM Indicator will light up. To further cut off the 19KHz amplifier, carefully rotate the muting control in a clockwise direction. This should only be done when a stereo signal is on the air since the mute control must only be advanced to a point where the Stereo Indicator does not light up on noise, but it should not be advanced to a point where the desired stereo signal is cut off.

ANTENNAS FOR STEREO FM

Due to the characteristics of the stereo FM system, it will require more signal for proper performance than does monaural FM. As a result, it may be necessary to operate the stereo FM receiver with an external antenna. The necessity for an external antenna will be determined by the signal conditions at each individual installation.

EXTERNAL FM ANTENNA

If the receiver is operated in an area of either low signal strength, high noise, or where multipath (FM ghosts) signals are present, a good external FM antenna will be required. The necessity of an external antenna as a result of weak signal or noise, will be quite evident since the set will not limit, and/or noise will be quite evident. It is extremely difficult to determine if multipath (FM ghosts) signals are present, however, should the program material be distorted, the best manner to decide if multipath signals are the cause of the problem, is to connect an external FM antenna to the receiver. Usually a TV antenna may be available for trial, but even then the results can be misleading, since many TV antennas are of low gain on FM frequencies. Reduction of multipath distortion under high signal conditions may be accomplished by relocation of the receivers antenna system.

FM CABINET ANTENNA

Certain models except the C587, C590 and C906, contain an FM antenna built into the cabinet. This antenna is a folded dipole cut to the desired frequency, and is attached to the internal periphery of the cabinet. The above listed models use line cord antennas.

SIGNAL STRENGTH CHART

There are certain minimum voltages necessary for proper stereo FM reception. To help determine if there is sufficient signal available, the following developed AGC voltage versus microvolt input voltage charts have been compiled. Since the desired FM Station may not always be operating in the stereo mode when an installation is made, these AGC voltage measurements have been taken with a monaural FM signal. The point "*" of minimum AGC voltage necessary for good stereo FM reception has been indicated on these charts.

AGC voltages are to be measured with a V.T.V.M. connected to the following Test Points.

Chassis 21BT34, 21BT34Z1, and 27BT30, Test Point "C". Located between Transistors Q101 (A.M. Converter) and Q201 (1ST. I.F.).

Chassis 29AT24 and 29AT21Z1 - Test Point "C" RF amplifier AGC Feed Thru on FM Tuner.

Chassis 29CT20, 29CT21, and 29CT30 - Test Point at Junction of R2, R229; either end of Purple wire at pulley end of gang.

Chassis 21BT34, 21BT34Z1, and 27BT30

Micro Volts Input	Reverse AGC Voltage at Test Point "C"
0	1.34
25	1.23
100	0.91
200	0.82
500	0.73
1K	*0.70
5K	0.58
50K	0.10
100K	0.06

Chassis 29CT20, 29CT21, and 29CT30

Micro Volts Input	Reverse AGC Voltage At Gate 2 of FM RF
0	5.7
25	4.5
100	2.8
200	2.2
500	1.5
1K	*−0.96
5K	−0.22
50K	−1.10
100K	−1.20

Chassis 29AT24 and 29AT24Z1

Micro Volts Input	AGC Voltage At 1st I.F. (See Note)
0	1.50
25	1.40
100	1.10
200	.95
500	.80
1K	* .75
5K	.65
50K	.52
100K	.40

Note: AGC voltage for chassis 29AT24 is read across the 820 ohm resistor connected from the 1st I.F. emitter to the "B−" (−12.4V). Refer to AGC Adjustments.

AGC ADJUSTMENTS

Chassis 29AT24 and 29AT24Z1 – Adjust AGC control so that under no signal conditions a voltage of 1.1 volts is measured across the 820 ohm resistor connected from 1st IF emitter to "B-" (−12.4V) when in A.M.

AUTOMATIC FREQUENCY CONTROL-AFC

These receivers feature an automatic frequency control which automatically keeps your receiver on the exact station frequency when you are tuned to an FM station. To utilize this feature tune the receiver as instructed and then turn the band switch to AFC position.

When the desired FM station is a weak station, adjacent in frequency to a strong station, the AFC may pull the tuning into the stronger station. Under these conditions, place the bandswitch in FM position and tune the receiver as instructed.

Tuning the receivers on the frequency modulation band will require more care than on the broadcast band. A hissing sound may be noted when tuning between Frequency Modulation stations. This is normal, and will disappear as the station is tuned in. After a station is located, the pointer should be moved back and forth over it until the point of quietest reception and best tone quality is found. Correct tuning is indicated by the disappearance of background noise.

SPEAKER PHASING

It is most important that coded speaker leads be connected to coded terminals on speakers for proper polarity within each speaker group. It is also then most important that the speaker groups be in phase with each other. One excellent method is to play a monaural record with the volume of each speaker group equal.

Under these conditions the sound should appear to come from a point midway between the two speaker groups. If the sound comes from any other point than midpoint, then one speaker group is out of phase with the other and you should check polarity. One of the easiest methods of checking polarity within the speaker group is to momentarily place a 4½ volt battery across the speaker feed terminals. All the speaker cones should simultaneously move in the same direction.

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 6AT24, 10AT26, 16CT21, 21BT34, 21BT34Z1, 27BT30, 29CT20, 29CT21, 29CT30 and B553W 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.) (In chassis using quasi-complementary symmetry circuits, the outputs consist of two matched NPN's. The drivers, which are matched NPN and PNP, should also be replaced as matched pairs.)
2. When a power transistor is replaced the insulator (when used) between the transistor and the heat sink should also be replaced. On 6AT24, 10AT26, 16CT21, 21BT34, 21BT34Z1, 27BT30, 29CT20, 29CT21 and 29CT30 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.
3. On B553 (early production) place the heat conductive grease in the clamp, or on the chassis, and all around the transistor.
4. Do not operate these amplifiers without their proper speaker load.
5. Do not short out the audio output of either channel when the amplifier is operating.
6. 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.
7. Remove plug-in transistors from their sockets before doing any soldering to the socket lugs.

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. Zenith has also prepared a two-color 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.

CIRCUIT BOARD SERVICING

Servicing circuit board sets is, in general, much the same as servicing ordinary receivers. However, certain tools and techniques are helpful for this type of work.

1. Good pair of long-nose pliers.
2. Sharp wire cutters.
3. Small stiff glue brush (for solder removal).
4. Metal pick (soldering aid).
5. Pencil type soldering iron with a small tip (25 watts or less).
6. Tin leads on component before soldering.
7. Use only solder with an extremely low melting point, (60% Tin, 40% Lead).

WARNING: Excessive heat may damage the circuit board foil during component replacement if a soldering pencil, iron or gun of higher wattage rating is used.

COMPONENT REPLACEMENT

Resistors and capacitors should be replaced by clipping out the defective part and neatly soldering in the new part. If a unit, such as the oscillator coil or I.F. transformer is to be removed, heat the mounting lugs with a pencil type soldering iron and move them away from the soldered connection with a long-nose pliers or metal pick. Continue heating the lugs and brush away the molten solder with a small stiff glue brush. Remove the defective unit before lifting it off the chassis. Before inserting the new unit, be certain that the lug holes are open and free from solder. Forcing a lug against a solder filled lug hole may break the bond between the chassis base and the wiring foil. It is, therefore, necessary to exercise care when replacing units.

An open or damaged section of circuit board wiring foil can be repaired by soldering a short jumper wire across the points to be connected. When soldering the low voltage electrolytics, transistors and diodes, the wire should be held with a pair of long nose pliers. The long nose pliers will act as a heat sink.

TROUBLE SHOOTING AND SIGNAL TRACING

The old technique of "screwdriver testing" is definitely not recommended while trouble shooting any solid state product. In that method various circuit points were touched or shorted to ground to cause a hum or click in the speaker. This must be avoided because a solid state component can be destroyed if excessive voltage or if wrong voltage polarity is applied. Only standard point to point signal tracing with the proper RF, IF, and Audio Signal Sources should be used.

RESISTANCE MEASUREMENTS

When making resistance measurements in the circuit, it is most important to remove any transistors in the circuit under test for accuracy in readings. Incorrect or inaccurate resistance measurements are the result of a transistor acting as a diode and conducting. When making measurements across an electrolytic capacitor, be certain the ohm meter leads are correctly polarized. Also, be certain the battery voltage of the meter does not exceed the working voltage of the capacitor; the capacitor may otherwise be damaged.

FM ALIGNMENT

Alignment of these chassis will, in most cases, not be necessary unless an RF or IF transformer is replaced or if someone has tampered with the adjustment.

Because of the wide band pass required in the multiplex FM tuner, it is desirable to use an FM signal generator having a deviation of 400 KHz with a sweep rate of 60 Hertz as well as an oscilloscope when aligning both the IF and RF FM portions of this receiver. It is not only necessary to obtain maximum amplitude in the IF amplifier stages, but also necessary to maintain symmetry. To help achieve this symmetry, it is desirable to have 10.6, 10.7 and 10.8 megacycle markers in obtaining IF curve symmetry.

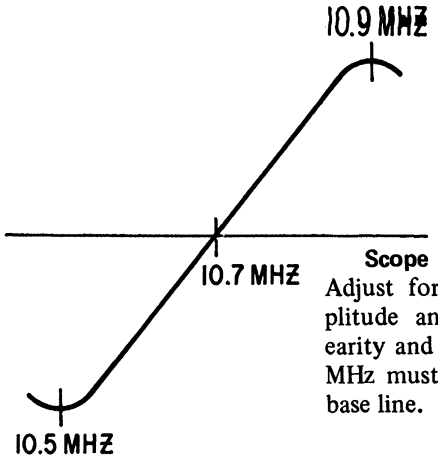
The condenser mentioned further on in the alignment procedure should be as small as possible and the ground lead of the generator must be connected to the chassis at the base of the socket, where the signal is being injected. Should the signal be injected at some point other than a socket, then the ground lead should be connected to ground as closely as possible to this point.

In all alignment procedures, the signal generator output should be kept just high enough to obtain an indication. This is most necessary, since on some chassis we have a zero time constant limiter which will clip the signals if their magnitude is too great, resulting in erroneous waveforms.

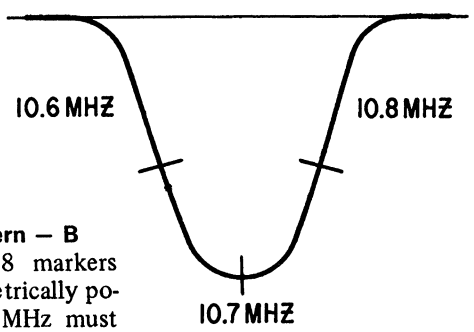
In the following alignment procedure charts there is a letter appearing in the operation column in addition to the number. This letter indicates the test point to which the hot lead of the scope is to be connected as follows:

A. Connect to Ratio Detector Test Point "H".

B. Connect to the last FM IF Test Point "G".

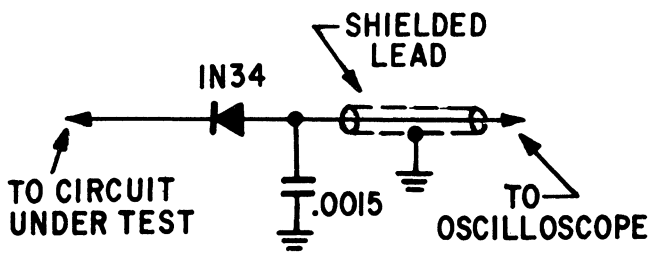


Scope Pattern – A
Adjust for maximum amplitude and maintain linearity and symmetry. 10.7 MHz must be on curve at base line.



Scope Pattern – B
10.6 and 10.8 markers must be symmetrically positioned. 10.7 MHz must be at center of curve. This point must be adjusted for maximum.

A detector probe is required. If your oscilloscope is not equipped with this probe, it can easily be constructed. For best results, this probe should be shielded.



AM ALIGNMENT

C. A V.T.V.M. on low AC scale connected across the speaker voice coil output terminals (either left or right channel), will be satisfactory for all AM, IF and RF adjustments.

Normally the Oscillator, RF and Mixer Coils and Transformers will not require adjustment unless they have been replaced or misaligned. If alignment becomes necessary the Oscillator Coil should be adjusted at 535 KHz with the tuning gang closed. Adjust the RF and Mixer Transformers at 600 KHz. These adjustments should be made after the corresponding trimmer adjustment shown in the alignment charts. Repeat the corresponding coil and trimmer adjustments for best results.

RF AND IF ALIGNMENT PROCEDURE FOR CHASSIS 21BT34, 21BT34Z1 & 27BT30

OPERATION *	CONNECT GENERATOR TO	DUMMY ANTENNA	INPUT SIGNAL FREQUENCY	BAND	SET DIAL TO	ADJUST	PURPOSE
NOTE: For AM Alignment Use A Signal With 400 Hertz Modulation							
1 C	One turn loosely coupled to wavemagnet		455 KHz	BC	600 KHz	L203, L204, L207, L210	Align IF channel for maximum output
2 C			1600 KHz	BC	1600 KHz	C1G	Set oscillator to dial scale
3 C			600 KHz	BC	600 KHz	L103	
4 C			Repeat Operations No. 2 & 3				
5 C			1500 KHz	BC	1400 KHz	C1D	Align antenna stage
NOTE: For FM Alignment Use A Signal With 400 KHz Deviation							
6 A	Term. No. 5 of T205 3rd IF Trans. Test Point "G"	47 ohm in shunt with gen. output. Then from hot lead a 27 ohm in series with a .001 MFD capacitor.	10.7 MHz	FM	Gang Closed	L212	Adjust Primary and Secondary of ratio detector for maximum amplitude and symmetry, as shown in Scope Pattern "A"
7 A			10.7 MHz	FM	Gang Closed	L214	
8 B	Term. No. 3 of T203 2nd IF Trans. Test Point "F"		10.7 MHz	FM	Gang Closed	L208 & L209	Align I.F. transformer for maximum output and symmetry. This pattern is not necessarily identical to the overal l Scope Pattern "B"
9 B	Term. No. 3 of T201 1st IF Trans. Test Point "E"		10.7 MHz	FM	Gang Closed	L205 & L206	
10 B	Connect to Test Point "D"		10.7 MHz	FM	Gang Closed	L201 & L202	
11 B			10.7 MHz	FM	Gang Closed	Readjust L201, L202, L205, L206, L208 & L209	Align I.F. transformer for maximum output and symmetry as indicated in Scope Pattern "B"
NOTE: In Steps 10B and 11B Generator ground Must be Connected On Braid As Close To Gang As Possible							
12 B	FM Antenna Post (Remove Antenna) Test Point "A"	300 ohm	106 MHz	FM	106 MHz	C13	Set oscillator to dial scale
13 B			90 MHz	FM	90 MHz	L4	
14 B			Repeat Operations 12 B and 13 B				
15 B			106 MHz	FM	106 MHz	C1A	Align FM Detector stage for maximum
16 B			90 MHz	FM	90 MHz	L2 if necessary	
17 B			106 MHz	FM	106 MHz	C1H	Align FM Antenna stage for maximum
18 B			90 MHz	FM	90 MHz	L1 if necessary	
19 B			Repeat Operations 15 B thru 18 B				

*For A, B, C, See Page 21.

OPERATION *	CONNECT GENERATOR TO	DUMMY ANTENNA	INPUT SIGNAL FREQUENCY	BAND	SET DIAL TO	ADJUST	PURPOSE
NOTE: For AM Alignment Use A Signal With 400 Hertz Modulation							
1C	One turn loosely coupled to wavemagnet		455 KHz	AM	600 KHz	L203, L204, L207, L210, L215	Align IF channel for maximum output
2C			1600 KHz	AM	1600 KHz	C1K	Set oscillator to dial scale
3C			600 KHz	AM	600 KHz	L103	
4C			Repeat Operations No. 2 & 3				
5C			1400 KHz	AM	1400 KHz	C1H	Align RF stage
6C			600 KHz	AM	600 KHz	L106	
7C			Repeat Operations No. 5 & 6				
8C			1400 KHz	AM	1400 KHz	C1F	Align antenna stage.
NOTE: For FM Alignment Use A Signal With 400 KHz Deviation							
9A	Term. No. 5 of T205 3rd IF Trans. Test Point "G"	47 ohm in shunt with gen. output. Then from hot lead a 27 ohm in series with a .001 MFD capacitor.	10.7 MHz	FM	Gang Closed	L212	Adjust Primary and Secondary of ratio detector for maximum amplitude and symmetry, as shown in Scope Pattern "A"
10A			10.7 MHz	FM	Gang Closed	L214	
11B	Term. No. 3 of T203 2nd IF Trans. Test Point "F"		10.7 MHz	FM	Gang Closed	L208 & L209	Align I.F. transformer for maximum output and symmetry. This pattern is not necessarily identical to the overall Scope Pattern "B"
12B	Term. No. 4 of T201 1st IF Trans. Test Point "E"		10.7 MHz	FM	Gang Closed	L205 & L206	
13B	Connect to Test Point "D"		10.7 MHz	FM	Gang Closed	L201 & L202	
14B			10.7 MHz	FM	Gang Closed	Readjust L201, L202, L205, L206, L208 & L209	Align I.F. transformer for maximum output and symmetry as indicated in Scope Pattern "B"
NOTE: In Steps 13B and 14B Generator ground Must be Connected On Braid As Close To Gang As Possible							
15B	FM Antenna Post (Remove Antenna) Test Point "A"	300 ohm	106 MHz	FM	106 MHz	C13	Set oscillator to dial scale
16B			90 MHz	FM	90 MHz	L4	
17B			Repeat Operations 15B & 16B				
18B			106 MHz	FM	106 MHz	C1C	Align FM Detector stage for maximum
19B			90 MHz	FM	90 MHz	L2 if necessary	
20B			106 MHz	FM	106 MHz	C1A	Align FM Antenna stage for maximum
21B			90 MHz	FM	90 MHz	L1 if necessary	
22B			Repeat Operations 15B thru 21B				

*For A, B, C See Page 21.

RF AND IF ALIGNMENT PROCEDURE FOR CHASSIS 29AT24 AND 29AT24Z1

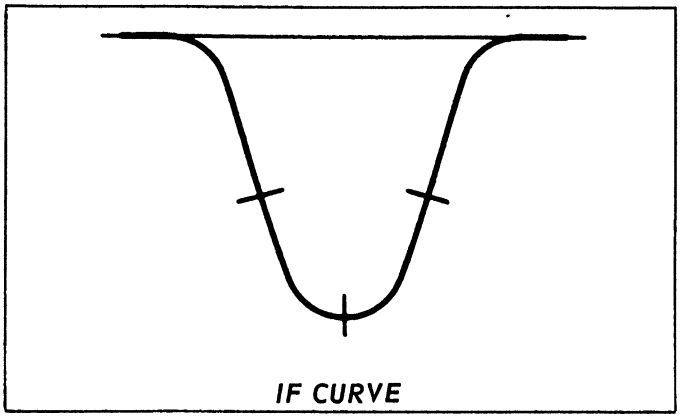
OPERATION *	CONNECT GENERATOR TO	DUMMY ANTENNA	INPUT SIGNAL FREQUENCY	SET DIAL TO	ADJUST IRON CORES	PURPOSE
1 A	Term. #3 of T205 4th IF Trans.	47 ohm in shunt with gen. output. Then from hot lead a 27 ohm in series with a .001 MFD capaci tor.	10.7 MHz 400 KHz Deviation	88 MHz	L212	Adjust Primary and Secondary of ratio detector for max imum amplitude and symmetry as shown in Scope Pattern "A"
2 A	Term. #3 of T205 4th IF Trans.		10.7 MHz 400 KHz Deviation	88 MHz	L214	
3 B	Term. #3 of T203 3rd IF Trans. Test Point "F"		10.7 MHz 400 KHz Deviation	88 MHz	L 210, L211	Align I.F. transformers for maximum output and symmetry. This pattern is not nece ssarily identical to the overall Scope Pattern "B"
4 B	Term. #3 of T201 2nd IF. Trans. Test Point "E"		10.7 MHz 400 KHz Deviation	88 MHz	L206, L207	
5 B	Connect to emitter of Q2 Mixer Test Point #K		10.7 MHz 400 KHz Deviation	88 MHz	L202, L203	
6 B	Connect to emitter of Q2 Mixer Test Point #K		10.7 MHz 400 KHz Deviation	88 MHz	L5,L6	Align I.F. transformers for maximum output and symmetry as indicated in Scope Pattern "B"
7 B	Connect to emitter of Q 2 Mixer Test Point #K		10.7 MHz 400 KHz Deviation	88 MHz	Readjust L5, L6, L202, L203, L206, L207, L210, L211	
8 B	FM Antenna Post (Remove Antenna)	300 ohm	98 MHz 400 KHz Deviation	98 MHz	L7	Set oscillator to Dial Sc ale.
9 B	FM Antenna Post (Remove Antenna)	300 ohm	98 MHz 400 KHz Deviation	98 MHz	L3,L2,L1	Align RF output, RF input and FM Antenna stages for maximum.
10 C	Base of Q101	.05 in series with hot lead of gen.	455 KHz 400 Hertz Modulated	600 KHz	L108, L109, L204, L205, L208, L209	Align AM IF for maximum.
11 C	Two turn loop loose-ly coupled to wave-magnet		1600 KHz 400 Hertz Modulated	1600 KHz	C101E	Set oscillator to dial scale.
12 C	Two turn loop loose-ly coupled to wave-magnet		1400 KHz 400 Hertz Modulated	1400 KHz	C101B, C101D	Align detector and antenna stages.

*For A, B, C See Page 21.

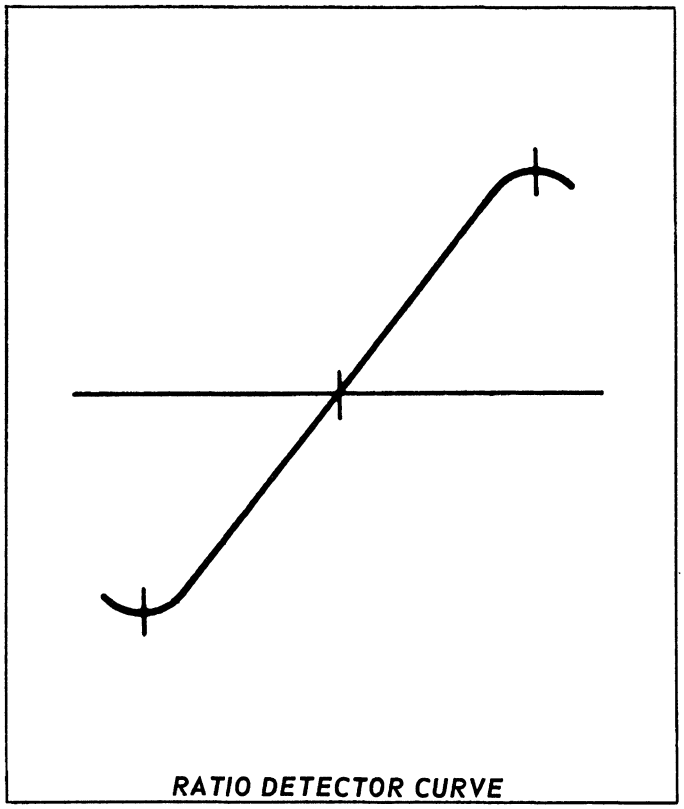
Refer to Page 21 for A.G.C. adjustment.

SECTION FIVE
MULTIPLEX ALIGNMENT PROCEDURE

Using the Zenith FM multiplex signal generator, the multiplex portion of Zenith or any FM multiplex receiver can be aligned, but first before any attempt is made to do this it is necessary that the technician be certain that the RF, IF, and ratio detector alignment is correct, and that the receiver operates normally on monaural signals.



IF CURVE



RATIO DETECTOR CURVE

Because of the wide band pass required in the multiplex FM receiver, it is desirable to use an FM signal generator having a deviation of at least 200 KHz with a sweep rate of 60 hertz, as well as an oscilloscope. During the IF and ratio detector alignment it is not only necessary to obtain maximum gain, but also extremely important to maintain symmetry.

To help achieve this IF curve symmetry 10.6 and 10.8 megahertz markers must be symmetrically positioned and the 10.7 megahertz marker must be at the center of the curve. When aligning the ratio detector 10.5 and 10.9 megahertz markers are desirable to achieve S curve symmetry. The pattern illustrating marker use to obtain S curve symmetry indicates it is most necessary to adjust for maximum gain and at the same time maintain linearity and symmetry. 10.7 megahertz must be on the curve at the reference line. 10.5 megahertz and 10.9 megahertz must be at the lower and upper turn of the S curve respectively. Only when the I.F. and ratio detector circuitry have been aligned in accordance with these specifications should the technician proceed to align the multiplex portion of the receiver.

Preliminary Procedures

Before using the Zenith FM multiplex signal generator, it is recommended that it be connected to the power source and turned on giving it a 10 to 20 minute warmup period. This will allow ample time for the RF, audio, and 19KHz oscillators to stabilize.

The following procedure is only necessary when the generator has been received from the factory, or has been subjected to a great deal of handling or transportation vibration. Although the 19KHz pilot generator oscillator is extremely stable, there is always the possibility that it could shift from its precisely assigned frequency. As a result, we have a very simple method to check the 19KHz pilot frequency using an FM multiplex receiver and an FM multiplex station as a frequency standard. Proceed as follows:

1. Tune your FM multiplex receiver to an FM multiplex station and when the pilot indicator lights up, this indicates the 19KHz pilot amplifier is functioning. Since the 19KHz sine wave is from the transmitter it must be on frequency and can be used as a reference standard. With a cable connect the collector output of the 19KHz amplifier to the vertical input of a good oscilloscope.

2. On the multiplex generator set the pilot carrier amplitude control to 10%. Place L-R, L+R and 67KHz switches in OFF position and connect the composite output terminal directly to the horizontal input of the oscilloscope. On the oscilloscope you will see an oval Lissajous figure which should be motionless when the 19KHz output of the generator is synchronized with the 19KHz signal from the transmitter. Should the Lissajous figure rotate it will only be necessary to adjust the pilot carrier frequency trimmer on the multiplex generator with an IF alignment wrench until the Lissajous figure ceases to rotate. After the generator has been adjusted to zero beat, disconnect all cables.

The multiplex generator provides a composite multiplex signal as well as an RF signal, FM modulated by the composite multiplex signal.

The composite signal is very useful since it is an excellent tool that can be used in signal tracing the multiplex portion of the receiver. We do not recommend that multiplex alignment be made using only the composite signal injected at the output terminal of the ratio detector tertiary winding, since there is always some phase shift occurring in the RF, IF or ratio detector circuits. As a result, multiplex alignment made by a signal injected at the ratio detector would not be correct. For proper multiplex alignment the composite signal must FM modulate the RF carrier and then be fed into the FM antenna terminals. With the signal injected in this manner the multiplex alignment would then be the best that could possibly be obtained and separation would be the maximum for this receiver.

The RF carrier in this generator is variable from 88 to 108MHz. The RF signal should be injected at a point in the FM band where no other signal is present. If at all possible this should be at a frequency near the middle of the FM band, Tune the FM receiver to this point and adjust the RF frequency adjusting slug on the generator to this same frequency. The AGC voltage developed in the receiver should be maximum. AGC voltage substantially less than this will indicate the RF frequency adjusting slug is tuned to an image.

67KHz Trap Adjustment (Chassis 29AT24 and 29AT24Z1)

1. Connect the stereo generator RF leads to the G and F FM antenna terminals and set the pilot carrier control to zero.
2. Move L + R and L - R switches to OFF position.
3. Move 67KHz generator switch from OFF position up to 67KHz.
4. Connect the V.T.V.M. (AC scale) and/or scope to the Composite Amplifier Transistor, Test Point "M" and chassis ground.
5. Adjust 67KHz trap for minimum output.
6. Move 67KHz generator switch to OFF position.

19KHz Sub Carrier Amplifier, Doubler and Mute Adjustments

1. Turn generator 19KHz pilot carrier amplitude control to 10% position.
2. Connect the V.T.V.M. (DC scale) and/or scope to the junction of the two frequency doubling diodes and chassis (test point "N").
3. Place the stereo-monaural switch in stereo position and short Test Point "T" to ground.
4. Adjust the 19KHz amplifier transformer and the doubler transformer for maximum output. Simultaneously adjust the mute control so the voltage at the junction of the two frequency doubling diodes never exceeds -.2 volt during this operation. This voltage must be kept at a minimum for proper alignment. The three controls in this paragraph have an effect on each other. Should the stereo indicator light up, readjust the mute control to extinguish the lamp and continue adjustment of the transformers for maximum.
5. Remove ground from Test Point "T".
6. Turn generator pilot carrier amplitude control to 5% position.
7. Slowly rotate the mute control to a point where the stereo indicator lights up.

Separation Adjustments

1. Place stereo monaural switch in Stereo position.
2. Turn generator pilot carrier amplitude control to 10% position.
3. Move L-R and L+R generator switches from OFF position to L-R and L+R positions.
4. Connect a V.T.V.M. (AC scale) and/or scope to the L audio output, after the 38KHz filter.
5. Adjust the 38KHz detector transformer for maximum voltage at L output. The magnitude of this signal should be much greater than that at the R output. The voltage at the L output should be approximately 10 times or greater than at the R output.

TROUBLE-SHOOTING

Should a problem arise in aligning the FM multiplex portion of the receiver and the technician does not know whether the difficulty lies in the RF, IF, limiter and ratio detector portions of the receiver, or whether the difficulty lies in the multiplex portion, the multiplex generator can be used as an excellent signal tracing device to determine if the multiplex section of the receiver is functioning properly. The composite output of the multiplex generator can be injected at the output of the ratio detector.

To reduce possible extraneous signals coming through the ratio detector, short the ratio detector primary with a jumper lead. The wave forms and their magnitude may vary slightly from chassis to chassis, however, they are quite indictive of what will be seen when signal tracing the multiplex circuitry.

67KHz Signal Tracing

1. Turn generator pilot carrier amplitude control to zero.
2. Move L+R and L-R switches to OFF position.
3. Move 67 KHz generator switch from OFF position up to 67KHz. Sequentially connect an oscilloscope to the input and output of the 67KHz trap. The 67KHz signal at the output of the trap if it is properly nulled, will be much smaller than at the input. The voltage ratio should be approximately 20 to 1 input to output.

19KHz Signal Tracing

1. Move the 67KHz generator switch to OFF.
2. Rotate the generator 19KHz pilot carrier amplitude control to 10% position.
3. Sequentially connect your scope to the base of composite amplifier, base of 19KHz amplifier and collector of 19KHz amplifier. The amplitude of the 19KHz signal should greatly increase as you proceed along the 19KHz chain.

Doubler and Subcarrier Signal Tracing

To determine if the doubler is functioning, place your scope at the junction of the two diodes and you will see 38KHz DC pulses. Placing the scope at the collector of the subcarrier amplifier, you should see a 38KHz sine wave which will indicate that the subcarrier amplifier and associated ringing circuitry is functioning properly.

Multiplex Detector Signal Tracing

1. Leave the 19KHz amplitude control at 10%.
2. Move the L - R generator switch from OFF position to L - R position. You should see equal amplitude 1000 hertz sine waves at both L and R outputs.
3. Move the L+R switch from OFF up to L+R and look at the L audio output, and measure the magnitude of the 1000 hertz sine wave. If the multiplex detector and preceeding circuitry are aligned properly, the magnitude of the wave form at L should be greater than at R.

If all the waves are similar in form and magnitude to those indicated, then it can be assumed that the multiplex portion of the receiver is functioning properly and the problem lies ahead of this in the FM receiver. If any of the wave forms are missing at a latter point but are apparent at a previous point, then something is amiss in the circuitry between the two test points.

PARTS LIST

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 6ZT20	
11-183	A.C. Line Cord	.80
22-14	.0047 MF Disc Capacitor - 500V.	.25
22-24	2 x .0047 MF Disc Capacitor - 500V.	.40
22-2793	.047 MF Capacitor - 400V.	
22-2799	.033 MF Capacitor - 400V.	
22-3298	470 PF Disc Capacitor - 500V. (2 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V. (2 Required)	.25
22-3513	.01 MF Disc Capacitor - 500V.	.25
22-3527	.22 MF Disc Capacitor - 12V. (2 Required)	.60
22-3615	1 MF Electrolytic Capacitor - 25V. (4 Required)	1.55
22-4859	.1 MF Capacitor - 600V.	.40
22-5251	.15 MF Disc Capacitor - 12V. (2 Required)	.45
*22-5680	Dual Electrolytic Capacitor	
43-519	Socket Contact Housing (Phono AC Plug)	.20
*52-1446	Four Conductor Cable (Approx. 21")	
58-214	Single Prong Plug (2 Part Of S-80609)	.10
63-1729	47 Ohm Resistor - ½W. 10% (2 Required)	.34
63-1736	68 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1782	820 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1817	5600 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1820	6800 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1827	10K Ohm Resistor - ½W. 10% (2 Required)	
63-1828	10K Ohm Resistor - ½W. 20% (2 Required)	.17
63-1834	15K Ohm Resistor - ½W. 10%	.17
63-1870	100K Ohm Resistor - ½W. 20% (2 Required)	
63-1890	330K Ohm Resistor - ½W. 10% (2 Required)	
63-1932	3.3 Megohm Resistor - ½W. 10% (2 Required)	.17
63-6461	200 Ohm Fusing Type Resistor - 8W.	.55
*63-7138	Dual Loudness Control	
*63-7139	Balance Control	
*63-7140	Dual Tone Control	
78-1768	Transistor Socket (2 Required)	
79-174-12	No. 18 Sleeving - Yellow - 1½" (2 Required)	.03
83-5048	Four Lug Terminal Strip	.10
83-5049	Six Lug Terminal Strip	.15
83-5050	Eight Lug Terminal Strip	.20
83-5688	Transistor Insulating Strip (2 Part Of 800-172)	.30
83-5908	Five Lug Terminal Strip	
83-5935	Eighteen Lug Terminal Strip	.35
*83-6956	Six Lug Terminal Strip	
86-334	Socket Terminal (4 Used On 43-519)	.10
86-475	Terminal (Pin Contact) (12 Required)	.03
*90-823	Spacer Sleeve (1 Used On Ea. 94-1171)	
94-1171	Insulating Bushing (2 Required)	.10
*95-2669	Output Transformer	
*95-2670	Output Transformer	
114-813	6-20 x 3/8 x 1/4 Hex Hd. Self-Tap. Screw - Cadmium (2 Mt. Ea. 800-172)	.03
121-430	Transistor - Driver (2 Required)	1.10
121-433	Transistor - Pre - Driver (2 Required)	1.30
125-96	Strain Relief Grommet (Used On 11-183)	.10
205-51	Dow Corning Heat Conductive Grease (Part Of 800-172)	.16
212-71	Silicon Rectifier	1.25
800-172	Transistor - Output Assembly - Matched Pair (2 Required)	5.20
*S-80609	Phono Input Cable Assembly	
	CHASSIS 6AT24	
12-475	Chassis Mtg. Bracket (4 Required)	
19-546	Capacitor Retaining Clip (2 Required)	.10
22-2939	680 PF Disc Capacitor - 500V. (2 Required)	.25
22-3239	.1 MF Capacitor - 400V. (4 Required)	.45
22-3878	2000 MF Electrolytic Capacitor - 75V.	7.10
22-3881	1500 MF Electrolytic Capacitor - 50V.	5.00
22-4145	.1 MF Capacitor - 200V. (2 Required)	.30
22-4415	.47 MF Capacitor - 200V.	.75
22-5162	3 Section Electrolytic Capacitor - 50V/50V/25V.	6.00
22-5262	100 MF Electrolytic Capacitor - 50V. (2 Required)	1.45
22-5362	1000 MF Electrolytic Capacitor - 50V. (2 Required)	4.05
22-5455	50 MF Electrolytic Capacitor - 50V.	1.15
*22-5903	.0015 MF Disc Capacitor - 1.4 KV.	
43-333	3 Contact Housing	.20
43-574	9 Contact Housing	.35
43-874	9 Contact Housing	.30
54-579	10-32 x 3/8 x 3/16 Thick - Hex Nut - Cadmium (1 Used On Ea. 212-62)	.03
62-30	Fuse Holder	.40
63-1747	120 Ohm Resistor - ½W. 10%	.17
63-1757	220 Ohm Resistor - ½W. 10%	.17
63-1761	270 Ohm Resistor - ½W. 10%	.17
63-1820	6800 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1827	10K Ohm Resistor - ½W. 10% (2 Required)	
63-1926	2.2 Megohm Resistor - ½W. 20%	.17
63-1954	10 Megohm Resistor - ½W. 20%	.17
63-4851	125 Ohm Resistor - 4W. 10%	.65
63-5217	2 Ohm Resistor - 10W. 10%	.80
63-5282	.39 Ohm Resistor - 5W. 5% (2 Required)	.75
63-5367	.43 Ohm Resistor - 5W. 5% (2 Required)	.75
63-5369	220 Ohm Resistor - 5W. 10%	.75
63-5638	180 Ohm Resistor - 2W. 10%	.34
63-5641	220 Ohm Resistor - 2W. 20%	.34
63-5645	270 Ohm Resistor - 2W. 10% (2 Required)	.34
63-5961	2.7 Ohm Resistor - 1W. 10% (4 Required)	.25
63-6442	560 Ohm Resistor - 3W. 10% (2 Required)	.30
64-4	1/8 Dia. x 1/4 Lg. Tubular Rivet - N.P. No. 30248 (2 Used On Ea. 78-1812)	.03
64-5	1/8 Dia. x 7/32 Lg. Tubular Rivet - Cadmium (2 Join Ea. 83-5052 & 83-5054, 3 Join 83-4987 & 83-5038, 2 Used On 78-402, & 2 Join Ea. 83-5284 & 83-5291) (13 Required)	
64-6	1/8 Dia. x 3/16 Lg. Tubular Rivet - Cadmium (2 Used On Ea. 12-475, 78-1347 & 1 Used On Ea. 86-328) (16 Required)	
64-7	1/8 Dia. x 5/32 Lg. Tubular Rivet - Cadmium (1 Used On 83-7330, 2 Used On 95-2736 & 95-2737) (5 Required)	.03
78-402	4 Contact Housing	.15
78-1347	Electrolytic Socket (3 Required)	.10
78-1812	2 Contact Transistor Socket (2 Part Of Ea. S-73152) (6 Required)	.30
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
83-4633	Felt Strip	.03
83-4987	12 Lug Terminal Strip	.30
83-5038	Insulating Strip	.05
83-5052	6 Lug Terminal Strip (2 Required)	.20
83-5054	Insulating Strip (2 Required)	.03
83-5277	Transistor Insulating Strip (6 Required)	.03
83-5284	5 Lug Terminal Strip (2 Required)	.15
83-5291	Insulating Strip (2 Required)	.03
*83-7330	8 Lug Terminal Strip	
86-303	Terminal - Male (3 Required)	.04
86-328	Wire Retaining Terminal (2 Required)	.03
86-389	Terminal - Female (9 Required)	.03
86-484	Connector Terminal (7 Required)	.03
86-496	Connector Terminal	.03
93-2	Rivet Washer (2 Used On 95-2737)	.03
93-369	Internal Lockwasher Shakeproof No. 1210 (1 Used On Ea. 212-62)	.03
95-2425	Power Transformer	35.00
*95-2736	Transformer - Driver	
*95-2737	Transformer - Driver	
*101-2947	Label (Indicator Light & Speaker)	
102-9536	Fuse Label (3 Amp.)	
114-601	10-16 x 1/2 x 5/16 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (4 Mt. 95-2425)	.04
114-801	8-18 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (4 Used On Ea. S-73152) (8 Required)	.03
114-1001	6-32 x 1/2 Hex Washer Hd. Self-Tap. Screw-Special (2 Used On Ea. 121-398 & 121-382) (12 Required)	.03
121-382	Transistor - Power - Matched Pair (2 Required)	8.40
121-398	Transistor - Driver (2 Required)	5.00
136-61	Fuse - 3 Amp. (Type C)	.35
212-62	Silicon Rectifier (2 Required)	3.10

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 6AT24 (Continued)	
212-71	Silicon Rectifier	1.25
S-73152	Heat Sink Assem. (2 Required)	4.30
	CHASSIS 10AT26	
	AMPLIFIER CHASSIS	
11-87	A.C. Line Cord	1.00
19-535	Retaining Clip (1 Used On Ea. 126-1106)	.05
19-546	Retaining Clip (Used On 22-5326)	.10
19-561	Retaining Clip (1 Used On Ea. 22-5167 & 22-5316)	
*22-3678	.047 MF Capacitor - 100V. (2 Required)	
22-4577	50 MFD. Electrolytic Capacitor - 25V.	1.00
22-4666	.001 MFD. Disc Capacitor - 1400V.	.40
22-5167	1000 MF Electrolytic Capacitor - 30V.	3.20
22-5175	200 MF Electrolytic Capacitor - 25V. (2 Required)	2.75
22-5316	500 MFD. Electrolytic Capacitor - 50V. (3 Required)	2.55
22-5362	1000 MFD. Electrolytic Capacitor - 50V.	4.05
43-519	Socket Contact Housing - Male	.20
43-573	6 Contact Housing - Female	.45
43-574	9 Contact Housing - Female	.35
44-48	Connector Jack (2 Part Of S-83558)	.20
44-78	Headphono Jack	2.00
52-1339	3 Conductor Cable - Phono (Approx. 26")	.30
52-1342	3 Conductor Cable - Speaker (Used On 44-48)	.30
52-1442	4 Conductor Cable - Speaker (Approx. 8")	.40
54-140	Hex Palnut (Used On 44-78)	.03
57-6328	Heat Sink Plate (2 Required)	.50
63-1768	390 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1827	10K Ohm Resistor - ½W. 10% (2 Required)	
63-1848	33K Ohm Resistor - ½W. 10%	.17
63-4519	2.7 Ohm Resistor - ½W. 10% (4 Required)	.17
63-5305	.51 Ohm Resistor - 5W. 5% (4 Required)	.75
63-5642	220 Ohm Resistor - 2W. 10% (2 Required)	.34
*63-5649	330 Ohm Resistor - 2W. 10% (2 Required)	
63-6003	27 Ohm Resistor - 1W. 10%	.25
63-6027	100 Ohm Resistor - 1W. 20% (2 Required)	
63-6031	120 Ohm Resistor - 1W. 10%	.25
78-1765	Dial Light Socket & Wire	1.55
78-1812	2 Contact Transistor Socket (4 Required)	.30
83-5277	Insulating Strip (4 Part Of 800-196)	.03
83-5328	11 Lug Terminal Strip	.35
83-5975	Transistor Terminal Strip	.35
83-6015	17 Lug Terminal Strip	.45
83-6208	Single Lug Terminal Strip	.05
86-334	Terminal (3 Used On 43-519)	.10
86-389	Terminal - Female (10 Required)	.03
95-2475	Driver Transformer (2 Required)	4.50
95-2476	Power Transformer	11.00
*101-4322	Fuse Label	
112-1608	8-18 x 5/16 x 1/4 Phillips Pan Hd. Self-Tap. Screw - Black Oxide (4 Mt. 95-2476)	.10
114-801	8-18 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (1 Used On Ea. 95-2475)	.03
114-1001	6-32 x 1/2 Hex Washer Hd. Self-Tap. Screw - Special (4 Used On Ea. 800-196)	.03
121-544	Transistor - Driver (2 Required)	1.30
125-140	Strain Relief Grommet	.10
126-1106	Heat Dissipator (1 Used On Ea. 121-544)	.10
136-24	2 Amp. Fuse	.25
205-51	Dow Corning Heat Conductive Grease (Part Of 800-196)	.16
212-61	Silicon Rectifier (2 Required)	1.25
880-196	Power Output Transistor - Matched Pair (2 Required)	5.00
S-83558	Speaker Jack Mtg. Bracket & Connector Terminal	.60
	CHASSIS 10AT26	
	CONTROL PANEL PRE-AMP. COMPONENTS	
12-4903	Control Panel Bracket	
19-480	Clip (2 Required)	.03

PART NUMBER	DESCRIPTION	PRICE
22-13	.0033 MF Disc Capacitor - 500V. (2 Required)	.25
22-2703	220 PF Disc Capacitor - 500V. (2 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12B. (2 Required)	1.50
22-3034	.05 MF Disc Capacitor - 25V. (2 Required)	.45
22-3595	.33 MF Capacitor - 50V. (6 Required)	.60
22-3599	.015 MF Capacitor - 50V. (2 Required)	.30
22-3678	.047 MF Capacitor - 100V. (2 Required)	
22-3710	.22 MF Capacitor - 50V. (2 Required)	.50
22-4601	.01 MF Disc Capacitor - 1KV. (2 Required)	.20
22-5018	.47 MF Capacitor - 50V. (4 Required)	.60
22-5361	1.5 MF Electrolytic Capacitor - 30V. (2 Required)	2.00
43-570	6 Contact Housing - Male (Used On 52-1444)	.45
43-571	Socket Contact Housing (Used On 86-390)	.30
44-77	Tape Jack	1.20
52-1444	4 Conductor Cable - Approx. 23 1/2" (Used On 86-390)	.75
52-1473	2 Conductor Shielded Lead - Phono (Used On 58-214)	.75
52-1474	2 Conductor Shielded Lead - Tape (Used On 44-77)	.75
54-139	3/8-32 Palnut (4 Required)	.03
58-214	Single Prong Plug (2 Used On 52-1473)	.10
63-1743	100 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1785	1000 Ohm Resistor - ½W. 10% (2 Required)	
63-1799	2200 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1806	3300 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1834	15K Ohm Resistor - ½W. 10%	.17
63-1859	56K Ohm Resistor - ½W. 10% (2 Required)	
63-1862	68K Ohm Resistor - ½W. 10% (2 Required)	
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1897	470K Ohm Resistor - ½W. 10% (4 Required)	.17
63-1901	560K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1911	1 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1943	5.6 Megohm Resistor - ½W. 10% (2 Required)	.17
63-6938	Dual Treble Control	2.35
63-6939	Dual Loudness Control	3.85
63-7123	Dual Bass Control	2.70
79-174-12	No. 18 Sleeving - Yellow - 1 1/2" (4 Required)	.03
83-1475	Armite Strip	.03
83-5288	13 Lug Terminal Strip (2 Required)	.35
83-5975	Transistor Terminal Strip (2 Required)	.35
85-1022	Phono - Tape Switch	7.05
86-390	Terminal (6 Used On 86-390 & 4 Used On 52-1444)	.03
121-433	Transistor - Pre-Amp. (2 Required)	1.30
121-543	Transistor - Pre-Driver (2 Required)	1.60
126-1346	Shield	.30
198-12	Dial Scale Reflector	.95
	CHASSIS 16CT21	
*12-5701	Audio Amplifier Mtg. Bracket	
*12-5702	Audio Amplifier Mtg. Bracket	
*12-5703	Front Panel Support Bracket	
*12-5704	Switch Mtg. Bracket	
17-130	Retaining Clamp	.25
17-135	Cable Clamp	.20
19-448	Ground Clip (Part Of S-89196)	.10
43-571	9 Contact Housing (Used On 86-390)	.30
52-1391	2 Conductor Shielded Lead (Used On 86-599)	1.05
52-1867	2 Conductor Shielded Lead (Used On 85-1212)	
*52-1990	2 Conductor Shielded Lead & Plugs (Used On 85-1212)	
*78-2016	Pilot Light Socket & Wire	
*83-8167	Insulating Strip	
*85-1211	A.C. Power Switch	
*85-1212	Phono - Auxiliary Switch	
86-312	Shakeproof Terminal	.03
86-390	Connector Terminal (8 Used On 43-571)	.03
86-599	Connector Terminal (Used On 52-1391)	
*94-1384	Insulating Bushing	

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 16CT21 (Continued)	
114-344	6-20 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. Ea. 12-5701, 12-5702, 12-5703, 12-5706 & 3 Mt. 12-5704) (7 Required)	.03
114-984	6-20 x 7/16 x 1/4 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. 17-130 & 17-135) (2 Required)	.03
199-246	Insulating Sleeve (1 Used On Ea. 86-599) (2 Required)	.05
*199-568	Shielded Sleeving	
	CHASSIS 16CT21	
	AUDIO AMPLIFIER COMPONENTS	
22-2884	5 MF Electrolytic Capacitor - 12V. (2 Required)	1.50
22-3362	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Required)	1.50
22-3973	100 MF Electrolytic Capacitor - 25V.	1.30
22-5316	500 MF Electrolytic Capacitor - 50V. (2 Required)	2.55
22-5482	680 PF Disc Capacitor - 500V. (2 Required)	.25
22-5866	.047 MF Mylar Capacitor - 100V. (4 Required)	.30
22-5986	50 MF Electrolytic Capacitor - 25V. (2 Required)	1.10
*33-377	Frame, P.C. BD., Audio Amp.	
54-808	Tinnerman Speednut (1 Used On Ea. 114-1129) (4 Required)	.03
54-851	Speednut Fastener (7 Mt. 33-377)	
63-1701	10 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1715	22 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1736	68 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1757	220 Ohm Resistor - ½W. 10% (4 Required)	.17
*63-1777	680 Ohm Resistor - ½W. 5% (2 Required)	
63-1794	1600 Ohm Resistor - ½W. 5% (2 Required)	.10
63-1805	3300 Ohm Resistor - ½W. 5% (2 Required)	.34
63-1810	3900 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (4 Required)	.17
*63-1827	10K Ohm Resistor - ½W. 10%	
63-1834	15K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1868	100K Ohm Resistor - ½W. 5% (2 Required)	.34
*63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	
63-6424	1 Ohm Resistor - 5W. 10% (2 Required)	.75
*63-8977	1000 Ohm Bias Admustment Control (2 Required)	
83-7197	2 Lug Terminal Strip	.05
83-7552	Transistor Insulating Strip (4 Required)	.03
93-1906	No. 4 Flat Rimmed Washer	
*94-1586	Shoulder Bushing (4 Required)	
114-77	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (3 Mt. 126-1521)	.03
114-344	6-20 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (Mts. 83-7197)	.03
*114-1129	4-24 x 1/2 x 3/16 Slotted Hex Hd. Self-Tap. Screw-Stat. Bronze	
121-430	Transistor - Audio Amplifier (2 Required)	
121-767	Transistor - Bias Control (2 Required)	.68
121-768	Transistor - Pre-Driver (2 Required)	1.20
121-773	Transistor - Driver (2 Required)	.72
121-774	Transistor - Driver (2 Required)	
*121-853X	Transistor - Output - Matched Pr. (2 Required)	
*126-1521	Transistor Heat Sink	
	CHASSIS 16CT21	
	FRONT PANEL ASSEMBLY COMPONENTS	
*12-5706	Chassis Front Bracket	
19-448	Ground Clip	.10
22-3034	.05 MF Disc Capacitor - 25V. (2 Required)	.45
22-3255	330 PF Disc Capacitor - 500V. (2 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V. (2 Required)	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Required)	1.50
22-5482	680 PF Disc Capacitor - 500V. (2 Required)	.25
22-5483	1500 PF Disc Capacitor - 500V. (2 Required)	.25
22-5814	.022 MF Mylar Capacitor - 100V. (4 Required)	.30
22-5815	.056 MF Capacitor - 100V. (2 Required)	.30
22-5884	.082 MF Mylar Capacitor - 100V. (4 Required)	.35
*22-6343	.33 MF Mylar Capacitor - 50V. (2 Required)	
*52-1988	2 Conductor Shielded Lead (Used On 86-599)	
63-1813	4700 Ohm Resistor - ½W. 10% (2 Required)	.17

PART NUMBER	DESCRIPTION	PRICE
63-1820	6800 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1827	10K Ohm Resistor - ½W. 10% (2 Required)	
63-1835	15K Ohm Resistor - ½W. 20%	
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (2 Required)	
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-7681	Dual Treble Control - 50K	2.60
63-7682	Dual Bass Control - 100K	2.50
63-8324	Dual Loudness Control - 100K	5.45
*63-9000	Balance Control - 250K	
86-599	Connector Terminal (2 Used On 52-1988)	
*S-89196	Shielded Lead & Connector Assem. (Tape Out)	
	CHASSIS 16CT21	
	POWER SUPPLY ASSEMBLY	
11-150	Line Cord	.90
17-130	Cable Clamp	.25
19-546	Capacitor Mtg. Clip	.10
22-5362	1000 MF Electrolytic Capacitor - 50V.	4.05
22-6005	.01 MF Disc Capacitor - 150V. A.C. (2 Required)	.40
43-519	4 Contact Housing (Used On 52-1963)	.20
43-574	9 Contact Housing (Used On 86-389)	.35
*52-1963	3 Conductor Cable (Used On 86-334)	
63-1912	1 Megohm Resistor - ½W. 20%	.17
63-4380	390 Ohm Resistor - 7W. 10%	.80
*83-8147	18 Lug Terminal Strip	
86-334	Connector Terminal (3 Used On 52-1963)	.10
86-389	Connector Terminal (8 Used On 43-574)	.03
*95-2940	Power Transformer	
101-4711	Fuse Label	
114-802	8-18 x 5/16 x 1/4 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (4 Mt. 95-2940)	.03
136-24	2 Amp. Fuse	.25
212-61	Silicon Rectifier (2 Required)	1.75
	CHASSIS 21BT34	
12-5420	Background Bracket	1.55
*12-5425	Pulley Mtg. Bracket (Part Of S-85563 & S-86475) (2 Required)	.03
*12-5524	Control Mtg. Bracket	
17-130	Cable Clamp	.25
17-156	Cable Clamp	
19-480	Retaining Clip	.03
19-485	Speed Clip	.10
19-614	Clip (Part Of S-85104)	
20-1256	Trap Coil - 10.7 MHz	1.05
20-1648	FM R.F. Coil	.35
20-1649	FM Oscillator Coil	.50
20-2033	Peaking Coil	.40
*20-3080	Trap Coil - 67 KHz (2 Required)	
20-3291	FM Antenna Coil	.20
22-13	.0033 MF Disc Capacitor - 500V.	.25
22-14	.0047 MF Disc Capacitor - 500V. (2 Required)	.25
22-18	.0022 MF Disc Capacitor - 500V. (2 Required)	.25
22-2428	1.8 PF Gimmick Capacitor - 500V.	.25
22-2481	8 PF Disc Capacitor ± .25 PF - 500V. (3 Required)	.25
22-2729	.001 MF Disc Capacitor - 25V. (3 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (4 Required)	1.50
22-2939	680 PF Disc Capacitor - 500V. (2 Required)	.25
22-3033	.02 MF Disc Capacitor - 25V.	.35
22-3034	.05 MF Disc Capacitor - 25V. (12 Required)	.45
22-3080	.005 MF Disc Capacitor - 25V.	.25
22-3177	390 PF Disc Capacitor - 500V. (2 Required)	.25
22-3255	330 PF Disc Capacitor - 500V. (2 Required)	.25
22-3310	2.7 PF Gimmick Capacitor - 500V. (2 Required)	.25
22-3393	.01 MF Disc Capacitor - 25V. (5 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V.	.25
22-3541	3.3 PF Gimmick Capacitor ± 5% - 500V.	.25
22-3558	16 PF Disc Capacitor ± 5% - 500V.	.25
22-3652	.1 MF Disc Capacitor - 10V. (3 Required)	.30
22-3661	.05 MF Disc Capacitor - 100V.	.25
22-3675	10 PF Disc Capacitor ± 5% - 500V.	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Required)	1.50

*Denotes parts not previously used in Zenith receivers.

CHASSIS 21BT34 (Continued)

PART NUMBER	DESCRIPTION	PRICE
22-3721	200 MF Electrolytic Capacitor - 35V. (2 Required)	2.25
22-3770	5.5 PF Disc Capacitor ± .25 PF - 500V.	.30
22-3791	42 PF Disc Capacitor ± 5% - 500V.	.25
22-3792	17 PF Disc Capacitor ± 5% - 500V.	.25
22-3896	5 MF Electrolytic Capacitor - 25V.	1.00
22-4568	100 MF Electrolytic Capacitor - 15V. (2 Required)	.95
22-4572	500 MF Electrolytic Capacitor - 15V. (2 Required)	1.60
22-4617	.01 MF Disc Capacitor - 500V. (2 Required)	.10
22-4855	Trimmer Capacitor - 1.7 To 10 PF Ceramic	.45
22-5362	1000 MF Electrolytic Capacitor - 50V.	4.05
22-5480	390 PF Mica Capacitor - 100V.	.50
22-5481	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-5482	680 PF Disc Capacitor - 500V. (6 Required)	.25
22-5483	1500 PF Disc Capacitor - 500V.	.25
22-5486	10 MF Electrolytic Capacitor - 6V.	.95
22-5487	.47 MF Disc Capacitor - 3V. (2 Required)	.45
22-5730	270 PF Polystyrene Capacitor ± 5% - 500V.	.15
-OR-		
22-3424	270 PF Mica Capacitor ± 5% - 100V.	.35
22-5781	1000 PF Polystyrene Capacitor ± 5% - 500V. (2 Required)	.15
-OR-		
22-3613	1000 PF Mica Capacitor ± 5% - 100V. (2 Required)	.50
22-5782	2200 PF Polystyrene Capacitor ± 5% - 500V.	.15
-OR-		
22-3635	2200 PF Mica Capacitor ± 5% - 100V.	1.05
22-5814	.022 MF Mylar Capacitor ± 10% - 100V. (4 Required)	.30
22-5815	.056 MF Mylar Capacitor ± 10% - 100V. (2 Required)	.30
22-5878	5.5 PF Disc Capacitor ± .5 PF - 50V.	.10
22-5879	3.3 PF Disc Capacitor ± .25 PF - 50V.	.10
22-6048	.22 MF Disc Capacitor ± 10% - 50V. (2 Required)	.50
*22-6136	2000 PF Polystyrene Capacitor ± 5% - 100V.	.85
*22-6137	5 Section Variable Capacitor - FM Detector Trimmer, FM Detector Tuning - FM Oscillator Tuning - AM Antenna Trimmer - AM Antenna Tuning - AM Oscillator Tuning - AM Oscillator Trimmer - FM Antenna Trimmer FM Antenna Tuning	12.25
*22-6246	3.3 MF Electrolytic Capacitor - 15V.	1.05
*33-327	PC Board Support Frame	
43-571	9 Contact Housing (Used On 86-390)	.30
44-48	Connector Jack (4 Part Of S-79667)	.20
52-1062	2 Conductor Cable (Used On 86-449 Or 86-357, 86-450 Or 86-344)	.10
52-1425	2 Conductor Shielded Cable (Used On 58-214)	1.15
52-1443	4 Conductor Cable - Approx. 6" (Used On S-82104)	.15
52-1530	3 Conductor Cable - Approx. 28" (Used On 83-3404)	
52-1588	2 Conductor Shielded Lead (Part Of S-79667)	1.00
52-1589	2 Conductor Shielded Lead (Part Of S-82528)	.85
52-1590	2 Conductor Shielded Lead (Used On 85-1170)	.70
*52-1884	2 Conductor Shielded Cable	.85
54-139	3/8-32 x 9/16 Palnut (1 Used On 63-7681, 63-7682, 63-7683, 63-7684 & 114-802) (5 Required)	.03
54-334	Tinnerman Speed Nut (1 Used On Ea. 114-591) (4 Required)	.03
54-828	1/2-20 Palnut (Used On 114-802)	.03
57-7850	Side Plate	
57-8147	Side Plate (Gang)	
58-214	Single Prong Plug (2 Used On 52-1425)	.10
59-1081	Pointer (Dial)	.95
61-222	Idler Pulley (1 Used On S-85564, 2 Used On S-85565, S-86475 & 1 Used On Ea. S-85563) (6 Required)	.20
63-1701	10 Ohm Resistor - ½W. 10%	.17
63-1708	15 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1740	82 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1761	270 Ohm Resistor - ½W. 10%	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1768	390 Ohm Resistor - ½W. 10%	.17
63-1769	430 Ohm Resistor - ½W. 5% (4 Required)	
63-1771	470 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1772	470 Ohm Resistor - ½W. 20% (4 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1778	680 Ohm Resistor - ½W. 10% (6 Required)	.17
63-1781	820 Ohm Resistor - ½W. 5%	.34
63-1782	820 Ohm Resistor - ½W. 10%	.17
63-1785	1000 Ohm Resistor - ½W. 10% (3 Required)	
63-1796	1800 Ohm Resistor - ½W. 10%	
63-1798	2200 Ohm Resistor - ½W. 5%	.34
63-1799	2200 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10% (2 Required)	
63-1806	3300 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1820	6800 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1824	8200 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1825	9100 Ohm Resistor - ½W. 5%	.34
63-1826	10K Ohm Resistor - ½W. 5%	
63-1827	10K Ohm Resistor - ½W. 10% (6 Required)	
63-1831	12K Ohm Resistor - ½W. 10% (3 Required)	
63-1835	15K Ohm Resistor - ½W. 20%	
63-1841	22K Ohm Resistor - ½W. 10%	
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1853	43K Ohm Resistor - ½W. 5% (2 Required)	.34
63-1855	47K Ohm Resistor - ½W. 10% (2 Required)	
63-1869	100K Ohm Resistor - ½W. 10%	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (2 Required)	
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1898	470K Ohm Resistor - ½W. 20% (3 Required)	.17
63-1904	680K Ohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	
63-4122	33 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4196	1800 Ohm Resistor - ¼W. 10%	.17
63-4213	4700 Ohm Resistor - ¼W. 10%	.17
63-4501	1 Ohm Resistor - ½W. 10% (2 Required)	.15
63-5659	560 Ohm Resistor - 2W. 10%	.34
63-6495	Mute Control - 100K Ohm	1.00
63-7681	Dual Treble Control - 50K Ohm	2.60
63-7682	Dual Bass Control - 100K Ohm	2.50
63-7683	Dual Loudness Control	2.95
63-7684	Balance Control & Switch	3.30
64-6	1/8 Dia. x 3/16 Lg. Tubular Rivet (2 Part Of S-79667)	
64-288	Shoulder Rivet (Part Of S-85563, S-85564 & 2 Part Of S-85565) (4 Required)	.03
76-1987	Tuning Shaft	.80
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
80-2143	Tension Spring	.05
82-153	2nd. I.F. Grounding Strap	.35
82-165	Grounding Strap (Part Of S-85104)	.20
82-182	Oscillator Coil Ground Strap	
83-1961	Antenna Terminal Strip (Part Of S-79667)	.35
83-3404	3 Lug Terminal Strip (Used On 52-1530)	.05
83-6173	Plastic Tie Strip (2 Required)	.03
83-7417	Antenna Protective Strip	.20
83-7803	3 Lug Terminal Strip	.10
*83-8163	Antenna Mtg. Strip (Part Of S-82104)	
85-1170	Bandswitch	8.95
86-390	Connector Terminal (Used On 43-571 & Part Of S-86608)	.03
86-449	Connector Terminal (Used On 52-1062)	.10
-OR-		
86-357	Connector Terminal (Used On 52-1062)	.03
86-450	Connector Terminal (Used On 52-1062)	.10
-OR-		
86-344	Connector Terminal (Used On 52-1062)	.03
93-1833	Transistor Insulating Washer (2 Required)	.03
*93-1906	No. 4 Washer (1 Used On Ea. 114-591) (4 Required)	
94-1532	Nylon Shaft Bushing	.20
94-1545	Nylon Insulating Bushing (Use Only When 800-312 Is Used) (4 Required)	.10
95-2541	Transformer - AM 1st. I.F. 455 KHz	1.75

*Denotes parts not previously used in Zenith receivers

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 21BT34 (Continued)	
95-2542	Transformer - AM 2nd. I.F. 455 KHz	1.75
95-2543	Transformer - 3rd. I.F. 455 KHz	1.95
95-2544	Transformer - AM Oscillator	1.45
95-2545	Transformer - FM Ratio Detector 10.7 MHz	2.65
95-2546	Transformer - FM 1st. I.F. 10.7 MHz	1.95
95-2547	Transformer - FM 2nd. I.F. 10.7 MHz	2.00
95-2548	Transformer - FM 3rd. I.F. 10.7 MHz	2.10
95-2856	Doubler Coil 19 KHz	1.30
95-2857	Detector Coil 38 KHz	1.30
95-2858	Input Coil 19 KHz	1.30
100-249	Indicator Lamp	.18
103-23	Germanium Diode (4 Required)	.75
103-47	Silicon Diode - AFC	3.75
	-OR-	
103-189	Silicon Diode	3.75
103-74	Germanium Diode	.50
103-90	Germanium Diode - Matched	1.00
103-96	Diode	1.90
103-145	Diode (2 Required)	.50
105-107	Integnet (2 Required)	1.00
114-342	6-20 x 3/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (Used On 83-7803)	.03
114-591	4-24 x 3/8 x 3/16 Slotted Hex Hd. Self-Tap. Screw - Cadmium (2 Used On Ea. 800-312)	.03
114-689	8-18 x 1/2 Hex Hd. Special Washer - Spinlock - Self-Tap. Screw-Stat. Bronze (2 Used On S-82104)	.03
114-801	8-18 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (1 Used On S-85564 & S-85569, 2 Used On 12-5420, 57-7850, 57-8147, S-85565 & 85-1170, 3 Used On 33-327 & 1 Used On S-85563) (16 Required)	.03
114-802	8-18 x 5/16 x 1/4 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. 17-130 & 17-156) (2 Required)	.03
121-430	Transistor - Driver (2 Required)	1.10
121-433	Transistor - Pre-Amp. (2 Required)	1.30
121-546	Transistor - 2nd. & 3rd. I.F. (2 Required)	.80
121-612	Transistor - R.F. (FM)	.90
121-613	Transistor - Audodyne Converter (FM)	.80
121-614	Transistor - 1st. I.F. Amplifier AM, FM	.80
121-639	Transistor - Composite Amplifier (3 Required)	.70
121-706	Transistor - Audio Driver (2 Required)	.85
121-714	Transistor - AM - FM - I.F.	.80
121-737	Transistor - Stereo Indicator Switch	.95
121-762	Transistor - Detector	1.30
*126-1534	Radiation Shield	
*126-1535	Radiation Shield	
149-311	Ferrite Core	.05
188-140	Retaining Ring	.03
188-155	Clamping Ring (Part Of S-85569)	.05
212-71	Silicon Rectifier (2 Required)	1.25
	-OR-	
212-94B	Silicon Rectifier (2 Required)	.75
800-289	Output Transistor - Matched Pair (2 Required)	5.00
	-OR-	
800-312	Output Transistor - Matched Pair (2 Required)	4.20
S-79667	Antenna & Tape Input Bracket Assem.	2.10
S-82104	Wave Magnet Antenna Assem.	2.20
S-82528	Antenna Cable & Terminal Assem.	.20
S-85104	I.F. Grounding Strap, Braid & Clip Assem.	
S-85562	Drive Cord & Eyelet Assem.	.25
S-85563	Pulley Mtg. Bracket Assem.	
S-85564	Pulley Mtg. Bracket Assem.	
S-85565	Pointer Guide Bracket Assem.	1.60
S-85569	Drive Pulley Assem.	.50
S-86475	Pulley Mtg. Bracket Assem.	
*S-86608	Socket & Terminal Assem.	.65
	CHASSIS 21BT34Z1	
12-5420	Background Bracket	1.55
*12-5425	Pulley Mtg. Bracket (Part Of S-85563 & S-86475) (2 Required)	.03
*12-5524	Control Mtg. Bracket	
17-130	Cable Clamp	.25
17-156	Cable Clamp	.10
19-480	Retaining Clip	.03
19-485	Cable Retaining Clip	.10
19-614	Clip (Part Of S-85104)	
20-1256	Trap Coil - 10.7 MHz	1.05
20-1648	FM R.F. Coil	.35
20-1649	FM Oscillator Coil	.50
20-2033	Peaking Coil	.40
*20-3080	Trap Coil - 67 KHz	.50
20-3291	FM Antenna Coil	.20
22-13	.0033 MF Disc Capacitor - 500V.	.25
22-14	.0047 MF Disc Capacitor - 500V. (2 Required)	.25
22-18	.0022 MF Disc Capacitor - 500V. (2 Required)	.25
22-2428	1.8 PF Gimmick Capacitor - 500V.	.25
22-2481	8 PF Disc Capacitor ± .25 PF - 500V. (3 Required)	.25
22-2729	.001 MF Disc Capacitor - 25V. (3 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (4 Required)	1.50
22-2939	680 PF Disc Capacitor - 500V. (2 Required)	.25
22-3033	.02 MF Disc Capacitor - 25V.	.35
22-3034	.05 MF Disc Capacitor - 25V. (12 Required)	.45
22-3080	.005 MF Disc Capacitor - 25V.	.25
22-3177	390 PF Disc Capacitor - 500V. (2 Required)	.25
22-3255	330 PF Disc Capacitor - 500V. (2 Required)	.25
22-3310	2.7 PF Gimmick Capacitor - 500V. (2 Required)	.25
22-3393	.01 MF Disc Capacitor - 25V. (5 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V.	.25
22-3541	3.3 PF Gimmick Capacitor ± 5% - 500V.	.25
22-3558	16 PF Disc Capacitor ± 5% - 500V.	.25
22-3652	.1 MF Disc Capacitor - 10V. (3 Required)	.30
22-3661	.05 MF Disc Capacitor - 100V.	.25
22-3675	10 PF Disc Capacitor ± 5% - 500V.	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Required)	1.50
22-3721	200 MF Electrolytic Capacitor - 35V. (2 Required)	2.25
22-3770	5.5 PF Disc Capacitor ± .25 PF - 500V.	.30
22-3791	42 PF Disc Capacitor ± 5% - 500V.	.25
22-3792	17 PF Disc Capacitor ± 5% - 500V.	.25
22-3896	5 MF Electrolytic Capacitor - 25V.	1.00
22-4568	100 MF Electrolytic Capacitor - 15V. (2 Required)	.95
22-4572	500 MF Electrolytic Capacitor - 15V. (2 Required)	1.60
22-4617	.01 MF Disc Capacitor - 500V. (2 Required)	.10
22-4855	Trimmer Capacitor - 1.7 To 10 PF Ceramic	.45
22-5362	1000 MF Electrolytic Capacitor - 50V.	4.05
22-5480	390 PF Mica Capacitor - 100V.	.50
22-5481	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-5482	680 PF Disc Capacitor - 500V. (6 Required)	.25
22-5483	1500 PF Disc Capacitor - 500V.	.25
22-5486	10 MF Electrolytic Capacitor - 6V.	.95
22-5487	.47 MF Disc Capacitor - 3V. (2 Required)	.45
22-5780	270 PF Polystyrene Capacitor ± 5% - 500V.	.15
	-OR-	
22-3424	270 PF Mica Capacitor ± 5% - 100V.	.35
22-5781	1000 PF Polystyrene Capacitor ± 5% - 500V. (2 Required)	.15
	-OR-	
22-3613	1000 PF Mica Capacitor ± 5% - 100V. (2 Required)	.50
22-5782	2200 PF Polystyrene Capacitor ± 5% - 500V.	.15
	-OR-	
22-3635	2200 PF Mica Capacitor ± 5% - 100V.	1.05
22-5814	.022 MF Mylar Capacitor ± 10% - 100V. (4 Required)	.30
22-5815	.056 MF Mylar Capacitor ± 10% - 100V. (2 Required)	.30
22-5878	5.5 PF Disc Capacitor ± .5 PF - 50V.	.10
22-5879	3.3 PF Disc Capacitor ± .25 PF - 50V.	.10
22-6048	.22 MF Disc Capacitor ± 10% - 50V. (2 Required)	.50
*22-6136	2000 PF Polystyrene Capacitor ± 5% - 100V.	.85
*22-6137	5 Section Variable Capacitor - FM Detector Trimmer, FM Detector Tuning - FM Oscillator Tuning - AM Antenna Trimmer - AM Antenna Tuning - AM Oscillator Tuning - AM Oscillator Trimmer - FM Antenna Trimmer FM Antenna Tuning	12.25
*22-6246	3.3 MF Electrolytic Capacitor - 15V.	1.05
*33-327	PC Board Support Frame	
43-571	9 Contact Housing (Used On 86-390)	.30
44-48	Connector Jack (4 Part Of S-79667)	.20

*Denotes parts not previously used in Zenith receivers.

CHASSIS 21BT34Z1 (Continued)

PART NUMBER	DESCRIPTION	PRICE
52-1062	2 Conductor Cable (Used On 86-449 Or 86,357, 86-450 Or 85-344)	.10
52-1425	2 Conductor Shielded Cable (Used On 58-214)	1.15
52-1443	4 Conductor Cable - Approx. 6" (Used On S-82104)	.15
52-1501	3 Conductor Cable (Used On 86-344)	
52-1588	2 Conductor Shielded Lead (Part Of S-79667)	1.00
52-1589	2 Conductor Shielded Lead (Part Of S-82528)	.85
52-1590	2 Conductor Shielded Lead (Used On 85-1170)	.70
*52-1884	2 Conductor Shielded Cable	.85
54-139	3/8-32 x 9/16 Palnut (1 Used On 63-7681, 63-7682, 63-7683, 63-7684 & 114-802) (5 Required)	.03
54-334	Tinnerman Speed Nut (1 Used On Ea. 114-591) (4 Required)	.03
54-828	1/2-20 Palnut (Used On 114-802)	.03
57-7850	Side Plate	
57-8147	Side Plate (Gang)	
58-214	Single Prong Plug (2 Used On 52-1425)	.10
59-1081	Pointer (Dial)	.95
61-222	Idler Pulley (1 Used On S-85564, 2 Used On S-85565, S-86475 & 1 Used On Ea. S-85563) (6 Required)	.20
63-1701	10 Ohm Resistor - ½W. 10%	.17
63-1708	15 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1740	82 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1761	270 Ohm Resistor - ½W. 10%	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1768	390 Ohm Resistor - ½W. 10%	.17
63-1769	430 Ohm Resistor - ½W. 5% (4 Required)	
63-1771	470 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1772	470 Ohm Resistor - ½W. 20% (4 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1778	680 Ohm Resistor - ½W. 10% (6 Required)	.17
63-1781	820 Ohm Resistor - ½W. 5%	.34
63-1782	820 Ohm Resistor - ½W. 10%	.17
63-1785	1000 Ohm Resistor - ½W. 10% (3 Required)	
63-1796	1800 Ohm Resistor - ½W. 10%	
63-1798	2200 Ohm Resistor - ½W. 5%	.34
63-1799	2200 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10% (2 Required)	
63-1806	3300 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1820	6800 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1824	8200 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1825	9100 Ohm Resistor - ½W. 5%	.34
63-1826	10K Ohm Resistor - ½W. 5%	
63-1827	10K Ohm Resistor - ½W. 10% (6 Required)	
63-1831	12K Ohm Resistor - ½W. 10% (3 Required)	
63-1835	15K Ohm Resistor - ½W. 20%	
63-1841	22K Ohm Resistor - ½W. 10%	
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1853	43K Ohm Resistor - ½W. 5% (2 Required)	.34
63-1855	47K Ohm Resistor - ½W. 10% (2 Required)	
63-1869	100K Ohm Resistor - ½W. 10%	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (2 Required)	
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1898	470K Ohm Resistor - ½W. 20% (3 Required)	.17
63-1904	680K Ohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	
63-4122	33 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4196	1800 Ohm Resistor - ¼W. 10%	.17
63-4213	4700 Ohm Resistor - ¼W. 10%	.17
63-4501	1 Ohm Resistor - ½W. 10% (2 Required)	.15
63-5659	560 Ohm Resistor - 2W. 10%	.34
63-6495	Mute Control - 100K Ohm	1.00
63-7681	Dual Treble Control - 50K Ohm	2.60
63-7682	Dual Bass Control - 100K Ohm	2.50
63-7683	Dual Loudness Control	2.95
63-7684	Balance Control & Switch	3.30
64-6	1/8 Dia. x 3/16 Lg. Tubular Rivet (2 Part Of S-79667)	
64-288	Shoulder Rivet (Part Of S-85563, S-85564 & 2 Part Of S-85565) (4 Required)	.03
76-1987	Tuning Shaft	.80
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
80-2143	Tension Spring	.05
82-153	2nd. I.F. Grounding Strap	.35
82-165	Grounding Strap (Part Of S-85104)	.20
82-182	Oscillator Coil Ground Strap	
83-1961	Antenna Terminal Strip (Part Of S-79667)	.35
83-6173	Plastic Tie Strip (2 Required)	.03
83-7417	Antenna Protective Strip	.20
83-7803	3 Lug Terminal Strip	.10
*83-8163	Antenna Mtg. Strip (Part Of S-82104)	
85-1170	Bandswitch	8.95
86-344	Connector Terminal (3 Used On 52-1501)	
86-390	Connector Terminal (Used On 43-571 & Part Of S-86608)	.03
86-449	Connector Terminal (Used On 52-1062)	.10
-OR-		
86-357	Connector Terminal (Used On 52-1062)	.03
86-450	Connector Terminal (Used On 52-1062)	.10
-OR-		
86-344	Connector Terminal (Used On 52-1062)	.03
93-1833	Transistor Insulating Washer (2 Required)	.03
*93-1906	No. 4 Washer (1 Used On Ea. 114-591) (4 Required)	
94-1532	Nylon Shaft Bushing	.20
94-1545	Nylon Insulating Bushing (Use Only When 800-312 Is Used) (4 Required)	.10
95-2541	Transformer - AM 1st. I.F. 455 KHz	1.75
95-2542	Transformer - AM 2nd. I.F. 455 KHz	1.75
95-2543	Transformer - 3rd. I.F. 455 KHz	1.95
95-2544	Transformer - AM Oscillator	1.45
95-2545	Transformer - FM Ratio Detector 10.7 MHz	2.65
95-2546	Transformer - FM 1st. I.F. 10.7 MHz	1.95
95-2547	Transformer - FM 2nd. I.F. 10.7 MHz	2.00
95-2548	Transformer - FM 3rd. I.F. 10.7 MHz	2.10
95-2856	Doubler Coil 19 KHz	1.30
95-2857	Detector Coil 38 KHz	1.30
95-2858	Input Coil 19 KHz	1.30
100-249	Indicator Lamp	.18
103-23	Germanium Diode (4 Required)	.75
103-47	Silicon Diode - AFC	3.75
-OR-		
103-189	Silicon Diode	3.75
103-74	Germanium Diode	.50
103-90	Germanium Diode - Matched	1.00
103-96	Diode	1.90
103-145	Diode (2 Required)	.50
105-107	Integnet 38 KHz Filter (2 Required)	1.00
114-342	6-20 x 3/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (Used On 83-7803)	.03
114-591	4-24 x 3/8 x 3/16 Slotted Hex Hd. Self-Tap. Screw - Cadmium (2 Used On Ea. 800-312)	.03
114-689	8-18 x 1/2 Hex Hd. Special Washer - Spinlock - Self-Tap. Screw-Stat. Bronze (2 Used On S-82104)	.03
114-801	8-18 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (1 Used On S-85564 & S-85569, 2 Used On 12-5420, 57-7850, 57-8147, S-85565 & 85-1170, 3 Used On 33-327 & 1 Used On S-85563) (16 Required)	.03
114-802	8-18 x 5/16 x 1/4 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. 17-130 & 17-156) (2 Required)	.03
121-430	Transistor - Driver (2 Required)	1.10
121-433	Transistor - Pre-Amp. (2 Required)	1.30
121-546	Transistor - 2nd. & 3rd. I.F. (2 Required)	.80
121-612	Transistor - R.F. (FM)	.90
121-613	Transistor - Audodyne Converter (FM)	.80
121-614	Transistor - 1st. I.F. Amplifier AM, FM	.80
121-639	Transistor - Composite Amplifier (3 Required)	.70
121-706	Transistor - Audio Driver (2 Required)	.85
121-714	Transistor - AM - FM - I.F.	.80
121-737	Transistor - Stereo Indicator Switch	.95
121-762	Transistor - Detector	1.30

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 21BT34Z1 (Continued)	
*126-1534	Radiation Shield	
*126-1535	Radiation Shield	
149-311	Ferrite Core	.05
188-140	Retaining Ring	.03
188-155	Clamping Ring (Part Of S-85569)	.05
212-71	Silicon Rectifier (2 Required)	1.25
-OR-		
212-94B	Silicon Rectifier (2 Required)	.75
800-289	Output Transistor - Matched Pair (2 Required)	5.00
-OR-		
800-312	Output Transistor - Matched Pair (2 Required)	4.20
S-79667	Antenna & Tape Input Bracket Assem.	2.10
S-82104	Wave Magnet Antenna Assem.	2.20
S-82528	Antenna Cable & Terminal Assem.	.20
S-85104	I.F. Grounding Strap, Braid & Clip Assem.	
S-85562	Drive Cord & Eyelet Assem.	.25
S-85563	Pulley Mtg. Bracket Assem.	
S-85564	Pulley Mtg. Bracket Assem.	
S-85565	Pointer Guide Bracket Assem.	1.60
S-85569	Drive Pulley Assem.	.50
S-86475	Pulley Mtg. Bracket Assem.	
*S-86608	Socket & Terminal Assem.	.65
*S-87113	Speaker Cable, Terminal & Sleeve Assem.	
	CHASSIS 27BT30	
12-5166	Dial Background Mtg. Bracket	.90
*12-5169	Bandswitch & Tuning Bracket	2.20
*12-5170	Control Mtg. Bracket	1.60
*12-5358	Heat Sink Bracket	
17-143	Nylon Clamp (2 Required)	
19-448	Ground Clip (1 Used On Ea. 52-1588 & 52-1589)	.10
19-614	Clip (Used On 82-165)	
*20-1256	Trap Coil (10.7 MHz)	.50
*20-1648	FM R.F. Coil	.35
*20-1649	FM Oscillator Coil	.50
20-2033	Peaking Coil	.40
*20-3291	FM Antenna Coil	
22-14	.0047 MF Disc Capacitor - 500V. (2 Required)	.25
22-2428	1.8 PF Gimmick Capacitor - 500V.	.25
22-2481	8 PF Disc Capacitor - 500V. (3 Required)	.25
22-2513	7 PF Disc Capacitor - 500V.	.25
22-2703	220 PF Disc Capacitor - 500V. (2 Required)	.25
22-2729	.001 MF Disc Capacitor - 25V. (3 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (4 Required)	1.50
22-3033	.02 MF Disc Capacitor - 25V.	.35
22-3034	.05 MF Disc Capacitor - 25V. (11 Required)	.45
22-3080	.005 MF Disc Capacitor - 25V.	.25
22-3177	390 PF Disc Capacitor - 500V. (2 Required)	.25
22-3255	330 PF Disc Capacitor - 500V. (2 Required)	.25
22-3310	2.7 PF Gimmick Capacitor - 500V. (2 Required)	.25
22-3362	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-3393	.01 MF Disc Capacitor - 25V. (6 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V. (2 Required)	.25
22-3541	3.3 PF Gimmick Capacitor - 500V.	.25
22-3558	16 PF Disc Capacitor - 500V.	.25
22-3652	.1 MF Disc Capacitor - 10V.	.30
22-3675	10 PF Disc Capacitor - 500V.	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Required)	1.50
*22-3770	5.5 PF Disc Capacitor - 500V.	.30
22-3791	42 PF Disc Capacitor - 500V.	.25
22-3792	17 PF Disc Capacitor - 500V.	.25
22-3896	5 MF Electrolytic Capacitor - 25V.	1.00
22-4573	1000 MF Electrolytic Capacitor - 15V.	2.10
22-4855	Trimmer Capacitor	.45
22-5316	500 MF Electrolytic Capacitor - 50V. (2 Required)	2.55
22-5481	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-5482	680 PF Disc Capacitor - 500V. (6 Required)	.25
22-5483	1500 PF Disc Capacitor - 500V.	.25
22-5486	10 MF Electrolytic Capacitor - 6V.	.95
22-5487	47 MF Disc Capacitor - 3V. (2 Required)	.45
22-5612	180 PF Disc Capacitor - 500V.	.15
*22-5780	270 PF Polystyrene Capacitor - 500V.	.15
-OR-		
22-3424	270 PF Mica Capacitor - 100V.	.35
*22-5781	1000 PF Polystyrene Capacitor - 500V. (2 Required)	.15
-OR-		
22-3613	1000 PF Mica Capacitor (2 Required)	
22-5862	.1 MF Mylar Capacitor - 100V. (2 Required)	.35
22-5866	.047 MF mylar Capacitor - 100V. (6 Required)	.30
*22-5878	5.5 PF Disc Capacitor - 50V.	.10
*22-5879	3.3 PF Disc Capacitor - 50V.	.10
22-5883	.033 MF Mylar Capacitor - 100V. (2 Required)	.35
22-5901	3300 PF Disc Capacitor - 50V. (2 Required)	.15
*22-5972	390 PF Polystyrene Capacitor - 125V.	
*22-5986	50 MF Electrolytic Capacitor - 25V. (2 Required)	
*22-5988	1 MF Electrolytic Capacitor - 15V. (2 Required)	
*22-6090	5 Section Variable Capacitor - FM Detector Trimmer - FM Detector Tuning - FM Oscillator Tuning - AM Antenna Trimmer - AM Antenna Tuning - AM Oscillator Tuning - AM Oscillator Trimmer - FM Antenna Trimmer - FM Antenna Tuning	
*22-6110	.033 Mylar Capacitor - 50V. (2 Required)	
*22-6111	.001 MF Mylar Capacitor - 50V. (2 Required)	
*22-6136	2200 PF Mica Capacitor - 100V.	
*22-6246	3.3 MF Electrolytic Capacitor - 15V.	
43-571	9 Contact Housing (Used On 86-390)	.30
52-1443	4 Conductor Cable - Approx. 6" (Used On 83-7233)	.15
52-1501	3 Conductor Cable - Approx. 20" (Used On 86-344)	.60
*52-1588	2 Conductor Shielded Lead (Used On 86-388)	1.00
*52-1589	2 Conductor Shielded Lead (Used On 86-388)	.85
*52-1590	2 Conductor Shielded Lead (Used On 86-565)	.70
*52-1591	2 Conductor Shielded Lead (Used On 86-565)	.70
52-1614	2 Conductor Shielded Lead (Used On 58-214)	1.00
52-1867	2 Conductor Shielded Cable	
54-139	3/8-32 x 9/16 Palnut (5 Required)	.03
54-334	Tinnerman Speed Nut (1 Used On Ea. 114-591) (4 Required)	.03
54-828	1/2"-20 Palnut	.03
*54-839	Tinnerman Speed Nut	.05
*54-851	Palnut (21 Required)	
*57-7637	Transistor Mtg. Plate	
58-214	Single Prong Plug (2 Used On 52-1614)	.10
*59-1084	Dial Pointer (2 Required)	
63-1701	10 Ohm Resistor - ½W. 10%	.17
63-1715	22 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1736	68 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1757	220 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1761	270 Ohm Resistor - ½W. 10%	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1766	360 Ohm Resistor - ½W. 5% (2 Required)	
63-1768	390 Ohm Resistor - ½W. 10%	.17
63-1771	470 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1772	470 Ohm Resistor - ½W. 20% (4 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1776	620 Ohm Resistor - ½W. 5% (2 Required)	
63-1778	680 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1782	820 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1785	1000 Ohm Resistor - ½W. 10% (4 Required)	
63-1795	1800 Ohm Resistor - ½W. 5% (2 Required)	.34
63-1796	1800 Ohm Resistor - ½W. 10%	
63-1799	2200 Ohm Resistor - ½W. 10% (8 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10% (2 Required)	
63-1806	3300 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1820	6800 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1824	8200 Ohm Resistor - ½W. 10%	.17
63-1825	9100 Ohm Resistor - ½W. 5%	.34
63-1826	10K Ohm Resistor - ½W. 5%	
63-1827	10K Ohm Resistor - ½W. 10%	
63-1831	12K Ohm Resistor - ½W. 10% (5 Required)	
63-1834	15K Ohm Resistor - ½W. 10% (3 Required)	.17
63-1841	22K Ohm Resistor - ½W. 10%	
63-1842	22K Ohm Resistor - ½W. 20%	.17
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (4 Required)	.17

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 27BT30 (Continued)	
63-1855	47K Ohm Resistor - ½W. 10% (2 Required)	
63-1857	51K Ohm Resistor - ½W. 5% (2 Required)	
63-1869	100K Ohm Resistor - ½W. 10%	.17
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1887	270K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1890	330K Ohm Resistor - ½W. 10% (2 Required)	
63-1898	470K Ohm Resistor - ½W. 20% (3 Required)	.17
63-1904	680K Ohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	
63-1933	3.3 Megohm Resistor - ½W. 20%	
63-1939	4.7 Megohm Resistor - ½W. 10%	
63-4122	33 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4196	1800 Ohm Resistor - ¼W. 10%	.17
63-4213	4700 Ohm Resistor - ¼W. 10%	.17
63-5663	680 Ohm Resistor - 2W. 10%	.30
63-6424	1 Ohm Resistor - 5W. 10% (2 Required)	.75
63-6495	Mute Control	1.00
*63-8323	Balance Control & Switch	
63-8324	Dual Loudness Control	5.45
63-8325	Dual Treble Control	3.75
63-8328	Potentiometer (2 Required)	1.25
*63-8569	Dual Bass Control	
64-288	Shoulder Rivet (1 Part Of Ea. S-82399, S-82401, 2 Part Of S-82400) (4 Required)	.03
*76-2015	Tuning Shaft	
78-1868	Dial Light Socket & Wire	.60
78-1869	Dial Light Socket & Wire	.60
78-1870	Dial Light Socket & Wire	
80-1964	Tension Spring	.25
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
80-2069	Tension Spring	.03
*82-153	2nd. I.F. Grounding Strap	.35
*82-154	3rd. I.F. Grounding Strap	.40
82-165	Grounding Strap (Part Of S-85104)	.20
*82-182	Oscillator Coil Ground Strap	
*83-7196	2 Lug Terminal Strip	.45
83-7197	2 Lug Terminal Strip	.05
*83-7233	Antenna Mtg. Strip (Part Of S-82104)	.20
*83-7417	Antenna Protective Strip	.20
*83-7552	Transistor Insulating Washer (4 Part Of 121-770X Or 121-772X)	
*85-1166	Bandswitch	
86-344	Terminal, Connector (Used On 52-1501) (3 Required)	.03
86-357	Connector Terminal (2 Required)	.03
86-388	Connector Terminal (2 Used On 52-1588 & 52-1589) (4 Required)	.05
86-390	Connector Terminal (9 Used On 43-571)	.03
86-500	Terminal (28 Required)	.03
86-565	Connector Terminal (3 Used On 52-1590 & 3 Used On 52-1595) (19 Required)	
93-754	No. 4 Lockwasher - Internal - N.P.	.03
94-1532	Nylon Shaft Bushing	.20
*94-1545	Shoulder Bushing (4 Required)	
95-2541	Transformer - AM 1st. I.F. AM 455 KHz	1.75
95-2542	Transformer - AM 2nd. I.F. AM 455 KHz	1.75
95-2543	Transformer - 3rd. I.F. AM 455 KHz	1.95
95-2544	Transformer - AM - Oscillator	1.45
95-2545	Transformer - FM Ratio Detector 10.7 MHz	2.65
95-2546	Transformer - FM 1st. I.F. 10.7 MHz	1.95
95-2547	Transformer - FM 2nd. I.F. 10.7 MHz	2.00
95-2548	Transformer - FM 3rd. I.F. 10.7 MHz	2.10
*95-2856	Multiplex Doubler Coil - 19 KHz	
*95-2857	Multiplex Detector Coil - 38 KHz	
*95-2858	Multiplex Input Coil - 19 KHz	
100-249	Indicator Lamp (3 Required)	.18
103-23	Germanium Diode (4 Required)	.75
103-47	Diode AFC	3.75
103-74	Germanium Diode	.50
103-90	Germanium Diode - Matched	2.00
103-96	Diode	1.90
*105-107	Integnet	1.00
114-77	6-20 x 5/16 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. 83-7196 & 2 Mt. 12-5358) & 57-7637) (5 Required)	.03
114-591	4-24 x 3/8 x 3/16 Slotted Hex Hd. Self-Tap. Screw - Cadmium (1 Used On Ea. 121-770X Or 121-772X) (5 Required)	.03
114-689	8-18 X 1/2 Hex Hd. Spec. Washer (Spinlock) Self-Tap. Screw-Stat. Bronze (Used On S-82104 & 83-7417) (2 Required)	.03
114-801	8-18 x 5/16 Hex Hd. Self-Tap. Screw-Stat. Bronze (6 Mt. S-82401, 2 Joins S-82399 & S-82401, S-82400 & S-82401, & 4 Used On 12-5170) (16 Required)	.03
114-802	8-18 x 5/16 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Used On Ea. 17-143) (2 Required)	.03
121-430	Transistor - Audio - Amp. (2 Required)	1.10
121-433	Transistor - Pre-Amp. (2 Required)	1.30
121-546	Transistor - AM-FM 2nd. I.F., FM 3rd. I.F. (2 Required)	.80
121-612	Transistor - R.F. (FM)	.90
121-613	Transistor - Autodyne Converter - FM	.80
121-614	Transistor - AM-FM 1st. I.F.	.80
121-639	Transistor - Comp. Amp., 19 KHz Amp. & 38 KHz Amp. (3 Required)	.70
121-714	Transistor - AM-FM I.F.	.80
*121-737	Transistor	.95
*121-762	Transistor - Biplex Detector	1.30
*121-767	Transistor - Bias Control (2 Required)	.68
*121-768	Transistor - Pre-Driver (2 Required)	
*121-770X	Transistor - Output (2 Required)	
-OR-		
*121-772X	Transistor - Output (2 Required)	
*121-773	Transistor - Driver (2 Required)	
*121-774	Transistor - Driver (2 Required)	
126-1336	Coil Shield	.20
126-1452	Dial Light Shield	2.40
149-311	Ferrite Core (Sleeve)	.05
188-140	Retaining Ring	.03
188-155	Clamping Ring (Part Of S-82433)	.05
199-198	Shielded Paper Sleeve	.05
199-265	Shielded Paper Sleeve (2 Required)	.03
199-319	Insulating Sleeve (Used On 52-1501) (2 Required)	
S-79435	Trap Coil Assem. - 67 KHz	1.00
*S-82104	Wave Magnet Antenna Assem.	2.20
S-82399	Bracket & Pulley Assem. (Left)	.30
*S-82400	Bracket & Pulley Assem. (Right)	.30
S-82401	Bandswitch Bracket Assem.	2.20
*S-82433	Drive Pulley Assem.	.50
*S-82434	Drive Cord & Eyelet Assem.	.35
*S-82435	Dial Cord & Eyelet Assem. - Pointer	.25
S-84923	Shielded Lead & Plug Assem.	
S-85104	I.F. Grounding Strap, Braid & Clip Assem.	
S-87113	Speaker Cable, Terminal & Sleeve Assem.	
	CHASSIS 29CT20	
*12-5710	Escutcheon Mtg. Plate (Metal Stamping)	
12-5739	Dial Scale Metal Stamping Bracket	
19-480	Wire Retaining Clip	.03
19-485	Cable Retaining Clip (2 Required)	.10
20-1256	Trap Coil	1.05
20-1649	FM Oscillator Coil	.50
*20-3076	FM Antenna Coil	1.75
*20-3080	Trap Coil - 67 KHz	.50
-OR-		
S-79435	Trap Coil - 67 KHz	1.10
22-13	.0033 MF Ceramic Disc Capacitor ± 10% 500V. (1 Used On Ea. Chassis & Wave Magnet Assem.)	.25
22-14	.0047 MF Ceramic Disc Capacitor ± 10% 500V. (3 Required)	.25
22-18	.0022 MF Ceramic Disc Capacitor ± 10% 500V. (5 Required)	.25
22-2428	1.8 PF Gimmick Capacitor 500V.	.25
*22-2592	3.4 MF Ceramic Disc Capacitor 25V.	.25
22-2729	.001 MF Ceramic Disc Capacitor 25V. (5 Required)	.25
22-2884	5 MF Electrolytic Capacitor 12V. (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	1.50
22-3034	.05 MF Ceramic Disc Capacitor 25V. (12 Required)	.45
22-3080	.005 MF Ceramic Disc Capacitor 25V. (2 Required)	.25

*Denotes parts not previously used in Zenith receivers

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT20 (Continued)	
22-3177	390 PF Ceramic Disc Capacitor 500V. (2 Required)	.25
22-3255	330 PF Ceramic Disc Capacitor - 500V. (2 Required)	.25
22-3310	2.7 PF Disc Capacitor - 500V. (2 Required)	.25
22-3362	560 PF Disc Capacitor - 500V. (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	.25
22-3381	39 PF Ceramic Disc Capacitor - 500V. (2 Required)	.45
22-3393	.01 MF Disc Capacitor - 25V. (5 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V.	.25
22-3541	3.3 PF Gimmick Capacitor (Used On S-89122)	.25
22-3652	.1 MF Ceramic Disc Capacitor - 10V. (2 Required)	.30
22-3675	10 PF Disc Capacitor - 500V. (2 Required)	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	1.50
*22-3751	20 MMF Ceramic Disc Capacitor - 500V.	.30
22-3770	5.5 PF Disc Capacitor - 500V.	.30
22-3896	5 MF Electrolytic Capacitor - 25V.	1.00
22-4573	1K MF Capacitor (Used On P.C. Board - Audio Amp.)	
22-4819	2 PF Disc Capacitor - 500V.	.50
22-4855	Trimmer Capacitor (1.7 To 10 PF Ceramic Trim Capacitor)	.45
22-5056	.02 MF Disc Capacitor - 25V.	.20
22-5316	500 MF Electrolytic Capacitor (2 Used On P.C. Board - Audio Amp.)	2.55
22-5482	680 PF Disc Capacitor - 500V. (5 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	.25
22-5486	10 MF Electrolytic Capacitor - 6V.	.95
22-5780	270 PF Polystyrene Capacitor - 500V.	.15
22-5781	1000 PF Capacitor - 500V. (2 Required)	.15
-OR-		
22-3613	1000 PF Capacitor - 500V. (2 Required)	.50
22-5782	2200 PF Capacitor - 500V.	.15
22-5814	.022 MF Mylar Capacitor - 50V. (4 Required)	.30
22-5863	.047 MF Capacitor (4 Used On P.C. Board - Audio Amp.)	.40
22-5866	.047 MF Capacitor (4 Used On P.C. Board - Audio Amp.)	.30
22-5884	.082 MF Mylar Capacitor - 100V. (6 Required)	.35
22-5972	390 PF Capacitor - 125V.	.15
22-5986	50 MF Capacitor (2 Used On P.C. Board - Audio Amp.)	1.10
*22-6245	6 Section Variable Capacitor - FM Antenna Trimmer - FM Tuning - FM Detector Trimmer - FM Detector Tuning - FM Oscillator Tuning - AM Antenna Tuning - AM Antenna Trimmer - AM Detector Trimmer - AM Detector Tuning - AM Oscillator Trimmer - AM Oscillator Tuning	1.06
22-6246	3.3 MF Electrolytic Capacitor - 15V.	1.05
*22-6343	.33 MF Mylar Capacitor - 20% 50V. (2 Required)	.05
22-6344	7 PF Ceramic Disc Capacitor - 5% 500V.	
*22-6347	2000 PF Capacitor - 5% 50V.	
-OR-		
22-6136	2000 PF Capacitor - 5% 50V.	
*33-374	Printed Circuit Board - Frame	
43-571	4 Contact Housing	
44-78	Earphone Jack	2.00
52-1149	3 Conductor Cable	.50
52-1391	2 Conductor Shielded Lead Cable (Used On 85-1210)	1.05
52-1591	2 Conductor Shielded Lead	.70
52-1988	2 Conductor Shielded Lead Cable	
52-1990	Shielded Lead Cable & Plug (Used On 85-1210)	
52-2019	2 Conductor Shield Lead Cable	
52-2020	2 Conductor Shielded Lead Cable	
54-139	3/8-32 x 9/16 Palnut (5 Required)	.03
54-474	3/8-32 x 1/2 x 3/32 Thk. Hex Nut	.05
54-808	Tinnerman Speed Nut (4 Required)	.03
54-828	1/2-20 Palnut	
54-851	Speed Nut (18 Used On Chassis, 7 Used On P.C. Board - Audio Amp.)	
58-338	Plug Shorting Bar	
*59-1101	Pointer (Down Blade With Carriage)	

PART NUMBER	DESCRIPTION	PRICE
63-1701	10 Ohm Resistor - ½W. 10% (2 Used On P.C. Board - Audio Amp.)	.17
63-1715	22 Ohm Resistor - ½W. 10% (2 Used On P.C. Board - Audio Amp.)	
63-1736	68 Ohm Resistor - ½W. 10% (2 Used On P.C. Board - Audio Amp.)	.17
63-1761	270 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1771	470 Ohm Resistor - ½W. 10%	.17
63-1772	470 Ohm Resistor - ½W. 20% (5 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1777	680 Ohm Resistor - ½W. 5% - Insulated (2 Used On P.C. Board - Audio Amp.)	
63-1778	680 Ohm Resistor - ½W. 10% (6 Required)	.17
63-1781	820 Ohm Resistor - ½W. 5%	.34
63-1782	820 Ohm Resistor - ½W. 10%	.17
63-1785	1000 Ohm Resistor - ½W. 10% (2 Required)	
63-1794	1600 Ohm Resistor - ½W. 5% (2 Used On P.C. Board - Audio Amp.)	.10
63-1796	1800 Ohm Resistor - ½W. 10%	
63-1798	2200 Ohm Resistor - Insulated - ½W. 5%	.34
63-1799	2200 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10%	
63-1805	3300 Ohm Resistor - ½W. 5% (2 Used On P.C. Board - Audio Amp.)	.34
63-1806	3300 Ohm Resistor - ½W. 10%	.17
63-1810	3900 Ohm Resistor - ½W. 10% (1 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (3 Used On Chassis, 4 Used On P.C. Board - Audio Amp.)	.17
63-1817	5600 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1820	6800 Ohm Resistor - ½W. 10%	.17
63-1824	8200 Ohm Resistor - ½W. 10%	.17
63-1826	10K Ohm Resistor - ½W. 10% (2 Required)	
63-1827	10K Ohm Resistor - ½W. 10% (3 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	
63-1831	12K Ohm Resistor - ½W. 10% (5 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	
63-1834	15K Ohm Resistor - ½W. 10% (2 Used On Chassis, & P.C. Board - Audio Amp.)	.17
63-1835	15K Ohm Resistor - ½W. 20%	
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (3 Required)	.17
63-1852	39K Ohm Resistor - ½W. 10% (2 Required)	
63-1855	47K Ohm Resistor - ½W. 10% (4 Required)	
63-1859	56K Ohm Resistor - ½W. 10%	
63-1862	68K Ohm Resistor - ½W. 10%	
63-1868	100K Ohm Resistor - ½W. 5% (2 Used On P.C. Board - Audio Amp.)	.34
63-1873	120K Ohm Resistor - ½W. 10%	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (2 Required)	
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1898	470K Ohm Resistor - ½W. 20% (3 Required)	.17
63-1904	680K Ohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Used On Chassis, & P.C. Board - Audio Amp.)	
63-4122	33 Ohm Resistor - ¼W. 10% (1 Used On Ea. Chassis & S-89122)	
63-4157	220 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4196	1800 Ohm Resistor - ¼W. 10%	.17
63-4231	12K Ohm Resistor - ¼W. 10%	.17
63-4255	47K Ohm Resistor - ¼W. 10%	.17
63-4269	100K Ohm Resistor - ¼W. 10%	.17
63-4287	270K Ohm Resistor - ¼W. 10%	.17
*63-5085	680 Ohm Resistor - ¼W. 10%	.45
63-5663	680 Ohm Resistor - 2W. 10%	.30
63-6424	1 Ohm Resistor - 5W. 10% (2 Used On P.C. Board - Audio Amp.)	.75
63-6495	Mute Control - 100K Ohm	1.00
*63-8708	Bias Control - 5K Ohm ¼W. 30%	
*63-8977	Dial Control - 1K Ohm ¼W. 30% (2 Used On P.C. Board - Audio Amp.)	
*63-8996	Balance Control - 250K Ohm	
*63-8997	Dual Bass Control - 100K Ohm 1W. 30%	
*63-8998	Dual Treble Control - 50K Ohm 1/8W. 30%	
*63-8999	Dual Loudness Control - 100K Ohm 1/8W. 30%	

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT20 (Continued)	
64-1033	Grip Eyelet (20 Used On P.C. Board)	.03
64-1046	Grip Eyelet (367 Used On P.C. Board)	.03
*76-2033	Solid Tuning Shaft	
78-2024	Lamp Socket (2 Required)	.15
80-2143	Cord Tension Spring	
82-195	Form Ground Strap	
82-196	Form Ground Strip	
83-6173	Tie Strip	.03
83-7552	Transistor Insulating Strip (4 Used On P.C. Board - Audio Amp.)	
*83-8122	Terminal Strip	
*83-8148	Insulating Strip	
83-8151	Terminal Strip	
*83-8155	Strain Relief Strip	
83-8167	Insulating Strip	
*83-8205	Insulating Strip	
85-1210	5 Position Bandswitch	
*85-1211	AC On-Off Switch	
85-1212	Stereo - Mono Switch	
86-390	Connector Terminal (7 Used On 43-571)	.03
86-449	Connector Terminal (Used On S-82528)	.10
-OR-		
86-357	Connector Terminal (Used On S-82528)	.03
86-490	Connector Terminal (Used On S-82528)	.10
-OR-		
86-344	Connector Terminal (Used On S-82528)	.03
86-500	Connector Terminal (18 Used On P.C. Board)	.03
86-542	Miniature Spring Terminal (4 Used On P.C. Board)	.03
86-543	Miniature Terminal (48 Used On P.C. Board)	.03
93-1906	No. 4 Flat Washer (4 Used On P.C. Board - Audio Amp.)	
94-1384	Insulator Bushing (4 Required)	
94-1532	Nylon Shaft Bushing	
94-1586	Nylon Shoulder Bushing (Plant Loop) (4 Used On P.C. Board - Audio Amp.)	3.50
95-2543	AM 3rd. I.F. AM 455 KHz	1.95
95-2544	Oscillator Coil - AM	1.45
95-2750	B.C. RF Transformer	
95-2751	AM 1st. I.F. AM 455 KHz	
95-2752	AM 2nd. I.F. AM 455 KHz	
*95-2753	1st. I.F. Transformer 10.7 MHz	
95-2754	2nd. I.F. Transformer 10.7 MHz (FM)	
95-2755	FM 3rd. Transistor 10.7 MHz	
95-2756	FM Ratio Detector 10.7 MHz	
95-2856	Doubler Transformer 19 KHz	1.30
95-2857	Detector Transformer 38 KHz	1.30
95-2858	Input Transformer 19 KHz	1.50
100-249	Pilot Light Bulb (2 Required)	.18
100-507	Stereo Indicator & Wire	1.50
103-23	Crystal Diode (6 Required)	.75
103-90	Diode - Matched Pair (2 Required)	1.00
103-96	Integnet (Used On P.C. Board)	
103-189	Silicon Diode	3.75
-OR-		
103-47	Silicon Diode	3.75
105-107	38 KHz Filter (2 Required)	1.00
114-77	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (4 Used On Chassis, 2 Mts. 85-1211, & 85-1212, 1 Mts. Ea. 12-5710, 83-8132, & S-89117)	.03
114-864	8-18 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (2 Required)	
114-1108	6-20 x 3/8 Hex Washer Hd. Self-Tap. Screw-Type 25 (2 Joins S-88463 & 83-8148)	
*114-1144	4-24 x 1/2 x 3/16 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze	
121-430	Transistor (Phase & Verb Sound Amp.) (2 Used On Ea. Chassis & P.C. Board) (Out)	
121-546	Transistor (2 Required)	.80
121-613	Transistor (Auto Dyne Converter - FM)	.80
121-614	Transistor - 1st. I.F.	.80
121-639	Transistor (Amp.) (4 Required)	.70
211-714	Transistor	.80
121-737	Transistor (Stereo Indicator)	.95
121-767	Bias Transistor (2 Used On P.C. Board)	.68
121-768	Pre-Driver Transistor (2 Used On P.C. Board)	1.20
121-773	Driver Transistor (2 Used On P.C. Board)	.72
121-774	Driver Transistor (2 Used On P.C. Board)	
121-826	Transistor	
*121-850	Silicon Transistor	
*121-853	NPN Silicon Transistor (4 Used On P.C. Board)	
121-858	Field Effect Transistor (N Channel)	
*122-66	Tuning Meter	
125-188	Rubber Grommet	
126-1336	Color Shield (Used Only When S-79435 Is Used)	.20
126-1521	Heat Sink Transistor (Used On P.C. Board)	
126-1545	Bug Shield	
*126-1548	Dial Scale Reflector	
149-311	Iron Core (2 Required)	.05
159-199	Plug Button (Nylon)	
188-140	Retaining Ring	
188-155	Clamping Ring (Used On S-89195)	
*199-568	Shielded Lead Sleeve	
*S-82528	Antenna Cable & Terminal Assem.	.20
S-83558	Speaker Jack & Record Assem.	.60
S-88463	Antenna Wavemagnet Assem.	
*S-88986	Dial Cord Assem. (Cord & Eyelet)	
*S-89117	Pulley & Bracket Assem.	
*S-89118	Pulley & Bracket Eyelet Assem. (Front)	
*S-89122	FM Detector Coil Assem.	
*S-89195	Pulley & Ring Assem.	
*S-89928	Jack Assem. With Bracket	
	CHASSIS 29CT21	
*12-5689	Dial Scale Metal Mtg. Bracket	
*12-5690	Plastic Bracket & Pointer Carriage	
*12-5710	Escutcheon Mtg. Plate (Metal Stamping)	
19-448	Ground Clip (Used On 52-1988)	
19-480	Wire Retaining Clip	.03
19-485	Cable Retaining Clip (2 Required)	.10
20-1256	Trap Coil - 10.7 MHz	.25
20-1649	FM Oscillator Coil	.50
*20-3076	FM Antenna Coil	
*20-3080	67 KHz Trap Coil	.50
-OR-		
S-79435	67 KHz Trap Coil	1.10
22-13	.0033 MF Ceramic Disc Capacitor - ±10% 500V. (1 Used On Ea. 29CT21 & S-88463)	.25
22-14	.0047 MF Ceramic Disc Capacitor - ±10% 500V. (3 Required)	.25
22-18	.0022 MF Ceramic Disc Capacitor - ±10% 500V. (3 Required)	.25
22-2428	1.8 PF Gimmick Capacitor - 500V.	.25
*22-2592	3.4 MMF Ceramic Disc Capacitor - 25V.	.25
22-2729	.001 MF Ceramic Disc Capacitor - 25V. (5 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (2 Used On Chassis & P.C. Board - Audio Amp.)	1.50
22-3034	.05 MF Ceramic Disc Capacitor - 25V. (12 Required)	.45
22-3080	.005 MF Ceramic Disc Capacitor - 25V. (2 Required)	.25
22-3177	390 PF Ceramic Disc Capacitor - 500V. (2 Required)	.25
22-3255	330 PF Ceramic Disc Capacitor - 500V. (2 Required)	.25
22-3310	2.7 PF Disc Capacitor - 500V. (2 Required)	.25
22-3362	560 PF Disc Capacitor - 500V. (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	.25
22-3381	39 PF Ceramic Disc Capacitor - 500V. (2 Required)	.45
22-3393	.01 MF Disc Capacitor - 25V. (5 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V. (3 Required)	.25
22-3541	3.3 PF Gimmick Capacitor (Used On S-89122)	
22-3652	.1 MF Ceramic Disc Capacitor - 10V. (2 Required)	.30
22-3675	10 PF Disc Capacitor - 500V. (2 Required)	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	1.50
*22-3751	20 MMF Ceramic Disc Capacitor -500V.	.30
22-3770	5.5 PF Disc Capacitor - 500V.	.30
22-3896	5 MF Electrolytic Capacitor - 25V.	1.00

*Denotes parts not previously used in Zenith receivers.

CHASSIS 29CT21 (Continued)

PART NUMBER	DESCRIPTION	PRICE
22-4573	1K MF Capacitor (Used On P.C. Board - Audio Amp.)	2.10
22-4819	2 PF Capacitor - 500V.	.50
22-4855	Trimmer Capacitor (1.7 To 10 PF Ceramic Trimmer)	.45
22-5056	.02 MF Disc Capacitor - 25V.	.20
22-5316	500 MF Electrolytic Capacitor (2 Used On P.C. Board - Audio Amp.)	2.55
22-5482	680 PF Disc Capacitor - 500V. (5 Used On Ea. Chassis, 2 Used On P.C. Board - Audio Amp.)	.25
22-5483	.0015 MF Disc Capacitor (2 Required)	
22-5486	10 MF Electrolytic Capacitor	.95
22-5780	270 PF Polystyrene Capacitor - 500V.	.15
22-5781	1000 PF Polystyrene Capacitor - 500V. (10 Required)	.15
-OR-		
22-3613	1000 PF Polystyrene Capacitor - 500V. (10 Required)	
22-5782	2200 PF Polystyrene Capacitor - 500V.	.15
22-5814	.022 MF Mylar Capacitor - 15V. (4 Required)	.30
22-5815	.056 MF Capacitor - 25V. (2 Required)	.30
22-5866	.047 MF Capacitor - 100V. (4 Used On P.C. Board - Audio Amp.)	.30
22-5884	.082 MF Mylar Capacitor - 100V. (4 Required)	.25
22-5972	390 PF Polystyrene Capacitor - 125V.	.15
22-5986	50 MF Capacitor (2 Used On P.C. Board - Audio Amp.)	1.10
*22-6245	Variable Capacitor - 6 Sections FM Antenna Trimmer - FM Tuning - FM Detector Trimmer - FM Detector Tuning - FM Oscillator Tuning - AM Antenna Trimmer - AM Antenna Tuning - AM Detector Trimmer - AM Detector Tuning - AM Oscillator Trimmer - AM Oscillator Tuning	
22-6246	3.3 MF Electrolytic Capacitor - 15V.	1.05
*22-6343	.33 MF Mylar Capacitor - 20% 50V. (2 Required)	
*22-6344	7 PF Ceramic Disc Capacitor - 5% 500V.	
*22-6347	2000 PF Polystyrene Capacitor - 5% 50V.	
-OR-		
22-6136	2000 PF Polystyrene Capacitor - ± 5% 100V.	.85
*33-374	Frame (P.C. Board)	
43-571	Male Contact Housing	.30
44-78	Earphone Jack	2.00
*52-1149	3 Conductor Cable	
52-1391	2 Conductor Shielded Lead (Used On 85-1210)	1.05
52-1591	2 Conductor Shielded Lead	.70
52-1988	2 Conductor Shielded Lead Cable	
52-1990	Shielded Lead & Cable (Used On 85-1210)	
52-2019	2 Conductor Shielded Lead	
52-2020	2 Conductor Shielded Lead (Used On 63-8999)	
54-139	3/8-32 x 9/16 Palnut (5 Required)	.03
54-474	3/8-32 x 1/2 x 3/32 Thk. Hex Nut	.05
54-808	Tinnerman Speed Nut (4 Required)	.03
54-828	1/2-20 Palnut	.03
54-851	Speed Nut Palnut (25 Required)	.03
58-338	Plug Shorting Bar (2 Required)	
*59-1098	Dial Pointer Blade	
63-1701	10 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1715	22 Ohm Resistor - ½W. 10% (2 Used On P.C. Board - Audio Amp.)	.17
63-1736	68 Ohm Resistor - ½W. 10%	.17
63-1757	220 Ohm Resistor - ½W. 10% (4 Used On P.C. Board - Audio Amp.)	.17
63-1761	270 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1771	470 Ohm Resistor - ½W. 10%	
63-1772	470 Ohm Resistor - ½W. 20% (5 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1777	680 Ohm Resistor - ½W. 5% (2 Used On P.C. Board - Audio Amp.)	
63-1778	680 Ohm Resistor - ½W. 10% (7 Required)	.17
63-1781	820 Ohm Resistor - ½W. 5%	.34
63-1782	820 Ohm Resistor - ½W. 10%	.17
63-1785	1000 Ohm Resistor - ½W. 10% (2 Required)	
63-1794	1600 Ohm Resistor - ½W. 5% (2 Used On P.C. Board - Audio Amp.)	.10
63-1796	1800 Ohm Resistor - ½W. 10%	
*63-1798	2200 Ohm Resistor - Insulated - ½W. 5%	.34
63-1799	2200 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10%	
63-1805	3300 Ohm Resistor - ½W. ± 5% (2 Used On P.C. Board - Audio Amp.)	.34
63-1806	3300 Ohm Resistor - ½W. 10%	.17
63-1810	3900 Ohm Resistor - ½W. 10% (1 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (5 Used On Chassis, 4 Used On P.C. Board - Audio Amp.)	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1820	6800 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1824	8200 Ohm Resistor - ½W. 10%	.17
63-1826	10K Ohm Resistor - ½W. 5% (2 Required)	
63-1827	10K Ohm Resistor - ½W. 10% (3 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	
63-1831	12K Ohm Resistor - ½W. 10% (1 Used On Chassis, 2 Used On P.C. Board - Audio Amp.)	
63-1834	15K Ohm Resistor - ½W. 10% (2 Used On Chassis, & P.C. Board - Audio Amp.)	.17
63-1835	15K Ohm Resistor - ½W. 20%	
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (3 Required)	.17
63-1852	39K Ohm Resistor - ½W. 10% (2 Required)	
63-1855	47K Ohm Resistor - ½W. 10% (4 Required)	
63-1859	56K Ohm Resistor - ½W. 10%	
63-1862	68K Ohm Resistor - ½W. 10%	
63-1868	100K Ohm Resistor - ½W. 5% (2 Used On P.C. Board - Audio Amp.)	.34
63-1873	120K Ohm Resistor - ½W. 10%	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	
63-1898	470K Ohm Resistor - ½W. 20% (3 Required)	.17
63-1904	680K Ohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	
63-4122	33 Ohm Resistor - ¼W. 10% (1 Used On Ea. 29CT21 & S-89122)	.17
63-4157	220 Ohm Resistor - ¼W. 10%	.17
63-4185	1K Ohm Resistor - ¼W. 10%	.17
63-4196	1800 Ohm Resistor - ¼W. 10%	.17
63-4231	12K Ohm Resistor - ¼W. 10%	.17
63-4255	47K Ohm Resistor - ¼W. 10%	.17
63-4269	100K Ohm Resistor - ¼W. 10%	.17
63-4287	270K Ohm Resistor - ¼W. 10%	.17
*63-5085	680 Ohm Resistor - 3W. 20% (Used On P.C. Board - Audio Amp.)	.45
63-5663	680 Ohm Resistor - 2W. 10%	.30
63-6424	1 Ohm Resistor - 5W. 10% (2 Used On P.C. Board - Audio Amp.)	.75
63-6495	Mute Control - 100K Ohm	1.00
*63-8708	Bias Control - 5K Ohm 30% ¼W.	
63-8977	Bias Control - 1K Ohm 30% ¼W. (2 Used On P.C. Board - Audio Amp.)	
63-8996	Balance Control - 250K Ohm	
*63-8997	Dual Bass Control	
*63-8998	Dual Treble Control - 50K Ohm 30% 1/8W.	
*63-8999	Dual Volume Control - 100K Ohm 30% 1/8W.	
64-1033	Grip Eyelet (4 Used On P.C. Board)	.03
64-1046	Grip Eyelet (310 Used On P.C. Board)	.03
*76-2033	Solid Tuning Shaft	
*78-2024	Lamp Socket (Bayonet Fastener Mtg.) (2 Required)	
80-2069	Tension Spring	
80-2143	Cord Tension Spring	
*82-195	Form Ground Strap	
*82-196	Form Ground Strap	
83-6173	Tie Strip (2 Required)	
*83-8122	Terminal Strip (Solder & Contact Type)	
*83-8148	Insulating Strip (Flat Stop With Perforation)	
*83-8167	Insulating Strip	

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT21 (Continued)	
83-8205	Insulating Strip (Flat Stop With Perforation)	
*85-1210	5 Position Bandswitch	
85-1211	A.C. On-Off Switch	
*85-1212	Stereo - Mono Switch	
86-390	Connector Terminal (7 Used On 43-571)	.03
86-500	Connector Terminal (14 Used On P.C. Board)	.03
86-542	Miniature Spring Terminal (4 Used On P.C. Board)	.03
86-543	Miniature Spring Terminal (16 Used On P.C. Board)	.03
*86-599	Female Terminal (2 Used On 52-1988)	
93-1906	No. 4 Flat Washer (4 Required)	
94-1384	Insulator Bushing (4 Required)	
94-1532	Nylon Shaft Bushing	
94-1586	Plain Shoulder Bushing (4 Required)	
95-2543	Cadmium Transformer - 3rd. I.F. 455 KHz	1.95
95-2544	AM Oscillator Transformer	1.45
95-2750	B.C. R.F. Transformer	
95-2751	AM Transformer - 1st. I.F. 455 KHz	
95-2752	AM Transformer - 2nd. I.F. 455 KHz	
*95-2753	FM Transformer - 1st. I.F. 10.7 MHz	
95-2754	FM Transformer - 2nd. I.F. 10.7 MHz	
95-2755	FM Transformer - 3rd. I.F. 10.7 MHz	
95-2756	FM Ratio Detector - 10.7 MHz	
95-2856	Doubler Transformer - 19 KHz	1.30
95-2857	Detector Transformer - 38 KHz	1.30
95-2858	Input Transformer - 19 KHz	1.30
100-249	Pilot Light Bulb (2 Required)	.18
100-507	Stereo Indicator Wire	1.50
103-23	Crystal Diode (6 Required)	
103-90	Matched Pair Diode (2 Required)	1.00
103-96	Integnet	1.90
103-189	Silicon Diode	3.75
-OR-		
103-47	Silicon Diode	3.75
105-107	38 KHz Filter (2 Required)	1.00
114-77	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (14 Required)	.03
114-864	8-18 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (2 Required)	.03
114-1108	6-20 x 3/8 Hex Washer Hd. Screw Self-Tap. (2 Joins S-88463 & 83-8148)	.03
114-1144	4-24 x 1/2 x 3/16 Hex Hd. Self-Tap. Screw-Stat. Bronze (4 Required)	
121-430	Phase Inverter Sound Amp. Transistor (2 Used On Ea. Chassis & P.C. Board - Audio Amp.)	
121-546	Transistor (2 Required)	.80
121-613	Auto Dyne Converter FM Transistor	
121-614	I.F. 1st. Transistor	.80
121-639	Amp. Transistor (4 REquired)	.70
121-714	Transistor	.80
121-737	Stereo Indicator Transistor	.95
121-767	Bias Transistor (2 Used On P.C. Board - Audio Amp.)	.68
121-768	Pre-Driven Transistor (2 Used On P.C. Board)	
121-773	Driver Transistor (2 Used On P.C. Board - Audio Amp.)	.72
121-774	Driver Transistor (2 Used On P.C. Board)	
121-826	Transistor	
*121-850	Transistor - NPN, Silicon	
121-853	NPN Silicon Transistor (4 Used On P.C. Board - Audio Amp.)	
*121-858	Field Effect Transistor (N Channel)	
122-66	Tuning Meter	
*126-1521	Heat Sink	
149-311	Iron Core	.05
188-140	Retaining Ring	
188-155	Clamping Ring (Used On S-89195)	.05
199-246	Insulating Sleeve (2 Used On 52-1988)	.05
*199-568	Shielded Sleeve	
S-82528	Antenna Cable & Terminal Assem.	.20
S-83558	Speaker Jack & Bracket Assem.	.60
*S-88463	Antenna Assem. (Wavemagnet)	
S-88986	Dial Cord Assem.	
S-89117	Pulley & Bracket Assem.	
S-89118	Pulley & Bracket Assem. (Front)	
S-89122	FM Detector Coil Assem.	
S-89195	Pulley Assem. With Ring	
S-89201	Dial Light Shield, Terminal Strip & Insulator Strip Assem.	
S-89928	Jack & Bracket Assem.	
	CHASSIS 29AT24	
12-4120	Variable Capacitor Mtg. Bracket	.55
12-4652	Tuning Meter Mtg. Bracket (Used Only With Meter No. 122-42)	.15
12-4729	Stereo Reflector Bracket	.25
12-4945	I.F. Shield Bracket	.20
*12-5272	Switch Mtg. Bracket	.25
*12-5295	Mtg. Bracket	2.75
*12-5335	Tuning Meter Mtg. Bracket (Used Only With Meter 122-43)	
*12-5367	Heat Sink Bracket	
17-143	Cable Clamp (Nylon)	.20
19-238	Coil Mtg. Clip (1 Part Of Ea. S-82954 & S-82955)	.10
19-448	Ground Clip (2 Required)	.10
19-453	Resistor Mtg. Clip (2 Used On 22-3254)	.05
19-464	Coil Mtg. Clip (Part Of S-76801)	.05
19-480	Wire Retaining Clip (3 Required)	.03
19-492	Cable Retaining Clamp (3 Required)	.05
19-561	Capacitor Clamp	.10
20-1422	Peaking Coil	.75
20-2008	Peaking Coil	.50
20-2033	Peaking Coil (2 Required)	.40
22-9	100 PF Disc Capacitor - 500V.	.25
22-13	.0033 MF Disc Capacitor - 500V.	.25
22-14	.0047 MF Disc Capacitor - 500V. (2 Required)	.25
22-18	.0022 MF Disc Capacitor - 500V. (9 Required)	.25
22-2333	2.2 PF Gimmick Capacitor - 500V.	.20
22-2374	6 PF Disc Capacitor - 500V. (2 Required)	.25
22-2424	1.5 PF Gimmick Capacitor - 500V.	.20
22-2715	1.2 PF Gimmick Capacitor - 500V.	.20
22-2720	1 PF Gimmick Capacitor - 500V.	.20
22-2729	.001 MF Disc Capacitor - 25V. (2 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (3 Required)	1.50
22-2903	22 PF Disc Capacitor - 500V.	.25
22-3010	.01 MF Disc Capacitor - 25V. (2 Required)	.45
22-3034	.05 MF Disc Capacitor - 25V. (27 Required)	.45
22-3080	.005 MF Disc Capacitor - 25V. (3 Required)	.25
22-3177	390 PF Disc Capacitor - 500V. (2 Required)	.25
22-3254	.1 MF Disc Capacitor - 25V. (2 Required)	.75
22-3362	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-3444	.018 MF Capacitor - 500V. (2 Required)	
22-3448	10 MF Electrolytic Capacitor - 15V.	1.00
22-3527	.22 MF Disc Capacitor - 12V. (Used On S-82954)	.60
22-3596	.1 MF Capacitor - 500V. (2 Required)	.50
22-3599	.015 MF Capacitor - 50V. (2 Required)	.30
22-3675	10 PF Disc Capacitor - 500V.	.25
22-3687	1 MF Electrolytic Capacitor - 500V. (13 Required)	1.50
22-3826	.022 MF Mylar Capacitor - 100V. (5 Required)	.30
22-3891	.0068 MF Capacitor - 100V. (2 Required)	.30
22-3896	5 MF Electrolytic Capacitor - 25V. (2 Required)	1.00
22-3944	.0047 MF Disc Capacitor - 25V. (Part Of S-76801)	.25
22-4509	20 MF Electrolytic Capacitor - 25V.	.70
22-4564	10 MF Electrolytic Capacitor - 25V.	.90
22-4617	.01 MF Disc Capacitor	.10
22-4817	Variable Capacitor	5.25
22-4905	.01 MF Disc Capacitor - 500V. (11 Required)	.10
22-5012	.15 MF Capacitor - 50V. (4 Required)	.75
22-5018	.47 Mylar Capacitor - 50V.	.60
22-5167	1000 MF Electrolytic Capacitor - 30V.	3.20
22-5168	300 MF Electrolytic Capacitor - 25V.	3.05
22-5188	.1 MF Capacitor - 50V. (2 Required)	.35
22-5237	.01 MF Capacitor - 100V. (2 Required)	.25
22-5612	180 PF Disc Capacitor - 500V. (2 Required)	.15
22-5626	.0082 MF Disc Capacitor - 500V. (2 Required)	.25
22-5883	.033 MF Mylar Capacitor - 100V. (2 Required)	.35
*22-5904	.15 MF Capacitor - 100V. (2 Required)	.35
*22-5907	.1 MF Capacitor - 50V. (12 Required)	.35
*26-1859	Dial Scale	3.55
*26-1860	Log Scale	.95
43-571	9 Contact Housing - Male	.30
43-875	9 Contact Housing - Male	.30
43-878	12 Contact Housing - Female (2 Required)	.35

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29AT24 (Continued)	
43-879	12 Contact Housing - Treble & Bass - Male (2 Required)	.30
43-880	6 Contact Housing (Phono Socket)	.25
*43-1110	20 Contact Housing (2 Required)	.55
*46-6548	Tuning Control Knob	3.25
*46-7249	Bass, Treble, Balance & Contour Control Knob (4 Required)	.60
46-7334	Loudness Control Knob	1.75
*46-7355	AFC & On-Off Control Knob (2 Required)	.75
52-1214	Two Conductor Shielded Cable (Used On 43-875)	.65
*52-1644	Two Conductor Cable (Used On 83-7397)	
*52-1645	Two Conductor Shielded Cable (Used On 43-1110)	1.00
*52-1646	Two Conductor Shielded Cable (Used On 43-1110)	.75
52-1647	Two Conductor Shielded Cable (Used On 86-484)	.80
*52-1648	Single Conductor Shielded Lead (Used On 43-1110)	.80
54-139	3/8-32 x 9/16 Palnut - Cadmium (Used On 63-8244)	.03
54-450	Thread - Forming Palnut (6 Mt. 83-7383)	.03
*54-506	Tinnerman Speed Nut (2 Mt. Ea. 126-1430 & 83-7206 & 8 Mt. Ea. S-84283) (20 Required)	.03
54-515	Thread - Forming Palnut (2 Used On Ea. 85-1078 & 2 Used On 57-7553) (14 Required)	.03
54-541	Thread - Forming Palnut (2 Mt. Ea. 57-7551 & 57-7552) (4 Required)	.03
54-579	10-32 x 3/8 Hex Nut - Steel - Cadmium (Mts. 103-158)	.03
54-590	Tinnerman Speed Nut (2 Mt. 12-4729)	.03
54-652	Thread - Forming Palnut (7 Used On 83-7407)	.03
54-818	Tinnerman Speed Nut (6 Required)	.03
*54-834	Thread - Forming Palnut (2 Mt. 57-7553)	.03
*57-7504	Retainer Plate	.30
*57-7532	Die-Cast Escutcheon	13.45
*57-7551	Slide Switch Mtg. Plate	1.35
*57-7552	Slide Switch Mtg. Plate	1.35
*57-7553	Function Plate & Socket	2.80
*57-7573	Bearing Plate	
58-315	Connector Plug (Used On 52-1644)	.20
59-859	Dial Pointer	.55
61-222	Pulley (1 Part Of S-84096, 3 Part Of S-84098 & 4 Part Of S-84097)	.20
63-1701	10 Ohm Resistor - ½W. 10%	.17
63-1722	33 Ohm Resistor - ½W. 10%	.17
63-1733	56 Ohm Resistor - ½W. 10%	.17
63-1743	100 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1747	120 Ohm Resistor - ½W. 10%	.17
63-1764	330 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1768	390 Ohm Resistor - ½W. 10%	.17
63-1771	470 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10%	.17
63-1778	680 Ohm Resistor - ½W. 10% (7 Required)	.17
63-1782	820 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1785	1000 Ohm Resistor - ½W. 10% (8 Required)	
63-1792	1500 Ohm Resistor - ½W. 10% (2 Required)	.34
63-1796	1800 Ohm Resistor - ½W. 10% (2 Required)	
63-1799	2200 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10%	
63-1806	3300 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (11 Required)	.17
63-1814	4700 Ohm Resistor - ½W. 20%	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1824	8200 Ohm Resistor - ½W. 10%	.17
63-1825	9100 Ohm Resistor - ½W. 5%	.34
63-1826	10K Ohm Resistor - ½W. 5%	
63-1827	10K Ohm Resistor - ½W. 10% (7 Required)	
63-1831	12K Ohm Resistor - ½W. 10% (2 Required)	
63-1834	15K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1838	18K Ohm Resistor - ½W. 10% (5 Required)	.17
63-1841	22K Ohm Resistor - ½W. 10% (10 Required)	
63-1845	27K Ohm Resistor - ½W. 10%	.17
63-1848	33K Ohm Resistor - ½W. 10% (4 Required)	.17
63-1852	39K Ohm Resistor - ½W. 10% (2 Required)	
63-1859	56K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1862	68K Ohm Resistor - ½W. 10% (2 Required)	
63-1866	82K Ohm Resistor - ½W. 10% (3 Required)	.34
63-1869	100K Ohm Resistor - ½W. 10% (11 Required)	.17
63-1870	100K Ohm Resistor - ½W. 20% (2 Required)	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (5 Required)	
63-1883	220K Ohm Resistor - ½W. 10% (3 Required)	.17
63-1887	270K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1890	330K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1894	390K Ohm Resistor - ½W. 10% (4 Required)	.17
63-1897	470K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1911	1 Megohm Resistor - ½W. 10% (9 Required)	.17
63-1915	1.2 Megohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1922	1.8 Megohm Resistor - ½W. 10% (4 Required)	.17
63-1925	2.2 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1929	2.7 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1932	3.3 Megohm Resistor - ½W. 10% (18 Required)	.17
63-1936	3.9 Megohm Resistor - ½W. 10% (3 Required)	.17
63-1939	4.7 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1946	6.8 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1953	10 Megohm Resistor - ½W. 10% (2 Required)	.17
63-3238	Muting Control	.85
63-4548	22 Megohm Resistor - ½W. 20% (18 Required)	.17
*63-4561	47 Megohm Resistor - ½W. 10%	.17
*63-8244	Dual Loudness Control	
*63-8258	Potentiometer	
*63-8259	Bass Slide Control	
*63-8260	Treble Slide Control	
*63-8282	Balance Slide Control	
*63-8298	200 Ohm Resistor - 15W. 10%	
64-862	Steel Eyelet (4 Mt. Tuner)	.03
69-160	4-40 x 1/4 Rd. Hd. Mach. Screw - Cadmium (2 Mt. Ea. 85-1110 Or 85-1074 & 85-1077) (4 Required)	.03
78-1099	3 Contact Socket (Part Of S-84055)	.20
78-1761	Stereo Indicator Socket & Wire	.70
78-1838	Transistor Socket (18 Required)	.25
*78-1920	Dial Light Scoket & Wire	3.30
80-1091	Tension Spring (Gang)	.08
80-1140	Tension Spring (Pointer)	.10
80-2035	Spring (Used On 46-6548)	.25
83-1475	Cable Retaining Strip	.03
83-5164	4 Lug Terminal Strip	.10
83-5165	Insulating Strip (Used On 83-5164)	.03
83-5170	3 Lug Terminal Strip	.10
83-5171	Insulating Strip	.03
83-5288	13 Lug Terminal Strip	.35
83-5290	19 Lug Terminal Strip	.45
83-5391	20 Lug Terminal Strip (3 Required)	.50
83-5392	32 Lug Terminal Strip	.80
83-5736	3 Lug Terminal Strip	.20
83-5737	Insulating Strip	.03
83-6430	3 Lug Terminal Strip	.55
83-7206	Slider Guide (8 Required)	.30
*83-7324	Trim Strip (Bottom)	6.75
*83-7325	Trim Strip (Top)	7.50
*83-7383	Escutcheon Strip	2.15
*83-7384	Indicator Strip	.10
*83-7385	Indicator Strip	.10
*83-7386	Indicator Strip	.10
*83-7387	Indicator Strip	.10
*83-7397	2 Lug Terminal Strip (Used With 58-315)	.10
*83-7407	Escutcheon Strip (Top)	3.30
*83-7410	Terminal Board - Function Switch (2 Required)	.50
*83-7411	30 Lug Terminal Strip	.90
*83-7412	16 Lug Terminal Strip	.50
*83-7415	Channel Strip - Side (2 Required)	.70
*83-7416	Channel Strip - Top & Bottom (2 Required)	.90
*83-7557	Insulating Strip (Use Only When 85-1074 Is Used)	
*83-7567	Two Lug Terminal Strip	
83-7575	Dial Crystal Strip (2 Required)	.15
*83-7598	Wire Retaining Strip	.10
84-105	Pointer Support	.55
*85-1075	Contour Switch	6.35
*85-1077	AFC Switch	4.45
*85-1078	Function Switch (6 Required)	.60

*Denotes parts not previously used in Zenith receivers.

CHASSIS 29AT24 (Continued)

PART NUMBER	DESCRIPTION	PRICE
*85-1110	AC Switch	8.50
-OR-		
85-1074	AC Switch	8.50
86-344	Connector Terminal (Used On 78-1920)	.03
86-388	Connector Terminal (1 Used On 43-1110 & 2 Used On 78-1761)	.05
86-390	Connector Terminal (1 Used On 43-1110 & 8 Used On 43-571)	.03
86-483	Connector Terminal (9 Used On 43-875 & 22 Used On 43-879)	.03
86-484	Connector Terminal (22 Used On 43-878 & 6 Used On 43-880)	.03
86-496	Ground Terminal (7 Required)	.03
*86-538	Connector Terminal (32 Used On 43-1110)	.05
93-369	No. 10 Internal Shakeproof Lockwasher - Cadmium (Used On 103-158)	.03
93-502	No. 6 External Shakeproof Lockwasher - Cadmium Plated (6 Used On 83-7407)	.03
93-1455	Washer (Used On 114-77)	.03
93-1617	Flat Washer (1 Used On Ea. 54-834) (2 Required)	.03
94-773	Insert Bushing (2 Required)	.10
94-1379	Insulating Bushing (2 Required)	.03
95-2313	Doubler Mixer Transformer	3.80
95-2314	Detector Mixer Transformer	2.90
95-2315	Input Mixer Transformer	3.05
95-2316	Trap Coil	1.86
95-2324	Ratio Detector Transformer	5.15
95-2328	2nd. I.F. Transformer (FM)	3.35
95-2387	3rd. & 4th. I.F. Transformer - FM (2 Required)	2.20
*95-2721	1st. I.F. Transformer (AM)	2.30
*95-2722	2nd. I.F. Transformer (AM)	2.65
*95-2723	3rd. I.F. Transformer (AM)	3.50
100-249	Pilot Light Bulb (9 Required)	.18
100-384	Stereo Indicator Bulb (6 Required)	.50
103-23	Diode (8 Required)	.75
103-96	Diode	1.90
103-142	Silicon Diode (21 Required)	.45
103-158	Zener Diode	4.50
105-93	38 KHz Filter (2 Required)	.80
112-1376	4-24 x 3/8 Phillips Pan Hd. Self-Tap. Screw-Stat. Bronze (4 Used On Ea. 63-8259 & 63-8260 & 4 Used On 63-8282 & 85-1075) (16 Required)	.03
113-8	6-32 x 1/4 x 1/4 Hex Hd. M.S. - N.P. - Sems (3 Used On 12-4120)	.03
114-26	8-18 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (1 Used On S-84096 & 2 Mt. 22-4817)	.03
114-77	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (Used On 12-5367)	.03
114-344	6-20 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. Ea. 12-4652, 126-1204 & 126-1281, 2 Joins 29AT24 & Escutcheon Assem.) (12 Required)	.03
114-390	8 x 7/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (6 Join 29AT24 & Escutcheon Assem.)	.03
114-654	6-20 x 3/8 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Used On 84-105)	.03
114-801	8-18 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. 12-4945 & 4 Mt. Ea. S-84097 & S-84098) (11 Required)	.03
114-804	8-18 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze Flat Washer Att. (4 Mt. Tuner)	.03
114-816	8-18 x 5/16 Hex Hd. Self-Tap. Screw-Stat. Bronze - Flat Washer Att. (Used On 17-143)	.05
114-920	8-15 x 3/8 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. Printed Circuit Board & Bracket Assem.)	.03
121-430	Transistor - Pre-Ampl. (2 Required)	1.10
121-433	Transistor - Pre-Ampl. (2 Required)	1.30
-OR-		
121-752	Transistor - Pre-Ampl. (2 Required)	1.52
121-477	Transistor - Stereo - Mono Switch Supply	.75
121-496	Transistor - Comp. Ampl., 19 KHz Ampl., 38 KHz Ampl., Stereo Ind. Switch (4 Required)	.85
121-497	Transistor - F.M.B. - Switching. A.M.B. - Switching, Stereo B - Switch, Ext. Bass Switch (4 Required)	.85
121-546	Transistor - FM & AM 2nd. I.F., FM 3rd. I.F., FM 4th. I.F. (3 Required)	.80
121-602	Transistor - Pre-Driver (2 Required)	1.05
121-603	Transistor - Pre-Ampl. (2 Required)	.80
121-638	Transistor - AM Mixer	.75
121-734	Transistor - Biplex Detector	1.00
*121-753	Transistor - AM R.F., AM Oscillator (2 Required)	.72
*121-756	Transistor - Phono Stereo - Mono Switch	5.30
*121-775	Transistor - FM & AM 1st. I.F.	.80
-OR-		
121-614	Transistor - FM & AM 1st. I.F.	.80
*122-42	Tuning Meter	8.45
-OR-		
*122-43	Tuning Meter	
125-117	Rubber Grommet (4 Used On Tuner)	.03
126-1204	Shield	.75
126-1281	Dial Scale Light Shield	1.85
126-1416	Slider Guide Shield (8 Required)	.15
*126-1419	Stereo Light Shield	.15
126-1430	Light Shield (2 Required)	
*126-1437	Pilot Light Shield (2 Required)	
149-211	Iron Core (1 Part Of Ea. S-82954 & S-82955)	.10
149-311	Ferrite Core (2 Required)	.05
149-370	Iron Core (Part Of S-76801)	.15
*185-3	Silicon Controlled Rectifier (FM Switch, AM Switch, Phono Switch, Tape Switch) (4 Required)	3.50
*185-4	Silicon Controlled Rectifier - Stereo - Mono Switch, Ext. Bass Switch On-Off (2 Required)	2.35
185-5	Silicon Controlled Rectifier - Stereo - Mono Switch, Ext. Bass Switch On-Off (2 Required)	
188-137	Retaining Ring (Used On 46-6548)	.10
188-367	Clamping Ring (Used On 59-859)	.03
*192-469	Dial Crystal	3.25
*199-534	Shielded Paper Sleeve	.10
S-72362	Driver Cord & Eyelet Assem. (Front)	.30
S-76801	Antenna Coil, Capacitor & Wire Assem.	1.75
S-79037	Drive Cord & Eyelet Assem.	.30
*S-82954	Broadcast Oscillator Coil Assem.	1.70
*S-82955	Broadcast Detector Coil Assem.	1.30
*S-83179	FM Tuner Assem.	39.20
12-4192	Tuner Guide Bracket	.30
12-4193	Coil Mtg. Bracket	.15
19-322	Coil Mtg. Clip (4 Required)	.05
20-1256	Trap Coil	.50
22-2374	6 PF Disc Capacitor - 500V.	.25
22-2424	1.5 Gimmick Capacitor - 500V.	.20
22-2642	15 PF Disc Capacitor - 500V.	.25
22-3393	.01 MF Disc Capacitor - 25V. (4 Required)	.25
22-3479	2.2 PF Disc Capacitor - 500V.	.20
22-3675	10 PF Disc Capacitor - 10V.	.25
22-4515	1.8 PF Gimmick Capacitor - 500V.	.25
22-4613	Feed-Thru Capacitor - 500V. (5 Required)	.10
22-4718	Feed-Thru Capacitor - 500V.	.10
22-5164	1.2 PF Gimmick Capacitor - 500V.	.20
22-5281	23 PF Disc Capacitor - 500V.	.25
22-5318	34 PF Disc Capacitor - 500V. (3 Required)	.20
24-1372	Tuner Cover	.30
44-48	Antenna Jack	.20
56-426	Roll Pin (6 Required)	.05
57-5333	Bearing Plate	.03
63-1778	680 Ohm Resistor - ½W. 10%	.17
63-4122	33 Ohm Resistor - ¼W. 10%	.17
63-4157	220 Ohm Resistor - ¼W. 10%	.17
63-4171	470 Ohm Resistor - ¼W. 10%	.17
63-4175	560 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4199	2200 Ohm Resistor - ¼W. 10%	.17
63-4210	3900 Ohm Resistor - ¼W. 10%	.17
63-4227	10K Ohm Resistor - ¼W. 10%	.17
63-4241	22K Ohm Resistor - ¼W. 10%	.17
63-4269	100K Ohm Resistor - ¼W. 10%	.17
63-4283	220K Ohm Resistor - ¼W. 10%	.17
63-4297	470K Ohm Resistor - ¼W. 10%	.17

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29AT24 (Continued)	
64-88	.088 Dia. x 1/8 Lg. Tubular Rivet - N.P.	.03
64-318	Brass Eyelet - USNC No. SE37 (6 Required)	.03
76-1541	Guide Shaft (2 Required)	.20
76-1820	Drive Shaft (Used On 12-4192)	2.40
78-1227	Transistor Socket (2 Required)	.35
78-1378	Transistor Socket	.40
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
80-1467	Shaft Retaining Spring	.05
80-1853	Transformer Retaining Spring	.03
83-3829	2 Lug Terminal Strip	.05
86-441	Insulated Feed-Thru Terminal (2 Required)	.05
94-613	Iron Core Bushing (4 Required)	.10
94-1472	Tuning Shaft Bushing	.20
95-2322	1st. I.F. Transformer (FM)	2.15
103-47	Diode	3.75
113-26	6-32 x 1/4 x 1/4 Hex Hd. Mach. Screw - N.P. - Ext. Lockwasher Att. (2 Used On Ea. 12-4193 & 57-5333) (4 Required)	.03
121-432	Transistor - FM - Oscillator	1.35
121-731	Transistor - FM - R.F.	1.44
121-732	Transistor - FM - Mixer	.70
126-1141	Coil Shield - Side (2 Required)	.15
126-1142	Coil Shield - Center	.15
149-368	Iron Core Spring (3 Required)	.30
149-385	Iron Core & Spring	.30
188-232	Retaining Ring (4 Required)	.03
S-62887	FM Coil Winding Assem. - FM Antenna Coil, FM R.F. Input Coil, FM Detector Coil & FM Oscillator Coil (4 Required)	.60
S-69085	Shield & Terminal Strip Assem.	.35
S-83409	Detector Coil Assem.	1.55
S-83410	Oscillator Coil Assem.	1.75
S-83411	Antenna Coil Assem.	1.25
S-83412	R.F. Input Coil Assem.	1.60
S-83414	Bracket, Shaft & Pin Assem.	5.25
S-84038	20 Contact Housing, Wire & Terminal Assem.	5.25
S-84122	20 Contact Housing, Wire & Terminal Assem.	
*S-84055	Phono Socket & Bracket Assem.	.70
*S-84096	Bracket & Pulley Assem.	.30
*S-84097	Escutcheon Mtg. Bracket Assem. (R.H.)	2.45
*S-84098	Escutcheon Mtg. Bracket Assem. (L.H.)	2.70
*S-84104	Drive Cord & Eyelet Assem. (Pointer)	.20
*S-84283	Light Shield & Bracket Assem. (2 Required)	
	CHASSIS 29AT24Z1	
12-4120	Variable Capacitor Mtg. Bracket	.55
12-4652	Tuning Meter Mtg. Bracket (Used Only With Meter No. 122-42)	.15
12-4729	Stereo Reflector Bracket	.25
12-4945	I.F. Shield Bracket	.20
*12-5272	Switch Mtg. Bracket	.25
*12-5295	Mtg. Bracket	2.75
*12-5335	Tuning Meter Mtg. Bracket (Used Only With Meter 122-43)	
*12-5367	Heat Sink Bracket	
17-143	Cable Clamp (Nylon)	.20
19-238	Coil Mtg. Clip (1 Part Of Ea. S-82954 & S-82955)	.10
19-448	Ground Clip (2 Required)	.10
19-453	Resistor Mtg. Clip (2 Used On 22-3254)	.05
19-464	Coil Mtg. Clip (Part Of S-76801)	.05
19-480	Wire Retaining Clip (3 Required)	.03
19-492	Cable Retaining Clamp (3 Required)	.05
19-561	Capacitor Clamp	.10
19-656	Retaining Clip (4 Used On Ea. Balance Control & Contour Switch Assem. & Treble & Bass Control Assem.)	
20-1422	Peaking Coil	.75
20-2008	Peaking Coil	.50
20-2033	Peaking Coil (2 Required)	.40

PART NUMBER	DESCRIPTION	PRICE
22-9	100 PF Disc Capacitor - 500V.	.25
22-13	.0033 MF Disc Capacitor - 500V.	.25
22-14	.0047 MF Disc Capacitor - 500V. (2 Required)	.25
22-18	.0022 MF Disc Capacitor - 500V. (9 Required)	.25
22-2333	2.2 PF Gimmick Capacitor - 500V.	.20
22-2374	6 PF Disc Capacitor - 500V. (2 Required)	.25
22-2424	1.5 PF Gimmick Capacitor - 500V.	.20
22-2715	1.2 PF Gimmick Capacitor - 500V.	.20
22-2720	1 PF Gimmick Capacitor - 500V.	.20
22-2729	.001 MF Disc Capacitor - 25V. (2 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (3 Required)	1.50
22-2903	22 PF Disc Capacitor - 500V.	.25
22-3010	.01 MF Disc Capacitor - 25V. (2 Required)	.45
22-3034	.05 MF Disc Capacitor - 25V. (27 Required)	.45
22-3080	.005 MF Disc Capacitor - 25V. (3 Required)	.25
22-3177	390 PF Disc Capacitor - 500V. (2 Required)	.25
22-3254	.1 MF Disc Capacitor - 25V. (2 Required)	.75
22-3362	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-3444	.018 MF Capacitor - 500V. (2 Required)	
22-3448	10 MF Electrolytic Capacitor - 15V.	1.00
22-3527	.22 MF Disc Capacitor - 12V. (Used On S-82954)	.60
22-3596	.1 MF Capacitor - 500V. (2 Required)	.50
22-3599	.015 MF Capacitor - 50V. (2 Required)	.30
22-3675	10 PF Disc Capacitor - 500V.	.25
22-3687	1 MF Electrolytic Capacitor - 500V. (13 Required)	1.50
22-3826	.022 MF Mylar Capacitor - 100V. (5 Required)	.30
22-3891	.0068 MF Capacitor - 100V. (2 Required)	.30
22-3896	5 MF Electrolytic Capacitor - 25V. (2 Required)	1.00
22-3944	.0047 MF Disc Capacitor - 25V. (Part Of S-76801)	.25
22-4509	20 MF Electrolytic Capacitor - 25V.	.70
22-4564	10 MF Electrolytic Capacitor - 25V.	.90
22-4617	.01 MF Disc Capacitor	.10
22-4817	Variable Capacitor	5.25
22-4905	.01 MF Disc Capacitor - 500V. (11 Required)	.10
22-5012	.15 MF Capacitor - 50V. (4 Required)	.75
22-5018	.47 Mylar Capacitor - 50V.	.60
22-5167	1000 MF Electrolytic Capacitor - 30V.	3.20
22-5168	300 MF Electrolytic Capacitor - 25V.	3.05
22-5188	.1 MF Capacitor - 50V. (2 Required)	.35
22-5237	.01 MF Capacitor - 100V. (2 Required)	.25
22-5612	180 PF Disc Capacitor - 500V. (2 Required)	.15
22-5626	.0082 MF Disc Capacitor - 500V. (2 Required)	.25
22-5883	.033 MF Mylar Capacitor - 100V. (2 Required)	.35
*22-5904	.15 MF Capacitor - 100V. (2 Required)	.35
*22-5907	.1 MF Capacitor - 50V. (12 Required)	.35
*26-1859	Dial Scale	3.55
*26-1860	Log Scale	.95
43-571	9 Contact Housing - Male	.30
43-875	9 Contact Housing - Male	.30
43-878	12 Contact Housing - Female (2 Required)	.35
43-879	12 Contact Housing - Treble & Bass - Male (2 Required)	.30
*43-1224	20 Contact Housing	.60
*46-6548	Tuning Control Knob	3.25
*46-7249	Bass, Treble, Balance & Contour Control Knob (4 Required)	.60
46-7334	Loudness Control Knob	1.75
*46-7355	AFC & On-Off Control Knob (2 Required)	.75
52-1214	Two Conductor Shielded Cable (Used On 43-875)	.65
*52-1644	Two Conductor Cable (Used On 83-7397)	
*52-1645	Two Conductor Shielded Cable (Used On 43-1224)	1.00
*52-1646	Two Conductor Shielded Cable (Used On 43-1224)	.75
52-1647	Two Conductor Shielded Cable (Used On 86-484)	.80
*52-1648	Single Conductor Shielded Lead (Used On 43-1224)	.80
*52-2018	2 Conductor Shielded Lead (Used On 43-878)	
*52-2021	2 Conductor Lead (Used On 43-878)	
54-139	3/8-32 x 9/16 Palnut - Cadmium (Used On 63-8244)	.03
54-450	Thread - Froming Palnut (8 Required)	.03
*54-506	Tinnerman Speed Nut (2 Mt. Ea. 126-1430 & 83-7206 & 8 Mt. Ea. S-84283) (20 Required)	.03
54-515	Thread - Forming Palnut (2 Used On Ea. 85-1078 & 2 Used On 57-7553) (14 Required)	.03
54-541	Thread - Forming Palnut (2 Mt. Ea. 57-7551 & 57-7552) (4 Required)	.03
54-579	10-32 x 3/8 Hex Nut - Steel - Cadmium (Mts. 103-158)	.03

*Denotes parts not previously used in Zenith receivers

CHASSIS 29AT24Z1 (Continued)

PART NUMBER	DESCRIPTION	PRICE
54-590	Tinnerman Speed Nut (2 Mt. 12-4729)	.03
54-652	Thread - Forming Palnut (7 Used On 83-7407)	.03
54-818	Tinnerman Speed Nut (6 Required)	.03
*54-834	Thread - Forming Palnut (2 Mt. 57-7553)	.03
54-851	Speed Nut Palnut (6 Required)	
*57-7504	Retainer Plate	.30
*57-7532	Die-Cast Escutcheon	13.45
*57-7551	Slide Switch Mtg. Plate	1.35
*57-7552	Slide Switch Mtg. Plate	1.35
*57-7553	Function Plate & Socket	2.80
*57-7573	Bearing Plate	
58-315	Connector Plug (Used On 52-1644)	.20
59-859	Dial Pointer	.55
61-222	Pulley (1 Part Of S-84096, 3 Part Of S-84098 & 4 Part Of S-84097)	.20
63-1701	10 Ohm Resistor - ½W. 10%	.17
63-1722	33 Ohm Resistor - ½W. 10%	.17
63-1733	56 Ohm Resistor - ½W. 10%	.17
63-1743	100 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1747	120 Ohm Resistor - ½W. 10%	.17
63-1764	330 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1768	390 Ohm Resistor - ½W. 10%	.17
63-1771	470 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10%	.17
63-1778	680 Ohm Resistor - ½W. 10% (7 Required)	.17
63-1782	820 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1785	1000 Ohm Resistor - ½W. 10% (8 Required)	
63-1792	1500 Ohm Resistor - ½W. 10% (2 Required)	.34
63-1796	1800 Ohm Resistor - ½W. 10% (2 Required)	
63-1799	2200 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1803	2700 Ohm Resistor - ½W. 10%	
63-1806	3300 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (11 Required)	.17
63-1814	4700 Ohm Resistor - ½W. 20%	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1824	8200 Ohm Resistor - ½W. 10%	.17
63-1825	9100 Ohm Resistor - ½W. 5%	.34
63-1826	10K Ohm Resistor - ½W. 5%	
63-1827	10K Ohm Resistor - ½W. 10% (7 Required)	
63-1831	12K Ohm Resistor - ½W. 10% (2 Required)	
63-1834	15K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1838	18K Ohm Resistor - ½W. 10% (5 Required)	.17
63-1841	22K Ohm Resistor - ½W. 10% (10 Required)	
63-1845	27K Ohm Resistor - ½W. 10%	.17
63-1848	33K Ohm Resistor - ½W. 10% (4 Required)	.17
63-1852	39K Ohm Resistor - ½W. 10% (2 Required)	
63-1859	56K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1862	68K Ohm Resistor - ½W. 10% (2 Required)	
63-1866	82K Ohm Resistor - ½W. 10% (3 Required)	.34
63-1869	100K Ohm Resistor - ½W. 10% (11 Required)	.17
63-1870	100K Ohm Resistor - ½W. 20% (2 Required)	.17
63-1876	150K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1880	180K Ohm Resistor - ½W. 10% (5 Required)	
63-1883	220K Ohm Resistor - ½W. 10% (3 Required)	.17
63-1887	270K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1890	330K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1894	390K Ohm Resistor - ½W. 10% (4 Required)	.17
63-1897	470K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1911	1 Megohm Resistor - ½W. 10% (9 Required)	.17
63-1915	1.2 Megohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1922	1.8 Megohm Resistor - ½W. 10% (4 Required)	.17
63-1925	2.2 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1929	2.7 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1932	3.3 Megohm Resistor - ½W. 10% (18 Required)	.17
63-1936	3.9 Megohm Resistor - ½W. 10% (3 Required)	.17
63-1939	4.7 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1946	6.8 Megohm Resistor - ½W. 10% (2 Required)	.17
63-1953	10 Megohm Resistor - ½W. 10% (2 Required)	.17
63-3238	Muting Control	.85
63-4548	22 Megohm Resistor - ½W. 20% (18 Required)	.17
*63-4561	47 Megohm Resistor - ½W. 10%	.17
*63-8244	Dual Loudness Control	
*63-8258	Potentiometer	
*63-8259	Bass Slide Control	
*63-8260	Treble Slide Control	3.50
*63-8282	Balance Slide Control	
*63-8298	200 Ohm Resistor - 15W. 10%	
64-862	Steel Eyelet (4 Mt. Tuner)	.03
69-160	4-40 x 1/4 Rd. Hd. Mach. Screw - Cadmium (2 Mt. Ea. 85-1110 & 85-1077) (4 Required)	.03
78-1761	Stereo Indicator Socket & Wire	.70
78-1838	Transistor Socket (18 Required)	.25
*78-1920	Dial Light Socket & Wire	3.30
80-1091	Tension Spring (Gang)	.08
80-1140	Tension Spring (Pointer)	.10
80-2035	Spring (Used On 46-6548)	.25
83-1475	Cable Retaining Strip	.03
83-5164	4 Lug Terminal Strip	.10
83-5165	Insulating Strip (Used On 83-5164)	.03
83-5170	3 Lug Terminal Strip	.10
83-5171	Insulating Strip	.03
83-5288	13 Lug Terminal Strip	.35
83-5290	19 Lug Terminal Strip	.45
83-5391	20 Lug Terminal Strip (3 Required)	.50
83-5392	32 Lug Terminal Strip	.80
83-5736	3 Lug Terminal Strip	.20
83-5737	Insulating Strip	.03
83-6430	3 Lug Terminal Strip	.55
83-7206	Slider Guide (8 Required)	.30
*83-7324	Trim Strip (Bottom)	6.75
*83-7325	Trim Strip (Top)	7.50
*83-7383	Escutcheon Strip	2.15
*83-7384	Indicator Strip	.10
*83-7385	Indicator Strip	.10
*83-7386	Indicator Strip	.10
*83-7387	Indicator Strip	.10
*83-7397	2 Lug Terminal Strip (Used With 58-315)	.10
*83-7407	Escutcheon Strip (Top)	3.30
*83-7410	Terminal Board - Function Switch (2 Required)	.50
*83-7411	30 Lug Terminal Strip	.90
*83-7412	16 Lug Terminal Strip	.50
*83-7415	Channel Strip - Side (2 Required)	.70
*83-7416	Channel Strip - Top & Bottom (2 Required)	.90
*83-7557	Insulating Strip	
*83-7567	Two Lug Terminal Strip	
83-7575	Dial Crystal Strip (2 Required)	.15
*83-7598	Wire Retaining Strip	.10
83-8175	Retainer Clip (8 Required)	
84-105	Pointer Support	.55
*85-1075	Contour Switch	6.35
*85-1077	AFC Switch	4.45
*85-1078	Function Switch (6 Required)	.60
*85-1110	AC Switch	8.50
86-388	Connector Terminal (2 Used On 78-1761)	.05
86-390	Connector Terminal (8 Used On 43-571)	.03
86-450	Connector Terminal (Used On 78-1920)	.10
86-483	Connector Terminal (9 Used On 43-875 & 24 Used On 43-879)	.03
86-484	Connector Terminal (31 Used On 43-878)	.03
86-496	Ground Terminal (7 Required)	.03
*86-538	Connector Terminal (Used On 43-1224)	.05
86-579	Connector Terminal (17 Required)	
93-369	No. 10 Internal Shakeproof Lockwasher - Cadmium (Used On 103-158)	.03
93-502	No. 6 External Shakeproof Lockwasher - Cadmium Plated (7 Required)	.03
93-1455	Washer (Used On 114-77)	.03
93-1617	Flat Washer (1 Used On Ea. 54-834) (2 Required)	.03
93-1804	Brass Sleeve (2 Joins Escutcheon Assem. & Chassis Wiring Assem.)	
94-773	Insert Bushing (2 Required)	.10
94-1379	Insulating Bushing (2 Required)	.03
95-2313	Doubler Mixer Transformer	3.80
95-2314	Detector Mixer Transformer	2.90
95-2315	Input Mixer Transformer	3.05
95-2316	Trap Coil	1.86
95-2324	Ratio Detector Transformer	5.15
95-2328	2nd. I.F. Transformer (FM)	3.35
95-2387	3rd. & 4th. I.F. Transformer - FM (2 Required)	2.20
*95-2721	1st. I.F. Transformer (AM)	2.30
*95-2722	2nd. I.F. Transformer (AM)	2.65
*95-2723	3rd. I.F. Transformer (AM)	3.50

*Denotes parts not previously used in Zenith receivers.

CHASSIS 29AT24Z1 (Continued)

PART NUMBER	DESCRIPTION	PRICE
100-249	Pilot Light Bulb (9 Required)	.18
100-384	Stereo Indicator Bulb (6 Required)	.50
103-23	Diode (8 Required)	.75
103-96	Diode	1.90
103-142	Silicon Diode (21 Required)	.45
103-158	Zener Diode	4.50
105-93	38 KHz Filter (2 Required)	.80
112-793	6-20 x 1/4 Phillips Rd. Hd. Self-Tap. Screw (2 Required)	
112-1376	4-24 x 3/8 Phillips Pan Hd. Self-Tap. Screw-Stat. Bronze (4 Used On Ea. 63-8259 & 63-8260 & 4 Used On 63-8282 & 85-1075) (16 Required)	.03
113-8	6-32 x 1/4 x 1/4 Hex Hd. M.S. - N.P. - Sems (3 Used On 12-4120)	.03
114-26	8-18 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (1 Used On S-84096 & 2 Mt. 22-4817)	.03
114-77	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (Used On 12-5367)	.03
114-344	6-20 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. Ea. 12-4652, 126-1204 & 126-1281, 2 Joins Chassis & Escutcheon Assem.) (12 Required)	.03
114-390	8 x 7/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (6 Join Chassis & Escutcheon Assem.)	.03
114-654	6-20 x 3/8 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Used On 84-105)	.03
114-801	8-18 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. 12-4945 & 4 Mt. Ea. S-84097 & S-84098) (11 Required)	.03
114-804	8-18 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze Flat Washer Att. (4 Mt. Tuner)	.03
114-816	8-18 x 5/16 Hex Hd. Self-Tap. Screw-Stat. Bronze - Flat Washer Att. (Used On 17-143)	.05
114-920	8-15 x 3/8 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. Printed Circuit Board & Bracket Assem.)	.03
121-430	Transistor - Pre-Ampl. (2 Required)	1.10
121-433	Transistor - Pre-Ampl. (2 Required)	1.30
121-447	Transistor - Horizontal, AFC, Noise Gate, Sync., AGC Output	.75
121-477	Transistor - Stereo - Mono Switch Supply	.75
121-496	Transistor - Comp. Ampl., 19 KHz Ampl., 38 KHz Ampl., Stereo Ind. Switch (4 Required)	.85
121-497	Transistor - F.M.B. - Switching. A.M.B. - Switching, Stereo B - Switch, Ext. Bass Switch (4 Required)	.85
121-546	Transistor - FM & AM 2nd. I.F., FM 3rd. I.F., FM 4th. I.F. (3 Required)	.80
121-602	Transistor - Pre-Driver (2 Required)	1.05
121-603	Transistor - Pre-Ampl. (2 Required)	.80
121-638	Transistor - AM Mixer	.75
121-734	Transistor - Biplex Detector	1.00
*121-753	Transistor - AM R.F., AM Oscillator (2 Required)	.72
*121-756	Transistor - Phono Stereo - Mono Switch	5.30
*121-775	Transistor - FM & AM 1st. I.F.	.80
-OR-		
121-614	Transistor - FM & AM 1st. I.F.	.80
*122-42	Tuning Meter	8.45
-OR-		
*122-43	Tuning Meter	7.40
-OR-		
*122-51	Tuning Meter	
125-117	Rubber Grommet (4 Used On Tuner)	.03
126-1204	Shield	.75
126-1281	Dial Scale Light Shield	1.85
126-1416	Slider Guide Shield (8 Required)	.15
*126-1419	Stereo Light Shield	.15
126-1430	Light Shield (2 Required)	
*126-1437	Pilot Light Shield (2 Required)	
149-211	Iron Core (1 Part Of Ea. S-82954 & S-82955)	.10
149-311	Ferrite Core (2 Required)	.05
149-370	Iron Core (Part Of S-76801)	.15
*185-3	Silicon Controlled Rectifier (FM Switch, AM Switch, Phono Switch, Tape Switch) (4 Required)	3.50
*185-4	Silicon Controlled Rectifier - Stereo - Mono Switch, Ext. Bass Switch On-Off (2 Required)	2.35
185-5	Silicon Controlled Rectifier - Stereo - Mono Switch, Ext. Bass Switch On-Off (2 Required)	
188-137	Retaining Ring (Used On 46-6548)	.10
188-367	Clamping Ring (Used On 59-859)	.03
*192-469	Dial Crystal	3.25
*199-534	Shielded Paper Sleeve	.10
S-72362	Drive Cord & Eyelet Assem. (Front)	.30
S-76801	Antenna Coil, Capacitor & Wire Assem.	1
S-79037	Drive Cord & Eyelet Assem.	.30
*S-82954	Broadcast Oscillator Coil Assem.	1.70
*S-82955	Broadcast Detector Coil Assem.	1.30
*S-83179	FM Tuner Assem.	39.20
12-4192	Tuner Guide Bracket	.30
12-4193	Coil Mtg. Bracket	.15
19-322	Coil Mtg. Clip (4 Required)	.05
20-1256	Trap Coil	.50
22-2374	6 PF Disc Capacitor - 500V.	.25
22-2424	1.5 Gimmick Capacitor - 500V.	.20
22-2642	15 PF Disc Capacitor - 500V. (Used On S-83409)	.25
22-3393	.01 MF Disc Capacitor - 25V. (2 Used On Ea. FM Tuner Assem. & S-83410)	.25
22-3479	2.2 PF Disc Capacitor - 500V. (Used On S-83410)	.20
22-3675	10 PF Disc Capacitor - 10V. (Used On S-83412)	.25
22-4515	1.8 PF Gimmick Capacitor - 500V. (Used On S-83409)	.25
22-4613	Feed-Thru Capacitor - 500V. (5 Required)	.10
22-4718	Feed-Thru Capacitor - 500V.	.10
22-5164	1.2 PF Gimmick Capacitor - 500V. (Used On S-83412)	.20
22-5281	23 PF Disc Capacitor - 500V. (Used On S-83410)	.25
22-5318	34 PF Disc Capacitor - 500V. (1 Used On Ea. S-83409, S-83411, S-83412)	.20
24-1372	Tuner Cover	.30
44-48	Antenna Jack	.20
56-426	Roll Pin (6 Used On 76-1820)	.05
57-5333	Bearing Plate	.03
63-1778	680 Ohm Resistor - ½W. 10%	.17
63-4122	33 Ohm Resistor - ¼W. 10%	.17
63-4157	220 Ohm Resistor - ¼W. 10%	.17
63-4171	470 Ohm Resistor - ¼W. 10%	.17
63-4175	560 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4199	2200 Ohm Resistor - ¼W. 10%	.17
63-4210	3900 Ohm Resistor - ¼W. 10%	.17
63-4227	10K Ohm Resistor - ¼W. 10%	.17
63-4241	22K Ohm Resistor - ¼W. 10%	.17
63-4269	100K Ohm Resistor - ¼W. 10%	.17
63-4283	220K Ohm Resistor - ¼W. 10%	.17
63-4297	470K Ohm Resistor - ¼W. 10%	.17
64-88	.088 Dia. x 1/8 Lg. Tubular Rivet - N.P.	.03
64-318	Brass Eyelet - USNC No. SE37 (6 Required)	.03
76-1541	Guide Shaft (2 Required)	.20
76-1820	Drive Shaft (Used On 12-4192)	2.40
78-1227	Transistor Socket (2 Required)	.35
78-1378	Transistor Socket	.40
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
80-1467	Shaft Retaining Spring	.05
80-1853	Transformer Retaining Spring	.03
83-3829	2 Lug Terminal Strip	.05
86-441	Insulated Feed-Thru Terminal (2 Required)	.05
94-613	Iron Core Bushing (4 Required)	.10
94-1472	Tuning Shaft Bushing	.20
95-2322	1st. I.F. Transformer (FM)	2.15
103-47	Diode	3.75

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29AT24Z1 (Continued)	
	113-26 6-32 x 1/4 x 1/4 Hex Hd. Mach. Screw - N.P. - Ext. Lockwasher Att. (2 Used On Ea. 12-4193 & 57-5333) (4 Required)	.03
	121-432 Transistor - FM - Oscillator	1.35
	121-731 Transistor - FM - R.F.	1.44
	121-732 Transistor - FM - Mixer	.70
	126-1141 Coil Shield - Side (2 Required)	.15
	126-1142 Coil Shield - Center	.15
	149-368 Iron Core Spring (3 Required)	.30
	149-385 Iron Core & Spring	.30
	188-232 Retaining Ring (4 Required)	.03
	S-69085 Shield & Terminal Strip Assem.	.35
	S-83409 Detector Coil Assem.	1.55
	S-83410 Oscillator Coil Assem.	1.75
	S-83411 Antenna Coil Assem.	1.25
	S-83412 R.F. Input Coil Assem.	1.60
*S-84096	Bracket & Pulley Assem.	.30
*S-84097	Escutcheon Mtg. Bracket Assem. (R.H.)	2.45
*S-84098	Escutcheon Mtg. Bracket Assem. (L,H.)	2.70
*S-84104	Drive Cord & Eyelet Assem. (Pointer)	.20
*S-84283	Light Shield & Bracket Assem. (2 Required)	
S-86603	P.C. Board Frame & Support Bracket Assem.	
*S-89962	Bracket & Socket Assem.	
	CHASSIS 29CT30	
12-5425	Pulley Mtg. Bracket (Part Of S-85563)	.03
*12-5508	Heat Sink Bracket	
12-5765	Bracket	
17-143	Nylon Clamp (2 Required)	.20
19-480	Wire Retaining Clip	.03
19-485	Cable Retaining Clip (1 Used On Ea. 52-1588 & 52-1589)	.10
*20-1256	Trap Coil (10.7 MHz)	.50
*20-1649	FM Oscillator Coil	.50
*20-3076	FM Antenna Coil	
*20-3077	FM Detector Coil	
20-3080	Trap Coil - 67 KHz	.50
22-13	.0033 MF Disc Capacitor - +10 -10% 500V. (2 Required)	.25
22-14	.0047 MF Disc Capacitor - 500V. (3 Required)	.25
22-2428	1.8 PF Gimmick Capacitor - 500V.	.25
22-2592	3.4 MF Ceramic Disc Capacitor - 500V.	.25
22-2703	220 PF Disc Capacitor - 500V. (2 Required)	.25
22-2729	.001 MF Disc Capacitor - 25V. (5 Required)	.25
22-2884	5 MF Electrolytic Capacitor - 12V. (4 Required)	1.50
22-3034	.05 MF Disc Capacitor - 25V. (14 Required)	.45
22-3080	.005 MF Disc Capacitor - 25V. (2 Required)	.25
22-3177	390 PF Disc Capacitor - 500V. (2 Required)	.25
22-3255	330 PF Disc Capacitor - 500V. (2 Required)	.25
22-3310	2.7 PF Gimmick Capacitor - 500V. (2 Required)	.25
22-3362	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-3381	39 PF Ceramic Disc Capacitor - + 5% 500V. (2 Required)	.45
22-3393	.01 MF Disc Capacitor - 25V. (6 Required)	.25
22-3415	.0068 MF Disc Capacitor - 25V.	.25
22-3541	3.3 PF Gimmick Capacitor - 500V.	.25
22-3652	.1 MF Disc Capacitor - 10V. (2 Required)	.30
22-3675	10 PF Disc Capacitor - 500V. (2 Required)	.25
22-3687	1 MF Electrolytic Capacitor - 50V. (4 Required)	1.50
22-3751	20 PF Capacitor - + 5% 500V.	.30
*22-3770	5.5 PF Disc Capacitor - 500V.	.30
22-3896	5 MF Electrolytic Capacitor - 25V.	1.00
22-4573	1000 MF Electrolytic Capacitor - 15V.	2.10
22-4819	2 PF Capacitor - + .25% 500V.	.50
22-4855	Trimmer Capacitor - 1.7 To 10 PF Ceramic	.45
22-5233	.015 MF Mylar Capacitor - + 20% 50V. (2 Required)	.45
22-5316	500 MF Electrolytic Capacitor - 50V. (2 Required)	2.55
22-5481	560 PF Disc Capacitor - 500V. (2 Required)	.25
22-5482	680 PF Disc Capacitor - 500V. (7 Required)	.25
22-5486	10 MF Electrolytic Capacitor - 6V.	.95
22-5487	47 MF Disc Capacitor - 3V. (2 Required)	.45
*22-5780	270 PF Polystyrene Capacitor - 500V.	.15
*22-5781	1000 PF Polystyrene Capacitor - 500V. (2 Required)	.15
	-OR-	
22-3613	1000 PF Mica Capacitor (2 Required)	.50
22-5782	2200 PF Capacitor - ± 5% 500V.	.15
22-5862	.1 MF Mylar Capacitor - 100V. (2 Required)	.35
22-5866	.047 MF Mylar Capacitor - 100V. (6 Required)	.30
22-5883	.033 MF Mylar Capacitor - 100V. (2 Required)	.35
22-5971	.0033 MF Mylar Capacitor (2 Required)	.30
*22-5972	390 PF Polystyrene Capacitor - 125V.	.15
*22-5986	50 MF Electrolytic Capacitor - 25V. (2 Required)	1.10
*22-6111	.001 MF Mylar Capacitor - 50V. (2 Required)	.40
*22-6245	Gang Capacitor, Six Section (FM Antenna Trimmer, FM Anrenna Tuning, FM Detector Trimmer, FM Detector Tuning, FM Oscillator Tuning, AM Antenna Trimmer, AM Antenna Tuning, AM Detector Trimmer, AM Detector Tuning, AM Oscillator Trimmer, AM Oscillator Tuning)	
*22-6246	3.3 MF Electrolytic Capacitor - 15V.	1.05
22-6344	7 PF Ceramic Disc Capacitor - ± .5 PF 500V.	
22-6347	2000 PF Capacitor - ± 5% 50V.	
	-OR-	
22-6136	2000 PF Capacitor - ± 5% 100V.	.85
*33-375	P.C. BD. Frame	
43-571	9 Contact Housing (Used On 86-390)	.30
44-48	Connector Jack (4 Part Of S-79667)	.20
52-1062	2 Conductor Cable (Used On 86-449 Or 86-357 & 86-450 Or 86-344)	.10
52-1425	2 Conductor Shielded Lead (Used On 58-214)	1.15
52-1501	3 Conductor Cable - Approx. 20" (Used On 86-344)	.60
*52-1588	2 Conductor Shielded Lead (Used On 86-388)	1.00
*52-1589	2 Conductor Shielded Lead (Used On 86-388)	.85
*52-1590	2 Conductor Shielded Lead (Used On 85-1207)	.70
*52-2022	2 Conductor Shielded Cable (Used On 58-338)	
*52-2023	2 Conductor Shielded Cable (Used On 58-338)	
54-139	3/8-32 x 9/16 Palnut (5 Required)	.03
54-808	Tinnerman Speed Nut (1 Used On Ea. 114-1129)	.03
54-828	1/2-20 Palnut	.03
58-214	Single Prong Plug (2 Used On 52-1425)	.10
58-338	Plug (2 Required)	.20
*59-1099	Dial Pointer, Blade W/Carriage	
61-222	Idler Pulley (Part Of S-77501, S-85563, S-75501, S-85564 & 2 Part Of S-89890)	.20
61-324	Pulley, Flanged (Part Of S-89195)	
61-325	Pulley, Flanged	
63-1701	10 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1715	22 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1736	68 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1757	220 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1761	270 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1764	330 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1771	470 Ohm Resistor - ½W. 10%	.17
63-1772	470 Ohm Resistor - ½W. 20% (5 Required)	.17
63-1775	560 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1777	680 Ohm Resistor - ½W. 5% (2 Required)	
63-1778	680 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1781	820 Ohm Resistor - ½W. 5%	.34
63-1782	820 Ohm Resistor - ½W. 10%	.17
63-1785	1000 Ohm Resistor - ½W. 10% (4 Required)	
63-1794	1600 Ohm Resistor - ½W. 5% (2 Required)	.10
63-1796	1800 Ohm Resistor - ½W. 10%	
63-1798	2200 Ohm Resistor - ½W. 5%	.34
63-1799	2200 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1805	3300 Ohm Resistor - ½W. 5% (2 Required)	.34
63-1806	3300 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1810	3900 Ohm Resistor - ½W. 10% (5 Required)	.17
63-1813	4700 Ohm Resistor - ½W. 10% (6 Required)	.17
63-1817	5600 Ohm Resistor - ½W. 10%	.17
63-1820	6800 Ohm Resistor - ½W. 10% (3 Required)	.17
63-1824	8200 Ohm Resistor - ½W. 10%	.17
63-1826	10K Ohm Resistor - ½W. 5% (2 Required)	
63-1827	10K Ohm Resistor - ½W. 10%	
63-1831	12K Ohm Resistor - ½W. 10% (4 Required)	
63-1834	15K Ohm Resistor - ½W. 10% (2 Required)	
63-1841	22K Ohm Resistor - ½W. 10%	
63-1842	22K Ohm Resistor - ½W. 20%	.17

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PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT30 (Continued)	
63-1845	27K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1848	33K Ohm Resistor - ½W. 10% (5 Required)	.17
63-1852	39K Ohm Resistor - ½W. 10% (2 Required)	
63-1855	47K Ohm Resistor - ½W. 10% (4 Required)	
63-1859	56K Ohm Resistor - ½W. 10%	
63-1868	100K Ohm Resistor - ½W. 5% (2 Required)	.34
63-1869	100K Ohm Resistor - ½W. 10%	.17
63-1873	120K Ohm Resistor - ½W. 10%	.17
63-1883	220K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1887	270K Ohm Resistor - ½W. 10% (2 Required)	.17
63-1890	330K Ohm Resistor - ½W. 10% (2 Required)	
63-1898	470K Ohm Resistor - ½W. 20% (3 Required)	.17
63-1904	680K Ohm Resistor - ½W. 10%	.17
63-1918	1.5 Megohm Resistor - ½W. 10% (2 Required)	
63-1933	3.3 Megohm Resistor - ½W. 20%	
63-4122	33 Ohm Resistor - ¼W. 10% (2 Required)	.17
63-4157	220 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4196	1800 Ohm Resistor - ¼W. 10%	.17
63-4231	12K Ohm Resistor - ¼W. 10%	.17
63-4255	47K Ohm Resistor - ¼W. 10%	.17
63-4269	100K Ohm Resistor - ¼W. 10%	.17
63-4287	270K Ohm Resistor - ¼W. 10%	.17
63-5663	680 Ohm Resistor - 2W. 10%	.30
63-6424	1 Ohm Resistor - 5W. 10% (2 Required)	.75
63-6495	Mute Control - 100K	1.00
*63-8708	Rotary Control, Single - 5K Ohm 30% ¼W. Bias Adjust.	
*63-8964	Rotary Control, Dual Treble - 250K Ohm 30% 1/8W.	
*63-8965	Rotary Control, Dual Bass - 250K Ohm 30% 1/8W.	
*63-8966	Rotary Control, Single Balance W/Switch 500K Ohm	
*63-8967	Rotary Control, Dual Loudness - 100K Ohm	
*63-8977	Rotary Control, Single 1000 Ohm 30% ¼W. Bias Adjust. (2 Required)	
64-6	1/8" Dia. x 3/16" Lg. Tubular Rivet (2 Part Of S-79667)	
64-288	Shoulder Rivet (1 Part Of Ea. S-85563, S-85564, 2 Part Of S-89890) (4 Required)	.03
*76-2032	Tuning Shaft	
80-1963	Idler Pulley Spring (Part Of S-77501)	.15
80-2143	Cord Tension Spring	
*82-195	Ground Strap	
83-1961	Antenna Terminal Strip (Part Of S-79667)	.35
83-3561	Cable Retaining Strip	.05
83-6173	Tie Strip	.03
*83-7417	Antenna Protective Strip	.20
*83-7552	Transistor Insulating Washer (2 Part Of Ea. 121-853X)	
*83-8122	Terminal Strip	
83-8163	Antenna Mtg. Terminal Strip (2 Part Of S-88463)	
*85-1207	Rotary Switch	
86-344	Terminal, Connector (Used On 52-1062 & 52-1501) (6 Required)	.03
86-390	Connector Terminal (9 Used On 43-571)	.03
86-449	Connector Terminal (Used On 52-1062)	.10
-OR-		
86-357	Connector Terminal (Used On 52-1062)	.03
86-450	Connector Terminal (Used On 52-1062)	.10
-OR-		
86-344	Connector Terminal (Used On 52-1062)	.03
86-500	Terminal (23 Required)	.03
86-543	Miniature Spring Terminal (88 Required)	.03
86-617	Terminal Ring	
93-1906	No. 4 Flat Washer (1 Used On Ea. 114-1129)	
94-1532	Nylon Shaft Bushing	.20
94-1586	Shoulder Bushing (4 Required)	
95-2543	Transformer - 3rd. I.F. AM 455 KHz	1.95
95-2544	Transformer - AM - Oscillator	1.45
*95-2750	Transformer - B.C. R.F.	
*95-2751	Transistor - AM 1st. I.F. AM 455 KHz	
*95-2752	Transformer - AM 2nd. I.F. AM 455 KHz	
*95-2753	Transformer - FM 1st. I.F. 10.7 MHz	
*95-2754	Transformer - FM 2nd. I.F. 10.7 MHz	
*95-2755	Transformer - FM 3rd. I.F. 10.7 MHz	
*95-2756	Transformer - FM Ratio Detector 10.7 MHz	
*95-2856	Multiplex Doubler Coil - 19 KHz	1.30
*95-2857	Multiplex Detector Coil - 38 KHz	1.30
*95-2858	Multiplex Input Coil - 19 KHz	1.30
100-249	Indicator Lamp (3 Required)	.18
103-23	Germanium Diode (6 Required)	.75
103-47	Diode AFC	3.75
103-90	Germanium Diode - Matched Pair	2.00
103-96	Diode, Zener	1.90
*105-107	Integnet - 38 KHz Filter	1.00
114-689	8-18 x 1/2 Hex Hd. Spec. Washer (Spinlock) Self-Tap. Screw-Stat. Bronze (2 Join Wavemagnet Assem. & 83-3561)	.03
114-801	8-18 x 5/16 Hex Hd. Self-Tap. Screw-Stat. Bronze (3 Mt. Chassis, 12-5508, 1 Mts. 83-8122 & 2 Mts. 12-5420) (9 Required)	.03
114-864	8-18 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. Ea. 17-143) (2 Required)	.03
114-1053	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Cadmium	.05
*114-1127	8-18 x .800 x 1/4 Hex Washer Hd. Self-Tap. Shoulder Screw (2 Mt. Pulley)	
*114-1129	4-24 x 1/2 x 3/16 Slotted Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Used On Ea. 121-853X) (4 Required)	
121-430	Transistor - Audio - Amp. (2 Required)	1.10
121-433	Transistor - Pre-Amp. (2 Required)	1.30
121-546	Transistor - AM-FM 2nd. I.F., FM 3rd. I.F. (2 Required)	.80
121-613	Transistor - Autodyne Converter - FM	.80
121-614	Transistor - AM-FM 1st. I.F.	.80
121-639	Transistor - Comp. Amp., 19 KHz Amp. & 38 KHz Amp., Tuning Meter Control (4 Required)	.70
121-714	Transistor - AM Converter	.80
*121-737	Transistor - Stereo Indicator Switch	.95
*121-767	Transistor - Bias Control (2 Required)	.68
*121-768	Transistor - Pre-Driver (2 Required)	1.20
*121-773	Transistor - Driver (2 Required)	.72
*121-774	Transistor - Driver (2 Required)	
*121-853X	Transistor - Output - Matched Pair (2 Required)	
*121-858	Transistor - Biplex Detector	
149-311	Ferrite Core (Sleeve) (2 Required)	.05
*149-426	Ferrite Core, Antenna Rod (Part Of S-88463)	
188-140	Retaining Ring	.03
188-155	Clamping Ring (Part Of S-89195)	.05
199-319	Insulating Sleeve (Used On 52-1501) (2 Required)	
*199-567	Sleeving (Part Of S-88463)	
205-51	Dow Corning Heat Conductive Grease (Part Of 12-853X)	.16
S-77501	Pulley & Spring Assem.	.30
S-79667	Antenna & Tape Input Bracket Assem.	
S-82528	Antenna Cable & Terminal Assem.	.20
S-85563	Pulley Mtg. Bracket Assem.	
S-85564	Pulley Mtg. Bracket Assem.	
S-85569	Drive Pulley Assem.	.50
S-86608	Socket & Terminal Assem.	
S-87113	Speaker Cable, Terminal & Sleeve Assem.	
*S-88463	Wavemagnet Antenna Assem.	
S-88984	Dial Cord & Eyelet Assem.	
S-88985	Dial Cord & Eyelet Assem.	
S-89195	Pulley & Ring Assem.	
*S-89890	Pulley & Bracket Pointer Guide Assem.	
	MODEL B553W	
	CHASSIS COMPONENTS	
63-1719	27 Ohm Resistor - ½W. 10% (2 Required)	.17
63-1771	470 Ohm Resistor - ½W. 10% (4 Required)	.17
63-1897	470K Ohm Resistor - ½W. 10% (4 Required)	.17
63-2877	120K Ohm Resistor - ½W. 10% (4 Required)	.17
63-7011	1000 Ohm Resistor - ½W. 10% (2 Required)	.17
800-294	Transistor Assem. - Matched Pair - Driver (NPN - PNP)	2.45
*964-9513	220K Ohm Resistor - ½W. 10% (2 Required)	
*964-9518	33K Ohm Resistor - ½W. 10% (2 Required)	
*964-11143	1500 Ohm Resistor - ½W. 10% (2 Required)	
*964-11582	6800 Ohm Resistor -½W. 10%	
*964-13591	8200 Ohm Resistor - ½W. 10%	

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	MODEL B553W (Continued)	
964-16327	Tinnerman Clip (4 Mt. 800-294)	
964-16380	Machine Screw, Pivot Assem. (2 Required)	.10
*964-16579	Lock Washer, Pivot Assem. (2 Required)	
964-16580	Eyelet, Pivot Assem. (2 Required)	.10
964-16699	4.7 Ohm Resistor - ½W. 10% (2 Required)	.17
*964-18315	Tee Nut, Pivot Assem. (2 Required)	
*964-19609	Capacitor - 10 MF - 15V.	
*964-19611	Capacitor - .01 MF (4 Required)	
964-19614	Capacitor - .01 MF (2 Required)	.45
964-19615	Capacitor - 5 MFD. 15V.	.85
964-19638	Capacitor - .05 MFD. 100V. (4 Required)	.70
964-19641	Capacitor - 25 MFD. 15V. (2 Required)	.60
964-19755	Capacitor - 100 PF 500V. (2 Required)	.15
964-19758	Capacitor - 1 MF 15V. (4 Required)	.85
*964-19839	Capacitor - 470 PF - 500V. (4 Required)	
964-20061	Capacitor - 10 MFD. - 15V.	1.25
*964-20113	6-32 x 3/4 Wafer Hd. Screw (2 Mt. Transformer Inside Changer Compartment)	
964-20622	Terminal - Male (7 Required)	.15
964-20623	Terminal - Female (7 Required)	.15
964-21866	Rectifier (2 Required)	.80
964-22009	Transistor - Pre-Amp. - NPN (4 Required)	1.36
964-22099	4.7 Megohm Resistor - ½W. 10% (6 Required)	.17
*964-23629	Transformer	
*964-24387	Diode (4 Required)	
*964-24738	Tone Control - Bass - 500K	
*964-24739	Control - Loudness 250K	
*964-25010	Control - Balance 300K	
*964-25011	Tone Control - Treble 3M	
*964-25274	Nut, Push In (2 Required)	
*964-25776	8 x 1 x 1/4 Hex Hd. Screw (2 Required)	
*964-25783	Capacitor - 200 MF 25V.	
*964-25784	Capacitor - 1000 MF 35V.	
*964-25865	Capacitor - .022 MF - 500V. (2 Required)	
*964-25902	2.2 Ohm Resistor - ½W. 10% (2 Required)	
964-25903	Capacitor - 250 MFD. - 25V. (2 Required)	
*964-25922	Capacitor - 33 MFD. - 16V. (2 Required)	
*964-25923	Hum Shield (Changer Compartment)	
*964-26341	Heat Sink	
*964-26371	15 Ohm Resistor - ½W. 10% (2 Required)	
964-27986	Transistor - Output (Matched Pair)	
*964-26550	Transistor Holder (4 Required)	
964-27741	Capacitor - .0082 - 500V. (2 Required)	
	MODEL B553W CABINET COMPONENTS	
56-560	Needle (Part Of 142-175)	3.35
83-2790	Motorboard Protector (2 Required)	.05
*142-175	Cartridge - .7 Mil. Dia. & 3 Mil. Mfg. Sapphire (Part Of 169-408)	
*169-408	4 Speed Record Changer (See Changer Parts List For Components)	
*902-702	Instruction Book	
964-9197	6-32 Hex Nut (12 Required)	.03
964-12128-H	6 x 7/8 Truss Screw (4 Required)	.03
*964-12916-A	Eyelet (Bottom Of Remote Speaker) (2 Required)	
964-13364-9	6 x 3/8 Truss Screw (2 Required)	.03
964-13621	Amp. Terminal (2 Required)	.05
964-14195	Bumper (Changer Compartment)	.35
964-14220	Plug Housing Amp.	.30
*964-14605-H	6 x 1/2 Truss Screw (8 Required)	
*964-14902-9	Hole Button (Side Of Changer Door)	
964-15821	Cable Retainer	.05
964-17170	Amp. Terminal - .205 Flat (4 Required)	.03
*964-17310	Bumper, Case Bottom (4 Required)	
964-17445	Cable Clamp	.10
964-17602-F	Bushing (2 Required)	.30
964-18243-3	Power Cord	2.00
*964-18368-H	Hinge - Female W/Stop - Stat. Bronze - Left (2 Required)	.55
964-18369-H	Hinge - Female W/Stop - Stat. Bronze - Right (2 Required)	.75
964-18586-9	45 RPM Spindle Clip	.30
*964-19998-9	Eyelet (Back Of Cabinet)	
*964-20040-H	Eyelet - Stat. Bronze (Changer Compartment, Right Side)	
964-20641	Catch - Chrome (2 Required)	1.75
964-20746-3	Remote Cable Assem. (2 Required)	.25
964-21389	6 x 3/8 Hex Hd. Screw (2 Required)	.70
964-23138	Strike - Chrome (2 Required)	.35
*964-23279-A	Logo - Zenith	
*964-23362	Amp. Terminal	
*964-24199	Audio Cable	
*964-25120	Case Assem.	
*964-25123-F	Packing Carton	
*964-25124	Control Plate	
*964-25126	Transistor Layout & Patent Label	
*964-25181	6-32 x 1" Speaker Mtg. Screw (8 Required)	
*964-25234	Escutcheon	
*964-25395	Door Stay, Stat. Bronze	
*964-25397	Handle	
*964-25398-9	10-24 x 3/4 Handle Mtg. Screw (2 Required)	
*964-25775	6 x 9 PM Speaker - 8 Ohm (2 Required)	
*964-25777	Changer Insert	
*964-25781	Bracket (2 Required)	
*964-25787	6 x 1/8 Hex Hd. Slot Screw (2 Required)	
*964-25799-H	Hinge - Male - Long Pin - Stat. Bronze (Left)	
*964-25800-H	Hinge - Male - Short Pin - Stat. Bronze (Right)	
*964-25801-H	Hinge - Male - Long Pin - Stat. Bronze (Right)	
*964-25802-H	Hinge - Male - Short Pin - Stat. Bronze (Left)	
*964-25806	6-32 x 1 1/4 Screw (2 Mt. Amp. Inside Changer Compartment, Rear)	
*964-25832	4 x 3/8 Screw (3 Required)	
*964-25876-5-14	Knob (4 Required)	
*964-26343	Spacer (Inside Changer Compartment) (2 Required)	
*964-26600	Catch (Top Right Side Of Main Cabinet)	
S-72648	45 RPM Adapter	
964-16327	Tinnerman Clip (4 Mt. 800-294)	
	MODEL S9017W	
14-7661	Cabinet	
16-3174	Packing Carton	
22-4588	2 MF Electrolytic Capacitor - 30V.	
49-1004	Horn Tweeter	
49-1102	12" PM Speaker	
54-423	6-32 Palnut (4 Mt. 49-1004)	
54-424	8-32 Palnut (4 Mt. 49-1102)	
57-5204	Name Plate (Part Of 14-7661)	
72-127	8 x 1-1/4 Phillips Flat Hd. Wood Screw-Stat. Bronze (10 Part Of 14-7661)	
83-4235	Cushioning Strip (Part Of 14-7661)	
83-5872	Terminal Strip	
86-255	Terminal (2 Required)	
86-329	Connector Terminal (4 Required)	
112-1266	6-32 x 1-1/2 Speaker Mtg. Screw (4 Part Of 14-7661)	
112-1270	8-32 x 1-3/4" Speaker Mtg. Screw (4 Part Of 14-7661)	
157-22	Fastener (2 Required)	
854-15	Speed Nut (2 Part Of 14-7661)	
910-654	Grille Cloth (Part Of 14-7661)	
965-21	3/4 Dia. Plastic Floor Glide (4 Part Of 14-7661)	
S-73930	Two Conductor Wire & Terminal Assembly	
	MODEL S9017W1	
14-7661	Cabinet	32.90
16-3174	Packing Carton	
22-4906	5 MF Electrolytic Capacitor - 30V.	1.35
49-1102	12" PM Speaker	22.00
49-1162	Horn Tweeter	
54-423	6-32 Palnut (4 Mt. 49-1162)	.03
54-424	8-32 Palnut (4 Mt. 49-1102)	.03
57-5204	Nameplate (Part Of 14-7661)	
72-127	8 x 1 1/4 Phillips Fl. Hd. Wood Screw-Stat. Bronze (10 Part Of 14-7661)	.03
83-4235	Cushioning Strip (Part Of 14-7661)	.25
83-7320	Terminal Strip	
86-255	Terminal (2 Required)	.03
86-329	Connector Terminal (2 Required)	.03

*Denotes parts not previously used in Zenith receivers

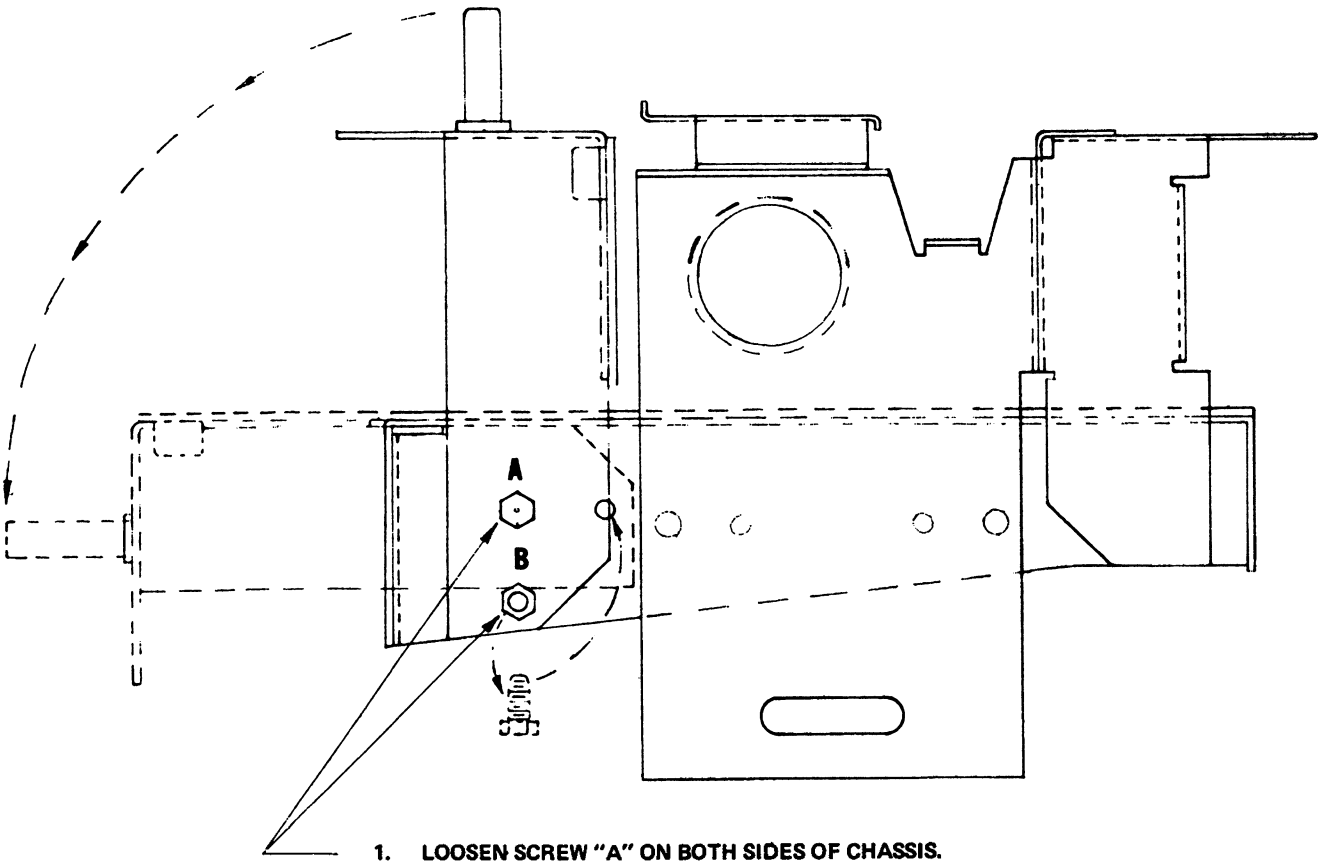
PART NUMBER	DESCRIPTION	PRICE
	MODEL S9017W1 (Continued)	
86-452	Connector Terminal	.10
-OR-		
86-329	Connector Terminal	.03
112-1266	6-32 x 1 1/2" Speaker Mtg. Screw (4 Part Of 14-7661)	.05
112-1270	8-32 x 1 3/4" Speaker Mtg. Screw (4 Part Of 14-7661)	.05
157-22	Fastener (2 Required)	.05
854-15	Speed Nut (2 Part Of 14-7661)	.15
*872-5	6 x 1 1/4 Fl. Hd. Wood Screw (2 Part Of 14-7661)	
910-654	Grille Cloth (Part Of 14-7661)	3.15
965-21	3/4 Dia. Plastic Floor Glide (4 Part Of 14-7661)	.03
S-50860	Speaker Lead Assem.	.25
S-73930	Two Conductor Wire & Terminal Assem.	2.00
*S-83400	Filter Coil Assem.	
	S-83179 FM TUNER ASSEM.	
12-4192	Tuner Guide Bracket	.30
12-4193	Coil Mtg. Bracket	.15
19-322	Coil Mtg. Clip (4 Required)	.05
20-1256	Trap Coil	.50
22-2374	6 PF Disc Capacitor - 500V.	.25
22-2424	1.5 Gimmick Capacitor - 500V.	.20
22-2642	15 PF Disc Capacitor - 500V. (Used On S-83409)	.25
22-3393	.01 MF Disc Capacitor - 25V. (2 Used On Ea. FM Tuner Assem. & S-83410)	.25
22-3479	2.2 PF Disc Capacitor - 500V. (Used On S-83410)	.20
22-3675	10 PF Disc Capacitor - 10V. (Used On S-83412)	.25
22-4515	1.8 PF Gimmick Capacitor - 500V. (Used On S-83409)	.25
22-4613	Feed-Thru Capacitor - 500V. (5 Required)	.10
22-4718	Feed-Thru Capacitor - 500V.	.10
22-5164	1.2 PF Gimmick Capacitor - 500V. (Used On S-83412)	.20
22-5281	23 PF Disc Capacitor - 500V. (Used On S-83410)	.25
22-5318	34 PF Disc Capacitor - 500V. (1 Used On Ea. S-83409, S-83411, S-83412)	.20
24-1372	Tuner Cover	.30
44-48	Antenna Jack	.20
56-426	Roll Pin (6 Used On 76-1820)	.05
57-5333	Bearing Plate	.03
63-1778	680 Ohm Resistor - ½W. 10%	.17

PART NUMBER	DESCRIPTION	PRICE
63-4122	33 Ohm Resistor - ¼W. 10%	.17
63-4157	220 Ohm Resistor - ¼W. 10%	.17
63-4171	470 Ohm Resistor - ¼W. 10%	.17
63-4175	560 Ohm Resistor - ¼W. 10%	.17
63-4185	1000 Ohm Resistor - ¼W. 10%	.17
63-4199	2200 Ohm Resistor - ¼W. 10%	.17
63-4210	3900 Ohm Resistor - ¼W. 10%	.17
63-4227	10K Ohm Resistor - ¼W. 10%	.17
63-4241	22K Ohm Resistor - ¼W. 10%	.17
63-4269	100K Ohm Resistor - ¼W. 10%	.17
63-4283	220K Ohm Resistor - ¼W. 10%	.17
63-4297	470K Ohm Resistor - ¼W. 10%	.17
64-88	.088 Dia. x 1/8 Lg. Tubular Rivet - N.P.	.03
64-318	Brass Eyelet - USNC No. SE37 (6 Required)	.03
76-1541	Guide Shaft (2 Required)	.20
76-1820	Drive Shaft (Used On 12-4192)	2.40
78-1227	Transistor Socket (2 Required)	.35
78-1378	Transistor Socket	.40
79-174-12	No. 18 Sleeving - Yellow - 1 1/2"	.03
80-1467	Shaft Retaining Spring	.05
80-1853	Transformer Retaining Spring	.03
83-3829	2 Lug Terminal Strip	.05
86-441	Insulated Feed-Thru Terminal (2 Required)	.05
94-613	Iron Core Bushing (4 Required)	.10
94-1472	Tuning Shaft Bushing	.20
95-2322	1st. I.F. Transformer (FM)	2.15
103-47	Diode	3.75
113-26	6-32 x 1/4 x 1/4 Hex Hd. Mach. Screw - N.P. - Ext. Lockwasher Att. (2 Used On Ea. 12-4193 & 57-5333) (4 Required)	.03
121-432	Transistor - FM - Oscillator	1.35
121-731	Transistor - FM - R.F.	1.44
121-732	Transistor - FM - Mixer	.70
126-1141	Coil Shield - Side (2 Required)	.15
126-1142	Coil Shield - Center	.15
149-368	Iron Core Spring (3 Required)	.30
149-385	Iron Core & Spring	.30
188-232	Retaining Ring (4 Required)	.03
S-69085	Shield & Terminal Strip Assem.	.35
S-83409	Detector Coil Assem.	1.55
S-83410	Oscillator Coil Assem.	1.75
S-83411	Antenna Coil Assem.	1.25
S-83412	R.F. Input Coil Assem.	1.60

*Denotes parts not previously used in Zenith receivers.

MECHANICAL ASSEMBLIES

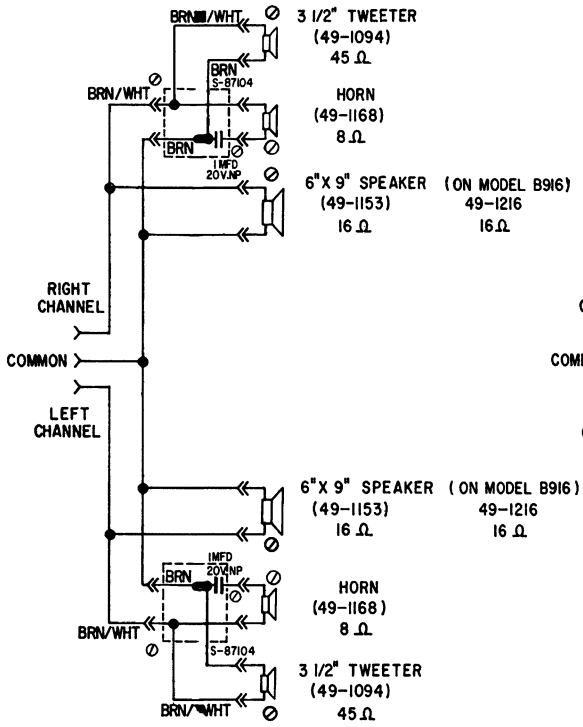
Zenith engineers have devised chassis constructions which, while maintaining a compact package size, will provide maximum access to the chassis should service be required. Illustrated here is one chassis configurations with instructions for tilting sub chassis into working position.



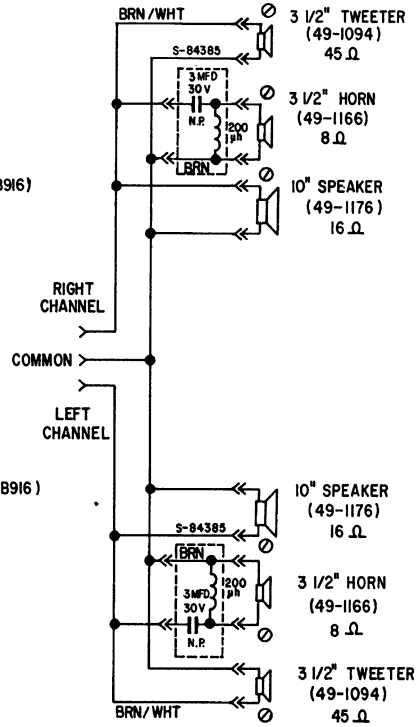
1. LOOSEN SCREW "A" ON BOTH SIDES OF CHASSIS.
2. REMOVE SCREW "B" ON BOTH SIDES OF CHASSIS AS INDICATED.
3. ROTATE CHASSIS AS SHOWN BY ARROW TO POSITION INDICATED BY DOTTED POSITION.
4. INSERT SCREWS "B" IN ALTERNATE POSITION TO LOCK CHASSIS IN OPEN POSITION FOR SERVICE.

CHASSIS 27BT30(Z)

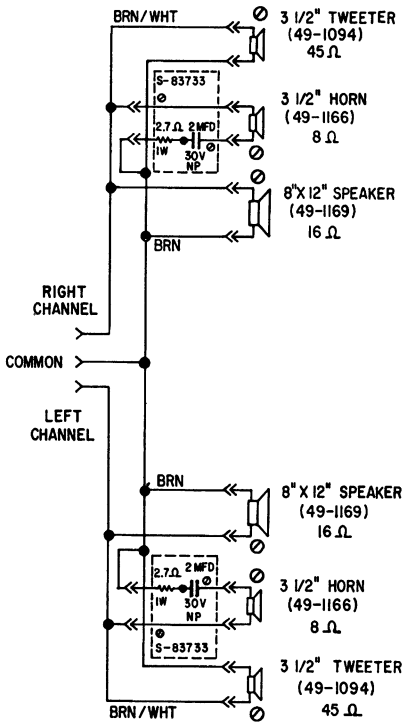
B914, B916



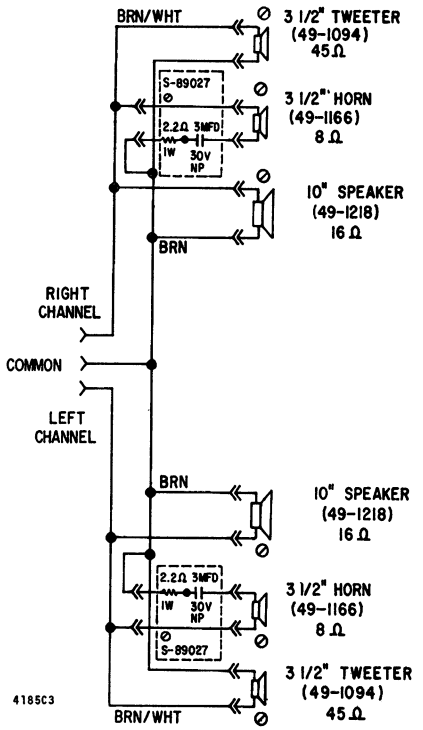
B920, B921, B922



B923, B925, B929



C920W, C922M



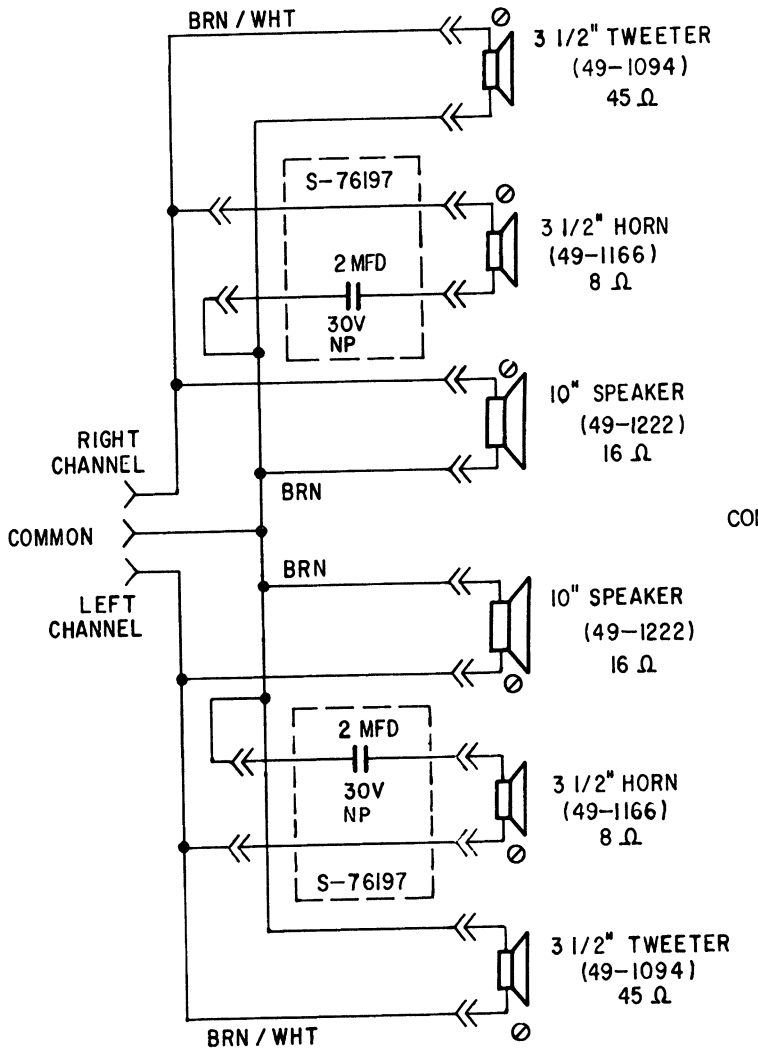
USED ON MODELS:

B914,	B923,
B916,	B925,
B920,	B929,
B921,	C920,
B922,	C922

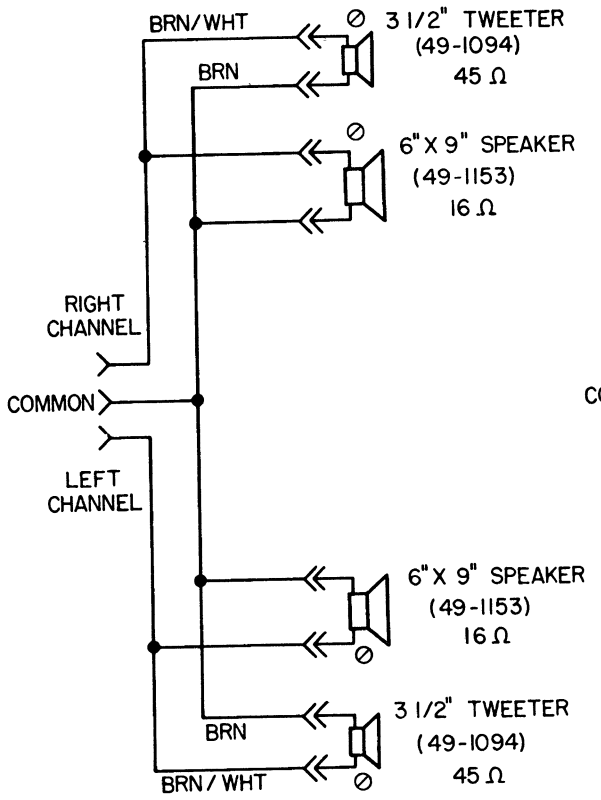
NOTE:
⊘ INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER

SPEAKER WIRING SCHEMATICS

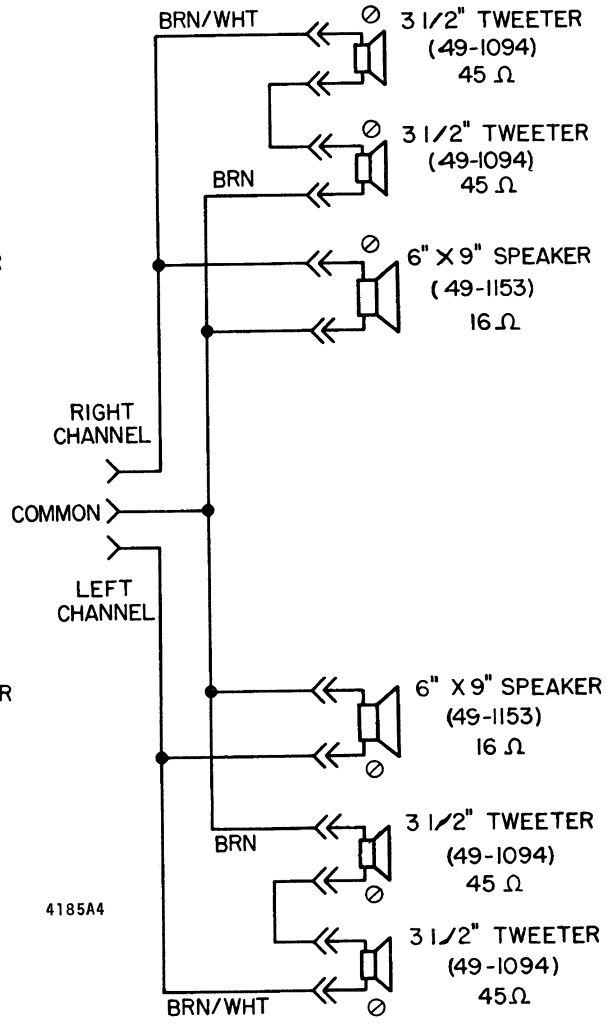
C921 DE, P



C906W



C907M, C908DE, C908P, C910W, C911W

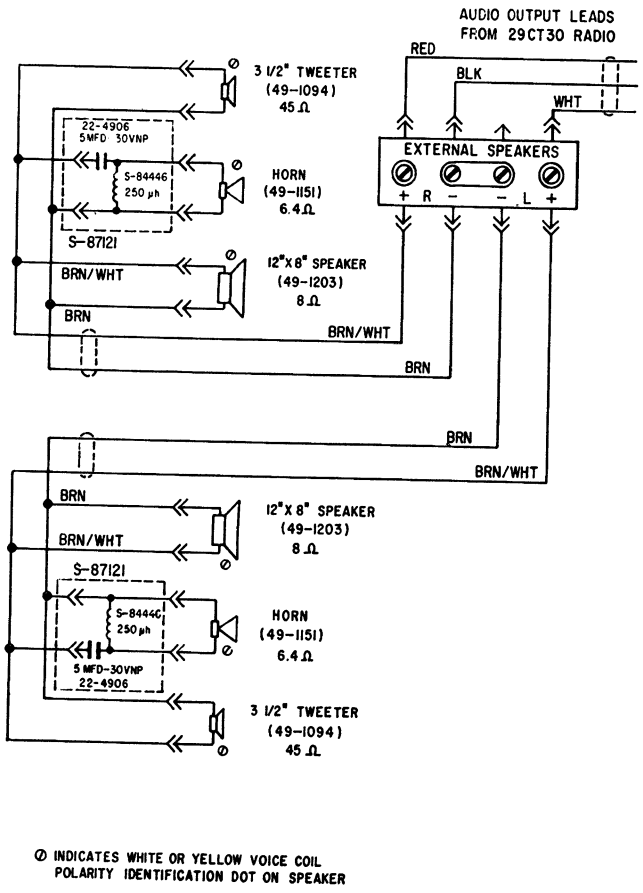


4185A4

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

SPEAKER WIRING SCHEMATICS

SPEAKER WIRING FOR MODELS: C947DEI

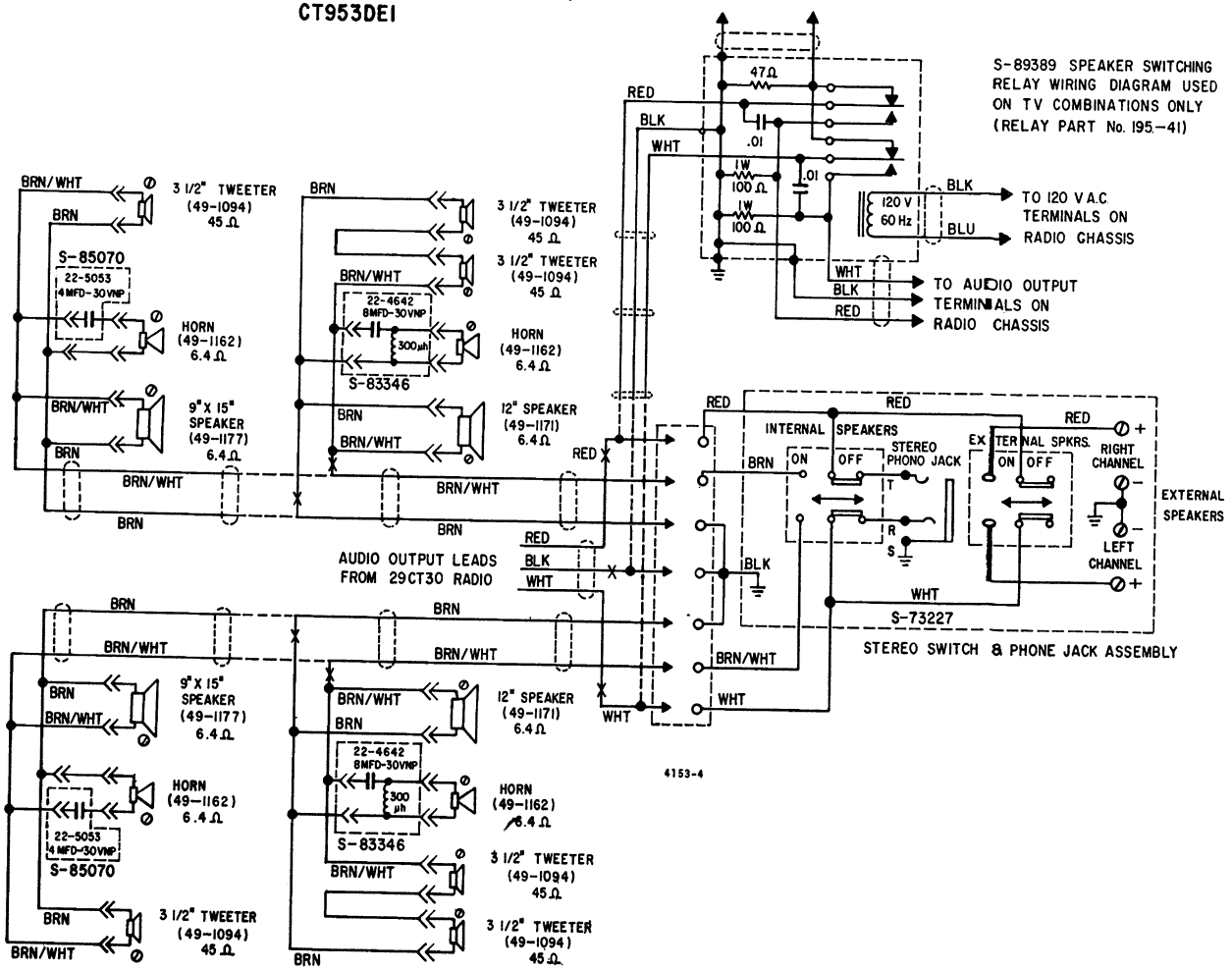


Ø INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER

SPEAKER WIRING FOR MODELS: C8775P

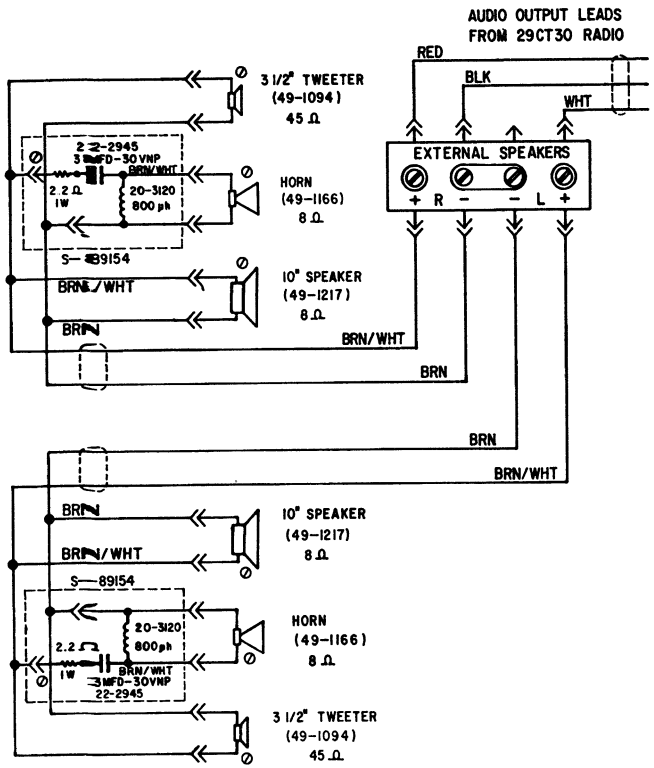
SPEAKER WIRING FOR MODELS: CT95IM, CT95IMI, CT953DE, CT953DEI

TO TV AUDIO OUTPUT TERMINALS



SPEAKER WIRING SCHEMATICS

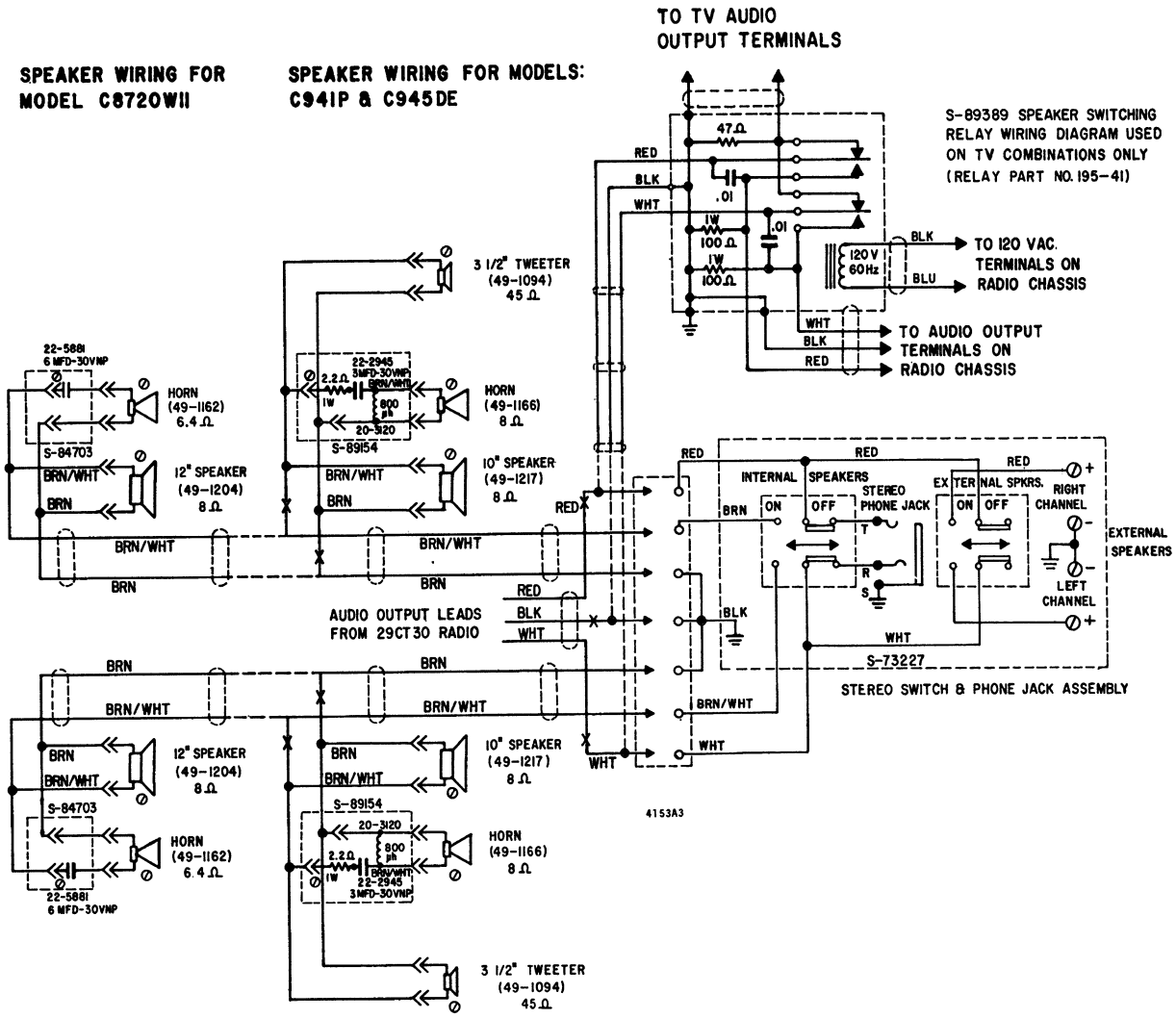
SPEAKER WIRING FOR MODELS: C 930W, C937M & C939DE



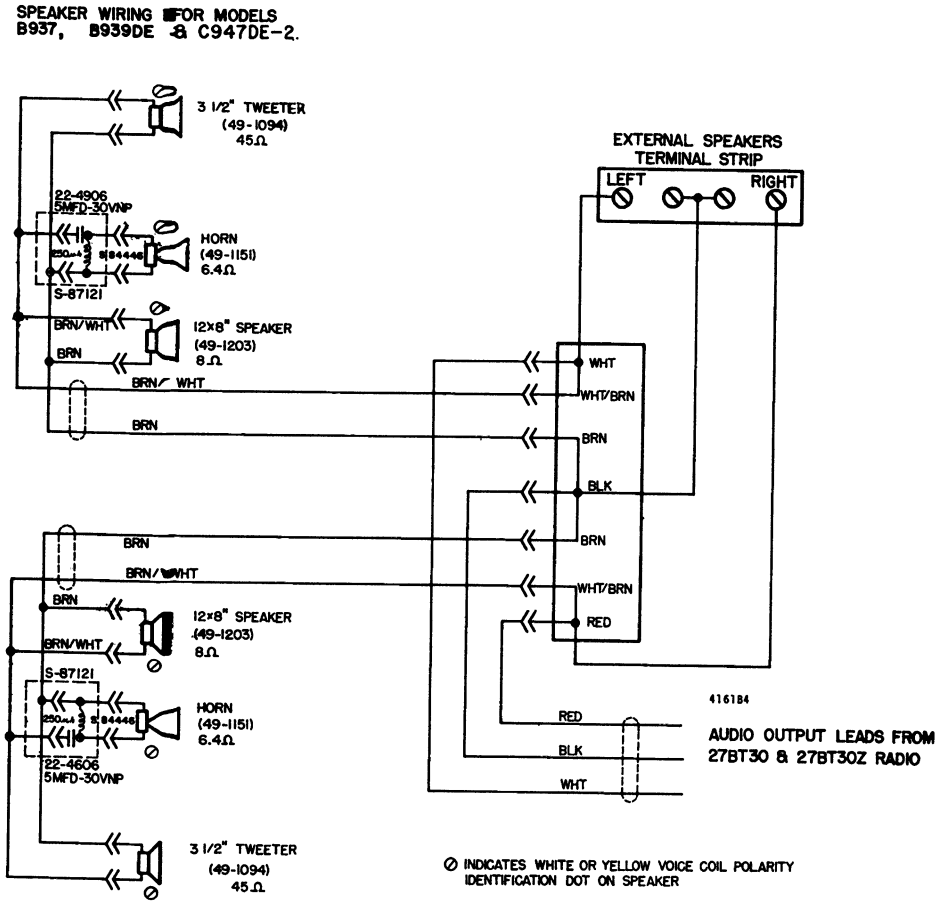
⊘ INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER

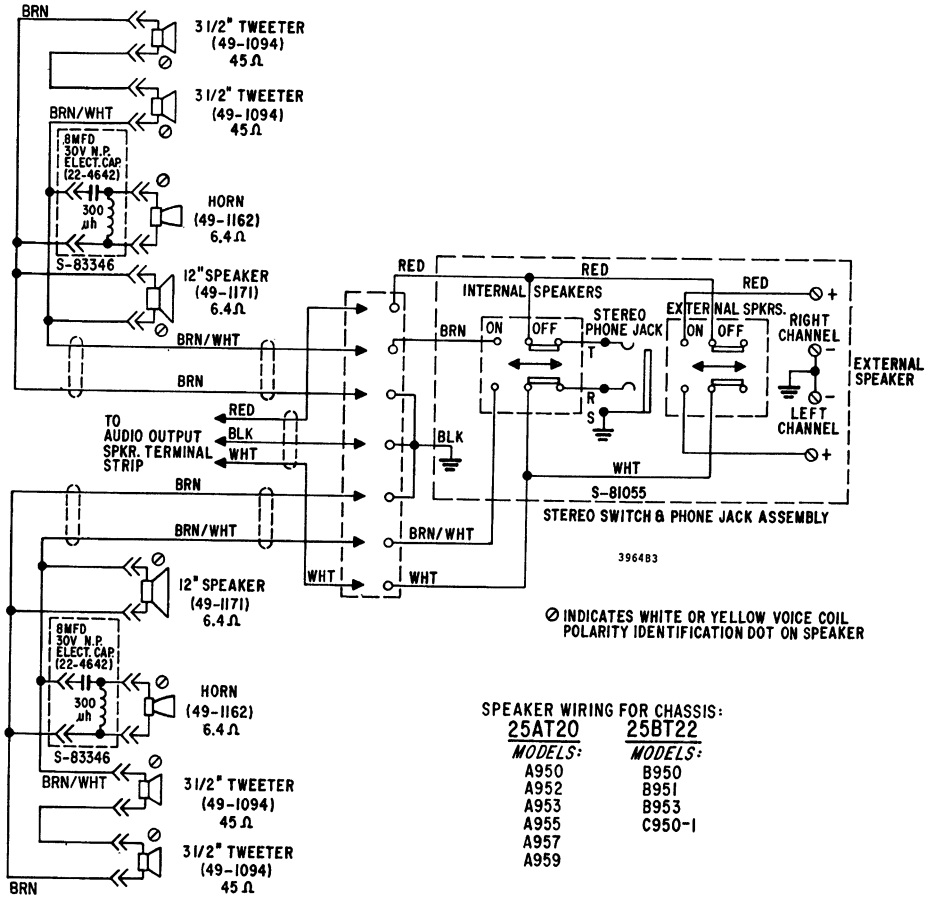
SPEAKER WIRING FOR MODEL C8720WII

SPEAKER WIRING FOR MODELS: C941P & C945DE



SPEAKER WIRING SCHEMATICS





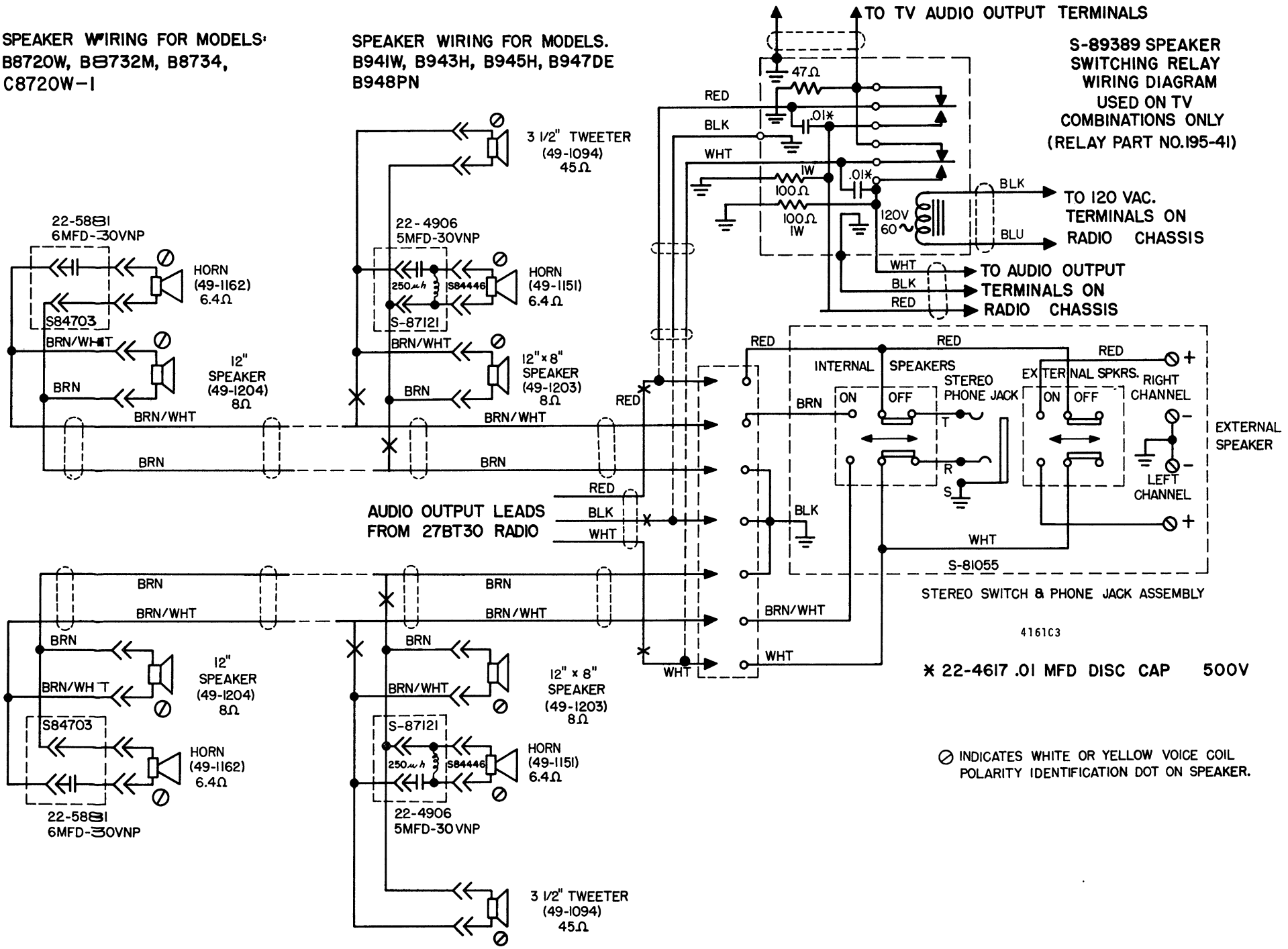
SPEAKER WIRING FOR CHASSIS:

25AT20	25BT22
MODELS:	*MODELS:*
A950	B950
A952	B951
A953	B953
A955	C950-1
A957	
A959	

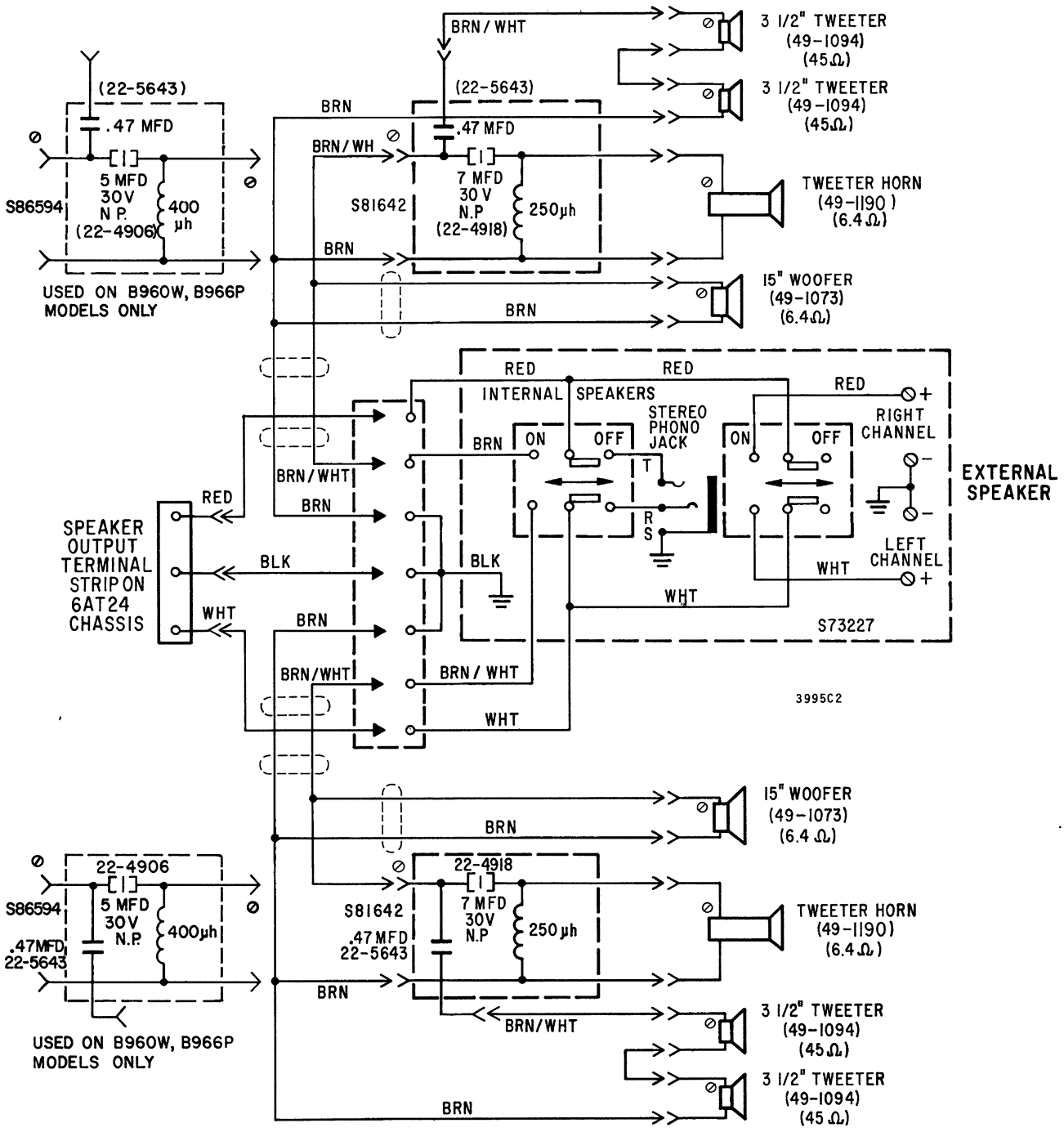
SPEAKER WIRING SCHEMATICS

SPEAKER WIRING FOR MODELS:
B8720W, B8732M, B8734,
C8720W-1

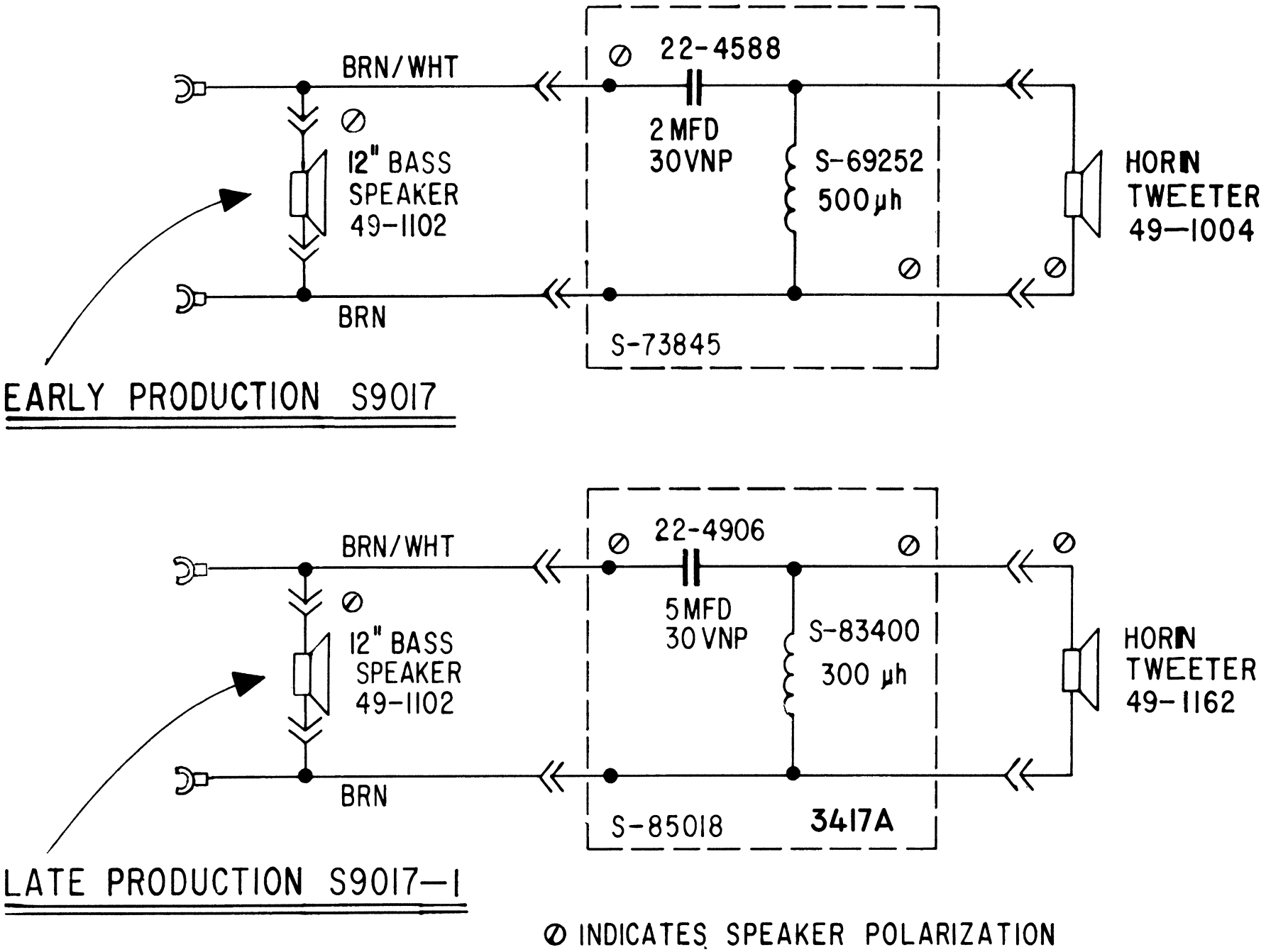
SPEAKER WIRING FOR MODELS.
B941W, B943H, B945H, B947DE
B948PN



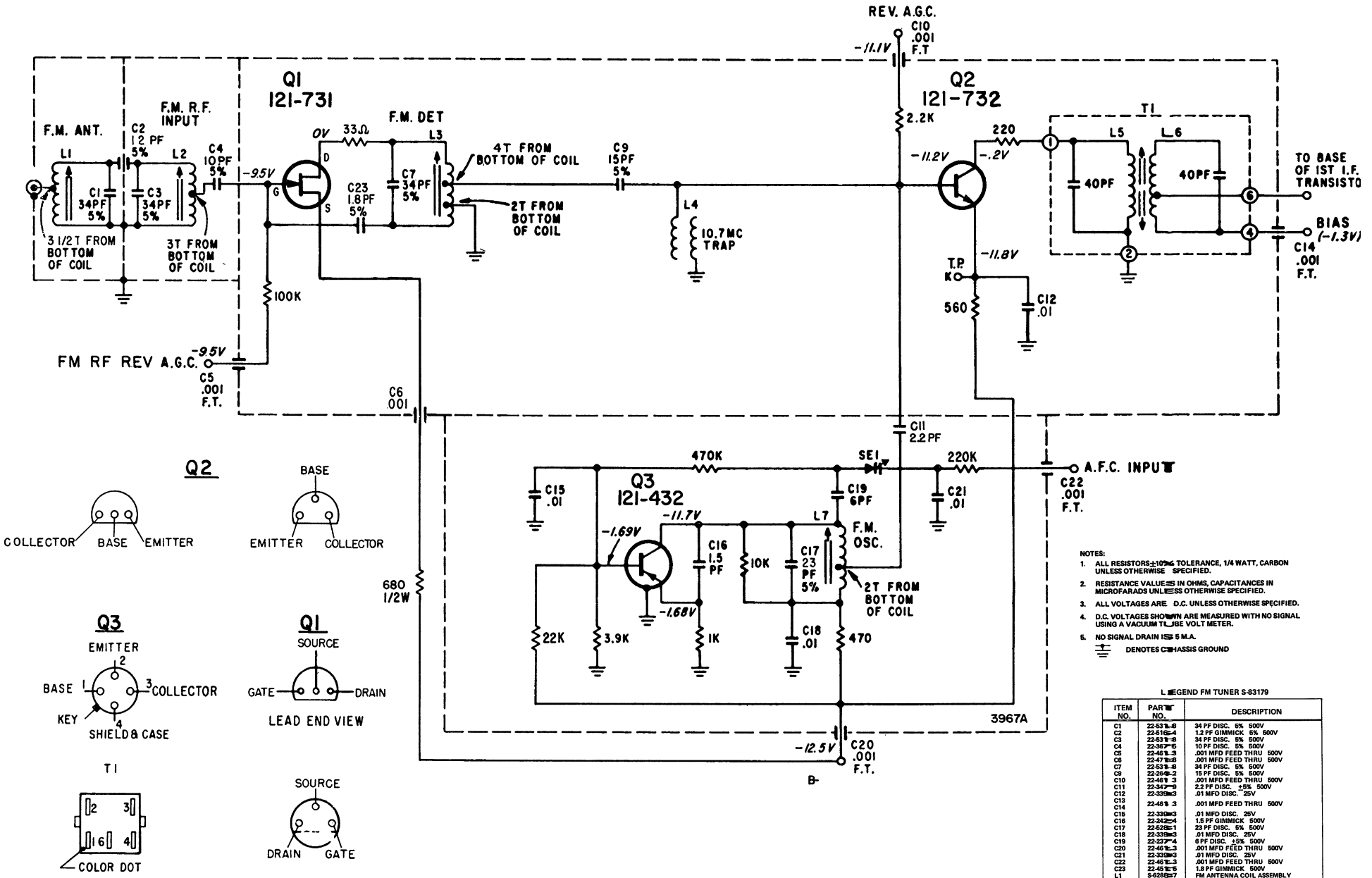
SPEAKER WIRING SCHEMATICS



SPEAKER WIRING SCHEMATICS



S9017W AND 59017W1 – SCHEMATIC



NOTES:

1. ALL RESISTORS ±10% TOLERANCE, 1/4 WATT, CARBON UNLESS OTHERWISE SPECIFIED.
2. RESISTANCE VALUES IN OHMS, CAPACITANCES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
4. D.C. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL USING A VACUUM TUBE VOLT METER.
5. NO SIGNAL DRAIN IS 5 M.A.

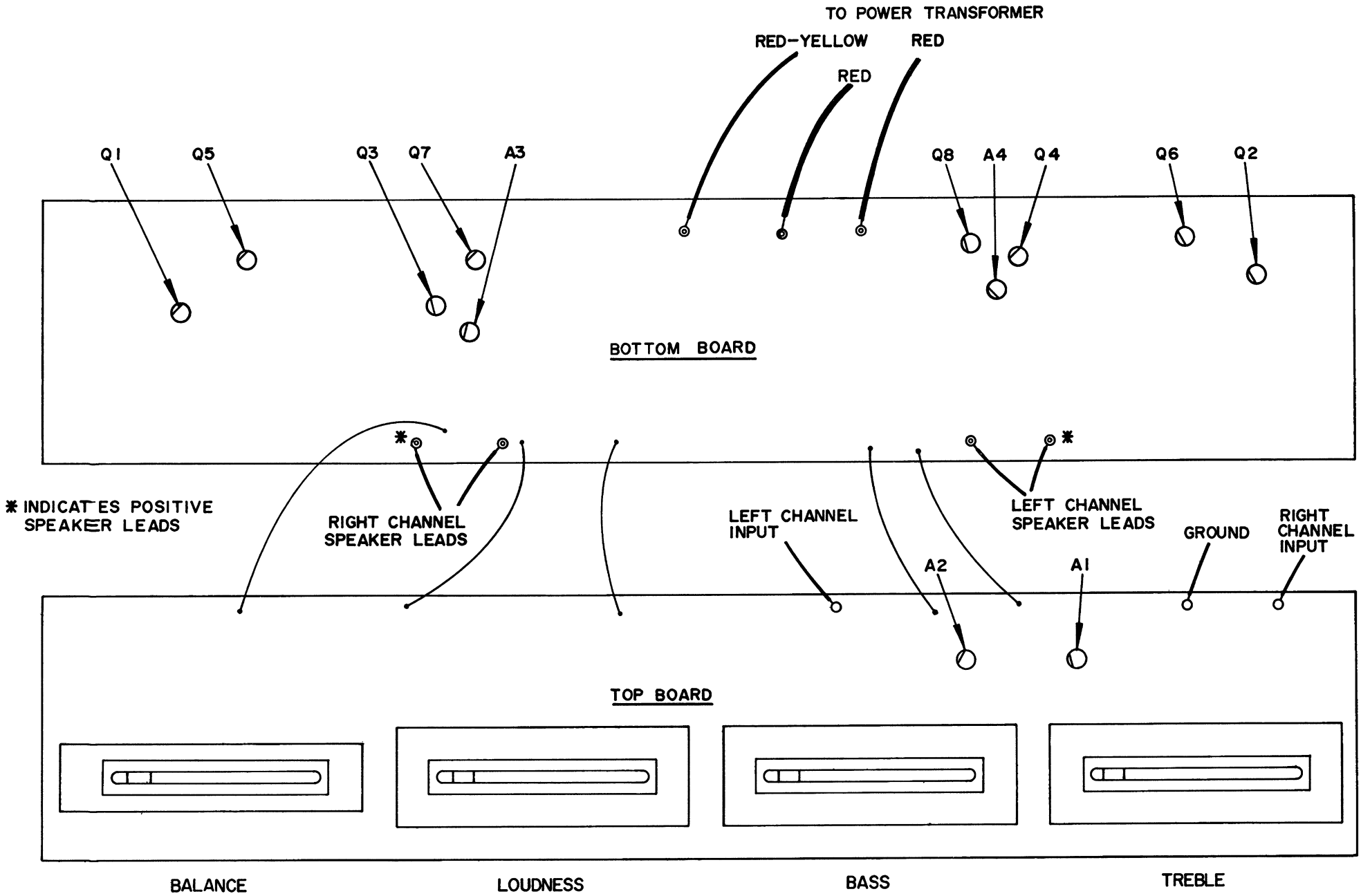
DENOTES CHASSIS GROUND

LEGEND FM TUNER S-83179

ITEM NO.	PART NO.	DESCRIPTION
C1	22-531-8	34 PF DISC. 5% 500V
C2	22-516-4	1.2 PF GIMMICK 5% 500V
C3	22-531-8	34 PF DISC. 5% 500V
C4	22-367-5	10 PF DISC. 5% 500V
C5	22-461-3	.001 MFD FEED THRU 500V
C6	22-471-3	.001 MFD FEED THRU 500V
C7	22-531-8	34 PF DISC. 5% 500V
C9	22-264-2	15 PF DISC. 5% 500V
C10	22-461-3	.001 MFD FEED THRU 500V
C11	22-347-9	2.2 PF DISC. ±5% 500V
C12	22-339-3	.01 MFD DISC. 25V
C13		
C14	22-461-3	.001 MFD FEED THRU 500V
C15	22-339-3	.01 MFD DISC. 25V
C16	22-242-4	1.5 PF GIMMICK 500V
C17	22-523-1	23 PF DISC. 5% 500V
C18	22-339-3	.01 MFD DISC. 25V
C19	22-237-4	6 PF DISC. ±5% 500V
C20	22-461-3	.001 MFD FEED THRU 500V
C21	22-339-3	.01 MFD DISC. 25V
C22	22-461-3	.001 MFD FEED THRU 500V
C23	22-451-5	1.8 PF GIMMICK 500V
L1	S-6288-7	FM ANTENNA COIL ASSEMBLY
L2	S-6288-7	FM RF INPUT COIL ASSEMBLY
L3	S-6288-7	FM DET.COIL ASSEMBLY
L4	20-125-6	TRAP COIL 10.7 MHz
L5	IN T1	
L6	IN T1	
L7	S-6286-7	FM OSCILLATOR COIL ASSEMBLY
SE1	103-47	DIODE
T1	96-232-2	1ST FM I.F. TRANSFORMER 10.7 MHz
Q1	121-731	FM-RF TRANSISTOR
Q2	121-732	FM-MIXER TRANSISTOR
Q3	121-432	FM-OSCILLATOR TRANSISTOR

3967A

S-83179—FM TUNER-SCHEMATIC

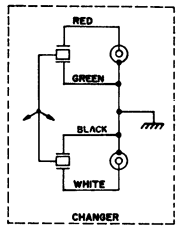


B553 - CHASSIS LAYOUT

#LEGEND MODEL B553W

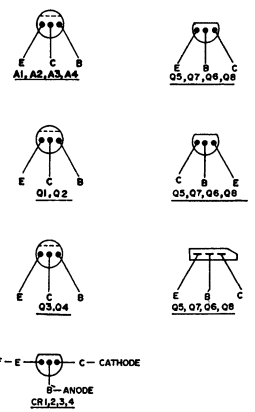
ITEM NO.	PART NO.	DESCRIPTION
C1	964-19638	.05 MF 100V
C2	964-19638	.05 MF 100V
C3	964-19755	100 PF 500V
C4	964-19755	100 PF 500V
C5	964-19758	1 MF ELECTROLYTIC 15V
C6	964-19758	1 MF ELECTROLYTIC 15V
C7	964-27741	.0082 MF 500V
C8	964-27741	.0082 MF 500V
C9	964-19839	470 PF 500V
C10	964-19839	470 PF 500V
C11	964-25865	.022 MF 500V
C12	964-25865	.022 MF 500V
C13	964-19638	.05 MF 100V
C14	964-19638	.05 MF 100V
C15	964-25922	33 MF ELECTROLYTIC 16V
C16	964-25922	33 MF ELECTROLYTIC 16V
C17	964-19839	470 PF 500V
C18	964-19839	470 PF 500V
C19	964-25903	250 MF ELECTROLYTIC 25V
C20	964-25903	250 MF ELECTROLYTIC 25V
C21	964-20061	10 MF ELECTROLYTIC 15V
C22	964-19615	5 MF ELECTROLYTIC 15V
C23	964-25784	1000 MF ELECTROLYTIC 35V
C24	964-19614	.001 MF 500V
C25	964-19614	.001 MF 500V
C26	964-19758	1 MF ELECTROLYTIC 15V
C27	964-19758	1 MF ELECTROLYTIC 15V
R1	63-1897	470K OHM 1/2W 10%
R2	63-1897	470K OHM 1/2W 10%
R3	964-22099	4.7 MEGOHM 1/2W 10%
R4	964-22099	4.7 MEGOHM 1/2W 10%
R5	964-22099	4.7 MEGOHM 1/2W 10%
R6	964-22099	4.7 MEGOHM 1/2W 10%
R7	964-11582	6800 OHM 1/2W 10%
R8	964-11582	6800 OHM 1/2W 10%
R9	63-2877	120K OHM 1/2W 10%
R10	63-2877	120K OHM 1/2W 10%
R11	964-9518	33K OHM 1/2W 10%
R12	964-9518	33K OHM 1/2W 10%
R13	63-2877	120K OHM 1/2W 10%
R14	63-2877	120K OHM 1/2W 10%
R15	964-22099	4.7 MEGOHM 1/2W 10%
R16	964-22099	4.7 MEGOHM 1/2W 10%
R17	63-1897	470K OHM 1/2W 10%
R18	63-1897	470K OHM 1/2W 10%
R19	63-1771	470 OHM 1/2W 10%
R20	63-1771	470 OHM 1/2W 10%
R21	63-1771	470 OHM 1/2W 10%
R22	63-1771	470 OHM 1/2W 10%
R23	964-26371	15 OHM 1/2W 5%
R24	964-26371	15 OHM 1/2W 5%
R25	964-9513	220K OHM 1/2W 10%
R26	964-9513	220K OHM 1/2W 10%
R27	63-7011	1000 OHM 1/2W 10%
R28	63-7011	1000 OHM 1/2W 10%
R29	964-25902	2.2 OHM 1/2W 10%
R30	964-25902	2.2 OHM 1/2W 10%
R31	964-13591	8200 OHM 1/2W 10%
R32	964-26011	TREBLE 3 MEGOHM
R33	964-24738	BASS 500K OHM
R34	964-24739	LOUDNESS 250K OHM
R35	964-25010	BALANCE 300K OHM
R36	964-11143	1500 OHM 1/2W 10%
R37	964-11143	1500 OHM 1/2W 10%
R38		
R39		
R40	964-25902	2.2 OHM 1/2W 10%
R41	964-25902	2.2 OHM 1/2W 10%
T1	964-23629	TRANSFORMER – POWER
A1	964-22009	TRANSISTOR – PRE-AMP (NPN)
A2	964-22009	TRANSISTOR – PRE-AMP (NPN)
A3	964-22009	TRANSISTOR – PRE-AMP (NPN)
A4	964-22009	TRANSISTOR – PRE-AMP (NPN)
Q1	800-294	TRANSISTOR – DRIVER – MATCHED PAIR (PNP-NPN)
Q2	800-294	TRANSISTOR – DRIVER – MATCHED PAIR (PNP-NPN)
Q5 OR Q7	964-24584 OR 964-27986	TRANSISTOR – OUTPUT – MATCHED PAIR (NPN-NPN)
Q6 OR Q8	964-24584 OR 964-27986	TRANSISTOR – OUTPUT – MATCHED PAIR (NPN-NPN)
CR1	964-24387	DIODE – BIAS
CR2	964-24387	DIODE – BIAS
CR3	964-24387	DIODE – BIAS
CR4	964-24387	DIODE – BIAS
CR5	964-21866	DIODE – RECTIFIER
CR6	964-21866	DIODE – RECTIFIER

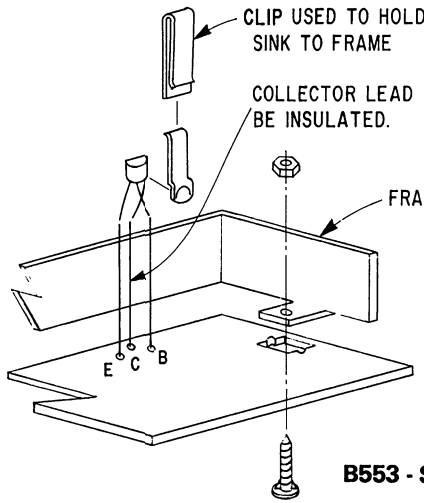
Z116570

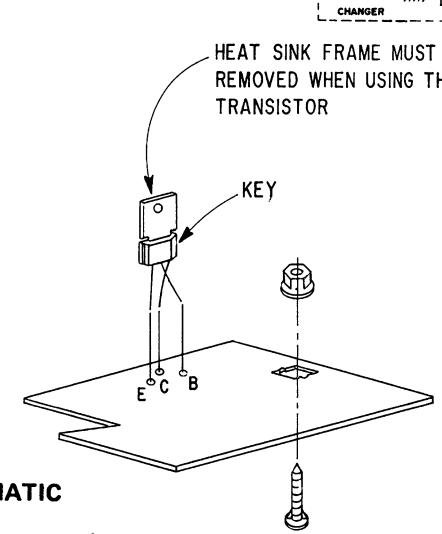


1. ALL CAPACITORS ARE IN MFD UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS ARE IN OHMS, 1/2 WATT, 10% UNLESS OTHERWISE SPECIFIED.
3. ● INDICATES SPEAKER POLARITY.
4. ✱ INDICATES HEAT SINK
5. ALL VOLTAGES ARE DC MEASURED WITH A VTVM AND TO GROUND WITH NO SIGNAL APPLIED.

BOTTOM VIEW OF TRANSTORS







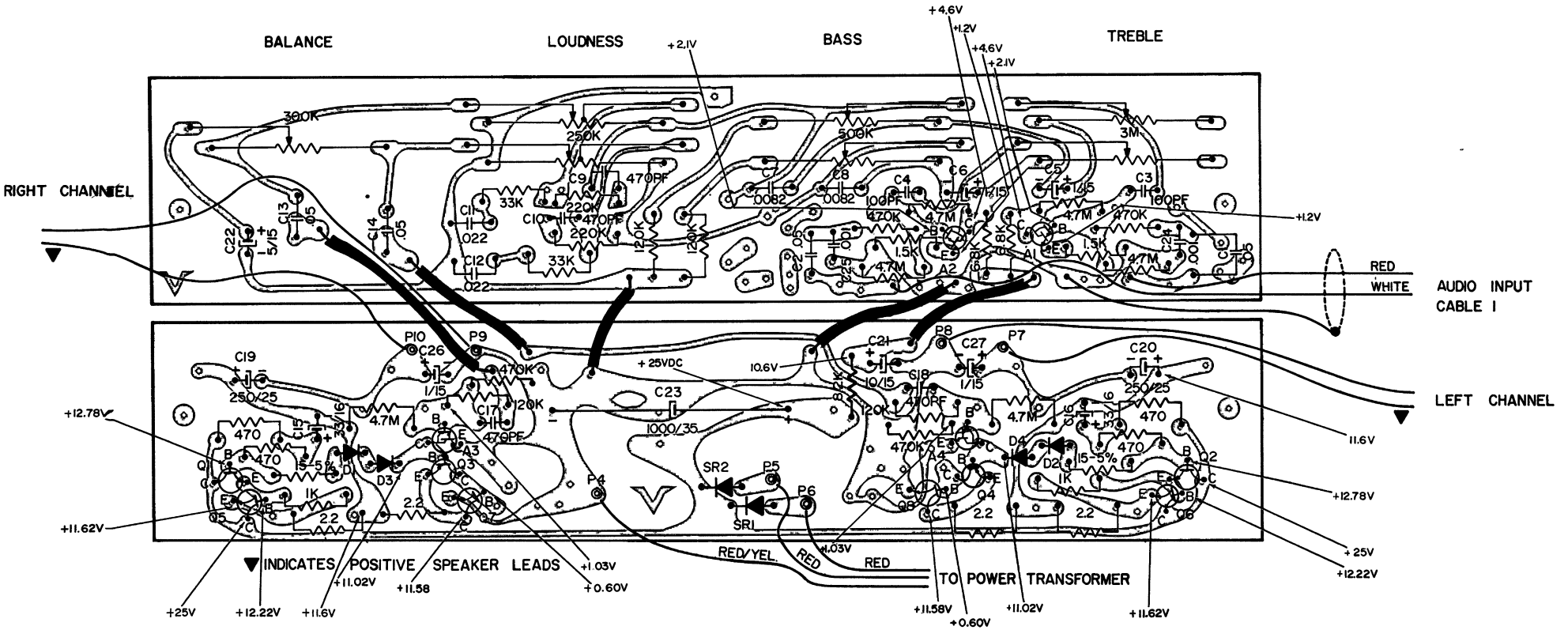
EARLY PRODUCTION

USING T-I POWER TRANSISTORS
ZENITH PART No. 964-24584

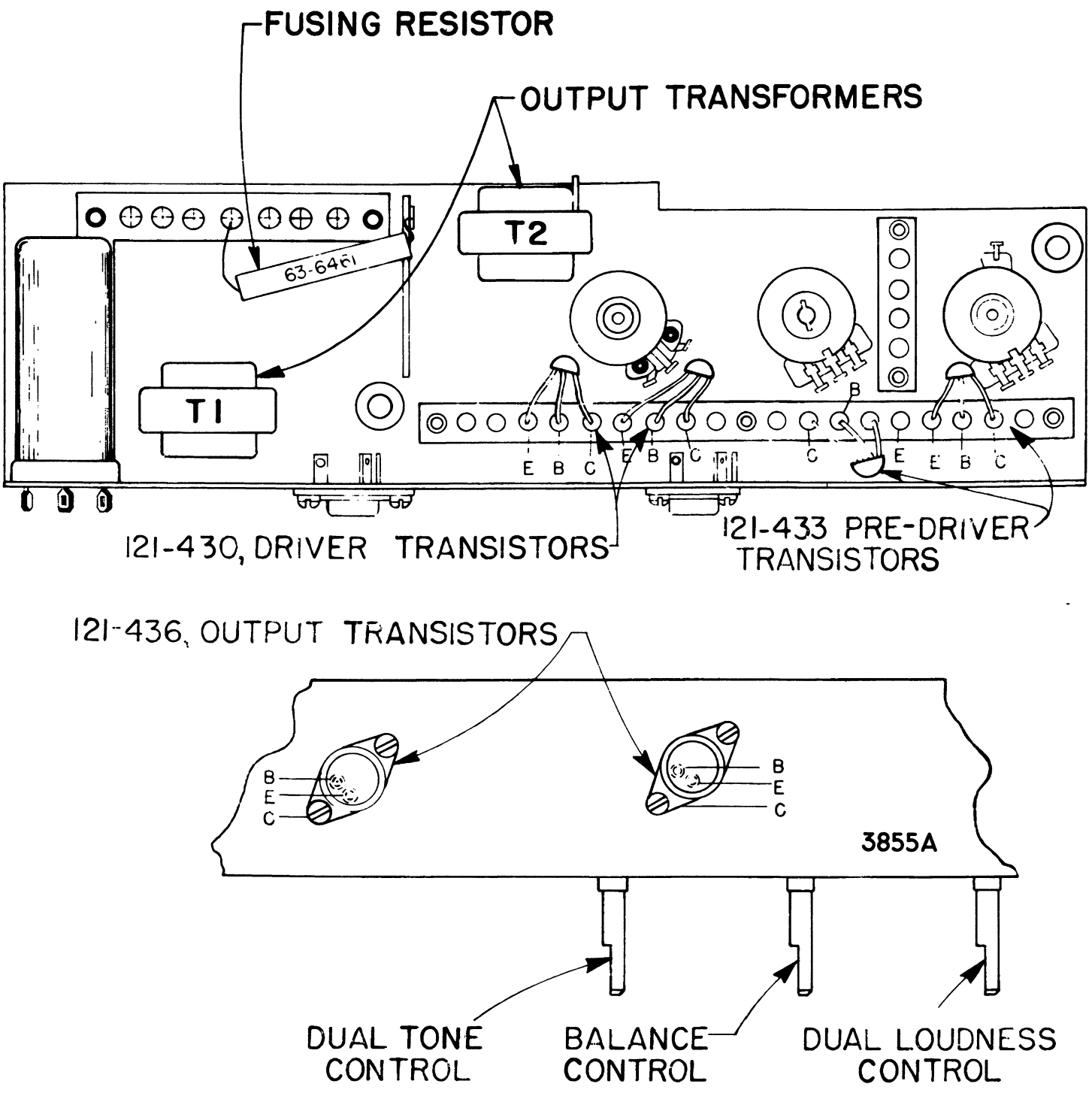
LATER PRODUCTION

USING G-E POWER TRANSISTORS
ZENITH PART No. 964-27986

B553 - SCHEMATIC



B553W – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

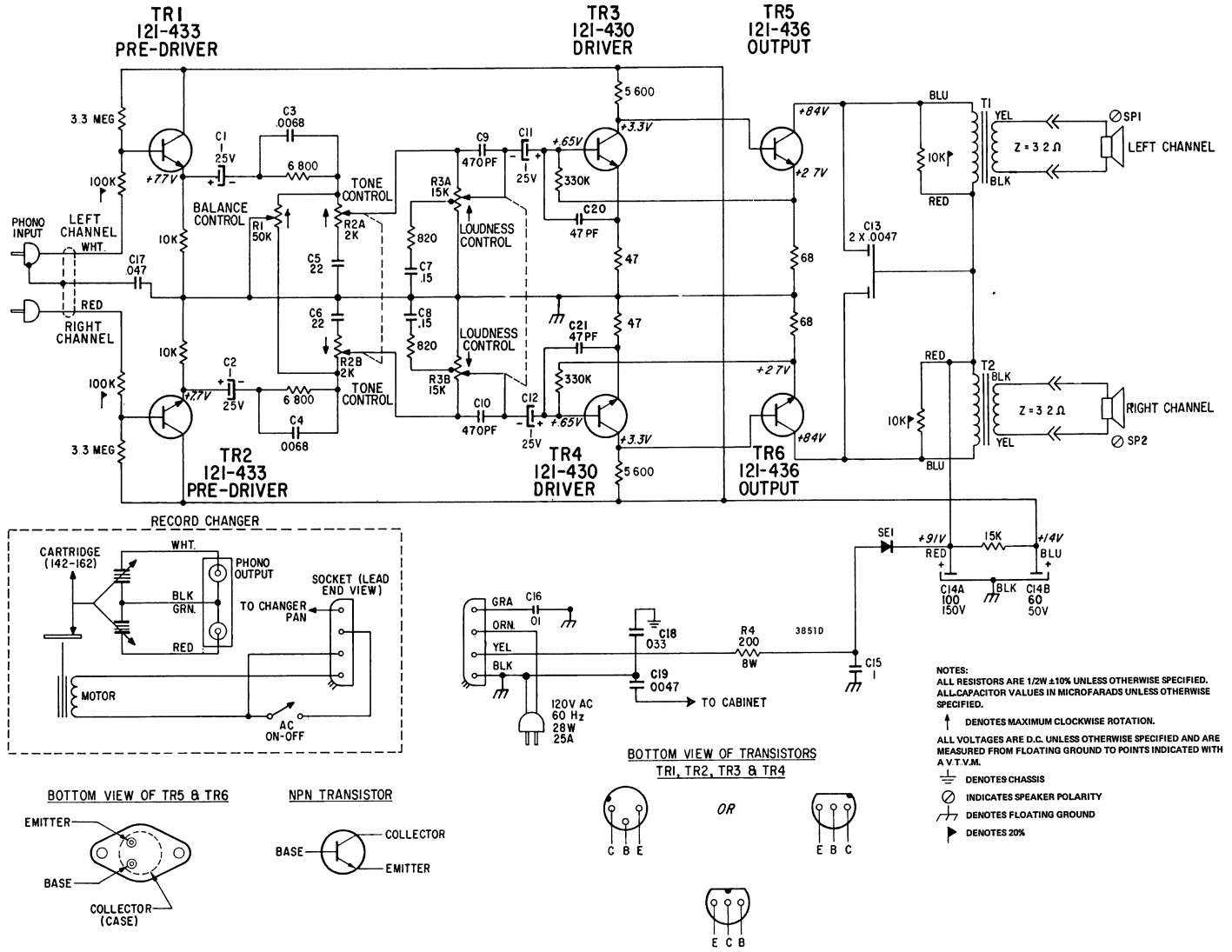


6ZT20 CHASSIS LAYOUT

LEGEND CHASSIS 6ZT20

ITEM NUMBER	PART NUMBER	DESCRIPTION
C1	22-3615	1 MFD ELECTROLYTIC 25V
C2	22-3615	1 MFD ELECTROLYTIC 25V
C3	22-3415	.0068 MFD DISC ±10% 25V
C4	22-3415	.0068 MFD DISC ±10% 25V
C5	22-3527	.22 MFD DISC 12V
C6	22-3527	.22 MFD DISC 12V
C7	22-5251	.15 MFD DISC ±20% 12V
C8	22-5251	.15 MFD DISC ±20% 12V
C9	22-3298	470 PF DISC ±10% 500V
C10	22-3298	470 PF DISC ±10% 500V
C11	22-3615	1 MFD ELECTROLYTIC 25V
C12	22-3615	1 MFD ELECTROLYTIC 25V
C13	22-24	2 x .0047 MFD DISC 500V
C14A	22-5680	100 MFD ELECTROLYTIC 150V
C14B		60 MFD ELECTROLYTIC 50V
C15	22-4859	.1 MFD TUBULAR ±20% 600V
C16	22-3513	.01 MFD DISC ±30% 500V
C17	22-2793	.042 MFD TUBULAR ±20% 400V
C18	22-2799	.033 MFD TUBULAR ±20% 400V
C19	22-5460	.0047 MFD DISC ±20% 500V
C20	22-5204	47 PF DISC ±10% 500V
C21	22-5204	47 PF DISC ±10% 500V
R1	63-7139	BALANCE CONTROL
R2A		
R2B	63-7140	DUAL TONE CONTROL
R3A		
R3B	63-7138	DUAL LOUDNESS CONTROL
R4	63-6461	200 FUSING ±10% 8W
T1	95-2670	OUTPUT TRANSFORMER
T2	95-2669	OUTPUT TRANSFORMER
SE1	212-71	SILICON RECTIFIER
SP1	49-1152	SPEAKER (6" x 9")
SP2	49-1152	SPEAKER (6" x 9")

3851D



NOTES:
ALL RESISTORS ARE 1/2W ±10% UNLESS OTHERWISE SPECIFIED.
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

↑ DENOTES MAXIMUM CLOCKWISE ROTATION.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED AND ARE MEASURED FROM FLOATING GROUND TO POINTS INDICATED WITH A V.T.V.M.

⏚ DENOTES CHASSIS

⊘ INDICATES SPEAKER POLARITY

DENOTES FLOATING GROUND

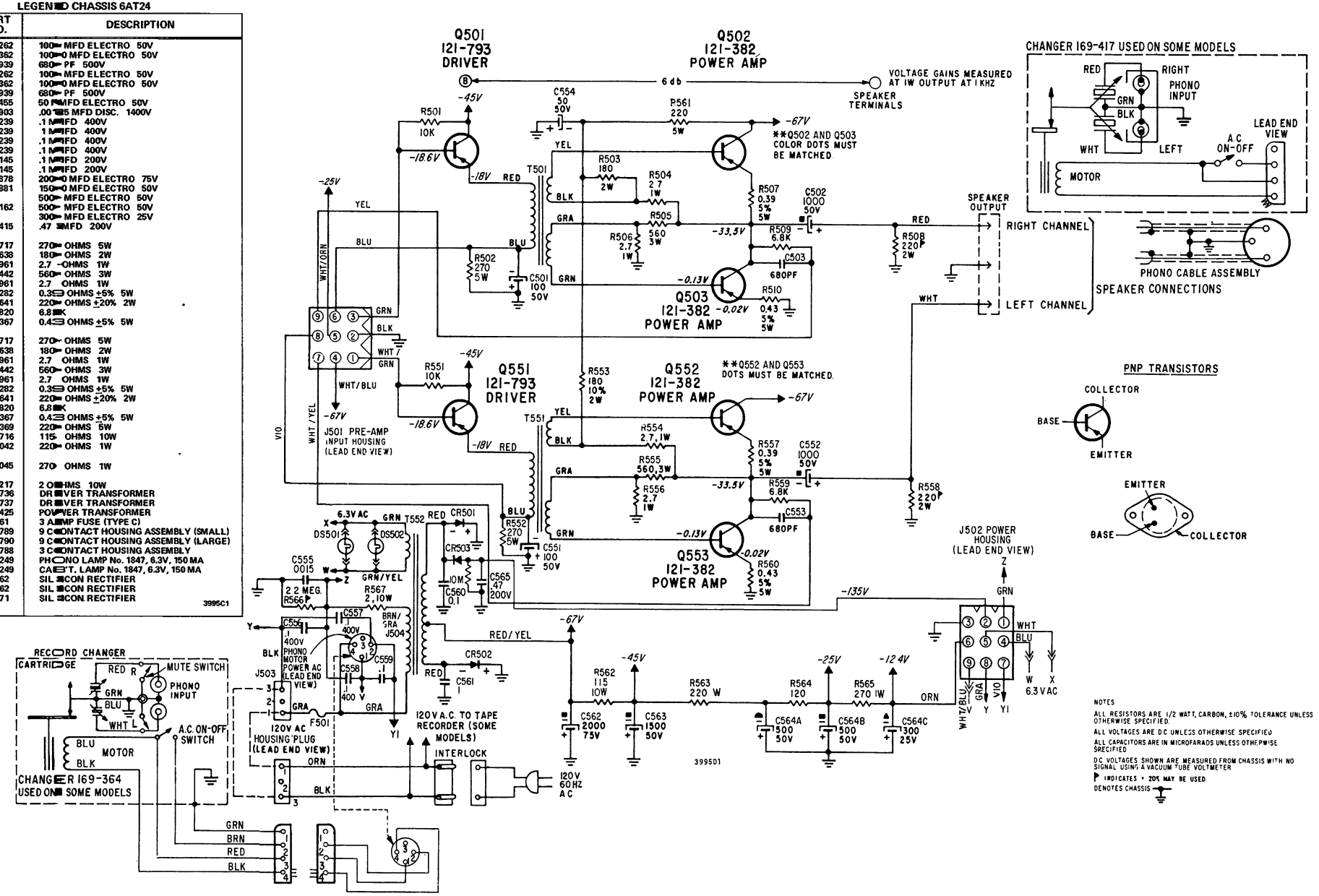
▶ DENOTES 20%

6ZT20 – SCHEMATIC

LEGEND CHASSIS 6AT24

ITEM NO.	PART NO.	DESCRIPTION
C501	22-5262	100 MFD ELECTRO 50V
C502	22-5362	1000 MFD ELECTRO 50V
C503	22-2939	680 PF 500V
C551	22-5262	100 MFD ELECTRO 50V
C552	22-5362	1000 MFD ELECTRO 50V
C553	22-2939	680 PF 500V
C554	22-5455	50 MFD ELECTRO 50V
C555	22-5903	.0015 MFD DISC. 1400V
C556	22-3239	.1 MFD 400V
C557	22-3239	.1 MFD 400V
C558	22-3239	.1 MFD 400V
C559	22-3239	.1 MFD 400V
C560	22-4145	.1 MFD 200V
C561	22-4145	.1 MFD 200V
C562	22-3878	2000 MFD ELECTRO 75V
C563	22-3881	1500 MFD ELECTRO 50V
C564A		500 MFD ELECTRO 50V
C564B	22-5162	500 MFD ELECTRO 50V
C564C		300 MFD ELECTRO 25V
C565	22-4415	.47 MFD 200V
R501		
R502	63-8717	270 OHMS 5W
R503	63-5638	180 OHMS 2W
R504	63-5961	2.7 OHMS 1W
R505	63-6442	560 OHMS 3W
R506	63-5961	2.7 OHMS 1W
R507	63-5282	0.39 OHMS ±5% 5W
R508	63-5641	220 OHMS ±20% 2W
R509	63-1820	6.8 K
R510	63-5367	0.43 OHMS ±5% 5W
R551		
R552	63-8717	270 OHMS 5W
R553	63-5638	180 OHMS 2W
R554	63-5961	2.7 OHMS 1W
R555	63-6442	560 OHMS 3W
R556	63-5961	2.7 OHMS 1W
R557	63-5282	0.39 OHMS ±5% 5W
R558	63-5641	220 OHMS ±20% 2W
R559	63-1820	6.8 K
R560	63-5367	0.43 OHMS ±5% 5W
R561	63-5369	220 OHMS 5W
R562	63-8716	115 OHMS 10W
R563	63-6042	220 OHMS 1W
R564		
R565	63-6045	270 OHMS 1W
R566		
R567	63-5217	2 OHMS 10W
T501	95-2736	DRIVER TRANSFORMER
T551	95-2737	DRIVER TRANSFORMER
T552	95-2425	POWER TRANSFORMER
F501	136-61	3 AMP FUSE (TYPE C)
J501	S-83789	9 CONTACT HOUSING ASSEMBLY (SMALL)
J502	S-83790	9 CONTACT HOUSING ASSEMBLY (LARGE)
J503	S-83788	3 CONTACT HOUSING ASSEMBLY
DS501	100-249	PHONO LAMP No. 1847, 6.3V, 150 MA
DS502	100-249	CAST. LAMP No. 1847, 6.3V, 150 MA
CR501	212-62	SILICON RECTIFIER
CR502	212-62	SILICON RECTIFIER
CR503	212-71	SILICON RECTIFIER

3995C1



NOTES

ALL RESISTORS ARE 1/2 WATT, CARBON, ±10% TOLERANCE UNLESS OTHERWISE SPECIFIED.

ALL VOLTAGES ARE D.C UNLESS OTHERWISE SPECIFIED

ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED

D.C VOLTAGES SHOWN ARE MEASURED FROM CHASSIS WITH NO SIGNAL USING A VACUUM TUBE VOLTMETER

▶ INDICATES + 20% MAY BE USED.

DENOTES CHASSIS

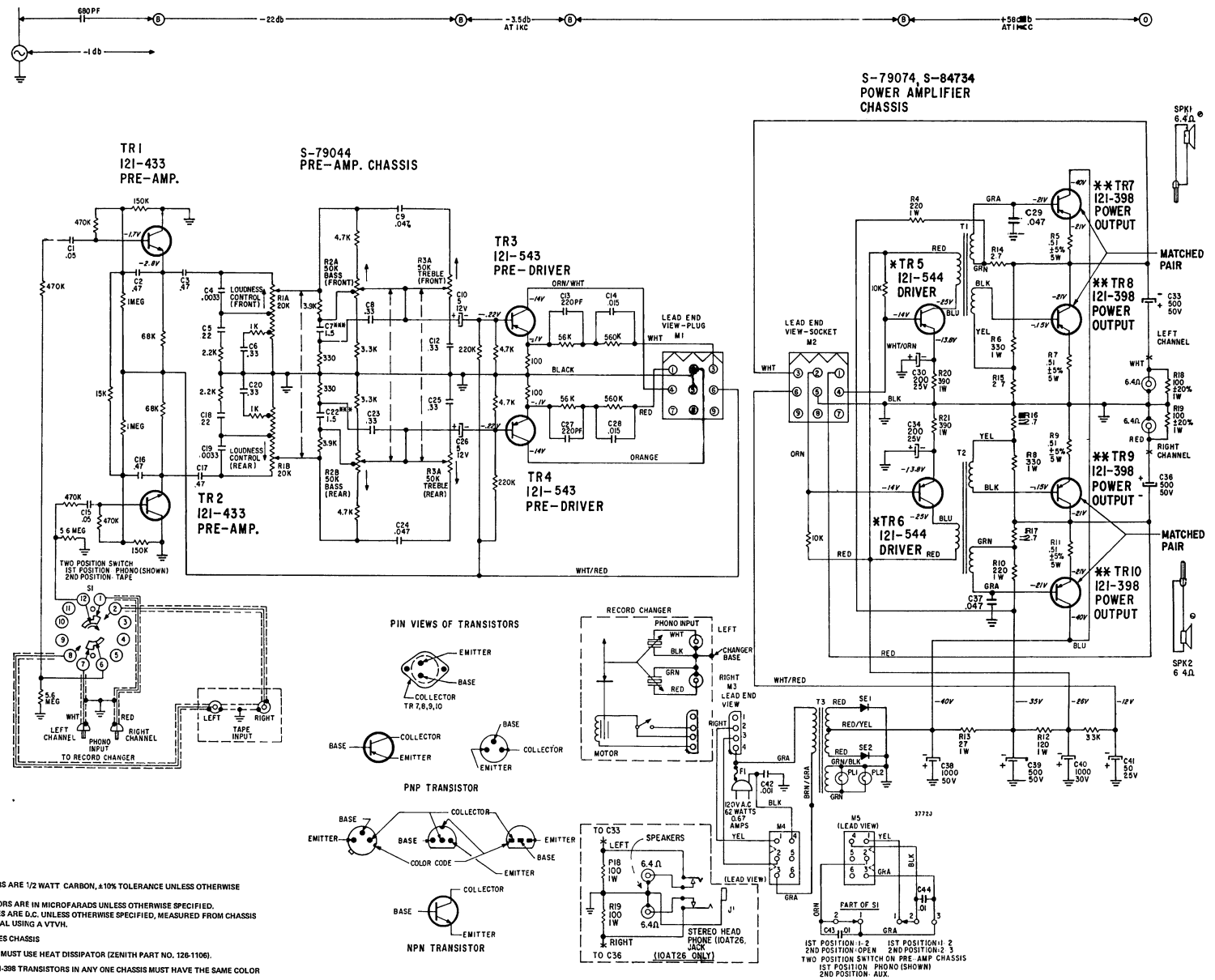
6AT24 – SCHEMATIC

SEE PAGE 85
FOR CHASSIS LAYOUT

LEGEND CHASSIS 10AT26

ITEM NO.	PART NO.	DESCRIPTION
C1	22-3034	.05 MFD DISC 25V
C2	22-5018	.47 MFD 50V
C3	22-5018	.47 MFD 50V
C4	22-13	.0033 MFD DISC 500V
C5	22-3710	.22 MFD 50V
C6	22-3595	.33 MFD 50V
C7	22-5361	1.5 MFD ELECTROLYTIC NP 10V
C8	22-3595	.33 MFD 50V
C9	22-3678	.047 MFD 100V
C10	22-2884	5 MFD ELECTROLYTIC 12V
C12	22-3595	.33 MFD 50V
C13	22-2703	220 PF DISC 500V
C14	22-3599	.015 MFD 500V
C15	22-3034	.05 MFD DISC 25V
C16	22-5018	.47 MFD 50V
C17	22-5018	.47 MFD 50V
C18	22-3710	.22 MFD 50V
C19	22-13	.0033 MFD DISC 500V
C20	22-3595	.33 MFD 50V
C22	22-5361	1.5 MFD ELECTROLYTIC NP 10V
C23	22-3595	.33 MFD 50V
C24	22-3678	.047 MFD 100V
C25	22-3595	.33 MFD 50V
C26	22-2884	5 MFD ELECTROLYTIC 12V
C27	22-2703	220 PF DISC 500V
C28	22-3599	.015 MFD 500V
C29	22-3678	.047 MFD 100V
C30	22-5175	200 MFD 25V
C33	22-5316	500 MFD ELECTROLYTIC 50V
C34	22-5175	200 MFD ELECTROLYTIC 25V
C36	22-5316	500 MFD ELECTROLYTIC 500V
C37	22-3678	.047 MFD 100V
C38	22-5362	1000 MFD ELECTROLYTIC 50V
C39	22-5316	500 MFD ELECTROLYTIC 50V
C40	22-5167	1000 MFD ELECTROLYTIC 30V
C41	22-4577	50 MFD ELECTROLYTIC 25V
C42	22-4666	.001 MFD DISC 1400V
C43	22-4601	.01 MFD 1000V
C44	22-4601	.01 MFD 1000V
R1	63-6939	DUAL LOUDNESS CONTROL
R2	63-7123	DUAL BASS CONTROL
R3	63-6938	DUAL TREBLE CONTROL
R4	63-6042	220 OHMS RESISTOR 10% 1W
R5	63-5305	.51 OHMS RESISTOR 5% 5W
R6	63-6049	330 OHMS RESISTOR 10% 1W
R7	63-5305	.51 OHMS RESISTOR 5% 5W
R8	63-6049	330 OHMS RESISTOR 10% 1W
R9	63-5305	.51 OHMS RESISTOR 5% 5W
R10	63-6042	220 OHMS RESISTOR 10% 1W
R11	63-5305	.51 OHMS RESISTOR 5% 5W
R12	63-6031	120 OHMS RESISTOR 10% 1W
R13	63-6003	27 OHMS RESISTOR 10% 1W
R14	63-4519	2.7 OHM RESISTOR 10% ½W
R15	63-4519	2.7 OHM RESISTOR 10% ½W
R16	63-4519	2.7 OHM RESISTOR 10% ½W
R17	63-4519	2.7 OHM RESISTOR 10% ½W
R18	63-6027	100 OHM RESISTOR 20% 1W
R19	63-6027	100 OHM RESISTOR 20% 1W
R20	63-6052	390 OHM RESISTOR 10% 1W
R21	63-6052	390 OHM RESISTOR 10% 1W
T1	95-2475	DRIVER TRANSFORMER
T2	95-2475	DRIVER TRANSFORMER
T3	95-2476	POWER TRANSFORMER
SE1	212-61	SILICON RECTIFIER
SE2	212-61	SILICON RECTIFIER
PL1	100-249	PILOT LIGHT BULB
PL2	100-249	PILOT LIGHT BULB
S1	85-1022	PHONO-TAPE & A.C. SWITCH
F1	136-24	2A FUSE
SPK1	49-1116	6" PM SPEAKER
SPK2	49-1116	6" PM SPEAKER
J1	44-78	HEAD PHONE JACK (10AT26 ONLY)

3772J



NOTES:
ALL RESISTORS ARE 1/2 WATT CARBON, ±10% TOLERANCE UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED, MEASURED FROM CHASSIS WITH NO SIGNAL USING A VTVM.

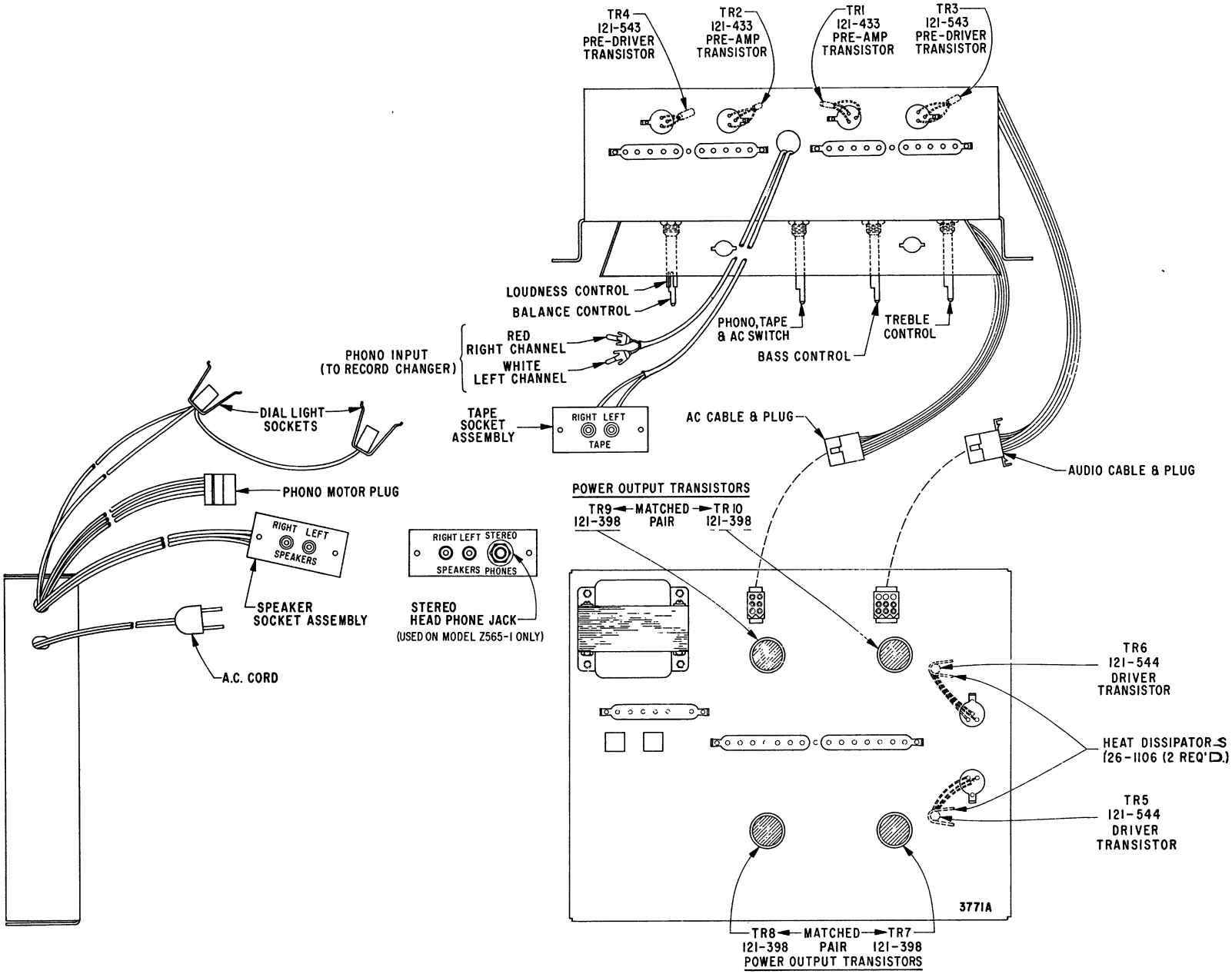
⏚ DENOTES CHASSIS

* TR5 & 6 MUST USE HEAT DISSIPATOR (ZENITH PART NO. 126-1106).

** ALL 121-398 TRANSISTORS IN ANY ONE CHASSIS MUST HAVE THE SAME COLOR CODE.

*** INDICATES NON-POLARIZED ELECTROLYTIC CAPACITOR.

10AT26 – SCHEMATIC

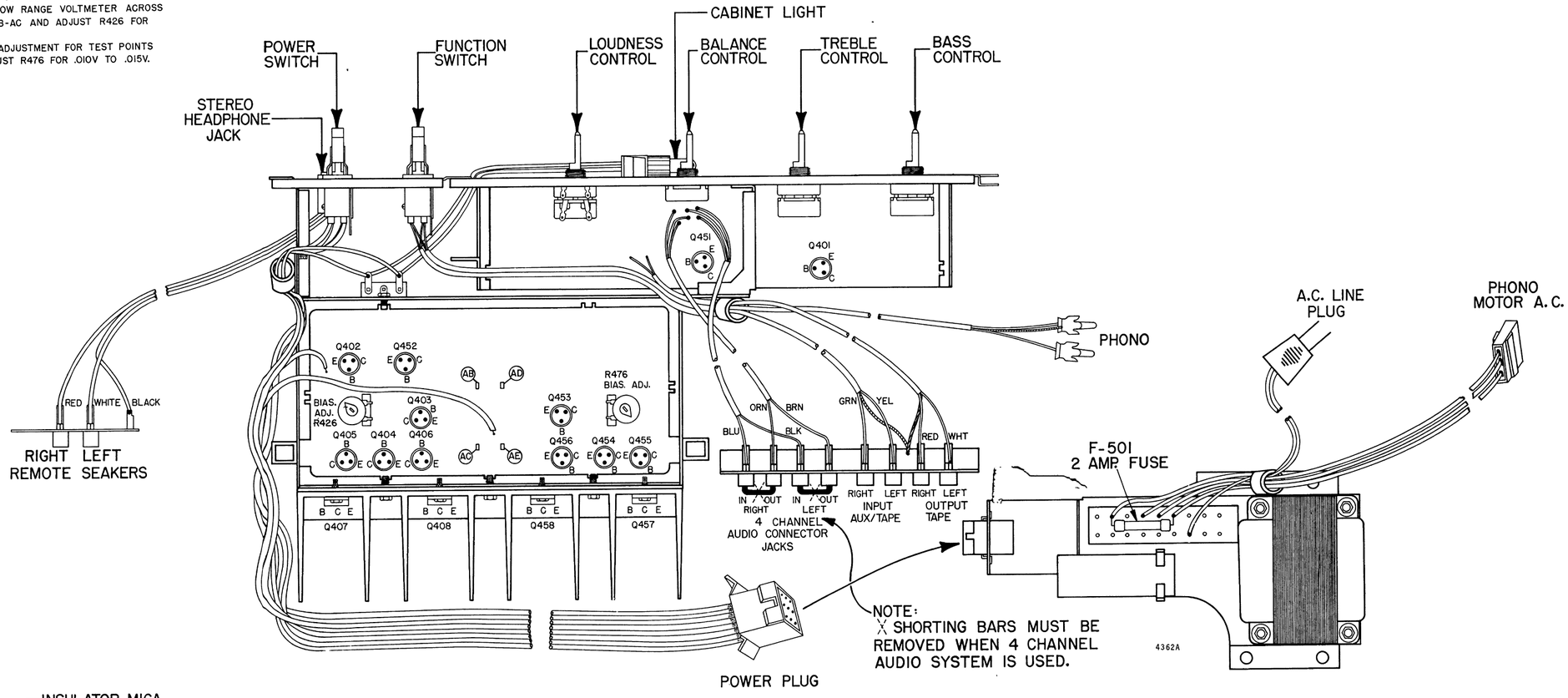


10AT26 – CHASSIS LAYOUT

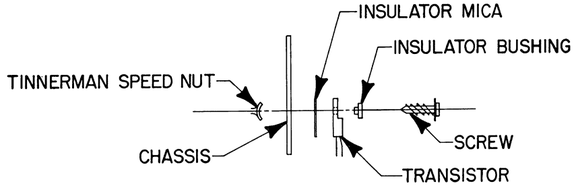
TRANSISTORS		
NO.	PART NO.	DESCRIPTION
Q401	121-430	PRE-AMPLIFIER
Q451		
Q402	121-430	AUDIO AMPLIFIER
Q452		
Q403	121-768	PRE-DRIVER
Q453		
Q404	121-767	BIAS CONTROL
Q454		
Q405	121-773	DRIVER
Q455		
Q406	121-774	DRIVER
Q456		
Q407	121-853	OUTPUT
Q457		
Q408		
Q458		

TEST POINTS

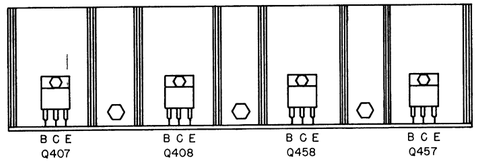
BIAS TEST POINTS: (AB), (AC), (AD), (AE).
TO ADJUST BIAS CONNECT A DIGITAL VOLTMETER OR ACCURATE LOW RANGE VOLTMETER ACROSS TEST POINTS AB-AC AND ADJUST R426 FOR .010V TO .015V.
REPEAT ABOVE ADJUSTMENT FOR TEST POINTS AD-AE AND ADJUST R476 FOR .010V TO .015V.

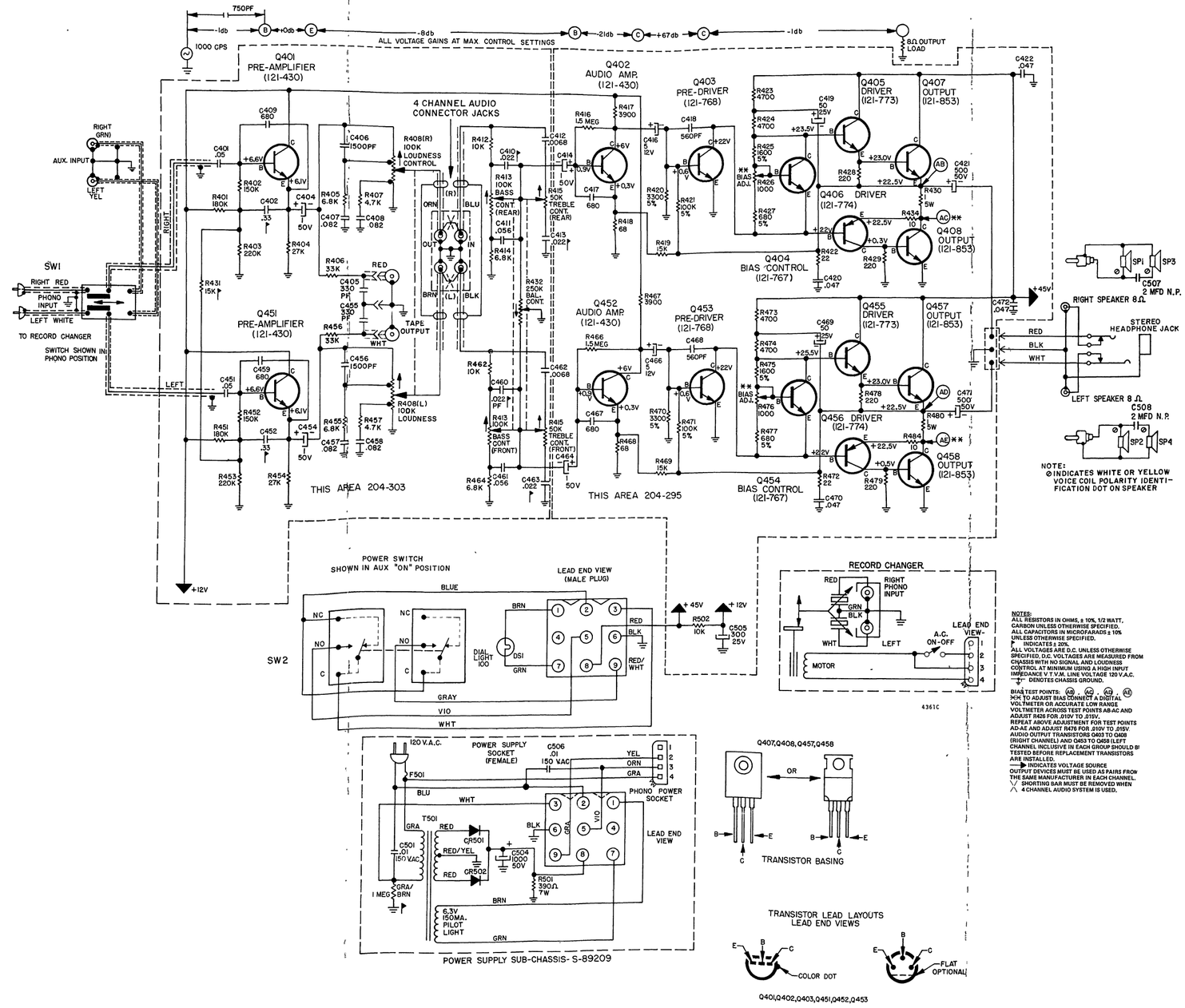


POWER SUPPLY



OUTPUT TRANSISTOR MOUNTING VIEW



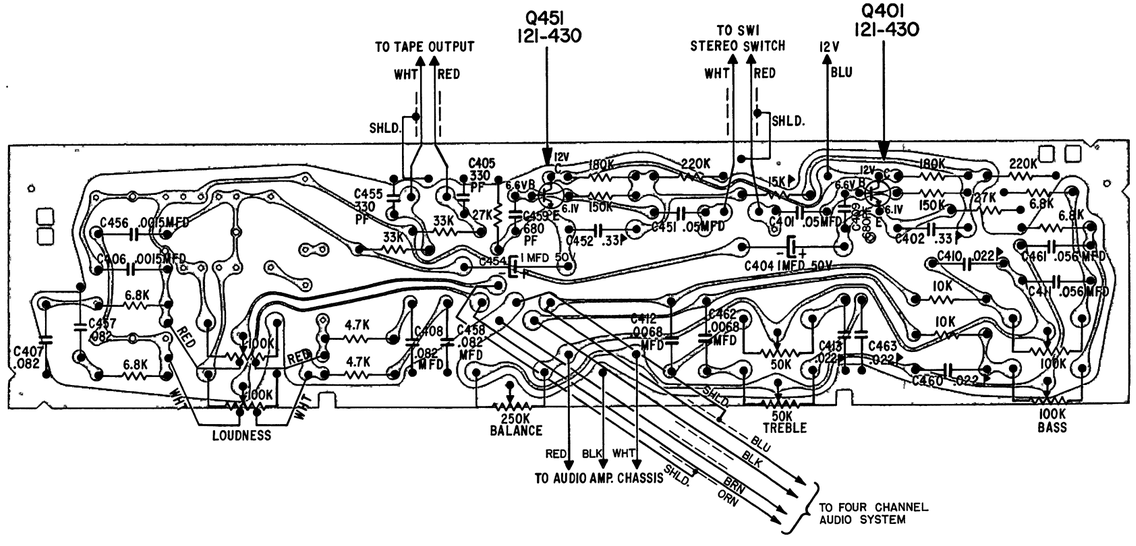


NOTES:
ALL RESISTORS IN OHMS, ± 10%, 1/2 WATT, CARBON UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS IN MICROFARADS ± 10% UNLESS OTHERWISE SPECIFIED.
▶ INDICATES ± 20%.
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED. D.C. VOLTAGES ARE MEASURED FROM CHASSIS WITH NO SIGNAL AND LOUDNESS CONTROL AT MINIMUM USING A HIGH INPUT IMPEDANCE V.T.V.M. LINE VOLTAGE 120 V.A.C.
⏚ DENOTES CHASSIS GROUND.
BIAS TEST POINTS: (AB), (AC), (AD), (AE)
⋈ TO ADJUST BIAS CONNECT A DIGITAL VOLTMETER OR ACCURATE LOW RANGE VOLTMETER ACROSS TEST POINTS AB-AC AND ADJUST R426 FOR .010V TO .015V. REPEAT ABOVE ADJUSTMENT FOR TEST POINTS AD-AE AND ADJUST R476 FOR .010V TO .015V. AUDIO OUTPUT TRANSISTORS Q403 TO Q408 (RIGHT CHANNEL) AND Q453 TO Q458 (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.
╲╱ SHORTING BAR MUST BE REMOVED WHEN 4 CHANNEL AUDIO SYSTEM IS USED.

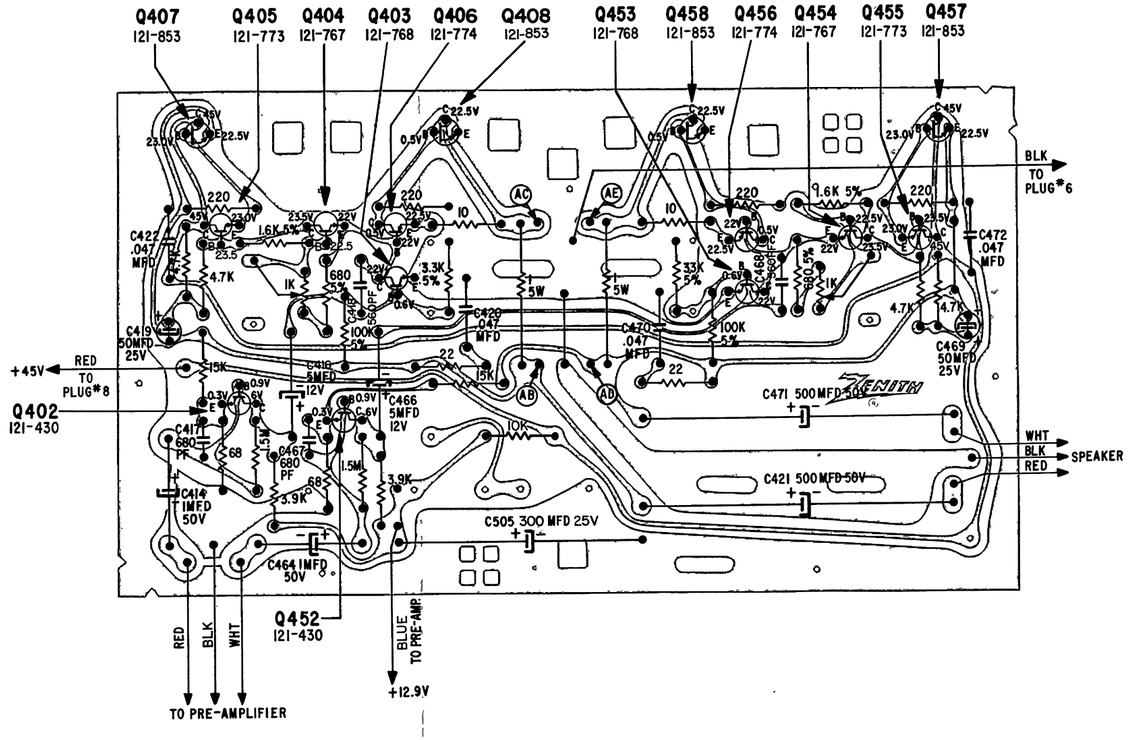
LEGEND CHASSIS 16CT21

ITEM NO.	PART NUMBER	DESCRIPTION
C401	22-3034	.05 MFD DISC 25 V
C402	22-6343	.33 MFD 20% 50 V
C404	22-3687	1 MFD ELECTROLYTIC 50 V
C405	22-3295	330 PF DISC 500 V
C406	22-5483	1500 PF 500 V
C407	22-5884	.082 MFD 100 V
C408	22-5884	.082 MFD 100 V
C409	22-5482	680 PF DISC 500 V
C410	22-5814	.022 MF 20% 100 V
C411	22-5816	.056 MFD 100 V
C412	22-3415	.0068 MF 50 V
C413	22-5814	.022 MF 20% 100 V
C414	22-3687	1 MFD ELECTROLYTIC 50 V
C416	22-2884	5 MFD ELECTROLYTIC 12 V
C417	22-5482	680 PF DISC 500 V
C418	22-3362	560 PF 500 V
C419	22-5986	50 MFD ELECTROLYTIC 25 V
C420	22-5866	.047 MFD 100 V
C421	22-5316	500 MFD ELECTROLYTIC 50 V
C422	22-5866	.047 MFD 100 V
C451	22-3034	.05 MFD DISC 25 V
C452	22-6343	.33 MFD 20% 50 V
C454	22-3687	1 MFD ELECTROLYTIC 50 V
C455	22-3259	330 PF DISC 500 V
C456	22-5483	1500 PF 500 V
C457	22-5884	.082 MFD 50 V
C458	22-5884	.082 MFD 100 V
C459	22-5482	680 PF DISC 500 V
C460	22-5814	.022 MF 20% 100 V
C461	22-5815	.056 MFD 100 V
C462	22-3415	.0068 MF 25 V
C463	22-5814	.022 MF 20% 100 V
C464	22-3687	1 MFD ELECTROLYTIC 50 V
C466	22-2884	5 MFD ELECTROLYTIC 12 V
C467	22-5482	680 PF DISC 500 V
C468	22-3362	560 PF 500 V
C469	22-5986	50 MFD ELECTROLYTIC 25 V
C470	22-5866	.047 MFD 100 V
C471	22-5316	500 MFD ELECTROLYTIC 50 V
C472	22-5866	.047 MFD 100 V
C501	22-6005	.01 MFD DISC 150 VAC
C504	22-5362	1000 MFD ELECTROLYTIC 50 V
C505	22-5168	300 MFD 25 V
C506	22-6005	.01 MFD DISC 150 VAC
C507	22-4588	2 MFD ELECTROLYTIC N.P. 30 V
C508	22-4588	2 MFD ELECTROLYTIC N.P. 30 V
R401	63-1880	180 K
R402	63-1876	150 K
R403	63-1883	220 K OHM
R404	63-1845	27 K OHM
R405	63-1820	6.8 K OHM
R406	63-1848	33 K OHM
R407	63-1813	4.7 K OHM
R408L	63-8324	100 K DUAL LOUDNESS CONTROL
R408R		
R412	63-1827	10 K OHM
R413R	63-7682	100 K DUAL BASS CONTROL
R413L		
R414	63-1820	6.8 K
R415	63-7681	50 K TREBLE CONTROL
R416	63-1918	1.5 MEG
R417	63-1810	3900 OHM
R418	63-1736	68 OHM
R419	63-1834	15 K OHM
R420	63-1805	3300 OHM 5%
R421	63-1868	100 K OHM 5%
R422	63-1715	22 OHM
R423	63-1813	4700 OHM
R424	63-1813	4700 OHM
R425	63-1794	1600 OHM 5%
R426	63-8977	1000 OHM BIAS ADJUST
R427	63-1777	680 OHM 5%
R428	63-1757	220 OHM
R429	63-1757	220 OHM
R430	63-6424	1 OHM 5 W
R431	63-1835	15 K 20%
R432	63-9000	250 K BALANCE CONTROL
R434	63-1701	10 OHM
R451	63-1880	180 K
R452	63-1876	150 K
R453	63-1883	220 K OHM
R454	63-1845	27 K OHM
R455	63-1820	6.8 K
R456	63-1848	33 K OHM
R457	63-1813	4.7 K OHM
R462	63-1827	10 K
R464	63-1820	6.8 K
R466	63-1918	1.5 MEG
R467	63-1810	3900 OHM
R468	63-1736	68 OHM
R469	63-1834	15 K OHM
R470	63-1805	3300 OHM 5%
R471	63-1868	100 K OHM 5%
R472	63-1715	22 OHM
R473	63-1813	4700 OHM
R474	63-1813	4700 OHM
R475	63-1794	1600 OHM 5%
R476	63-8977	1000 OHM BIAS ADJUST
R477	63-1777	680 OHM 5%
R478	63-1757	220 OHM
R479	63-1757	220 OHM
R480	63-6424	1 OHM 5 W
R484	63-1701	10 OHM
R501	63-4389	390 OHM 10% 7 W
R502	63-1827	10 K OHM 10% ½ W
R506	63-1912	1 MEG OHM 20% ½ W
T501	95-2940	POWER TRANSFORMER
F501	136-24	2A FUSE
CR501	212-61	SILICON RECTIFIER
CR502	212-61	SILICON RECTIFIER
SW1	85-1212	PHONO-AUX SWITCH
SW2	85-1211	POWER SWITCH
DS1	100-249	PILOT LIGHT BULB
SP-1	49-1216	6" PM SPEAKER
SP-2	49-1216	6" PM SPEAKER
SP-3	49-1168	HORN SPEAKER
SP-4	49-1168	HORN SPEAKER

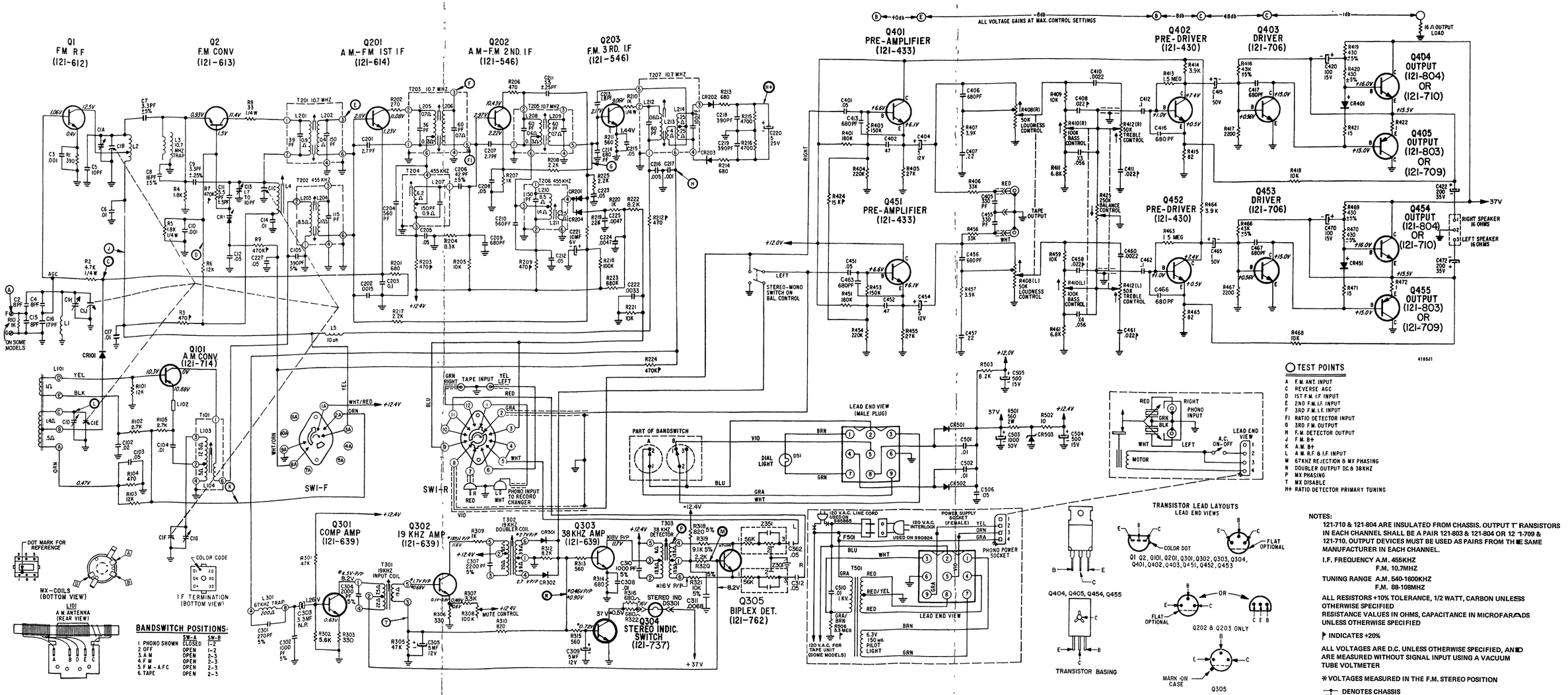
4361C1



16CT21 – PRE AMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



16CT21 – POWER AMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



TEST POINTS

- A F.M. ANT. INPUT
- C REVERSE AGC
- D 1ST F.M. I.F. INPUT
- E 2ND F.M. I.F. INPUT
- F 3RD F.M. I.F. INPUT
- FI RATIO DETECTOR INPUT
- G 3RD F.M. OUTPUT
- H F.M. DETECTOR OUTPUT
- J F.M. B+
- K A.M. B+
- L A.M. R.F. & I.F. INPUT
- M 67KHZ REJECTION & MX PHASING
- N DOUBLER OUTPUT DC & 38KHZ
- P MX PHASING
- T MX DISABLE
- H+ RATIO DETECTOR PRIMARY TUNING

TRANSISTOR LEAD LAYOUTS
LEAD END VIEWS

NOTES:

121-710 & 121-804 ARE INSULATED FROM CHASSIS. OUTPUT TRANSISTORS IN EACH CHANNEL SHALL BE A PAIR 121-803 & 121-804 OR 121-709 & 121-710. OUTPUT DEVICES MUST BE USED AS PAIRS FROM THE SAME MANUFACTURER IN EACH CHANNEL.

I.F. FREQUENCY A.M. 455KHZ
F.M. 10.7MHZ

TUNING RANGE A.M. 540-1600KHZ
F.M. 88-108MHZ

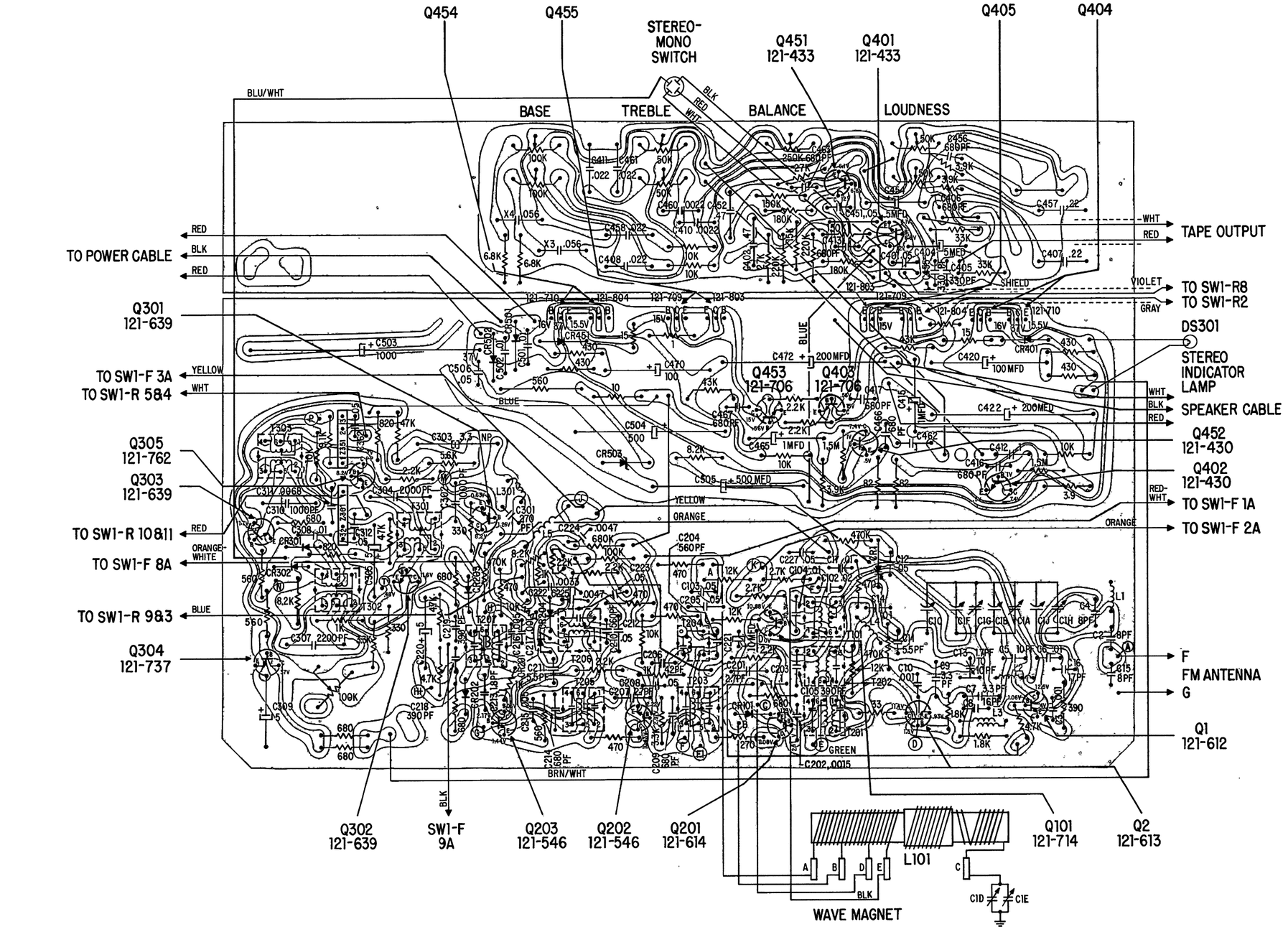
ALL RESISTORS ±10% TOLERANCE, 1/2 WATT, CARBON UNLESS OTHERWISE SPECIFIED
RESISTANCE VALUES IN OHMS, CAPACITANCE IN MICROFARADS UNLESS OTHERWISE SPECIFIED

▶ INDICATES ±20%

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED, AND ARE MEASURED WITHOUT SIGNAL INPUT USING A VACUUM TUBE VOLTMETER

* VOLTAGES MEASURED IN THE F.M. STEREO POSITION

⏚ DENOTES CHASSIS



LEGEND CHASSIS 21BT34 AND 21BT34Z1

ITEM NO.	PART NUMBER	DESCRIPTION	ITEM NO.	PART NUMBER	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER	R212	63-1772	470 OHM 20%
C1B		F.M. DETECTOR TUNING	R213	63-1778	680 OHM
C1C		F.M. OSCILLATOR TUNING	R214	63-1778	680 OHM
C1D		A.M. ANTENNA TRIMMER	R215	63-1813	4700 OHM
C1E	22-6137	A.M. ANTENNA TUNING	R216	63-1813	4700 OHM
C1F		A.M. OSCILLATOR TUNING	R217	63-1799	2.2K OHM
C1G		A.M. OSCILLATOR TRIMMER	R218	63-1809	100K OHM
C1H		F.M. ANTENNA TRIMMER	R219	63-1841	22K OHM
C1J		F.M. ANTENNA TUNING	R220	63-1785	1K OHM
C2	22-2481	8 PF DISC. ± .25 PF 500V	R221	63-1827	10K OHM
C3	22-2729	.001 MFD DISC. 25V	R222	63-1824	8.2K
C4	22-2481	8 PF DISC. ± .25 PF 500V	R223	63-1904	680K OHM
C5	22-3675	10 PF DISC. 5% 500V	R224	63-1898	470K OHM 20%
C6	22-3393	.01 MFD DISC. 25V	R225	63-1799	2.2K OHM
C7	22-3541	3.3 PF GIMMICK 5% 500V	R301	63-1855	47K OHM
C8	22-3558	16 PF DISC. 5% 500V	R302	63-1817	5.6K
C9	22-5879	3.3 PF DISC. ± .25 PF 25V	R303	63-1764	330 OHM
C10	22-2729	.001 MFD DISC. 25V	R304		
C11	22-5878	5.5 PF DISC. ± .5 PF 25V	R306	63-1826	47K OHM
C12	22-3034	.05 MFD DISC. 25V	R306	63-1764	330 OHM
C13	22-4855	1.7 TO 10 PF CERAMIC TRIMMER	R307	63-1806	3.3K OHM
C14	22-3393	.01 MFD DISC. 25V	R308	63-6495	100K MUTE CONTROL
C15	22-2481	8 PF DISC. ± .25 PF 500V	R309	63-1785	1K OHM
C16	22-3702	17 PF DISC. 5% 500V	R310	63-1782	820 OHM
C17	22-3393	.01 MFD DISC. 25V	R311		
C102	22-3033	.02 MFD DISC. 25V	R312	63-1824	8.2K OHM
C103	22-3034	.05 MFD DISC. 25V	R313	63-1775	560 OHM
C104	22-3393	.01 MFD DISC. 25V	R314	63-1778	680 OHM
C105	22-5480	390 PF DISC. 5% 100V	R315	63-1775	560 OHM
C106	22-5973		R316	63-1778	680 OHM
C201	22-3310	2.7 PF GIMMICK 500V	R318	63-1781	820 OHM 5%
C202	22-5483	.0015 MFD DISC. 500V	R319	63-1825	5.1K OHM 5%
C203	22-3662	1 MFD DISC. 10V	R320	63-1798	2.2K OHM 5%
C204	22-5481	560 PF DISC. 500V	R321	63-1826	10K OHM 5%
C205	22-3034	.05 MFD DISC. 25V	R322	63-1778	680 OHM
C206	22-3191	82 PF DISC. 5% 500V	R401	63-1880	180K OHM
C207	22-3310	2.7 PF GIMMICK 500V	R403	63-1876	150K OHM
C208	22-3033	.02 MFD DISC. 25V	R404	63-1883	220K OHM
C209	22-5482	680 PF DISC. 500V	R405	63-1845	27K OHM
C210	22-5481	560 PF DISC. 500V	R406	63-1848	33K OHM
C211	22-3770	9.5 PF DISC. ± .25 PF 500V	R407	63-1810	3.9K OHM
C212	22-3034	.05 MFD DISC. 25V	R408E	63-7683	50K DUAL LOUDNESS CONTROL
C213	22-2428	1.8 PF GIMMICK 500V	R408L		
C214	22-5482	680 PF DISC. 500V	R409	63-1827	10K OHM
C215	22-3034	.05 MFD DISC. 25V	R410R	63-7682	100K DUAL BASS CONTROL
C216	22-3080	.005 MFD DISC. 25V	R410L		
C217	22-2729	.001 MFD DISC. 25V	R411	63-1820	6.8K OHM
C218	22-3177	390 PF DISC. 500V	R412R	63-7681	50K DUAL TREBLE CONTROL
C219	22-3177	390 PF DISC. 500V	R412L		
C220	22-3896	5 MFD ELECTROLYTIC 25V	R413	63-1818	1.5 MEGOHM
C221	22-5488	10 MFD ELECTROLYTIC 6V	R414	63-1818	1.5 MEGOHM
C222	22-13	.0033 25V	R415	63-1740	82 OHM
C223	22-3034	.05 MFD DISC. 500V	R416	63-1853	43K OHM 5%
C224	22-14	.0047 MFD 500V	R417	63-1799	2200 OHM
C225	22-14	.0047 MFD 500V	R418	63-1827	10K OHM
C227	22-3034	.05 MFD DISC. 25V	R419	63-1769	430 OHM 5%
C301	22-5783	270 PF POLYSTYRENE 5% 500V	R420	63-1769	430 OHM 5%
C/R	22-3424	270 PF MICA 5% 100V	R421	63-1708	15 OHM
C302	22-5781	1000 PF POLYSTYRENE 5% 500V	R422	63-4001	1 OHM
C/R	22-3613	1000 PF MICA 5% 100V	R424	63-1835	15K OHM 20%
C303	22-6246	3.3 MFD R.F 15V	R425	63-7684	250K BALANCE CONTROL & SWITCH
C304	22-6347	2000 PF 5% PREFERRED 500V	R451	63-1880	180K OHM
C/R	22-6139	2000 PF 5% 100V	R453	63-1876	150K OHM
C305	22-2884	5 MFD ELECTROLYTIC 12V	R454	63-1883	220K OHM
C307	22-5783	270 PF POLYSTYRENE 5% 500V	R455	63-1845	27K OHM
C/R	22-3393	.010 MFD DISC. 25V	R456	63-1848	33K OHM
C308	22-2884	5 MFD ELECTROLYTIC 12V	R457	63-1848	33K OHM
C310	22-5781	1000 PF POLYSTYRENE 5% 500V	R459	63-1827	10K OHM
C/R	22-3613	1000 PF MICA 5% 100V	R461	63-1820	6.8K OHM
C311	22-3416	.0068 MFD DISC. 25V	R463	63-1918	1.5 MEGOHM
C312	22-3034	.05 MFD DISC. 25V	R464	63-1810	3.9K OHM
C362	22-3034	.05 MFD DISC. 25V	R465	63-1740	82 OHM
C401	22-3034	.05 MFD DISC. 25V	R466	63-1853	43K OHM 5%
C402	22-5467	.47 MFD DISC. 3V	R467	63-1799	2200 OHM
C403			R468	63-1827	10K OHM
C404	22-2884	5 MFD ELECTROLYTIC 12V	R469	63-1769	430 OHM 5%
C405	22-3255	330 PF DISC. 500V	R470	63-1769	430 OHM 5%
C406	22-2939	680 PF DISC. 500V	R471	63-1708	15 OHM
C407	22-6048	.22 MFD 10% 50V	R472	63-4001	1 OHM
C408	22-5816	.022 MFD 20% 100V	R501	63-5659	560 OHM 2W
X3	22-5816	.022 MFD 20% 100V	R502	63-1701	10 OHM
C410	22-18	.0022 MFD DISC. 500V	R503	63-1824	8.2K OHM
C411	22-5814	.022 MFD 20% 100V	R511	63-1933	3.3 MEGOHM 20%
C412	22-3662	.1 MFD DISC. 10V	L1	20-3291	FM ANTENNA COIL
C413	22-5482	680 PF DISC. 500V	L2	20-1648	FM RF COIL
C414			L3	20-1256	TRAP COIL 10.7 MHz
C415	22-3687	1 MFD ELECTROLYTIC 50V	L4	20-1649	FM OSCILLATOR COIL
C416	22-5482	680 PF DISC. 500V	L5	20-2033	PEAKING COIL
C417	22-2939	680 PF DISC. 500V	L101	54-8104	AM ANTENNA ASSEMBLY
C420	22-4568	100 MFD ELECTROLYTIC 15V	L102	149-311	FERRITE CORE SLEEVE
C422	22-3721	200 MFD ELECTROLYTIC 25V	IN T101		AM OSCILLATOR TRANS. PRI.
C451	22-3034	.05 MFD DISC. 25V	L104	IN T101	AM OSCILLATOR TRANS. SEC.
C452	22-5487	.47 MFD DISC. 3V	L201	IN T201	1ST IF TRANSFORMER 10.7 MHz PRI.
C453			L202	IN T201	1ST IF TRANSFORMER 10.7 MHz SEC.
C454	22-2884	5 MFD ELECTROLYTIC 12V	L203	IN T202	1ST IF AM 455 KHz PRI.
C455	22-3255	330 PF DISC. 500V	L204	IN T202	1ST IF AM 455 KHz SEC.
C456	22-2939	680 PF DISC. 500V	L205	IN T203	2ND IF TRANSFORMER 10.7 MHz PRI.
C457	22-6048	.22 MFD 10% 50V	L206	IN T203	2ND IF TRANSFORMER 10.7 MHz SEC.
C458	22-5814	.022 MFD 20% 100V	L207	IN T204	2ND IF AM 455 KHz
X4	22-5816	.056 MFD 10% 100V	L208	IN T205	3RD IF TRANSFORMER 10.7 MHz PRI.
C460	22-18	.0022 MFD DISC. 500V	L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
C461	22-5814	.022 MFD 20% 100V	L210	IN T206	3RD IF AM 455 KHz PRI.
C462	22-3662	.1 MFD DISC. 10V	L211	IN T206	3RD IF AM 455 KHz SEC.
C463	22-5482	680 PF DISC. 500V	L212	IN T207	RATIO DET. TRANS. 10.7 MHz PRI.
C464			L213	IN T207	RATIO DET. TRANS. 10.7 MHz TER.
C465	22-3687	1 MFD ELECTROLYTIC 50V	L214	IN T207	RATIO DET. TRANS. 10.7 MHz SEC.
C466	22-5482	680 PF DISC. 500V	L301	5-79435	67 KHz TRAP COIL (ALTERNATE)
C467	22-2939	680 PF DISC. 500V	L302	20-2033	67 KHz TRAP COIL (PREFERRED)
C472	22-4568	100 MFD ELECTROLYTIC 15V	T101	95-2544	AM OSCILLATOR TRANSFORMER
C473	22-3721	200 MFD ELECTROLYTIC 25V	T102	95-2545	AM 1ST IF TRANSFORMER 10.7 MHz
G501	22-4617	.01 MFD DISC. 500V	T202	95-2541	AM 1ST IF AM 455 KHz
G502	22-4617	.01 MFD DISC. 500V	T203	95-2542	AM 2ND IF TRANSFORMER 10.7 MHz
G503	22-5362	1000 MFD ELECTROLYTIC 50V	T204	95-2542	AM 2ND IF AM 455 KHz
C504	22-4572	500 MFD ELECTROLYTIC 15V	T205	95-2543	AM 3RD IF TRANSFORMER 10.7 MHz
C505	22-4572	500 MFD ELECTROLYTIC 15V	T206	95-2543	AM 3RD IF AM 455 KHz
C506	22-3661	.05 MFD 100V	T207	95-2545	FM RATIO DETECTOR 10.7 MHz
CS10	22-6006	.01 MFD DISC. CAP. 150V AC	T301	95-2858	INPUT COIL 19 KHz
R1	63-1768	390 OHM	T302	95-2854	DOUBLER COIL 19 KHz
R2	63-4213	4.7K OHM ½W	T303	95-2857	DETECTOR COIL 38 KHz
R3	63-1772	470 OHM 20%	T501	95-2750	POWER TRANSFORMER
R4	63-1796	1.8K OHM	SW1	85-1170	BANDSWITCH
R5	63-4196	1.8K OHM ½W	CR1	103-47 or 103-189	AFC DIODE
R6	63-1831	12K OHM	CR101	103-74	GERMANIUM DIODE
R7	63-1898	470K OHM 20%	CR201	103-23	GERMANIUM DIODE
R8	63-4122	33 OHM ½W	CR203	103-90	GERMANIUM DIODES (MATCHED PAIR)
R9	63-1898	470K OHM 20%	CR204	103-23	GERMANIUM DIODE
R10	63-1785	1K OHM	CR301	103-23	GERMANIUM DIODES
R101	63-1831	12K OHM	CR302	103-23	
R102	63-1803	2.7K OHM	CR401	103-145	DIODE
R103	63-1831	12K OHM	CR451	103-145	DIODE
R104	63-1771	470 OHM	CR501	212-94	SILICON RECTIFIER
R105	63-1803	2.7K OHM	CR502	212-94	SILICON RECTIFIER
R201	63-1778	680 OHM	CR503	103-90	DIODE
R202	63-1761	270 OHM	Z301	105-107	INTEGNET
R203	63-1772	470 OHM 20%	Z361	105-107	
R204	63-1806	3.3K OHM	DS1	106-249	PILOT LIGHT No. 1847
R205	63-1827	10K OHM	DS301	100-507	STEREO INDICATOR LIGHT
R206	63-1771	470 OHM	X1		JUMPER WIRE
R207	63-1785	1K OHM	X2		JUMPER WIRE
R208	63-1799	2.2K OHM	FS01	136-87	.500 AMP FUSE
R209	63-1772	470 OHM 20%			
R210	63-4185	1K OHM ½W			
R211	63-1775	560 OHM			4185K2

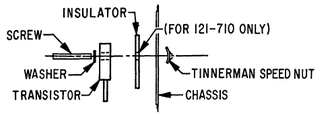
21BT34 AND 21BT34Z1 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

TRANSISTORS			
No.	PART No.	DESCRIPTION	
Q1	121-612	F.M.-R.F.	
Q2	121-613	F.M. CONVERTER	
Q101	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.	
Q301	121-639	COMP. AMPLIFIER	
Q302	121-639	19 KHZ AMPLIFIER	
Q303	121-639	38 KHZ	
Q304	121-737	STEREO IND. SWITCH	
Q305	121-762	BI-PLEX DET.	
Q401	121-433	PRE-AMPLIFIER	
Q451	121-433	PRE-AMPLIFIER	
** Q402	121-433	PRE-DRIVER	
** Q452	121-433	PRE-DRIVER	
Q403	121-706	DRIVER	
Q453	121-706	DRIVER	
* Q404	121-710	OUTPUT	A
	121-804	OUTPUT	B
* Q405	121-709	OUTPUT	C
	121-803	OUTPUT	D
* Q454	121-710	OUTPUT	A
	121-804	OUTPUT	B
* Q455	121-709	OUTPUT	C
	121-803	OUTPUT	D

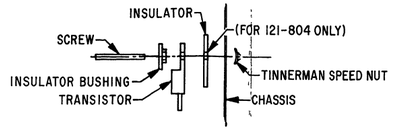
* OUTPUT TRANSISTORS MAY BE ONE OF TWO GROUPS, EITHER (2) 121-709 PLUS (2) 121-710 OR (2) 121-803 PLUS (2) 121-804.

** PRE-DRIVER 2-121-433 TRANSISTORS USED ON 21CT36 CHASSIS ONLY.

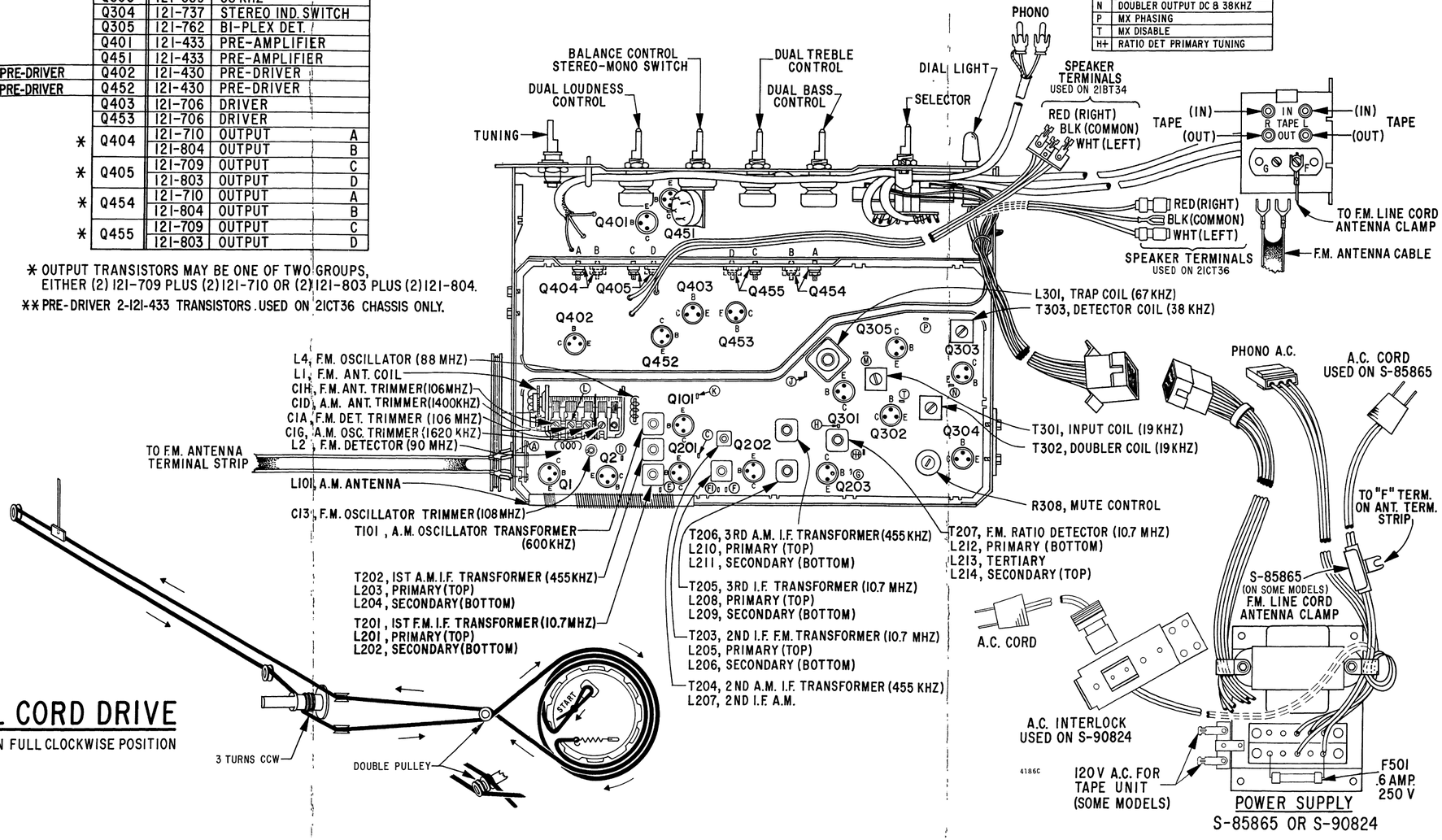
"GROUP A"
(121-709 & 121-710)



"GROUP B"
(121-803 & 121-804)



TEST POINTS	
A	F. M. ANT. INPUT
C	REVERSE AGC
D	IST F.M. I.F. INPUT
E	2ND F.M. I.F. INPUT
F	3RD F.M. I.F. INPUT
FI	RATIO DETECTOR INPUT
G	3RD F.M. OUTPUT
H	F.M. DETECTOR OUTPUT
J	F.M. B+
K	A.M. B+
L	A.M. R.F. & I.F. INPUT
M	67KHZ REJECTION & MX PHASING
N	DOUBLER OUTPUT DC & 38KHZ
P	MX PHASING
T	MX DISABLE
H+	RATIO DET PRIMARY TUNING



DIAL CORD DRIVE

SHOWN IN FULL CLOCKWISE POSITION

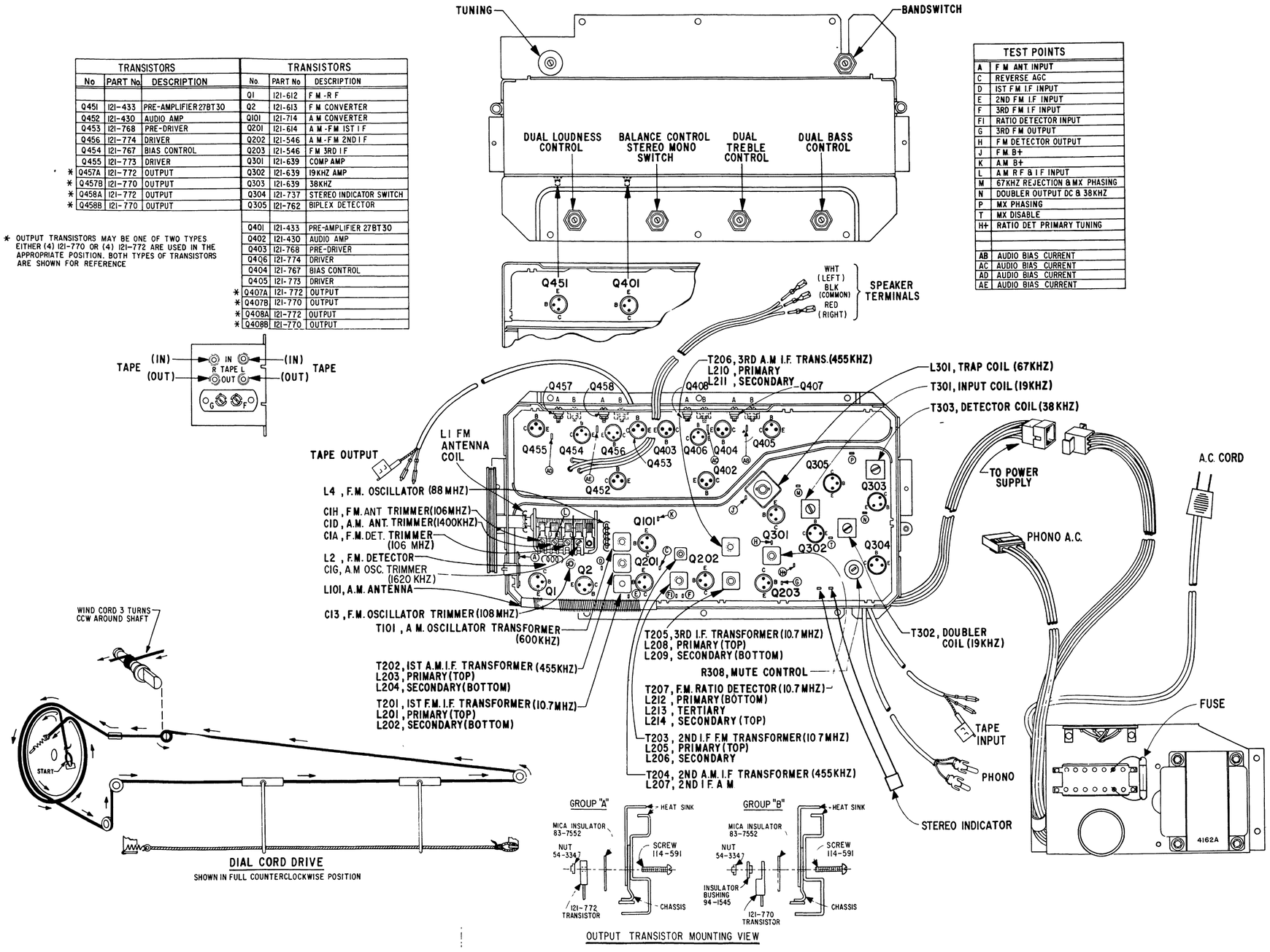
21BT34 AND 21BT34Z1 – CHASSIS LAYOUT

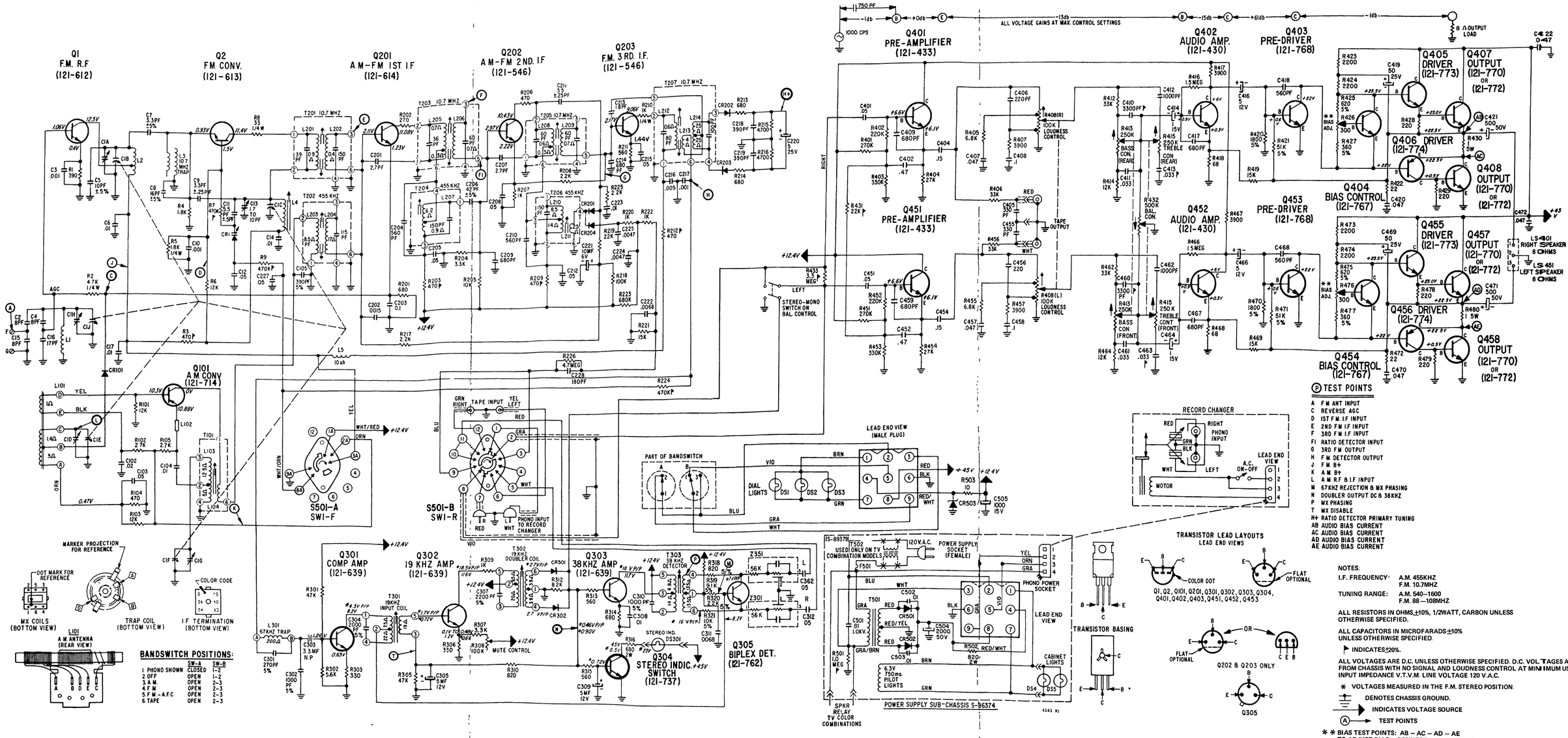
TRANSISTORS		
No	PART No.	DESCRIPTION
Q451	121-433	PRE-AMPLIFIER 27BT30
Q452	121-430	AUDIO AMP
Q453	121-768	PRE-DRIVER
Q456	121-774	DRIVER
Q454	121-767	BIAS CONTROL
Q455	121-773	DRIVER
* Q457A	121-772	OUTPUT
* Q457B	121-770	OUTPUT
* Q458A	121-772	OUTPUT
* Q458B	121-770	OUTPUT

TRANSISTORS		
No.	PART No	DESCRIPTION
Q1	121-612	F M -R F
Q2	121-613	F M CONVERTER
Q101	121-714	A M CONVERTER
Q201	121-614	A M -F M IST I F
Q202	121-546	A M -F M 2ND I F
Q203	121-546	F M 3RD I F
Q301	121-639	COMP AMP
Q302	121-639	19KHZ AMP
Q303	121-639	38KHZ
Q304	121-737	STEREO INDICATOR SWITCH
Q305	121-762	BIPLEX DETECTOR
Q401	121-433	PRE-AMPLIFIER 27BT30
Q402	121-430	AUDIO AMP
Q403	121-768	PRE-DRIVER
Q406	121-774	DRIVER
Q404	121-767	BIAS CONTROL
Q405	121-773	DRIVER
* Q407A	121- 772	OUTPUT
* Q407B	121-770	OUTPUT
* Q408A	121-772	OUTPUT
* Q408B	121-770	OUTPUT

* OUTPUT TRANSISTORS MAY BE ONE OF TWO TYPES EITHER (4) 121-770 OR (4) 121-772 ARE USED IN THE APPROPRIATE POSITION. BOTH TYPES OF TRANSISTORS ARE SHOWN FOR REFERENCE

TEST POINTS	
A	F M ANT INPUT
C	REVERSE AGC
D	IST F M I F INPUT
E	2ND F M I F INPUT
F	3RD F M I F INPUT
FI	RATIO DETECTOR INPUT
G	3RD F M OUTPUT
H	F M DETECTOR OUTPUT
J	F M B+
K	A M B+
L	A M R F & I F INPUT
M	67KHZ REJECTION & MX PHASING
N	DOUBLER OUTPUT DC & 38KHZ
P	MX PHASING
T	MX DISABLE
H+	RATIO DET PRIMARY TUNING
AB	AUDIO BIAS CURRENT
AC	AUDIO BIAS CURRENT
AD	AUDIO BIAS CURRENT
AE	AUDIO BIAS CURRENT





TEST POINTS

- A FM ANT INPUT
- C REVERSE AGC
- D IST F.M. I.F INPUT
- E 2ND F.M. I.F INPUT
- F 3RD F.M. I.F INPUT
- FI RATIO DETECTOR INPUT
- G 3RD F.M. OUTPUT
- H F.M. DETECTOR OUTPUT
- J F.M. B+
- K A.M. B+
- L A.M. R.F. & I.F. INPUT
- M 67KHZ REJECTION & MX PHASING
- N DOUBLER OUTPUT DC & 38KHZ
- P MX PHASING
- T MX DISABLE
- H+ RATIO DETECTOR PRIMARY TUNING
- AB AUDIO BIAS CURRENT
- AC AUDIO BIAS CURRENT
- AD AUDIO BIAS CURRENT
- AE AUDIO BIAS CURRENT

NOTES.

I.F. FREQUENCY: A.M. 455KHZ, F.M. 10.7MHZ

TUNING RANGE: A.M. 540–1600, F.M. 88–108MHZ

ALL RESISTORS IN OHMS, ±10%, 1/2WATT, 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 IMPEDANCE V.T.V.M. LINE VOLTAGE 120 V.A.C.

✱ VOLTAGES MEASURED IN THE F.M. STEREO POSITION.

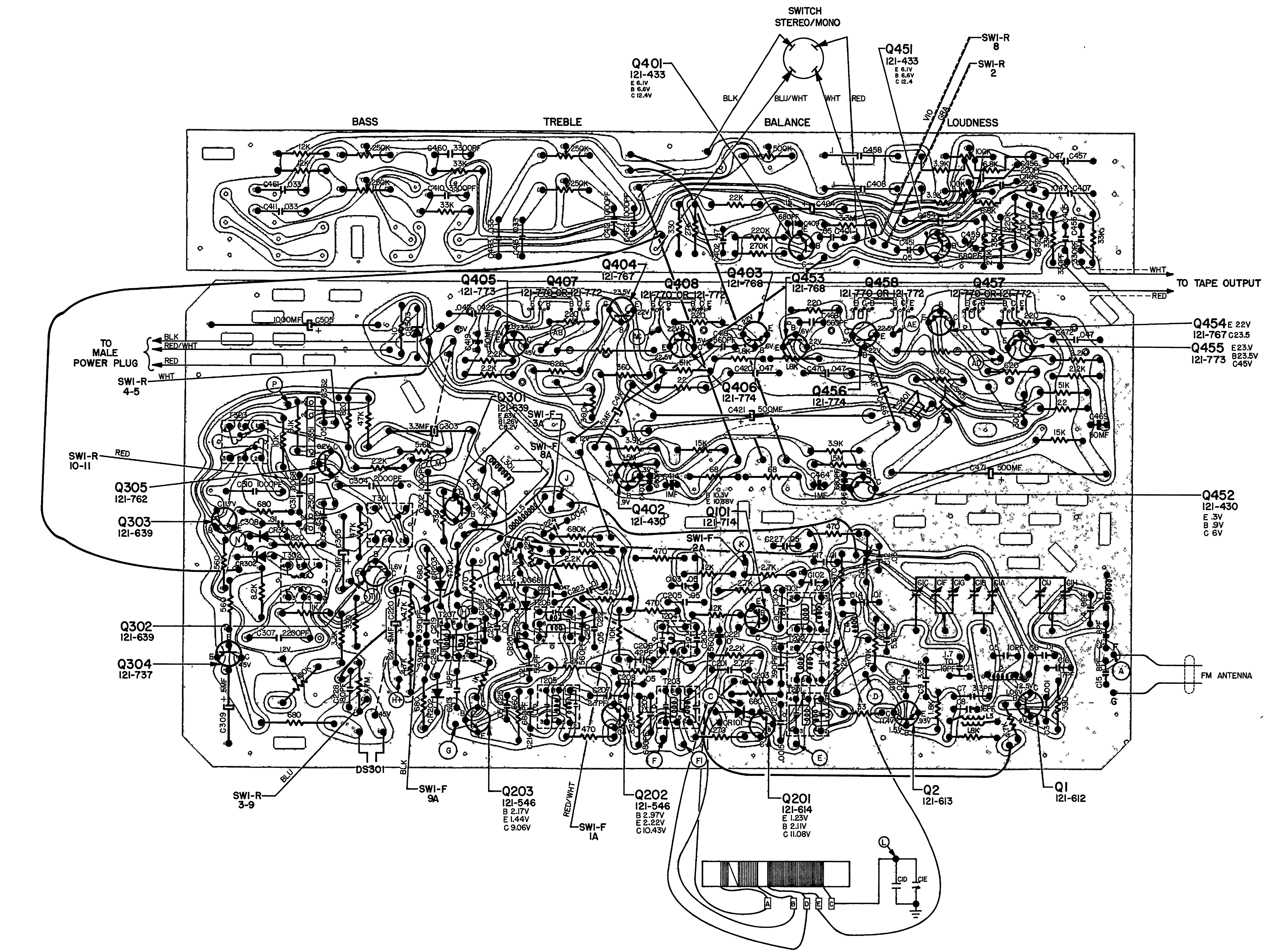
DENOTES CHASSIS GROUND.

INDICATES VOLTAGE SOURCE

(A) TEST POINTS

✱✱ BIAS TEST POINTS: AB – AC – AD – AE TO ADJUST BIAS – CONNECT AN ACCURATE LOW RANGE VOLTMETER ACROSS TEST POINTS AB – AC AND ADJUST R426 FOR .010V TO .015V. ADJUST R476 FOR .010V TO .015V ACROSS TEST POINTS AD – AE.

OUTPUT DEVICES SHOULD BE USED AS PAIRS FROM THE SAME MANUFACTURE IN EACH CHANNEL.



27BT30 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

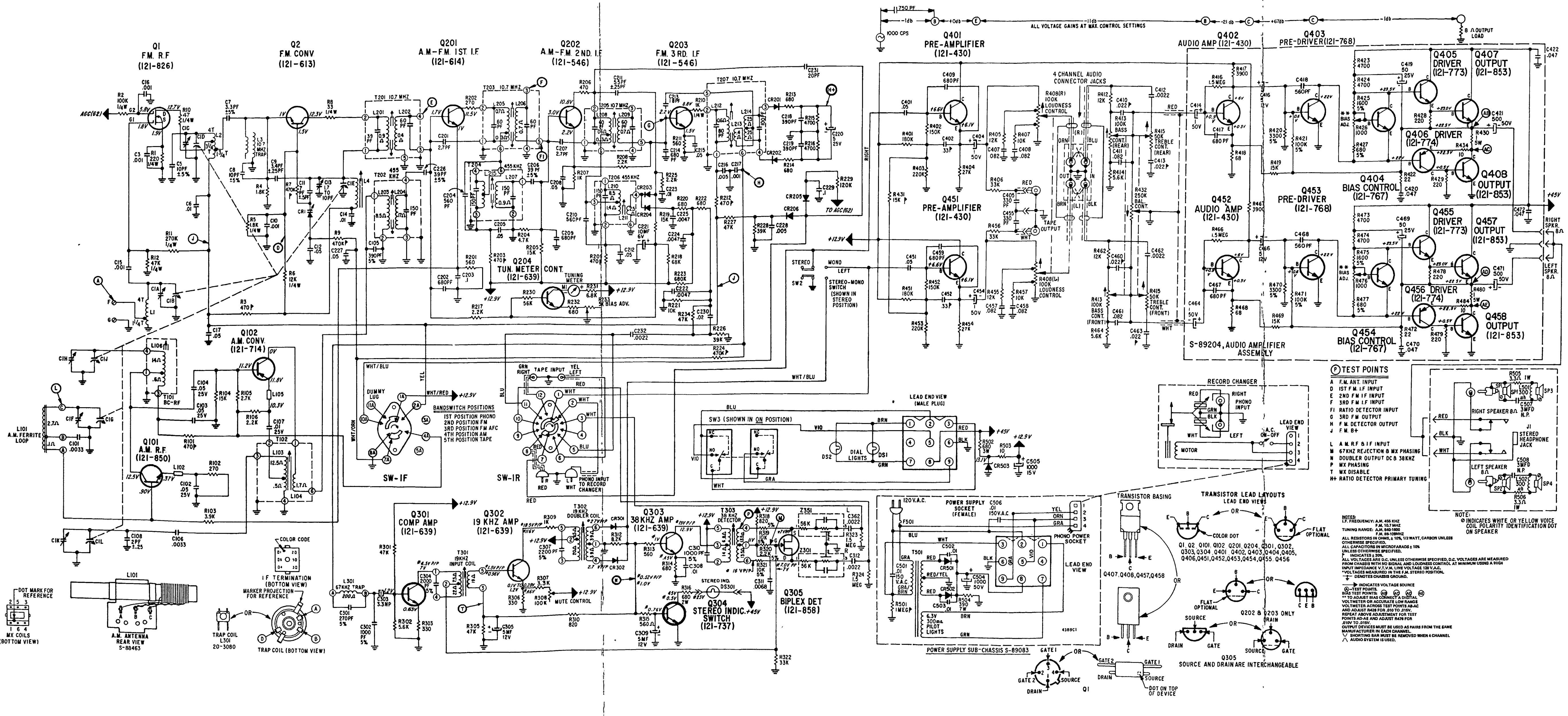
LEGEND CHASSIS 27BT30

ITEM NO.	PART NO.	DESCRIPTION
C1A		F.M. DETECTOR TRIMMER
C1B		F.M. DETECTOR TUNING
C1C		F.M. OSCILLATOR TUNING
C1D		A.M. ANTENNA TRIMMER
C1E	22-6090	A.M. ANTENNA TUNING
C1F		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. ± .25 PF 500V
C3	22-2729	.001 MFD DISC. 25V
C4	22-2481	8 PF DISC. ± .25 PF 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	22-3558	16 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. ± .5 PF 25V
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	22-2481	8 PF DISC. ± .25 PF 500V
C16	22-3792	17 PF DISC. 5% 500V
C17	22-3393	.01 MFD DISC. 25V
C102	22-3033	.02 MFD DISC. 25V
C103	22-3034	.05 MFD DISC. 25V
C104	22-3393	.01 MFD DISC. 25V
C105	22-5972	390 PF MICA 5% 125V
C201	22-3310	2.7 PF GIMMICK 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 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	22-3415	.0068 MFD 25V
C223	22-3393	.01 MFD DISC. 25V
C224	22-14	.0047 MFD 500V
C225	22-14	.0047 MFD 500V
C227	22-3034	.05 MFD DISC. 25V
C228	22-5612	180 PF DISC. 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	22-6136	2000 PF 5% 500V
OR	22-6347	2000 PF 5% 500V
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	22-3034	.05 MFD DISC. 25V
C362	22-3034	.05 MFD DISC. 25V
C401	22-3034	.05 MFD DISC. 25V
C402	22-5487	.47 MFD DISC. 3V
C404	22-6134	15 MFD 100V
C405	22-3255	330 PF DISC. 500V
C406	22-2703	220 PF 500V
C407	22-5866	.047 MFD 100V
C408	22-5862	.1 MFD 100V
C409	22-5482	680 PF DISC. 500V
C410	22-5901	3300 PF 20% 50V
C411	22-5883	.033 MFD 100V
C412	22-6111	1000 PF 50V
C413	22-6110	.033 MFD 20% 50V
C414	22-5988	1 MFD ELECTROLYTIC 15V
C416	22-6241	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	22-5487	.47 MFD DISC. 3V
C454	22-6134	.15 MFD 100V
C455	22-3255	330 PF DISC. 500V
C456	22-2703	220 PF 500V
C457	22-5866	.047 MFD 50V
C458	22-5862	1 MFD 100V
C459	22-5482	680 PF DISC. 500V
C460	22-5901	3300 PF 20% 50V
C461	22-5883	.033 MFD 100V
C462	22-6111	1000 PF 50V

ITEM NO.	PART NO.	DESCRIPTION
C463	22-6110	.033 MFD 20% 50V
C464	22-5988	1 MFD ELECTROLYTIC 15V
C466	22-6241	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. 150V AC
C502	22-4617	.01 MFD DISC. 500V
C503	22-4617	.01 MFD DISC. 500V
C504	22-5987	2000 MFD ELECTROLYTIC 50V
C505	22-4573	1000 MFD ELECTROLYTIC 15V
R1	63-1768	390 OHM
R2	63-4213	4.7K OHM ¼W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM ¼W
R6	63-1831	12K OHM
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM ¼W
R9	63-1898	470K OHM 20%
R101	63-1831	12K OHM
R102	63-1803	2.7K OHM
R103	63-1831	12K OHM
R104	63-1771	470 OHM
R105	63-1803	2.7K 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 ¼W
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
R223	63-1904	680K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R226	63-1939	4.7 MEGOHM
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	560 OHM
R316	63-5663	680 OHM 2W
R317		
R318	63-1782	820 OHM
R319	63-1825	9.1K 5%
R320	63-798	2.2K 5%
R321	63-1826	10K 5%
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	63-8324	100K DUAL LOUDNESS CONTROL
R412	63-1848	33K OHM
R413R R413L	63-8569	250K DUAL BASS CONTROL
R414	63-1831	12K OHM
R415R R415L	63-8325	250K DUAL TREBLE CONTROL
R416	63-1918	1.5 MEG
R417	63-1810	3900
R418	63-1736	68 OHM
R419	63-1834	15K
R420	63-1795	1800 OHM 5%
R421	63-1857	51K OHM 5%
R422	63-1715	22 OHM
R423	63-1799	2200 OHM
R424	63-1799	2200 OHM

ITEM NO.	PART NO.	DESCRIPTION
R425	63-1776	620 OHM 5%
R426	63-8328	300 OHM BIAS ADJUST
R427	63-1766	360 OHM 5%
R428	63-1757	220 OHM
R429	63-1757	220 OHM
R430	63-6424	1 OHM 5W
R431	63-1842	22K 20%
R432	63-8323	500K BALANCE CONTROL
R433	63-1933	3.3 MEGOHM 20%
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	5.6K OHM
R462	63-1848	33K
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	63-1795	1800 OHM 5%
R471	63-1857	51K OHM 5%
R472	63-1715	22 OHM
R473	63-1799	2200 OHM
R474	63-1799	2200 OHM
R475	63-1776	620 OHM 5%
R476	63-8328	300 OHM BIAS ADJUST
R477	63-1766	360 OHM 5%
R478	63-1757	220 OHM
R479	63-1757	220 OHM
R480	63-6424	1 OHM 5W
R501	63-1912	1.0 MEGOHM 20%
R502	63-5666	820 OHM 2W
R503	63-1701	10 OHM
L1	20-3291	FM ANTENNA COIL
L2	20-1648	FM DETECTOR COIL
L3	20-1256	TRAP COIL 10.7 MHz
L4	20-1649	FM OSCILLATOR COIL
L5	20-2033	PEAKING COIL
L101	S-82104	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 DETECTOR TRANS. 10.7 MHz TERTIARY
L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
L301	20-3080	67 KHz TRAP COIL (PREFERRED)
OR	S-79435	67 KHz TRAP COIL (ALTERNATE)
T101	95-2544	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	95-2543	AM 3RD IF AM 455 KHz
T207	95-2545	FM RATIO DETECTOR 10.7 MHz
T301	95-2858	INPUT COIL 19 KHz
T302	95-2856	DOUBLER COIL 19 KHz
T303	95-2857	DETECTOR COIL 38 KHz
T501	95-2769	POWER TRANSFORMER
T502	95-2920	FILTER CHOKE ON POWER SUPPLY
F501	136-24	2A FUSE
SW1	85-1166	BANDSWITCH
CR1	103-47	AFC DIODE
CR101	103-74	GERMANIUM DIODE
CR201	103-23	GERMANIUM DIODE
CR202 CR203	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR204	103-23	GERMANIUM DIODE
CR301 CR302	103-23	GERMANIUM DIODES
CR501	212-61	SILICON RECTIFIER
CR502	212-61	SILICON RECTIFIER
CR503	103-96	DIODE
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
DS4	100-249	PILOT LIGHT No. 1847
DS5	100-249	PILOT LIGHT No. 1847
DS301	100-507	STEREO INDICATOR LIGHT

4161K



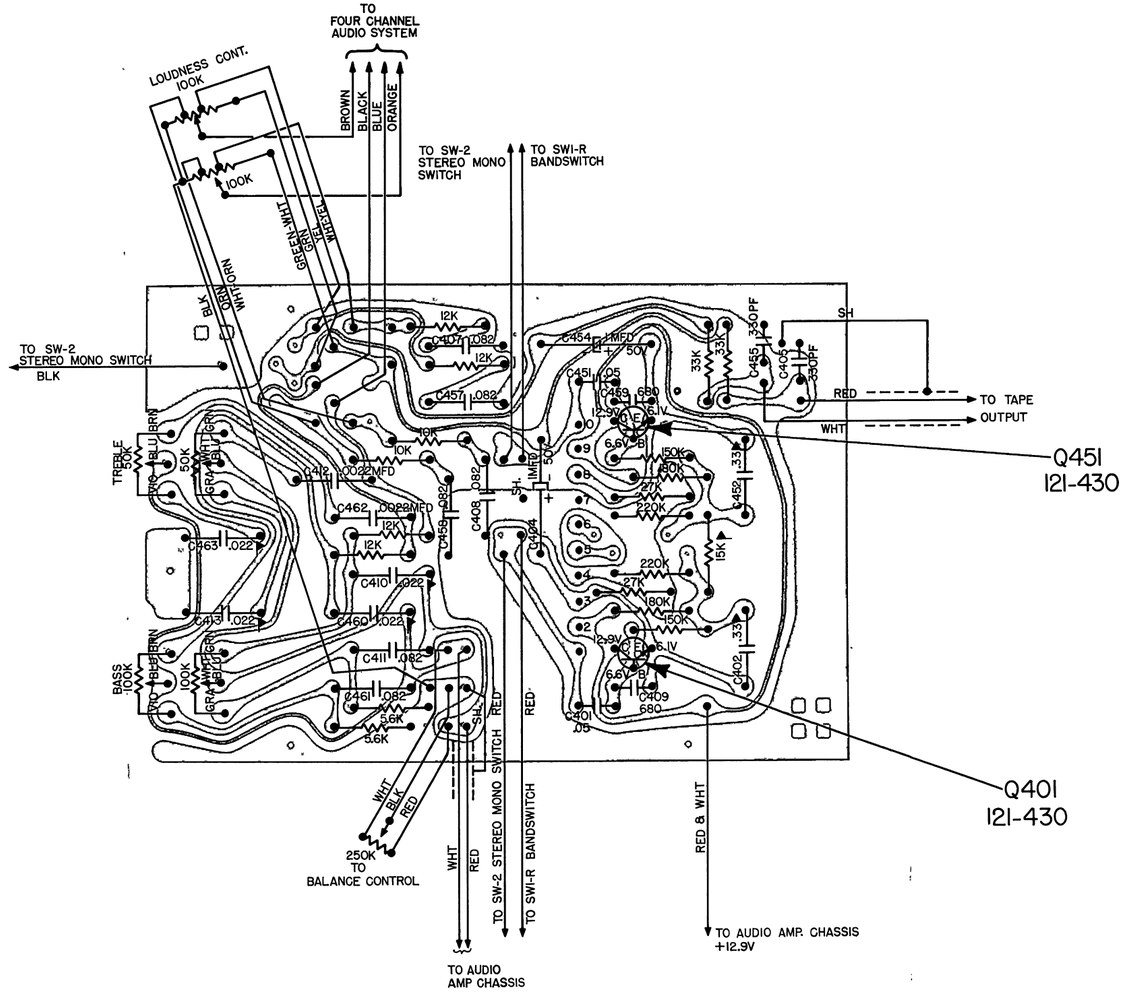
LEGEND CHASSIS 29CT20

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	22-6245	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 25 V
C5	22-3675	10 PF DISC ± 5% 500 V
C6	22-3393	.01 MFD DISC 25 V
C7	22-3541	3.3 PF GIMMICK ± 5% 500 V
C8	22-3675	10 PF DISC ± 5% 500 V
C9	22-2592	3.4 PF DISC ± .25 PF 25 V
C10	22-2729	.001 MFD DISC 25 V
C11	22-6344	7 PF DISC ± 5% 500 V
C12	22-3034	.05 MFD DISC 25 V
C13	22-4855	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25 V
C15	22-2729	.001 MFD DISC 25 V
C16	22-2729	.001 MFD DISC 25 V
C17	22-3034	.05 MFD DISC 25 V
C101	22-13	.0033 MFD DISC ± 10% 500 V
C102	22-3034	.05 MFD DISC 25 V
C103	22-3034	.05 MFD DISC 25 V
C104	22-3034	.05 MFD DISC 25 V
C105	22-5972	390 PF MICA ± 5% 125 V
C106	22-13	.0033 MFD DISC ± 10% 500 V
C107	22-3393	.01 MFD DISC 25 V
C108	22-4819	2 PF 500 V
C201	22-3310	2.7 PF GIMMICK 500 V
C202	22-5482	680 PF DISC 500 V
C203	22-3652	1 MFD DISC 10 V
C204	22-5481	560 PF DISC 500 V
C205	22-3034	.05 MFD DISC 25 V
C206	22-3381	39 PF DISC ± 5% 500 V
C207	22-3310	2.7 PF GIMMICK 500 V
C208	22-3034	.05 MFD DISC 25 V
C209	22-5482	680 PF DISC 500 V
C210	22-5481	560 PF DISC 500 V
C211	22-3770	5.5 PF DISC ± .25 PF 500 V
C212	22-3034	.05 MFD DISC 25 V
C213	22-2428	1.8 PF GIMMICK 500 V
C214	22-5482	680 PF DISC 500 V
C215	22-3034	.05 MFD DISC 25 V
C216	22-3080	.005 MFD DISC 25 V
C217	22-2729	.001 MFD DISC 25 V
C218	22-3177	390 PF DISC 500 V
C219	22-3177	390 PF DISC 500 V
C220	22-3896	5 MFD ELECTROLYTIC 25 V
C221	22-5486	10 MFD ELECTROLYTIC 6 V
C222	22-14	.0047 MFD 500 V
C223	22-3393	.01 MFD DISC 25 V
C224	22-14	.0047 MFD 500 V
C225	22-14	.0047 MFD 500 V
C226	22-3381	39 PF DISC ± 5% 500 V
C227	22-3034	.05 MFD DISC 25 V
C228	22-3080	.005 MFD DISC 25 V
C229	22-3652	1 MFD DISC 10 V
C230	22-5056	.02 MFD DISC 25 V
C231	22-3751	20 PF ± .25 500 V
C232	22-18	.0022 MFD DISC CAP 500 V
C301	22-5780	270 PF POLYSTYRENE ± 5% 500 V
C302	22-5781	1000 PF POLYSTYRENE ± 5% 500 V
C303	22-6246	3.3 MFD N.P. 15 V
C304	22-6136	2000 PF ± 5% 100 V
C305	22-2884	5 MFD ELECTROLYTIC 12 V
C307	22-5782	2200 PF POLYSTYRENE ± 5% 500 V
C308	22-3393	.01 MFD DISC 25 V
C309	22-2884	5 MFD ELECTROLYTIC 12 V
C310	22-5781	1000 PF POLYSTYRENE ± 5% 500 V
C311	22-3415	.0068 MFD 25 V
C312	22-18	.0022 MFD DISC 25 V
C362	22-18	.0022 MFD DISC 25 V
C401	22-3034	.05 MFD 25 V
C402	22-6343	.33 MFD ± 20% 50 V
C404	22-3687	1 MFD ELECTROLYTIC 50 V
C405	22-3255	330 PF DISC 500 V
C407	22-5884	.082 MFD 100 V
C408	22-5884	.082 MFD 100 V
C409	22-5482	680 PF DISC 500 V
C410	22-5814	.022 MF 20% 50 V
C411	22-5884	.082 MFD 25 V
C412	22-18	.0022 25 V
C413	22-5814	.022 MFD 20% 50 V
C414	22-3687	1 MFD ELECTROLYTIC 50 V
C416	22-2884	5 MFD ELECTROLYTIC 12 V
C417	22-5482	680 PF DISC 500 V
C418	22-3362	560 PF 500 V
C419	22-5986	50 MFD ELECTROLYTIC 25 V
C420	22-5866	.047 MFD 100 V
C421	22-5316	500 MFD ELECTROLYTIC 50 V
C422	22-5866	.047 MFD 100 V
C451	22-3034	.05 MFD DISC 25 V
C452	22-6343	.33 MFD ± 20% 50 V
C454	22-3687	1 MFD ELECTROLYTIC 50 V
C455	22-3255	330 PF DISC 500 V
C457	22-5884	.082 MFD 100 V
C458	22-5884	.082 MFD 100 V
C459	22-5482	680 PF DISC 500 V
C460	22-5814	.022 MF 20% 50 V
C461	22-5884	.082 MFD 25 V
C462	22-18	.0022 MFD 25 V
C463	22-5814	.022 MFD 20% 50 V
C464	22-3687	1 MFD ELECTROLYTIC 50 V
C466	22-2884	5 MFD ELECTROLYTIC 12 V
C467	22-5482	680 PF DISC 500 V
C468	22-3362	560 PF 500 V
C469	22-5986	50 MFD ELECTROLYTIC 25 V
C470	22-5866	.047 MFD 100 V
C471	22-5316	500 MFD ELECTROLYTIC 50 V
C472	22-5866	.047 MFD 100 V
C501	22-6005	.01 MFD DISC 150 VAC
C502	22-4617	.01 MFD DISC 500 V
C503	22-4617	.01 MFD DISC 500 V
C504	22-5362	1000 MFD ELECTROLYTIC 50 V
C505	22-4573	1000 MFD ELECTROLYTIC 15 V
C506	22-6005	.01 MFD DISC 150 VAC
C507	22-2945	3 MFD ELECTROLYTIC N.P. 30 V
C508	22-2945	3 MFD ELECTROLYTIC N.P. 30 V
R1	63-4157	220 OHM 1/4 W
R2	63-4269	100K OHM 1/4 W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.8K OHM 1/4 W
R6	63-4231	12K OHM 1/4 W
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4 W
R9	63-1898	470K OHM 20%
R10	63-4129	47 OHM 1/4 W
R11	63-4287	270K OHM 1/4 W
R12	63-4255	47K OHM 1/4 W
R101	63-1772	470 OHM 20%
R102	63-1761	270 OHM
R103	63-1810	3.9K OHM
R104	63-1834	15K OHM
R105	63-1803	2.7K OHM
R106	63-1799	2.2K OHM
R201	63-1775	560 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1813	4.7K OHM
R205	63-1834	15K 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 1/4 W
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	63-1862	68K OHM
R219	63-1834	15K OHM
R220	63-1778	680 OHM
R221	63-1827	10K OHM
R222	63-1778	680 OHM
R223	63-1904	680K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM

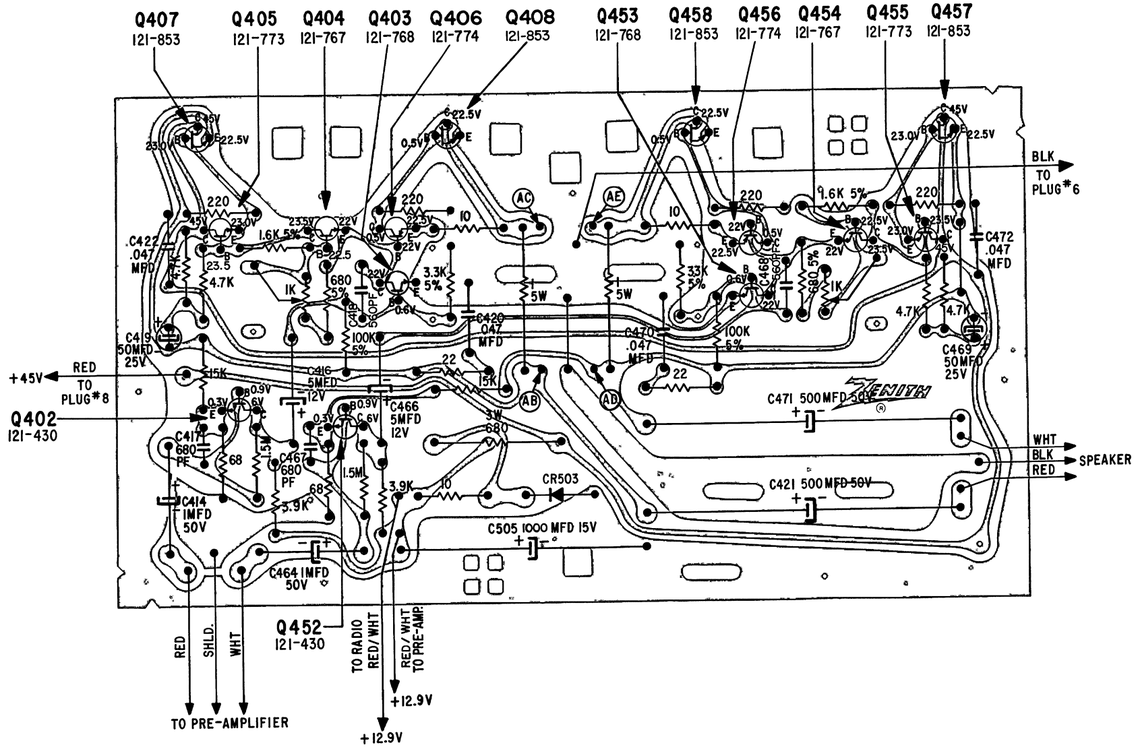
ITEM NO.	PART NUMBER	DESCRIPTION
R226	63-1852	39K OHM
R227	63-1855	47K OHM
R228	63-1852	39K OHM
R229	63-1873	120K OHM
R230	63-1859	56K OHM
R231	63-1820	6.8K OHM
R232	63-1778	680 OHM
R233	63-8708	5K BIAS ADJUST
R234	63-1855	47K OHM
R301	63-1855	47K OHM
R302	63-1817	5.6K OHM
R303	63-1764	330 OHM
R305	63-1855	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
R312	63-1824	8.2K OHM
R313	63-1775	560 OHM
R314	63-1778	680 OHM
R315	63-1775	560 OHM
R316	63-5663	680 OHM 2 W
R318	63-1781	820 OHM 5%
R319	63-1826	10K 5%
R320	63-1798	2.2K 5%
R321	63-1826	10K 5%
R322	63-1848	33K
R323	63-1918	1.5 MEG OHM
R324	63-1918	1.5 MEG OHM
R401	63-1880	180K OHM
R402	63-1876	150K OHM
R403	63-1883	220K OHM
R404	63-1845	27K OHM
R405	63-1831	12K OHM
R406	63-1848	33K OHM
R407	63-1827	10K OHM
R408R R408L	63-8999	100K DUAL LOUDNESS CONTROL
R412	63-1831	12K OHM
R413R R413L	63-8997	100K DUAL BASS CONTROL
R414	63-1817	5.6K OHM
R415R R415L	63-8998	50K DUAL TREBLE CONTROL
R416	63-1918	1.5 MEG
R417	63-1810	3900
R418	63-1736	68 OHM
R419	63-1834	15K
R420	63-1805	3.3K OHM 5%
R421	63-1868	100K OHM 5%
R422	63-1715	22 OHM
R423	63-1813	4700 OHM
R424	63-1813	4700 OHM
R425	63-1794	1600 OHM 5%
R426	63-8977	1000 OHM BIAS ADJUST
R427	63-1777	680 OHM 5%
R428	63-1757	220 OHM
R429	63-1757	220 OHM
R430	63-6424	1 OHM 5 W
R431	63-1835	15K 20%
R432	63-8996	250K BALANCE CONTROL
R434	63-1701	10 OHM
R451	63-1880	180K
R452	63-1876	150K OHM
R453	63-1883	220K
R454	63-1845	27K OHM
R455	63-1831	12K OHM
R456	63-1848	33K OHM
R457	63-1827	10K OHM
R462	63-1831	12K OHM
R464	63-1817	5.6K OHM
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	63-1868	100K OHM 5%
R472	63-1715	22 OHM
R473	63-1813	4700 OHM
R474	63-1813	4700 OHM
R475	63-1794	1600 OHM 5%
R476	63-8977	1000 OHM BIAS ADJUST
R477	63-1777	680 OHM 5%
R478	63-1757	220 OHM
R479	63-1757	220 OHM
R480	63-6424	1 OHM 5 W
R484	63-1701	10 OHM
R501	63-1912	1.0 MEG OHM 20%
R502	63-5085	680 OHM 3 W
R503	63-1701	10 OHM
R504	63-4380	390 OHM 7 W
R505	63-5965	3.3 OHM 1 W
R506	63-5965	3.3 OHM 1 W
L1	20-3076	FM ANTENNA COIL
L2	20-3077	FM DETECTOR COIL
L3	20-1256	TRAP COIL 10.7 MHz
L4	20-1649	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 SEC.
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 S-79435	67 KHz TRAP COIL (PREFERRED) 67 KHz TRAP COIL (ALTERNATE)
L501	S-83400	FILTER COIL ASSEMBLY 300 uh
L502	S-83400	FILTER COIL ASSEMBLY 300 uh
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	95-2940	POWER TRANSFORMER
F501	136-24	2A FUSE
S1	85-1210	BAND SWITCH
S2	85-1212	STEREO-MONO SWITCH (EXH. 89224)
S3	85-1211	A.C. ON-OFF SWITCH (EXH. 89223)
CR1	103-47 OR 103-189	AFC DIODE
CR201	103-90	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR203	103-23	GERMANIUM DIODE
CR204	103-23	GERMANIUM DIODE
CR205	103-23	GERMANIUM DIODE
CR206	103-23	GERMANIUM DIODE
CR301	103-23	GERMANIUM DIODES
CR302	103-23	
CR501	212-61	SILICON RECTIFIER
CR502	212-61	SILICON RECTIFIER
CR503	103-96	DIODE
M1	122-66	TUNING METER
Z301	105-107	INTEGNET
Z351	105-107	INTEGNET
DS1	100-249	PILOT LIGHT NO. 1847
DS2	100-249	PILOT LIGHT NO. 1847
DS301	100-507	STEREO INDICATOR LIGHT
SP1	49-1220	6" PM SPEAKER
SP2	49-1220	6" PM SPEAKER
SP3	49-1168	HORN SPEAKER
SP4	49-1168	HORN SPEAKER
J1	44-78	EARPHONE JACK

4389A2

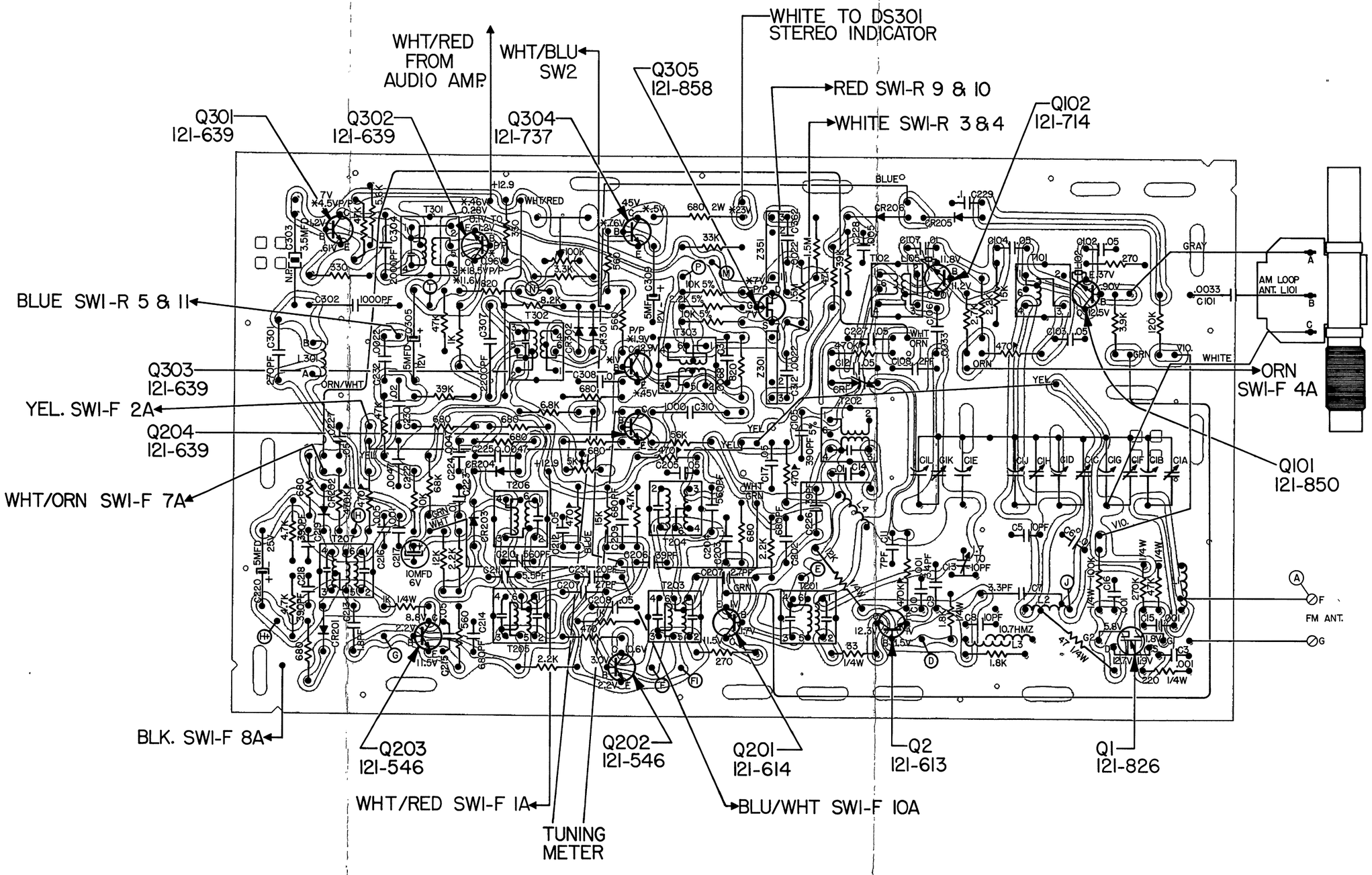
29CT20 – SCHEMATIC



29CT20 – PREAMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



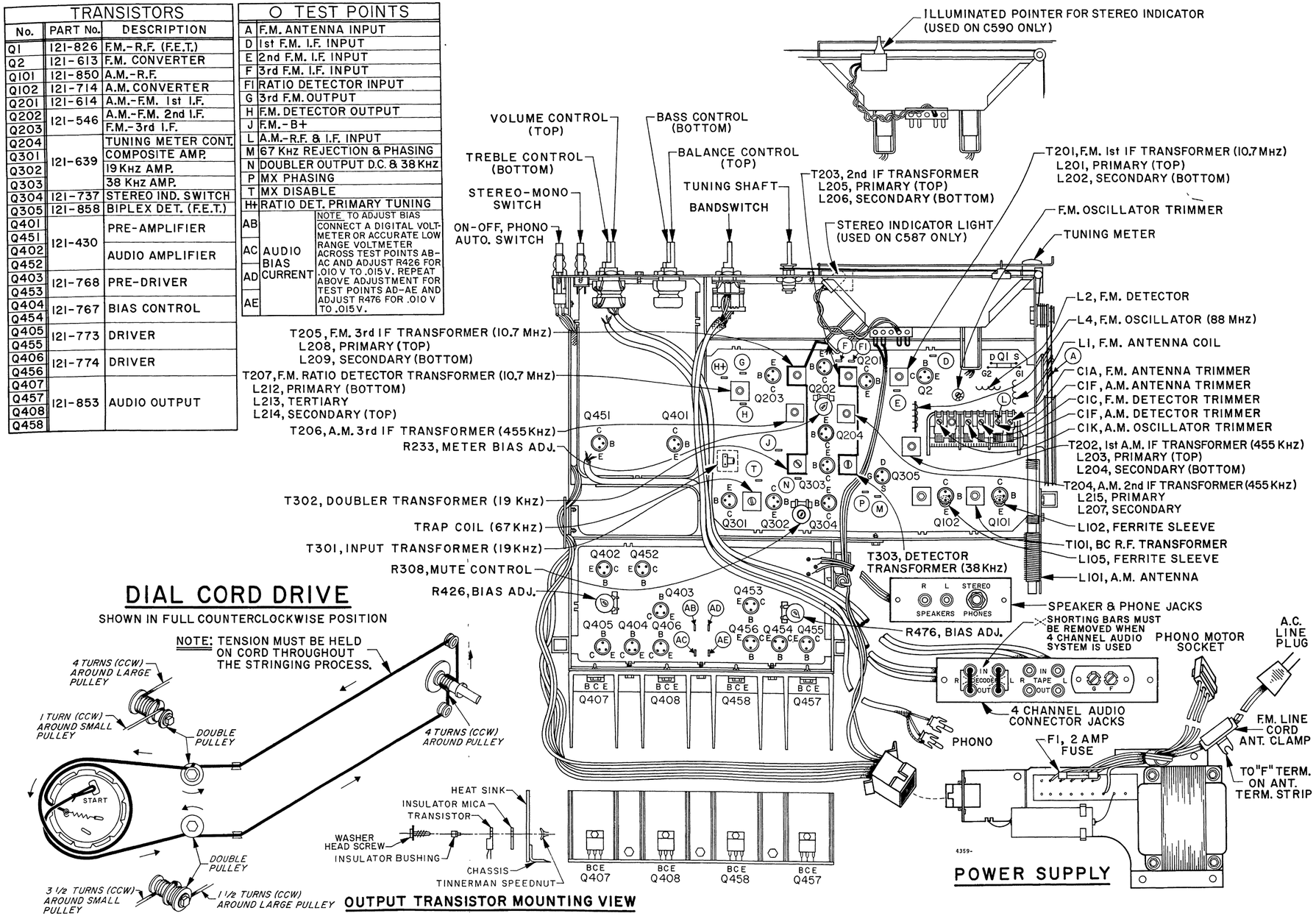
29CT20 – POWER AMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



29CT20 AND 29CT21 – RF/IF – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

TRANSISTORS		
No.	PART No.	DESCRIPTION
Q1	121-826	F.M.-R.F. (F.E.T.)
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		F.M.-3rd I.F.
Q204	121-639	TUNING METER CONT.
Q301		COMPOSITE AMP.
Q302		19 KHZ AMP.
Q303		38 KHZ AMP.
Q304	121-737	STEREO IND. SWITCH
Q305	121-858	BIPLEX DET. (F.E.T.)
Q401	121-430	PRE-AMPLIFIER
Q451		
Q402		AUDIO AMPLIFIER
Q452		
Q403	121-768	PRE-DRIVER
Q453		
Q404	121-767	BIAS CONTROL
Q454		
Q405	121-773	DRIVER
Q455		
Q406	121-774	DRIVER
Q456		
Q407	121-853	AUDIO OUTPUT
Q457		
Q408		
Q458		

O TEST POINTS		
A	F.M. ANTENNA INPUT	
D	1st F.M. I.F. INPUT	
E	2nd F.M. I.F. INPUT	
F	3rd F.M. I.F. INPUT	
FI	RATIO DETECTOR INPUT	
G	3rd F.M. OUTPUT	
H	F.M. DETECTOR OUTPUT	
J	F.M.-B+	
L	A.M.-R.F. & I.F. INPUT	
M	67 KHZ REJECTION & PHASING	
N	DOUBLER OUTPUT D.C. & 38 KHZ	
P	MX PHASING	
T	MX DISABLE	
H+	RATIO DET. PRIMARY TUNING	
AB	AUDIO BIAS CURRENT	NOTE: TO ADJUST BIAS CONNECT A DIGITAL VOLTMETER OR ACCURATE LOW RANGE VOLTMETER ACROSS TEST POINTS AB-AC AND ADJUST R426 FOR .010 V TO .015 V. REPEAT ABOVE ADJUSTMENT FOR TEST POINTS AD-AE AND ADJUST R476 FOR .010 V TO .015 V.
AC		
AD		
AE		



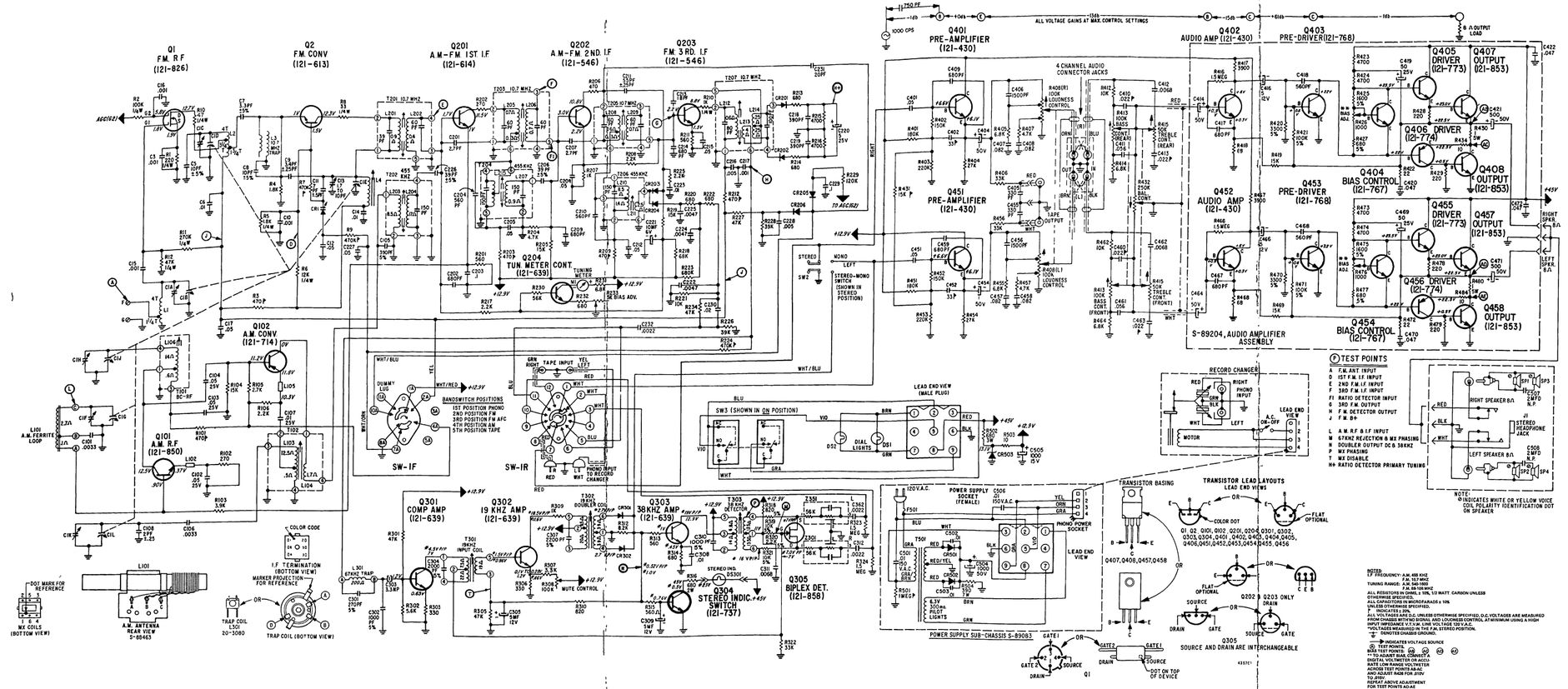
DIAL CORD DRIVE

SHOWN IN FULL COUNTERCLOCKWISE POSITION

NOTE: TENSION MUST BE HELD ON CORD THROUGHOUT THE STRINGING PROCESS.

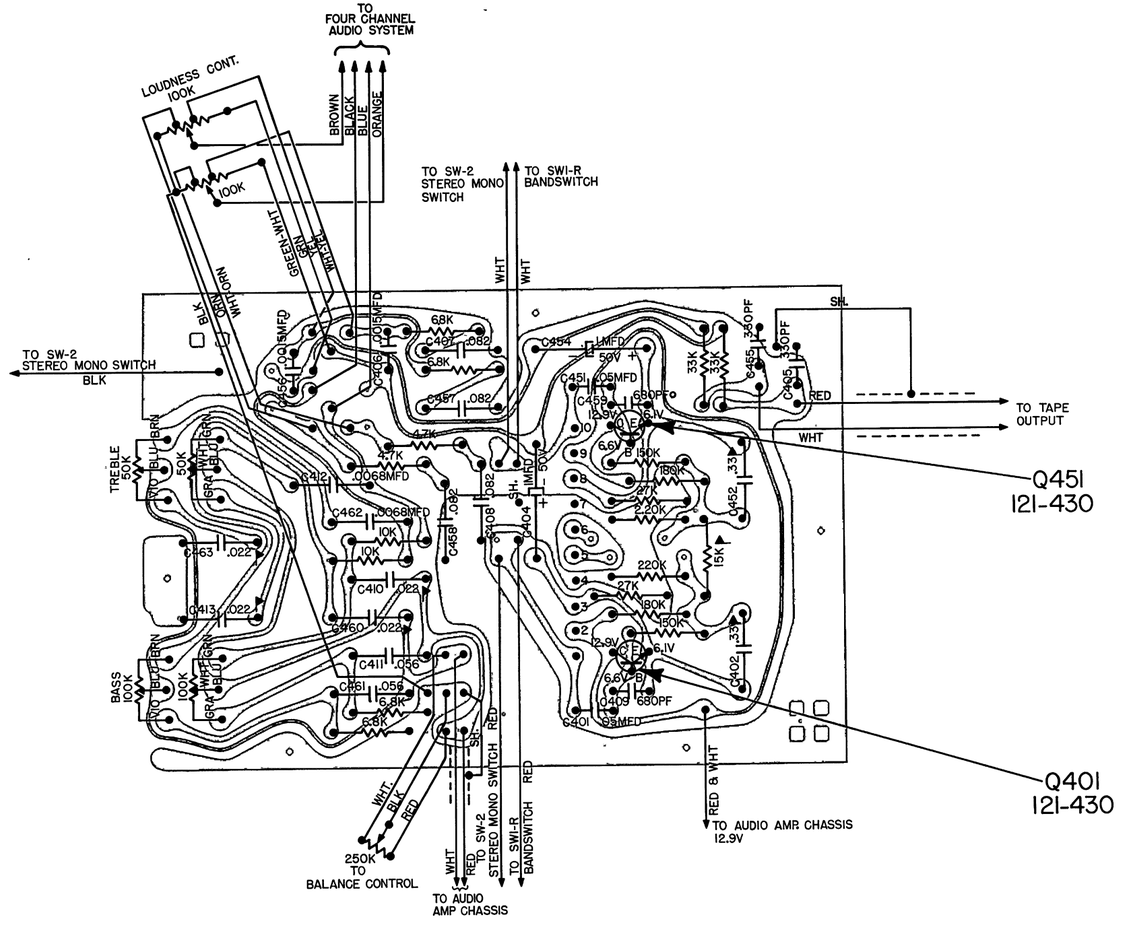
OUTPUT TRANSISTOR MOUNTING VIEW

POWER SUPPLY

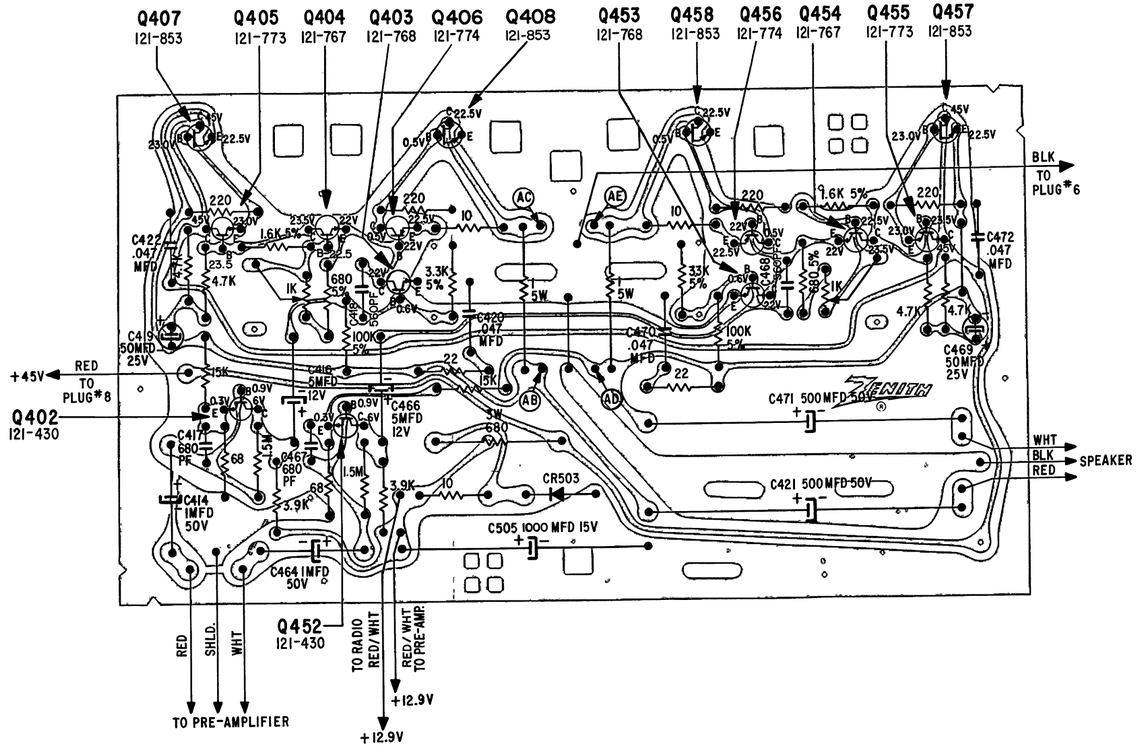


LEGEND CHASSIS 29CT21

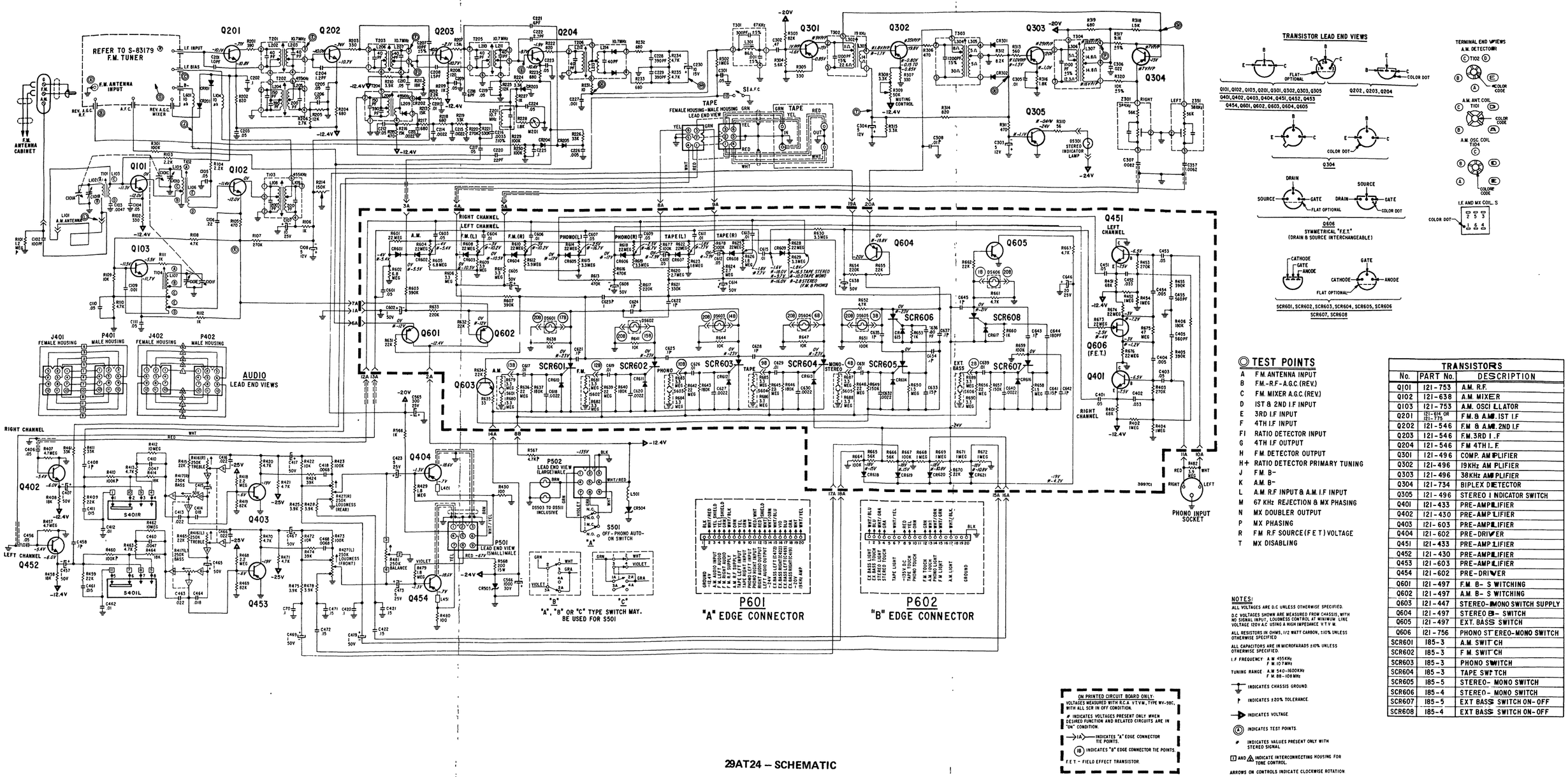
ITEM NO.	PART NUMBER	DESCRIPTION
C1A		FM ANT TRIMMER
C1B		FM ANT TUNING
C1D		FM DETECTOR TRIMMER
C1E		FM DETECTOR TUNING
C1F		FM OSC. TUNING
C1G	22-6245	AM ANT. TRIMMER
C1H		AM ANT. TUNING
C1I		AM DETECTOR TRIMMER
C1J		AM DETECTOR TUNING
C1K		AM OSC. TRIMMER
C1L		AM OSC. TUNING
C3	22-2729	.001 MFD DISC 25 V
C5	22-3675	10 PF DISC + 5% 500 V
C6	22-3393	.01 MFD DISC 25 V
C7	22-3541	3.3 PF GIMMICK + 5% 500 V
C8	22-3675	10 PF DISC + 5% 500 V
C9	22-2592	2.4 PF DISC + .25 PF 25 V
C10	22-2729	.001 MFD DISC 25 V
C11	22-6344	7 PF DISC + 5% 500 V
C12	22-3034	.05 MFD DISC 25 V
C13	22-4058	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25 V
C15	22-2729	.001 MFD DISC 25 V
C16	22-2729	.001 MFD DISC 25 V
C17	22-3034	.05 MFD DISC 25 V
C101	22-13	.0033 MFD DISC + 10% 500 V
C102	22-3034	.05 MFD DISC 25 V
C103	22-3034	.05 MFD DISC 25 V
C104	22-3034	.05 MFD DISC 25 V
C105	22-6672	300 PF MICA + 5% 125 V
C106	22-13	.0033 MFD DISC + 10% 500 V
C107	22-3393	.01 MFD DISC 25 V
C108	22-4619	2 PF 500 V
C201	22-3310	2.7 PF GIMMICK 500 V
C202	22-5482	680 PF DISC 500 V
C203	22-3052	1 MFD DISC 10 V
C204	22-5481	560 PF DISC 500 V
C205	22-3034	.05 MFD DISC 25 V
C206	22-3331	39 PF DISC + 5% 500 V
C207	22-3310	2.7 PF GIMMICK 500 V
C208	22-3034	.05 MFD DISC 25 V
C209	22-3034	.05 MFD DISC 25 V
C210	22-5481	560 PF DISC 500 V
C211	22-3034	.05 MFD DISC 25 V
C212	22-3034	.05 MFD DISC 25 V
C213	22-5482	680 PF DISC 500 V
C214	22-3034	.05 MFD DISC 25 V
C215	22-3080	.005 MFD DISC 25 V
C216	22-3310	2.7 PF GIMMICK 500 V
C217	22-3177	390 PF DISC 500 V
C218	22-3177	390 PF DISC 500 V
C219	22-3034	.05 MFD DISC 25 V
C220	22-2496	5 MFD ELECTROLYTIC 25 V
C221	22-14	10 MFD ELECTROLYTIC 6 V
C222	22-3393	.01 MFD DISC 25 V
C223	22-14	.0047 MFD 500 V
C224	22-14	.0047 MFD 500 V
C225	22-3381	39 PF DISC + 5% 500 V
C226	22-3034	.05 MFD DISC 25 V
C227	22-3080	.005 MFD DISC 25 V
C228	22-3052	1 MFD DISC 10 V
C229	22-3034	.05 MFD DISC 25 V
C230	22-3751	20 PF + .25 500 V
C231	22-18	.0022 MFD DISC CAP 500 V
C301	22-5780	270 PF-POLYSTYRENE + 5% 500 V
C302	22-5781	1000 PF POLYSTYRENE + 5% 500 V
C303	22-6345	3.3 MFD N.P. 15 V
C304	22-6138	2000 PF + 5% 100 V
C305	22-2284	5 MFD ELECTROLYTIC 12 V
C306	22-5781	1000 PF POLYSTYRENE + 5% 500 V
C307	22-3393	.01 MFD DISC 25 V
C308	22-2884	5 MFD ELECTROLYTIC 12 V
C309	22-6781	1000 PF PLYOSTYRENE + 5% 500 V
C310	22-3416	.0068 MFD 25 V
C312	22-18	.0022 MFD DISC 25 V
C313	22-18	.0022 MFD DISC 25 V
C401	22-3034	.05 MFD 25 V
C402	22-3416	.33 MFD + 20% 50 V
C404	22-3887	1 MFD ELECTROLYTIC 50 V
C405	22-3286	330 PF DISC 500 V
C406	22-5483	1500 PF 500 V
C407	22-5884	.082 MFD 100 V
C408	22-6884	.082 MFD 100 V
C409	22-5482	680 PF DISC 500 V
C410	22-6814	.022 MF 20% 50 V
C411	22-6815	.056 MFD 25 V
C412	22-3415	.0068 MF 25 V
C413	22-6815	.022 MFD 20% 50 V
C414	22-3687	1 MFD ELECTROLYTIC 50 V
C415	22-2884	5 MFD ELECTROLYTIC 12 V
C416	22-5482	680 PF DISC 500 V
C417	22-3052	1 MFD DISC 10 V
C418	22-5986	50 MFD ELECTROLYTIC 25 V
C419	22-5486	.047 MFD 100 V
C420	22-6316	500 MFD ELECTROLYTIC 60 V
C421	22-5886	.047 MFD 100 V
C451	22-3052	1 MFD DISC 25 V
C452	22-6343	.33 MFD + 20% 50 V
C453	22-3687	1 MFD ELECTROLYTIC 50 V
C454	22-3295	330 PF DISC 500 V
C455	22-5483	1500 PF 500
C456	22-5884	.082 MFD 100 V
C457	22-5884	.082 MFD 100 V
C458	22-6482	680 PF DISC 500 V
C459	22-5815	.056 MFD 25 V
C460	22-5815	.068 MFD 25 V
C461	22-3415	.0068 MF 25 V
C462	22-5814	.022 MFD 20% 50 V
C463	22-3687	1 MFD ELECTROLYTIC 50 V
C464	22-2884	5 MFD ELECTROLYTIC 12 V
C465	22-5482	680 PF DISC 500 V
C466	22-3295	330 PF DISC 500 V
C467	22-5483	1500 PF 500
C468	22-5884	.082 MFD 100 V
C469	22-5884	.082 MFD 100 V
C470	22-5866	.047 MFD 100 V
C471	22-5316	500 MFD ELECTROLYTIC 60 V
C472	22-5886	.047 MFD 100 V
C501	22-6005	.01 MFD DISC 150 VAC
C502	22-4617	.01 MFD DISC 500 V
C503	22-4617	.01 MFD DISC 500 V
C504	22-6362	1000 MFD ELECTROLYTIC 50 V
C505	22-6973	1000 MFD ELECTROLYTIC 16 V
C506	22-6005	.01 MFD DISC 150 VAC
C507	22-4588	2 MFD ELECTROLYTIC N.P. 30 V
C508	22-4589	2 MFD ELECTROLYTIC N.P. 30 V
R1	23-4157	200 OHM 1/4 W
R2	23-4269	100K OHM 1/4 W
R3	23-1772	470 OHM 20%
R4	23-1796	1.8K OHM
R5	23-4158	1.2K OHM 1/4 W
R6	23-4231	12K OHM 1/4 W
R7	23-1998	470K OHM 20%
R8	23-4122	33 OHM 1/4 W
R9	23-4898	470K OHM 20%
R10	23-4129	47 OHM 1/4 W
R11	23-4267	270K OHM 1/4 W
R12	23-4255	47K OHM 1/4 W
R101	23-1772	470 OHM 20%
R102	23-1761	270 OHM
R103	23-1810	3.9K OHM
R104	23-1834	15K OHM
R105	23-1803	1.2K OHM
R106	23-1799	2.2K OHM
R201	23-1775	560 OHM
R202	23-1761	270 OHM
R203	23-1772	470 OHM 20%
R204	23-1862	68K OHM
R205	23-1834	15K OHM
R206	23-1771	470 OHM
R207	23-1765	1K OHM
R208	23-1799	2.2K OHM
R209	23-1772	470 OHM 20%
R210	23-4185	1K OHM 1/4 W
R211	23-1775	560 OHM
R212	23-1772	470 OHM 20%
R213	23-1778	680 OHM
R214	23-1778	680 OHM
R215	23-1813	4700 OHM
R216	23-1813	4700 OHM
R217	23-1799	2.2K OHM
R218	23-1862	68K OHM
R219	23-1831	15K OHM
R220	23-1778	680 OHM
R221	23-1827	10K OHM
R222	23-1778	680 OHM
R223	23-1904	680K OHM
R224	23-1898	470K OHM 20%
R225	23-1799	2.2K OHM
R226	23-1852	39K OHM
R227	23-1805	47K OHM
R228	23-1852	39K OHM
R229	63-1873	120K OHM
R230	63-1859	56K OHM
R231	63-1820	6.8K OHM
R232	63-1778	680 OHM
R233	63-9708	5K BIAS ADJUST
R234	63-1835	47K OHM
R301	63-1858	47K OHM
R302	63-1817	5.6K OHM
R303	63-1784	330 OHM
R305	63-1858	47K OHM
R306	63-1784	330 OHM
R307	63-1806	3.3K OHM
R308	63-6486	100K MUTE CONTROL
R309	63-1765	1K OHM
R310	63-1782	820 OHM
R312	63-1824	8.2K OHM
R313	63-1775	560 OHM
R314	63-1778	680 OHM
R315	63-1775	560 OHM
R316	63-5663	680 OHM 2 W
R318	63-1781	820 OHM 5%
R319	63-1828	10K 5%
R320	63-1798	2.2K 5%
R321	63-1826	10K 5%
R322	63-1848	33K
R323	63-1918	1.5 MEG OHM
R324	63-1918	1.5 MEG OHM
R401	63-1880	180K OHM
R402	63-1870	150K OHM
R403	63-1883	220K OHM
R404	63-1845	27K OHM
R405	63-1820	6.8K OHM
R406	63-1848	33K OHM
R407	63-1813	4.7K OHM
R408L	63-8999	100K DUAL LOUDNESS CONTROL 29CT21 ONLY
R412	63-1827	10K OHM
R413L	63-8997	100K DUAL BASS CONTROL 29CT21 ONLY
R414	63-1920	4.7 MEG OHM
R415L	63-8998	50K DUAL TREBLE CONTROL 29CT21 ONLY
R416	63-1918	1.5 MEG
R417	63-5910	3900
R418	63-1736	68 OHM
R419	63-1834	15K
R420	63-1806	3.3K OHM 5%
R421	63-1868	100K OHM 5%
R422	63-1715	22 OHM
R423	63-1813	4700 OHM
R424	63-1813	4700 OHM
R425	63-1794	1600 OHM 5%
R426	63-9977	1000 OHM BIAS ADJUST
R427	63-1777	620 OHM 5%
R428	63-1767	220 OHM
R429	63-1767	220 OHM
R430	63-6424	1 OHM 5 W
R431	63-1836	18K 20%
R432	63-8996	250K BALANCE CONTROL 29CT21 ONLY
R434	63-1701	10 OHM
R451	63-1880	180K
R452	63-1876	150K OHM
R453	63-1883	220K
R454	63-1845	27K OHM
R455	63-1820	6.8K
R456	63-1848	33K OHM
R457	63-1813	4.7K OHM
R462	63-1827	10K
R464	63-1820	6.8K
R466	63-1918	1.5 MEG
R467	63-1810	3900 OHM
R468	63-1736	68 OHM
R469	63-1834	15K OHM
R470	63-1806	3.3K OHM 5%
R471	63-1868	100K OHM 5%
R472	63-1715	22 OHM
R473	63-1813	4700 OHM
R474	63-1813	4700 OHM
R475	63-1794	1600 OHM 5%
R476	63-9977	1000 OHM BIAS ADJUST
R477	63-1777	680 OHM 5%
R478	63-1767	220 OHM
R479	63-1767	220 OHM
R483	63-6424	1 OHM 5 W
R484	63-1701	10 OHM
R501	63-1912	1.5 MEG OHM 20%
R502	63-5065	600 OHM 3 W
R503	63-1781	10 OHM
R504	63-4280	390 OHM 2 W
L1	20-3076	FM ANTENNA COIL
L2	20-3077	FM DETECTOR COIL
L3	20-1256	TRAP COIL 10.7 MHz
L4	20-3078	FM OSCILLATOR COIL
L101	S-88463	AM ANTENNA COIL ASSEMBLY
L102	140-311	FERRITE CORE SLEEVE
L103	IN T102	AM OSCILLATOR TRANS. PRI.
L104	IN T102	AM OSCILLATOR TRANS. SEC.
L105	140-311	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 SEC.
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)
	5-79435	67 KHz TRAP COIL (ALTERNATE)
T101	95-2760	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
TS01	95-2340	POWER TRANSFORMER
FS01	13624	2A FUSE
S1	85-1210	BAND SWITCH
S2	85-1212	STEREO-MONO SWITCH
S3	85-1211	A.C. ON-OFF SWITCH
CR1	103-47	AFC DIODE
	OR	
	103-189	
CR201	103-90	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODES (MATCHED PAIR)
CR203	103-23	
CR204	103-23	GERMANIUM DIODE
CR205	103-23	GERMANIUM DIODE
CR206	103-23	GERMANIUM DIODE
CR301	103-23	GERMANIUM DIODES
CR302	103-23	
CR501	212-61	SILICON RECTIFIER
CR502	212-61	SILICON RECTIFIER
CR503	103-96	DIODE
M1	122-66	TUNING METER 29CT21 ONLY
Z301	105-107	INTEGNET
Z351	105-107	INTEGNET
DS1	100-249	PILOT LIGHT NO. 1847
DS2	100-249	PILOT LIGHT NO. 1847
DS301	100-507	STEREO INDICATOR LIGHT
SP1	49-1214	6" FM SPEAKER
SP2	49-1214	6" FM SPEAKER
SP3	49-1168	HORN SPEAKER
SP4	49-1168	HORN SPEAKER
J1	44-78	EARPHONE JACK



29CT21 – PREAMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



29CT21 – POWER AMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



29AT24 – SCHEMATIC

TRANSISTOR LEAD END VIEWS

TERMINAL END VIEWS

TEST POINTS

A	F.M. ANTENNA INPUT
B	F.M.-R.F.-A.G.C. (REV.)
C	F.M. MIXER A.G.C. (REV.)
D	1ST & 2ND I.F. INPUT
E	3RD I.F. INPUT
F	4TH I.F. INPUT
FI	RATIO DETECTOR INPUT
G	4TH I.F. OUTPUT
H	F.M. DETECTOR OUTPUT
H+	RATIO DETECTOR PRIMARY TUNING
J	F.M. B-
K	A.M. B-
L	A.M. R.F. INPUT & A.M. I.F. INPUT
M	67 KHz REJECTION & MX PHASING
N	MX DOUBLER OUTPUT
P	MX PHASING
R	F.M. R.F. SOURCE (F.E.T.) VOLTAGE
T	MX DISABLING

TRANSISTORS

No.	PART No.	DESCRIPTION
Q101	121-753	A.M. R.F.
Q102	121-638	A.M. MIXER
Q103	121-753	A.M. OSCILLATOR
Q201	121-614 OR 121-775	F.M. & A.M. 1ST I.F.
Q202	121-546	F.M. & A.M. 2ND I.F.
Q203	121-546	F.M. 3RD I.F.
Q204	121-546	F.M. 4TH I.F.
Q301	121-496	COMP. AMPLIFIER
Q302	121-496	19KHz AM PLIFIER
Q303	121-496	38KHz AMPLIFIER
Q304	121-734	BIPLEX DETECTOR
Q305	121-496	STEREO I NDICATOR SWITCH
Q401	121-433	PRE-AMPLIFIER
Q402	121-430	PRE-AMPLIFIER
Q403	121-603	PRE-AMPLIFIER
Q404	121-602	PRE-DRIVER
Q451	121-433	PRE-AMPLIFIER
Q452	121-430	PRE-AMPLIFIER
Q453	121-603	PRE-AMPLIFIER
Q454	121-602	PRE-DRIVER
Q601	121-497	F.M. B- S WITCHING
Q602	121-497	A.M. B- S WITCHING
Q603	121-447	STEREO-MONO SWITCH SUPPLY
Q604	121-497	STEREO B- SWITCH
Q605	121-497	EXT. BASS SWITCH
Q606	121-756	PHONO ST EREO-MONO SWITCH
SCR601	185-3	A.M. SWIT CH
SCR602	185-3	F M. SWIT CH
SCR603	185-3	PHONO SWITCH
SCR604	185-3	TAPE SWI TCH
SCR605	185-5	STEREO- MONO SWITCH
SCR606	185-4	STEREO- MONO SWITCH
SCR607	185-5	EXT BASS SWITCH ON-OFF
SCR608	185-4	EXT BASS SWITCH ON-OFF

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 120V 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.

INDICATES ±20% TOLERANCE.

INDICATES VOLTAGE.

Ⓐ INDICATES TEST POINTS.

* INDICATES VALUES PRESENT ONLY WITH STEREO SIGNAL

⊡ AND △ INDICATE INTERCONNECTING HOUSING FOR TONE CONTROL.

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION

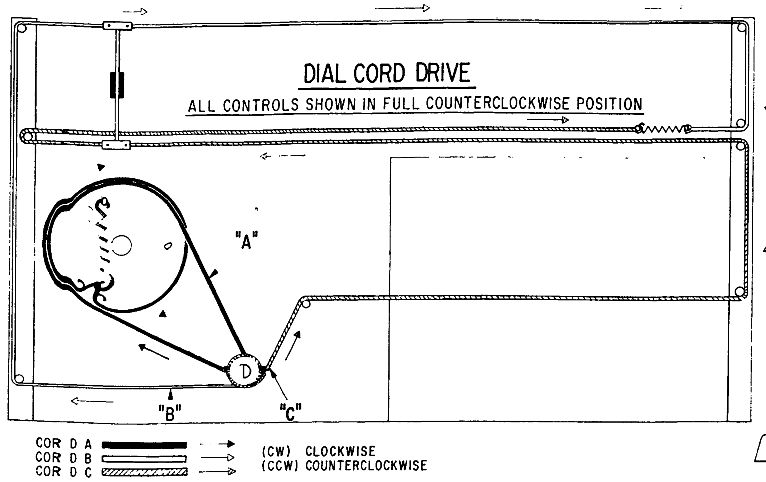
ON PRINTED CIRCUIT BOARD ONLY:
VOLTAGES MEASURED WITH R.C.A. VTVM, TYPE WV-98C, WITH ALL SCR IN OFF CONDITION.

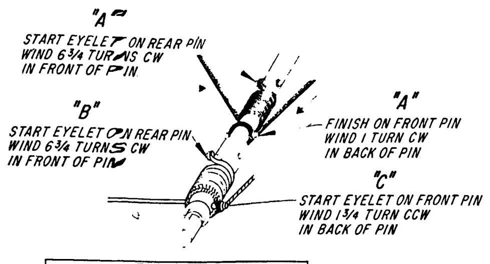
# INDICATES VOLTAGES PRESENT ONLY WHEN DESIRED FUNCTION AND RELATED CIRCUITS ARE IN "ON" CONDITION.

→IA← INDICATES "A" EDGE CONNECTOR TIE POINTS.

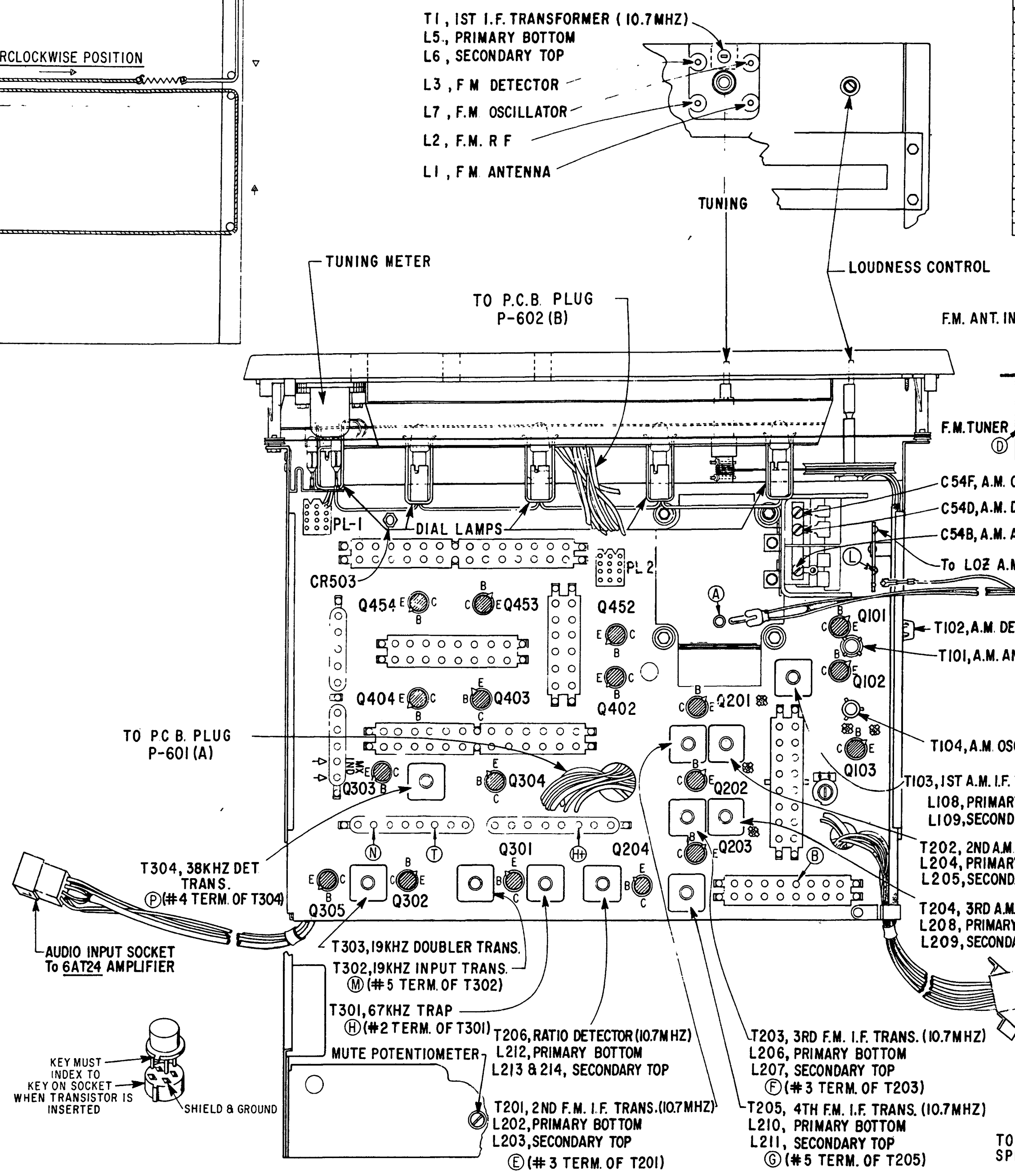
(1B) INDICATES "B" EDGE CONNECTOR TIE POINTS.

F.E.T. - FIELD EFFECT TRANSISTOR.





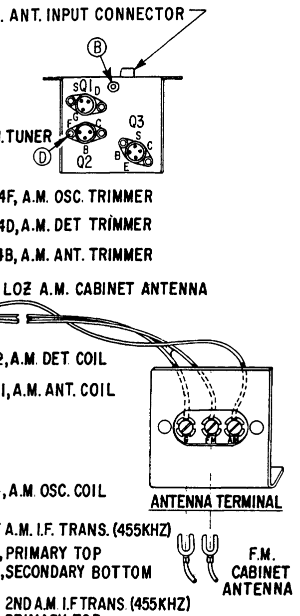
TRANSISTORS		
No.	PART No.	DESCRIPTION
Q1	121—731	F.M. R.F.
Q2	121—732	F.M. MIXER
Q3	121—432	F.M. OSC.
Q101	121—753	A.M. RF
Q102	121—638	A.M. MIXER
Q103	121—753	A.M. OSC.
Q201	121-6■4 or 775	F.M. A.M. 1st I.F.
Q202	121—546	F.M. A.M. 2nd I.F.
Q203	121—546	F.M. 3rd I.F.
Q204	121—546	F.M.
Q301	121—496	COMPOSITE AMP.
Q302	121—496	19 KHz AMP.
Q303	121—496	38 KHz AMP.
Q304	121—734	BI PLEX DET.
Q305	121—496	STEREO IND. SWITCH
Q401	121-752 or 433	PHONO PRE AMP. (R)
Q402	121—430	PRE AMP. (R)
Q403	121—603	PRE AMP. (R)
Q404	121—602	1st. AUDIO (R)
Q451	121-752 or 433	PHONO PRE AMP. (L)
Q452	121—430	PRE AMP. (L)
Q453	121—603	PRE AMP (L)
Q454	121—602	1st. AUDIO (L)
Q601	121—497	F.M. B- SWITCHING
Q602	121—497	A.M. B- SWITCHING
Q603	121—447	STEREO-MONO SWITCH
Q604	121—497	STEREO 19 KHz AMP.
Q605	121—497	EXT. BASS B- SWITCHING
Q606	121—756	PHONO STER.-MONO SW.
SCR601	185—3	A.M. SWITCH
SCR602	185—3	F.M. SWITCH
SCR603	185—3	PHONO SWITCH
SCR604	185—3	TAPE SWITCH
SCR605	185—5	STEREO SWITCH 1
SCR606	185—4	STEREO SWITCH 2
SCR607	185—5	EXT. BASS SWITCH 1
SCR608	185—4	EXT. BASS SWITCH 2

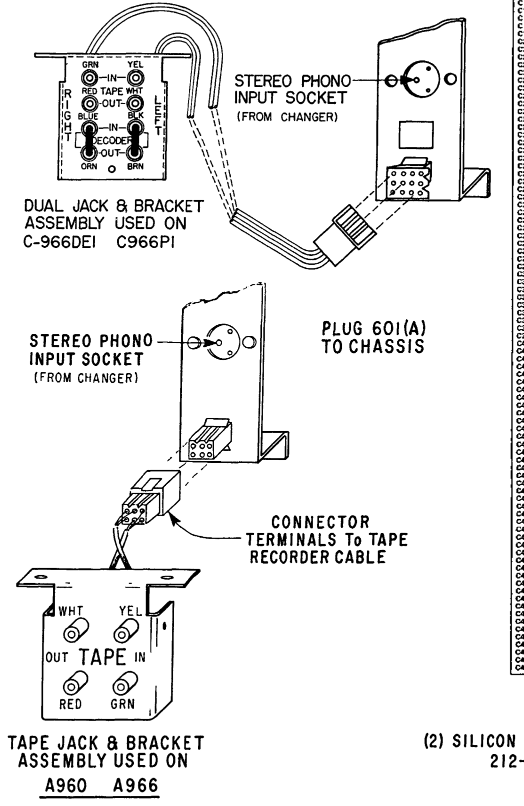


TEST POINTS	
A	F.M. ANTENNA INPUT 88–108 MHz
B	F.M.-R.F. A.G.C. (REV.) D.C.
C	F.M. MIXER A.G.C. (REV.)-D.C.
#D	1ST. & 2ND. I.F. INPUT 10.7 MHz
E	3RD. I.F. INPUT 10.7 MHz
F	4TH. I.F. OUTPUT 10.7 MHz
F1	RATIO DET. INPUT 10.7 MHz
G	4TH I.F. OUTPUT
H	F.M. DET. OUTPUT D.C.-75KHz
H+	RATIO DET. PRIMARY TUNING
J	F.M. B-
K	A.M. B-
L	A.M. RF. INPUT 535–1620 KHz & 455KHz
M	67 KHz REJECTION & PHASING (MX)
N	DOUBLER OUTPUT D.C. & 38 KHz
P	PHASING (MX)
R	F.M. R.F. SOURCE (FET) VOLTAGE
T	MX DISABLE

(1ST & 2ND I.F. INPUT)

* MIXER EMITTER TEST POINT BROUGHT OUT OF SOCKET EYELET.





LEGEND CHASSIS 29AT24 AND 29AT24Z1

ITEM NO.	PART NO.	DESCRIPTION
C101A		AM ANTENNA TUNING
C101B		AM ANTENNA TRIMMER
C101C		AM DETECTOR TUNING
C101D	22-4817	AM DETECTOR TRIMMER
C101E		AM OSCILLATOR TUNING
C101F		AM OSCILLATOR TRIMMER
C102	22-9	100 PF DISC. 500V
C103	22-3944	.0047 MFD 10% 25V
C104	22-3034	.05 MFD DISC. 25V
C105	22-3034	.05 MFD DISC. 25V
C106	22-3527	.22 MFD DISC. 12V
C107	22-4564	10 MFD ELECTROLYTIC 25V
C108	22-2884	5 MFD ELECTROLYTIC 12V
C109	22-2729	.001 MFD DISC. 25V
C110	22-3034	.05 MFD DISC. 25V
C111	22-3034	.05 MFD DISC. 25V
C201	22-2720	1 PF GIMMICK 500V
C202	22-3254	.1 MFD DISC. 25V
C203	22-3034	.05 MFD DISC. 25V
C204	22-2718	1.2 PF GIMMICK 500V
C205	22-3034	.05 MFD DISC. 25V
C206	22-3034	.05 MFD DISC. 25V
C207	22-3676	10 PF DISC. 5% 500V
C208	22-2424	1.5 PF GIMMICK 500V
C209	22-3034	.05 MFD DISC. 25V
C210	22-3034	.05 MFD DISC. 25V
C211	22-3010	.01 MFD DISC. 25V
C212	22-3034	.05 MFD DISC. 25V
C213	22-18	.0022 MFD DISC. 500V
C214	22-18	.0022 MFD DISC. 500V
C215	22-18	.0022 MFD DISC. 500V
C216	22-13	.0033 MFD DISC. 500V
C217	22-3034	.05 MFD DISC. 25V
C218	22-2374	5 PF DISC. 500V
C219	22-3034	.05 MFD DISC. 25V
C220	22-2903	22 PF DISC. 500V
C221	22-2374	5 PF DISC. 500V
C222	22-2333	2.2 PF GIMMICK 500V
C223	22-3034	.05 MFD DISC. 25V
C224	22-3034	.05 MFD DISC. 25V
C225	22-3254	.1 MFD DISC. 25V
C226	22-3080	.005 MFD DISC. 25V
C227	22-2729	.001 MFD DISC. 25V
C228	22-3177	390 PF DISC. 500V
C229	22-3177	390 PF DISC. 500V
C230	22-3448	10 MFD ELECTROLYTIC 15V
C301	22-3034	.05 MFD DISC. 25V
C302	22-5019	.47 MFD MYLAR 50V
C303	22-2884	5 MFD ELECTROLYTIC 12V
C304	22-2884	5 MFD ELECTROLYTIC 12V
C305	22-3010	.01 MFD DISC. 25V
C306	22-3826	.022 MFD MYLAR 100V
C307	22-5626	.0082 MFD DISC. 500V
C308	22-4617	.01 MFD ±20% 500V
C357	22-5626	.0082 MFD DISC. 500V
C401	22-3034	.05 MFD DISC. 25V
C402	22-5883	.033 MFD 100V
C403	22-3034	.05 MFD DISC. 25V
C404	22-3080	.005 MFD DISC. 25V
C405	22-3362	560 PF DISC. 500V
C406	22-3034	.05 MFD DISC. 25V
C407	22-3687	1 MFD ELECTROLYTIC 50V
C408	22-3696	.1 MFD MYLAR 20% 50V
C409		
C410	22-14	.0047 MFD DISC. 500V
C411	22-3599	.015 MFD 50V
C412	22-6237	.01 MFD 100V
C413	22-3826	.022 MFD MYLAR 100V
C414	22-3444	.018 MFD 50V
C415	22-3687	1 MFD ELECTROLYTIC 50V
C416	22-3828	.022 MFD MYALR 100V
C417	22-3687	1 MFD ELECTROLYTIC 50V
C418	22-3891	.0068 MFD 100V
C419	22-3687	1 MFD ELECTROLYTIC 50V
C420	22-6188	.1 MFD 50V
C421	22-5012	.15 MFD 50V
C422	22-5012	.15 MFD 50V
C423	22-3896	5 MFD ELECTROLYTIC 25V
C451	22-3034	.05 MFD DISC. 25V
C452	22-5883	.033 MFD 100V
C453	22-3034	.05 MFD DISC. 25V
C454	22-3080	.005 MFD DISC. 25V
C455	22-3362	560 PF DISC. 500V
C456	22-3034	.05 MFD DISC. 25V
C457	22-3687	1 MFD ELECTROLYTIC 50V
C458	22-3596	.1 MFD MYLAR 20% 50V
C459		
C460	22-14	.0047 MFD DISC. 500V
C461	22-3599	.015 MFD 50V
C462	22-6237	.01 MFD 100V
C463	22-3826	.022 MFD MYLAR 100V
C464	22-3444	.018 MFD 50V
C465	22-3687	1 MFD ELECTROLYTIC 50V
C466	22-3826	.022 MFD 100V
C467	22-3687	1 MFD ELECTROLYTIC 50V
C468	22-3891	.0068 MFD 100V
C469	22-3687	1 MFD ELECTROLYTIC 50V
C470	22-5186	.1 MFD 50V

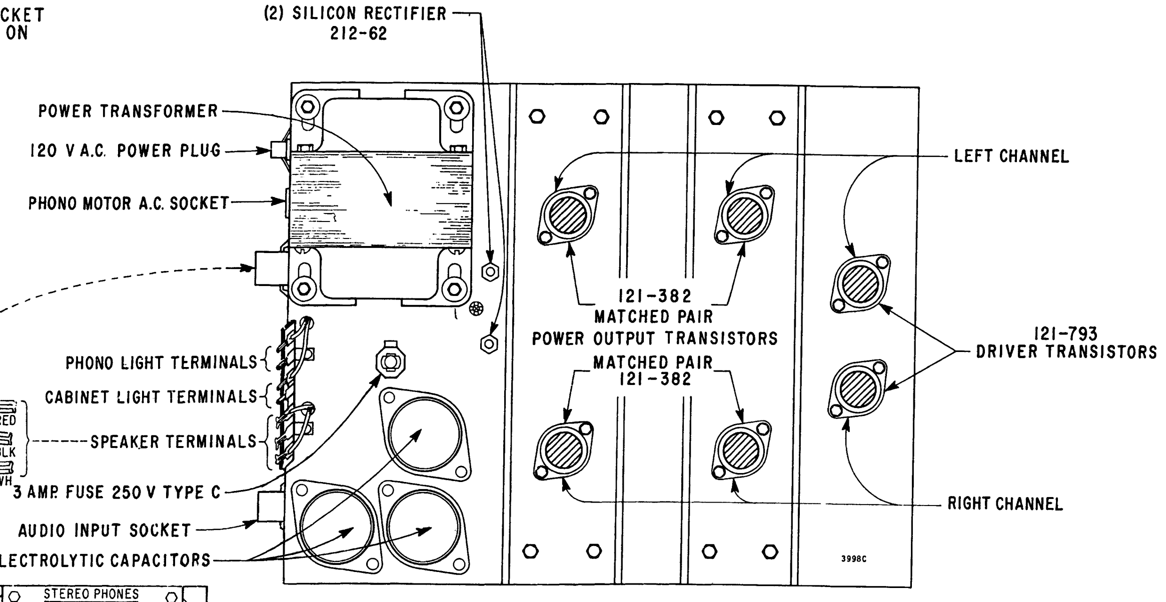
ITEM NO.	PART NO.	DESCRIPTION
C471	22-5012	.15 MFD 50V
C472	22-5012	.15 MFD 50V
C473	22-3896	5 MFD ELECTROLYTIC 25V
C585	22-5168	300 MFD ELECTROLYTIC 25V
C586	22-5167	1000 MFD ELECTROLYTIC 30V
C588		
C601	22-3034	.05 MFD DISC. 25V
C602	22-3687	1 MFD ELECTROLYTIC 50V
C603	22-3034	.05 MFD DISC. 25V
C604	22-4905	.01 MFD DISC. 500V
C605	22-3687	1 MFD ELECTROLYTIC 50V
C606	22-4905	.01 MFD DISC. 500V
C607	22-3034	.05 MFD DISC. 25V
C608	22-3687	1 MFD ELECTROLYTIC 50V
C609	22-3034	.05 MFD DISC. 25V
C610	22-3034	.05 MFD DISC. 25V
C611	22-4905	.01 MFD DISC. 500V
C612	22-3034	.05 MFD DISC. 25V
C613	22-4905	.01 MFD DISC. 500V
C614	22-3687	1 MFD ELECTROLYTIC 50V
C615	22-4905	.01 MFD DISC. 500V
C616	22-5907	.1 MFD 50V
C617	22-4905	.01 MFD DISC. 500V
C618	22-18	.0022 MFD DISC. 500V
C619	22-4905	.01 MFD DISC. 500V
C620	22-18	.0022 MFD DISC. 500V
C621	22-5907	.1 MFD 50V
C622	22-5907	.1 MFD 50V
C623	22-5907	.1 MFD 50V
C624	22-5907	.1 MFD 50V
C625	22-5907	.1 MFD 50V
C626	22-4905	.01 MFD DISC. 500V
C627	22-18	.0022 MFD DISC. 500V
C628	22-5907	.1 MFD 50V
C629	22-4905	.01 MFD DISC. 500V
C630	22-18	.0022 MFD DISC. 500V
C631	22-4905	.01 MFD DISC. 500V
C632	22-18	.0022 MFD DISC. 500V
C633	22-5904	.15 MFD 100V
C634	22-5907	.1 MFD 50V
C635	22-5907	.1 MFD 50V
C636	22-5612	180 PF DISC. 500V
C637	22-5907	.1 MFD 100V
C638	22-3687	1 MFD ELECTROLYTIC 50V
C639	22-4905	.01 MFD DISC. 500V
C640	22-18	.0022 MFD DISC. 500V
C641	22-5904	.15 MFD 100V
C642	22-5907	.1 MFD 50V
C643	22-5907	.1 MFD 50V
C644	22-5612	180 PF DISC. 500V
C645	22-5907	.1 MFD 50V
C646	22-4509	20 MFD ELECTROLYTIC 25V
R101	63-1915	1.2 MEGOHM
R102	63-1764	330 OHM
R103	63-1799	2.2K OHM
R104	63-1799	2.2K OHM
R105	63-1771	470 OHM
R106	63-1785	1K OHM
R107	63-1887	270K OHM
R108	63-1813	4.7K OHM
R109	63-1827	10K OHM
R110	63-1813	4.7K OHM
R111	63-1785	1K OHM
R112	63-1785	1K OHM
R201	63-1769	390 OHM
R202	63-1782	820 OHM
R203	63-1764	330 OHM
R204	63-1778	680 OHM
R205	63-1831	12K OHM
R206	63-1803	2.7K OHM
R207	63-1792	1.5K OHM
R208	63-1747	120 OHM
R209	63-1785	1K OHM
R210	63-1810	3.9K OHM
R211	63-1838	18K OHM
R212	63-1799	2.2K OHM
R213	63-1834	15K OHM
R214	63-8258	150 K OHM POTENTIOMETER
R215	63-1771	470 OHM
R216	63-1834	15K OHM
R217	63-1778	680 OHM
R218	63-1778	680 OHM
R219	63-1848	33K OHM
R220	63-1887	270K OHM
R221	63-1890	330K OHM
R222	63-1782	820 OHM
R223	63-1778	680 OHM
R224	63-1806	3.3K OHM
R225	63-1831	12K OHM
R226	63-1848	33K OHM
R227	63-1785	1K OHM
R228	63-1796	1.8K OHM
R229	63-1869	100K OHM
R230	63-1869	100K OHM
R231	63-1701	10 OHM
R232	63-1778	680 OHM
R233	63-1778	680 OHM
R234	63-1813	4.7K OHM

ITEM NO.	PART NO.	DESCRIPTION
R235	63-1813	4.7K OHM
R301	63-1869	100K OHM
R302	63-1911	1 MEGOHM
R303	63-1866	82K OHM
R304	63-1817	5.6K OHM
R305	63-1764	330 OHM
R306	63-1771	470 OHM
R307	63-1764	330 OHM
R308	63-1806	3.3K OHM
R309	63-3238	50K POTENTIOMETER (MUTE CONTROL)
R310	63-1733	56 OHM
R311	63-1771	470 OHM
R312	63-1824	8.2K OHM
R313	63-1778	680 OHM
R314	63-1782	820 OHM
R315	63-1806	3.3K OHM
R316	63-1796	1.8K OHM
R317	63-1825	9.1K OHM 5%
R318	63-1792	1.5K OHM
R319	63-1778	680 OHM
R320	63-1826	10K OHM 5%
R401	63-1862	68K OHM
R402	63-1911	1 MEG
R403	63-1887	270K OHM
R404	63-1911	1 MEG
R405	63-1894	390K OHM
R406	63-1880	180K
R407	63-1939	4.7 MEGOHM
R408	63-1838	18K OHM
R409	63-1841	22K OHM
R410	63-1870	100K OHM 20%
R411	63-1848	33K OHM
R412	63-1953	10 MEGOHM
R413	63-1813	4.7K OHM
R414	63-1838	18K OHM
R415	63-1841	22K OHM
R416(R) R416(L)	63-8260	250K TREBLE SLIDE CONTROL
R417(R) R417(L)	63-8259	250K BASS SLIDE CONTROL
R418	63-1925	2.2 MEGOHM
R419	63-1866	82K OHM
R420	63-1813	4.7K OHM
R421	63-1813	4.7K OHM
R422	63-1827	10K OHM
R423	63-1869	100K OHM
R424	63-1852	39K OHM
R425	63-1810	3.9K OHM
R427(R) R427(L)	63-8244	250K DUAL LOUDNESS CONTROL
R428	63-1810	3.9K OHM
R429	63-1922	1.8 MEGOHM
R430	63-1743	100 OHM
R451	63-1862	68K OHM
R452	63-1911	1 MEG
R453	63-1887	270K OHM
R454	63-1911	1 MEG
R455	63-1894	390K OHM
R457	63-1939	4.7 MEGOHM
R458	63-1838	18K OHM
R459	63-1841	22K OHM
R460	63-1870	100K OHM 20%
R461	63-1848	33K OHM
R462	63-1953	10 MEGOHM
R463	63-1813	4.7K OHM
R464	63-1838	18K OHM
R465	63-1841	22K OHM
R468	63-1925	2.2 MEGOHM
R469	63-1866	82K OHM
R470	63-1813	4.7K OHM
R471	63-1813	4.7K OHM
R472	63-1827	10K OHM
R473	63-1869	100K OHM
R474	63-1852	39K OHM
R475	63-1810	3.9K OHM
R478	63-1810	3.9K OHM
R479	63-1922	1.8 MEGOHM
R480	63-1743	100 OHM
R481	63-8282	250K BALANCE SLIDE CONTROL
R482	63-1938	3.9 MEGOHM
R566	63-1785	1K OHM 10%
R567	63-1814	4.7K OHM 20%
R568	63-8298	200 OHM 15W
R601	63-4548	22 MEGOHM
R602	63-1946	6.8 MEGOHM
R603	63-1894	390K OHM
R604	63-4548	22 MEGOHM
R605	63-1946	6.8 MEGOHM
R606	63-1932	3.3 MEGOHM
R607	63-1894	390K OHM
R608	63-4548	22 MEGOHM
R609	63-1936	3.9 MEGOHM
R610	63-4548	22 MEGOHM
R611	63-1932	3.3 MEGOHM
R612	63-1936	3.9 MEGOHM
R613	63-1897	470K OHM
R614	63-4548	22 MEGOHM
R615	63-1932	3.3 MEGOHM
R616	63-1897	470K OHM

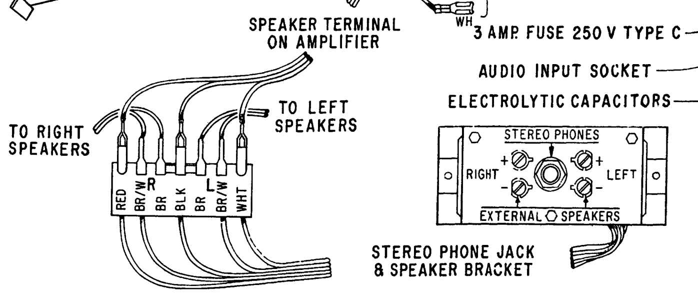
ITEM NO.	PART NO.	DESCRIPTION
R617	63-1883	220K OHM
R618	63-4548	22 MEGOHM
R619	63-1932	3.3 MEGOHM
R620	63-1929	2.7 MEGOHM
R621	63-1890	330K OHM
R622	63-4548	22 MEGOHM
R623	63-1922	1.8 MEGOHM
R624	63-1929	2.7 MEGOHM
R625	63-4548	22 MEGOHM
R626	63-1922	1.8 MEGOHM
R628	63-4548	22 MEGOHM
R629	63-1932	3.3 MEGOHM
R630	63-1932	3.3 MEGOHM
R631	63-1841	22K OHM
R632	63-1841	22K OHM
R633	63-1883	220K OHM
R634	63-1841	22K OHM
R635	63-1722	33 OHM
R636	63-4548	22 MEGOHM
R637	63-1880	180K OHM
R638	63-1827	10K OHM
R639	63-4548	22 MEGOHM
R640	63-1880	180K OHM
R641	63-1827	10K OHM
R642	63-4548	22 MEGOHM
R643	63-1880	180K OHM
R644	63-1827	10K OHM
R645	63-4548	22 MEGOHM
R646	63-1880	180K OHM
R647	63-1827	10K OHM
R648	63-4548	22 MEGOHM
R649	63-1876	150K OHM
R650	63-1918	1.5 MEGOHM
R651	63-1869	100K OHM
R652	63-1813	4.7K OHM
R653	63-1785	1K OHM
R654	63-1883	220K OHM
R655	63-1841	22K OHM
R656	63-4548	22 MEGOHM
R657	63-1876	150K OHM
R658	63-1918	1.5 MEGOHM
R659	63-1869	100K OHM
R660	63-1785	1K OHM
R661	63-1813	4.7K OHM
R662	63-1841	22K OHM
R663	63-1813	4.7K OHM
R664	63-1869	100K OHM
R665	63-1859	56K OHM
R666	63-1859	56K OHM
R667	63-1869	100K OHM
R668	63-1911	1 MEGOHM
R669	63-1911	1 MEGOHM
R670	63-1841	22K OHM
R671	63-1911	1 MEGOHM
R672	63-1911	1 MEGOHM
R673	63-4548	22 MEGOHM
R674	63-4548	22 MEGOHM
R675	63-4561	47 MEGOHM
R676	63-4548	22 MEGOHM
R677	63-1869	100K OHM
R678	63-1869	100K OHM
R679	63-1932	3.3 MEGOHM
R680	63-1932	3.3 MEGOHM
R681	63-1932	3.3 MEGOHM
R682	63-1932	3.3 MEGOHM
R683	63-1932	3.3 MEGOHM
R684	63-1932	3.3 MEGOHM
R685	63-1932	3.3 MEGOHM
R686	63-1932	3.3 MEGOHM
R687	63-1932	3.3 MEGOHM
R688	63-1932	3.3 MEGOHM
R689	63-1932	3.3 MEGOHM
R690	63-1932	3.3 MEGOHM
L101	S-64803	AM ANTENNA (CABINET)
L102	IN T101	AM ANTENNA COIL (PRI.)
L103	IN T101	AM ANTENNA COIL (SEC.)
L104	20-2033	PEAKING COIL
L105	IN T102	AM DETECTOR COIL (PRI.)
L106	IN T102	AM DETECTOR COIL (SEC.)
L107	IN T104	AM OSCILLATOR COIL
L108	IN T103	AM MIXER COIL (PRI.)
L109	IN T103	AM MIXER COIL (SEC.)
L202	IN T201	2ND FM IF TRANSFORMER 10.7 MHz (PRI.)
L203	IN T201	2ND FM IF TRANSFORMER 10.7 MHz (SEC.)
L204	IN T202	2ND AM IF TRANSFORMER 455 KHz (PRI.)
L205	IN T202	2ND AM IF TRANSFORMER 455 KHz (SEC.)
L206	IN T203	3RD FM IF TRANSFORMER 10.7 MHz (PRI.)
L207	IN T203	3RD FM IF TRANSFORMER 10.7 MHz (SEC.)
L208	IN T204	3RD AM IF TRANSFORMER 455 KHz (PRI.)
L209	IN T204	3RD AM IF TRANSFORMER 455 KHz (SEC.)
L210	IN T205	4TH FM IF TRANSFORMER 10.7 MHz (PRI.)
L211	IN T205	4TH FM IF TRANSFORMER 10.7 MHz (SEC.)
L212	IN T206	RATIO DETECTOR TRANS. (PRI.)
L213	IN T206	RATIO DETECTOR TRANS. (TER.)
L214	IN T206	RATIO DETECTOR TRANS. (SEC.)
L301	IN T301	TRAP COIL 67 KHz
L302	IN T302	INPUT COIL 19 KHz (PRI.)
L303	IN T302	INPUT COIL 19 KHz (SEC.)

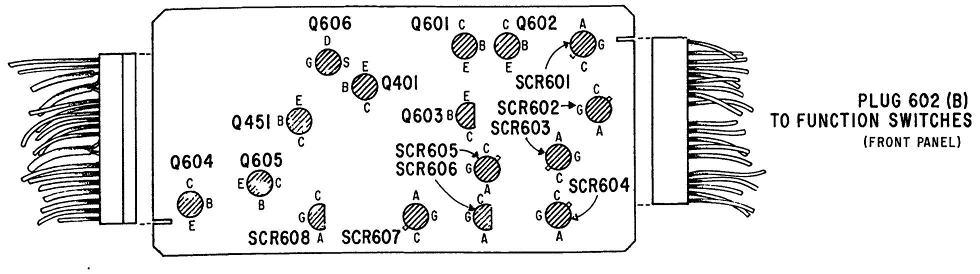
ITEM NO.	PART NO.	DESCRIPTION
L304	IN T303	DOUBLER COIL 19KHz (PRI.)
L305	IN T303	DOUBLER COIL 19 KHz (SEC.)
L306	IN T304	BI-PLEX DET. COIL 38 KHz (PRI.)
L307	IN T304	BI-PLEX DET. COIL 38 KHz (SEC.)
L401	149-311	FERRITE SLEEVE
L451	149-311	FERRITE SLEEVE
L501	20-2008	PEAKING COIL
L601	20-2033	10 uh TRAP
T101	S-74470	AM ANTENNA COIL
T102	S-83974	AM DETECTOR
T103	95-2721	AM MIXER
T104	S-83975	AM OSCILLATOR
T201	95-2328	2ND FM IF TRANSFORMER
T202	95-2722	2ND AM IF TRANSFORMER
T203	95-2387	3RD FM IF TRANSFORMER
T204	95-2723	3RD AM IF TRANSFORMER
T205	95-2387	4TH FM IF TRANSFORMER
T206	95-2324	RATIO DETECTOR TRANSFORMER
T301	95-2316	TRAP COIL
T302	95-2315	INPUT TRANSFORMER
T303	95-2313	DOUBLER TRANSFORMER
T304	95-2314	DETECTOR TRANSFORMER
CR101	103-23	DIODE
CR201	103-23	DIODE
CR202	103-23	DIODE
CR203	103-23	DIODE
CR204	103-23	DIODE
CR205	103-23	DIODE
CR301	103-23	DIODE
CR302	103-23	DIODE
CR503	103-168	ZENER DIODE
CR504	103-98	ZENER DIODE
CR601	103-142	DIODE
CR602	103-142	DIODE
CR603	103-142	DIODE
CR604	103-142	DIODE
CR605	103-142	DIODE
CR606	103-142	DIODE
CR607	103-142	DIODE
CR608	103-142	DIODE
CR609	103-142	DIODE
CR610	103-142	DIODE
CR611	103-142	DIODE
CR612	103-142	DIODE
CR613	103-142	DIODE
CR614	103-142	DIODE
CR615	103-142	DIODE
CR616	103-142	DIODE
CR617	103-142	DIODE
CR618	103-142	DIODE
CR619	103-142	DIODE
CR620	103-142	DIODE
CR621	103-142	DIODE
S301	85-1077	AFC SWITCH
S401	85-1075	CONTOUR SWITCH
S501	85-1074	AC SWITCH (EARLY MODELS)
S501	85-1110	AC SWITCH (LATE MODELS)
S601	85-1078	AM SWITCH
S602	85-1078	FM SWITCH
S603	85-1078	PHONO SWITCH
S604	85-1078	TAPE SWITCH
S605	85-1078	MONO-STEREO SWITCH
S606	85-1078	EXT. BASS SWITCH
Z201	20-1422	10.7 MHz TRAP
Z301	105-93	INTEGNET (R)
Z351	105-93	INTEGNET (L)
DS301	100-384	STEREO INDICATOR LIGHT (1819X)
DS503	100-249	PILOT LIGHT (1847)
DS504	100-249	PILOT LIGHT (1847)
DS505	100-249	PILOT LIGHT (1847)
DS506	100-249	PILOT LIGHT (1847)
DS507	100-249	PILOT LIGHT (1847)
DS508	100-249	PILOT LIGHT (1847)
DS509	100-249	PILOT LIGHT (1847)
DS510	100-249	PILOT LIGHT (1847)
DS511	100-249	PILOT LIGHT (1847)
DS601	100-384	AM INDICATOR LIGHT (1819X)
DS602	100-384	FM INDICATOR LIGHT (1819X)
DS603	100-384	PHONO INDICATOR LIGHT (1819X)
DS604	100-384	TAPE INDICATOR LIGHT (1819X)
DS605	100-384	MONO-STEREO INDICATOR LIGHT (1819X)
DS606	100-384	EXT. BASS INDICATOR LIGHT (1819X)
J401	S-83998	HOUSING WIRE & TERMINAL ASSEM. (FEMALE)
J402	S-83999	HOUSING WIRE & TERMINAL ASSEM. (FEMALE)
J403	S-89959	HOUSING WIRE & TERMINAL ASSEM. (FEMALE)
P401	S-84151	HOUSING WIRE & TERMINAL ASSEM. (MALE)
P402	S-84137	HOUSING WIRE & TERMINAL ASSEM. (MALE)
P403	S-89965	HOUSING WIRE & TERMINAL ASSEM. (MALE)
P501	S-84014	HOUSING WIRE & TERMINAL ASSEM. (MALE)
P502	S-84023	HOUSING WIRE & TERMINAL ASSEM. (MALE)
P601	S-87120	TWENTY CONTACT HOUSING & WIRE ASSEM.
P602	S-87119	TWENTY CONTACT HOUSING & WIRE ASSEM.
M201	122-42 OR 122-43	TUNING METER

3997C2
4443-2



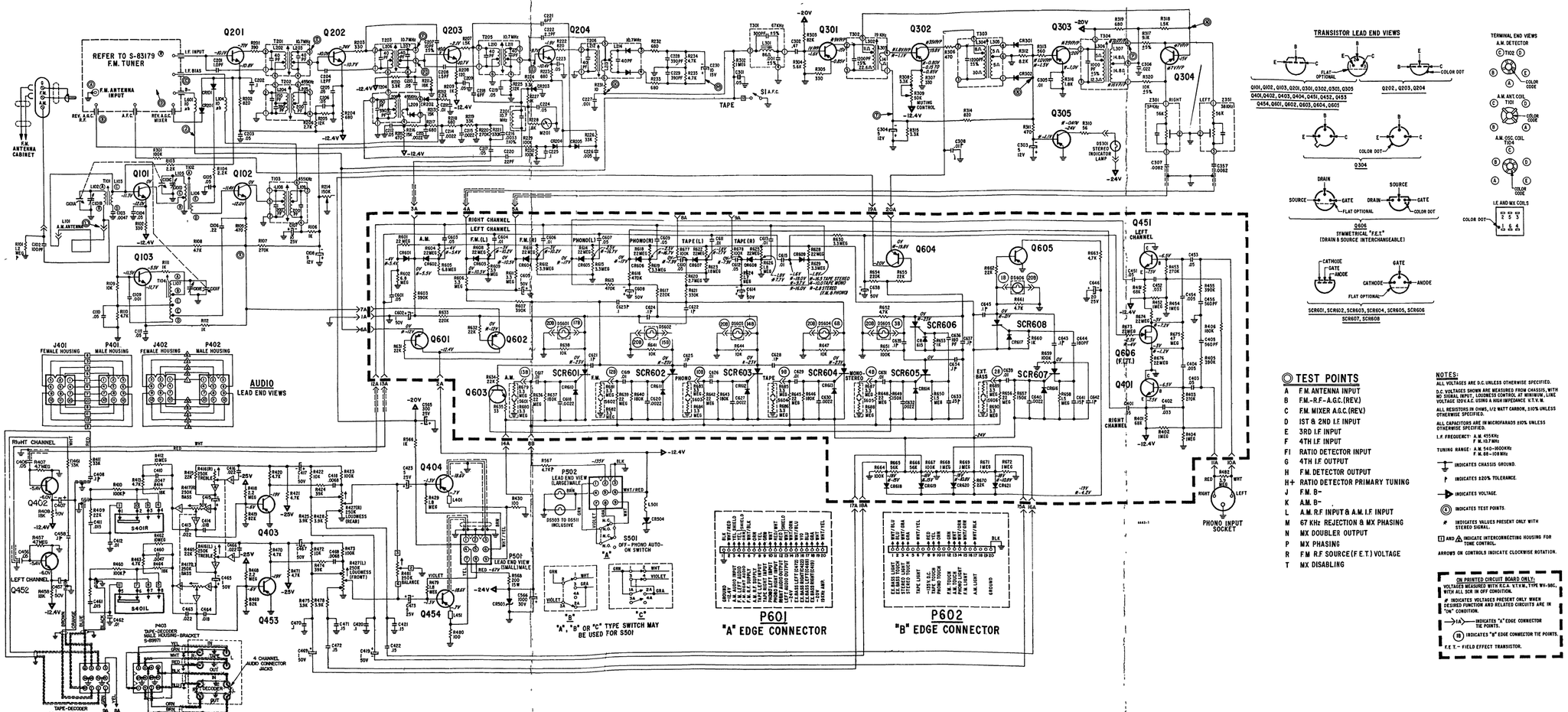
POWER SUPPLY





PRINTED CIRCUIT BOARD

6AT24, 29AT24 AND 29AT24Z1 – CHASSIS LAYOUT



TRANSISTOR LEAD END VIEWS

TRANSISTORS		
No.	PART No.	DESCRIPTION
Q101	121-753	A.M. R.F
Q102	121-638	A.M. MIXER
Q103	121-753	A.M. OSCILLATOR
Q201	121-516 OR 121-546	F.M. 8 A.M. 1ST I.F.
Q202	121-546	F.M. 8 A.M. 2ND I.F
Q203	121-546	F.M. 3RD I.F
Q204	121-546	F.M. 4TH I.F
Q301	121-496	COMP AMPLIFIER
Q302	121-496	19KHz AMPLIFIER
Q303	121-496	38KHz AMPLIFIER
Q304	121-734	BIPLEX DETECTOR
Q305	121-496	STEREO INDICATOR SWITCH
Q401	121-433	PRE-AMPLIFIER
Q402	121-430	PRE-AMPLIFIER
Q403	121-603	PRE-AMPLIFIER
Q404	121-602	PRE-DRIVER
Q451	121-433	PRE-AMPLIFIER
Q452	121-430	PRE-AMPLIFIER
Q453	121-603	PRE-AMPLIFIER
Q454	121-602	PRE-DRIVER
Q601	121-497	F.M. B- SWITCHING
Q602	121-497	A.M. B- SWITCHING
Q603	121-447	STEREO-MONO SWITCH SUPPLY
Q604	121-497	STEREO B- SWITCH
Q605	121-497	EXT BASS SWITCH
Q606	121-756	PHONO STEREO-MONO SWITCH
SCR601	185-3	A.M. SWITCH
SCR602	185-3	F.M. SWITCH
SCR603	185-3	PHONO SWITCH
SCR604	185-3	TAPE SWITCH
SCR605	185-5	STEREO-MONO SWITCH
SCR606	185-4	STEREO-MONO SWITCH
SCR607	185-5	EXT BASS SWITCH ON-OFF
SCR608	185-4	EXT BASS SWITCH ON-OFF

TEST POINTS

- A F.M. ANTENNA INPUT
- B F.M.-R.F.-A.G.C.(REV.)
- C F.M. MIXER A.G.C.(REV.)
- D 1ST & 2ND I.F. INPUT
- E 3RD I.F INPUT
- F 4TH I.F. INPUT
- FI RATIO DETECTOR INPUT
- G 4TH I.F. OUTPUT
- H F.M. DETECTOR OUTPUT
- H+ RATIO DETECTOR PRIMARY TUNING
- J F.M. B-
- K A.M. B-
- L A.M. R.F. INPUT & A.M. I.F. INPUT
- M 67 KHz REJECTION & MX PHASING
- N MX DOUBLER OUTPUT
- P MX PHASING
- R F.M. R.F. SOURCE (F.E.T.) VOLTAGE
- T MX DISABLING

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.

INDICATES ±20% TOLERANCE.

INDICATES VOLTAGE.

INDICATES TEST POINTS.

INDICATES VALUES PRESENT ONLY WITH STEREO SIGNAL.

AND INDICATE INTERCONNECTING HOUSING FOR TONE CONTROL.

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION.

ON PRINTED CIRCUIT BOARD ONLY:
VOLTAGES MEASURED WITH R.C.A. V.T.V.M., TYPE WV-98C, WITH ALL SCR IN OFF CONDITION.

INDICATES VOLTAGES PRESENT ONLY WHEN DESIRED FUNCTION AND RELATED CIRCUITS ARE IN "ON" CONDITION.

INDICATES "A" EDGE CONNECTOR TIE POINTS.

INDICATES "B" EDGE CONNECTOR TIE POINTS.

F.E.T.- FIELD EFFECT TRANSISTOR.

NOTES:
X SHORTING BAR MUST BE REMOVED WHEN 4 CHANNEL AUDIO SYSTEM IS USED.

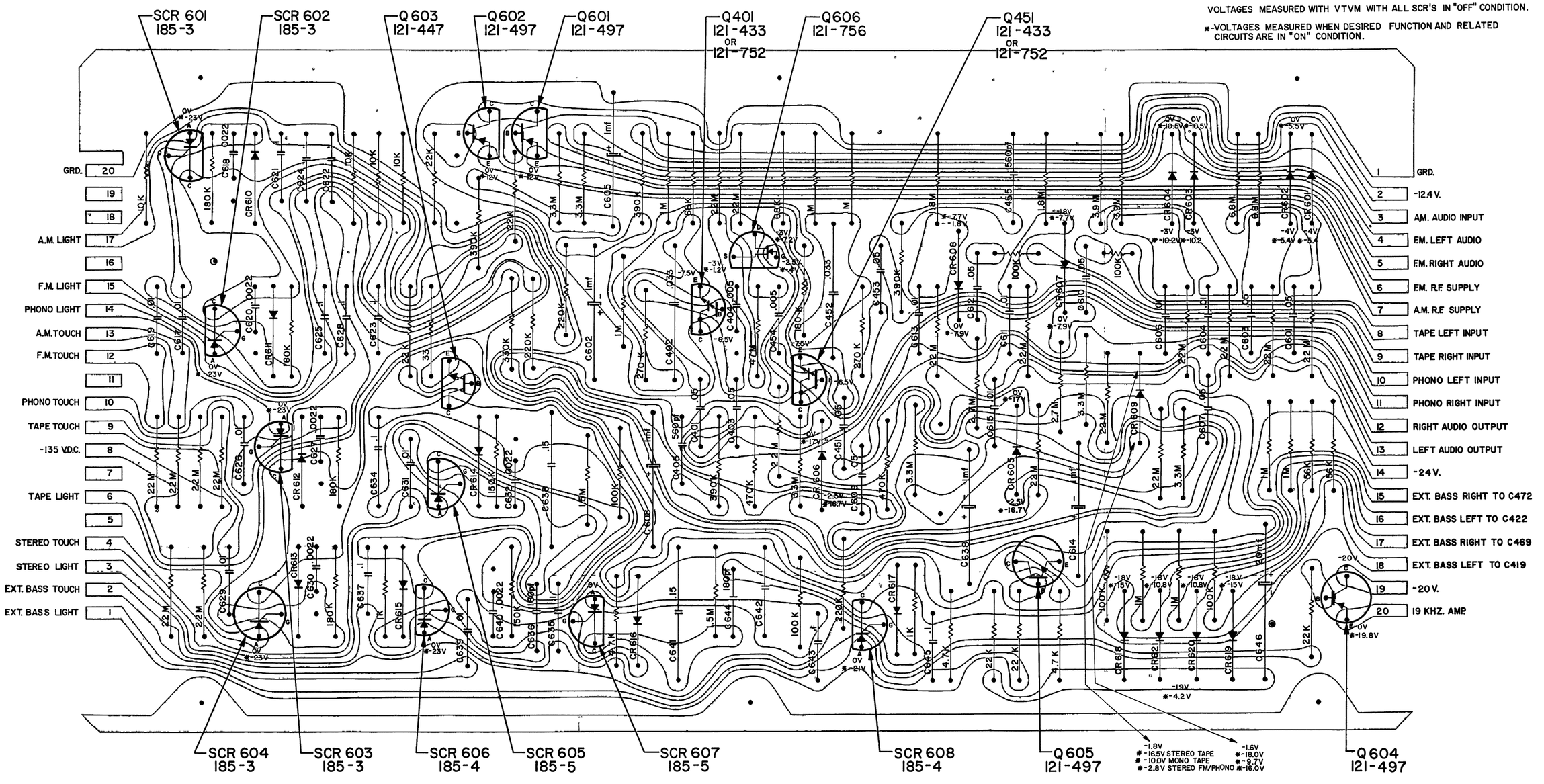
B-BASE
C-COLLECTOR
E-EMITTER
Q601, Q602, Q603, Q604, Q605, Q401, Q451.

C - CATHODE
A - ANODE
G - GATE
SCR601, SCR602, SCR603, SCR604, SCR605, SCR606, SCR607, SCR608.

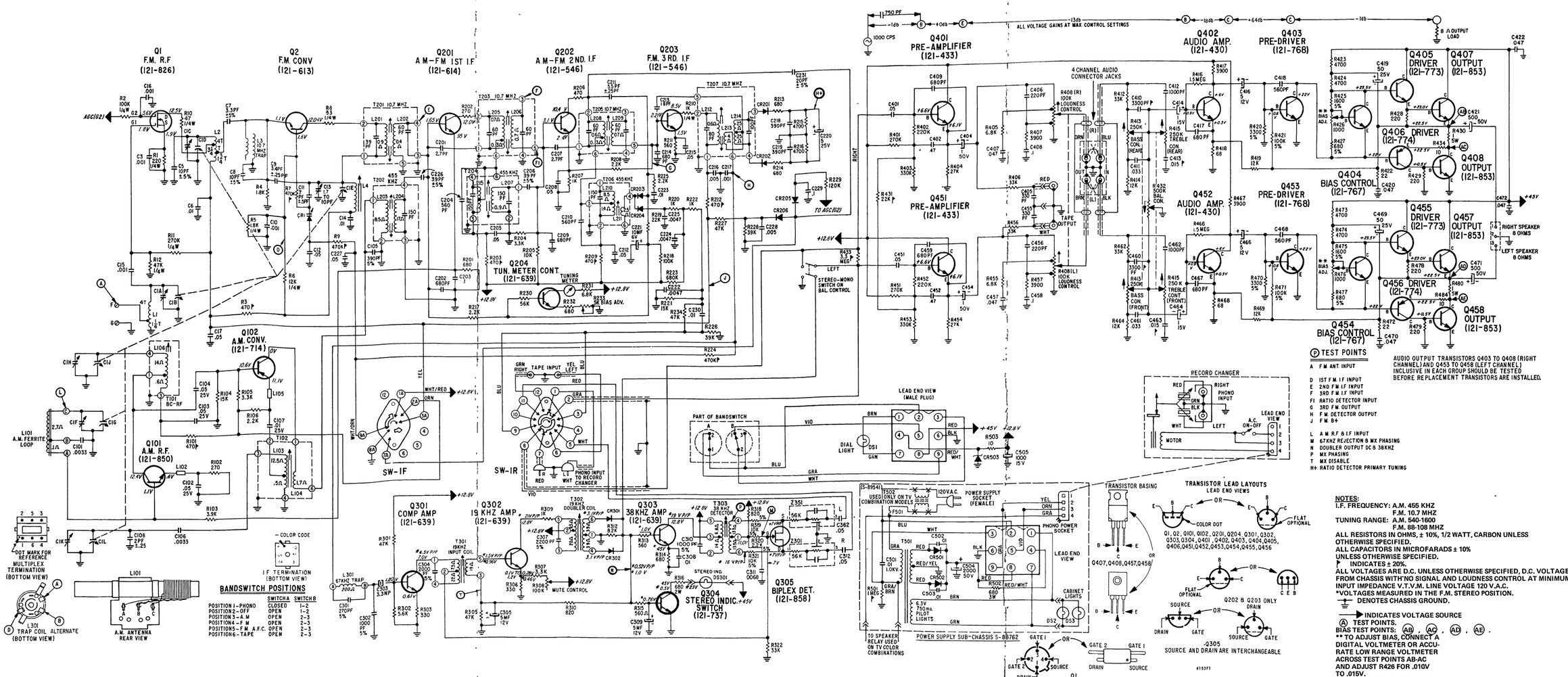
D - DRAIN
S - SOURCE
G - GATE
Q606,

VOLTAGES MEASURED WITH VTVM WITH ALL SCR'S IN "OFF" CONDITION.

*-VOLTAGES MEASURED WHEN DESIRED FUNCTION AND RELATED CIRCUITS ARE IN "ON" CONDITION.



29AT24 AND 29AT24Z1 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

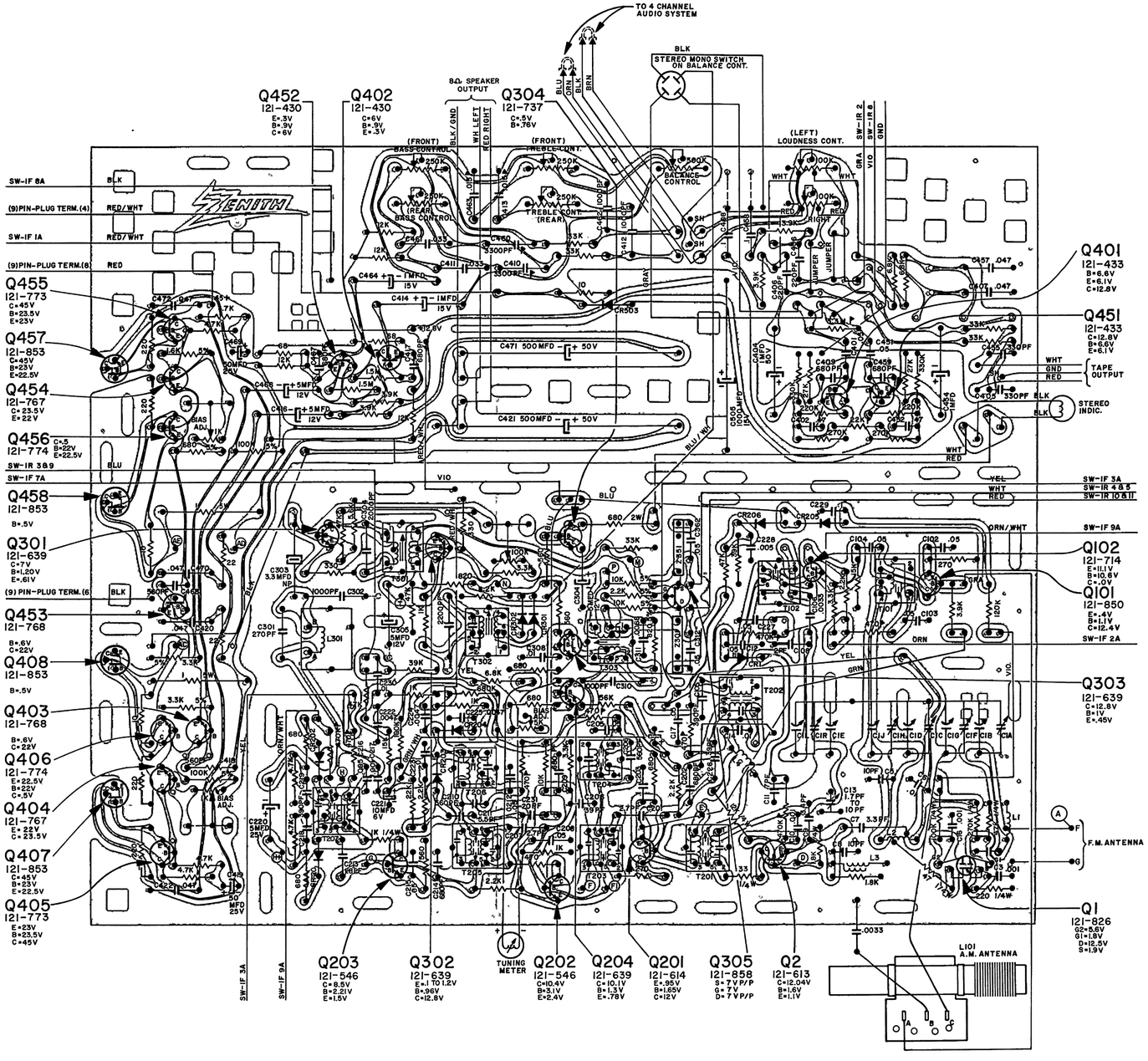


TEST POINTS

A F.M. ANT. INPUT
D 1ST F.M. I.F. INPUT
E 2ND F.M. I.F. INPUT
F 3RD F.M. I.F. INPUT
F1 RATIO DETECTOR INPUT
G 3RD F.M. OUTPUT
H F.M. DETECTOR OUTPUT
J F.M. B+
L A.M. R.F. & I.F. INPUT
M 67KHZ REJECTION & MX PHASING
N DOUBLER OUTPUT DC & 38KHZ
P MX PHASING
T MX DISABLE
H+ RATIO DETECTOR PRIMARY TUNING

AUDIO OUTPUT TRANSISTORS Q403 TO Q408 (RIGHT CHANNEL) AND Q453 TO Q458 (LEFT CHANNEL) INCLUSIVE IN EACH GROUP SHOULD BE TESTED BEFORE REPLACEMENT TRANSISTORS ARE INSTALLED.

NOTES:
I.F. FREQUENCY: A.M. 455 KHZ
F.M. 10.7 MHZ
TUNING RANGE: A.M. 540-1600
F.M. 88-108 MHZ
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 IMPEDANCE V.T.V.M. LINE VOLTAGE 120 V.A.C.
*VOLTAGES MEASURED IN THE F.M. STEREO POSITION.
⏚ DENOTES CHASSIS GROUND.
→ INDICATES VOLTAGE SOURCE
Ⓐ TEST POINTS.
BIAS TEST POINTS: Ⓐⓑ, Ⓐⓒ, Ⓐⓓ, Ⓐⓔ.
** TO ADJUST BIAS, CONNECT A DIGITAL VOLTMETER OR ACCURATE LOW RANGE VOLTMETER ACROSS TEST POINTS AB-AC AND ADJUST R426 FOR .010V TO .015V. REPEAT ABOVE ADJUSTMENT FOR TEST POINTS AD-AE AND ADJUST R476 FOR .010V TO .015V.
OUTPUT DEVICES MUST BE USED AS PAIRS FROM THE SAME MANUFACTURER IN EACH CHANNEL.
X SHORTING BAR MUST BE REMOVED WHEN 4 CHANNEL AUDIO SYSTEM IS USED.



LEGEND CHASSIS 29CT30

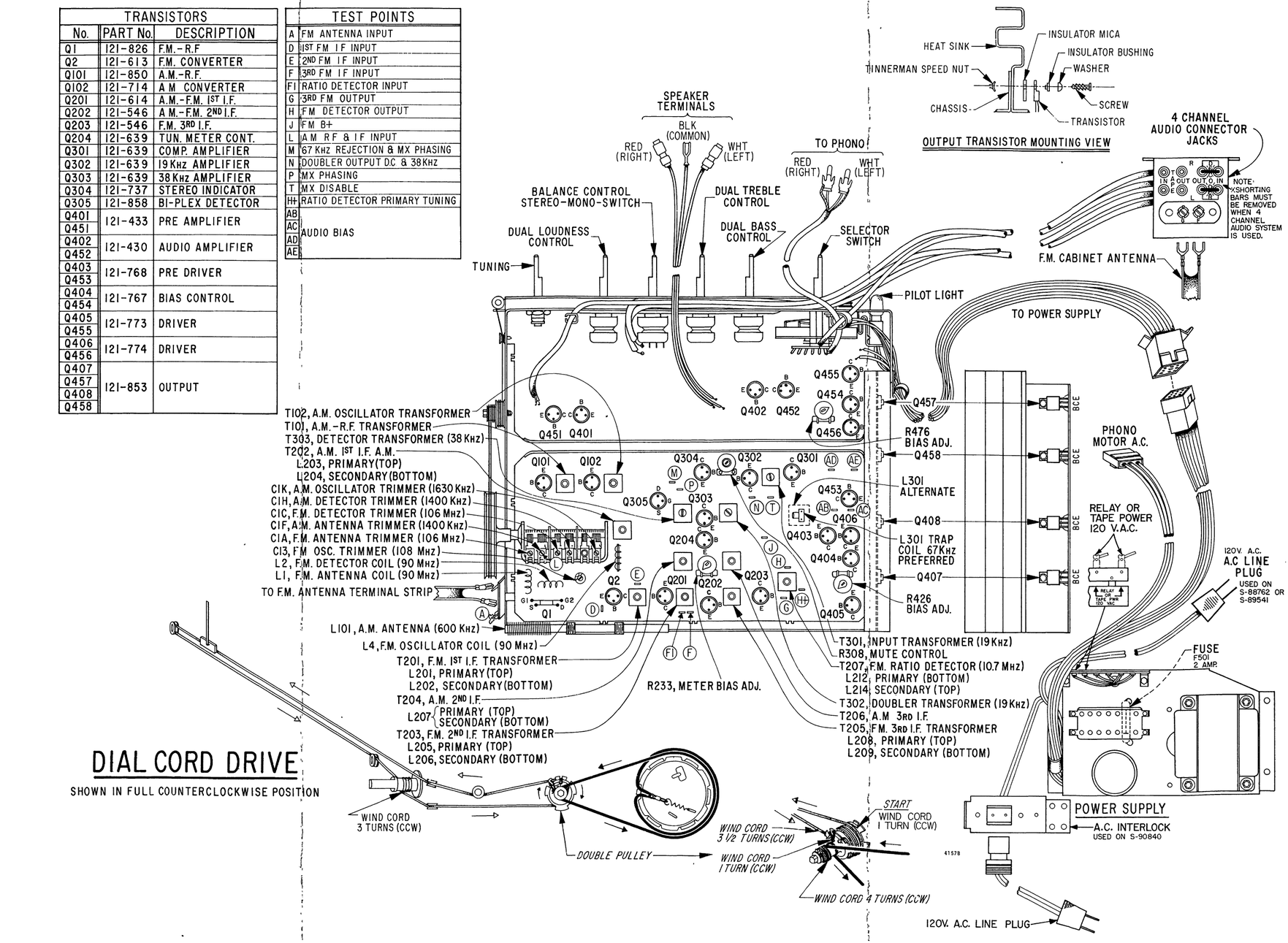
ITEM NO.	PART NUMBER	DESCRIPTION
C1A		FM ANT TRIMMER
C1B		FM ANT TUNING
C1C		FM DETECTOR TRIMMER
C1D		FM DETECTOR TUNING
C1E		FM OSC. TUNING
C1F	22-6245	AM ANT. TRIMMER
C1G		AM ANT. TUNING
C1H		AM DETECTOR TRIMMER
C1J		AM DETECTOR TUNING
C1K		AM OSC. TRIMMER
C1L		AM OSC. TUNING
C4	22-2729	.001 MFD DISC 25 V
C5	22-3675	10 PF DISC + 5% 500 V
C6	22-3393	.01 MFD DISC 25 V
C7	22-3641	3.3 PF GIMMICK + 5% 500 V
C8	22-3676	10 PF DISC + 5% 500 V
C9	22-2692	3.4 PF DISC + .25 PF 500 V
C10	22-2729	.001 MFD DISC 25 V
C11	22-6344	7 PF + .5 PF 500 V
C12	22-3034	.05 MFD DISC 25 V
C13	22-4805	1.7 TO 10 PF CERAMIC TRIMMER
C14	22-3393	.01 MFD DISC 25 V
C15	22-2729	.001 MFD DISC 25 V
C16	22-2729	.001 MFD DISC 25 V
C17	22-3034	.05 MFD DISC 25 V
C101	22-13	.0033 MFD DISC + 10%
C102	22-3034	.05 MFD DISC 25 V
C103	22-3034	.05 MFD DISC 25 V
C104	22-3034	.05 MFD DISC 25 V
C105	22-6972	390 PF MICA + 5% 125 V
C106	22-13	.0033 MFD DISC + 10%
C107	22-3393	.01 MFD DISC
C108	22-4819	2 PF + .25 500 V
C201	22-3310	2.7 PF GIMMICK 500 V
C202	22-5482	680 PF DISC 500 V
C203	22-3652	1 MFD DISC 10 V
C204	22-5481	560 PF DISC 500 V
C205	22-3034	.05 MFD DISC 25 V
C206	22-3381	39 PF DISC + 5% 500 V
C207	22-3310	2.7 PF GIMMICK 500 V
C208	22-3034	.05 MFD DISC 25 V
C209	22-5482	680 PF DISC 500 V
C210	22-5481	560 PF DISC 500 V
C211	22-3370	8.5 PF DISC + .25 PF 500 V
C212	22-3034	.05 MFD DISC 25 V
C213	22-2428	1.8 PF GIMMICK 500 V
C214	22-5482	680 PF DISC 500 V
C215	22-3034	.05 MFD DISC 25 V
C216	22-3080	.005 MFD DISC 25 V
C217	22-2729	.001 MFD DISC 25 V
C218	22-3177	390 PF DISC 500 V
C219	22-3176	330 PF DISC 500 V
C220	22-3696	5 MFD ELECTROLYTIC 25 V
C221	22-5486	10 MFD ELECTROLYTIC 6 V
C222	22	.0047 MFD 500 V
C223	22-3393	.01 MFD DISC 25 V
C224	22-14	.0047 MFD 500 V
C225	22-14	.0047 MFD 500 V
C226	22-3381	39 PF DISC + 5%
C227	22-3034	.05 MFD DISC 25 V
C228	22-3080	.005 MFD DISC 25 V
C229	22-3652	1 MFD DISC 10 V
C230	22-3393	.01 MFD DISC 25 V
C231	22-3751	20 PF + 5% 500 V
C301	22-6780	270 PF POLYSTYRENE + 5% 500 V
C302	22-6781	1000 PF POLYSTYRENE + 5% 500 V
C303	22-6246	3.3 MFD P. 15 V
C304	22-6136	2000 PF + 5% 100 V
C305	22-2684	5 MFD ELECTROLYTIC 12 V
C306	22-6732	2200 PF POLYSTYRENE + 5% 500 V
C308	22-3393	.01 MFD DISC 25 V
C309	22-2684	5 MFD ELECTROLYTIC 12 V
C310	22-6781	1000 PF POLYSTYRENE + 5% 500 V
C311	22-3415	.0068 MFD 25 V
C312	22-3034	.05 MFD DISC 25 V
C361	22-3034	.05 MFD DISC 25 V
C401	22-3034	.05 MFD DISC 25 V
C402	22-5487	.47 MFD DISC 3 V
C404	22-3667	1 MFD ELECTROLYTIC 50 V
C405	22-3265	330 PF DISC 500 V
C406	22-2703	220 PF 500 V
C407	22-5896	.047 MFD 100 V
C408	22-5862	1 MFD 100 V
C409	22-5482	680 PF DISC 500 V
C410	22-5801	3300 PF 200 V
C411	22-5883	.033 MFD 100 V
C412	22-6111	1000 PF 50 V
C413	22-6233	.015 + 20% 50 V
C414	22-3687	1 MFD ELECTROLYTIC 50 V
C416	22-2684	5 MFD ELECTROLYTIC 12 V
C417	22-5482	680 PF DISC 500 V
C418	22-3362	560 PF 500 V
C419	22-5896	50 MFD ELECTRLYTIC 25 V
C420	22-5886	.047 MFD 100 V
C421	22-3516	500 MFD ELECTROLYTIC 50 V
C422	22-5868	.047 MFD 100 V
C451	22-3034	.05 MFD DISC 25 V
C452	22-5487	.47 MFD DISC 3 V
C454	22-3667	1 MFD ELECTROLYTIC 50 V
C455	22-3265	330 PF DISC 500 V
C456	22-2703	220 PF 500 V
C457	22-5896	.047 MFD 100 V
C458	22-5862	1 MFD 100 V
C459	22-5482	680 PF DISC 500 V
C460	22-5801	3300 PF 200 V
C461	22-6111	1000 PF 50 V
C462	22-6233	.015 + 20% 50 V
C464	22-3687	1 MFD ELECTROLYTIC 50 V
C466	22-2684	5 MFD ELECTROLYTIC 12 V
C467	22-5482	680 PF DISC 500 V
C468	22-3362	560 PF 500 V
C469	22-5986	50 MFD ELECTROLYTIC 25 V
C470	22-5896	.047 MFD 100 V
C471	22-6316	500 MFD ELECTROLYTIC 50 V
C472	22-5886	.047 MFD 100 V
C501	22-6005	.01 MFD DISC 150 VAC
C502	22-4417	.01 MFD DISC 500 V
C503	22-4417	.01 MFD DISC 500 V
C504	22-5987	2000 MFD ELECTROLYTIC 50 V
C505	22-4573	1000 MFD ELECTROLYTIC 15 V
R1	63-4107	220 OHM 1/4 W
R2	63-4269	100K OHM
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4196	1.5K OHM 1/4 W
R6	63-4231	12K OHM 1/4 W
R7	63-1898	470K OHM 20%
R8	63-4122	33 OHM 1/4 W
R9	63-1898	470K OHM 20%
R10	63-4129	47 OHM 1/4 W
R11	63-4243	270K OHM 1/4 W
R12	63-4265	47K OHM 1/4 W
R101	63-1772	470 OHM 20%
R102	63-1761	270 OHM
R103	63-1810	3.3K OHM
R104	63-1834	15K OHM
R105	63-1906	3.3K OHM
R106	63-1799	2.2K OHM
R107	63-1775	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	62-4185	1K OHM 1/4 W
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	63-1808	100K OHM

ITEM NO.	PART NUMBER	DESCRIPTION
R219	63-1841	22K OHM
R220	63-1785	1K OHM
R221	63-1834	15K OHM
R222	63-1785	1K OHM
R223	63-1904	680K OHM
R224	63-1898	470K OHM 20%
R225	63-1799	2.2K OHM
R226	63-1852	39K OHM
R227	63-1856	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	63-6708	5K BIAS ADJUST
R234	63-1856	47K OHM
R301	63-1856	47K OHM
R302	63-1817	5.6K OHM
R303	63-1764	330 OHM
R305	63-1856	47K OHM
R306	63-1764	330 OHM
R307	63-1806	3.3K OHM
R308	63-6406	100K MUTE CONTROL
R309	63-1785	1K OHM
R310	63-1782	820 OHM
R312	63-1824	8.2K OHM
R313	63-6706	5K BIAS ADJUST
R314	63-1778	680 OHM
R315	63-1778	680 OHM
R316	63-6663	680 OHM 2 W
R318	63-6691	330 OHM 5%
R319	63-1838	10K 5%
R321	63-1798	1.2K 5%
R322	63-1810	3.3K 5%
R323	63-1722	33K OHM
R401	63-1856	270K OHM
R402	63-1883	220K OHM
R403	63-1856	330K OHM
R404	63-1845	27K OHM
R405	63-1856	6.8K OHM
R406	63-1848	33K OHM
R407	63-1820	3900 OHM
R408	63-6967	100K DUAL LOUDNESS CONTROL
R408L		
R413	63-1848	33K OHM
R413R	63-6965	250K DUAL BASS CONTROL
R415L		
R416	63-1831	12K OHM
R415R	63-6964	250K DUAL TREBLE CONTROL
R415L		
R416	63-1918	1.5 MEG
R417	63-1810	3900 OHM
R418	63-1848	68 OHM
R419	63-1831	12K
R420	63-1806	3.3K OHM 5%
R421	63-1868	100K OHM 5%
R422	63-1715	22 OHM
R423	63-1813	4700 OHM
R424	63-1813	4700 OHM
R425	63-1784	1500 OHM 5%
R426	63-6977	1000 OHM BIAS ADJUST
R427	63-1777	680 OHM 5%
R428	63-1757	220 OHM
R429	63-1757	220 OHM
R430	63-6424	1 OHM 5 W
R431	63-1842	22K 20%
R432	63-6968	500K BALANCE CONTROL & SWITCH
R433	63-1933	3.3 MEG OHM 20%
R434	63-1701	10 OHM
R451	63-1827	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	63-1848	33K
R464	63-1831	12K
R466	63-1918	1.5 MEG
R467	63-1810	3900 OHM
R468	63-1738	68 OHM
R469	63-1831	12K OHM
R470	63-1805	3.3K OHM 5%
R471	63-1868	100K OHM 5%
R472	63-1715	22 OHM
R473	63-1813	4700 OHM
R474	63-1813	4700 OHM
R475	63-1784	1500 OHM 5%
R476	63-6977	1000 OHM BIAS ADJUST
R477	63-1777	680 OHM 5%
R478	63-1757	220 OHM
R479	63-1757	220 OHM
R480	63-6424	1 OHM 5 W
R484	63-1701	10 OHM
R501	63-1912	1.0 MEG OHM 20%
R502	63-1085	680 OHM 3 W
R503	63-1701	10 OHM
L1	20-3275	FM ANTENNA COIL
L2	20-3077	FM DETECTOR COIL
L3	20-3256	TRAP COIL 10.7 MHz
L4	20-1649	FM OSCILLATOR COIL
L101	20-6162	AM ANTENNA COIL ASSEMBLY
L102	20-3311	FERRITE CORE SLEEVE
L103	IN T102	AM OSCILLATOR TRANS. PRI.
L104	IN T102	AM OSCILLATOR TRANS. SEC.
L106	149-311	FERRITE CORE SLEEVE
L107	IN T101	SCR FF 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 SEC.
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
L301	20-3204	2ND AM 455 KHz PRI.
	20-3080	67 KHz TRAP COIL (PREFERRED)
	20-3081	67 KHz TRAP COIL (ALTERNATE)
T101	96-2750	B.C. R.F. TRANSFORMER
T102	96-2644	AM OSCILLATOR TRANSFORMER
T201	96-2753	FM 1ST IF TRANSFORMER 10.7 MHz
T202	96-2761	AM 1ST IF AM 455 KHz
T203	96-2754	FM 2ND IF TRANSFORMER 10.7 MHz
T204	96-2762	AM 2ND IF AM 455 KHz
T205	96-2755	FM 3RD IF TRANSFORMER 10.7 MHz
T206	96-2643	AM 3RD IF AM 455 KHz
T207	96-2756	FM RATIO DETECTOR 10.7 MHz
T301	96-2858	INPUT TRANSFORMER 19 KHz
T302	96-2856	DOUBLER TRANSFORMER 19 KHz
T303	96-2857	DETECTOR TRANSFORMER 38 KHz
T501	96-2769	POWER TRANSFORMER
T502	96-2920	FILTER CHOKE ON S-89541 POWER SUPPLY
F501	136-24	2A FUSE
SW1	85-1207	BAND SWITCH
CR1	103-47	AFC DIODE
CR201	103-90	GERMANIUM DIODE
CR202	103-90	GERMANIUM DIODE MATCHED PAIR
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	212-61	SILICON RECTIFIER
CR502	212-61	SILICON RECTIFIER
CR503	103-96	DIODE (ZENER)
Z301	106-107	INTEGNET
Z201	106-107	INTEGNET
DS1	100-249	PILOT LIGHT NO. 1847
DS2	100-249	PILOT LIGHT NO. 1847
DS3	100-249	PILOT LIGHT NO. 1847
DS301	100-607	STEREO INDICATOR LIGHT 4153C2
M1	122-62	METER (TUNING)

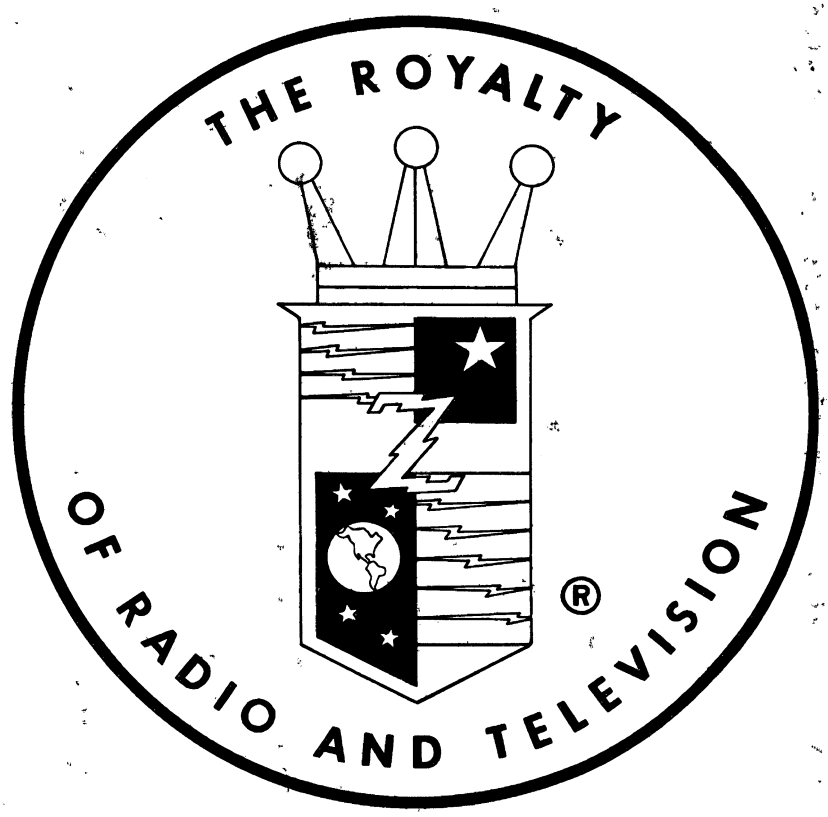
29CT30 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

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	19KHz AMPLIFIER
Q303	121-639	38KHz AMPLIFIER
Q304	121-737	STEREO INDICATOR
Q305	121-858	BI-PLEX DETECTOR
Q401	121-433	PRE AMPLIFIER
Q451		
Q402	121-430	AUDIO AMPLIFIER
Q452		
Q403	121-768	PRE DRIVER
Q453		
Q404	121-767	BIAS CONTROL
Q454		
Q405	121-773	DRIVER
Q455		
Q406	121-774	DRIVER
Q456		
Q407	121-853	OUTPUT
Q457		
Q408		
Q458		

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	AM RF & I F INPUT
M	67 KHz REJECTION & MX PHASING
N	DOUBLER OUTPUT DC & 38KHz
P	MX PHASING
T	MX DISABLE
HH	RATIO DETECTOR PRIMARY TUNING
AB	AUDIO BIAS
AC	
AD	
AE	



29CT30 – CHASSIS LAYOUT



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