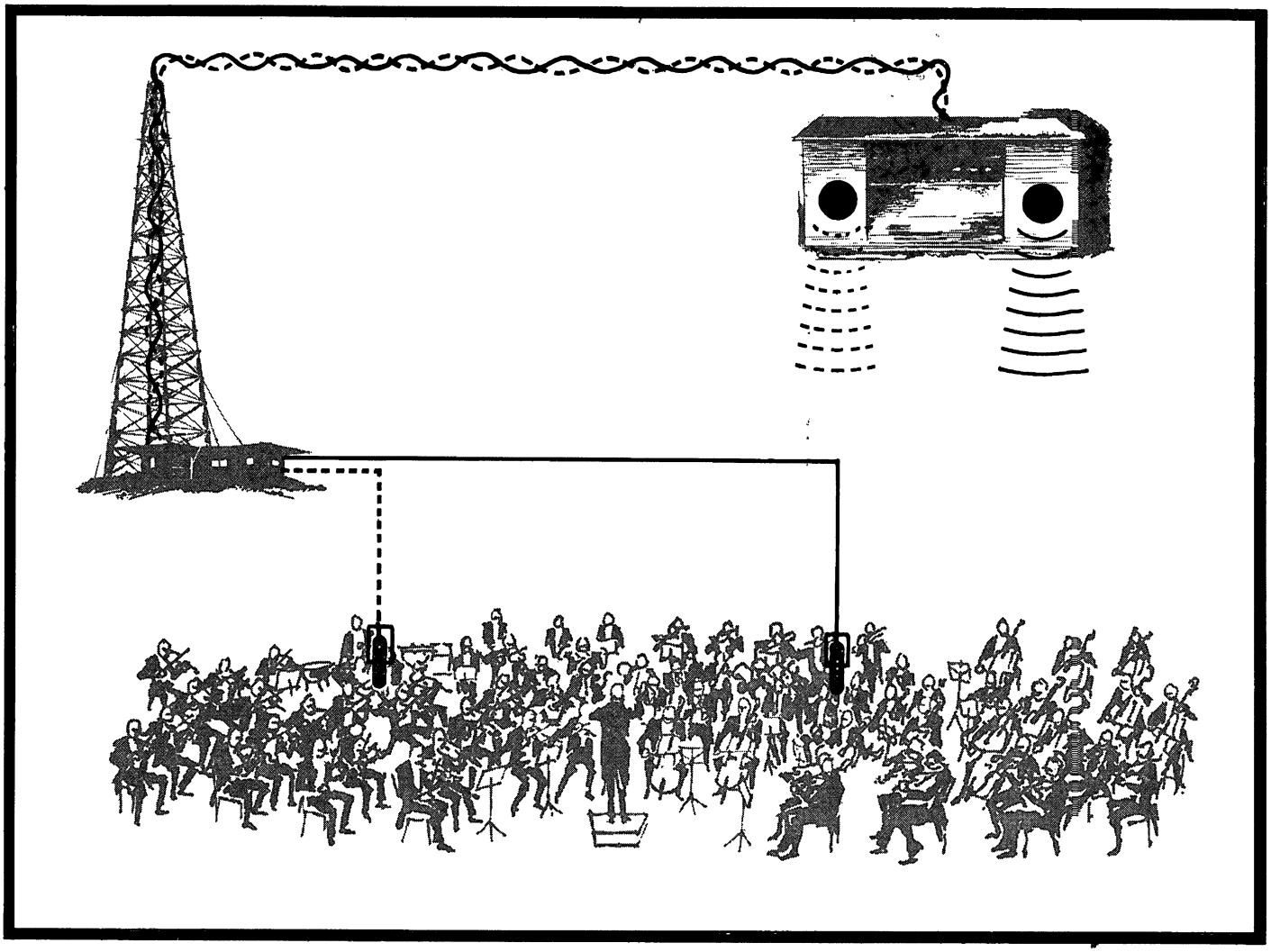
HF-24

ZENITH®

SERVICE MANUAL



HIGH FIDELITY
AND STEREO FM MODELS

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

PRICE $1.50 HF-24 PART NO. 923-653

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HF 19 is Zenith No. 923-606
HF 20 is Zenith No. 923-610
HF 21 is Zenith No. 923-626
HF 22 is Zenith No. 923-642
HF 23 is Zenith No. 923-646
RA 7 is Zenith No. 923-631

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
C526R Note 2 (*)	Portable (Removable Lid)	Rosewood	–	FM/AM/Phono	–	849-66B	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

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
Manual Player	Integral	942-8B	S 856-15B	827-18B	–	–	–	–
Manual Player	Integral	942-8B	S 856-15B	827-18B	–	–	–	–
169-450	Integral	142-170	D-S 56-567	S-84995 OR S-85021	–	–	–	–
169-449	Integral	142-170	D-S 56-567	S-84995 OR S-85021	–	–	–	–
169-451	Integral	142-170	D-S 56-567	S-84995 OR S-85021	–	–	–	–
Manual	Integral	942-8B	S 856-15B	827-17B	–	–	–	–
Manual	Integral	942-17B	856-22B	827-21B	–	–	–	–
169-389	Integral	142-171	S-S 56-598	S-72910	–	–	–	–
169-448	Integral	142-171	S-S 56-598	S-72910	–	–	–	–
169-388	Integral	142-171	S-S 56-598	S-72910	–	–	–	–
169-447	Integral	142-171	S-S 56-598	S-72910	–	–	–	–

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)
B545W	Portable (With Handle, Detachable Speaker Enclosures)	Walnut	—	Phono Only	2X1W	964-24020	16	2-5¼
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 Note 2 (HF22)	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 Note 2 (HF22)	Modular Table (Lift Lid)	Walnut	29CT20	FM/AM/Phono	2x25W	49-1168 49-1220	8 8	2-Horn 2-6
C590W Note 2 (HF22)	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
C590W1 Note 2 (HF22)	Modular Table (Lift Lid) (Circle Of Sound Speakers)	Walnut	29CT21Z1	FM/AM/Phono	2x25W	49-1168 49-1214	8 6.4	2-Horn 2-6
C906W1 Note 2 (HF23)	Console (Lift Lid)	Walnut	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	2-3½ 2-6x9
C907M1 Note 2 (HF23)	Console (Lift Lid)	Maple	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C908DE1 Note 2 (HF23)	Console (Lift Lid)	Dark Oak	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C908P1 Note 2 (HF23)	Console (Lift Lid)	Pecan	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9
C910W1 Note 2 (HF23)	Console (Lift Lid)	Walnut	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x5
C911W1 Note 2 (HF23)	Console (Lift Lid)	Walnut	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1153	45 16	4-3½ 2-6x9

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
169-407	Hinged Shelf	142-175	D-S 56-560	S-72648	–	–	–	–
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
169-436	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
169-445	Shelf	142-167	D-S S-82621	S-72648 OR S-72910	–	Note 7	–	Note 6
169-436	Shelf	142-167	D-S S-82621	S-82964	–	Note 7	–	Note 6
169-436	Shelf	142-167	D-S S-82621	S-82964	–	Note 7	–	Note 6
169-430	Shelf	142-164	D-S 56-580	S-82965	–	Note 7	Yes	Note 5
169-433	Shelf	142-167	D-S S-82621	S-82965	–	Note 7	Yes	Note 5
169-433	Shelf	142-167	D-S S-82621	S-82965	–	Note 7	Yes	Note 5
169-433	Shelf	142-167	D-S S-82621	S-82965	–	Note 7	Yes	Note 5
169-433	Shelf	142-167	D-S S-82621	S-82965	–	Note 7	Yes	Note 5
169-433	Shelf	142-167	D-S S-82621	S-82965	–	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)
C920W Note 2 (HF23)	Console (Lift Lid)	Walnut	21BT34Z1	FM/AM/Phono	2x10W	49-1094 49-1166 49-1218	45 8 16	2-3½ 2-Horn 2-10
C921DE Note 2 (HF23)	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 Note 2 (HF23)	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 Note 2 (HF22)	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 Note 2 (HF23)	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
C950W2 Note 2 (HF23)	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

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
169-438	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-438	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	Yes	Note 5
169-438	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 5
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 4
169-435	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	Yes	Note 4
169-435	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C631	–	Note 4
169-432	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	Yes	Note 4
169-432	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 8	Yes	Note 4
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	–	Note 4
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	–	Note 4
169-434	Shelf	142-167	D-S S-82621	S-82965	Yes	Built-In C632	–	Note 4

FEATURES OF HIGH FIDELITY & STEREO FM MODELS

CABINET			CHASSIS			SPEAKERS		
MODEL	STYLE	COLOR	MODEL	TYPE	EIA POWER OUTPUT	PART NUMBER	VOICECOIL IMPED. (In Ohms)	SIZE (In Inches)
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 Note 2 (HF22)	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
C966DE1 Note 2 (HF22)	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 Note 2 (HF22)	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 Note 2 (HF22)	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 Note 2 (HF22)	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
C9015W Note 2 (*)	Table Extension Speaker	Walnut	–	–	–	849-70B 849-71B	16 16	1-6x9 1-2½
C9016W Note 2 (*)	Table Extension Speaker	Walnut	–	–	–	–	16 16	1-6x9 1-2½
S9017W1 Note 2 (HF22)	Table Extension Speaker	Walnut	–	–	–	49-1102 49-1166	6.4 8	1-12 1-Horn
B9022W Note 2 (RC2)	Component Record Changer	Walnut	–	–	–	–	–	–
C9024W Note 2 (*)	Component Record Changer	Walnut	–	–	–	–	–	–
C9026W Note 2 (*)	Component Record Changer	Walnut	–	–	–	–	–	–
C9029W	Decoder	Walnut	15WCA10	Amplifier	2x15	49-1168 49-1220	8 8	2-Horn 2-6

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
169-434	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
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
169-435	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	–	Note 4
169-435	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	–	Note 4
169-438	Shelf	142-167	D-S S-82621	S-82965	Yes	Note 7	–	Note 4
–	–	–	–	–	–	–	–	Note 9
–	–	–	–	–	–	–	–	Note 9
–	–	–	–	–	–	–	–	Note 10
169-446	Shelf	142-172	D-S 56-597	S-78979	–	–	–	–
169-446	Shelf	142-172	D-S 56-597	S-78980	–	–	–	–
169-435	Shelf	142-167	S-82621	S-82965	–	–	–	–
–	–	–	–	–	Yes	Yes	–	–

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.

9. One pair of Model C9015W Extension Speakers may be used with any Zenith stereo model (not exceeding 15 watts-EIA-per channel) which have external speaker terminals (see notes 4 and 5 above).

10. One pair of Models S9017W or S9017W1 Extension Speakers may be used with any Zenith stereo model which has external speaker terminals (see notes 4 and 5 above).

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
169-386	(BSR)	Black	Black
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
169-430	(VM)	Tree Bark Brown	Light Beige
169-432	(VM)	Tree Bark Brown	Light Beige
169-433	(VM)	Tree Bark Brown	Light Beige
169-434	(VM)	Dark Brown	Light Beige
169-435	(VM)	Tree Bark Brown	Light Beige
169-436	(VM)	Black	Light Gray and Metal
169-438	(VM)	Tree Bark Brown	Light Beige
169-445	(BSR)	Black	Light Gray and Metal
169-446	(BSR)	Black	Black
169-447	(BSR)	Light Gray	Black
169-448	(BSR)	Off White	Dark Brown
169-449	(BSR)	Off White	Yellow
169-450	(BSR)	Off White	Dark Green
169-451	(BSR)	Off White	Gray

SECTION TWO
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), HF 19 (Zenith Part No. 923-606), HF 22 (Zenith Part No. 923-642), and HF 23 (Zenith Part No. 923-646).

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 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 following models use line cord antennas: C587, C590, C906 and C906-1.

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 29CT20, 29CT21, 29CT21Z1 and 29CT30 – Test Point at Junction of R2, R229; either end of Purple wire at pulley end of gang.

CHASSIS 29CT20, 29CT21, 29CT21Z1, 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

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 following amplifiers use a pair of matched power transistors in the final output stage. Therefore, should one transistor fail, both transistors must be replaced simultaneously, since they will not perform properly unless matched. (In chasses 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): 3AT20, 6AT24, 8BT20, 15WCA10, 16CT21, 21BT34, 21BT34Z1, 27BT30, 29CT20, 29CT21, 29CT21Z1, 29CT30, B545 and B553.
2. When a power transistor is replaced the insulator (when used) between the transistor and the heat sink should also be replaced. On the following be certain to apply Dow Corning No. 340 heat conductive grease between the transistor and the insulator. Also between the insulator and the chassis. The Dow Corning grease can be obtained in 1 c.c. quantities by ordering part No. 205-51: 6AT24, 15WCA10, 16CT21, 21BT34, 21BT34Z1, 27BT30, 29CT20, 29CT21, 29CT21Z1, and 29CT30.
3. On the following place the heat conductive grease in the clamp, or on the chassis, and all around the transistor: 8BT20, B545, and B553 (early production).
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.

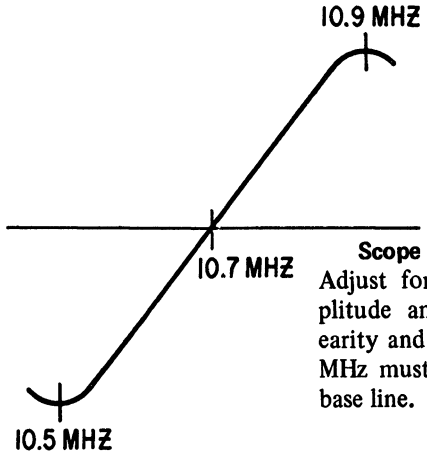
The condenser mentioned further on in the alignment procedure should be as small as possible and the ground lead of the generator must be connected to the chassis at the base of the socket, where the signal is being injected. Should the signal be injected at some point other than a socket, then the ground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

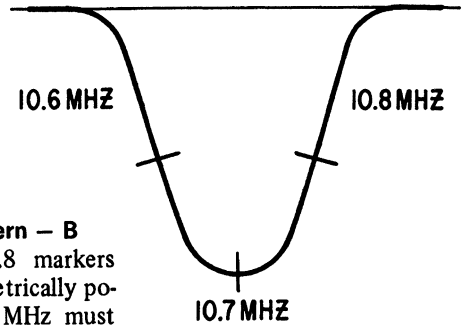
In the following alignment procedure charts there is a letter appearing in the operation column in addition to the number. This letter indicates the test point to which the hot lead of the scope is to be connected as follows:

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

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

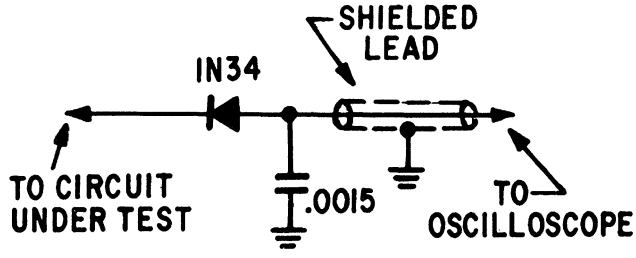


Scope Pattern – A
Adjust for maximum amplitude and maintain linearity and symmetry. 10.7 MHz must be on curve at base line.



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.

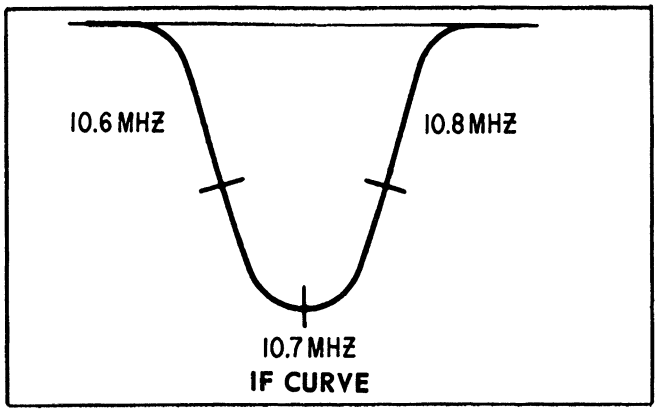
RF AND IF ALIGNMENT PROCEDURE FOR CHASSIS 29CT20, 29CT21, 29CT21Z1, AND 29CT30

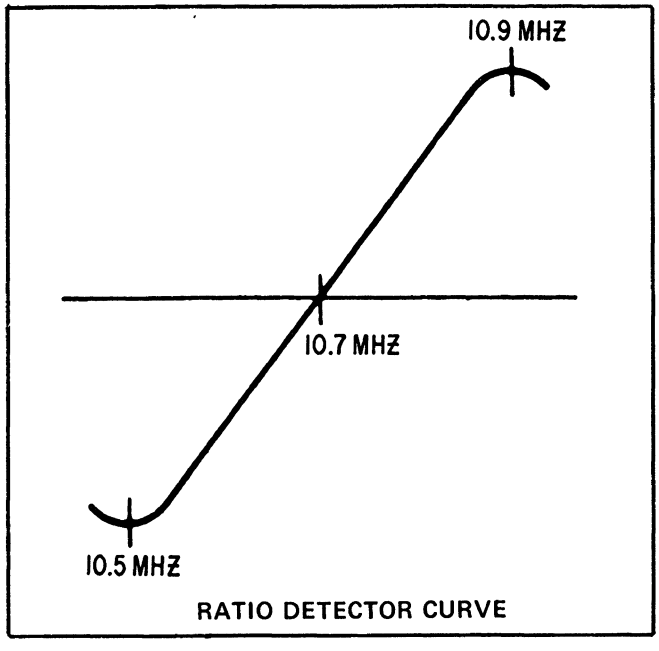
OPERATION *	CONNECT GENERATOR TO	DUMMY ANTENNA	INPUT SIGNAL FREQUENCY	BAND	SET DIAL TO	ADJUST	PURPOSE
NOTE: For AM Alignment Use A Signal With 400 Hertz Modulation							
1C	One turn loosely coupled to wavemagnet		455 KHz	AM	600 KHz	L203, L204, L207,L210,L215	Align IF channel for maximum output
2C			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 Series, Page 12

SECTION THREE
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.





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 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 cable.

This multiplex generator provides a composite mulitplex 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 possibily 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.

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 froms and their magnitude may vary slightly from chassis to chassis, however, they are quire 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 Traccing

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.

NOTES

NOTES

PARTS LIST

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 15WCA10	
11-259	Line Cord	2.30
*12-5880	Chassis Support Bracket (2 Req.)	
19-492	Wire Retaining Clip (3 Req.)	.05
22-2939	680 PF Ceramic Disc Capacitor – 500V. (6 Req.)	.25
22-3034	.05 MF Ceramic Disc Capacitor – 25V. (2 Req.)	.45
22-3599	.015 MF Mylar Capacitor – 50V. (2 Req.)	.30
22-3661	.05 MF Ceramic Disc Capacitor – 100V.	.25
22-3687	1 MF Electrolytic Capacitor – 50V. (2 Req.)	1.50
22-3721	200 MF Electrolytic Capacitor – 35V. (2 Req.)	2.25
22-3891	.0068 MF Capacitor – 100V. (4 Req.)	.30
22-3973	100 MF Electrolytic Capacitor – 25V. (2 Req.)	1.30
22-4572	500 MF Capacitor – 15V.	1.60
22-5091	2 MF Electrolytic Capacitor – 15V. (2 Req.)	.80
22-5860	.82 MF Mylar Capacitor – 100V. (2 Req.)	
22-5862	.1 MF Capacitor – 100V. (2 Req.)	.35
22-6005	.01 MF Ceramic Disc Capacitor	.40
22-6112	1000 MF Electrolytic Capacitor – 65V.	3.15
*22-6707	7 MF Electrolytic Capacitor – 10V. 30%	
*33-397	Printed Circuit Board Frame	
52-1287	3 Conductor Cable (Used on S-91190)	.15
52-1642	2 Conductor Cable (Used on S-91190)	1.05
*52-1991	Shielded Cable & Plug (Used on 85-1212)	
54-139	3/8 – 32 x 9/16 Palnut (1 Used on Ea. 63-7681, 63-7682, 63-7683 & 63-9000)	.03
54-334	Tinnerman Speed Nut (1 Used on Ea. 114-1144)	.03
63-1708	15 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1740	82 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1768	390 Ohm Resistor – 1/2W. 10% (2 Used 63-7683)	.17
63-1774	560 Ohm Resistor – 1/2W. 5% (2 Req.)	.17
*63-1777	680 Ohm Resistor – 1/2W. 5% (2 Req.)	
63-1792	1500 Ohm Resistor – 1/2W. 10%	.17
63-1798	2200 Ohm Resistor – 1/2W. 5% (2 Req.)	.34
63-1810	3900 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1817	5600 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
*63-1827	10K Ohm Resistor – 1/2W. 10% (4 Req.)	
63-1831	12K Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1838	18K Ohm Resistor – 1/2W. 10% (2 Req.)	.17
*63-1860	62K Ohm Resistor – 1/2W. 5% (2 Req.)	
*63-1918	1.5 Megohm Resistor – 1/2W. 10% (2 Req.)	
63-1925	2.2 Megohm Resistor – 1/2W. 10% (2 Req.)	
63-1933	3.3 Megohm Resistor – 1/2W. 20%	.17
*63-5930	.47 Ohm Resistor – 1W. 10% (4 Req.)	
63-6105	6800 Ohm Resistor – 1W. 10%	.15
63-7681	Dual Treble Control	2.60
63-7682	Dual Bass Control	2.50
63-7683	Dual Loudness Control	2.95
*63-9000	Balance Control	
64-1033	Grip Eyelet (40 Used on P.C. Board)	.03
64-1046	Grip Eyelet (60 Used on P.C. Board)	.03
*78-2066	Pilot Light Bulb (With Mtg. Clip)	
79-174-12	No. 18 Sleeving – Yellow (5 Req.)	.03
83-6192	5 Lug Terminal Strip	.15
*83-8298	Insulating Strip (2 Req.)	.15
*85-1212	Rocker Switch (Main – Aux.)	
*85-1274	Rocker Switch (Decoder)	
*85-1275	Rocker Switch (On-Off)	
*85-1296	Slide Switch (Part of S-91190)	
86-543	Miniature Spring Terminal (18 Used on P.C. Board)	.03
94-1545	Nylon Shoulder Bushing (4 Req.)	.10
*95-2981	Auto Transformer (2 Req.)	
*95-3008	Power Transformer	
100-249	Pilot Light Bulb	.18
*103-222	Zener Diode (2 Req.)	
112-793	6-20 x 1/4 Phillips Rd. Hd. Self-Tap. Screw (4 Req.)	.03
*114-159	6-18 x .250 Hex Hd. Screw (6 Req.)	
114-802	8-18 x 5/16 x 1/4 Hex Washer Hd. Self-Tap. Screw (2 Req.)	.03
114-806	8-18 x 1/4 x 1/4 Hex Washer Hd. Self-Tap. Screw – Stat. Bronze (2 Req.)	.03
*114-1144	4-24 x .500 Hex Washer Hd. Tap. Screw (2 Used on Ea. 800-362)	
121-430	Transistor – Pre-Amplifier (2 Req.)	
121-433	Transistor – Pre-Driver (2 Req.)	1.30
*121-889	Transistor – Driver (2 Req.)	
125-140	Line Cord Retaining Bushing (2 Req.)	.10
*136-25	Fuse – With Leads (.750 Amp.)	
205-51	Silicone Grease (Part of 800-362)	.16
212-71	Silicon Rectifier (2 Req.)	1.25
*800-364	Transistor – Audio Output (2 Matched Pair Req.)	
*S-91190	Phase Switch, Jack & Plate 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 Req.)	.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 Req.)	.25
22-18	.0022 MF Ceramic Disc Capacitor ±10% 500V. (5 Req.)	.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 Req.)	.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 Req.)	.45
22-3080	.005 MF Ceramic Disc Capacitor 25V. (2 Req.)	.25
22-3177	390 PF Ceramic Disc Capacitor 500V. (2 Req.)	.25
22-3255	330 PF Ceramic Disc Capacitor – 500V. (2 Req.)	.25
22-3310	2.7 PF Disc Capacitor – 500V. (2 Req.)	.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 Req.)	.45
22-3393	.01 MF Disc Capacitor – 25V. (5 Req.)	.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 Req.)	.30
22-3675	10 PF Disc Capacitor – 500V. (2 Req.)	.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 Req.)	.15
	-OR-	
22-3613	1000 PF Capacitor – 500V. (2 Req.)	.50
22-5782	2200 PF Capacitor – 500V.	.15
22-5814	.022 MF Mylar Capacitor – 50V. (4 Req.)	.30
22-5863	.047 MF Cap. (4 Used on P.C. Board – Audio Amp.)	.40
*22-5866	.047 MF Cap. (4 Used on P.C. Board – Audio Amp.)	
22-5884	.082 MF Mylar Capacitor – 100V. (6 Req.)	.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

*Denotes parts not previously used in Zenith receivers.

CHASSIS 29CT20 (Continued)

PART NUMBER	DESCRIPTION	PRICE
22-6246	3.3 MF Electrolytic Capacitor – 15V.	1.05
*22-6343	.33 MF Mylar Capacitor – 20% 50V. (2 Req.)	.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 Req.)	.03
54-474	3/8-32 x 1/2 x 3/32 Thk. Hex Nut	.05
54-808	Tinnerman Speed Nut (4 Req.)	.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)	
63-1701	10 Ohm Resistor – 1/2W. 10% (2 Used on P.C. Board – Audio Amp.)	.17
63-1715	22 Ohm Resistor – 1/2W. 10% (2 Used on P.C. Board – Audio Amp.)	
63-1736	68 Ohm Resistor – 1/2W. 10% (2 Used on P.C. Board – Audio Amp.)	.17
63-1761	270 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1764	330 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1771	470 Ohm Resistor – 1/2W. 10%	.17
63-1772	470 Ohm Resistor – 1/2W. 20% (5 Req.)	.17
63-1775	560 Ohm Resistor – 1/2W. 10% (4 Req.)	.17
63-1777	680 Ohm Resistor – ±5% 1/2W. – Insulated (2 Used on P.C. Board – Audio Amp.)	
63-1778	680 Ohm Resistor – 1/2W. 10% (6 Req.)	.17
63-1781	820 Ohm Resistor – 1/2W. 5%	.34
63-1782	820 Ohm Resistor – 1/2W. 10%	.17
63-1785	1000 Ohm Resistor – 1/2W. 10% (2 Req.)	
63-1794	1600 Ohm Resistor – 1/2W. 5% (2 Used on P.C. Board – Audio Amp.)	.10
63-1796	1800 Ohm Resistor – 1/2W. 10%	
63-1798	2200 Ohm Resistor – Insulated – 1/2W. 5%	.34
63-1799	2200 Ohm Resistor – 1/2W. 10% (4 Req.)	.17
63-1803	2700 Ohm Resistor – 1/2W. 10%	
63-1805	3300 Ohm Resistor – ±5% 1/2W. (2 Used on P.C. Board – Audio Amp.)	.34
63-1806	3300 Ohm Resistor – 1/2W. 10%	.17
63-1810	3900 Ohm Resistor – 1/2W. 10% (1 Used on Chassis, 2 Used on P.C. Board–Audio Amp.)	.17
63-1813	4700 Ohm Resistor – 1/2W. 10% (3 Used on Chassis, 4 Used on P.C. Board–Audio Amp.)	.17
63-1817	5600 Ohm Resistor – 1/2W. 10% (3 Req.)	.17
63-1820	6800 Ohm Resistor – 1/2W. 10%	.17
63-1824	8200 Ohm Resistor – 1/2W. 10%	.17
63-1826	10K Ohm Resistor – 1/2W. 10% (2 Req.)	
63-1827	10K Ohm Resistor – 1/2W. 10% (3 Used on Chassis, 2 Used on P.C. Board–Audio Amp.)	
63-1831	12K Ohm Resistor – 1/2W. 10% (5 Used on Chassis, 2 Used on P.C. Board–Audio Amp.)	
63-1834	15K Ohm Resistor – 1/2W. 10% (2 Used on Chassis, & P.C. Board – Audio Amp.)	.17
63-1835	15K Ohm Resistor – 1/2W. 20%	
63-1845	27K Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1848	33K Ohm Resistor – 1/2W. 10% (3 Req.)	.17
63-1852	39K Ohm Resistor – 1/2W. 10% (2 Req.)	
63-1855	47K Ohm Resistor – 1/2W. 10% (4 Req.)	
63-1859	56K Ohm Resistor – 1/2W. 10%	
63-1862	68K Ohm Resistor – 1/2W. 10%	
63-1868	100K Ohm Resistor – 1/2W. 5% (2 Used on P.C. Board – Audio Amp.)	.34
63-1873	120K Ohm Resistor – 1/2W. 10%	.17
63-1876	150K Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1880	180K Ohm Resistor – 1/2W. 10% (2 Req.)	
63-1883	220K Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1898	470K Ohm Resistor – 1/2W. 20% (3 Req.)	.17
63-1904	680K Ohm Resistor – 1/2W. 10%	.17
63-1918	1.5 Megohm Resistor – 1/2W. 10% (2 Used on Chassis, & P.C. Board – Audio Amp.)	
63-4122	33 Ohm Resistor – 1/4W. 10% (1 Used on Ea. Chassis & S-89122)	
63-4157	220 Ohm Resistor – 1/4W. 10%	.17
63-4185	1000 Ohm Resistor – 1/4W. 10%	.17
63-4196	1800 Ohm Resistor – 1/4W. 10%	.17
63-4231	12K Ohm Resistor – 1/4W. 10%	.17
63-4255	47K Ohm Resistor – 1/4W. 10%	.17
63-4269	100K Ohm Resistor – 1/4W. 10%	.17
63-4287	270K Ohm Resistor – 1/4W. 10%	.17
*63-5085	680 Ohm Resistor – 1/4W. 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 30% 1/4W.	
*63-8977	Dial Control – 1K Ohm 30% 1/4W. (2 Used on P.C. Board – Audio Amp.)	
*63-8996	Balance Control – 250K Ohm	
*63-8997	Dual Bass Control – 100K Ohm 30% 1W.	
*63-8998	Dual Treble Control – 50K Ohm 30% 1/8W.	
*63-8999	Dual Loudness Control – 100K Ohm 30% 1/8W.	
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 Req.)	.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 Req.)	
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 455KHz	1.95
95-2544	Oscillator Coil – AM	1.45
95-2750	B.C. RF Transformer	
95-2751	AM 1st I.F. AM 455KHz	
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 19KHz	1.30
95-2857	Detector Transformer 38 KHz	1.30
95-2858	Input Transformer 19KHz	1.50
100-249	Pilot Light Bulb (2 Req.)	.18
100-507	Stereo Indicator & Wire	1.50

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT20 (Continued)	
103-23	Crystal Diode (6 Req.)	.75
103-90	Diode - Matched Pair (2 Req.)	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	38KHz Filter (2 Req.)	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 Req.)	
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 Req.)	.80
121-613	Transistor (Auto Dyne Converter - FM)	.80
121-614	Transistor - 1st. I.F.	.80
121-639	Transistor (Amp.) (4 Req.)	.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 on 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 Req.)	.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 Req.)	.10
20-1256	Trap Coil - 10.7 MHz	.25
20-1649	FM Oscillator Coil	.50
*20-3076	FM Antenna Coil	
*20-3080	67KHz Trap Coil	.50
-OR-		
S-79435	67KHz 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 Req.)	.25
22-18	.0022 MF Ceramic Disc Capacitor - ±10% 500V. (3 Req.)	.25
22-2428	1.8 PF Gimmick Capacitor - 500V.	.25

PART NUMBER	DESCRIPTION	PRICE
*22-2592	3.4 MMF Ceramic Disc Capacitor - 25V.	.25
22-2729	.001 MF Ceramic Disc Capacitor - 25V. (5 Req.)	.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 Req.)	.45
22-3080	.005 MF Ceramic Disc Capacitor - 25V. (2 Req.)	.25
22-3177	390 PF Ceramic Disc Capacitor - 500V. (2 Req.)	.25
22-3255	330 PF Ceramic Disc Capacitor - 500V. (2 Req.)	.25
22-3310	2.7 PF Disc Capacitor - 500V. (2 Req.)	.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 Req.)	.45
22-3393	.01 MF Disc Capacitor - 25V. (5 Req.)	.25
22-3415	.0068 MF Disc Capacitor - 25V. (3 Req.)	.25
22-3541	3.3 PF Gimmick Capacitor (used on S-89122)	
22-3652	.1 MF Ceramic Disc Capacitor - 10V. (2 Req.)	.30
22-3675	10 PF Disc Capacitor - 500V. (2 Req.)	.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.)	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 Req.)	
22-5486	10 MF Electrolytic Capacitor	.95
22-5780	270 PF Polystyrene Capacitor - 500V.	.15
22-5781	1000 PF Polystyrene Capacitor - 500V. (10 Req.)	.15
-OR-		
22-3613	1000 PF Polystyrene Capacitor - 500V. (10 Req.)	
22-5782	2200 PF Polystyrene Capacitor - 500V.	.15
22-5814	.022 MF Mylar Capacitor - 15V. (4 Req.)	.30
22-5815	.056 MF Capacitor - 25V. (2 Req.)	.30
22-5866	.047 MF Capacitor - 100V. (4 used on P.C. Board-Audio Amp.)	.30
22-5884	.082 MF Mylar Capacitor - 100V. (4 Req.)	.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 Req.)	
*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 & Clabe (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 Req.)	.03
54-474	3/8-32 x 1/2 x 3/32 Thk. Hex Nut	.05
54-808	Tinnerman Speed Nut (4 Req.)	.03
54-828	1/2-20 Palnut	.03
54-851	Speed Nut Palnut (25 Req.)	.03
58-338	Plug Shorting Bar (2 Req.)	
*59-1098	Dial Pointer Blade	
63-1701	10 Ohm Resistor - 1/2W. 10% (3 Req.)	.17

*Denotes parts not previously used in Zenith receivers.

CHASSIS 29CT21 (Continued)

PART NUMBER	DESCRIPTION	PRICE
63-1715	22 Ohm Resistor - 1/2W. 10% (2 used on P.C. Board - Audio Amp.)	.17
63-1736	68 Ohm Resistor - 1/2W. 10%	.17
63-1757	220 Ohm Resistor - 1/2W. 10% (4 used on P.C. Board - Audio Amp.)	.17
63-1761	270 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1764	330 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1771	470 Ohm Resistor - 1/2W. 10%	
63-1772	470 Ohm Resistor - 1/2W. 20% (5 Req.)	.17
63-1775	560 Ohm Resistor - 1/2W. 10% (3 Req.)	.17
63-1777	680 Ohm Resistor - ±5% 1/2W. (2 used on P.C. Board - Audio Amp.)	
63-1778	680 Ohm Resistor - 1/2W. 10% (7 Req.)	.17
63-1781	820 Ohm Resistor - 1/2W. 5%	.34
63-1782	820 Ohm Resistor - 1/2W. 10%	.17
63-1785	1000 Ohm Resistor - 1/2W. 10% (2 Req.)	
63-1794	1600 Ohm Resistor - 1/2W. 5% (2 used on P.C. Board - Audio Amp.)	.10
63-1796	1800 Ohm Resistor - 1/2W. 10%	
*63-1798	2200 Ohm Resistor - Insulated - 1/2W. 5%	.34
63-1799	2200 Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-1803	2700 Ohm Resistor - 1/2W. 10%	
63-1805	3300 Ohm Resistor - 1/2W. ±5% (2 used on P.C. Board - Audio Amp.)	.34
63-1806	3300 Ohm Resistor - 1/2W. 10%	.17
63-1810	3900 Ohm Resistor - 1/2W. 10% (1 used on chassis, 2 used on P.C. Board - Audio Amp.)	.17
63-1813	4700 Ohm Resistor - 1/2W. 10% (5 used on chassis, 4 used on P.C. Board - Audio Amp.)	.17
63-1817	5600 Ohm Resistor - 1/2W. 10%	.17
63-1820	6800 Ohm Resistor - 1/2W. 10% (5 Req.)	.17
63-1824	8200 Ohm Resistor - 1/2W. 10%	.17
63-1826	10K Ohm Resistor - 1/2W. 5% (2 Req.)	
63-1827	10K Ohm Resistor - 1/2W. 10% (3 used on chassis, 2 used on P.C. Board - Audio Amp.)	
63-1831	12K Ohm Resistor - 1/2W. 10% (1 used on chassis, 2 used on P.C. Board - Audio Amp.)	
63-1834	15K Ohm Resistor - 1/2W. 10% (2 usee on chassis, & P.C. Board - Audio Amp.)	.17
63-1835	15K Ohm Resistor - 1/2W. 20%	
63-1845	27K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1848	33K Ohm Resistor - 1/2W. 10% (3 Req.)	.17
63-1852	39K Ohm Resistor - 1/2W. 10% (2 Req.)	
63-1855	47K Ohm Resistor - 1/2W. 10% (4 Req.)	
63-1859	56K Ohm Resistor - 1/2W. 10%	
63-1862	68K Ohm Resistor - 1/2W. 10%	
63-1868	100K Ohm Resistor - 1/2W. 5% (2 used on P.C. Board - Audio Amp.)	.34
63-1873	120K Ohm Resistor - 1/2W. 10%	.17
63-1876	150K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1880	180K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1883	220K Ohm Resistor - 1/2W. 10% (2 Req.)	
63-1898	470K Ohm Resistor - 1/2W. 20% (3 Req.)	.17
63-1904	680K Ohm Resistor - 1/2W. 10%	.17
63-1918	1.5 Megohm Resistor - 1/2W. 10% (2 used on ea. Chassis & P.C. Board - Audio Amp.)	
63-4122	33 Ohm Resistor - 1/4W. 10% (1 used on ea. 29CT21 & S-89122)	.17
63-4157	220 Ohm Resistor - 1/4W. 10%	.17
63-4185	1K Ohm Resistor - 1/4W. 10%	.17
63-4196	1800 Ohm Resistor - 1/4W. 10%	.17
63-4231	12K Ohm Resistor - 1/4W. 10%	.17
63-4255	47K Ohm Resistor - 1/4W. 10%	.17
63-4269	100k Ohm Resistor - 1/4W. 10%	.17
63-4287	270K Ohm Resistor - 1/4W. 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% 1/4W.	
63-8977	Bias Control - 1K Ohm 30% 1/4W. (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 Req.)	
80-2069	Tension Spring	
80-2143	Cord Tension Spring	
*82-195	Form Ground Strap	
*82-196	Form Ground Strap	
83-6173	Tie Strip (2 Req.)	
*83-8122	Terminal Strip (Solder & Contact Type)	
*83-8148	Insulating Strip (Flat Stop with Perforation)	
*83-8167	Insulating Strip	
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 Req.)	
94-1384	Insulator Bushing (4 Req.)	
94-1532	Nylon Shaft Bushing	
94-1586	Plain Shoulder Bushing (4 Req.)	
95-2543	Cadmium Transformer - 3rd. I.F. 455KHz	1.95
95-2544	AM Oscillator Transformer	1.45
95-2750	B.C. R.F. Transformer	
95-2751	AM Transformer - 1st I.F. 455KHz	
95-2752	AM Transformer - 2nd I.F. 455KHz	
*95-2753	FM Transformer - 1st I.F. 10.7MHz	
95-2754	FM Transformer - 2nd I.F. 10.7MHz	
95-2755	FM Transformer - 3rd I.F. 10.7MHz	
95-2756	FM Ratio Detector - 10.7MHz	
95-2856	Doubler Transformer - 19KHz	1.30
95-2857	Detector Transformer - 38KHz	1.30
95-2858	Input Transformer - 19KHz	1.30
100-249	Pilot Light Bulb (2 Req.)	.18
100-507	Stereo Indicator Wire	1.50
103-23	Crystal Diode (6 Req.)	
103-90	Matched Pair Diode (2 Req.)	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 Req.)	1.00
114-77	6-20 x 5/16 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (14 Req.)	.03
114-864	8-18 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (2 Req.)	.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 Req.)	
121-430	Phase Inverter Sound Amp. Transistor (2 used on ea. chassis & P.C. Board - Audio Amp.)	
121-546	Transistor (2 Req.)	.80
121-613	Auto Dyne Converter FM Transistor	
121-614	I.F. 1st. Transistor	.80
121-639	Amp. Transistor (4 Req.)	.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	

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT21 (Continued)	
149-311	Iron Core	.05
188-140	Retaining Ring	
188-155	Clamping Ring (Used on S-89195)	.05
19–246	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 29CT21Z1	
12-5425	Pulley Mtg. Bracket (Part of S-85563)	.03
*12-5689	Dial Scale Mtg. Bracket	
*12-5710	Escutcheon Mtg. Plate	
19-480	Wire Retaining Clip	.03
19-485	Cable Retaining Clip	.10
*20-1256	Trap Coil (10.7 MHz)	.50
*20-1649	FM Oscillator Coil	.50
*20-3076	FM Antenna Coil (Part of S-89134)	.15
*20-3077	FM Detector Coil (Part of S-89122)	.15
20-3080	Trap Coil – 67 KHz	.50
22-13	.0033 MF Disc Capacitor – +10 -10% 500V. (2 Req.) (1 Used on S-88463)	.25
22-14	.0047 MF Disc Capacitor – 500V. (3 Req.)	.25
22-2428	1.8 PF Gimmick Capacitor – 500V.	.25
22-2592	3.4 MF Ceramic Disc Capacitor – 500V.	.25
22-2729	.001 MF Disc Capacitor – 25V. (6 Req.)	.25
22-2884	5 MF Electrolytic Capacitor – 12V. (4 Req.)	1.50
22-3034	.05 MF Disc Capacitor – 25V. (10 Req.)	.45
22-3080	.005 MF Disc Capacitor – 25V. (2 Req.)	.25
22-3177	390 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3255	330 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3310	2.7 PF Gimmick Capacitor – 500V. (2 Req.)	.25
22-3381	39 PF Ceramic Disc Capacitor – ±5% 500V. (2 Req.)	.45
22-3393	.01 MF Disc Capacitor – 25V. (5 Req.)	.25
22-3415	.0068 MF Disc Capacitor – 25V. (3 Req.)	.25
22-3541	3.3 PF Gimmick Capacitor – 500V. (Part of S-89122)	.25
22-3652	.1 MF Disc Capacitor – 10V. (2 Req.)	.30
22-3675	10 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3687	1 MF Electrolytic Capacitor – 50V. (4 Req.)	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
22-5056	.02 MF Disc Capacitor – 25V.	.20
22-5316	500 MF Electrolytic Capacitor – 50V. (2 Req.)	2.55
22-5481	560 PF Disc Capacitor – 500V. (2 Req.)	.25
22-5482	680 PF Disc Capacitor – 500V. (5 Req.)	.25
22-5483	.0015 MF Disc Capacitor – 500V. (2 Req.)	.25
22-5486	10 MF Electrolytic Capacitor – 6V.	.95
*22-5780	270 PF Polystyrene Capacitor – 500V.	.15
*22-5781	1000 PF Polystyrene Capacitor – 500V. (2 Req.)	.15
-OR-		
22-3613	1000 PF Mica Capacitor (2 Req.)	.50
22-5782	2200 PF Capacitor – ±5% 500V.	.15
22-5814	.022 MF Mylar Capacitor – 50V. 20% (4 Req.)	.30
22-5866	.047 MF Mylar Capacitor – 100V. (4 Req.)	.30
22-5884	.082 MF Mylar Capacitor – 100V. (6 Req.)	.35
*22-5972	390 PF Polystyrene Capacitor – 125 V.	.15
22-5986	50 MF Electrolytic Capacitor – 25 V. (2 Req.)	1.10

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
*22-6245	Gang Capacitor, Six Section (FM Antenna Trimmer, FM Antenna 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)	6.80
*22-6246	3.3 MF Electrolytic Capacitor – 15V.	1.05
22-6343	.33 MF Mylar Capacitor – 50V. 20% (2 Req.)	.70
22-6344	7 PF Ceramic Disc Capacitor – ±.5 PF 500V.	.10
22-6347	2000 PF Capacitor – ±5% 50V.	.35
-OR-		
22-6136	2000 PF Capacitor – ±5% 100V.	.85
*33-374	P.C. Bd. Frame	
*33-377	P.C. Bd. Frame – Power Amp.	
43-571	9 Contact Housing (Used on 86-390)	.30
44-48	Connector Jack (4 Part of S-89928 & 2 Part of S-83558)	.20
44-78	Earphone Jack	2.00
52-1062	2 Conductor Cable (Used on 86-344 & 86-357)	.10
52-1149	Three Conductor Cable (Used on 44-78)	.50
52-1391	Two Conductor Shielded Lead (Used on 85-1210)	1.05
52-1591	Two Conductor Shielded Lead	.70
*52-1988	Two Conductor Shielded Lead	1.10
*52-1990	Shielded Lead & Plug (Used on 85-1210)	
*52-2019	Two Conductor Shielded Lead	1.00
52-2020	Two Conductor Shielded Lead	1.10
54-139	3/8-32 x 9/16 Palnut (5 Req.)	.03
54-474	3/8-32 x 1/2 x 3/32 Thk. Hex Nut (Used on 44-78)	.05
54-808	Tinnerman Speed Nut (4 Req.)	.03
54-828	1/2-20 Palnut	.03
*54-851	Speed Nut – Palnut (25 Used on P.C. Board)	.03
58-338	Plug (2 Req.)	.20
61-222	Idler Pulley (Part of S-85563 & 3 Part of S-89118)	.20
61-324	Pulley, Flanged (Part of S-89195)	
63-1701	10 Ohm Resistor – 1/2W. 10% (3 Req.)	.17
63-1715	22 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1736	68 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1757	220 Ohm Resistor – 1/2W. 10% (4 Req.)	.17
63-1761	270 Ohm Ressitor – 1/2W. 10% (2 Req.)	.17
63-1764	330 Ohm Resistor – 1/2W. 10% (2 Req.)	.17
63-1771	470 Ohm Resistor – 1/2W. 10%	.17
63-1772	470 Ohm Resistor – 1/2W. 20% (5 Req.)	.17
63-1775	560 Ohm Resistor – 1/2W. 10% (4 Req.)	.17
63-1777	680 Ohm Resistor – 1/2W. 5% (2 Req.)	
63-1778	680 Ohm Resistor – 1/2W. 10% (5 Req.)	.17
63-1781	820 Ohm Resistor – 1/2W. 5%	.34
63-1782	820 Ohm Resistor – 1/2W. 10%	.17
63-1785	1000 Ohm Resistor – 1/2W. 10% (2 Req.)	
63-1794	1600 Ohm Resistor – 1/2W. 5% (2 Req.)	.10
63-1796	1800 Ohm Resistor – 1/2W. 10%	
63-1798	2200 Ohm Resistor – 1/2W. 5%	.34
63-1799	2200 Ohm Resistor – 1/2W. 10% (4 Req.)	.17
63-1803	2700 Ohm Resistor – 1/2W. 10%	.17
63-1805	3300 Ohm Resistor – 1/2W. 5% (2 Req.)	.34
63-1806	3300 Ohm Resistor – 1/2W. 10%	.17
63-1810	3900 Ohm Resistor – 1/2W. 10% (3 Req.)	.17
63-1813	4700 Ohm Resistor – 1/2W. 10% (9 Req.)	.17
63-1817	5600 Ohm Resistor – 1/2W. 10%	.17
63-1820	6800 Ohm Resistor – 1/2W. 10% (3 Req.)	.17
63-1824	8200 Ohm Resistor – 1/2W. 10%	.17
63-1826	10K Ohm Resistor – 1/2W. 5% (2 Req.)	
63-1827	10K Ohm Resistor – 1/2W. 10% (5 Req.)	
63-1831	12K Ohm Resistor – 1/2W. 10% (4 Req.)	
63-1834	15K Ohm Resistor – 1/2W. 10% (5 Req.)	.17
63-1848	33K Ohm Resistor – 1/2W. 10% (3 Req.)	.17
63-1852	39K Ohm Resistor – 1/2W. 10% (2 Req.)	
63-1855	47K Ohm Resistor – 1/2W. 10% (4 Req.)	
63-1859	56K Ohm Resistor – 1/2W. 10%	
63-1862	68000 Ohm Resistor – 1/2W. 10%	.17
63-1868	100K Ohm Resistor – 1/2W. 5% (2 Req.)	.34
63-1873	120K Ohm Resistor – 1/2W. 10%	.17
63-1898	470K Ohm Resistor – 1/2W. 20% (3 Req.)	.17
63-1904	680K Ohm Resistor – 1/2W. 10%	.17
63-1918	1.5 Megohm Resistor – 1/2W. 10% (4 Req.)	

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT21Z1 (Continued)	
63-4122	33 Ohm Resistor – 1/4W. 10%	.17
63-4129	47 Ohm Resistor – 1/4W. 10% (Part of S-89122)	.17
63-4157	220 Ohm Resistor – 1/4W. 10%	.17
63-4185	1000 Ohm resistor – 1/4W. 10%	.17
63-4196	1800 Ohm resistor – 1/4W. 10%	.17
63-4231	12K Ohm Resistor – 1/4W. 10%	.17
63-4255	47K Ohm Resistor – 1/4W. 10%	.17
63-4269	100K Ohm Resistor – 1/4W. 10%	.17
63-4287	270K Ohm Resistor – 1/4W. 10%	.17
63-5085	680 Ohm Resistor – 3W. 10%	.45
63-5663	680 Ohm Resistor – 2W. 10%	.30
63-6424	1 Ohm Resistor – 5W. 10% (2 Req.)	.75
63-6495	Mute Control – 100K	1.00
*63-8708	Rotary Control, Single – 5K Ohm 30% 1/4W. Bias Adjust	.80
*63-8977	Rotary Control, Single 1000 Ohm 30% 1/4W. Bias Adjust. (2 Req.)	.75
63-8996	250K Ohm Single Rotary Control – 1/8W. 30% (Balance Control)	1.40
63-8997	100K Ohm Dual Rotary Control – 1/8W. 30% (Bass Control)	2.50
63-8998	50K Ohm Dual Rotary Control – 1/8W. 30% (Treble Control)	2.60
63-8999	100K Ohm Dual Rotary Control – 1/8W. 30% (Loudness Control)	4.40
64-6	1/8" Dia. x 3/16" Lg. Tubular Rivet (2 Part of S-89928)	
64-288	Shoulder Rivet (Part of S-85563)	.03
64-303	Shoulder Rivet (Part of S-89118)	.04
64-1098	Shoulder Rivet – Flat Hd. (2 Part of S-89118)	.10
*76-2033	Tuning Shaft	.55
78-2024	Lamp Socket (2 Req.)	.60
79-174-12	No. 18 Sleeving – Yellow – 1-1/2" (2 Req.)	.03
80-2143	Cord Tension Spring	.35
*82-195	Ground Strap	.55
82-196	Ground Strap	
83-1961	Antenna Terminal Strip (Part of S-89928)	.35
83-5791	Rubber Strip (Chassis)	.10
83-6173	Tie Strip	.03
*83-7552	Transistor Insulating Washer (2 Part of Ea. 121-853X)	.03
83-7803	Terminal Strip	.10
83-8148	Insulating Strip W/Perforation	.15
83-8151	Terminal Strip (Part of S-89201)	.20
83-8155	Strain Relief Strip (Part of S-89201)	
83-8163	Antenna Mtg. Terminal Strip (2 Part of S-88463)	.20
83-8167	Insulating Strip W/Perforation	.45
83-8205	Insulating Strip W/Perforation	.05
*85-1210	5 Position Bandswitch	5.10
*85-1212	Rocker Switch (Stereo – Mono)	1.90
*85-1338	Rocker Switch (A.C. On-Off Switch)	
86-344	Terminal, Connector (Used on 52-1062)	.03
86-390	Connector Terminal, Male (8 Used on 43-571)	.03
86-357	Connector Terminal (Used on 52-1062)	.03
86-500	Terminal (19 Req.)	.03
86-543	Miniature Spring Terminal (80 Req.)	.03
93-1906	No. 4 Flat Washer (1 Used on Ea. 114-1144) (4 Req.)	.05
94-1384	Insulated Bushing (4 Req.)	.10
94-1532	Nylon Shaft Bushing	.20
94-1586	Shoulder Bushing (4 Req.)	.03
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.	3.40
*95-2751	Transistor – AM 1st. I.F. AM 455 KHz	1.45
*95-2752	Transformer – AM 2nd. I.F. AM 455 KHz	1.45
*95-2753	Transformer – FM 1st. I.F. 10.7 MHz	1.45
*95-2754	Transformer – FM 2nd. I.F. 10.7 MHz	1.45
*95-2755	Transformer – FM 3rd. I.F. 10.7 MHz	1.55
*95-2756	Transformer – FM Ratio Detector 10.7 MHz	1.90
*95-2856	Multiplex Doubler – 19 KHz Transformer	1.30
*95-2857	Multiplex Detector – 38 KHz Transformer	1.30
*95-2858	Multiplex Input – 19 KHz Transformer	1.30
100-249	Indicator Lamp, Pilot Light Bult (3 Req.)	.18
103-23	Germanium Diode (6 Req.)	.75
103-90	Germanium Diode – Matched Pair	2.00
103-96	Diode, Zener	1.90
103-189	AFC Diode	3.75
	-OR-	
103-47	AFC Diode	3.75
*105-107	Integnet – 38 KHz Filter (2 Req.)	1.00
114-77	6-20 x 5/16" Lg. x 1/4" Hex Hd. Self-Tap. Screw-Stat. Bronze (14 Req.)	.03
114-864	8-18 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (4 Req.)	.03
114-1108	6-20 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (2 Req.)	.03
114-1144	4-24 x 0.500 x 0.187 Hex Washer Hd. Screw-Stat. Bronze (2 Used on Ea. 121-853X) (4 Req.)	.03
121-430	Transistor – Audio – Amp. (2 Req.)	1.10
121-546	Transistor – AM-FM 2nd. I.F., FM 3rd. I.F. (2 Req.)	.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 Req.)	.70
121-714	Transistor – AM Converter	.80
*121-737	Transistor – Stereo Indicator Switch	.95
*121-767	Transistor – Bias Control (2 Req.)	.68
*121-768	Transistor – Pre-Driver (2 Req.)	1.20
*121-773	Transistor – Driver (2 Req.)	.72
*121-774	Transistor – Driver (2 Req.)	1.76
121-826	Transistor, FM RF	1.70
121-850	Transistor, NPN Silicon	.60
*121-853X	Transistor – Output – Matched Pair (2 Req.)	1.90
*121-858	Transistor – Biplex Detector	.75
*122-66	Tuning Meter	8.15
126-1521	Heat Sink	3.00
*126-1533	Dial Scale Reflector (Part of S-89201)	
149-311	Ferrite Core (Sleeve) (2 Req.)	.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
*199-567	Sleeving (Part of S-88463)	
*199-568	Shielded Sleeve	.10
205-51	Dow Corning Heat Conductive Grease (Part of 121-853X)	.16
S-82528	Antenna Cable & Terminal Assem.	.20
S-83558	Speaker Jack & Bracket Assem.	.60
S-85563	Pulley Mtg. Bracket Assem.	.05
*S-88463	Wavemagnet Antenna Assem.	
S-88986	Dial Cord & Eyelet Assem.	.40
S-89051	Pointer & Carriage Assem.	
S-89117	Pulley & Bracket Assem.	.35
S-89118	Pulley & Bracket Assem. (Chassis Front)	
S-89122	FM Detector Coil Coil Assem.	.65
S-89134	FM Antenna Coil Assem.	.35
S-89195	Pulley & Ring Assem.	.45
*S-89197	Cable & Housing Assem.	
*S-89201	Dial Light Shield, Terminal Strip & Insulator Strip Assem.	
*S-89928	Phono Jack & Bracket 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 Req.)	.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 Req.)	.25
22-14	.0047 MF Disc Capacitor – 500V. (3 Req.)	.25
22-2428	1.8 PF Gimmick Capacitor – 500V.	.25
		.25

*Denotes parts not previuosly used in Zenith receivers.

CHASSIS 29CT30 (Continued)

PART NUMBER	DESCRIPTION	PRICE
22-2592	3.4 MF Ceramic Disc Capacitor – 500V.	.25
22-2703	220 PF Disc Capacitor – 500V. (2 Req.)	.25
22-2729	.001 MF Disc Capacitor – 24V. (5 Req.)	.25
22-2884	5 MF Electrolytic Capacitor – 12V. (4 Req.)	1.50
22-3034	.05 MF Disc Capacitor – 25V. (14 Req.)	.45
22-3080	.005 MF Disc Capacitor – 25V. (2 Req.)	.25
22-3177	390 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3255	330 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3310	2.7 PF Gimmick Capacitor – 500V. (2 Req.)	.25
22-3362	560 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3381	39 PF Ceramic Disc Capacitor – ±5% 500V. (2 Req.)	.45
22-3393	.01 MF Disc Capacitor – 25V. (6 Req.)	.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 Req.)	.30
22-3675	10 PF Disc Capacitor – 500V. (2 Req.)	.25
22-3687	1 MF Electrolytic Capacitor – 50V. (4 Req.)	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 Req.)	.45
22-5316	500 MF Electrolytic Capacitor – 50V. (2 Req.)	2.55
22-5481	560 PF Disc Capacitor – 500V. (2 Req.)	.25
22-5482	680 PF Disc Capacitor – 500V. (7 Req.)	.25
22-5486	10 MF Electrolytic Capacitor – 6V.	.95
22-5487	47 MF Disc Capacitor – 3V. (2 Req.)	.45
*22-5780	270 PF Polystyrene Capacitor – 500V.	.15
*22-5781	1000 PF Polystyrene Capacitor – 500V. (2 Req.)	.15
-OR-		
22-3613	1000 PF Mica Capacitor (2 Req.)	.50
22-5782	2200 PF Capacitor – ±5% 500V.	.15
22-5862	.1 MF Mylar Capacitor – 100V. (2 Req.)	.35
22-5866	.047 MF Mylar Capacitor – 100V. (6 Req.)	.30
22-5883	.033 MF Mylar Capacitor – 100V. (2 Req.)	.35
22-5971	.0033 MF Mylar Capacitor (2 Req.)	.30
*22-5972	390 PF Polystyrene Capacitor – 125V.	.15
*22-5986	50 MF Electrolytic Capacitor – 25V. (2 Req.)	1.10
*22-6111	.001 MF Mylar Capacitor – 50V. (2 Req.)	.40
*22-6245	Gang Capacitor, Six Section (FM Antenna Trimmer, FM Antenna 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)	
22-2023	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 Req.)	.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 - 1/2W. 10% (3 Req.)	.17
63-1715	22 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1736	68 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1757	220 Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-1761	270 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1764	330 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1771	470 Ohm Resistor - 1/2W. 10%	.17
63-1772	470 Ohm Resistor - 1/2W. 20% (5 Req.)	.17
63-1775	560 Ohm Resistor - 1/2W. 10% (3 Req.)	.17
63-1777	680 Ohm Resistor - 1/2W. 5% (2 Req.)	
63-1778	680 Ohm Resistor - 1/2W. 10% (5 Req.)	.17
63-1781	820 Ohm Resistor - 1/2W. 5%	.34
63-1782	820 Ohm Resistor - 1/2W. 10%	.17
63-1785	1000 Ohm Resistor - 1/2W. 10% (4 Req.)	
63-1794	1600 Ohm Resistor - 1/2W. 5% (2 Req.)	.10
63-1796	1800 Ohm Resistor - 1/2W. 10%	
63-1798	2200 Ohm Resistor - 1/2W. 5%	.34
63-1799	2200 Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-1805	3300 Ohm Resistor - 1/2W. 5% (2 Req.)	.34
63-1806	3300 Ohm Resistor - 1/2W. 10% (3 Req.)	.17
63-1810	3900 Ohm Resistor - 1/2W. 10% (5 Req.)	.17
63-1813	4700 Ohm Resistor - 1/2W. 10% (6 Req.)	.17
63-1817	5600 Ohm Resistor - 1/2W 10%	.17
63-1820	6800 Ohm Resistor - 1/2W. 10% (3 Req.)	.17
63-1824	8200 Ohm Resistor - 1/2W. 10%	.17
63-1826	10K Ohm Resistor - 1/2W. 5% (2 Req.)	
63-1827	10K Ohm Resistor - 1/2W. 10%	
63-1831	12K Ohm Resistor - 1/2W. 10% (4 Req.)	
63-1834	15K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1841	22K Ohm Resistor - 1/2W. 10%	
63-1842	22K Ohm Resistor - 1/2W. 20%	.17
63-1845	27K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1848	33K Ohm Resistor - 1/2W. 10% (5 Req.)	.17
63-1852	39K Ohm Resistor - 1/2W. 10% (2 Req.)	
63-1855	47K Ohm Resistor - 1/2W. 10% (4 Req.)	
63-1859	56K Ohm Resistor - 1/2W. 10%	
63-1868	100K Ohm Resistor - 1/2W. 5% (2 Req.)	.34
63-1869	100K Ohm Resistor - 1/2W. 10%	.17
63-1873	120K Ohm Resistor - 1/2W. 10%	.17
63-1883	220K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1887	270K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-1890	330K Ohm Resistor - 1/2W. 10% (2 Req.)	
63-1898	470K Ohm Resistor - 1/2W. 20% (3 Req.)	.17
63-1904	680K Ohm Resistor - 1/2W. 10%	.17
63-1918	1.5 Megohm Resistor - 1/2W. 10% (2 Req.)	
63-1933	3.3 Megohm Resistor - 1/2W. 20%	
63-4122	33 Ohm Resistor - 1/4W. 10% (2 Req.)	.17
63-4157	220 Ohm Resistor - 1/4W. 10%	.17
63-4185	1000 Ohm Resistor - 1/4W. 10%	.17
63-4196	1800 Ohm Resistor - 1/4W. 10%	.17
63-4231	12K Ohm Resistor - 1/4W. 10%	.17
63-4255	47K Ohm Resistor - 1/4W. 10%	.17
63-4269	100K Ohm Resistor -1/4W. 10%	.17
63-4287	270K Ohm Resistor - 1/4W. 10%	.17
63-5663	680 Ohm Resistor - 2W. 10%	.30
63-6424	1 Ohm Resistor - 5W. 10% (2 Req.)	.75
63-6495	Mute Control - 100K	1.00
*63-8708	Rotary Control, Single - 5K Ohm 30% 1/4W. 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% 1/4W. Bias Adjust. (2 Req.)	
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 Req.)	.03
*76-2032	Tuning Shaft	
80-1963	Idler Pulley Spring (Part of S-77501)	.15
80-2143	Cord Tension Spring	
*82-195	Ground Strap	

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
	CHASSIS 29CT30 (Continued)	
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 Req.)	.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 Req.)	.03
86-543	Miniature Spring Terminal (88 Req.)	.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 Req.)	
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 Req.)	.18
103-23	Germanium Diode (6 Req.)	.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 Req.)	.03
114-864	8-18 x 3/8 Hex Washer Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. ea. 17-143) (2 Req.)	.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 Req.)	
121-430	Transistor - Audio - Amp (2 Req.)	1.10D**
121-433	Transistor - Pre-Amp. (2 Req.)	1.30D**
121-546	Transistor - AM-FM 2nd. I.F., FM 3rd I.F. (2 Req.)	.80D**
121-613	Transistor - Autodyne Converter - FM	.80D**
121-614	Transistor - AM-FM 1st. I.F.	.80D**
121-639	Transistor - Comp. Amp., 19 KHz Amp. & 38 KHz Amp., Tuning Meter Control (4 Req.)	.70D**
121-714	Transistor - AM Converter	.80
*121-737	Transistor - Stereo Indicator Switch	.95
*121-767	Transistor - Bias Control (2 Req.)	.68
*121-768	Transistor - Pre-Driver (2 Req.)	1.20
*121-773	Transistor - Driver (2 Req.)	.72
*121-774	Transistor - Driver (2 Req.)	
*121-853X	Transistor - Output - Matched Pair (2 Req.)	
*121-858	Transistor - Biplex Detector	
149-311	Ferrite Core (Sleeve) (2 Req.)	.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 Req.)	
*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.	

*Denotes parts not previously used in Zenith receivers.

MODEL B545W
CHASSIS COMPONENTS

63-1771	470 Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-1883	220K Ohm Resistor - 1/2W. 10% (2 REq.)	.17
63-1897	470K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
63-3992	68K Ohm Resistor - 1/2W. 10% (3 Req.)	.17
880-294	Output Transistor - Assem. - Matched Pair - PNP - NPN (2 Req.)	2.45
*964-8976	1 Megohm Resistor - 1/2W. 10% (2 Req.)	
964-18014	4.7 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
964-19610	200 MF Electrolytic Capacitor - 15V. (2 Req.)	1.10
964-19613	.0033 MF Capacitor - 500V. (2 Req.)	.40
964-19638	.05 MF Capacitor - 100V. (6 Req.)	.70
964-19755	100 PF Capacitor - 500V. (2 Req.)	.15
964-19758	1 MF Electrolytic Capacitor - 15V.	.85
964-20622	Terminal - Male	.15
964-20623	Terminal - Female	.15
964-21866	Rectifier	.80
964-22009	Transistor - Pre-Amp. (4 Req.)	1.36
964-22099	4.7 Megohm Resistor - 1/2W. 10% (2 Req.)	.17
964-23096	1000 MF Electrolytic Capacitor - 25V.	.45
964-24412	Tone Control - 3M	4.95
*964-25046	Diode (2 Req.)	.75
*964-25138	47 PF Capacitor - 500V. (2 Req.)	.20
*964-25591	36 PF Capacitor - 500V. (2 Req.)	.20
*964-25592	Volume Control - 500K (2 Req.)	2.25
*964-25771	Power Transformer	11.00
*964-25868	43 Ohm Resistor - 1/2W. 5% (2 Req.)	.15
*964-25922	33 MFD. Capacitor - 16V. (2 Req.)	.55
*964-27674	4.7 Megohm Resistor - 1/2W. 5% (2 Req.)	.34
*964-27675	820K Ohm Resistor - 1/2W. 5% (2 Req.)	.34
*964-28317	Heat Sink (Used w/bd. Marked 25530)	
*964-28504	Heat Sink (Used w/bd. Marked 27958)	

MODEL B545W
CABINET COMPONENTS

*56-560	Needle (Part of 142-175)	3.35
83-2790	Motorboard Protector	.05
*142-175	Cartridge - .7 Mil. Diamond & 3 Mil. Mfg. Sapphire (Part of 169-407)	5.60
*169-407	4 Speed Record Changer (See Changer Parts List for Components)	
*902-703	Instruction Book	
964-12916-A	Eyelet - Nickel Plate (Bottom of ea. Remote Speaker)	.25
964-13621	Terminal - Amp.	.05
964-14195	Bumper (Inside Changer Compartment)	.35
964-14220	Plug Housing, Amp.	.30
*964-14605-H	6 x 1/2 Truss Screw-Stat. Bronze (8 Mts. Speaker Grille)	.03
964-15821	Cable Retainer (Inside Changer Compartment)	.05
964-16380	Machine Screw (2 Used on Pivot)	.10
*964-16579	Lock Washer (2 Used on Pivot)	.05
964-16580	Eyelet, Pivot (2 Req.)	.10
964-17170	Amp. Terminal - .205 Flat	.03
*964-17310	Bumpers (4 Req.)	

PART NUMBER	DESCRIPTION	PRICE
	CABINET COMPONENTS (Continued)	
964-17602-F	Bushing, Pivot (2 Req.)	.30
964-18243-3	Power Cord	2.00
*964-18315	Tee Nut, Pivot (2 Required)	.20
964-18586-9	45 RPM Adapter Clamp (Spindle Clip)	.30
*964-19996-9	Eyelet (Back of Unit, Middle)	
*964-20113	6-32 x 3/4 Wafer Hd. Screw (4 Mts. Transformer & Chassis)	.10
964-20641	Catch, Chrome (2 Req.)	1.75
964-20746-3	Remote Cable Assem. (2 Req.)	.25
*964-23137	'U' Channel - Chrome (Front of Drop Seat)	
964-23138	Strike, Chrome (2 Req.)	.35
964-23139-C	Nail, Chrome (Used on Drop Seat, Left & Right Sides for 'U' Channel)	.05
*964-23140-H	Strike - Stat. Bronze (Mounted on Drop Seat, Right Side)	.50
*964-23141-3	Catch (Inside Cabinet - Right Side)	.40
*964-23279-A	Logo - Zenith	.95
*964-24020	5 1/4" Speaker (2 Req.)	9.60
*964-24458	Knob Assem. (3 Req.) (Orange Marker)	.60
-OR-		
964-27728-9C	Knob Assem. (3 Req.) (Marker on Rim)	
*964-24783-H	Hinge, Male - Stat. Bronze (Used on top left Remote Speaker)	.55
*964-24784-H	Hinge, Female - Stat. Bronze (Used on Main Cabinet - Left Side) (2 Required)	.55
*964-24785-H	Hinge, Male - Stat. Bronze (Used on Top Right Remote Speaker)	.55
*964-24786-H	Hinge, Female - Stat. Bronze (Used on Main Cabinet - Right Side)	.55
*964-25134-H	Hinge, Male - Stat. Bronze (Used on Bottom Right Remote Speaker)	.55
*964-25136-H	Hinge, Male - Stat. Bronze (Used on Bottom Left Remote Speaker)	.55
*964-25273	6-32 x 1 3/4 Wafer Hd. Screw (8 Req.)	.03
*964-25523-F	Control Plate	
*964-25584	Case Assem. W/Hardware	
*964-25585-F	Packing Carton	
*964-25587	Transistor Layout & Patent Label	.05
*964-25746	Audio Cable	2.15
*964-25778	Handle	3.60
*964-26335	Changer Cups (4 Req.)	.55
S-72648	45 RPM Adapter	1.80
	MODEL B553W CHASSIS COMPONENTS	
63-1771	470 Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-1897	470K Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-2877	120K Ohm Resistor - 1/2W. 10% (4 Req.)	.17
63-7011	1000 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
800-294	Transistor Assem. - Matched Pair - Driver (NPN - PNP)	2.45
*964-9513	220K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
*964-9518	33K Ohm Resistor - 1/2W. 10% (2 Req.)	.17
*964-11143	1500 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
*964-11582	6800 Ohm Resistor - 1/2W. 10% (2 Req.)	.17
*964-13591	8200 Ohm Resistor - 1/2W. 10%	.17
964-16327	Tinnerman Clip (4 Mt. 800-294)	
964-16380	Machine Screw, Pivot Assem. (2 Req.)	.10
*964-16579	Lock Washer, Pivot Assem. (2 Req.)	.05
964-16580	Eyelet, Pivot Assem. (2 Req.)	.10
*964-18315	Tee Nut, Pivot Assem. (2 Req.)	.20
*964-19611	Capacitor - .001 MF (4 Req.)	.20
964-19614	Capacitor - .01 MF (2 Req.)	.45
964-19615	Capacitor - 5 MFD. 15V.	.85
964-19638	Capacitor - .05 MFD. 100V. (4 Req.)	.70
964-19755	Capacitor - 100 PF 500V. (2 Req.)	.15
964-19758	Capacitor - 1 MF 15V. (4 Req.)	.85
*964-19839	Capacitor - 470 PF - 500V. (4 Req.)	.15
964-20061	Capacitor - 10 MFD - 15V	1.25
*964-20113	6-32 x 3/4 Wafer Hd. Screw (2 Mt. Transformer Inside Changer Compartment)	.10
964-20622	Terminal - Male (7 Req.)	.15
964-20623	Terminal - Female (7 Req.)	.15

*Denotes parts not previously used in Zenith receivers.

PART NUMBER	DESCRIPTION	PRICE
964-21866	Rectifier (2 Req.)	.80
964-22009	Transistor - Pre-Amp. - NPN (4 Req.)	1.36
964-22099	4.7 Megohm Resistor - 1/2W. 10% (6 Req.)	.17
*964-24387	Diode (4 Req.)	.35
*964-24738	Tone Control - Bass - 500K	7.00
*964-24739	Control - Loudness 250K	8.00
*964-25010	Control - Balance 300K	3.75
*964-25011	Tone Control - Treble 3M	7.00
*964-25274	Nut, Push In (2 Req.)	.20
*964-25776	8 x 1 x 1/4 Hex Hd. Screw (2 Req.)	.05
*964-25784	Capacitor - 1000 MF 35 V.	3.00
*964-25865	Capacitor - .022 MF - 500V. (2 Req.)	.20
*964-25902	2.2 Ohm Resistor - 1/2W. 10% (4 Req.)	.17
964-25903	Capacitor - 250 MFD. - 25V. (2 Req.)	1.30
*964-25922	Capacitor - 33 MFD - 16V. (2 Req.)	.55
*964-25923	Hum Shield (Changer Compartment)	
*964-26341	Heat Sink	.55
*964-26371	15 Ohm Resistor - 1/2W. 5% (2 Req.)	.17
*964-26550	Transistor Holder (4 Req.)	.50
*964-26599	Audio Cable	
*964-27172	Power Transformer	
*964-27741	Capacitor - .0082 - 500V. (2 Req.)	.20
964-27986	Transistor - Output (Matched Pair)	3.00
	MODEL B553W CABINET COMPONENTS	
56-560	Needle (Part of 142-175)	3.35
83-2790	Motorboard Protector (2 Req.)	.05
*142-175	Cartridge - .7 Mil. Dia. & 3 Mil. Mfg. Sapphire (Part of 169-408)	5.60
*169-408	4 Speed Record Changer (See Changer Parts List for Components)	
*902-702	Instruction Book	
964-9197	6-32 Hex Nut (12 Req.)	.03
964-12128-H	6 x 7/8 Truss Screw (4 Req.)	.03
*964-12916-A	Eyelet (Bottom of Remote Speaker) (2 Req.)	.25
964-13364-9	6 x 3/8 Truss Screw (2 Req.)	.03
964-13621	Amp. Terminal (2 Req.)	.05
964-14195	Bumper (Changer Compartment)	.35
964-14220	Plug Housing Amp.	.30
*964-14605-H	6 x 1/2 Truss Screw (8 Req.)	.03
*964-14902-9	Hole Bottom (Side of Changer Door)	.40
964-15821	Cable Retainer	.05
964-17170	Amp. Terminal - .205 Flat (4 Req.)	.03
*964-17310	Bumper, Case Bottom (4 Req.)	.05
964-17445	Cable Clamp	.10
964-17602-F	Bushing (2 Req.)	.30
964-18243-3	Power Cord	2.00
*964-18368-H	Hinge - Female W/Stop - Stat. Bronze - Left (2 Req.)	.55
964-18369-H	Hinge - Female W/Stop - Stat. Bronze - Right (2 Req.)	.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)	.05
964-20641	Catch - Chrome (2 Req.)	1.75
964-20746-3	Remote Cable Assem. (2 Req.)	.25
964-21389	6 x 3/8 Hex Hd. Screw (2 Req.)	.70
964-23138	Strike - Chrome (2 Req.)	.35
*964-23279-A	Logo - Zenith	.95
*964-23362	Amp. Terminal	.20
*964-24199	Audio Cable	
*964-25120	Case Assem.	
*964-25123-F	Packing Carton	
*964-25124	Control Plate	2.20
*964-25126	Transistor Layout & Patent Label	.10
*964-25181	6-32 x 1" Speaker Mtg. Screw (8 Req.)	.20
*964-25234	Escutcheon	2.90
*964-25395	Door Stay, Stat. Bronze	
*964-25397	Handle	
*964-25398-9	10-24 x 3/4 Handle Mtg. Screw (2 Req.)	.20
*964-25775	6 x9 PM Speaker – 8 Ohm (2 Req.)	15.50
*964-25777	Changer Insert	
*964-25781	Bracket (2 Req.)	.05

PART NUMBER	DESCRIPTION	PRICE

MODEL B553W

CABINET COMPONENTS (Continued)

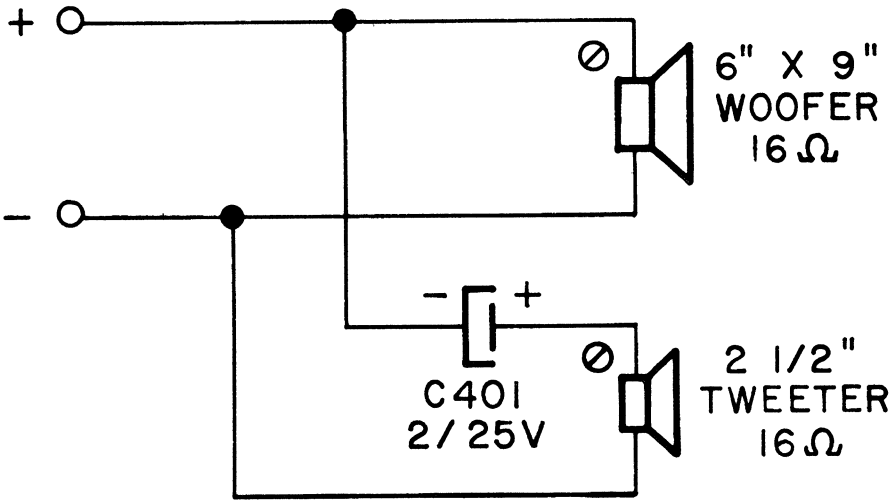
*964-25787	6 x 1/8 Hex Hd. Slot Screw (2 Req.)	.05
*964-25799-H	Hinge – Male – Long Pin – Stat. Bronze (Left)	.60
*964-25800-H	Hinge – Male – Short Pin – Stat. Bronze (Right)	.60
*964-25801-H	Hinge – Male – Long Pin – Stat. Bronze (Right)	.60
*964-25802-H	Hinge – Male – Short Pin – Stat. Bronze (Left)	.60
*964-25806	6-32 x 1-1/4 Screw (2 Mt. Amp. Inside Changer Compartment, Rear)	.20
*964-25832	4 x 3/8 Screw (3 Req.)	
*964-25876-514	Knob (4 Req.)	
*964-26343	Spacer (Inside Changer Compartment) (2 Req.)	
*964-26600	Catch (Top Right Side of Main Cabinet)	1.15
S-72648	45 RPM Adapter	1.80

MODEL C9015

*802-10B	Back Board
*814-176B	Cabinet
*816-90B	Carton Case – Inside (1 Pr.)
*816-91B	Carton Case – Outside (3 Pr.)
*822-920B	2 MF Condenser
*849-70B	6" x 9" Speaker
*849-71B	2-1/2" Speaker
*852-46B	4.6M Cable
*854-99B	3MM Nut for Speaker & Terminal (10 Req.)
*854-100B	Speed Nut
*857-562B	Name Plate
*883-281B	040MM Fibre Glass 15 x 160 x 1
*883-282B	15 x 250 x 330MM Fibre Glass
*883-283B	Terminal Strip
*893-248B	3 x 8 x 0.5MM Washer (8 Req.)
*893-249B	3MM Spring Washer (8 Req.)
*910-811B	Grille Cloth
*912-594B	3.1 x 20 Screw
*912-595B	3.1 x 13 Screw (10 Used on 802-10B)
*912-596B	3 x 10 Screw (2 Used on 883-283B)

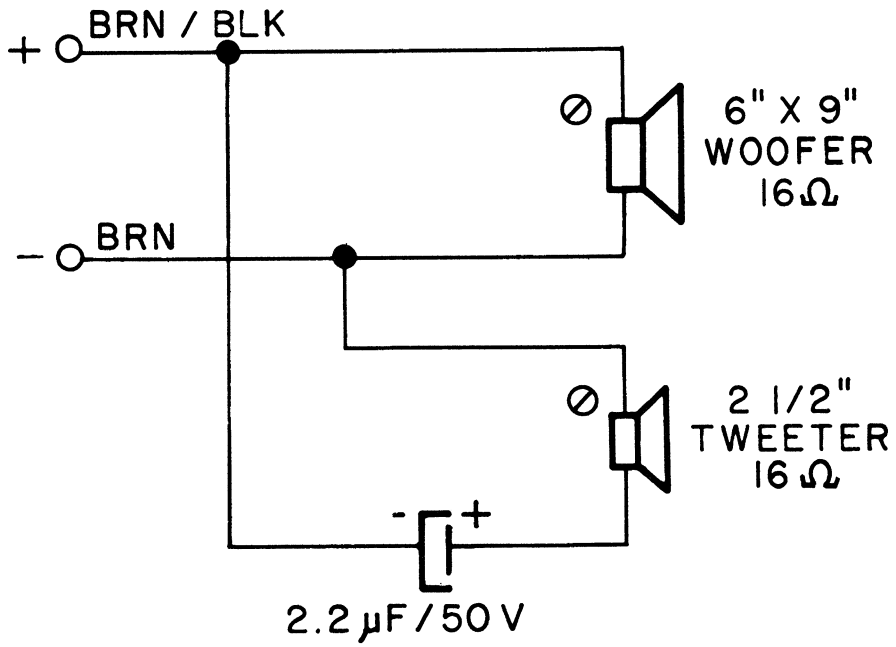
*Denotes parts not previously used in Zenith receivers.

C9015



⊘ INDICATES VOICE COIL
POLARITY IDENTIFICATION DOT ON SPEAKER.

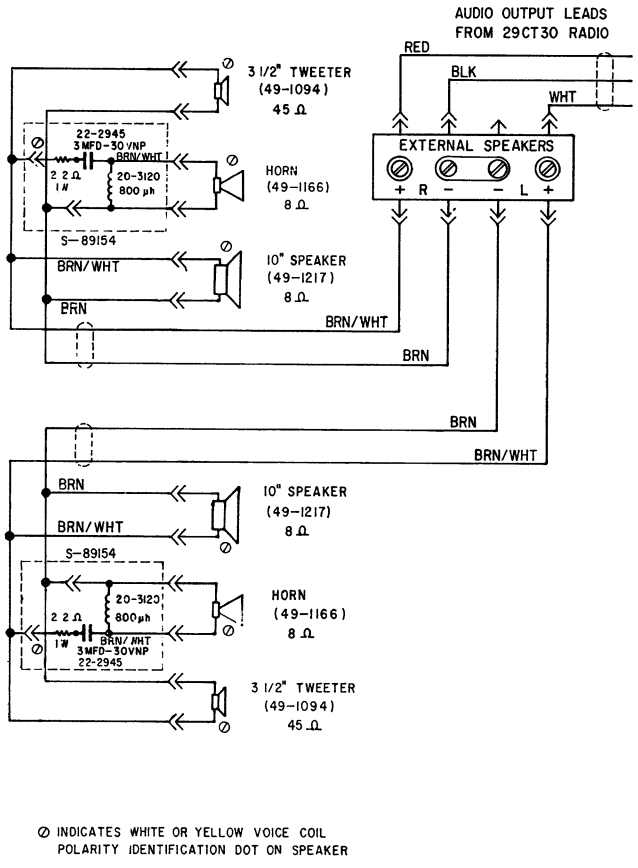
C9016



⊘ INDICATES VOICE COIL
POLARITY IDENTIFICATION DOT ON SPEAKER.

SPEAKER WIRING SCHEMATICS

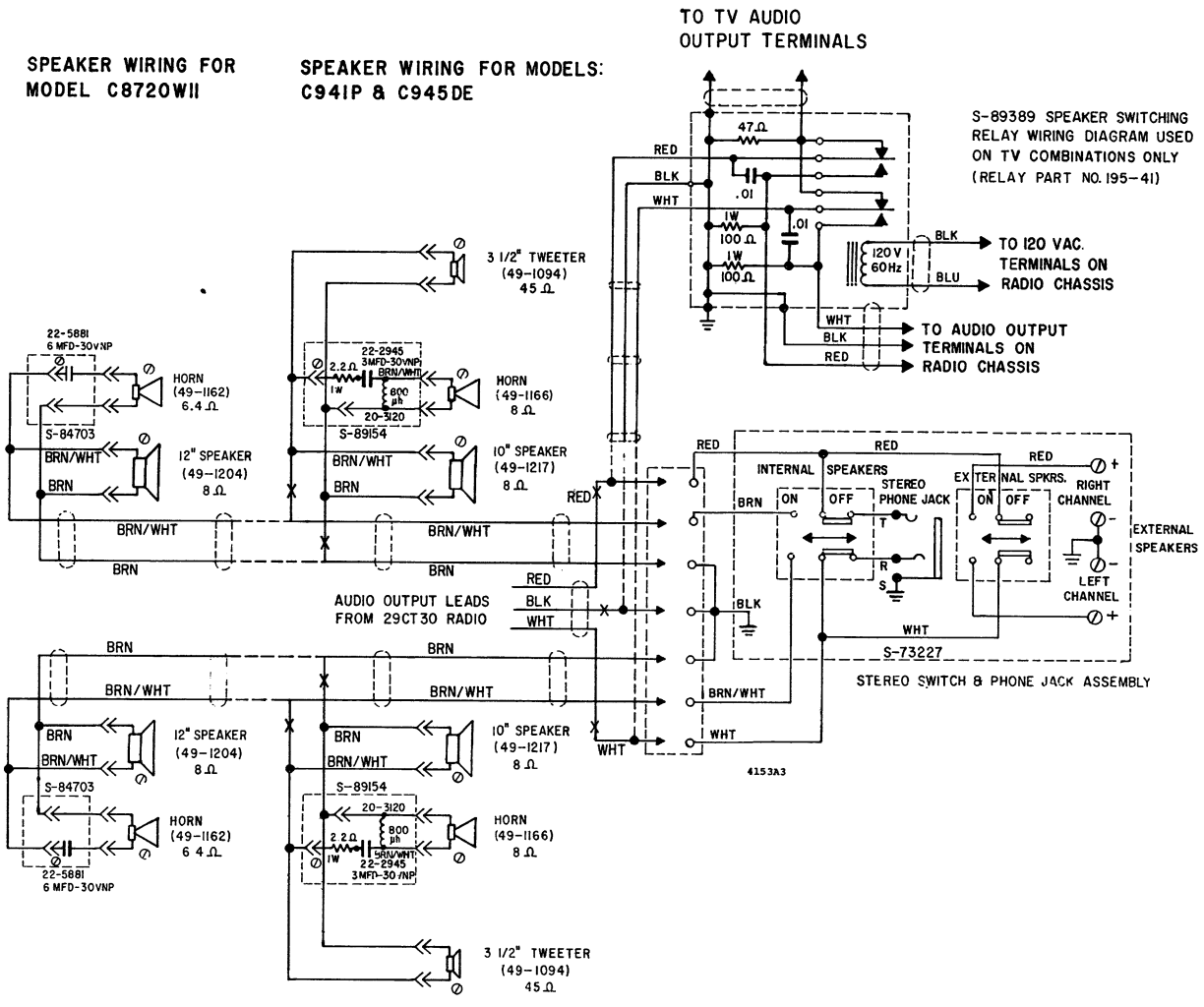
SPEAKER WIRING FOR MODELS:
C930W, C937M & C939DE



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

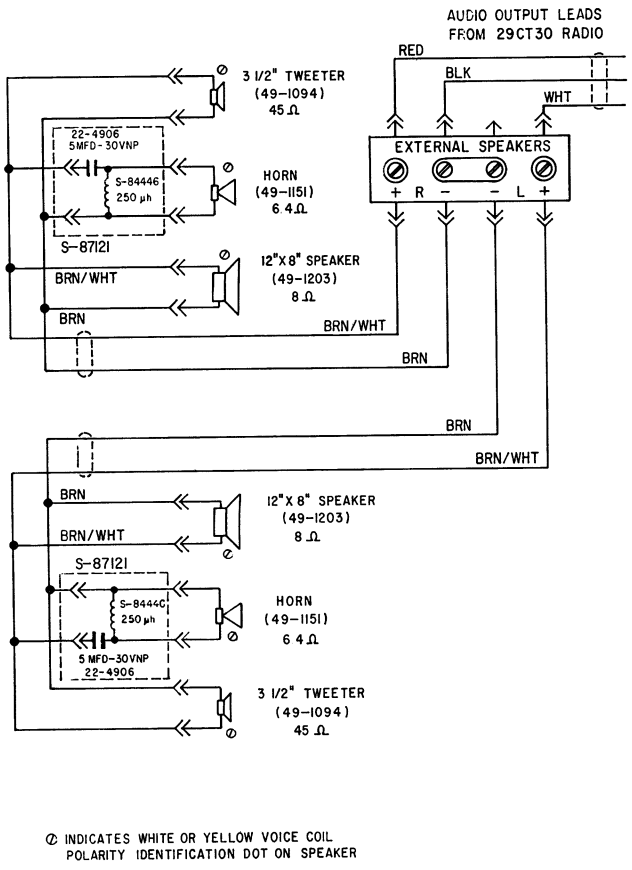
SPEAKER WIRING FOR
MODEL C8720WII

SPEAKER WIRING FOR MODELS:
C941P & C945DE



SPEAKER WIRING SCHEMATICS

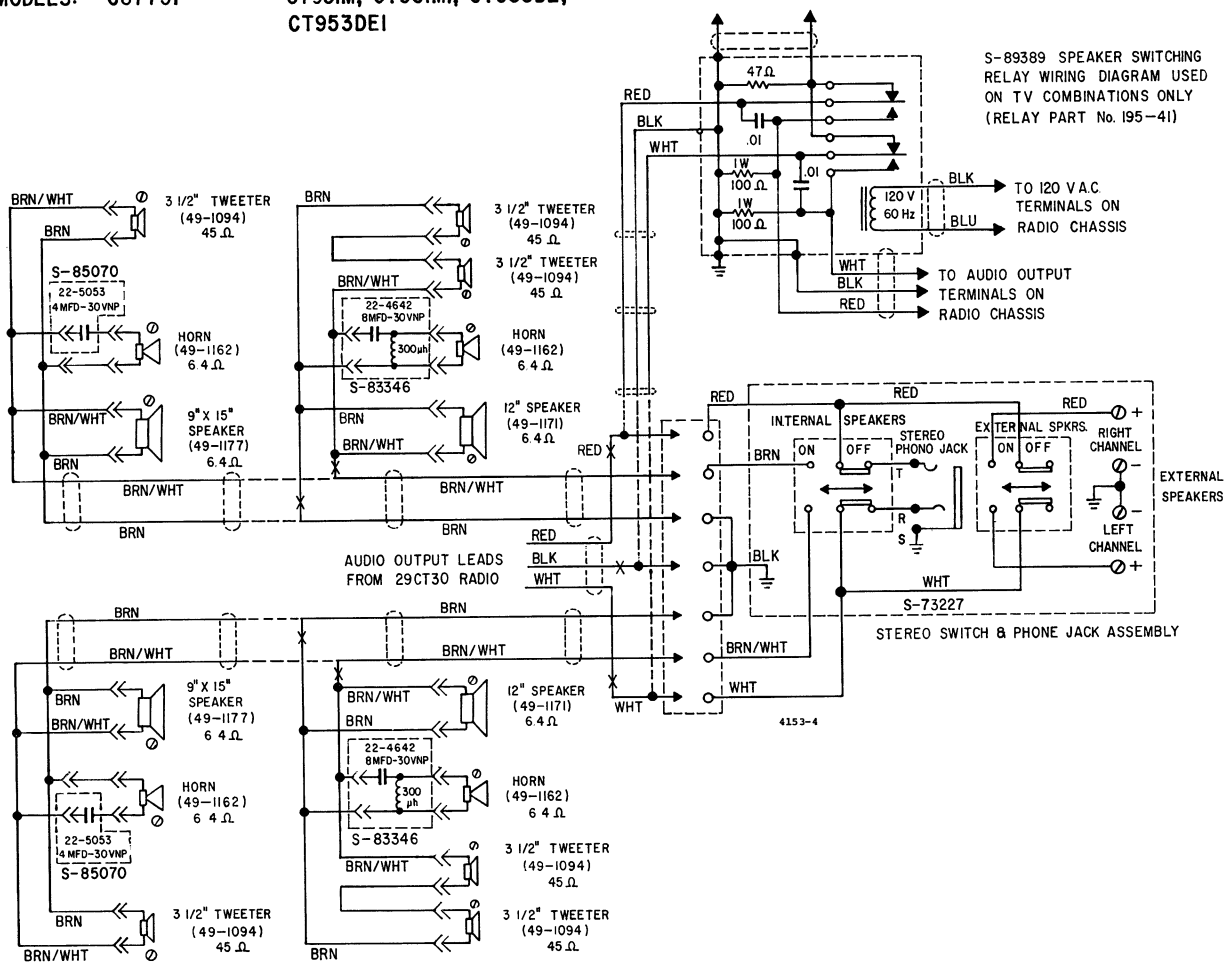
SPEAKER WIRING FOR MODELS:
C947DE1



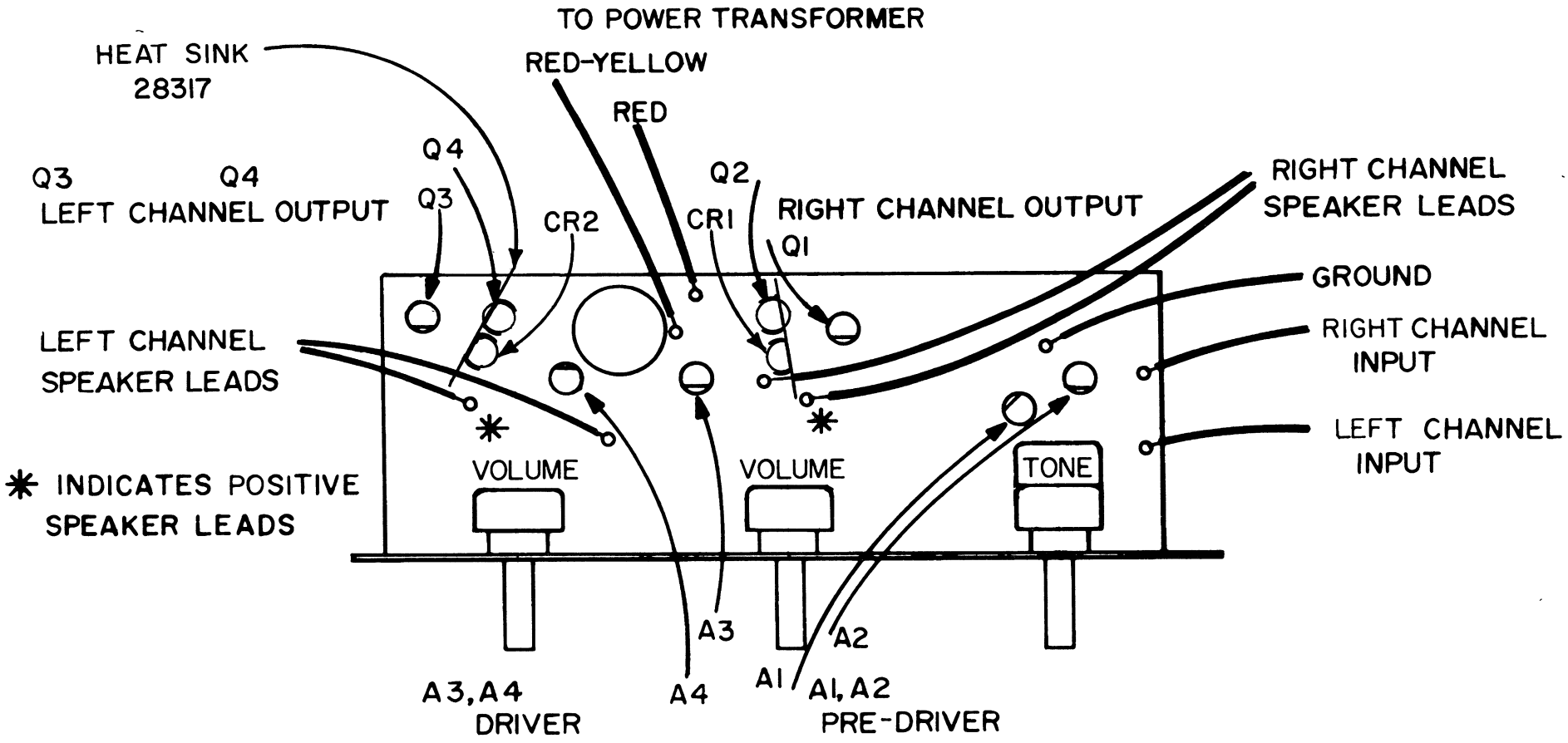
Ⓒ INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER

SPEAKER WIRING FOR
MODELS: C8775P

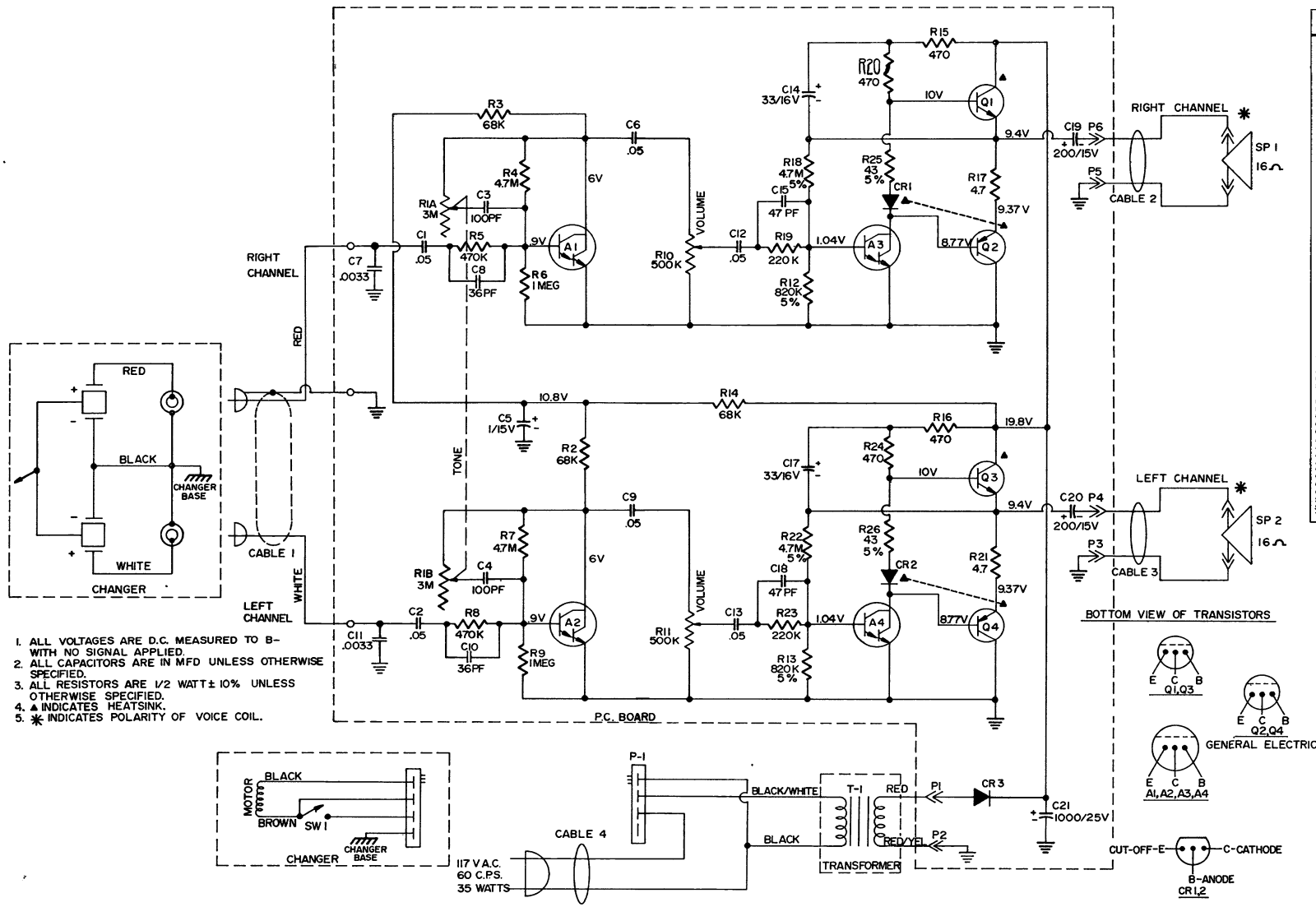
SPEAKER WIRING FOR MODELS:
CT951M, CT951M1, CT953DE,
CT953DE1



SPEAKER WIRING SCHEMATICS



B545 - CHASSIS LAYOUT - EARLY PRODUCTION

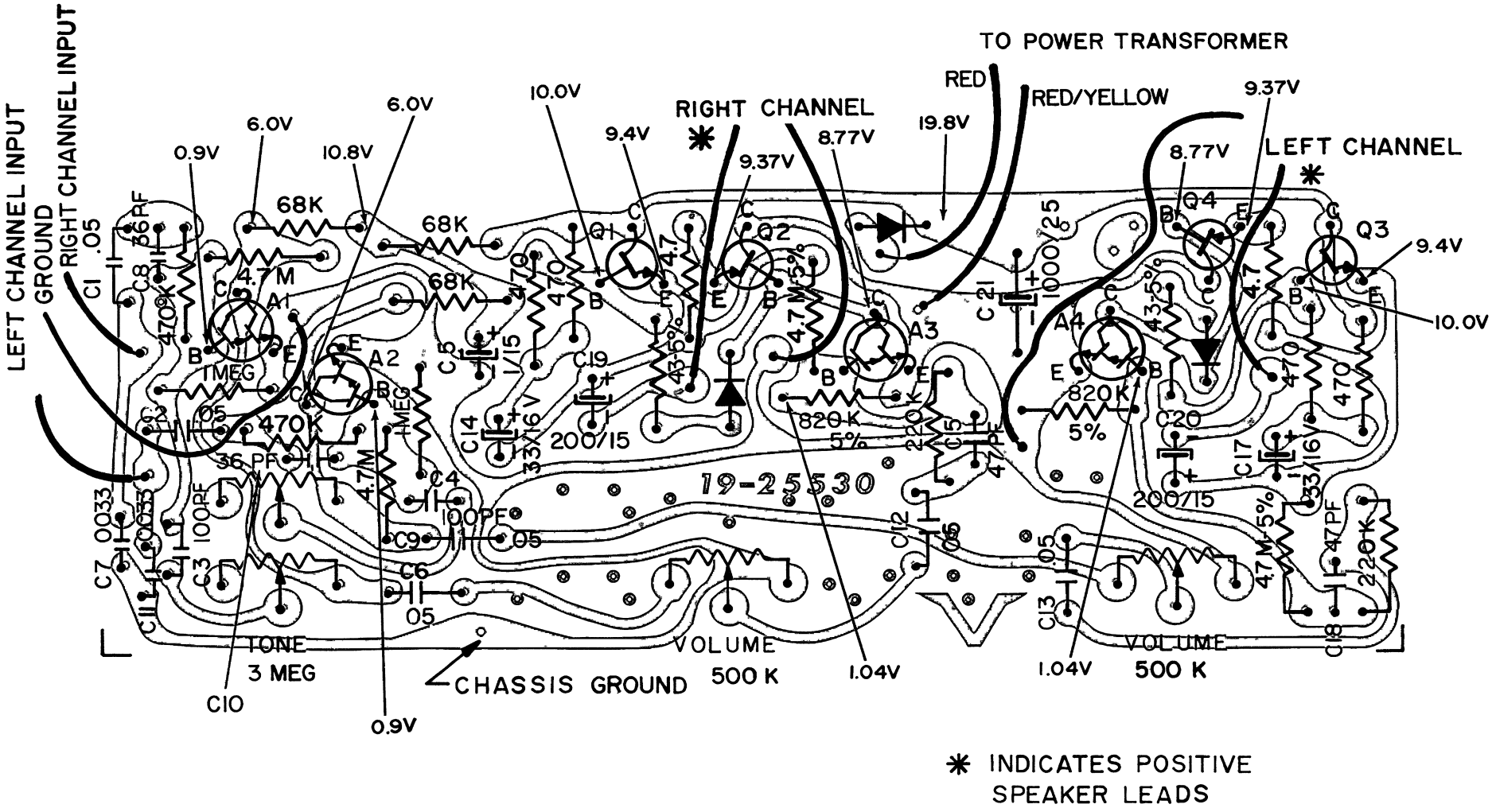


LEGEND MODEL B545W

ITEM NO.	PART NO.	DESCRIPTION
C1	964-19638	.05 MF 100V
C2	964-19638	.05 MF 100V
C3	964-19765	100 PF 500V
C4	964-19755	100 PF 500V
C5	964-19758	1 MF ELECTROLYTIC 16V
C6	964-19638	.05 MF 100V
C7	964-19613	.0033 MF 500V
C8	964-25581	36 PF 500V
C9	964-19638	.05 MF 100V
C10	964-25591	36 PF 500V
C11	964-19613	.0033 MF 500V
C12	964-19638	.05 MF 100V
C13	964-19638	.05 MF 100V
C14	964-25922	33 MF ELECTROLYTIC 16V
C15	964-25138	47 PF 500V
C16		
C17	964-25922	33 MF ELECTROLYTIC 16V
C18	964-25138	47 PF 500V
C19	964-19610	200 MF ELECTROLYTIC 15V
C20	964-19610	200 MF ELECTROLYTIC 15V
C21	964-23096	1000 MF ELECTROLYTIC 25V
R1	964-24412	TONE CONTROL 3 MEGOHM
R2	63-3992	68K OHM 1/2W 10%
R3	63-3992	68K OHM 1/2W 10%
R4	964-22096	4.7 MEGOHM 1/2W 10%
R5	63-1897	470K OHM 1/2W 10%
R6	964-8976	1 MEGOHM 1/2W 10%
R7	964-22096	4.7 MEGOHM 1/2W 10%
R8	63-1897	470K OHM 1/2W 10%
R9	964-8976	1 MEGOHM 1/2W 10%
R10	964-25592	VOLUME CONTROL 500K
R11	964-25592	VOLUME CONTROL 500K
R12	964-27675	820K OHM 1/2W 5%
R13	964-27675	820K OHM 1/2W 5%
R14	63-3992	68K OHM 1/2W 10%
R15	63-1771	470 OHM 1/2W 10%
R16	63-1771	470 OHM 1/2W 10%
R17	964-18014	4.7 OHM 1/2W 10%
R18	964-27674	4.7 MEGOHM 1/2W 5%
R19	63-1883	220K OHM 1/2W 10%
R20	63-1771	470 OHM 1/2W 10%
R21	964-18014	4.7 OHM 1/2W 10%
R22	964-27674	4.7 MEGOHM 1/2W 5%
R23	63-1883	220K OHM 1/2W 10%
R24	63-1771	470 OHM 1/2W 10%
R25	964-25868	43 OHM 1/2W 5%
R26	964-25868	43 OHM 1/2W 5%
CR1	964-25046	DIODE – BIAS
CR2	964-25046	DIODE – BIAS
CR3	964-21866	DIODE – RECTIFIER
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 – OUTPUT
Q2		MATCHED PAIR PNP-NPN
Q3	800-294	TRANSISTOR – OUTPUT
Q4		MATCHED PAIR PNP-NPN
SP1	964-24020	SPEAKER – 5-1/4 INCH
SP2	964-24020	SPEAKER – 5-1/4 INCH
T1	964-25771	TRANSFORMER – POWER

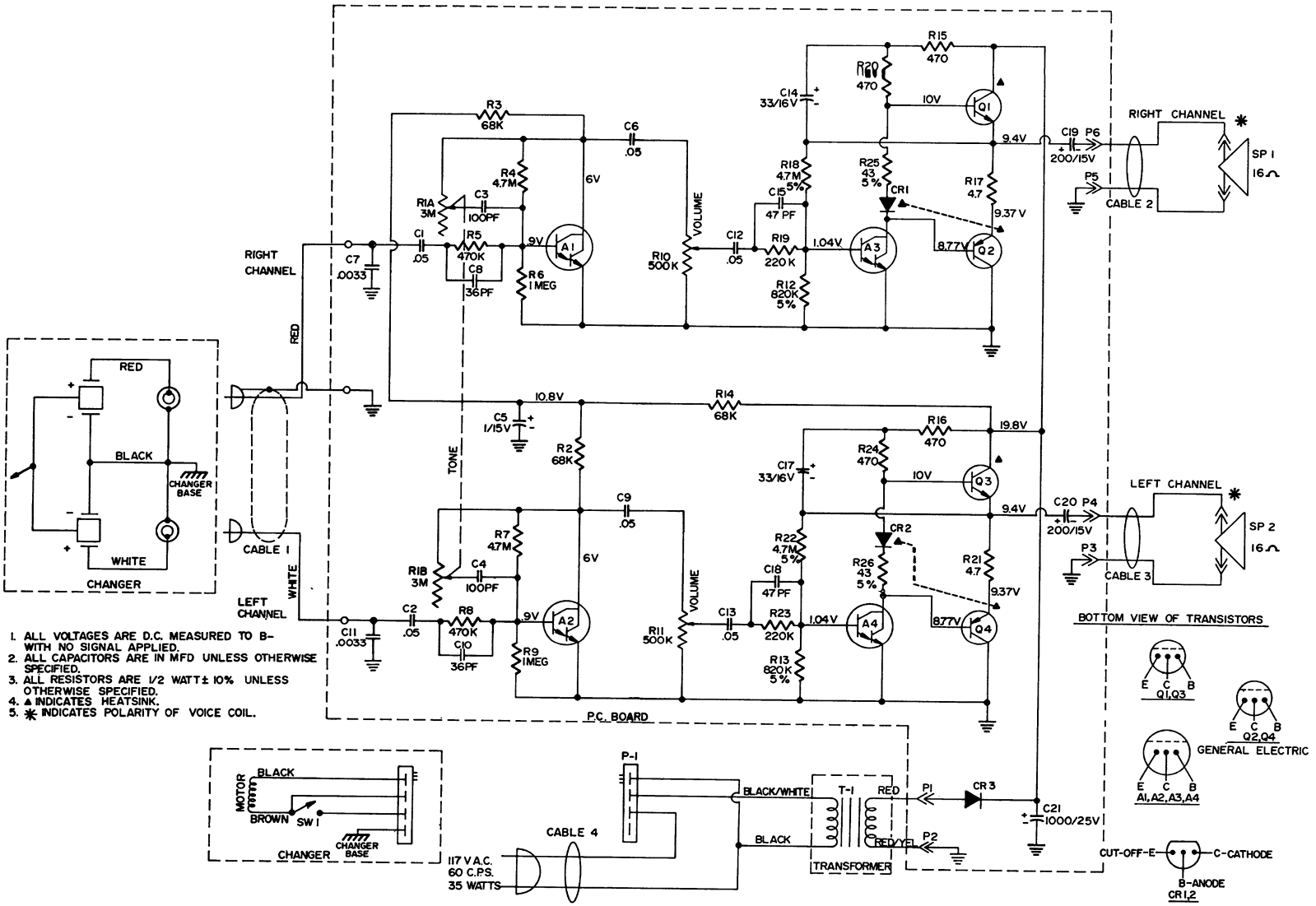
Z101971

B545 – CHASSIS LAYOUT – EARLY PRODUCTION



✱ INDICATES POSITIVE SPEAKER LEADS

B545 - CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE - EARLY PRODUCTION.



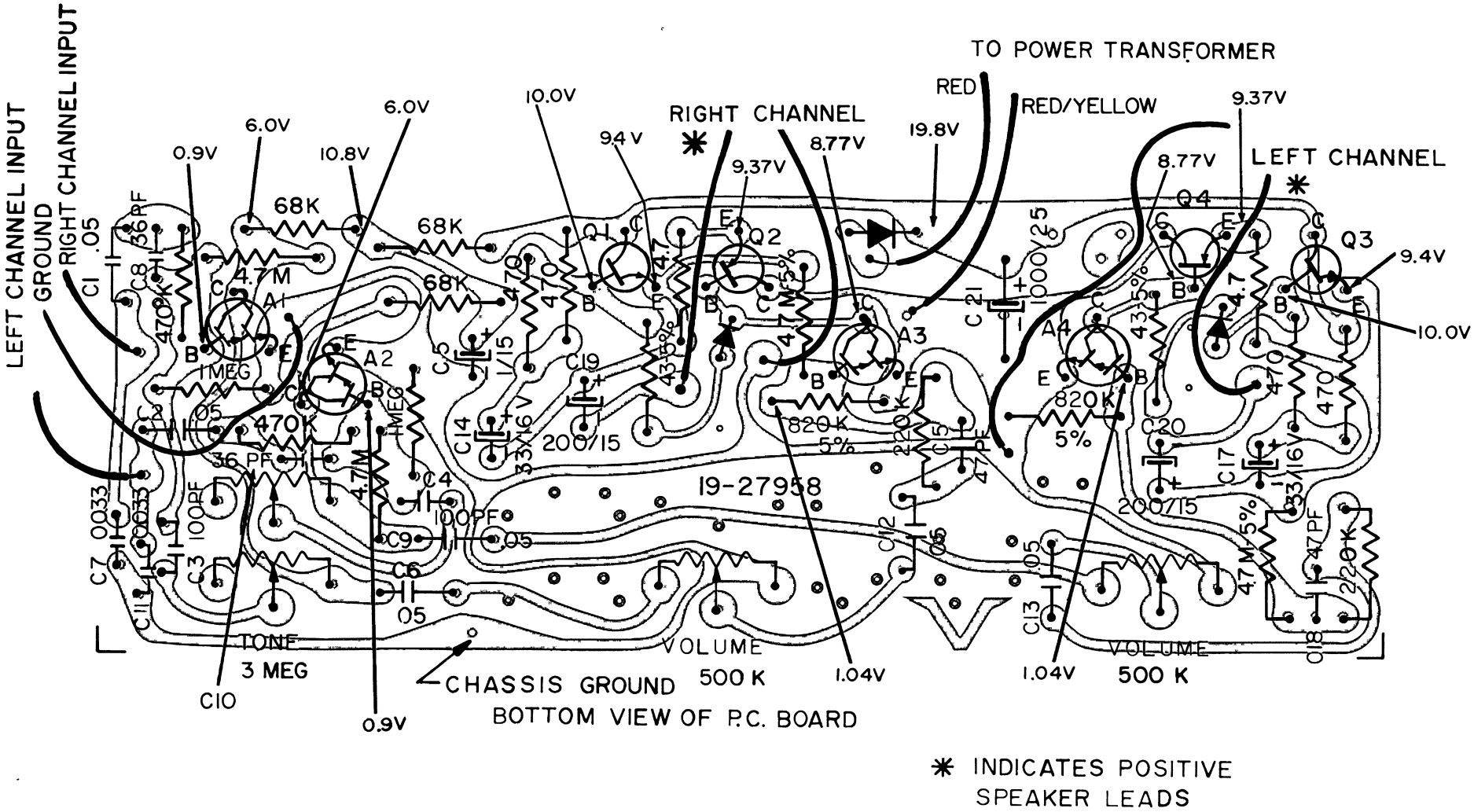
1. ALL VOLTAGES ARE D.C. MEASURED TO B- WITH NO SIGNAL APPLIED.
2. ALL CAPACITORS ARE IN MFD UNLESS OTHERWISE SPECIFIED.
3. ALL RESISTORS ARE 1/2 WATT ± 10% UNLESS OTHERWISE SPECIFIED.
4. ▲ INDICATES HEATSINK.
5. ✱ INDICATES POLARITY OF VOICE COIL.

LEGEND MODEL B545W

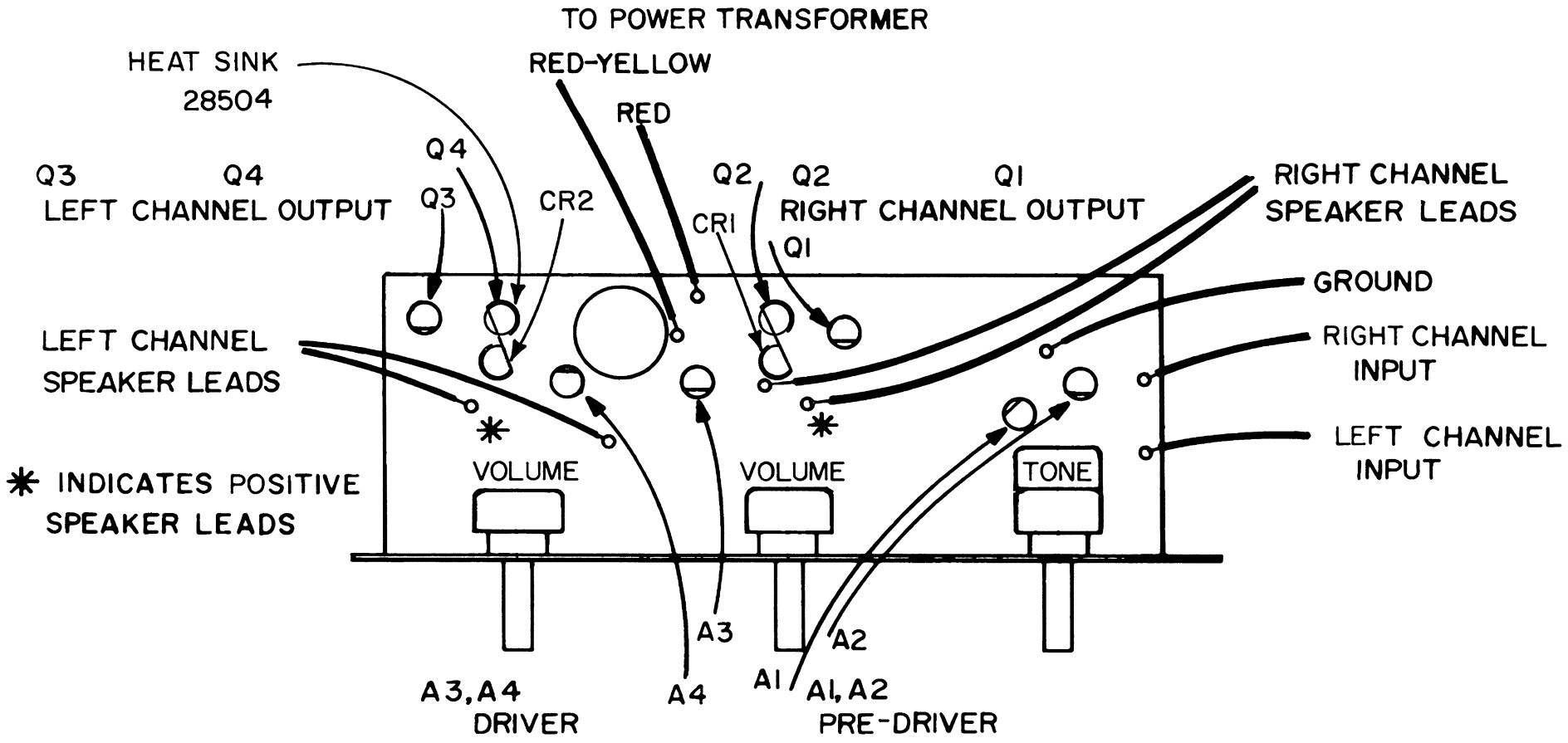
ITEM NO.	PART NO.	DESCRIPTION
C1	964-19638	.05 MF 100V
C2	964-19638	.05 MF 100V
C3	964-19755	100 PF 500V
C4	964-19755	100 PF 500V
C5	964-19758	1 MF ELECTROLYTIC 15V
C6	964-19638	.05 MF 100V
C7	964-19613	.0033 MF 500V
C8	964-25591	36 PF 500V
C9	964-19638	.05 MF 100V
C10	964-25591	36 PF 500V
C11	964-19613	.0033 MF 500V
C12	964-19638	.05 MF 100V
C13	964-19638	.05 MF 100V
C14	964-25922	33 MF ELECTROLYTIC 16V
C15	964-25138	47 PF 500V
C16		
C17	964-25922	33 MF ELECTROLYTIC 16V
C18	964-25138	47 PF 500V
C19	964-19610	200 MF ELECTROLYTIC 15V
C20	964-19610	200 MF ELECTROLYTIC 15V
C21	964-23096	1000 MF ELECTROLYTIC 25V
R1	964-24412	TONE CONTROL 3 MEGOHM
R2	63-3982	68K OHM 1/2W 10%
R3	63-3982	68K OHM 1/2W 10%
R4	964-22099	4.7 MEGOHM 1/2W 10%
R5	63-1897	470K OHM 1/2W 10%
R6	964-8976	1 MEGOHM 1/2W 10%
R7	964-22099	4.7 MEGOHM 1/2W 10%
R8	63-1897	470K OHM 1/2W 10%
R9	964-8976	1 MEGOHM 1/2W 10%
R10	964-25592	VOLUME CONTROL 500K
R11	964-25592	VOLUME CONTROL 500K
R12	964-27675	820K OHM 1/2W 5%
R13	964-27675	820K OHM 1/2W 5%
R14	63-3982	68K OHM 1/2W 10%
R15	63-1771	470 OHM 1/2W 10%
R16	63-1771	470 OHM 1/2W 10%
R17	964-18014	4.7 OHM 1/2W 10%
R18	964-27674	4.7 MEGOHM 1/2W 5%
R19	63-1883	220K OHM 1/2W 10%
R20	63-1771	470 OHM 1/2W 10%
R21	964-18014	4.7 OHM 1/2W 10%
R22	964-27674	4.7 MEGOHM 1/2W 5%
R23	63-1883	220K OHM 1/2W 10%
R24	63-1771	470 OHM 1/2W 10%
R25	964-25868	43 OHM 1/2W 5%
R26	964-25868	43 OHM 1/2W 5%
CR1	964-25048	DIODE – BIAS
CR2	964-25048	DIODE – BIAS
CR3	964-21866	DIODE – RECTIFIER
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 – OUTPUT MATCHED PAIR PNP-NPN
Q2		
Q3	800-294	TRANSISTOR – OUTPUT MATCHED PAIR PNP-NPN
Q4		
SP1	964-24020	SPEAKER – 5-1/4 INCH
SP2	964-24020	SPEAKER – 5-1/4 INCH
T1	964-25771	TRANSFORMER – POWER

Z101971

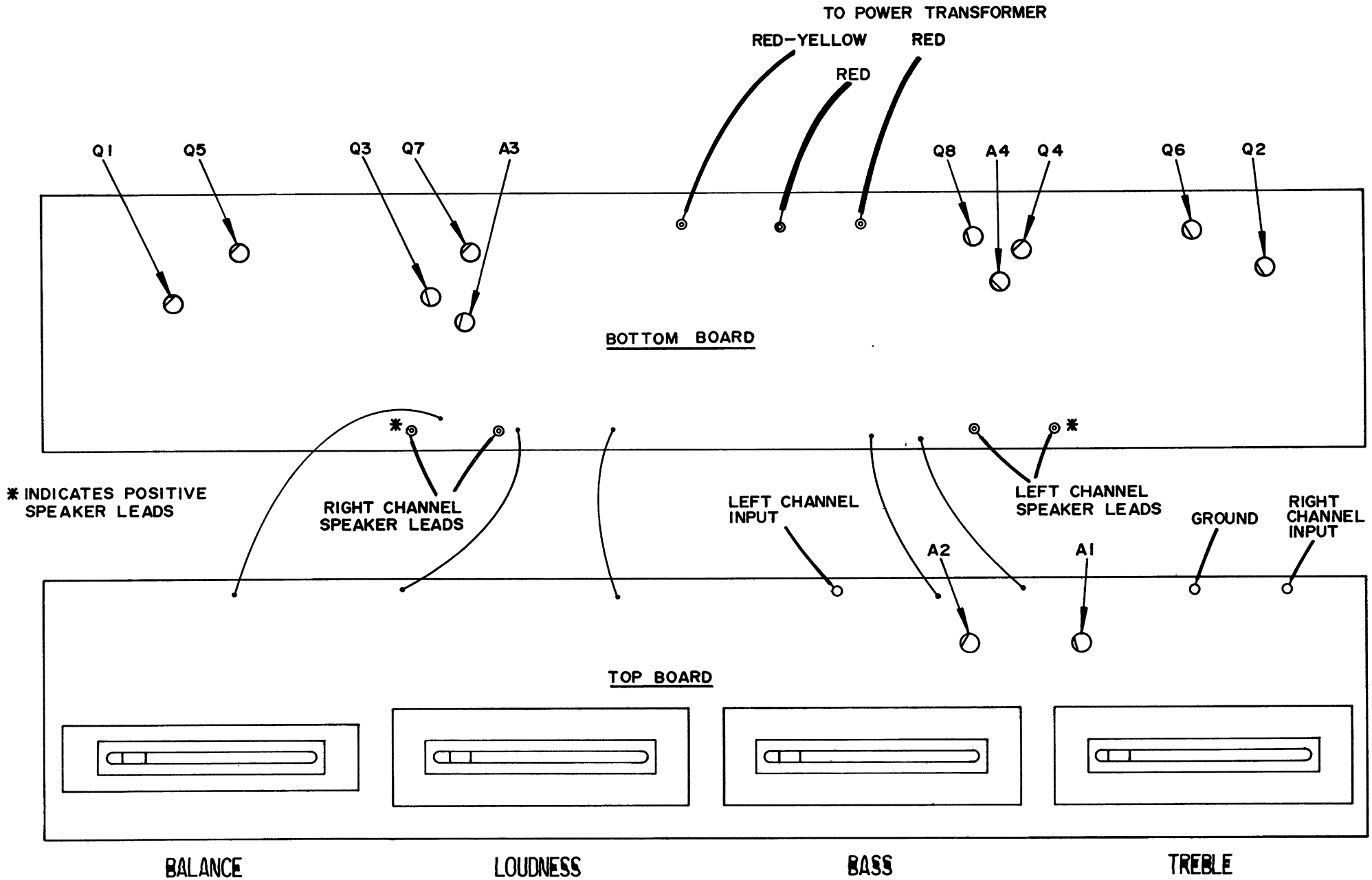
B545 - SCHEMATIC - LATER PRODUCTION



B545 - CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE — LATER PRODUCTION



B545 - CHASSIS LAYOUT - LATER PRODUCTION

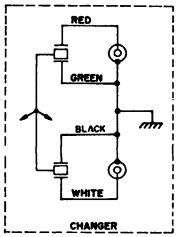


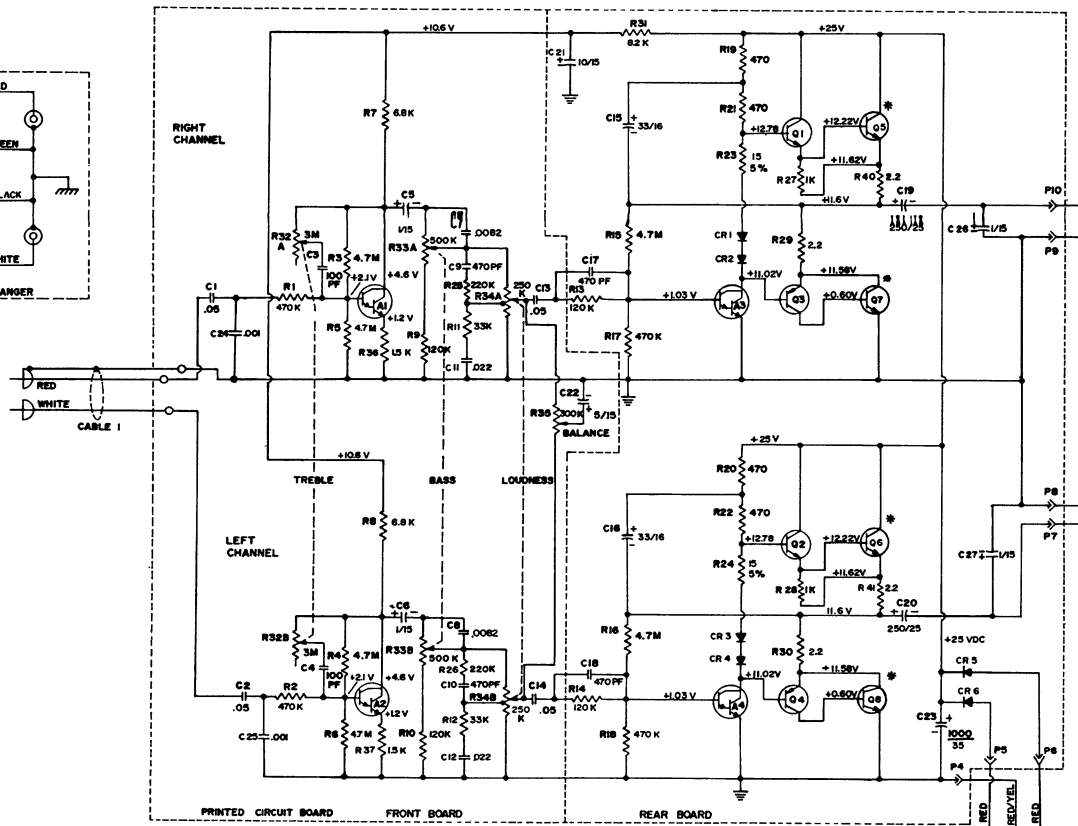
B553 - CHASSIS LAYOUT

LEGEND MODEL B553W

ITEM NO.	PART NO.	DESCRIPTION
C1	964-19638	.05 MF 100V
C2	964-19638	.05 MF 100V
C3	964-19768	100 PF 500V
C4	964-19768	100 PF 500V
C5	964-19768	1 MF ELECTROLYTIC 15V
C6	964-19768	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	964-25805	.022 MF 500V
C12	964-25805	.022 MF 500V
C13	964-19638	.05 MF 100V
C14	964-19638	.05 MF 100V
C15	964-25822	33 MF ELECTROLYTIC 16V
C16	964-25822	33 MF ELECTROLYTIC 16V
C17	964-19839	470 PF 500V
C18	964-19839	470 PF 500V
C19	964-25803	250 MF ELECTROLYTIC 25V
C20	964-25803	250 MF ELECTROLYTIC 25V
C21	964-20061	10 MF ELECTROLYTIC 15V
C22	964-19815	5 MF ELECTROLYTIC 15V
C23	964-25784	1000 MF ELECTROLYTIC 35V
C24	964-19814	.001 MF 500V
C25	964-19814	.001 MF 500V
C26	964-19758	1 MF ELECTROLYTIC 15V
C27	964-19758	1 MF ELECTROLYTIC 15V
A1	63-1867	470K OHM 1/2W 10%
R2	63-1867	470K OHM 1/2W 10%
R3	964-22088	4.7 MEGOHM 1/2W 10%
R4	964-22088	4.7 MEGOHM 1/2W 10%
R5	964-22088	4.7 MEGOHM 1/2W 10%
R6	964-22088	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	964-9618	33K OHM 1/2W 10%
R12	964-9618	33K OHM 1/2W 10%
R13	63-2877	120K OHM 1/2W 10%
R14	63-2877	120K OHM 1/2W 10%
R15	964-22088	4.7 MEGOHM 1/2W 10%
R16	964-22088	4.7 MEGOHM 1/2W 10%
R17	63-1867	470K OHM 1/2W 10%
R18	63-1867	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	964-9613	220K OHM 1/2W 10%
R26	964-9613	220K OHM 1/2W 10%
R27	63-7011	1000 OHM 1/2W 10%
R28	63-7011	1000 OHM 1/2W 10%
R29	964-25802	2.2 OHM 1/2W 10%
R30	964-25802	2.2 OHM 1/2W 10%
R31	964-13091	8200 OHM 1/2W 10%
R32	964-24011	TREBLE 3 MEGOHM
R33	964-24738	BASS 500K OHM
R34	964-24739	LOUDNESS 250K OHM
R35	964-25018	BALANCE 300K OHM
R36	964-11143	1800 OHM 1/2W 10%
R37	964-11143	1500 OHM 1/2W 10%
R38		
R39		
R40	964-25802	2.2 OHM 1/2W 10%
R41	964-25802	2.2 OHM 1/2W 10%
T1	964-27372	TRANSFORMER – POWER
A1	964-22089	TRANSISTOR – PRE-AMP (NPN)
A2	964-22089	TRANSISTOR – PRE-AMP (NPN)
A3	964-22089	TRANSISTOR – PRE-AMP (NPN)
A4	964-22089	TRANSISTOR – PRE-AMP (NPN)
Q1	800-294	TRANSISTOR – DRIVER – MATCHED PAIR (NPN-NPN)
Q2		
Q3	800-294	TRANSISTOR – DRIVER – MATCHED PAIR (PNP-NPN)
Q4		
Q5	964-24584 OR	TRANSISTOR – OUTPUT – MATCHED PAIR (NPN-NPN)
Q7	964-27986	
Q6	964-24584 OR 964-27987	TRANSISTOR – OUTPUT – MATCHED PAIR (NPN-NPN)
Q8		
CR1	964-25048	DIODE – BIAS
CR2	964-25048	DIODE – BIAS
CR3	964-25048	DIODE – BIAS
CR4	964-25048	DIODE – BIAS
CR5	964-21866	DIODE – RECTIFIER
CR6	964-21866	DIODE – RECTIFIER

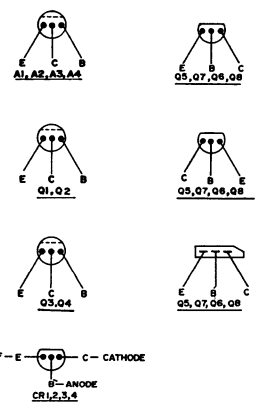
Z1616/1

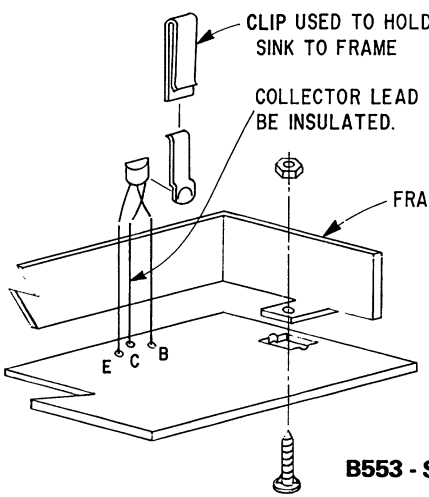




1. ALL CAPACITORS ARE IN MFD UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS ARE IN OHMS, 1/2 WATT, 10% UNLESS OTHERWISE SPECIFIED.
3. ● INDICATES SPEAKER POLARITY.
4. ✻ INDICATES HEAT SINK
5. ALL VOLTAGES ARE DC MEASURED WITH A VTVM AND TO GROUND WITH NO SIGNAL APPLIED.

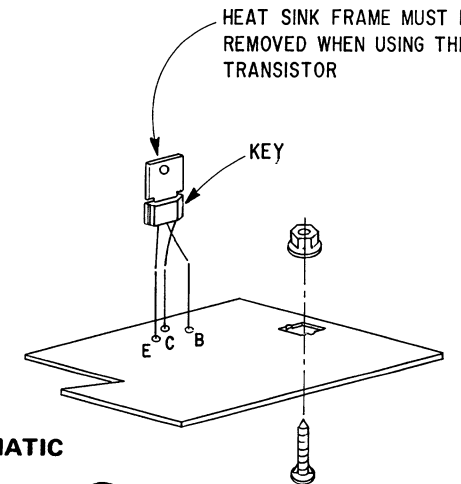
BOTTOM VIEW OF TRANSTORS





EARLY PRODUCTION

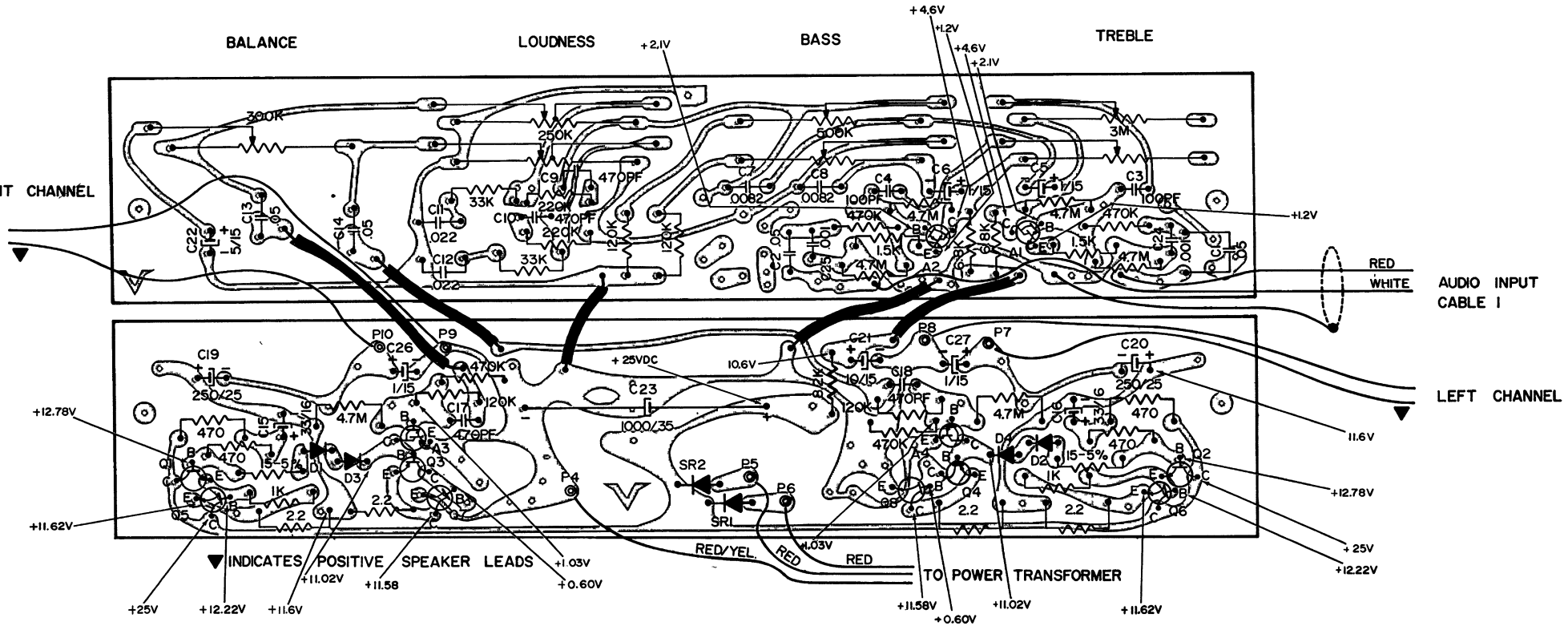
USING T-I POWER TRANSISTORS
ZENITH PART No. 964-24584



LATER PRODUCTION

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

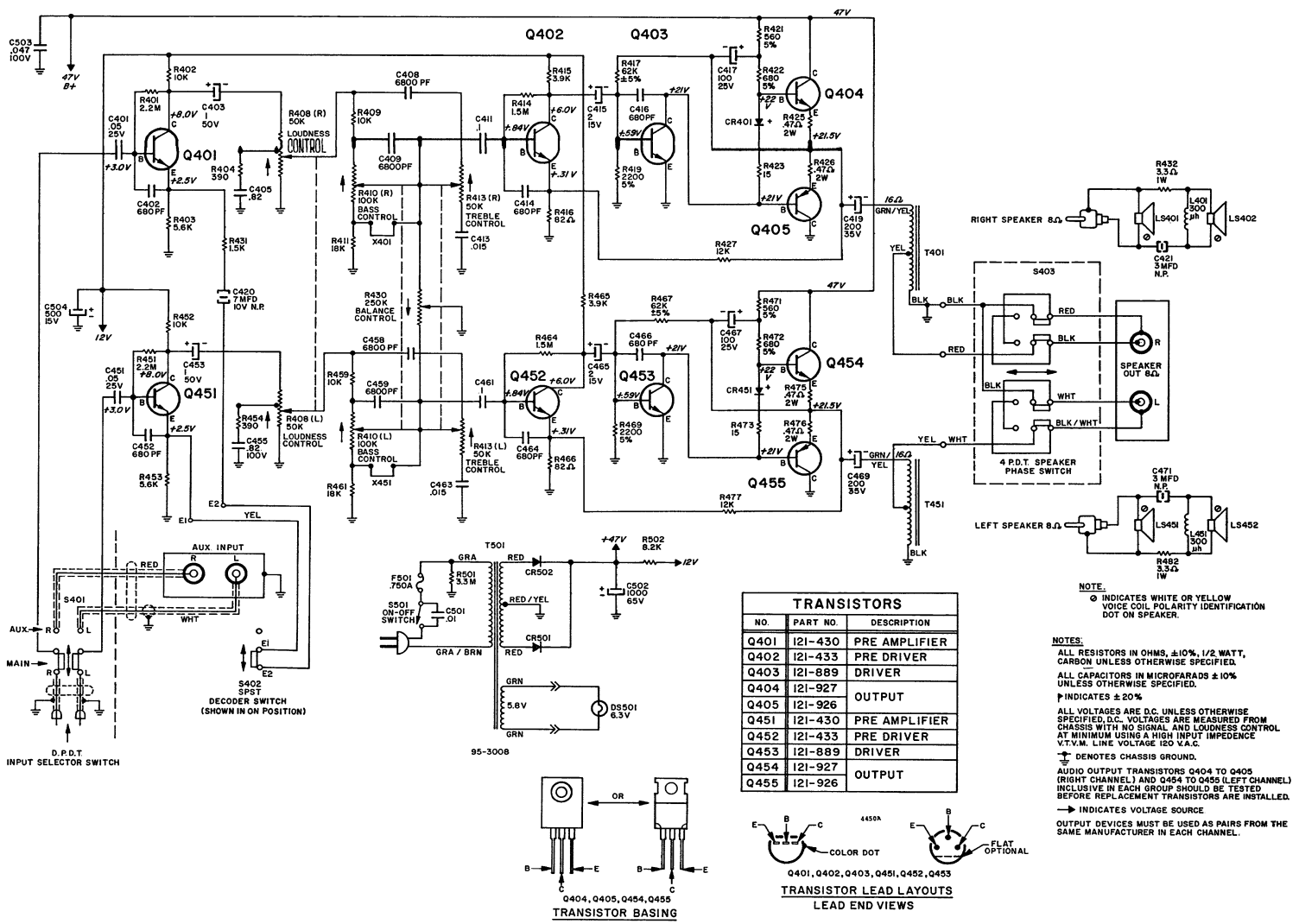
B553 - SCHEMATIC



B553 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

LEGEND CHASSIS 15WCA10

Item No.	Part No.	Description
C401	22-3034	.05 MFD DISC. 25V
C402	22-2939	680 PF DISC. 500V
C403	22-3687	1 MFD ELECTROLYTIC 50V
C405	22-5860	.82 MFD CAPACITOR 100V
C408	22-3891	6800 PF DISC. 100V
C409	22-3891	6800 PF DISC. 100V
C411	22-5862	1 MFD 100V
C413	22-3599	.015 MFD 50V
C414	22-2939	680 PF DISC. 500V
C415	22-5091	2 MFD ELECTROLYTIC 15V
C416	22-2939	680 PF DISC. 500V
C417	22-3973	100 MFD ELECTROLYTIC 25V
C419	22-3721	200 MFD ELECTROLYTIC 35V
C420	22-6707	7 MFD N.P. 10V
C421	22-2945	3 MFD ELECTROLYTIC N.P. 30V
C451	22-3034	.05 MFD DISC. 25V
C452	22-2939	680 PF DISC. 500V
C453	22-3687	1 MFD ELECTROLYTIC 50V
C455	22-5860	.82 MFD CAPACITOR 100V
C458	22-3891	6800 PF DISC. 100V
C459	22-3891	6800 PF DISC. 100V
C461	22-5862	1 MFD 100V
C463	22-3599	.015 MFD 50V
C464	22-2939	680 PF DISC. 500V
C465	22-5091	2 MFD ELECTROLYTIC 15V
C466	22-2939	680 PF DISC. 500V
C467	22-3973	100 MFD ELECTROLYTIC 25V
C469	22-3721	200 MFD ELECTROLYTIC 35V
C471	22-2945	3 MFD ELECTROLYTIC N.P. 30V
C501	22-6005	.01 MFD DISC. 150VAC
C502	22-6112	1000 MFD 65V
C503	22-3661	.05 MFD DISC. 100V
C504	22-4572	500 MFD ELECTROLTIC 15V
R401	63-1925	2.2 MEGOHM
R402	63-1827	10K OHM
R403	63-1817	5.6K OHM
R404	63-1768	390 OHM
R408	63-7683	50K OHM DUAL LOUDNESS CONTROL
R409	63-1827	10K OHM
R410	63-7682	100K OHM DUAL BASS CONTROL
R411	63-1838	18K OHM
R413	63-7681	50K OHM DUAL TREBLE CONTROL
R414	63-1918	1.5 MEGOHM
R415	63-1810	3.9K OHM
R416	63-1740	82 OHM
R417	63-1860	62K OHM 5%
R419	63-1798	2.2K OHM 5%
R421	63-1774	560 OHM 5%
R422	63-1777	680 OHM 5%
R423	63-1708	15 OHM
R425	63-9784	.47 OHM 2W
R426	63-9784	.47 OHM 2W
R427	63-1831	12K OHM
R430	63-9000	250K OHM BALANCE CONTROL
R431	63-1792	1.5K OHM
R432	63-5965	3.3 OHM 1W
R451	63-1925	2.2 MEGOHM
R452	63-1827	10K OHM
R453	63-1817	5.6K OHM
R454	63-1768	390 OHM
R459	63-1827	10K OHM
R461	63-1838	18K OHM
R464	63-1918	1.5 MEGOHM
R465	63-1810	3.9K OHM
R466	63-1740	82 OHM
R467	63-1860	62K OHM 5%
R469	63-1798	2.2K OHM 5%
R471	63-1774	560 OHM 5%
R472	63-1708	15 OHM
R473	63-1708	15 OHM
R475	63-9784	.47 OHM 2W
R476	63-9784	.47 OHM 2W
R477	63-1831	12K OHM
R482	63-5965	3.3 OHM 1W
R501	63-1933	3.3 MEGOHM 20%
R502	63-1824	8.2K OHM 1W
CR401	103-222	DIODE
CR451	103-222	DIODE
CR501	212-71	RECTIFIER
CR502	212-71	RECTIFIER
T401	95-2981	AUTO FORMER
T451	95-2981	AUTO FORMER
T501	95-3008	POWER TRANSFORMER
DS501	100-249	PILOT LIGHT 1847
S401	85-1212	INPUT FUNCTION SWITCH
S402	85-1274	DECODER (S.P.S.T. ROCKER SWITCH)
S403	85-1296	4 P.D.T. SLIDE SWITCH
S501	85-1337	ON-OFF SWITCH
F501	136-25	.750 AMP FUSE
X401		JUMPER WIRE
X451		JUMPER WIRE
L401	S-83400	FILTER COIL ASSEMBLY 300 M.H.
L451	S-83400	FILTER COIL ASSEMBLY 300 M.H.
LS401	49-1220	6" PM SPEAKER
LS451	49-1220	6" PM SPEAKER
LS402	49-1168	HORN SPEAKER
LS452	49-1168	HORN SPEAKER 4450A

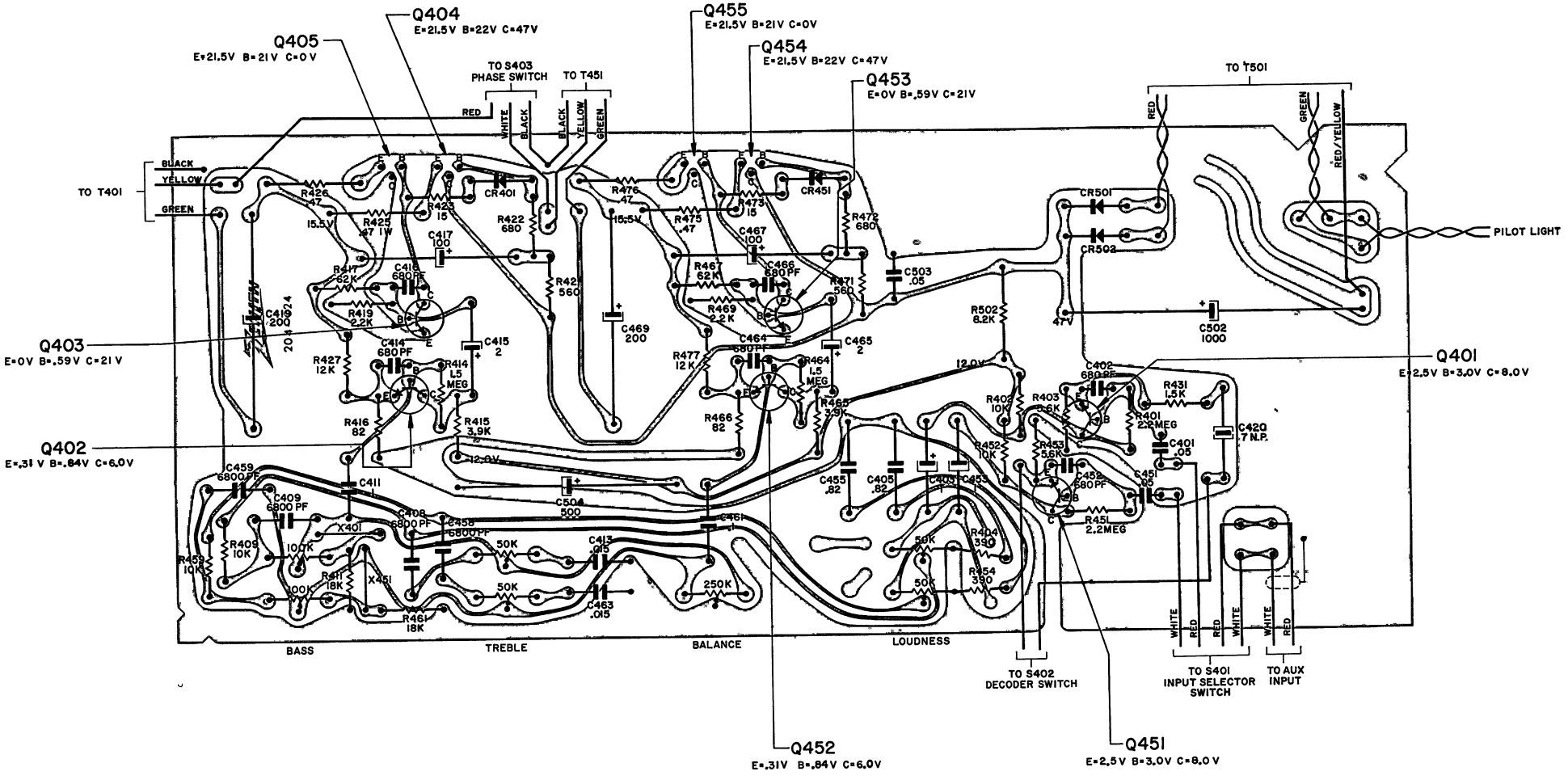


TRANSISTORS		
NO.	PART NO.	DESCRIPTION
Q401	121-430	PRE AMPLIFIER
Q402	121-433	PRE DRIVER
Q403	121-889	DRIVER
Q404	121-927	OUTPUT
Q405	121-926	
Q451	121-430	PRE AMPLIFIER
Q452	121-433	PRE DRIVER
Q453	121-889	DRIVER
Q454	121-927	OUTPUT
Q455	121-926	

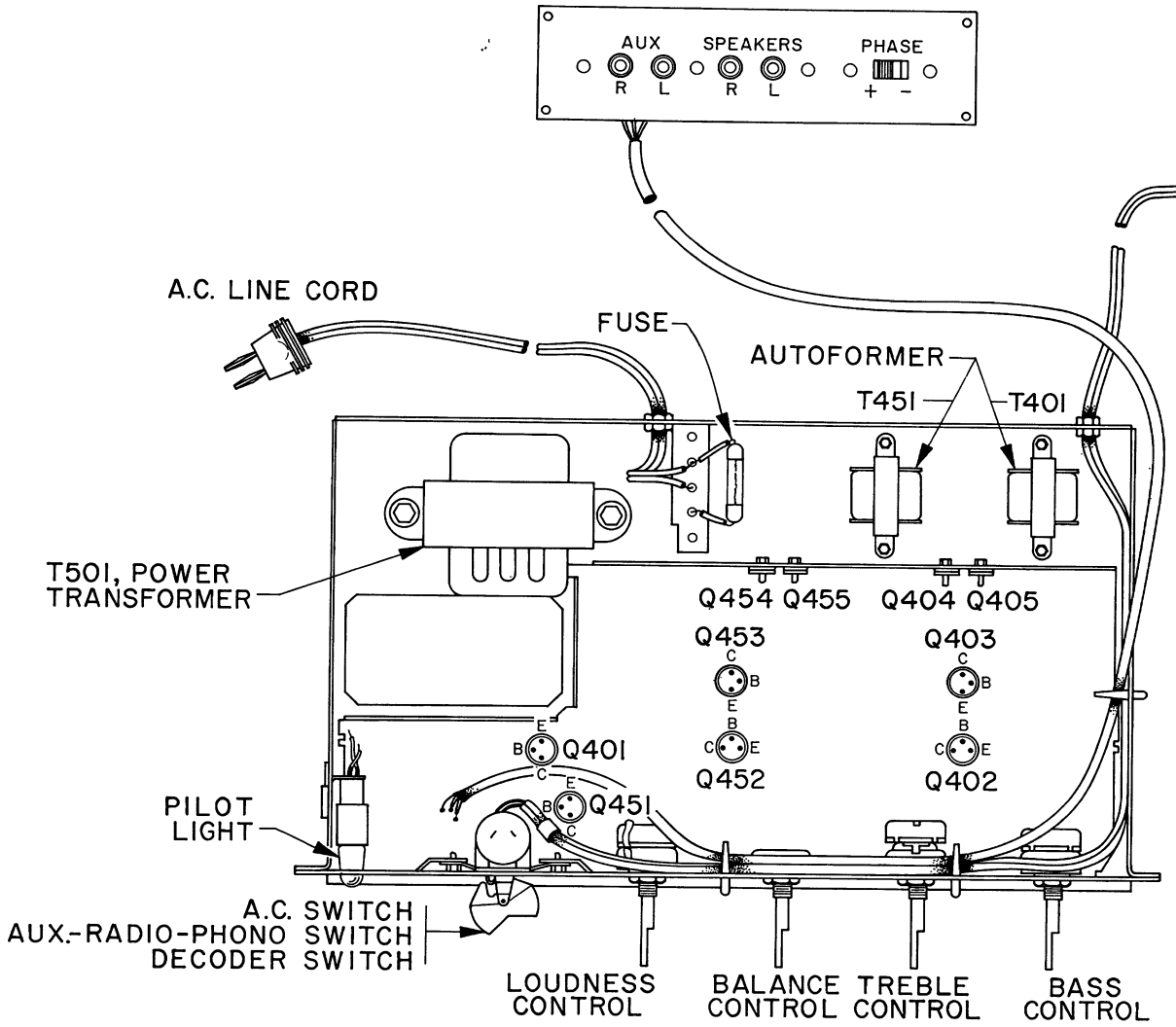
NOTE:
⊘ INDICATES WHITE OR YELLOW VOICE COIL POLARITY IDENTIFICATION DOT ON SPEAKER.

NOTES:
ALL RESISTORS IN OHMS, ±10%, 1/2 WATT, CARBON UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS IN MICROFARADS ±10% UNLESS OTHERWISE SPECIFIED.
▶ INDICATES ±20%
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED, D.C. VOLTAGES ARE MEASURED FROM CHASSIS WITH NO SIGNAL AND LOUDNESS CONTROL AT MINIMUM USING A HIGH INPUT IMPEDENCE V.T.V.M. LINE VOLTAGE 120 V.A.C.
⏚ DENOTES CHASSIS GROUND.
AUDIO OUTPUT TRANSISTORS Q404 TO Q405 (RIGHT CHANNEL) AND Q454 TO Q455 (LEFT CHANNEL) INCLUSIVE IN EACH GROUP SHOULD BE TESTED BEFORE REPLACEMENT TRANSISTORS ARE INSTALLED.
→ INDICATES VOLTAGE SOURCE
OUTPUT DEVICES MUST BE USED AS PAIRS FROM THE SAME MANUFACTURER IN EACH CHANNEL.

15WCA10 —SCHEMATIC

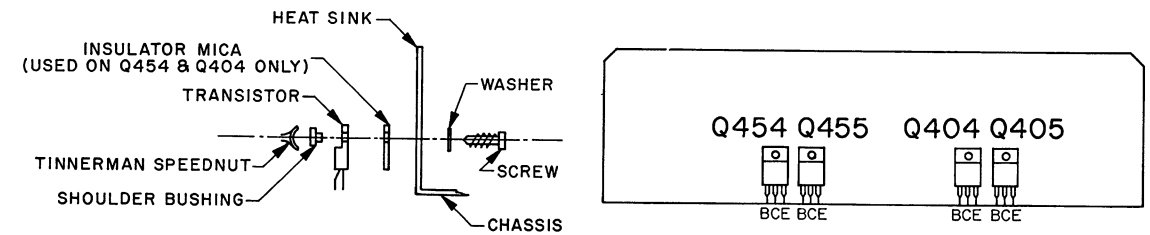


15WCA10 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE.



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

4451-

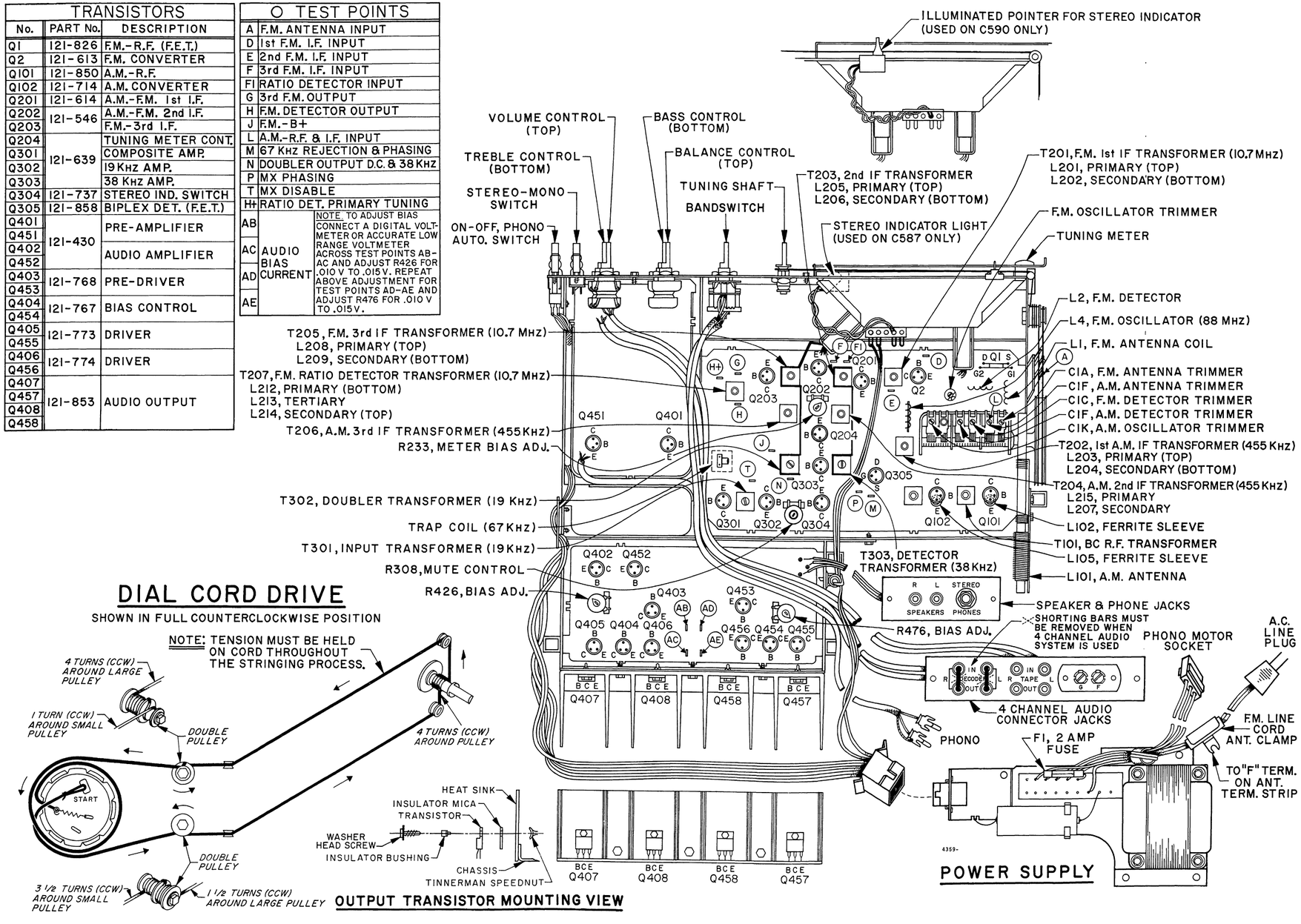


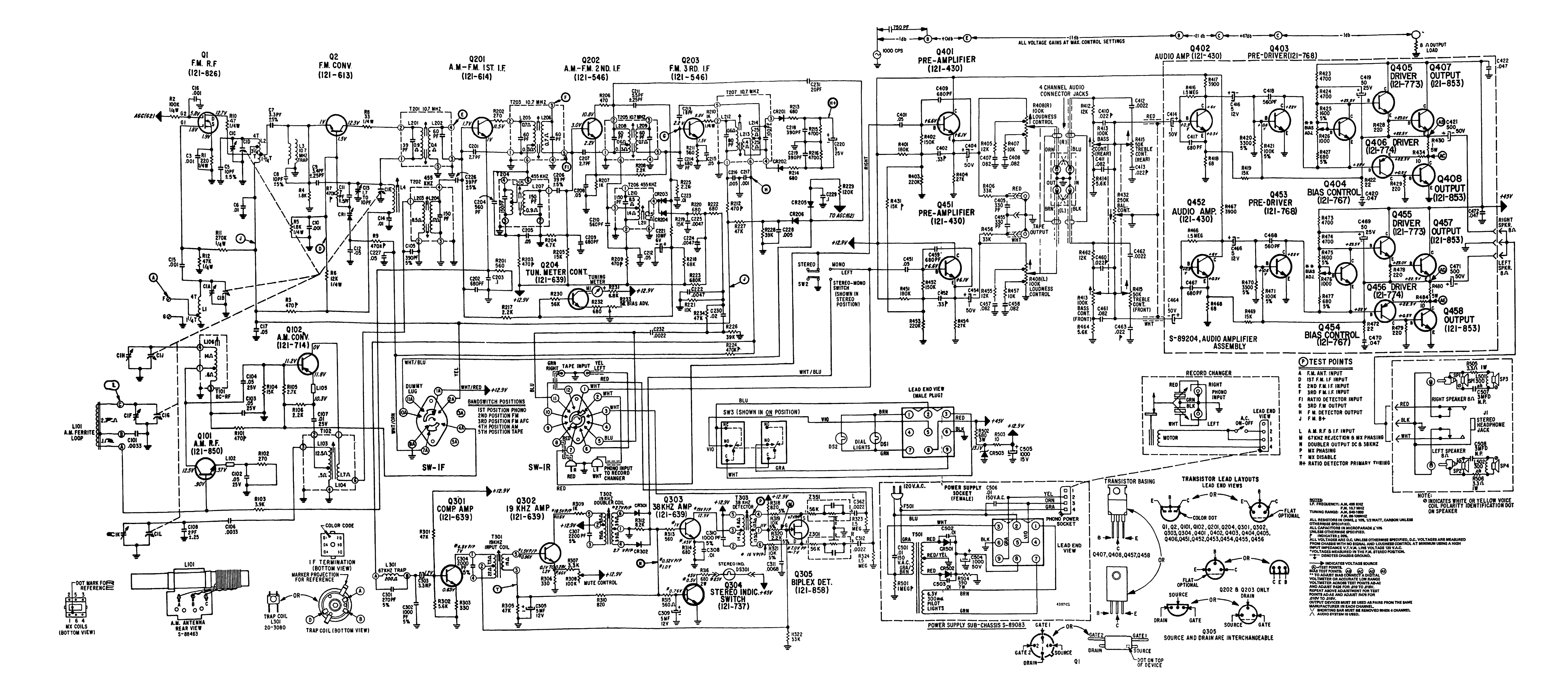
TRANSISTOR MOUNTING VIEW

15WCA10 - CHASSIS LAYOUT

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		

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		





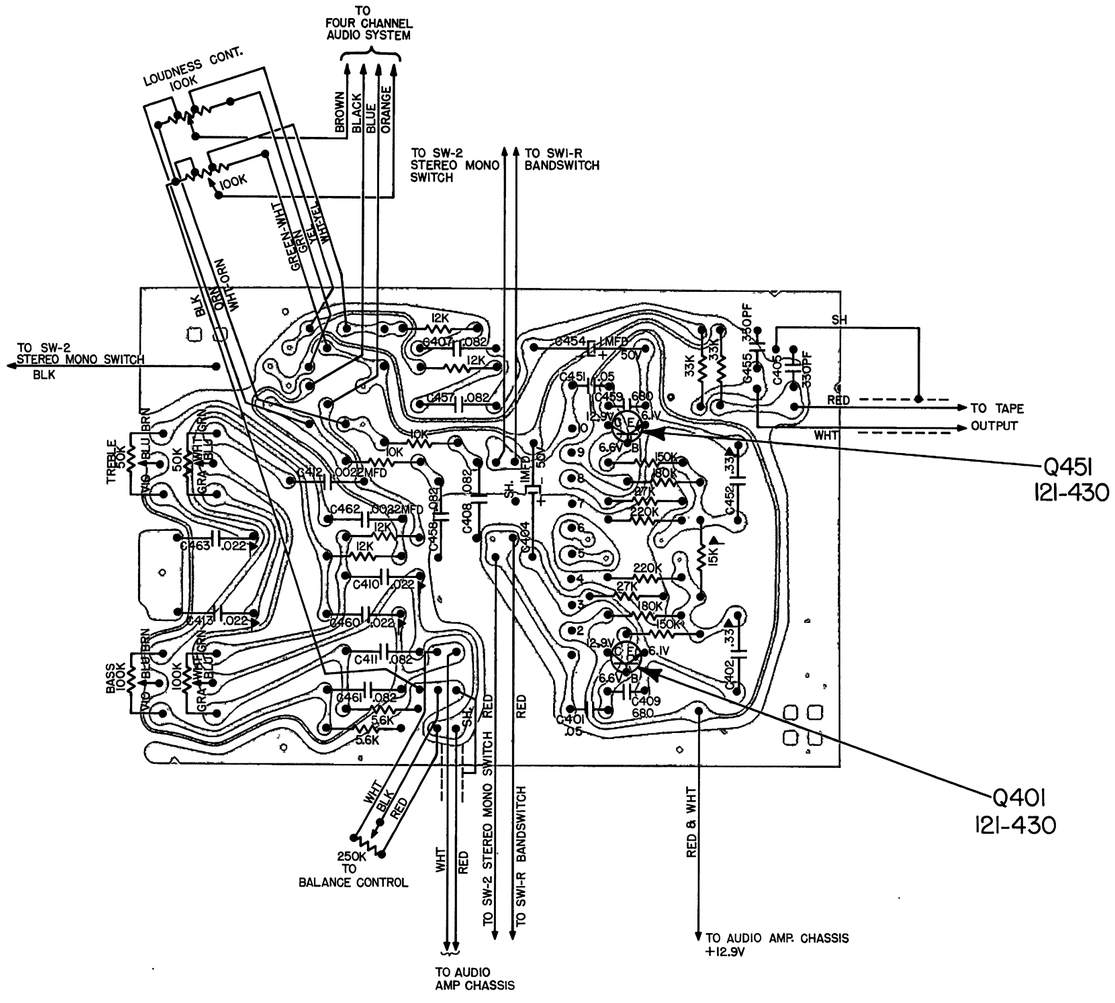
29CT20 – SCHEMATIC

LEGEND CHASSIS 29CT20

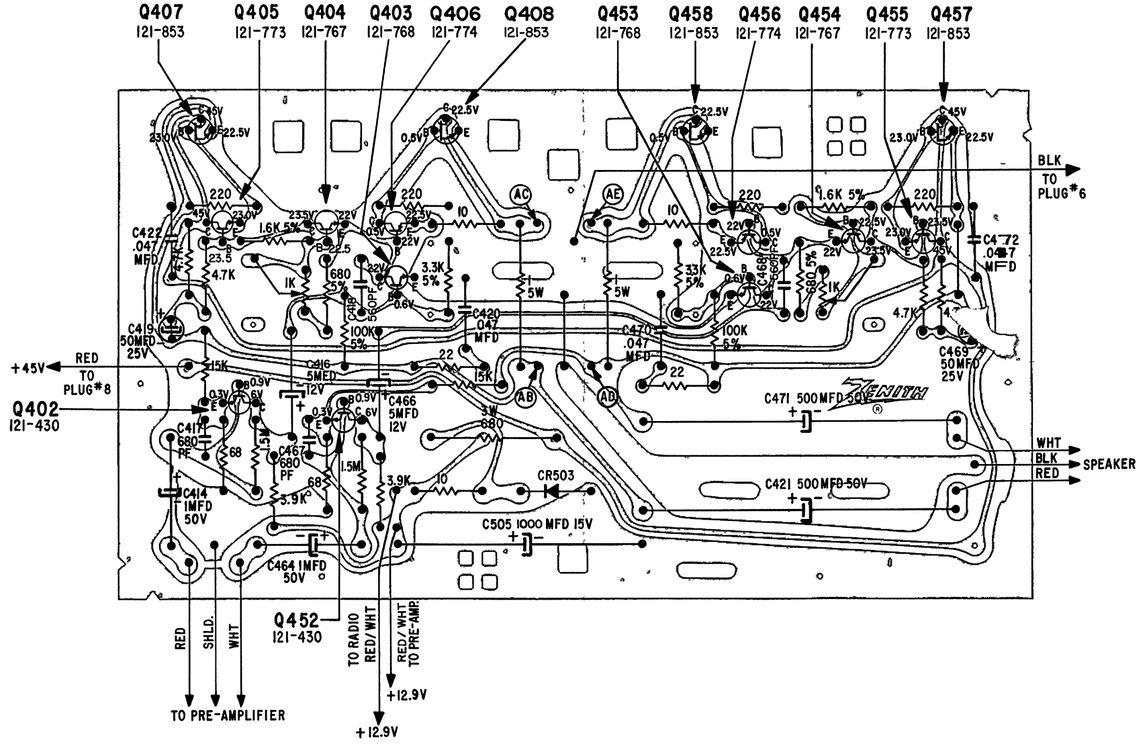
ITEM NO.	PART NUMBER	DESCRIPTION
C1A		FM ANT TRIMMER
C1B		FM ANT TUNING
C1C		FM DETECTOR TRIMMER
C1D		FM DETECTOR TUNING
C1E		FM OSC. TUNING
C1F	22-6245	AM ANT TRIMMER
C1G		AM ANT TUNING
C1H		AM DETECTOR TRIMMER
C1J		AM DETECTOR TUNING
C1K		AM OSC. TRIMMER
C1L		AM OSC. TUNING
C3	22-2729	.001 MFD DISC 25 V
C5	22-3676	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	22-4856	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
C306	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	22-5868	.047 MFD 100 V
C471	22-5316	500 MFD ELECTROLYTIC 50 V
C472	22-5868	.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	63-9312	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
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 CR203	103-90 103-23	GERMANIUM DIODES (MATCHED PAIR)
CR204	103-23	GERMANIUM DIODE
CR205	103-23	GERMANIUM DIODE
CR206	103-23	GERMANIUM DIODE
CR301 CR302	103-23 103-23	GERMANIUM DIODES
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

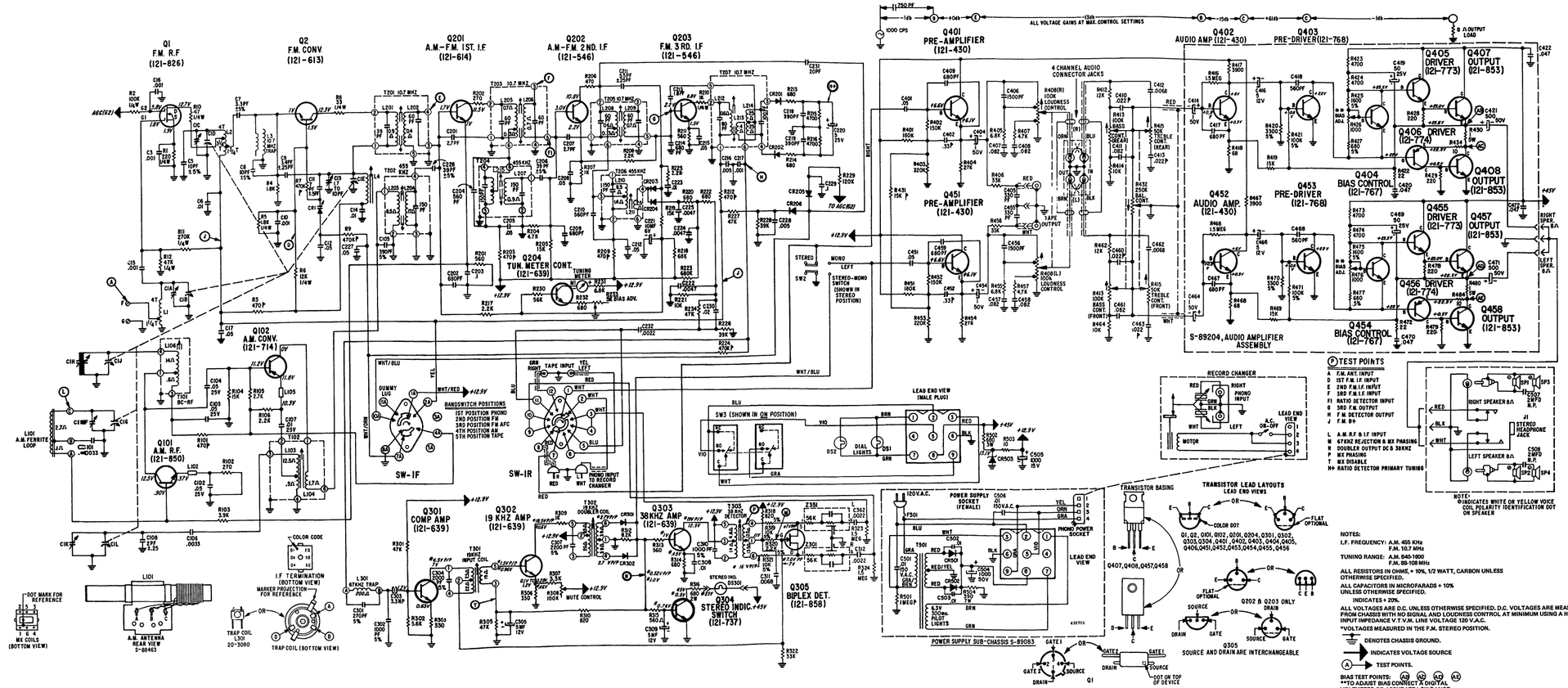
4389A2



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



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



LEGEND CHASSIS 29CT21

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 20 V
C5	22-3675	10 PF DISC ± 5% 500 V
C6	22-3303	.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	22-2992	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	22-4055	1.7 TO 19 PF CERAMIC TRIMMER
C14	22-3303	.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
C18	22-3303	.0033 MFD DISC + 10% 500 V
C102	22-3634	.05 MFD DISC 25 V
C103	22-3034	.05 MFD DISC 25 V
C104	22-3034	.05 MFD DISC 25 V
C105	22-3675	390 PF MICA ± 5% 125 V
C106	22-13	.0033 MFD DISC + 10% 500 V
C107	22-2303	.01 MFD DISC 25 V
C108	22-4819	2 PF 500 V
C201	22-2729	.001 MFD DISC 25 V
C202	22-5462	680 PF DISC 500 V
C203	22-3053	1 MFD DISC 10 V
C204	22-6461	560 PF DISC 500 V
C205	22-3303	.01 MFD DISC 25 V
C206	22-2301	39 PF DISC ± 5% 500 V
C207	22-3177	2.2 PF GIMMICK 500 V
C208	22-3034	.05 MFD DISC 25 V
C209	22-3303	.01 MFD DISC 25 V
C210	22-6461	560 PF DISC 500 V
C211	22-3034	.05 MFD DISC 25 V
C212	22-3034	.05 MFD DISC 25 V
C213	22-3034	.05 MFD DISC 25 V
C214	22-5462	680 PF DISC 500 V
C216	22-3034	.05 MFD DISC 25 V
C217	22-3034	.005 MFD DISC 25 V
C218	22-2729	.001 MFD DISC 25 V
C219	22-3177	390 PF DISC 500 V
C220	22-3177	390 PF DISC 500 V
C221	22-5486	10 MFD ELECTROLYTIC 6 V
C222	22-42	.0047 MFD 500 V
C223	22-3303	.01 MFD DISC 25 V
C224	22-14	.0022 MFD DISC 25 V
C225	22-14	.0047 MFD 500 V
C226	22-2301	39 PF DISC ± 5% 500 V
C227	22-3034	.05 MFD DISC 25 V
C228	22-3034	.005 MFD DISC 25 V
C229	22-3652	1 MFD DISC 10 V
C230	22-3034	.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	22-5761	1000 PF POLYSTYRENE ± 5% 500 V
C303	22-6248	3.3 MFD N.P. 15 V
C304	22-6136	2000 PF ± 5% 100 V
C305	22-2884	5 MFD ELECTROLYTIC 12 V
C306	22-5762	2200 PF POLYSTYRENE ± 5% 500 V
C308	22-3393	.01 MFD DISC 25 V
C309	22-2884	5 MFD ELECTROLYTIC 12 V
C310	22-5761	1000 PF POLYSTYRENE ± 5% 500 V
C311	22-3418	.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	22-6343	.33 MFD ± 20% 50 V
C404	22-3687	1 MFD ELECTROLYTIC 50 V
C405	22-3256	330 PF DISC 500 V
C406	22-5483	1500 PF 500 V
C407	22-5884	.002 MFD 100 V
C408	22-5884	.002 MFD 100 V
C409	22-5462	680 PF DISC 500 V
C410	22-6814	.022 MF 20% 50 V
C411	22-5884	.002 MFD 100V
C412	22-3418	.0068 MF 25 V
C413	22-6814	.022 MFD 20% 50 V
C414	22-3687	1 MFD ELECTROLYTIC 50 V
C415	22-2884	5 MFD ELECTROLYTIC 12 V
C416	22-6482	680 PF DISC 500 V
C417	22-6482	680 PF DISC 500 V
C418	22-6482	560 PF 500 V
C419	22-5986	50 MFD ELECTROLYTIC 25 V
C420	22-6814	.047 MFD 100 V
C421	22-5316	100 MFD ELECTROLYTIC 50 V
C451	22-5884	.002 MFD 100 V
C452	22-3034	.05 MFD DISC 25 V
C453	22-3687	1 MFD ELECTROLYTIC 50 V
C454	22-2884	5 MFD ELECTROLYTIC 12 V
C455	22-3687	1 MFD ELECTROLYTIC 50 V
C456	22-5483	1500 PF 500 V
C457	22-5884	.002 MFD 100 V
C458	22-5884	.002 MFD 100 V
C459	22-5462	680 PF DISC 500 V
C460	22-6814	.022 MF 20% 50 V
C461	22-3034	.05 MFD DISC 25 V
C462	22-3687	1 MFD ELECTROLYTIC 50 V
C463	22-5884	.002 MFD 100 V
C464	22-5316	100 MFD ELECTROLYTIC 50 V
C465	22-6814	.022 MFD 20% 50 V
C466	22-3034	.05 MFD DISC 25 V
C467	22-3687	1 MFD ELECTROLYTIC 50 V
C468	22-2884	5 MFD ELECTROLYTIC 12 V
C469	22-3307	560 PF 500 V
C470	22-6814	.047 MFD 100 V
C471	22-6814	.047 MFD 100 V
C472	22-6461	560 PF DISC 500 V
C473	22-6461	560 PF DISC 500 V
C474	22-6461	560 PF DISC 500 V
C475	22-6461	560 PF DISC 500 V
C476	22-6461	560 PF DISC 500 V
C477	22-6461	560 PF DISC 500 V
C478	22-6461	560 PF DISC 500 V
C479	22-6461	560 PF DISC 500 V
C480	22-6461	560 PF DISC 500 V
C481	22-6461	560 PF DISC 500 V
C482	22-6461	560 PF DISC 500 V
C483	22-6461	560 PF DISC 500 V
C484	22-6461	560 PF DISC 500 V
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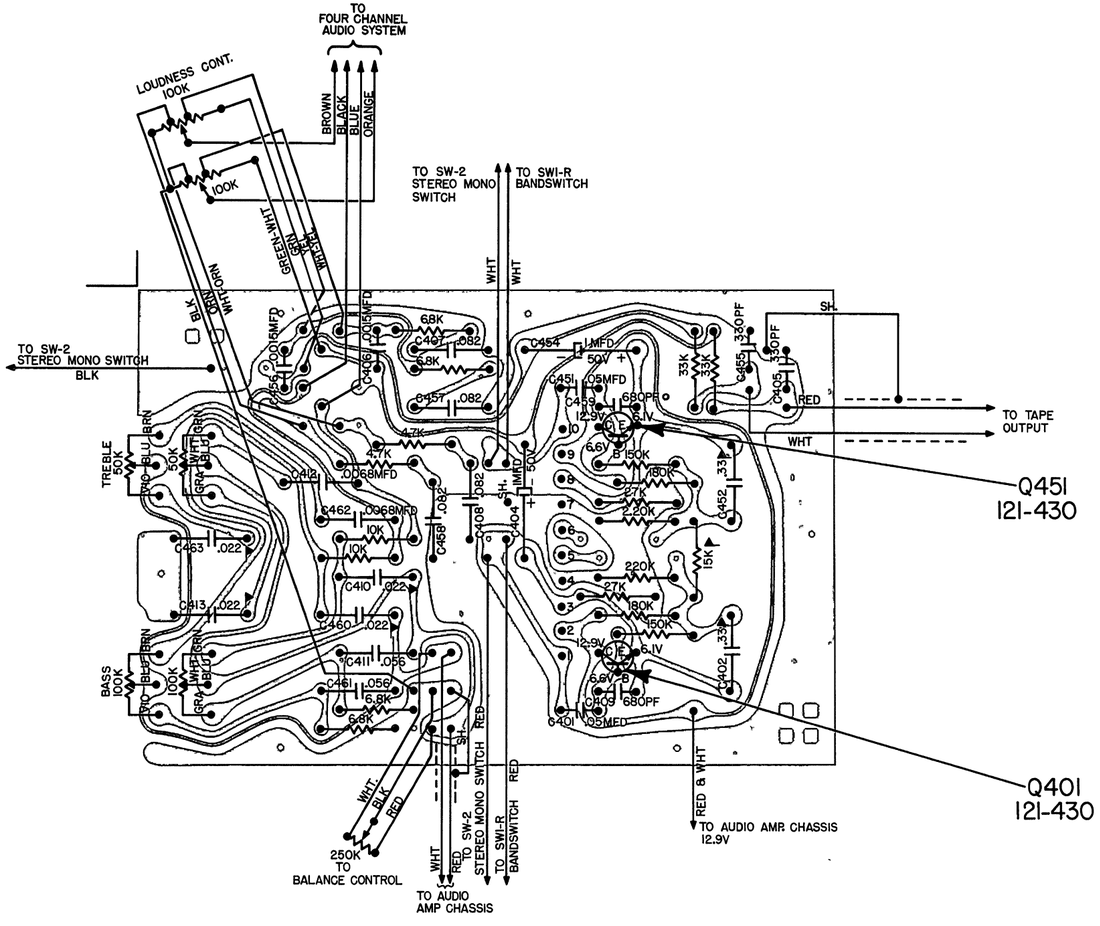
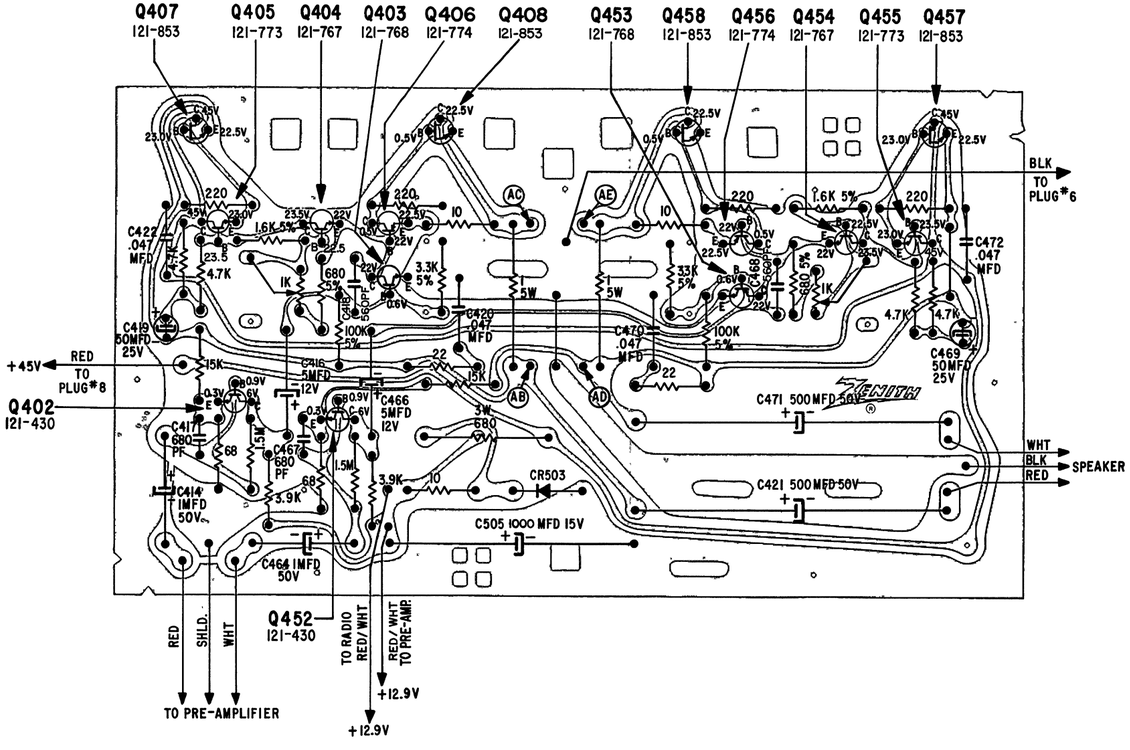
C499	22-6461	560 PF DISC 500 V
C500	22-6461	560 PF DISC 500 V
C501	22-6461	560 PF DISC 500 V
C502	22-6461	560 PF DISC 500 V
C503	22-6461	560 PF DISC 500 V
C504	22-6461	560 PF DISC 500 V
C505	22-6461	560 PF DISC 500 V
C506	22-6461	560 PF DISC 500 V
C507	22-6461	560 PF DISC 500 V
C508	22-6461	560 PF DISC 500 V
R1	63-4107	220 OHM 1/4 W
R2	63-4289	100K OHM 1/4 W
R3	63-1772	470 OHM 20%
R4	63-1796	1.8K OHM
R5	63-4195	1.8K OHM 1/4 W
R6	63-4231	12K OHM 1/4 W
R7	63-1808	470K OHM 20%
R8	63-4122	33 OHM 1/4 W
R9	63-1886	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	63-1805	2.7K OHM
R106	63-1799	2.2K OHM
R107	63-1810	3.9K OHM
R108	63-1772	470 OHM 20%
R109	63-4195	1K OHM 1/4 W
R110	63-1775	560 OHM
R111	63-1772	470 OHM 20%
R112	63-1813	4.7K OHM
R113	63-1834	15K 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	63-1788	1K OHM
R208	63-1799	2.2K OHM
R209	63-1772	470 OHM 20%
R210	63-4195	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	63-1772	470 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	63-1822	100 OHM
R222	63-1775	560 OHM
R223	63-1904	680K OHM
R224	63-1810	470K OHM 20%
R226	63-1799	2.2K OHM
R227	63-1852	39K OHM
R228	63-1855	47K OHM
R229	63-1852	39K OHM

ITEM NO.	PART NUMBER	DESCRIPTION
R230	63-1858	56K OHM
R231	63-1820	6.8K OHM
R232	63-1778	680 OHM
R233	63-4708	6K BIAS ADJUST
R234	63-1858	47K OHM
R301	63-1805	47K OHM
R302	63-1817	5.6K OHM
R303	63-1794	330 OHM
R305	63-1855	47K OHM
R306	63-1764	330 OHM
R307	63-1806	3.3K OHM
R308	63-5485	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	63-1775	680 OHM
R315	63-1775	560 OHM
R318	63-5563	680 OHM 2 W
R319	63-1781	820 OHM 5%
R320	63-1828	10K 5%
R321	63-1796	2.2K 5%
R322	63-1826	10K 5%
R323	63-1848	33K
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	63-1820	6.8K OHM
R406	63-1848	33K OHM
R407	63-1813	4.7K OHM
R408L R408R	63-6999	100K DUAL LOUDNESS CONTROL 29CT21 ONLY
R412	63-1831	12K OHM
R413L R413R	63-6997	100K DUAL BASS CONTROL 29CT21 ONLY
R414	63-1827	10K OHM
R415L R415R	63-6998	50K DUAL TREBLE CONTROL 29CT21 ONLY
R416	63-1918	1.5 MEG
R417	63-1810	3900
R418	63-1726	68 OHM
R419	63-1824	15K
R420	63-1835	3.3K OHM 5%
R421	63-1866	100K OHM 5%
R422	63-1715	2200
R423	63-1813	4700 OHM
R424	63-1813	4700 OHM
R425	63-1794	1600 OHM 5%
R426	63-5997	100K OHM BIAS ADJUST
R427	63-1777	680 OHM 5%
R428	63-1757	220 OHM
R429	63-1757	220 OHM
R430	63-8424	1 OHM 5 W
R431	63-1835	15K 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	63-1831	12K OHM
R464	63-1827	10K OHM
R466	63-1918	1.5 MEG
R467	63-1810	3900 OHM
R468	63-1834	15K OHM
R470	63-1866	100K OHM 5%
R471	63-1998	100K OHM 5%
R472	63-1715	2200 OHM
R473	63-1813	4700 OHM
R474	63-1813	4700 OHM
R475	63-1794	1600 OHM 5%
R476	63-5997	100K OHM BIAS ADJUST
R477	63-1777	680 OHM 5%
R478	63-1757	220 OHM
R479	63-1757	220 OHM
R480	63-1824	15K OHM
R501	63-1812	1.8 MEG OHM 20%
R502	63-5085	680 OHM 3 W
R503	63-1701	10 OHM
R504	63-4389	390 OHM 7 W
L1	36-2078	FM ANTENNA COIL
L2	20-3027	FM DETECTOR COIL
L3	20-1266	FM TAP COIL 10.7 MHz
L4	20-1049	FM OSCILLATOR COIL
L101	58-6462	AM ANTENNA COIL ASSEMBLY
L102	148-311	FERRITE CORE SLEEVE
L103	T 102	AM OSCILLATOR TRANS. PRI.
L104	IN T102	AM OSCILLATOR TRANS. SEC.
L105	148-311	FERRITE CORE SLEEVE
L201	IN T101	BC-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 T204	2ND IF TRANSFORMER 10.7 MHz PRI.
L209	IN T205	3RD IF TRANSFORMER 10.7 MHz SEC.
L210	IN T205	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.
L219	IN T204	2ND AM 455 KHz PRI.
L301	20-3080	67 KHz TRAP COIL (PREFERRED)
	20-3080	67 KHz TRAP COIL (ALTERNATE)
T101	96-2760	B.C. R.F. TRANSFORMER
T102	96-2544	AM OSCILLATOR TRANSFORMER
T201	96-2753	FM 1ST IF TRANSFORMER 10.7 MHz
T202	96-2751	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
T206	96-2795	FM 3RD IF TRANSFORMER 10.7 MHz
T205	96-2543	AM 3RD IF AM 455 KHz
T207	96-2796	FM RATIO DETECTOR 10.7 MHz
T301	96-2858	INPUT TRANSFORMER 19 KHz
T302	96-2896	DOUBLER TRANSFORMER 19 KHz
T303	96-2857	DETECTOR TRANSFORMER 38 KHz
T501	95-2940	POWER TRANSFORMER
F501	136-24	2A FUSE
S1	86-1210	BAND SWITCH
S2	85-1212	STEREO-MONO SWITCH
S3	85-1211	A.C. ON-OFF SWITCH
CR1	103-47 OR 103-109	AFC DIODE
CR201	103-80	GERMANIUM DIODE
CR202	103-90	
CR203	103-23	GERMANIUM DIODES (MATCHED PAIR)
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	106-107	INTEGNET
Z351	106-107	INTEGNET
DS1	100-269	PILOT LIGHT NO. 1847
DS2	100-269	PILOT LIGHT NO. 1847
DS201	100-007	STEREO INDICATOR LIGHT
SP1	48-1214	6" PM SPEAKER
SP2	48-1214	6" PM SPEAKER
SP3	48-1188	HORN SPEAKER
SP4	48-1188	HORN SPEAKER
J1	44-78	EARPHONE JACK 436782

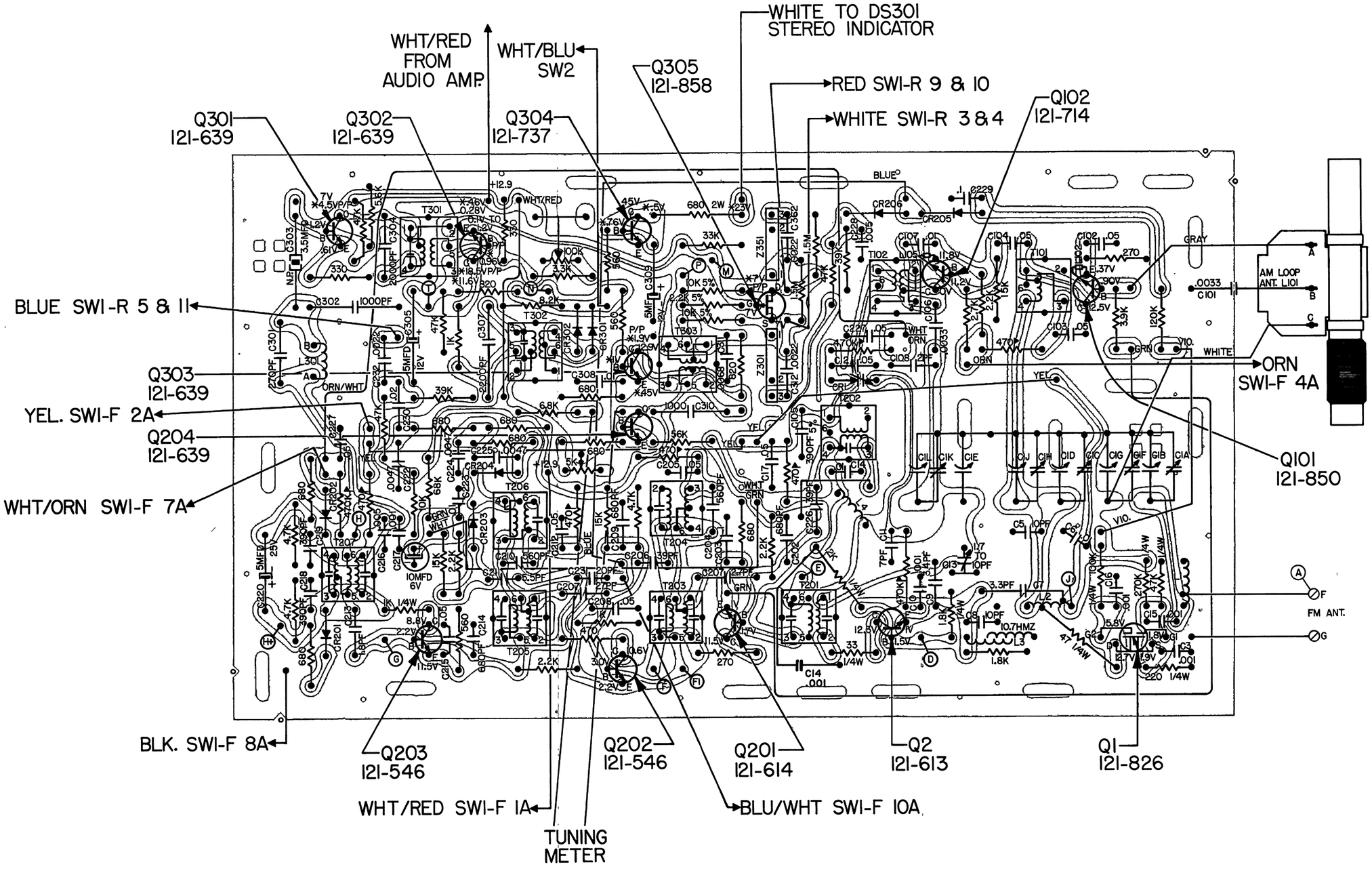
29CT21 — SCHEMATIC



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



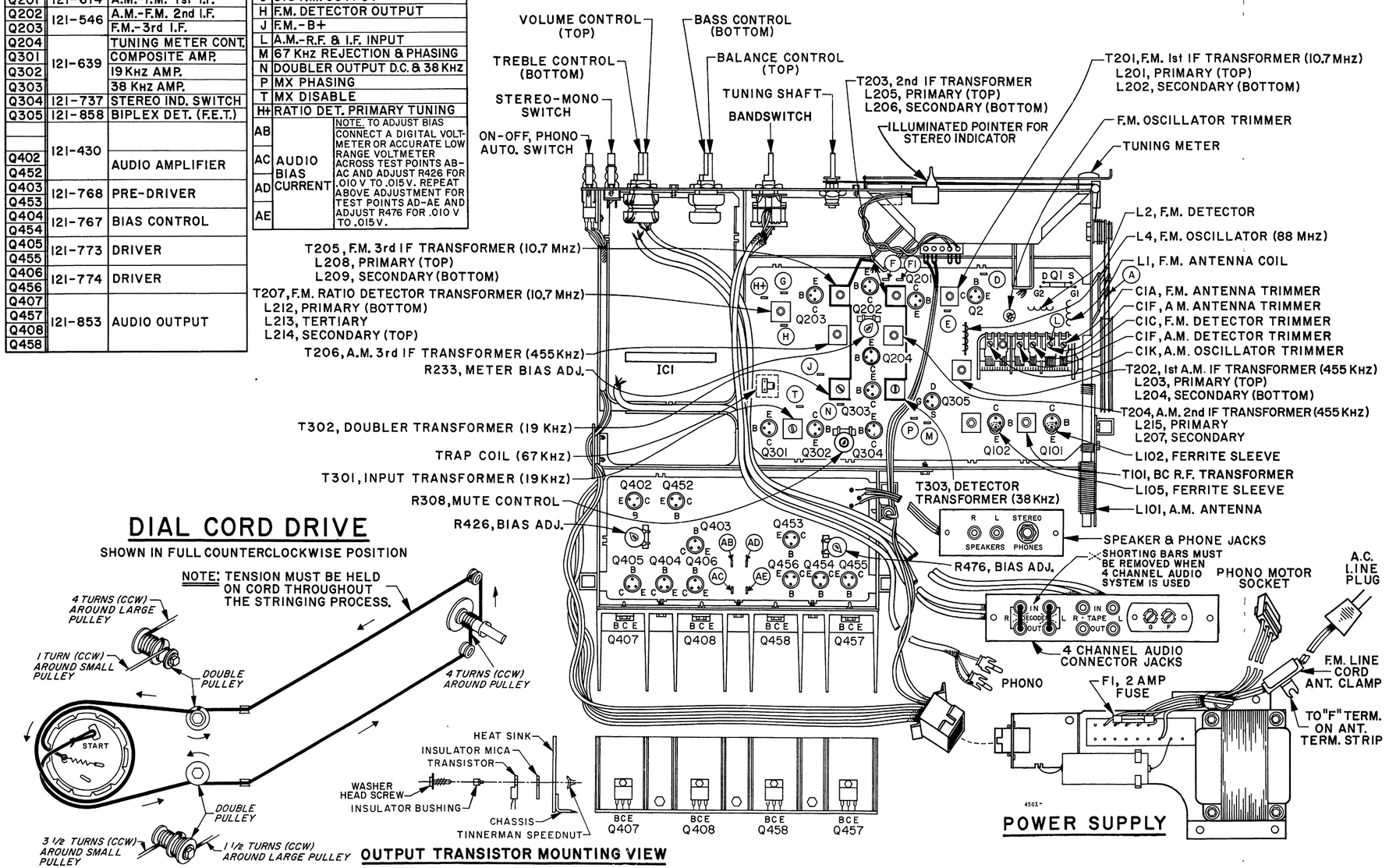
29CT21 – POWER AMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE


WHITE TO DS301
STEREO INDICATOR
WHT/RED
FROM
AUDIO AMP.
WHT/BLU
SW2
Q305
121-858
RED SWI-R 9 & 10
WHITE SWI-R 3 & 4
Q102
121-714
Q301
121-639
Q302
121-639
Q304
121-737
BLUE SWI-R 5 & 11
Q303
121-639
YEL. SWI-F 2A
Q204
121-639
WHT/ORN SWI-F 7A
BLK. SWI-F 8A
ORN
SWI-F 4A
Q101
121-850
AM LOOP
ANT. L101
FM ANT.
Q203
121-546
Q202
121-546
Q201
121-614
Q2
121-613
Q1
121-826
WHT/RED SWI-F 1A
BLU/WHT SWI-F 10A
TUNING
METER

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.)
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	AUDIO OUTPUT
Q457		
Q408		
Q458		

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		

INTEGRATED CIRCUITS		
No.	PART No.	DESCRIPTION
IC1	223-6	AUDIO PRE-AMP. I.C.

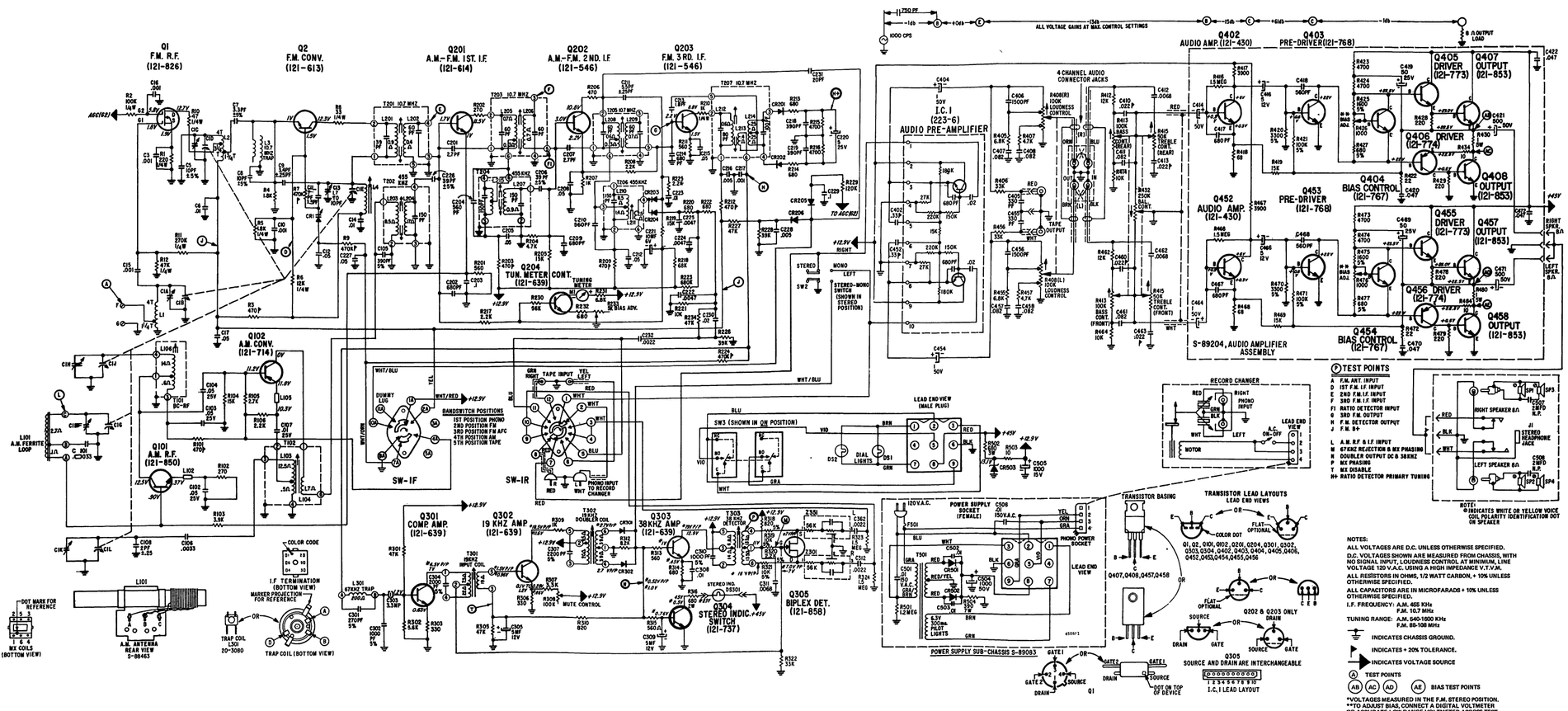


DIAL CORD DRIVE

SHOWN IN FULL COUNTERCLOCKWISE POSITION

OUTPUT TRANSISTOR MOUNTING VIEW

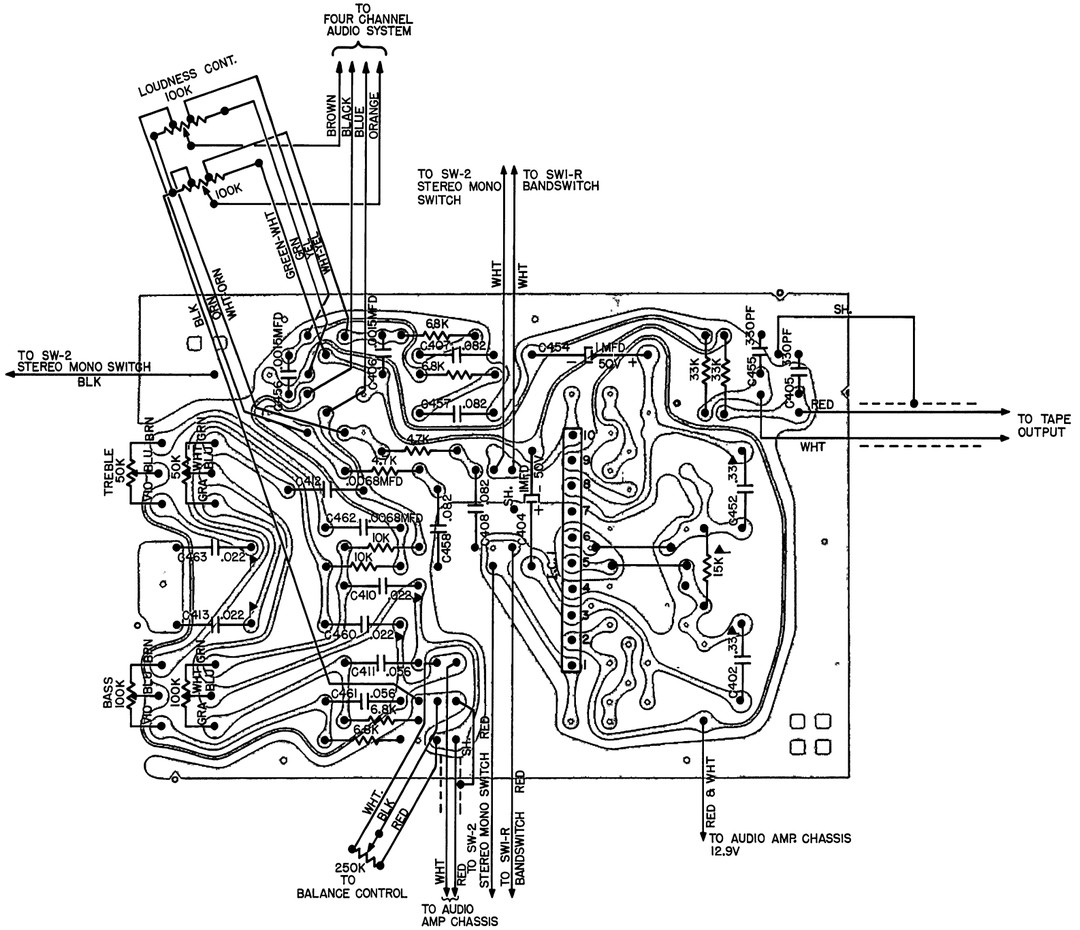
29CT21Z1 – CHASSIS LAYOUT



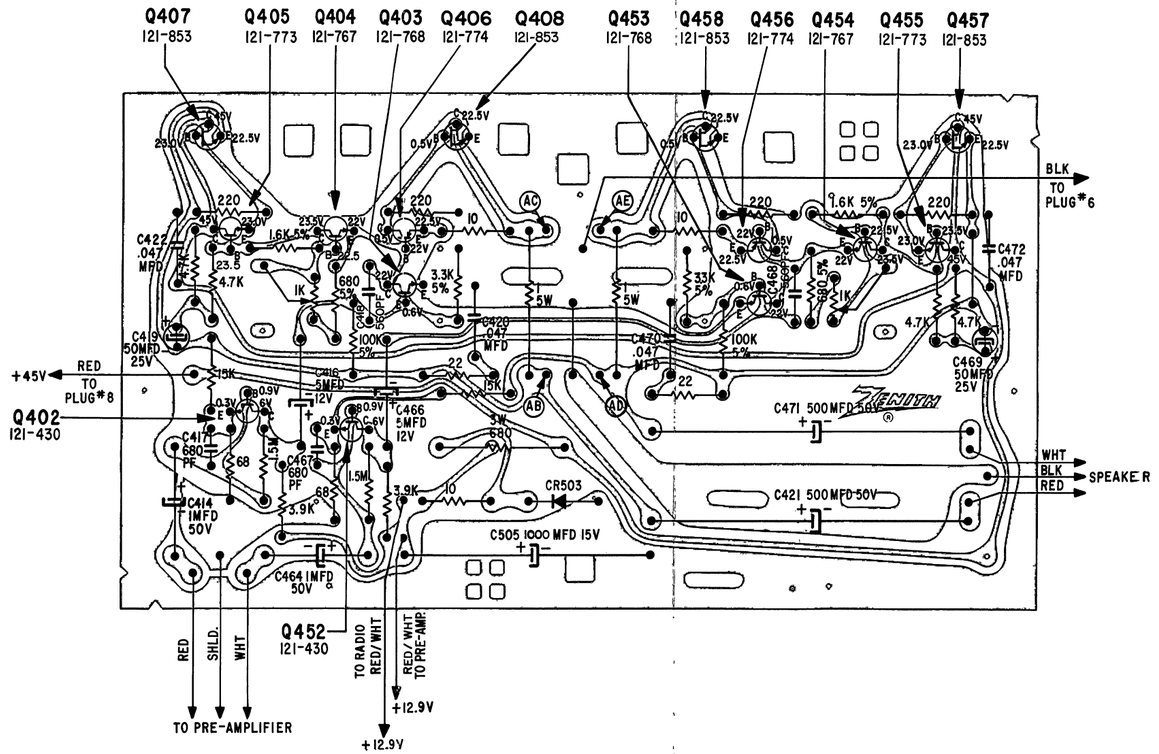
LEGEND CHASSIS 29CT21Z1

ITEM NO.	PART NUMBER	DESCRIPTION	ITEM NO.	PART NUMBER	DESCRIPTION
C1A		FM ANT TRIMMER	R221	63-1827	10K OHM
C1B		FM ANT TUNING	R222	63-1776	680 OHM
C1C		FM DETECTOR TRIMMER	R223	63-1804	680K OHM
C1D		FM DETECTOR TUNING	R224	63-1898	470K OHM 20%
C1E		FM OSC. TUNING	R225	63-1799	2.2K OHM
C1F	22-6248	AM ANT. TRIMMER	R226	63-1852	39K OHM
C1G		AM ANT. TUNING	R227	63-1855	47K OHM
C1H		AM DETECTOR TRIMMER	R228	63-1852	39K OHM
C1J		AM DETECTOR TUNING	R229	63-1873	120K OHM
C1K		AM OSC. TRIMMER	R230	63-1859	56K OHM
C1L		AM OSC. TUNING	R231	63-1820	6.8K OHM
C2	22-2729	.001 MFD DISC 25 V	R232	63-1776	680 OHM
C5	22-3675	10 PF DISC ± .5% 500 V	R233	63-6708	5K BIAS ADJUST
C6	22-3303	.01 MFD DISC 25 V	R234	63-1856	47K OHM
C7	22-3541	3.3 PF GIMMICK ± 5% 500 V	R301	63-1865	47K OHM
C8	22-3675	10 PF DISC ± 5% 500 V	R302	63-1817	5.6K OHM
C9	22-2582	3.4 PF DISC ± .25 PF 25 V	R303	63-1784	330 OHM
C10	22-2729	.001 MFD DISC 25 V	R304	63-1858	47K OHM
C11	22-6344	7 PF DISC ± 5% 500 V	R306	63-1764	330 OHM
C12	22-3034	.05 MFD DISC 25 V	R307	63-1806	3.3K OHM
C13	22-6805	1.7 TO 10 PF CERAMIC TRIMMER	R308	63-6495	100K MUTE CONTROL
C14	22-3393	.01 MFD DISC 25 V	R309	63-1785	1K OHM
C15	22-2729	.001 MFD DISC 25 V	R310	63-1782	820 OHM
C16	22-2729	.001 MFD DISC 25 V	R312	63-1824	5.6K OHM
C100	22-3034	.05 MFD DISC 25 V	R313	63-1776	680 OHM
C101	22-13	.0033 MFD DISC ± 10% 600 V	R314	63-1776	680 OHM
C102	22-3034	.05 MFD DISC 25 V	R315	63-1776	680 OHM
C103	22-3034	.05 MFD DISC 25 V	R316	63-6963	680 OHM 2W
C104	22-3034	.05 MFD DISC 25 V	R318	63-1781	820 OHM 5%
C105	22-5972	390 PF MICA ± 5% 125 V	R319	63-1836	10K 5%
C106	22-13	.0033 MFD DISC ± 10% 600 V	R320	63-1785	1K 5%
C107	22-3393	.01 MFD DISC 25 V	R321	63-1828	10K 5%
C200	22-4818	2 PF 500 V	R322	63-1848	33K
C201	22-3310	2.7 PF GIMMICK 500 V	R323	63-1918	1.5 MEG OHM
C202	22-3652	680 PF DISC 500 V	R324	63-1918	1.5 MEG OHM
C203	22-3652	1 MFD DISC 10 V	R405	63-1820	6.8K OHM
C204	22-3652	560 PF DISC 500 V	R406	63-1848	33K OHM
C206	22-3034	.05 MFD DISC 25 V	R407	63-1813	4.7K OHM
C207	22-2729	.001 MFD DISC ± 5% 500 V	R408A&B	63-6869	100K DUAL LOUDNESS CONTROL
C208	22-3310	2.7 PF GIMMICK 500 V	R412	63-1831	12K OHM
C209	22-3034	.05 MFD DISC 25 V	R413,&R	63-6907	10K DUAL BASS CONTROL
C210	22-5482	680 PF DISC 500 V	R414	63-1827	10K OHM
C211	22-3034	.05 MFD DISC 25 V	R415&R	63-6908	500 DUAL TREBLE CONTROL
C212	22-3770	5.5 PF DISC ± .25 PF 500 V	R418	63-1918	1.5 MEG
C213	22-3034	.05 MFD DISC 25 V	R417	63-1910	330 OHM
C214	22-3428	1.8 PF GIMMICK 500 V	R418	63-1736	68 OHM
C215	22-5482	680 PF DISC 500 V	R419	63-1834	4.7K OHM
C216	22-3034	.05 MFD DISC 25 V	R420	63-1805	3.3K OHM 5%
C217	22-3900	.005 MFD DISC 25 V	R421	63-1863	470K OHM 5%
C217	22-2729	.001 MFD DISC 25 V	R422	63-1715	22 OHM,
C218	22-3177	390 PF DISC 500 V	R423	63-1813	4.7K OHM
C219	23-3177	390 PF DISC 500 V	R424	63-1813	4700 OHM
C220	23-3898	5 MFD ELECTROLYTIC 25 V	R425	63-1794	1000 OHM 5%
C221	23-5486	10 MFD ELECTROLYTIC 6 V	R426	63-6977	1000 OHM BIAS ADJUST
C222	22-14	.0047 MFD 500 V	R427	63-1777	1000 OHM 5%
C223	23-3393	.01 MFD DISC 25 V	R428	63-1767	220 OHM
C224	22-14	.0047 MFD 500 V	R429	63-1767	220 OHM
C225	22-14	.0047 MFD 500 V	R430	63-6424	1 OHM 5 W
C226	22-5482	39 PF DISC ± 5% 500 V	R466	63-6906	500 BALANCE CONTROL
C227	23-3034	.05 MFD DISC 25 V	R434	63-1701	10 OHM
C228	23-3900	.005 MFD DISC 25 V	R465	63-1820	6.8K
C229	23-3652	.1 MFD DISC 10 V	R466	63-1848	33K OHM
C230	23-3652	.02 MFD DISC 25 V	R467	63-1813	4.7K OHM
C231	23-3761	20 PF ± .25 500 V	R462	63-1831	12K
C232	23-18	.022 MFD DISC CAP 500 V	R464	63-1827	10K
C301	22-5780	270 PF POLYSTYRENE ± 5% 500 V	R468	63-1918	1.5 MEG
C302	22-5781	1000 PF POLYSTYRENE ± 5% 500 V	R467	63-1810	1000 OHM
C303	22-6246	3.3 MFD N.P. 15 V	R468	63-1736	68 OHM
C304	22-6138	2000 PF ± 5% 100 V	R469	63-1834	10K OHM
C305	22-2884	5 MFD ELECTROLYTIC 12V	R470	63-1803	3.3K OHM 5%
C306	22-5781	1000 PF POLYSTYRENE ± 5% 500 V	R471	63-1868	100K OHM 5%
C308	23-3393	.01 MFD DISC 25 V	R472	63-1715	22 OHM
C309	23-5415	5 MFD ELECTROLYTIC 12 V	R473	63-1813	4700 OHM
C310	23-5781	1000 PF POLYSTYRENE ± 5% 500 V	R474	63-1813	4700 OHM
C311	22-3410	.0068 MFD 25 V	R475	63-1794	1000 OHM 5%
C312	22-16	.0022 MFD DISC 25 V	R476	63-6977	1000 OHM BIAS ADJUST
C313	22-16	.0022 MFD DISC 25 V	R477	63-1777	680 OHM 5%
C402	22-5343	33 MFD ± 20% 50 V	R478	63-1757	220 OHM
C404	23-3687	1 MFD ELECTROLYTIC 50 V	R479	63-1757	220 OHM
C406	22-1295	330 PF DISC 500 V	R480	63-6424	1 OHM 5 W
C408	22-5483	1500 PF 500 V	R484	63-1701	10 OHM
C410	22-5884	.002 MFD 100 V	R501	63-1918	1.2 MEG
C411	22-5884	.002 MFD 100 V	R502	63-1805	3.3K OHM 2 W
C412	22-5884	.002 MFD 100 V	R502	63-1701	10 OHM
C413	22-5814	.022 MFD 20% 50 V	R504	63-6280	150 OHM 2W
C414	22-5884	.002 MFD 100 V	L1	20-3076	FM ANTENNA COIL
C415	22-5415	.0068 MF 25 V	L2	20-3077	FM DETECTOR COIL
C416	22-5814	.022 MFD 20% 50 V	L4	20-1295	TRAP COIL 10.7 MHz
C417	22-3687	1 MFD ELECTROLYTIC 50 V	L5	20-3079	OSCILLATOR COIL
C418	22-2884	5 MFD ELECTROLYTIC 12 V	L101	5-89863	AM ANTENNA COIL ASSEMBLY
C419	22-5482	680 PF DISC 500 V	L102	148-311	FERRITE CORE SLEEVE
C419	23-3362	560 PF 500 V	L103	IN T102	AM OSCILLATOR TRANS. PRI.
C420	22-5886	50 MFD ELECTROLYTIC 25 V	L104	IN T102	AM OSCILLATOR TRANS. SEC.
C420	22-5886	.047 MFD 100 V	L105	148-311	FERRITE CORE SLEEVE
C421	22-5886	500 MFD ELECTROLYTIC 50 V	L106	IN T101	AM R.F. COIL
C422	22-5966	.047 MFD 100 V	L201	IN T201	1ST I.F TRANSFORMER 10.7 MHz PRI.
C423	22-3687	.33 MFD ± 20% 50 V	L202	IN T201	1ST I.F TRANSFORMER 10.7 MHz SEC.
C424	22-3687	1 MFD ELECTROLYTIC 50 V	L203	IN T202	1ST I.F AM 455 KHz PRI.
C425	22-5255	330 PF DISC 500 V	L204	IN T202	1ST I.F AM 455 KHz SEC.
C426	22-5483	1500 PF 500 V	L205	IN T203	2ND I.F TRANSFORMER 10.7 MHz PRI.
C427	22-5884	.002 MFD 100 V	L206	IN T203	2ND I.F TRANSFORMER 10.7 MHz SEC.
C428	22-5884	.002 MFD 100 V	L207	IN T204	2ND AM 455 KHz SEC.
C429	22-5884	.002 MFD 100 V	L208	IN T205	3RD I.F TRANSFORMER 10.7 MHz PRI.
C431	22-5884	.002 MFD 100 V	L209	IN T205	3RD I.F TRANSFORMER 10.7 MHz SEC.
C432	22-5415	.0068 MF 25 V	L210	IN T206	3RD I.F AM 455 KHz PRI.
C433	22-5814	.022 MFD 20% 50 V	L211	IN T206	3RD I.F AM 455 KHz SEC.
C434	22-3687	1 MFD ELECTROLYTIC 50 V	L212	IN T207	RATIO DETECTOR TRANS. 10.7 MHz PRI.
C435	22-2884	5 MFD ELECTROLYTIC 12 V	L213	IN T207	RATIO DETECTOR TRANS. 10.7 MHz TERTIARY
C436	22-5482	680 PF DISC 500 V	L214	IN T207	RATIO DETECTOR TRANS. 10.7 MHz SEC.
C437	22-5884	50 MFD ELECTROLYTIC 25 V	L215	IN T200	2ND AM 455 KHz PRI.
C438	22-5966	.047 MFD 100 V	L301	20-3080	67 KHz TRAP COIL (PREFERRED)
C439	22-5316	500 MFD ELECTROLYTIC 50 V		5-79435	67 KHz TRAP COIL (ALTERNATE)
C440	22-5966	.047 MFD 100 V	T101	95-2760	R.F. COIL TRANSFORMER
C501	23-3034	.01 MFD DISC 150 VAC	T102	95-2644	AM OSCILLATOR TRANSFORMER
C502	22-5362	1000 MFD ELECTROLYTIC 50 V	T201	95-2762	1ST I.F TRANSFORMER 10.7 MHz
C503	22-5362	1000 MFD ELECTROLYTIC 15 V	T202	95-2761	AM 1ST I.F AM 455 KHz
C506	22-6005	.01 MFD DISC 150 VAC	T203	95-2764	2ND I.F TRANSFORMER 10.7 MHz
C507	22-3873	2 MFD ELECTROLYTIC N.P. 30 V	T204	95-2762	AM 2ND I.F AM 455 KHz
C508	23-4580	2 MFD ELECTROLYTIC N.P. 30 V	T205	95-2763	3RD I.F TRANSFORMER 10.7 MHz
R1	63-1832	15K OHM 1/4 W	T206	95-2763	AM 3RD I.F AM 455 KHz
R2	63-4269	100K OHM 1/4 W	T207	95-2766	FM RATIO DETECTOR 10.7 MHz
R3	63-1772	270 OHM 20%	T301	95-2858	INPUT TRANSFORMER 19 KHz
R4	63-1796	1.8K OHM	T302	95-2856	DOUBLER TRANSFORMER 19 KHz
R5	63-1786	3.3K OHM 1/4 W	T303	95-2857	DETECTOR TRANSFORMER 38 KHz
R6	63-4231	12K OHM 1/4 W	T501	95-2940	POWER TRANSFORMER
R7	63-1868	100K OHM 20%	F501	136-24	3A FUSE
R8	63-4122	33 OHM 1/4 W	S1	85-1210	BAND SWITCH
R9	63-4186	470K OHM 20%	S2	85-1212	STEREO-MONO SWITCH
R10	63-4129	47 OHM 1/4 W	S3	85-1231	A.C. ON-OFF SWITCH
R11	63-4267	270K OHM 1/4 W	CR1	103-47	AFC DIODE
R100	63-4267	47K OHM 1/4 W		OR	
R101	63-1772	470 OHM 20%		103-189	
R102	63-1761	270 OHM	CR201	103-90	GERMANIUM DIODE
R103	63-1810	3.9K OHM	CR202	103-90	GERMANIUM DIODE (MATCHED PAIRS)
R104	63-1804	15K OHM	CR203	103-23	GERMANIUM DIODE
R105	63-1803	2.7K OHM	CR204	103-23	GERMANIUM DIODE
R106	63-1799	2.2K OHM	CR205	103-23	GERMANIUM DIODE
R107	63-1795	1.5K OHM	CR206	103-23	GERMANIUM DIODE
R201	63-1775	220 OHM	CR207	103-23	GERMANIUM DIODE
R202	63-1761	270 OHM 20%	CR301	103-23	GERMANIUM DIODE
R203	63-1772	4.7K OHM	CR302	103-23	GERMANIUM DIODE
R204	63-1813	10K OHM	CR501	21-61	SILICON RECTIFIER
R206	63-1834	470 OHM	CR502	21-61	SILICON RECTIFIER
R207	63-1771	1K OHM	CR503	103-96	DIODE
R208	63-1785	2.2K OHM	M1	122-66	TUNING METER
R209	63-1799	470 OHM 20%	IC1	223-6	TUNE FILM I.C.
R210	63-1772	1K OHM 1/4 W	Z301	136-107	INTEGRET
R211	63-1775	560 OHM	Z302	136-107	INTEGRET
R212	63-1772	470 OHM 20%	DS1	100-349	PILOT LIGHT NO. 1847
R213	63-1778	680 OHM	DS2	100-349	PILOT LIGHT NO. 1847
R214	63-1778	680 OHM	DS301	100-507	STEREO INDICATOR LIGHT
R215	63-1813	4700 OHM	SP1	48-1214	6" FM SPEAKER
R216	63-1813	4700 OHM	SP2	48-1214	6" FM SPEAKER
R217	63-1799	2.2K OHM	SP3	48-1168	HORN SPEAKER
R218	63-1862	68K OHM	SP4	48-1168	HORN SPEAKER
R219	63-1824	15K OHM	J1	44-78	EARPHONE JACK
R220	63-1778	680 OHM			4500A2

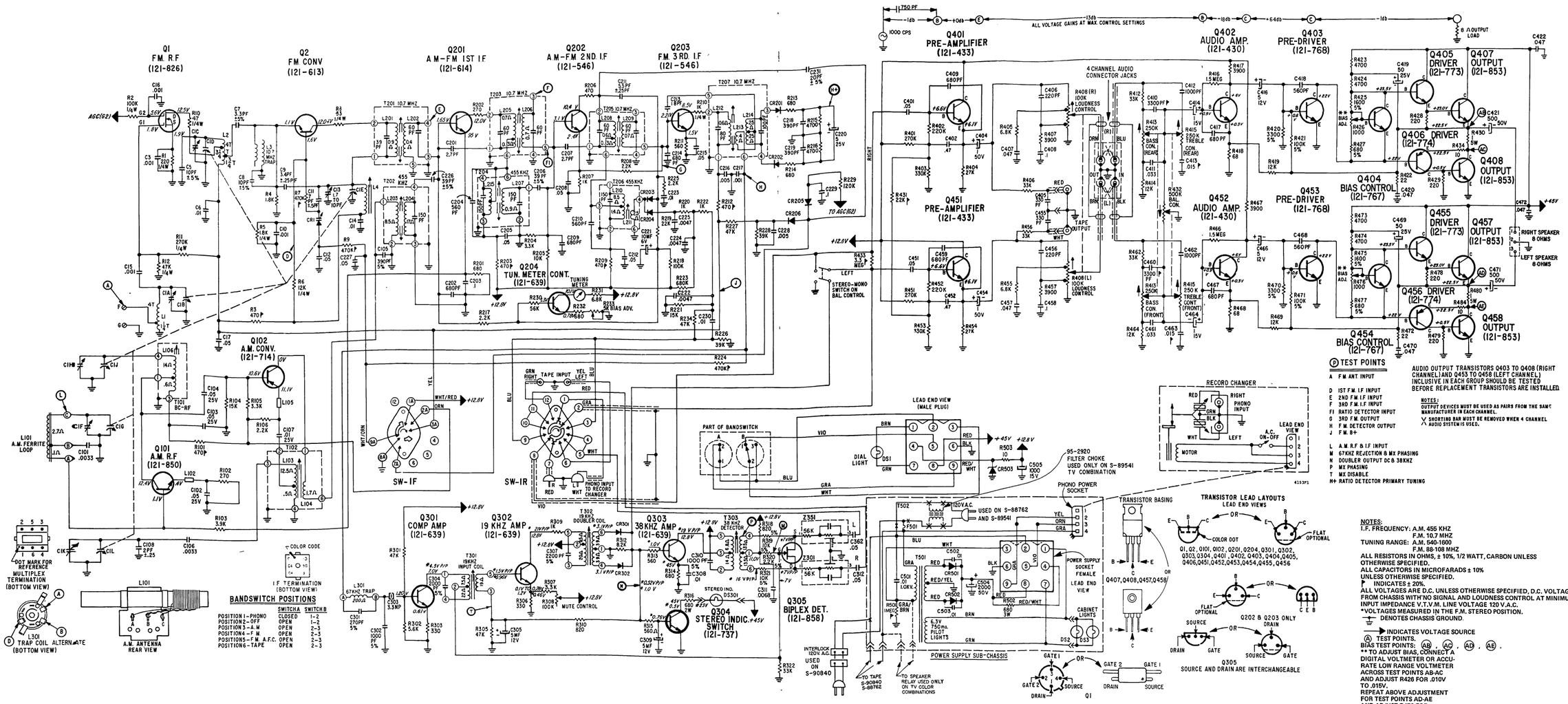
29CT21Z1 – SCHEMATIC



29CT21Z1 – PREAMP – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE



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



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.
P 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: (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.
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.

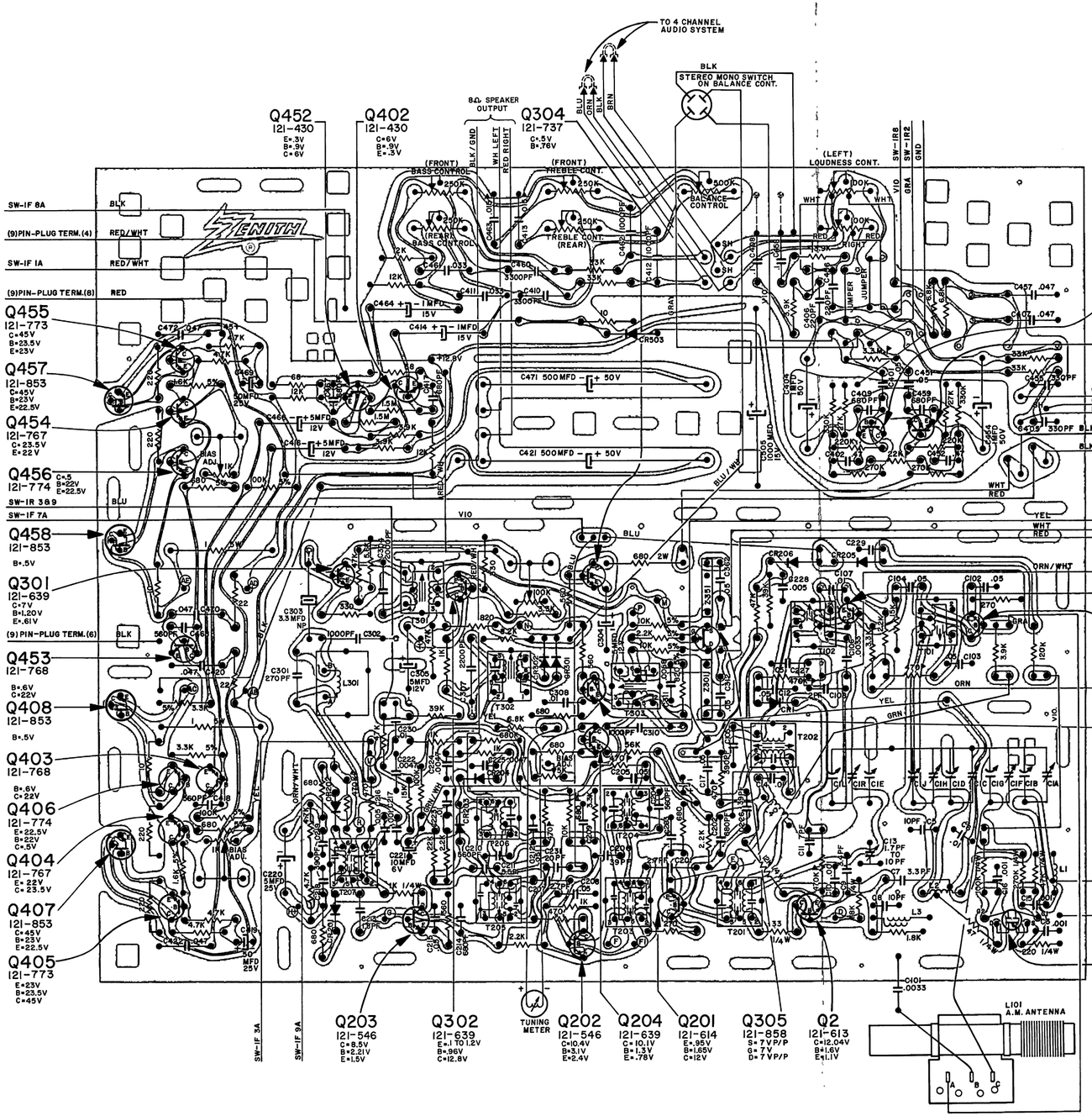
29CT30 – SCHEMATIC

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
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	22-2662	3.4 PF DISC + .25 PF 500 V
C10	22-2729	.001 MFD DISC 25 V
C11	22-6244	7 PF + .5 PF 500 V
C12	22-3354	.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	22-3934	.05 MFD DISC 25 V
C101	22-13	.0033 MFD DISC + 10%
C102	22-3934	.05 MFD DISC 25 V
C103	22-3934	.05 MFD DISC 25 V
C104	22-3934	.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	22-4818	2 PF + .25 500 V
C201	22-3310	2.7 PF GIMMICK 500 V
C202	22-5482	680 PF DISC 500 V
C203	22-3682	1 MFD DISC 10 V
C204	22-6481	500 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	22-3982	.008 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	22-3986	5 MFD ELECTROLYTIC 25 V
C221	22-5485	10 MFD ELECTROLYTIC 5 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%
C227	22-3034	.05 MFD DISC 25 V
C228	22-3089	.006 MFD DISC 25 V
C229	22-3682	1 MFD DISC 10 V
C230	22-3393	.01 MFD DISC 25 V
C231	22-3751	20 PF + 5% 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	22-6126	2000 PF + 5% 100 V
C305	22-2984	5 MFD ELECTROLYTIC 12 V
C306	22-5782	2200 PF POLYSTYRENE + 5% 500 V
C308	22-3393	.01 MFD DISC 25 V
C309	22-2884	1 MFD ELECTROLYTIC 12 V
C310	22-5781	1000 PF POLYSTYRENE + 5% 500 V
C311	22-3415	.0068 MFD 25 V
C312	22-3034	.05 MFD DISC 25 V
C362	22-3034	.05 MFD DISC 25 V
C401	22-3034	.05 MFD DISC 25 V
C402	22-6487	.47 MFD DISC 3 V
C404	22-3687	1 MFD ELECTROLYTIC 50 V
C405	22-3255	330 PF DISC 500 V
C406	22-2703	220 PF 500 V
C407	22-6864	.47 MFD 100 V
C408	22-5862	.1 MFD 100 V
C409	22-5482	680 PF DISC 500 V
C410	22-5907	3300 PF 20% 50 V
C411	22-6883	.033 MFD 100 V
C412	22-6111	1000 PF 50 V
C413	22-5233	.015 + 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	22-6866	50 MFD ELECTROLYTIC 25 V
C420	22-6866	.047 MFD 100 V
C421	22-5316	500 MFD ELECTROLYTIC 50 V
C422	22-6866	.047 MFD 100 V
C451	22-3034	.05 MFD DISC 25 V
C452	22-5487	.47 MFD DISC 3 V
C454	22-3687	1 MFD ELECTROLYTIC 50 V
C455	22-3255	330 PF DISC 500 V
C456	22-2703	220 PF 500 V
C457	22-6866	.047 MFD 50 V
C458	22-5862	1 MFD 100 V
C459	22-5482	680 PF DISC 500 V
C460	22-6091	3300 PF 20% 50 V
C461	22-6883	.033 MFD 100 V
C462	22-6111	1000 PF 50 V
C463	22-5233	.015 + 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	22-6866	50 MFD ELECTROLYTIC 25 V
C470	22-6866	.047 MFD 100 V
C471	22-5316	500 MFD ELECTROLYTIC 50 V
C472	22-6866	.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	22-5987	2000 MFD ELECTROLYTIC 50 V
C505	22-4573	1000 MFD ELECTROLYTIC 15 V
R1	63-4157	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	1.8K 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	63-1888	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	63-1910	3.9K OHM
R104	63-1834	15K OHM
R105	63-1896	3.3K OHM
R106	63-1799	2.2K OHM
R201	63-1778	680 OHM
R202	63-1761	270 OHM
R203	63-1772	470 OHM 20%
R204	63-1898	3.3K OHM
R206	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	62-4186	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	63-1889	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	63-1855	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	63-1762	820 OHM
R312	63-1824	8.2K OHM
R313	63-1775	560 OHM
R314	63-1778	680 OHM
R315	63-1775	560 OHM
R316	63-1963	680 OHM 2 W
R318	63-1781	820 OHM 5%
R319	63-1828	10K 5%
R320	63-1798	2.2K 5%
R321	63-1828	10K 5%
R322	63-1772	33K OHM
R401	63-1887	270K OHM
R402	63-1883	220K OHM
R403	63-1890	330K OHM
R404	63-1845	27K OHM
R406	63-1820	6.8K OHM
R406	63-1848	33K OHM
R407	63-1810	3900 OHM
R408R	63-8897	100K DUAL LOUDNESS CONTROL
R408L		
R412	63-1848	33K OHM
R413R	63-8965	250K DUAL BASS CONTROL
R413L		
R414	63-1831	12K OHM
R415R	63-8964	250K DUAL TREBLE CONTROL
R415L		
R416	63-1918	1.5 MEG
R417	63-1810	3900 OHM
R418	63-1736	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	63-1794	1600 OHM 5%
R426	63-8877	1000 OHM BIAS ADJUST
R427	63-1777	680 OHM 5%
R428	63-1797	220 OHM
R429	63-1757	220 OHM
R430	63-6424	1 OHM 5 W
R431	63-1842	22K 20%
R432	63-8966	500K BALANCE CONTROL & SWITCH
R433	63-1933	3.3 MEG OHM 20%
R434	63-1701	10 OHM
R451	63-1887	270K
R452	63-1883	220K OHM
R453	63-1890	330K
R454	63-1845	27K OHM
R455	63-1820	6.8K
R456	63-1848	33K OHM
R457	63-1810	3900 OHM
R462	63-1848	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	63-1794	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	63-5985	680 OHM 3 W
R503	63-1701	10 OHM
L1	20-3076	FM ANTENNA COIL
L2	20-3077	FM DETECTOR COIL
L3	20-1256	TRAP COIL 10.7 MHz
L4	20-1649	FM OSCILLATOR COIL
L101	5-88463	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	RC-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 T206	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	95-2750	R.C. R.F. TRANSFORMER
T102	95-2644	AM OSCILLATOR TRANSFORMER
T201	95-2753	FM 1ST IF TRANSFORMER 10.7 MHz
T202	95-2761	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	95-2758	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	95-2769	POWER TRANSFORMER
T502	95-2520	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	312-61	SILICON RECTIFIER
CR502	312-61	SILICON RECTIFIER
CR503	103-99	DIODE (ZENER)
Z301	105-107	INTEGNET
Z401	105-107	INTEGNET
DS1	100-249	PILOT LIGHT NO. 1847
DS2	100-249	PILOT LIGHT NO. 1847
DS3	100-249	PILOT LIGHT NO. 1847
DS301	100-507	STEREO INDICATOR LIGHT
M1	122-62	METER (TUNING)

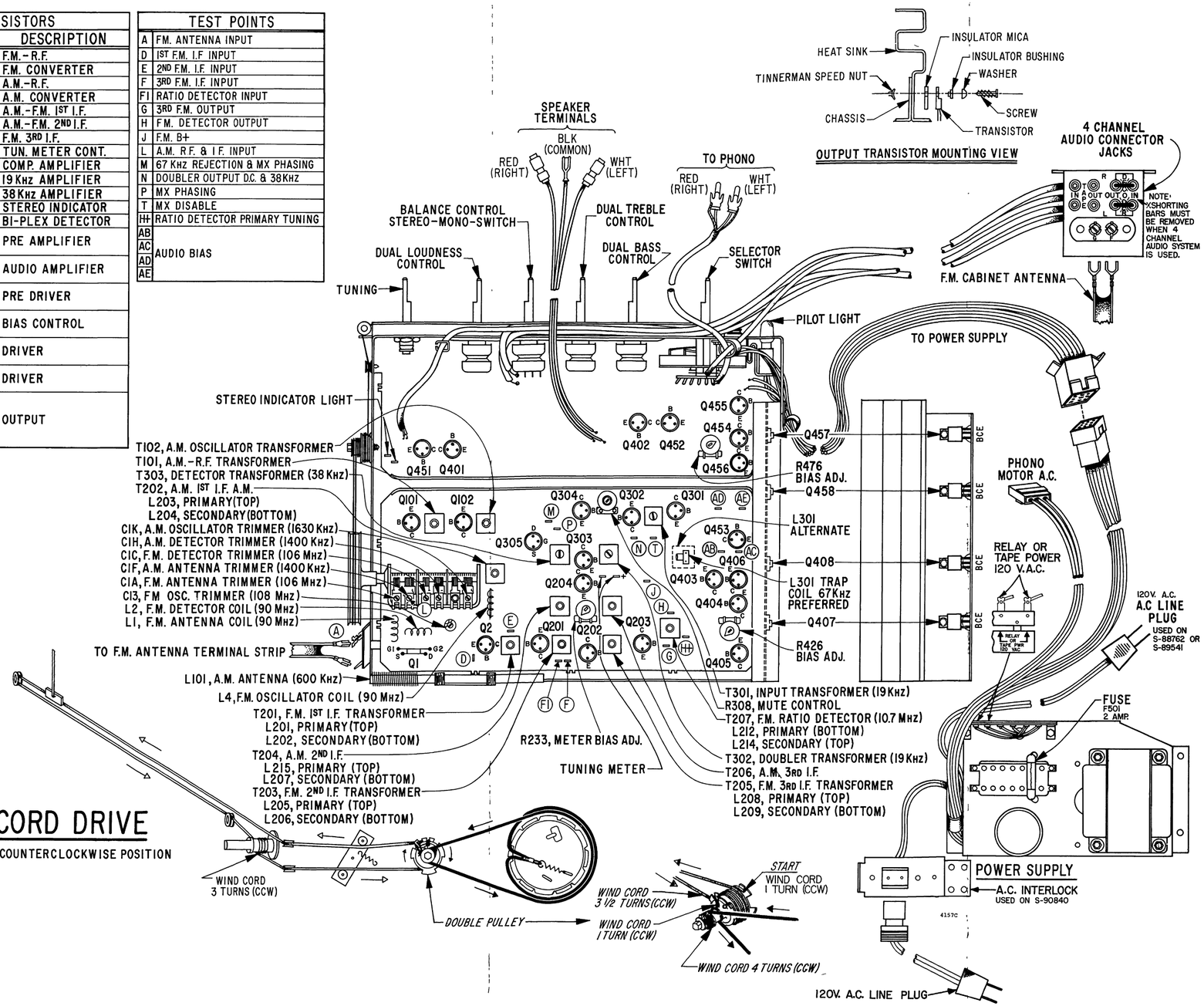
4153C2



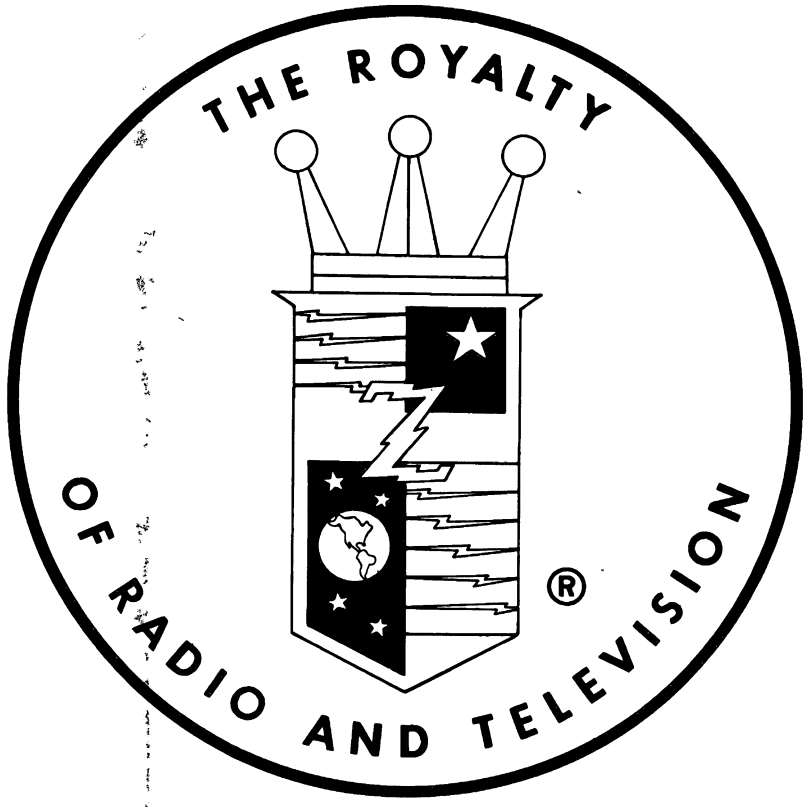
29CT30 – CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE

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

TEST POINTS	
A	FM. 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 & MX PHASING
N	DOUBLER OUTPUT D.C. & 38KHz
P	MX PHASING
T	MX DISABLE
HH	RATIO DETECTOR PRIMARY TUNING
AB, AC, AD, AE	AUDIO BIAS



29CT30 – CHASSIS LAYOUT



ZENITH RADIO CORPORATION

1900 N. AUSTIN AVENUE CHICAGO, ILLINOIS 60639

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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