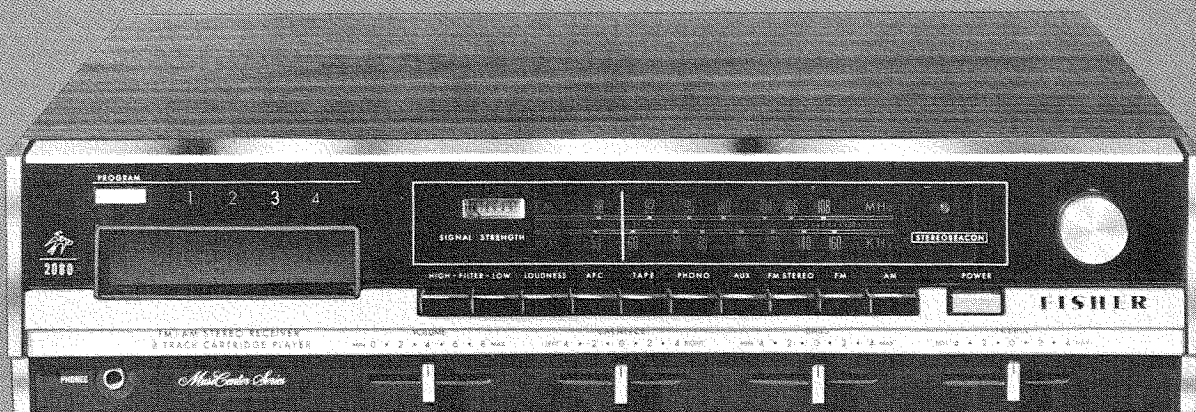


SERVICE MANUAL

The Fisher®

2080

2380



MUSIC CENTER SERIES
Stereo Receivers

WORLD LEADER IN HIGH QUALITY STEREO

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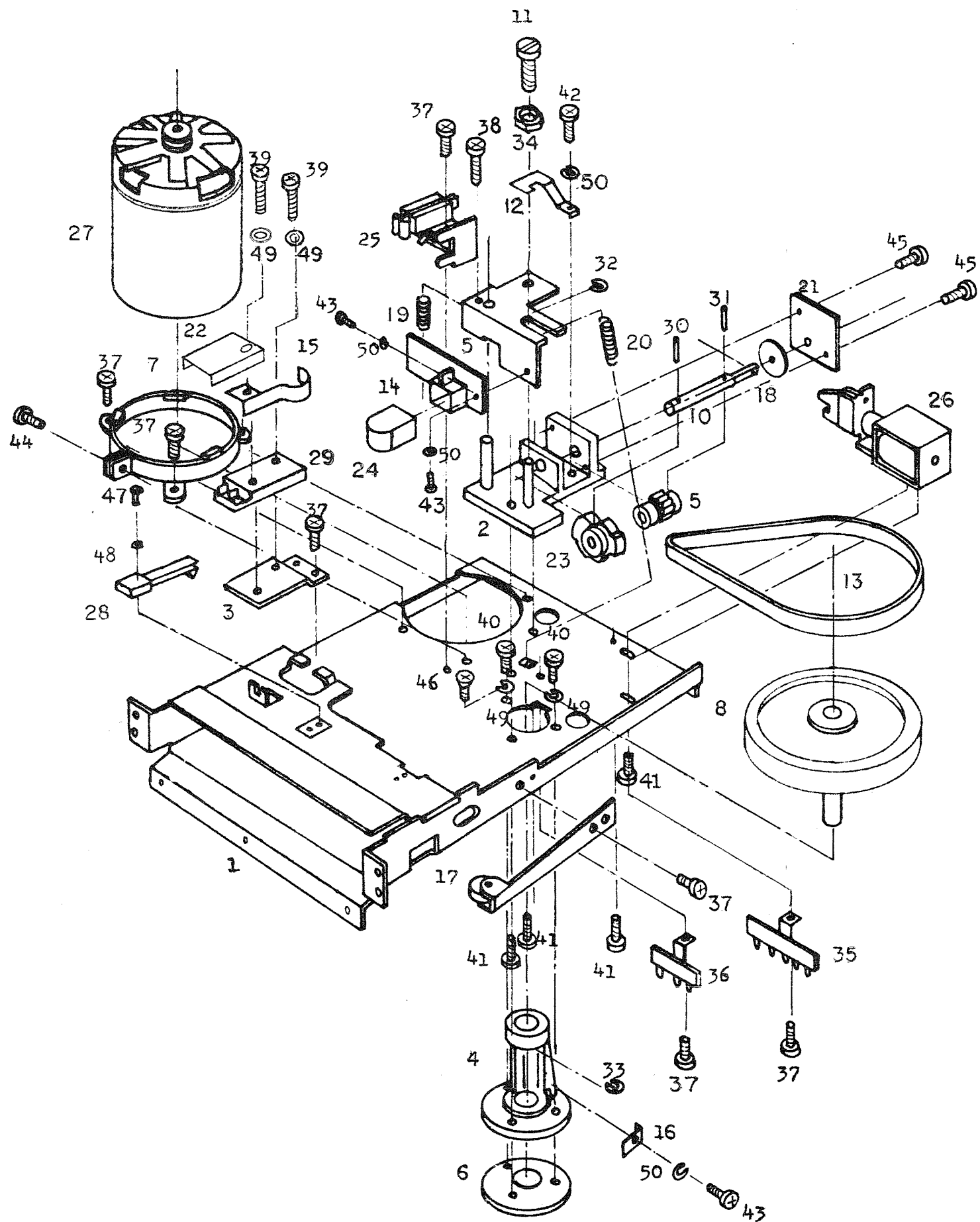
REQUIRED EQUIPMENT

The following test equipment is required to align and to service the Receiver:

- Line Voltage Autotransformer or Voltage Regulator
- AC DC Multimeter
- Accurately Calibrated AC Voltmeter
- Oscilloscope (Flat to 100kHz Minimum)
- Low-Distortion Audio Sine-Wave Generator
- Harmonic Distortion Analyzer
- Two (2) Load Resistors, 8-ohms, 50 Watts (Minimum Rating)
- Low-Distortion AM-FM Signal Generator
10.7 MHz Sweep Generator
- Multiplex Generator
- 455 kHz Sweep Generator

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

MECHANICAL EXPLODED VIEW



MODEL 2080 & 2380

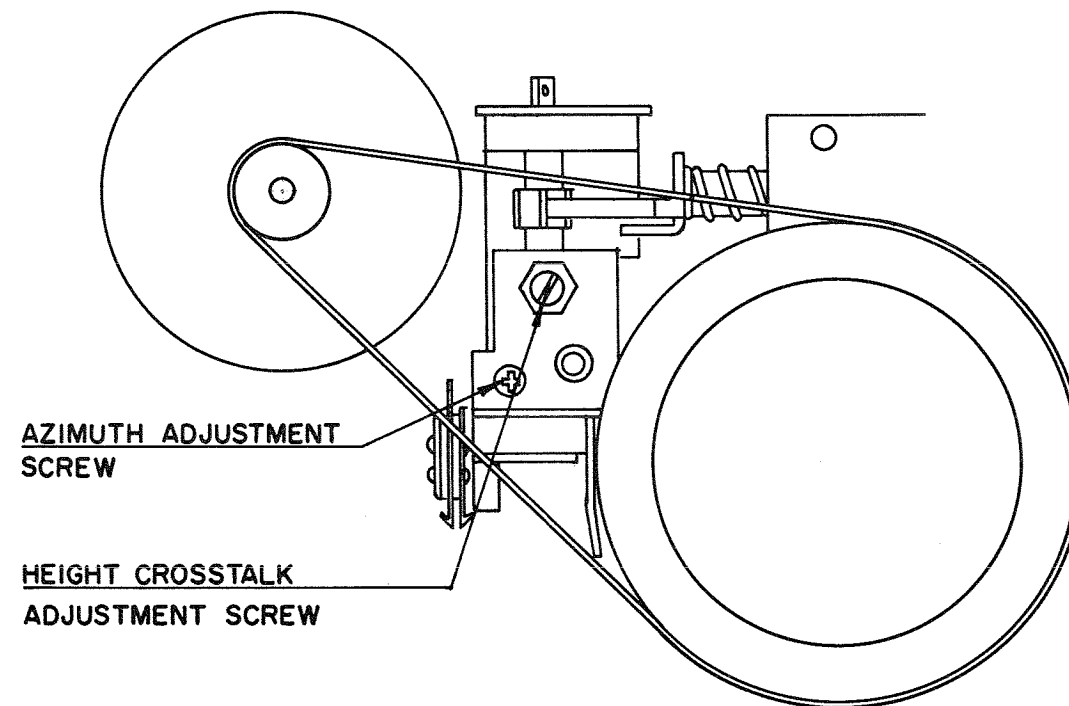
TAPE PLAYER PARTS LIST (TP4157)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
5	008C08	Head Arm Assy.	23	009C01	Cam
6	008C09	Holder; Flywheel	24	WI-009	Head
8	008C11	Flywheel Assy.	25	SW-024	Tape Guide
9	008C13	Gear	26	ZU-001	Plunger
38	008C16	Azimuth Screw	27	MF-007	Motor (AC)
12	008C17	Holder, Gear Stopper	28	ST-006	Leaf Switch
13	008C18	Belt	29	SN-001	Micro Switch
14	008C19	Head Plate Assy.	30	1.6 x 10	Spring Pin
15	008C21	Actuator	31	1.6 x 8	Spring Pin
16	008C22	Tape Plate	32	2 m/m	E Ring
17	008C20	Spring Assy.	33	4 m/m	E Ring
18	008C24	Switch	34	ALN-4	Adjustable Lock Nut
19	008C25	Azimuth Spring			
20	008C26	Head Spring			
48	2 Ø	*Spring Washer			
49	3 Ø	*Spring Washer			
50	2.6 Ø	*Spring Washer			
	2.3 Ø	*Spring Washer			
CR-1	SD-1	Diode			
C4	CK-403	Titanium Capacitor 0.04uf			
C1	CP-0.8/250K	Metalized paper cap 0.8uf 250V			

*Not Available

TAPE DECK AZIMUTH AND HEAD HEIGHT ALIGNMENT

1. Preset Bass, Treble and Balance controls to their mechanical center position, Volume Control to minimum.
2. Push in the TAPE button.
3. Connect Oscilloscope or AC VTVM to the Recorder Out Jack marked L.
4. Insert prerecorded test tape, (RCA No. 378 or equivalent), into tape player.
5. Select Tape Program Number 2.
6. Adjust Head Height Crosstalk Adjustment screw for minimum output as indicated on VTVM or Oscilloscope.
7. Connect Oscilloscope or AC VTVM to the Recorder Out Jack marked R.
8. Adjust Azimuth Adjustment Screw for maximum output as indicated on VTVM or Oscilloscope.
9. Repeat Head Height and Azimuth adjustment procedures until no further improvement is obtained.



FM-TUNER ALIGNMENT

SELECTOR to FM, AFC to OFF, VOLUME MINIMUM

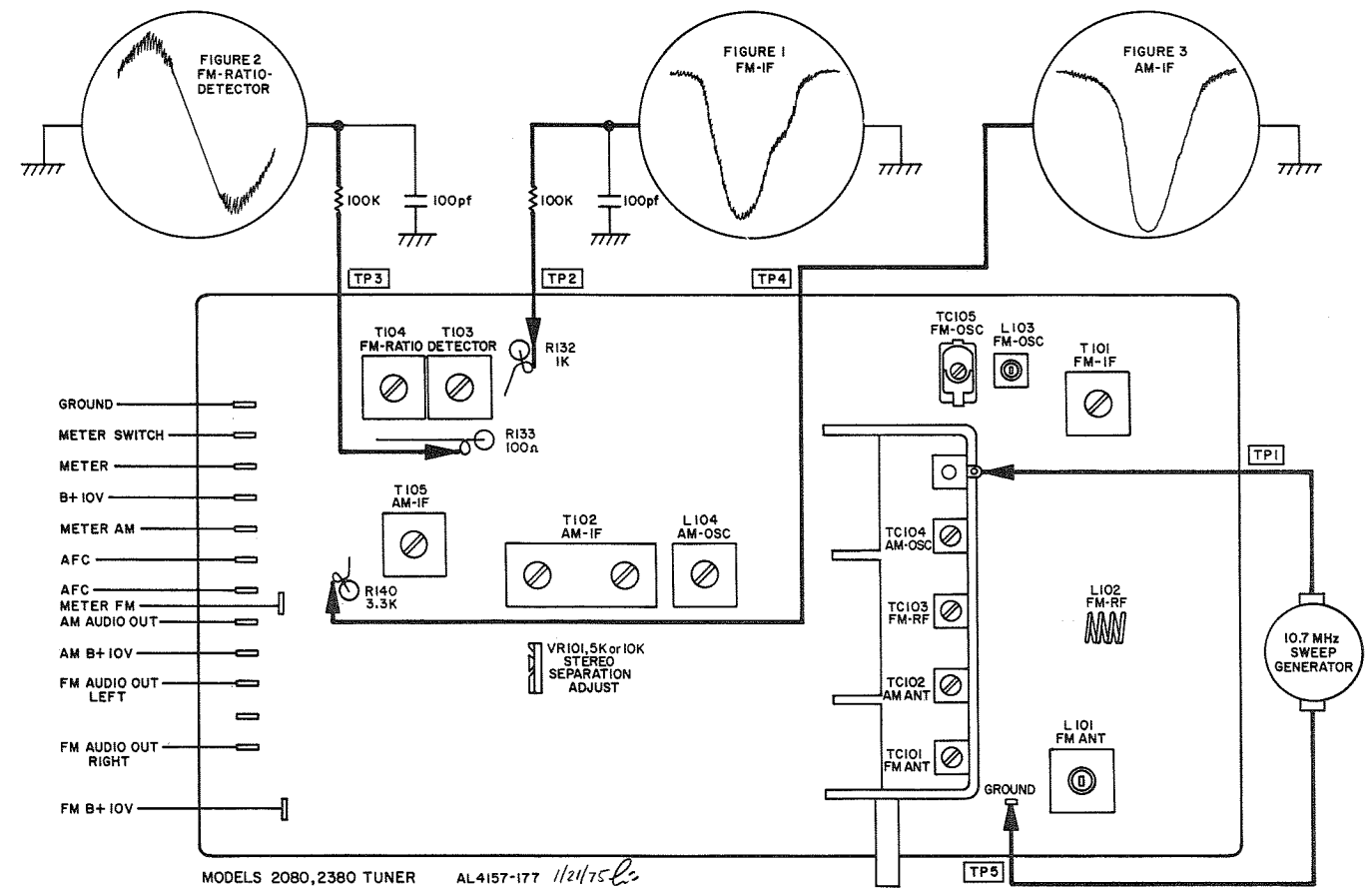
Maintain generator output as low as possible for suitable indication.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
<p>Note: The FM IF circuit utilizes a non-tunable ceramic filter which establishes the IF bandpass. To insure symmetrical tuning and selectivity, the IF must be aligned precisely to the center of the filter bandpass, rather than to 10.7 MHz as in conventional LC circuits.</p>				
1. IF ALIGNMENT	Connect 10.7 MHz sweep generator to TP1. Connect ground lead to TP5. Markers are not required.	Position of non-interference.	Scope vertical input TP2 through 100K resistor and 100pF capacitor as shown. Connect ground lead to chassis.	Adjust T101 for maximum gain. See FIGURE 1
2. PRELIMINARY DETECTOR ALIGNMENT	As above	As above	Scope vertical input to TP3 through a 100K resistor and 100pF capacitor as shown.	Adjust T103, T104 for maximum gain and symmetry. See FIGURE 2
<p>Note: 120-ohm composition resistors in series with each lead from the RF generator match the 50-ohm output to the 300-ohm input impedance. Generator output voltage is reduced to one-half at antenna terminals. Signal voltages specified in this table are generator output levels, not antenna voltages.</p>				
3. FRONT END ALIGNMENT	Open Line Ant. Link.	Tuning knob fully CCW.		Center dial pointer on 0 and cement it in place.
4.	Connect FM RF generator through two 120-ohm resistors to FM ANT screw terminals. Set generator to 90 MHz, modulate with 400 Hz to provide ± 75 deviation. Set generator output attenuator as low as possible.	Center of 90 MHz calibration mark on dial.	Scope vertical input and AC-VTVM to Recorder Output.	Adjust L103 for maximum. Adjust L102 then L101 for maximum gain. Repeat the two steps above as required.
5.	Change generator setting to 106 MHz.	Center of 106 MHz calibration mark on dial.	As above	Adjust TC105 for maximum. Adjust TC102, then TC101 for maximum gain. Repeat the two steps above as required.
6. FINAL DETECTOR ALIGNMENT	As above, except set to position of non-interference near 100 MHz. Set generator output attenuator to 2mV.	Position of non-interference near 100 MHz.	Scope vertical input and distortion meter to Recorder Output.	Adjust T104 for minimum distortion.

SELECTOR TO FM-STEREO, AFC OFF.

7. STEREO SEPARATION	As above, (Step 6) except modulation. Modulate LEFT Channel ± 67.5 kHz - 400Hz audio and ± 7.5 kHz - 19kHz pilot carrier.	As above Step 6	Scope and AC-VTVM to Right Recorder output.	Adjust VR101 for minimum output.
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AM-FM-TUNER LAYOUT



AM-TUNER ALIGNMENT

SELECTOR to AM, VOLUME MINIMUM.

Maintain generator output as low as possible for suitable indication.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. AM IF	Connect 455 kHz sweep generator to AM EXT terminals. Note: After each adjustment reduce generator output as required.	Position of non-interference.	Scope vertical input to TP4. See FIGURE 3	Adjust T105 for maximum gain. Adjust T102 primary and secondary for maximum gain. Repeat above two steps as required.
2. AM FRONT END ALIGNMENT	AM generator to EXT AM ANT and GND terminals. Set to 600 kHz. Modulate with 30%, 1kHz.	Center of 600 kHz calibration mark on dial.	Scope and VTVM to RCDR OUT jack.	Adjust L104 (OSC.) and L105 (Loop ANT) for maximum.
3. AM FRONT END ALIGNMENT	Change frequency to 1400 kHz.	Center of 1400 kHz calibration mark on dial.	As above	Adjust TC 104 (OSC.) and TC 105 (ANT.) for maximum. Repeat steps 2 and 3 until optimum alignment is reached.

INPUT AMPLIFIER PARTS LIST

Ref. No.	Part No.	Description
	PB7256BP100K	Switch PCB Assy.
	SPSP039	Push Switch, Function
C301, C302	CE22342-2	Capacitor, Electrolytic 1uF 6.3V
Q301, Q302	TR2SC900	Transistor 2SC900
C305, C306	CE22342-1	Capacitor, Electrolytic 0.47uF 25V
C313	CE22342-11	Capacitor, Electrolytic 100uF 25V
C303, C304	CK22347-5	Capacitor, Ceramic 200pF 50V
C309, C310	CKCC471K	Capacitor, Ceramic 470pF 50V
C311, C312	CY22335-12	Capacitor, Mylar 0.02uF 50V
C316, C317,		
C307, C308	CY22335-18	Capacitor, Mylar 0.1uF 50V
C314, C315	CY22335-8	Capacitor, Mylar .005uF 50 V
R317	RF25DC222J	Resistor 1/4W 5% 2.2K
R313, R314	RF25DC562J	Resistor 1/4W 5% 5.6K
R307, R308	RF25DC102J	Resistor 1/4W 5% 1K
R303, R304	RF25DC103J	Resistor 1/4W 5% 10K
R305, R306		
R320, R321		
R322, R323	RF25DC823J	Resistor 1/4W 5% 82K
R315, R316	RF25DC154J	Resistor 1/4W 5% 150K
R309, R310	RF25DC274J	Resistor 1/4W 5% 270K
R311, R312	RF25DC334J	Resistor 1/4W 5% 330K
R318, R319	RC07BF155J	Resistor 1/4W 5% 1.5M
R301, R302	RF25DC105J	Resistor 1/4W 5% 1M

TAPE PRE-AMPLIFIER PARTS LIST

Ref. No.	Part No.	Description
	PB7212BP120K	Equalizer PCB Assy.
Q201, Q202	TR2SC900	Transistor 2SC900
Q203, Q204	TR2SC945	Transistor 2SC945
R205, R206	RF25DC331J	Resistor 1/4W 5% 330 ohm
R211, R212	RF25DC102J	Resistor 1/4W 5% 1K
R216, R215		
R201, R202	RF25DC332J	Resistor 1/4W 5% 3.3K
R217, R218	RF25DC682J	Resistor 1/4W 5% 68K
R209, R210	RF25DC103J	Resistor 1/4W 5% 10K
R222,		
R213, R214	RF25DC223J	Resistor 1/4W 5% 22K
R221	RF25DC473J	Resistor 1/4W 5% 47K
R219, R220	RF25DC154J	Resistor 1/4W 5% 150K
R203, R204	RF25DC104J	Resistor 1/4W 5% 100K
R207, R208		
C205, C206	CK22345-9	Capacitor, Ceramic 47pF 50V
C201, C202	CK22347-8	Capacitor, Ceramic 370pF 50V
C209, C210	CY22335-1	Capacitor, Mylar .01uF 50V
C211, C212	CECDV0.47/10	Capacitor, Electrolytic .47uF 10V
C203, C204	CE22342-2	Capacitor, Electrolytic 1uF 6.3V
C207, C208	CECDV33/6.3	Capacitor, Electrolytic 33uF 6.3V
C214	CE22342-15	Capacitor, Electrolytic 220uF 16V
C213	CECDV33/10	Capacitor, Electrolytic 33uF 10V

AM-FM-TUNER PARTS LIST

Ref. No.	Part No.	Description
	PBSBT41	Tuner PCB Assy.
IC101	TRAN217	IC, IF
IC102	TRSN76115N or TR90927	IC, MPX
Q101	TR2SK41	Transistor 2SK41
Q102, Q103	TR2SC461	Transistor 2SC461
Q104	TR2SC380	Transistor 2SC380
Q105	TR2SC1647	Transistor 2SC1647
CR101	TR1S553	Diode (AFC)
CR102		Diode 1S188
THROUGH		
CR108		
CF101, CF102	CFSFE10.7MA5	Ceramic Filt. SFE10.7MA5
VC1	CVCS007	Air Variable Capacitor
TC105	CTCT038	Trimmer
L101	LCHA013	FM Antenna Coil
L102	LCHB049	FM RF Coil
L103	LCHC035	FM Osc. Coil
L106	LCHE008	IF Trap Coil
L105	LAAD120A	AM Antenna Coil with Ferrite Ant.
T101	221K001	FM IFT
T103	ZZ10019	FM IFT Detector Prim.
T104	ZZ10020	FM IFT Detector Sec.
L104	LCHM022	AM Osc. Coil
T102	ZZ1G003	AM IFT
T105	ZZ1C012	AM IFT
L107, L108	LCHE028S	Inductor (MPX Filter)
C157	CPMK172J	Capacitor Styrene 1700pf 50VDC
C159	CA22313-1	Mica Condenser 470pf 50VDC
C127	CA22313-6	Mica Condenser 330pf 50VDC
C115	CA22313-10	Mica Condenser 82pf 50VDC
C148, C149	CK22350-6	Capacitor, Ceramic 300pF 50VDC
C113,		
C141, C142	CK22345-12	Capacitor, Ceramic 100pF 50VDC
C102, C104	CK22345-7	Capacitor, Ceramic 30pF 50VDC
C130	CK22344-9	Capacitor, Ceramic 15pF 50VDC
C118, C125	CK22345-3	Capacitor, Ceramic 10pF 50VDC
C143	CK22345-9	Capacitor, Ceramic 47pF 50VDC
C134	CK22346-2	Capacitor, Ceramic 1pF 50VDC
C108, C144	CKCC200K	Capacitor, Ceramic 20pF UJ
C126	CKCC200K	Capacitor, Ceramic 20pF TH
C109, C102	CKCC300K	Capacitor, Ceramic 30pF UJ
C106	CKCC100K	Capacitor, Ceramic 10pF UJ
C114, C116	CKCC050D	Capacitor, Ceramic 5pF CH
C117	CKCC020D	Capacitor, Ceramic 2pF
C112	CKCC030D	Capacitor, Ceramic 3pF
C101, C119	CK22354-1	Capacitor, Ceramic 0.01uF
C128, C139		
C153, C152		
C103, C110	CK22354-2	Capacitor, Ceramic 0.02uF 50V
C111, C120		
C121, C122		
C123, C124		
C145, C129		
C132, C176		
C133, C138		
C154, C174		
C107, C175,		
C105		
C175		
C161	CYCMS-334M	Capacitor, Mylar .33uF
C166	CY22335-20	Capacitor, Mylar .22uF
C165, C156	CY22335-22	Capacitor, Mylar .04uF
C160, C162	CY22335-12	Capacitor, Mylar .02uF
C170, C171	CY22335-8	Capacitor, Mylar .005uF
C172, C173		

POWER SUPPLY PARTS LIST

Ref. No.	Part No.	Description
	PB7256BP400K	Power Supply PCB Assy.
CR601, CR602	BRFS-3	Rectifier FS-3
CR603	BR1N4003	Rectifier 1N4003
CR604	TRBZ100	Zener Diode, 10V
C603	CK22354-1	Capacitor, Ceramic 0.01uF 50V
C601, C602	CKCK103	Capacitor, Ceramic 0.01uF 500V
R603	RFRD1-56	Resistor 1W 56 ohm
R602	RC30BF221J	Resistor 1W 220 ohm
R604	RW5W330J	Cement Type Resistor 33 ohm 5W
C606	CECDV2200/16	Capacitor, Electrolytic 2200uF 16V
C607	CECDV1000/35	Capacitor, Electrolytic 1000uF 35V
C605	CECDV2200/35	Capacitor, Electrolytic 2200uF 35V
C604	CECDV2200/25	Capacitor, Electrolytic 2200uF 25V
R601	RF25DC102J	Resistor 1/4W 5% 1K
C608	CECDV1000/35	Capacitor, Electrolytic 1000uF 35V

POWER AMPLIFIER PARTS LIST

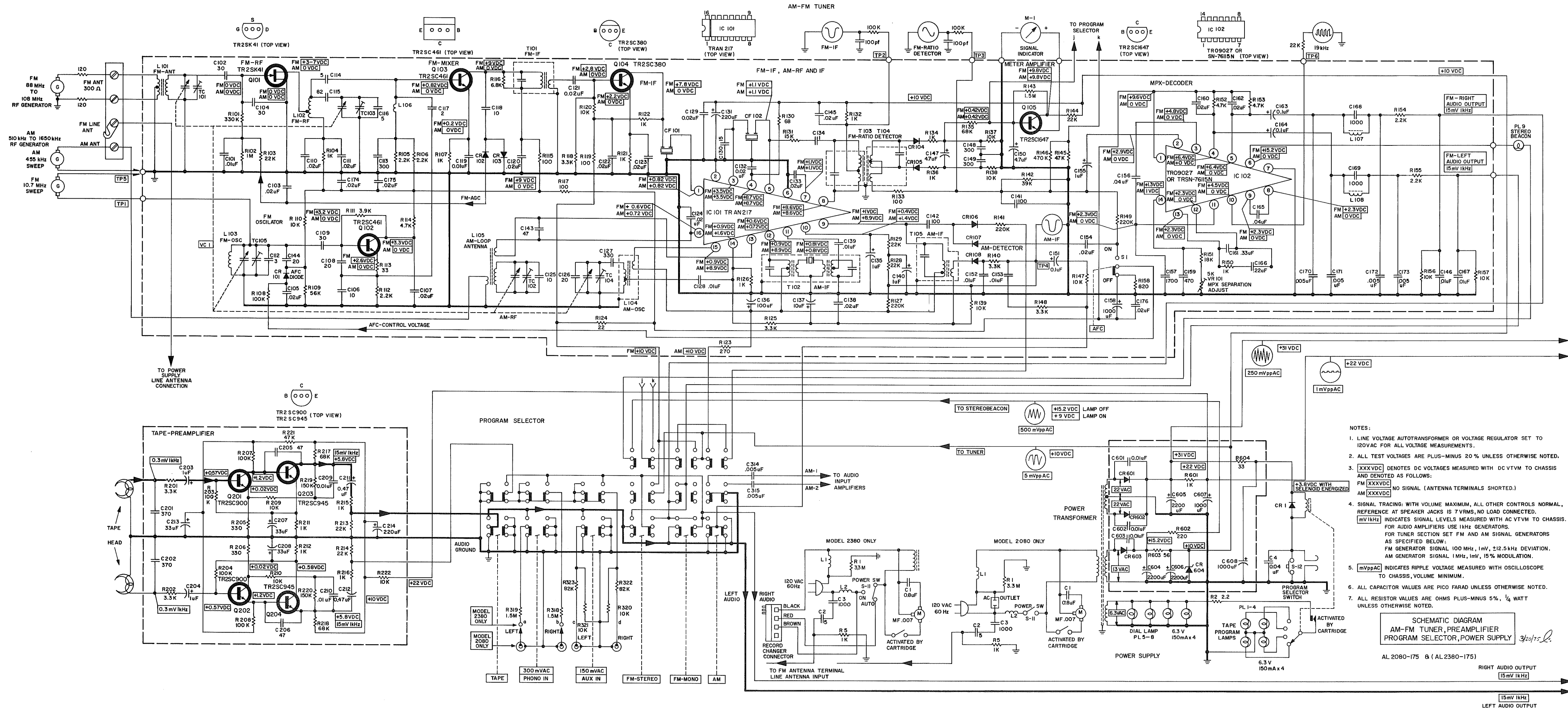
Ref. No.	Part No.	Description
	PB7256BP300K	Power Amplifier PCB Assy.
Q507, Q508	TR2SA636	Transistor 2SA636 (PNP)
Q509, Q510	TR2SC1098	Transistor 2SC1098 (NPN)
Q503, Q504	TR2SC945	Transistor 2SC945 (NPN)
Q505, Q506	TR2SD261	Transistor 2SD261 (NPN)
Q501, Q502	TR2SA733	Transistor 2SA733 (PNP)
CR501, CR502	RVVD1220	Varistor VD1220
C501, C502	CE22342-2	Capacitor, Electrolytic 1uF 25V
C503, C504	CECDV330/16	Capacitor, Electrolytic 330uF 16V
C515	CE22342-11	Capacitor, Electrolytic 100uF 25V
C513, C514	CE22342-14	Capacitor, Electrolytic 220uF 25V
C511, C512	CE22342-23	Capacitor, Electrolytic 1000uF 25V
C516	CE22342-10	Capacitor, Electrolytic 100uF 35V
C507, C508	CK22344-9	Capacitor, Ceramic 15pF 50V
C505, C506	CK22347-5	Capacitor, Ceramic 200pF 50V
C509, C510	CY22335-18	Capacitor, Mylar 0.1uF 50V
R515, R516	RC30BF331K	Resistor 1W 330 ohm
R529, R530	RC30BF221J	Resistor 1W 220 ohm
R525, R526	RC20BF100J	Resistor 1/2W 10 ohm
R521, R522	RRD3-0.5	Resistor Cement Type .5 ohm 3W
R523, R524		
R507, R508	RF25DC470J	Resistor 1/4W 5% 47 ohm
R511, R512	RF25DC102J	Resistor 1/4W 5% 1K
R509, R510	RF25DC472J	Resistor 1/4W 5% 4.7K
R513, R514	RF25DC562J	Resistor 1/4W 5% 5.6K
R527, R528	RF25DC822J	Resistor 1/4W 5% 8.2K
R531	RF25DC393J	Resistor 1/4W 5% 39K
R503, R504	RF25DC104J	Resistor 1/4W 5% 100K
R505, R506	RF25DC124J	Resistor 1/4W 5% 120K
R501, R502	RF25DC332J	Resistor 1/4W 5% 3.3K
R517, R518	RF25DC150J	Resistor 1/4W 5% 15 ohm
R519, R520	RF25DC121J	Resistor 1/4W 5% 120 ohm

CHASSIS PARTS LIST

Ref. No.	Part No.	Description
	PB7256BP200K	Volume PCB Assy.
	JKJH001	Headphone Jack
	SPSP022	Switch Push
S12	SPSP020	Switch Power
S11	M1	Meter, Signal Indicator
	M1	AC Outlet
	TDTA097A	Power Transformer
PL1-PL8	LMBP031H	Pilot Lamp 6.3V 150ma
	LMBP034	Pilot Lamp 9V 30ma
PL9	RF50DC335J	Resistor 1/2W 3.3M
R1	RF50DC102J	Resistor 1/2W 1K
R5	RFRD1-120	Resistor 1W 120 ohm
R3, R4	RRPD5-2.2	Resistor 5W 2.2 ohm
R2	CKCK120	Capacitor Ceramic 1000pf 150V AC
C3	CK22344-1	Capacitor Ceramic 5pf
C2	LCHE027	Trap Coil
L1, L2	RPRQ040	Slide Control Volume
VR1	KK7256B09	Cabinet - 2380
	KK7256B10	Bottom, Cabinet - 2380
	KK7256B12	Backboard - 2380
	WR2J017	Power Cord - Changer - 2380
	AS7256B11K	Front Panel Assy. 2080
	AS7256CB11K	Front Panel Assy. 2380
	N7256B02	Dial Plate
	KK7256B03	Cabinet 2080
	KK7256B04	Bottom, Cabinet - 2080
	KK7256B05	Backboard - 2080
	EK7256B06	Button, Power
	I7256B07	Lens, Stereo Indicator
	AS7256C03K	Tuning Assembly
	EK7256A04K	Knob, Tuning with metal Cap
	EK7256A05K	Knob, Control with metal band
	EK7212A06K	Knob, Program with metal Cap
	AN7130C15	Door Spring
	AN1848C23	Dial Spring
	EA2173D06	Foot
	AP7256A06	Dial Pointer
	W52J004	Shielded wire with plug - 2380

AUDIO CONTROL AMPLIFIER PARTS LIST

Ref. No.	Part No.	Description
Q401, Q402	TR2SC900	Transistor 2SC900
VR401, VR402	RPRQ044	Slide Control Bass/Treble
VR403	RPRQ041	Slide Control Balance
C407, C408	CYCMS202K	Capacitor, Mylar .002uf 50V
C413, C414	CY22335-12	Capacitor, Mylar .02uf 50V
C411, C412	CYCMS-803K	Capacitor, Mylar .08uf 50V
C409, C410	CY22335-1	Capacitor, Mylar .01uf 50V
C403, C404	CK22347-8	Capacitor, Ceramic 370 pf 50V
C405, C406	CS22340-5	Capacitor, Sint. Al. 1uf 25V
C401, C402		
C415	CS22340-6	Capacitor, Sint. Al. 4.7uF 25V
R411, R412	RF25DC332J	Resistor 1/4W 5% 3.3K
R407, R408	RF25DC472J	Resistor 1/4W 5% 4.7K
R405, R406	RF25DC561J	Resistor 1/4W 5% 560 ohms
R403, R404	RF25DC154J	Resistor 1/4W 5% 150K
R409, R410	RF25DC103J	Resistor 1/4W 5% 10K
R413,		
R401, R402	RF25DC105J	Resistor 1/4W 5% 1M
R415	RF25DC102J	Resistor 1/4W 5% 1K

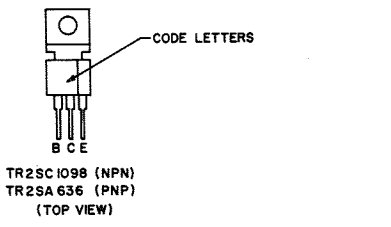
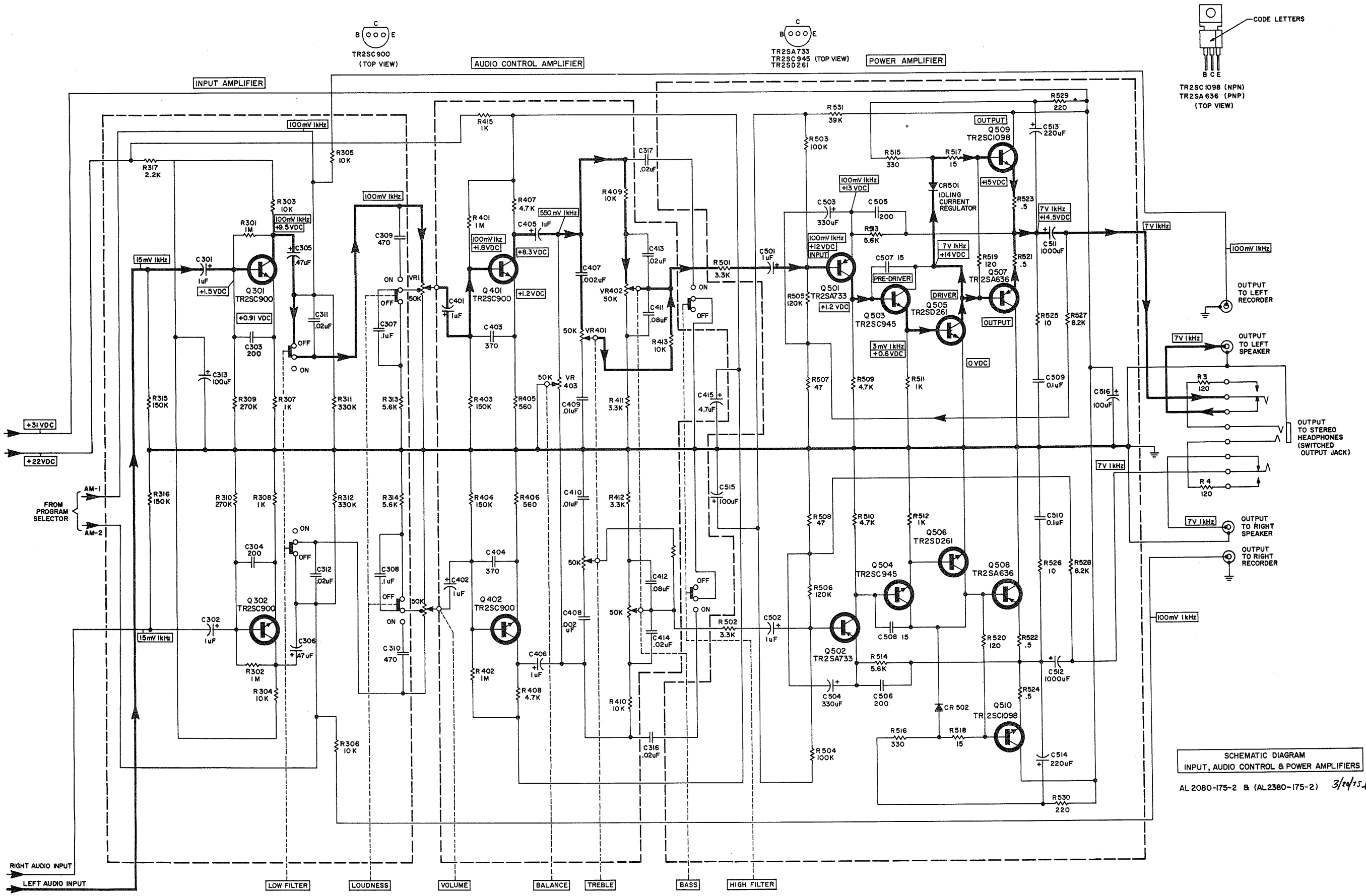


- NOTES:
1. LINE VOLTAGE AUTOTRANSFORMER OR VOLTAGE REGULATOR SET TO 120VAC FOR ALL VOLTAGE MEASUREMENTS.
 2. ALL TEST VOLTAGES ARE PLUS-MINUS 20% UNLESS OTHERWISE NOTED.
 3. XXXVDC DENOTES DC VOLTAGES MEASURED WITH DC VTVM TO CHASSIS AND DENOTED AS FOLLOWS:
 FM XXXVDC NO SIGNAL (ANTENNA TERMINALS SHORTED.)
 AM XXXVDC NO SIGNAL (ANTENNA TERMINALS SHORTED.)
 4. SIGNAL TRACING: WITH VOLUME MAXIMUM, ALL OTHER CONTROLS NORMAL, REFERENCE AT SPEAKER JACKS IS 7VRMS, NO LOAD CONNECTED. INDICATES SIGNAL LEVELS MEASURED WITH AC VTVM TO CHASSIS. FOR AUDIO AMPLIFIERS USE 1kHz GENERATORS. FOR TUNER SECTION SET FM AND AM SIGNAL GENERATORS AS SPECIFIED BELOW:
 FM GENERATOR SIGNAL 100 MHz, 1mV, ±12.5 kHz DEVIATION.
 AM GENERATOR SIGNAL 1 MHz, 1mV, 15% MODULATION.
 5. mVppAC INDICATES RIPPLE VOLTAGE MEASURED WITH OSCILLOSCOPE TO CHASSIS, VOLUME MINIMUM.
 6. ALL CAPACITOR VALUES ARE PICO FARAD UNLESS OTHERWISE NOTED.
 7. ALL RESISTOR VALUES ARE OHMS PLUS-MINUS 5%, 1/4 WATT UNLESS OTHERWISE NOTED.

SCHMATIC DIAGRAM
 AM-FM TUNER, PREAMPLIFIER
 PROGRAM SELECTOR, POWER SUPPLY

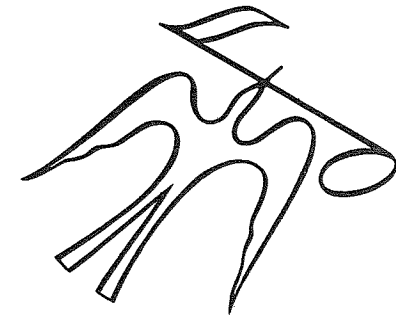
AL 2080-175 & (AL 2380-175)

RIGHT AUDIO OUTPUT
 15mV 1kHz
 LEFT AUDIO OUTPUT
 15mV 1kHz



SCHEMATIC DIAGRAM
 INPUT, AUDIO CONTROL & POWER AMPLIFIERS
 AL 2080-175-2 & (AL2380-175-2) 3/24/75 L.

NOTES



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