

SERVICE MANUAL



MODEL NO. 5988

SPECIFICATIONS

AM TUNER SECTION

Frequency Range	: 535 — 1605 kHz
Sensitivity for 20 dB S/N	: 50 dB
IF Rejection	: 32 dB
RF Rejection	: 40 dB
AGC Effect	: 40 dB
T.H.D.	: 2%
Modulation Hum	: 45 dB
Selectivity ACA	: 22 dB

FM TUNER SECTION

Frequency Range	: 88 — 108 MHz
Sensitivity for 30 dB S/N	: 26 dB
IF Rejection	: 70 dB
RF Rejection	: 30 dB
Selectivity ± 600 kHz	: 20 dB
AFC Effect 10% THD	: ± 450 kHz
Inter Modulation	: 26 dB
T.H.D.	: 2%
Modulation Hum	: 45 dB

FM STEREO MULTIPLEX SECTION

Stereo Indicator Sens.	: 28 dB
19 kHz Leak Carrier	: 38 dB
Separation 60 dB Input	: 30 dB
T.H.D.	: 4%
SCA Rejection	: 56 dB

AUDIO AMPLIFIER SECTION

Sensitivity Mag. Phono	: 3.5 mV
Cer. Phono/Aux	: 400 mV
Channel Cross Talk	: 45 dB
T.H.D.	: 0.5%
U.O.P. (1% T.H.D.)	: 10W
Power Bandwidth (10W 1%)	: 80 — 20 kHz
Bass Control Effect Cut	: 10 dB
(100 Hz) Boost	: 10 dB
Treble Control Effect Cut	: 10 dB
(10 kHz) Boost	: 8 dB
Input Impedance Mag Phono	: 50K ohm
Cer. Phono/Aux:	560K ohm

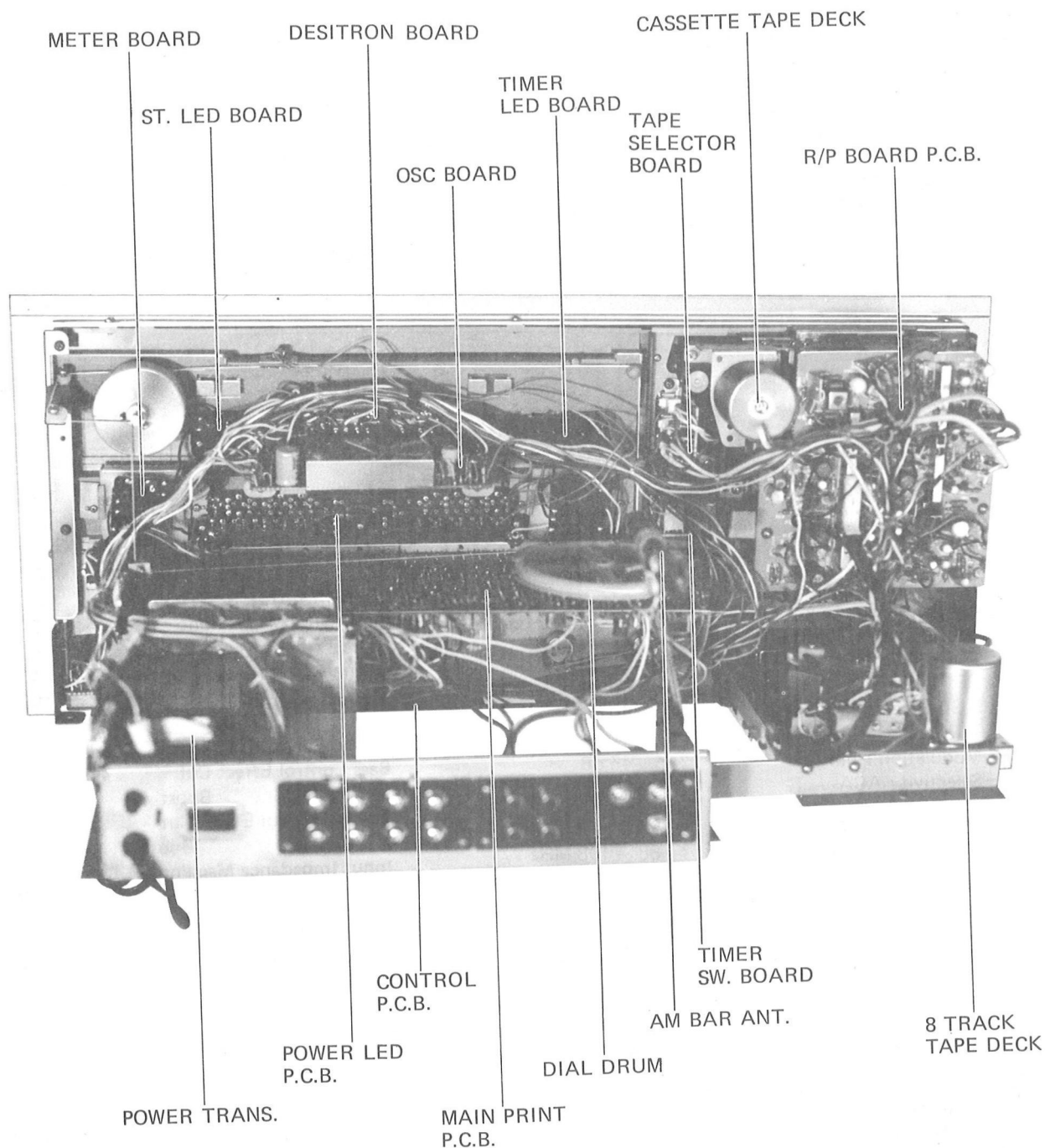
CASSETTE/8-TRACK PLAYBACK

S/N	: 35 dB
Max Noise	: 140 mV
Channel Cross Talk	: 37 dB
Channel Separation	: 35 dB
T.H.D.	: 2%
U.O.P. (10% T.H.D.)	: 10W
Tape Speed	: $\pm 1\%$
Wow-Flutter	: 0.1%

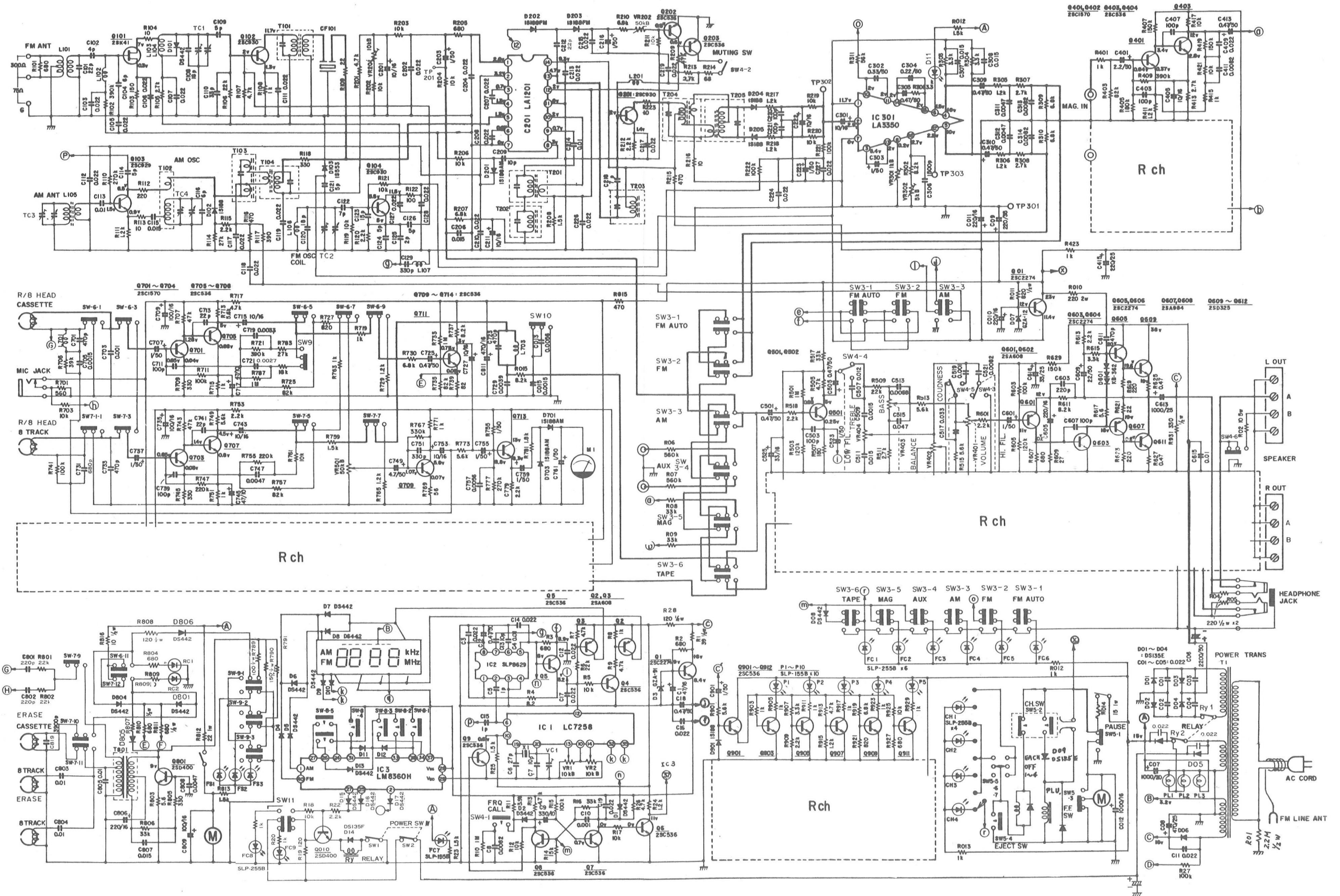
CASSETTE/8-TRACK RECORDING

S.R.L.	: 65 dB
S/N	: 32 dB
Maximum Noise	: 140 mV
Channel Cross Talk	: 37 dB
Channel Separation	: 35 dB
T.H.D.	: 2.5%
Erase Effect	: 40 dB

PARTS LOCATION

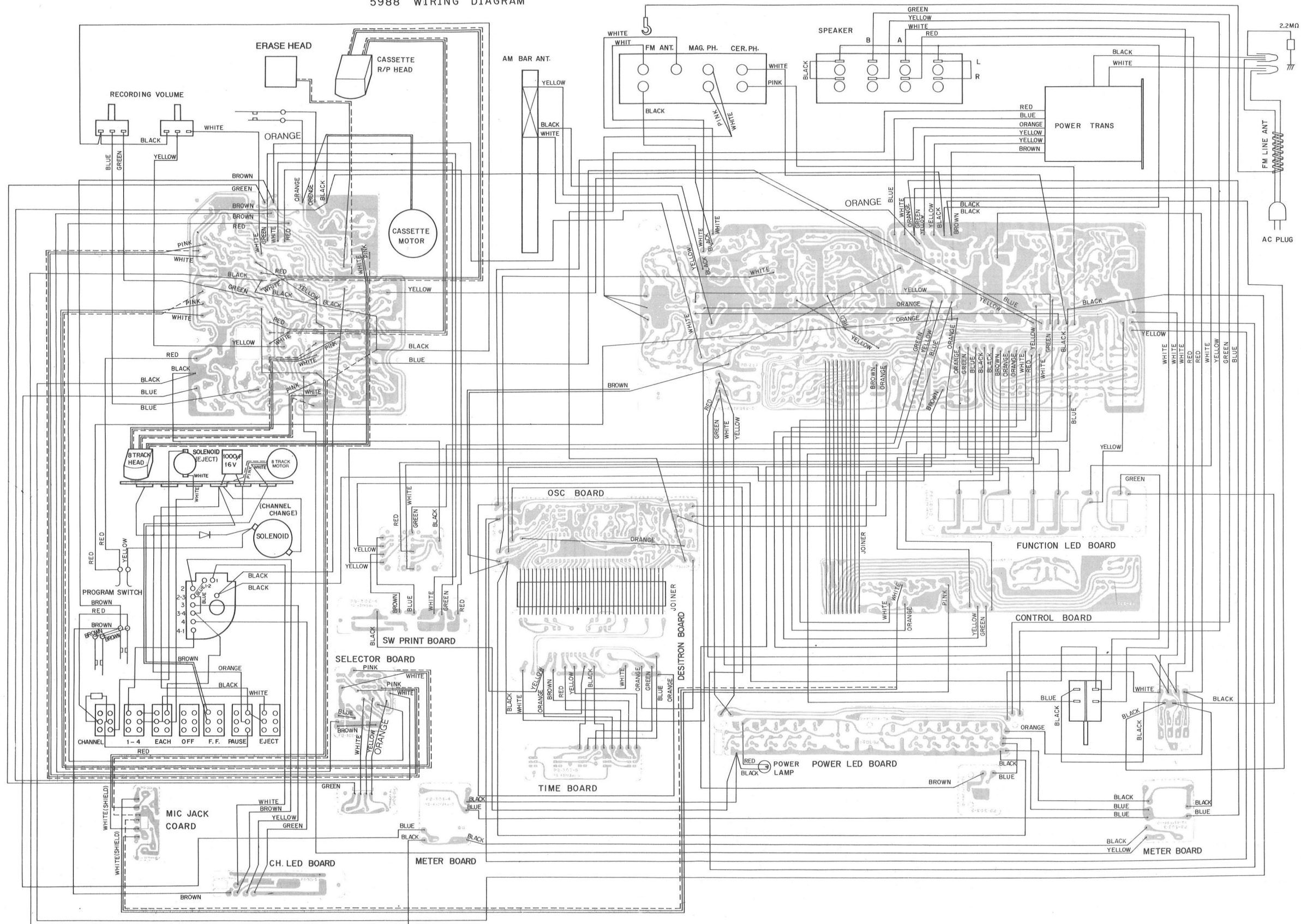


SCHEMATIC DIAGRAM

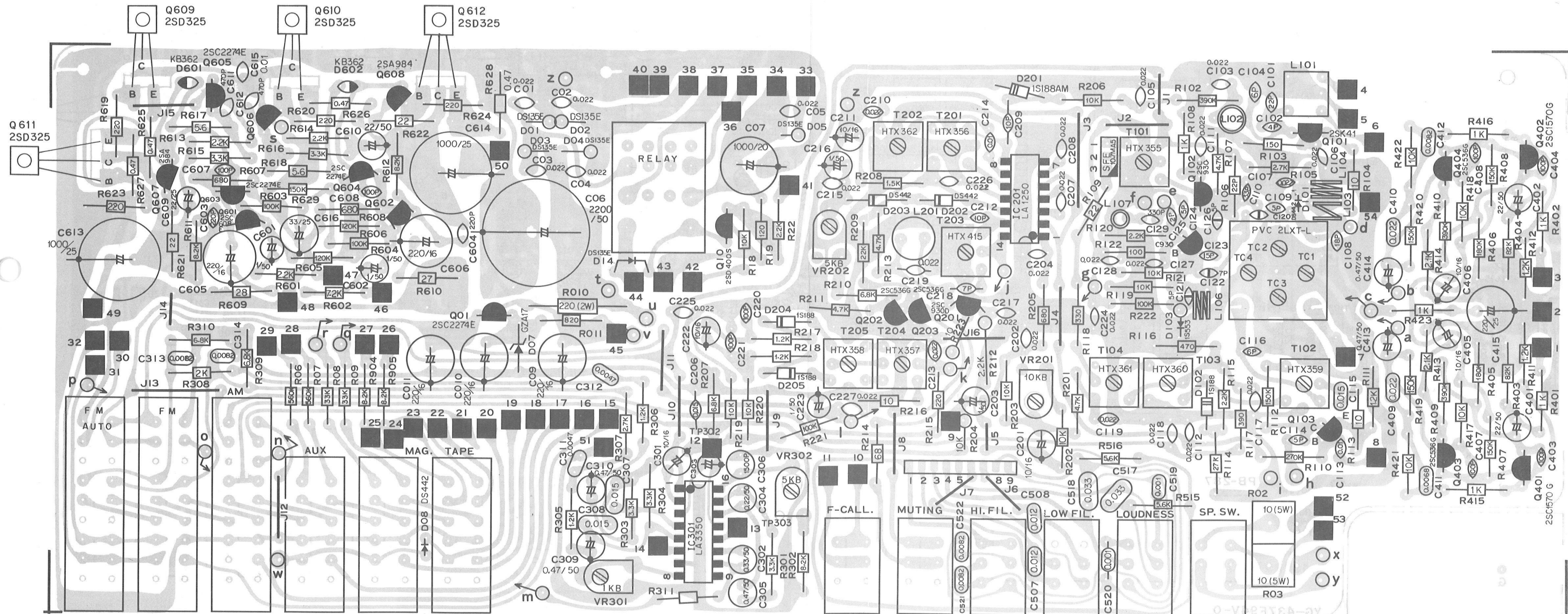


WIRING DIAGRAM

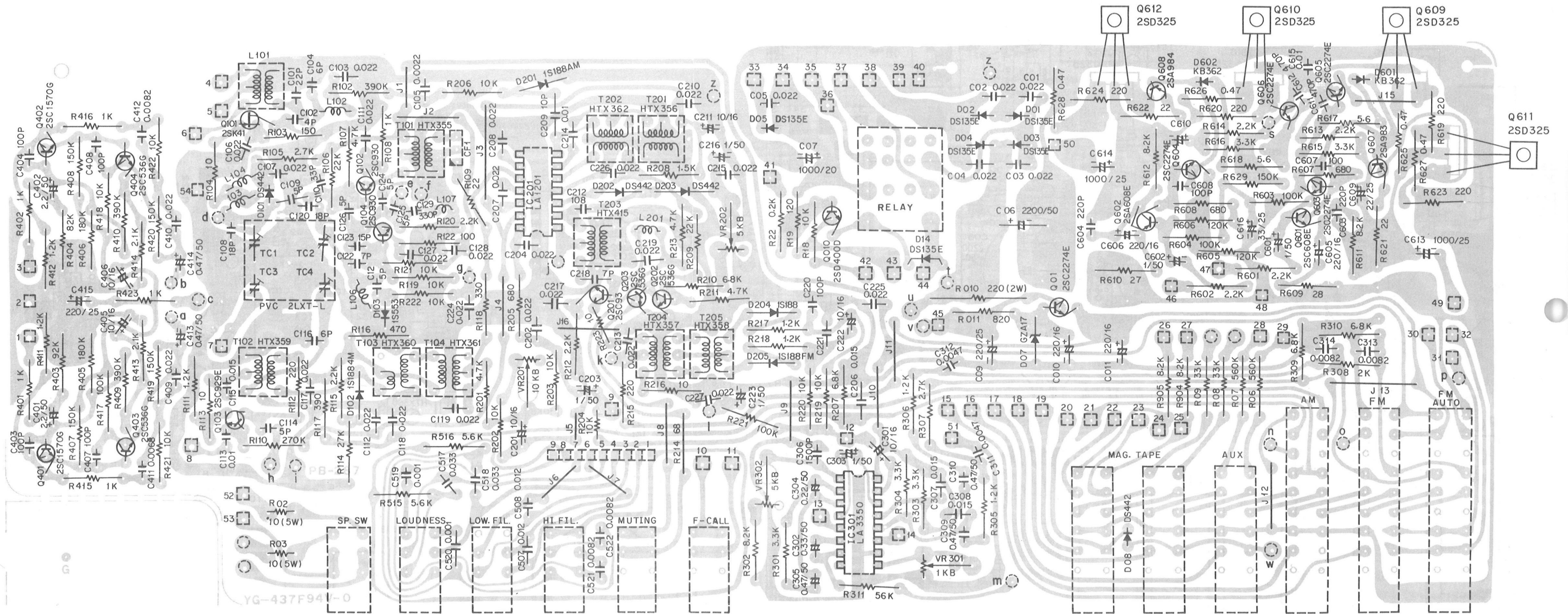
5988 WIRING DIAGRAM



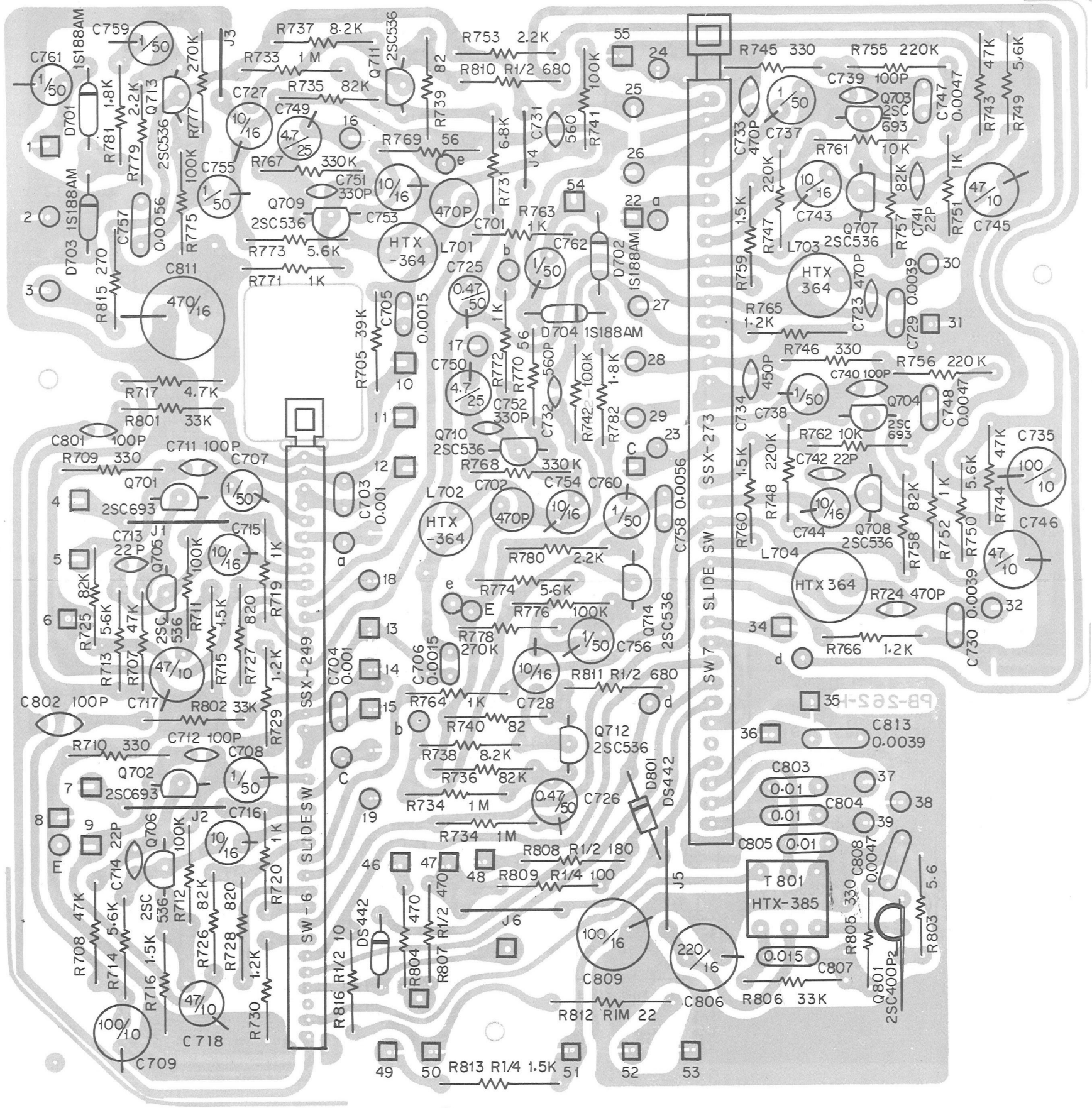
MAIN P.C.B TOP VIEW



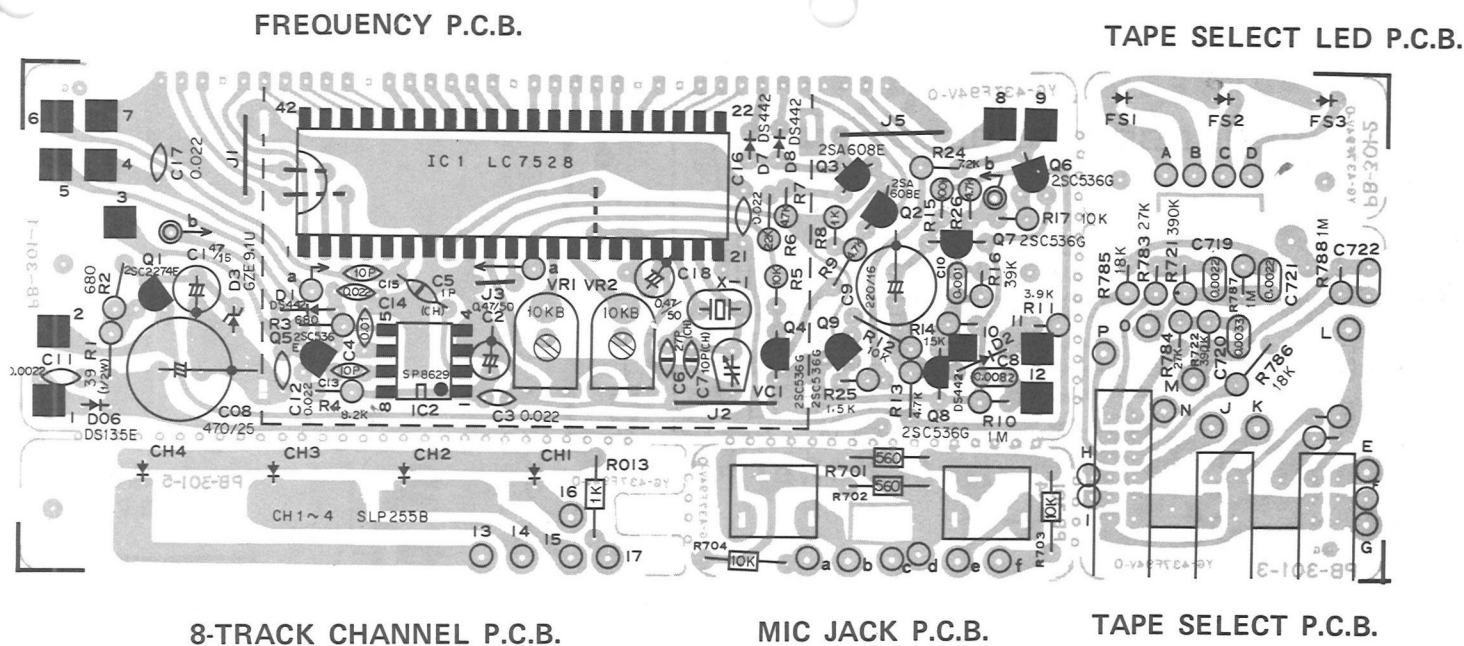
MAIN P.C.B BOTTOM VIEW



R/P P.C.B BOARD TOP VIEW



CLOCK P.C.B. TOP VIEW

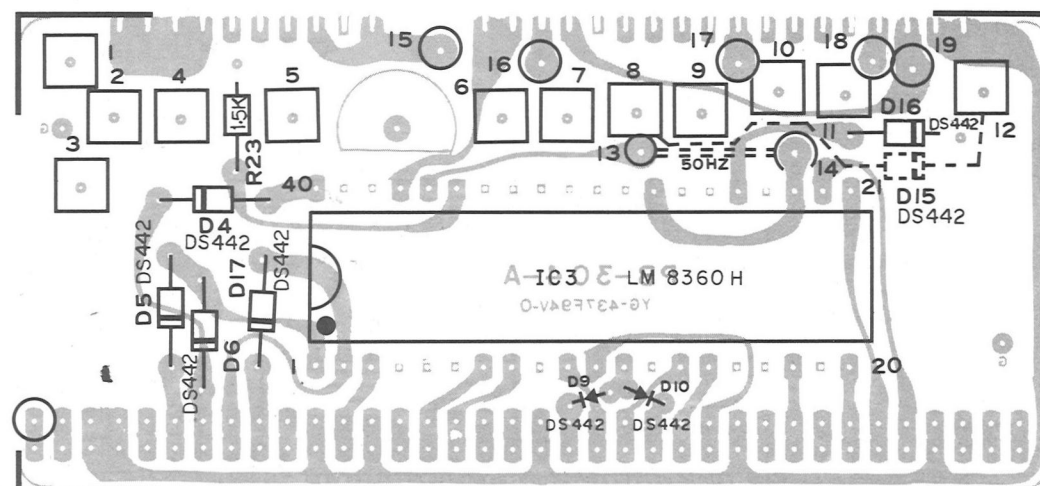


FREQUENCY

8-TRACK CHANNEL P.C.B.

MIC JACK P.C.B.

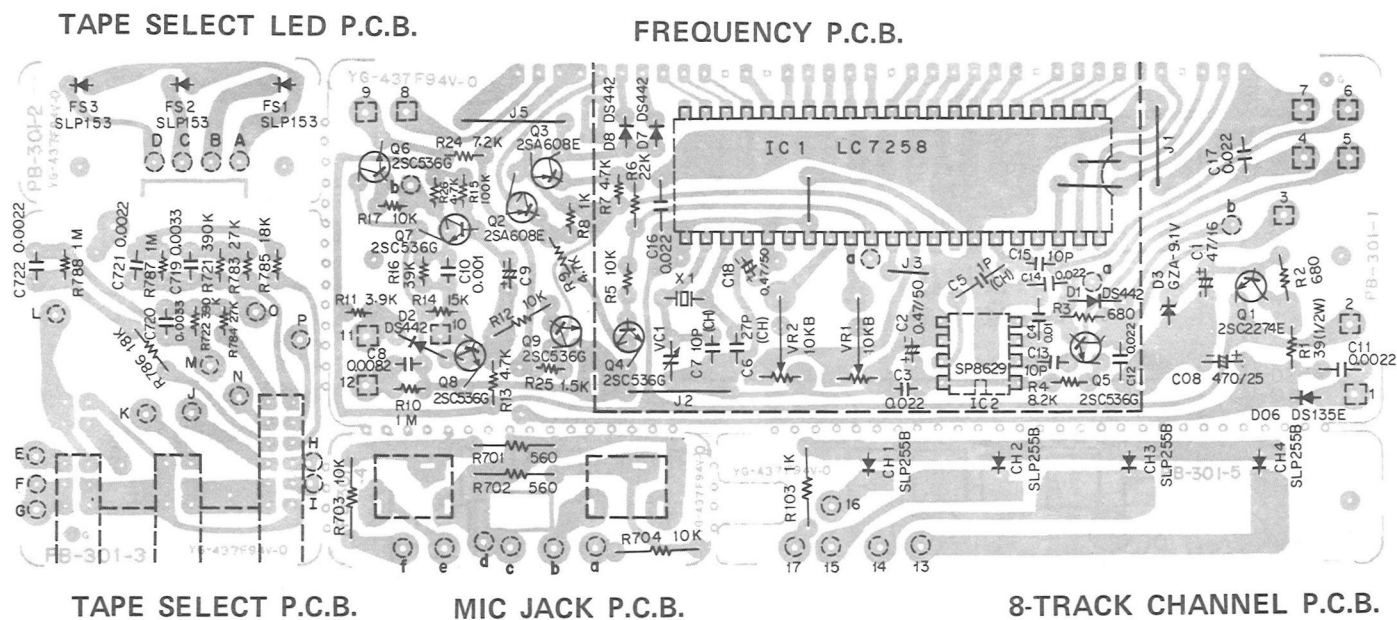
TAPE SELECT P.C.B.



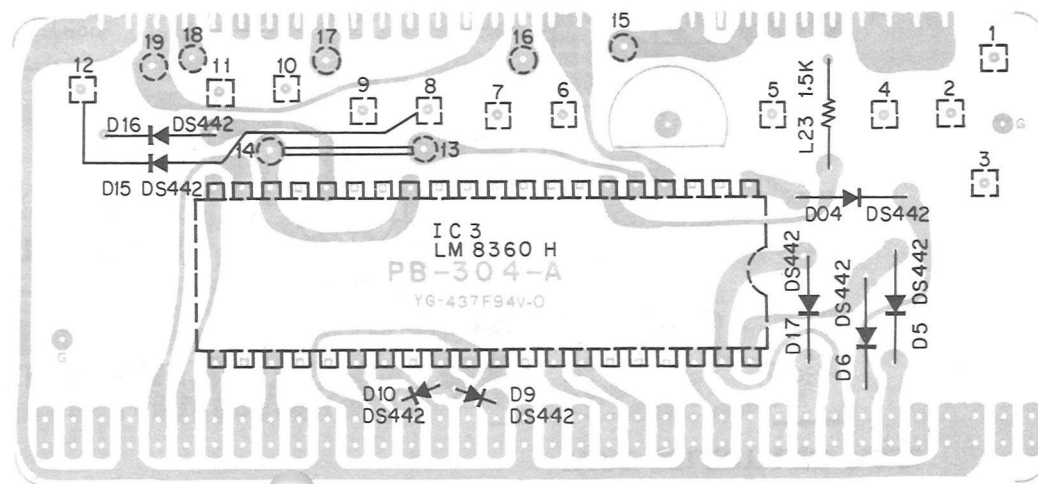
TIME

CLOCK P.C.B. BOTTOM VIEW

FREQUENCY



TIME

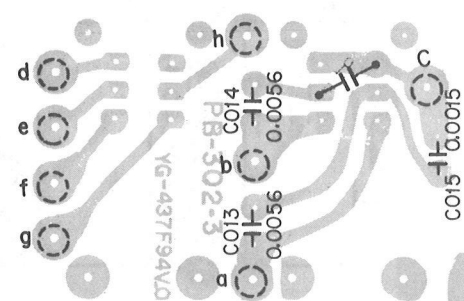


RECORD AND TIMER INDICATOR P.C.B.

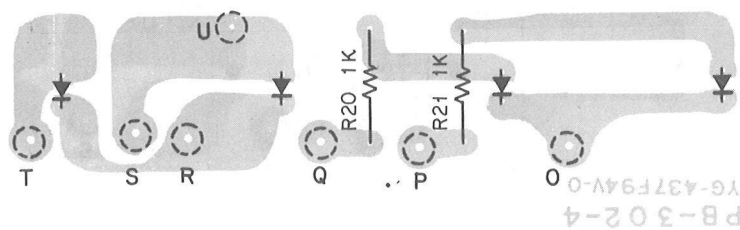


BOTTOM VIEW

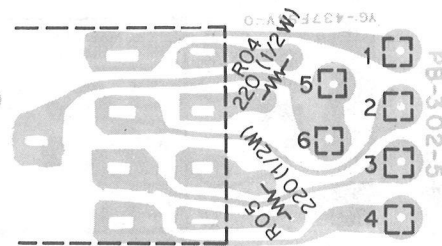
LEVER SWITCH P.C.B.



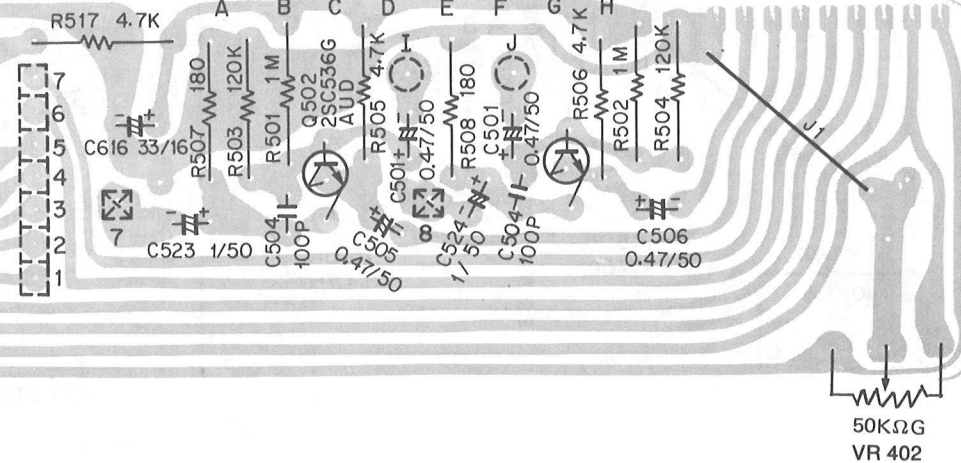
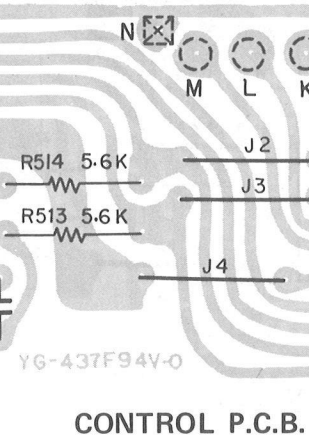
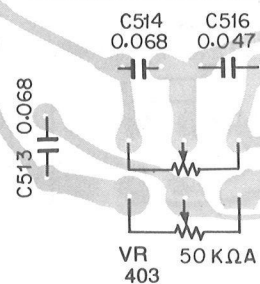
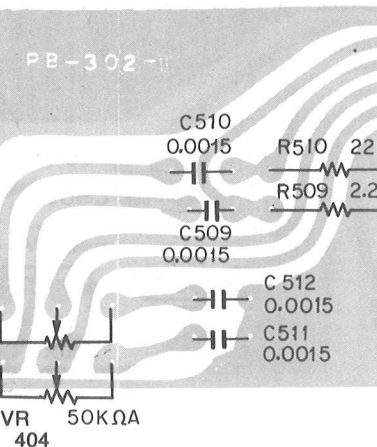
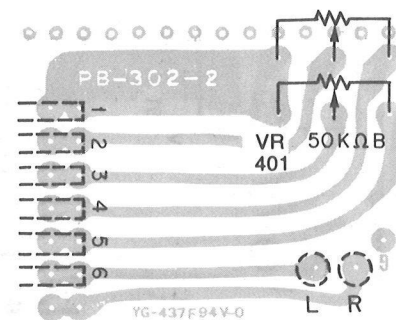
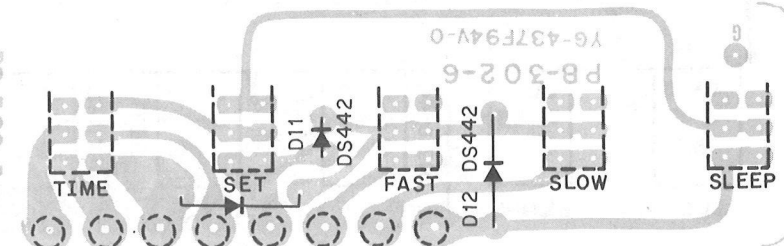
RECORD AND TIMER INDICATOR P.C.B.



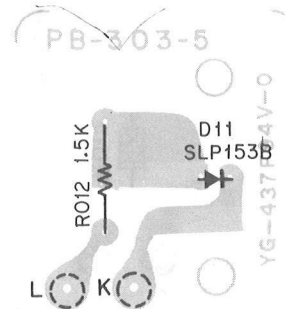
HEADPHONE JACK P.C.B.



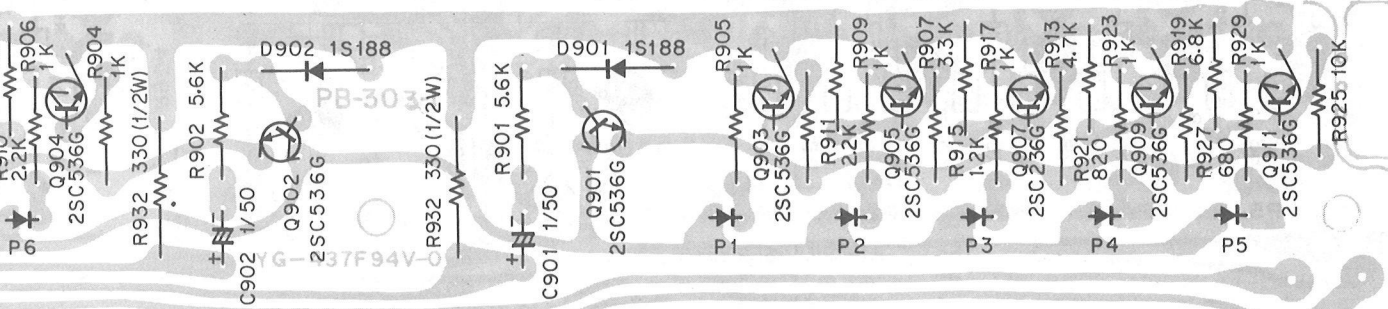
CLOCK SWITCH P.C.B.



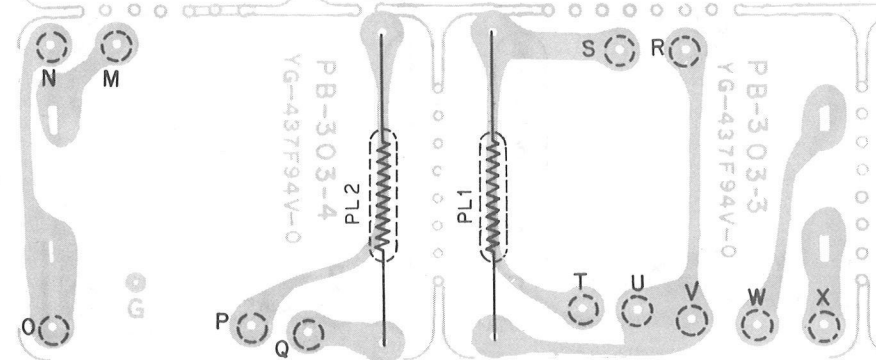
STEREO IND. P.C.B.



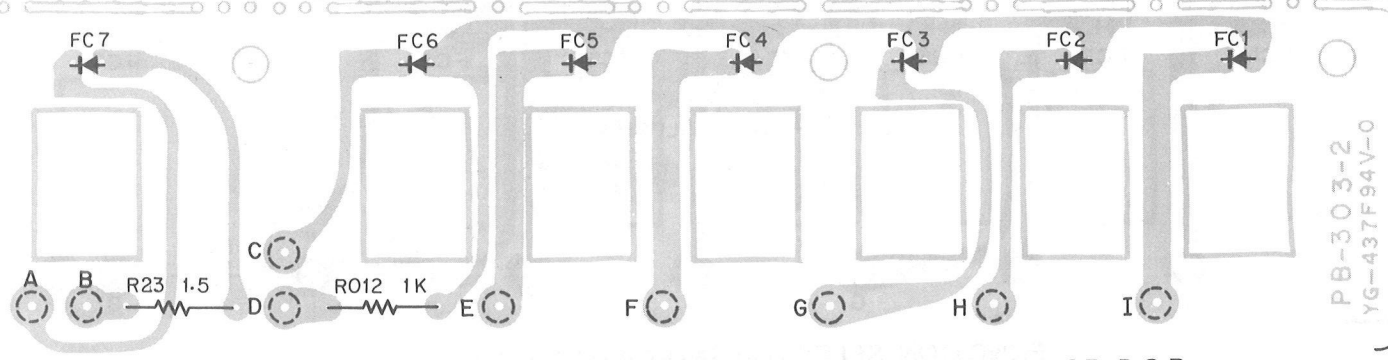
POWER IND. P.C.B.



VU METER P.C.B.



FUNCTION SELECTOR INDICATOR P.C.B.



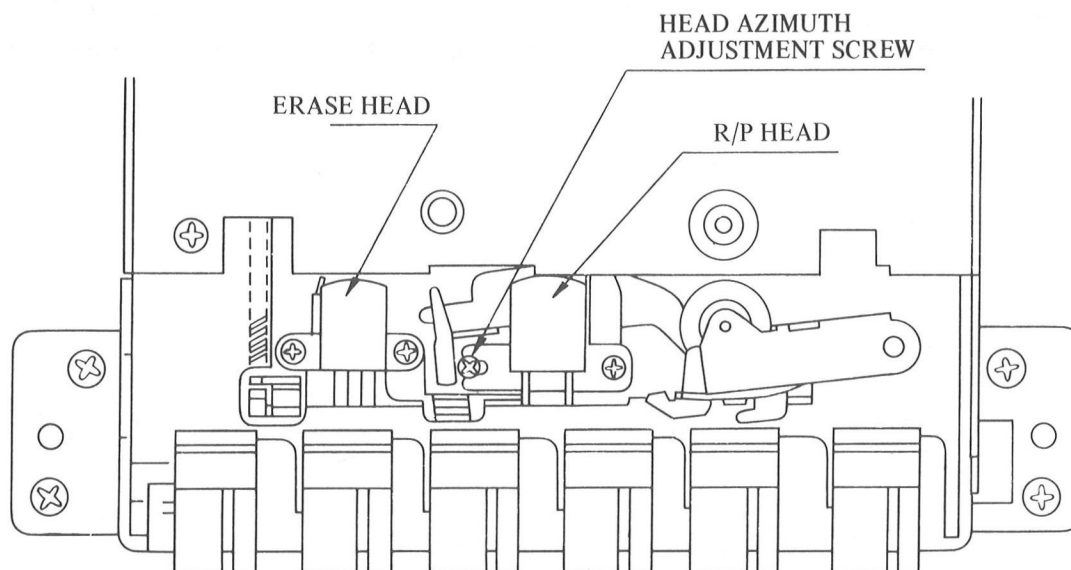
ADJUSTMENT OF CASSETTE DECK

1. Adjustment of Azimuth

Playback the test tape MTT-114 (10kHz) and adjust the head azimuth adjustment screws so as to maximize the UNE output (voltage drop with load resistors inserted) for both R and L channels and attain proper balance between the two channels. Lock these adjustment screws after the adjustment is completed.

2. Adjustments of Bias Oscillation Coil

Set to recording operation and connect frequency counter to C805, 0.01 μ F in showing schematic diagram. Adjust OSC coil to indicate 60 – 62 kHz.



ADJUSTMENT OF 8-TRACK TAPE DECK

HEAD AZIMUTH AND HEIGHT ADJUSTMENT BY RCA TEST CARTRIDGE #321

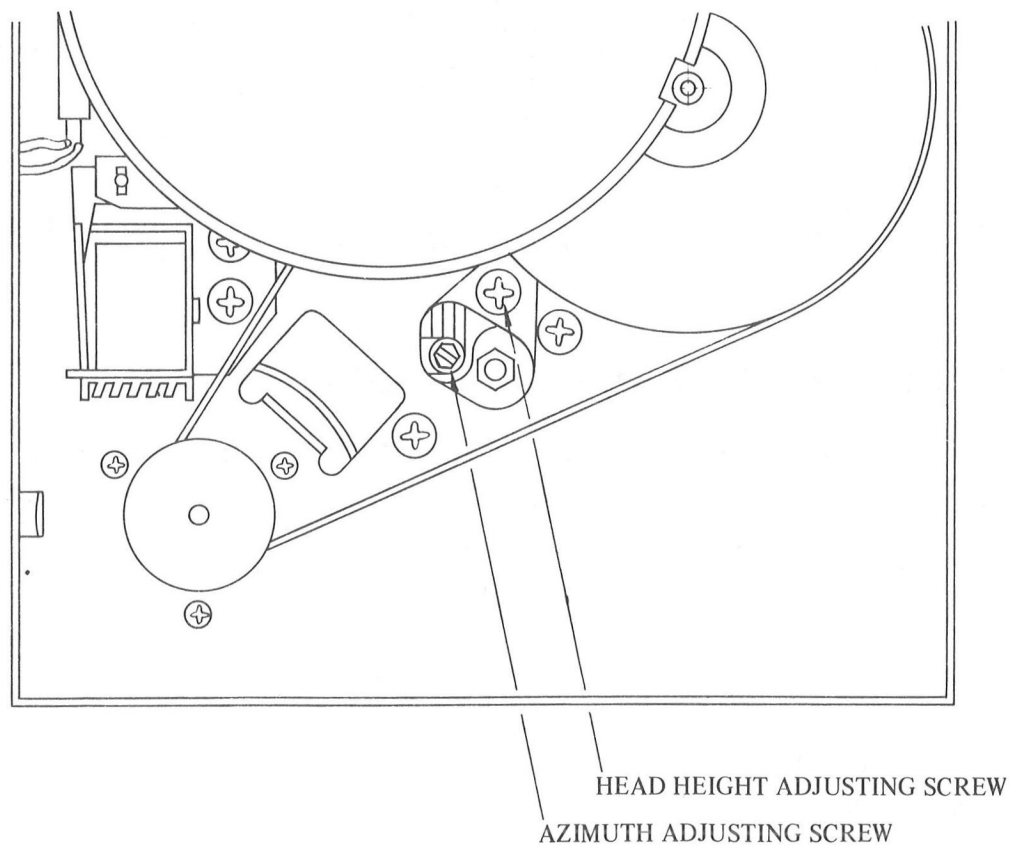
Before starting this adjustment, the head and all tools to be used for alignment must be demagnetized. The following equipment is required for head adjustment.

- 1) VTVM
- 2) Load resistor (8 ohms)
- 3) AC power source (AC 120V 60Hz)
- 4) Test tape cartridge RCA #321
- 5) Small screwdriver

1. Connect the VTVM and load resistor to individual right and left output circuits of the stereo tape player.
2. Set the channel on the head by depressing the channel select button (Track 2 – 6).
3. Turn the height adjusting screw back and forth to locate the position at which the meter connected to the left load shows minimum deflection.
4. After height adjustment has been completed turn the azimuth adjusting screw to locate the position at which the meter connected to the right load show maximum deflection.
5. Repeat these adjustments (Items 3 and 4) alternately, since height may change by turning the azimuth adjusting screw.
6. After all adjustment have been completed, secure lock the height adjusting and azimuth screw.

Note: A 1000Hz signal is recorded on each side above and below track 2 (left channel) of the RCA test cartridge #321. Track 6 (right channel) has an 8000Hz signal with slightly wider than standard and is used for azimuth adjustment.

BOTTOM VIEW



ALIGNMENT INSTRUCTION

A) EQUIPMENT NEEDED

1. AM Signal Generator
2. FM Signal Generator
3. IF Sweep Generator
4. FM Stereo Signal Generator
5. Marker Generator
6. Oscilloscope
7. Output Meter (VTVM)
8. Distortion Meter
9. Frequency Counter

B) IMPORTANT

1. For AM Alignment apply 400 Hz modulation on the Signal Generator and radiated signal.
2. Connect a VTVM or a circuit tester to voice coil.
Connection may be made by means of a stiff wire in the speaker pin jack, and by using lead wire with plug.
Adjust as in the tables below, for maximum meter reading.
When necessary, reduce the oscillator output so that meter reading does not exceed 2 V.
3. Be sure to see the performance after casing the unit re-aligned.
4. After alignment had been completed all coil slugs and trimmers that have been moved during alignment should be rewaxed to insure stability of operation.
5. Use only nonmetallic alignment tools to insure proper alignment.

C) AM Section

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustments
IF	AM SIGNAL GENERATOR Radiated Signal. OUTPUT METER (VTVM) connect to Across-Point TP201 R204(See Fig.-1)	1	455 kHz (Mod.)	Tuning gang fully closed	AM IFT – T103, T104, T202 Adjust for maximum output.
		2	—	—	Repeat until no further improvement can be made.
BAND	AM SIGNAL GENERATOR Radiated Signal OUTPUT METER (VTVM) Across 8 –OHM (See Fig. -2)	3	525 kHz (Mod.)	Tuning gang fully closed	T102 (AM Osc. coil) Adjust for maximum output.
		4	1650 kHz (Mod.)	Tuning gang fully opened	AM Osc. trimmer (TC4) Adjust for maximum output.
		5	—	—	Repeat steps 3 and 4.

TRACK- ING	AM SIGNAL GENERATOR Radiated Signal. OUTPUT METER (VTVM) Across 8 ohm (See Fig. -2)	6	600 kHz	Tune to signal	L105 (AM Ant. coil) Adjust coil on ferrite core for maximum output.
		7	1400 kHz	— " —	AM Ant. trimmer (TC3) Adjust for maximum output.
		8	—	— " —	Repeat steps 6 and 7.

D) FM Section

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustments
IF	IF SWEEP GENERATOR FM ANT TERMINAL MARKER GENERATOR The same as Sweep Generator OSCILLOSCOPE Across Point TP302 (See Fig. -3)	1	10.7MHz	Tuning gang fully closed.	FM IFT — T101, T201, T204. Adjust for maximum symmetri- cal response. (10.7 MHz at the center point)
		2			Repeat Step 1.
RATIO DET.		3	10.7MHz (Mod.)	Tuning gang fully closed	FM IFT — T205 Adjust for suitable "S" curve.
		4			Repeat Step 3.
BAND	FM SIGNAL GENERATOR FM ANT TERMINAL OUTPUT METER (VTVM) Across 8 8 ohm Load. (See Fig. -4)	5	86 MHz (Mod.)	Tuning gang fully closed	(FM OSC. coil L104) Adjust for maximum output.
		6	110MHz (Mod.)	Tuning gang. fully opened	(FM OSC. Trimmer) TC2 Adjust for maximum output.
		7			Repeat Step 5 and 6.
TRACKING		8	90 MHz (Mod.)	Tune to signal	(FM. RF Coil) L103, L104 Adjust for maximum output.
		9	106MHz (Mod.)	Tune to signal	FM. RF. trimmer TC1 Adjust for maximum output.
		10			Repeat steps 8 and 9 obtain suitable sensitivity at 90 MHz and 106 MHz.

E) FM MPX.

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Alignment
19 KHz Adjustment	Connect the Freq. Counter to TP303 (Test point) (See Schematic Diagram) (See Fig. -5)	1		Tune away from stereo station	First make sure FM Section is properly aligned. Adjust VR302 till the Freq. Counter indicates 19 kHz.
CHANNEL SEPARATION	Composite out connect to Ext. Med. of FM Signal Generator. FM SIGNAL GEN. Connect to Ant. Terminal. DIST. METER (VTVM) Across 8 ohm (See Fig. - 6)	2	98 MHz	98 MHz	Adjust VR301 for MIN. Output from left (right) Channel when right (left) Channel is modulated. Channel separation should be not less than 20dB.

F) GAIN

Circuit Alignment	Dial Setting	Step	Alignment
Bias Setting	Set Function Switch to FM	1	Adjust VR201 for maximum Output

G) MUTING

Circuit Alignment	Dial Setting	Step	Alignment
	Set Function Switch to F.M. Tuning gang Fully Closed. Muting Switch on.	1	Adjust VR202 until noise stops.

H) CLOCK ADJUSTMENT

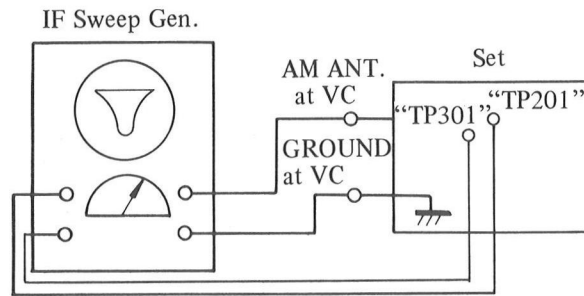
Circuit Alignment	Dial Setting	Step	Alignment
VC1 ADJ	Fig. 7		ADJ VC1 to get Frequency 4 MHz $\pm$ 40 Hz on Freq. Counter

I) FREQUENCY DISPLAY ADJUSTMENT

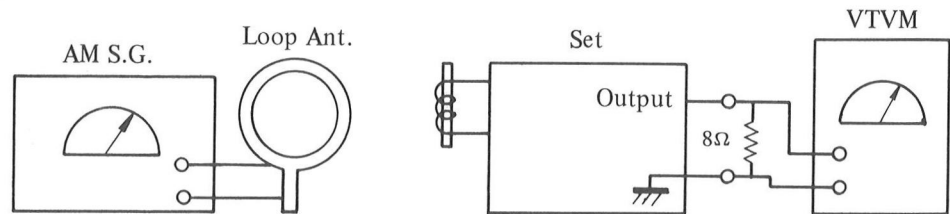
Circuit Alignment	Dial Setting	Step	Alignment
AM Band	Connect to Fig. 2	Tune to 1000 kHz of SG output	ADJ VR2 to show 1000 kHz on Freq. Counter
FM Band	Connect to Fig. 4	Tune to 98 MHz of SG output	ADJ VR1 to show 98 MHz on Freq. Counter

EQUIPMENT CONNECTION

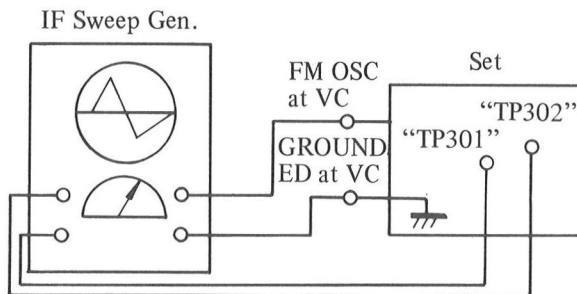
(Fig. - 1)
AM IF



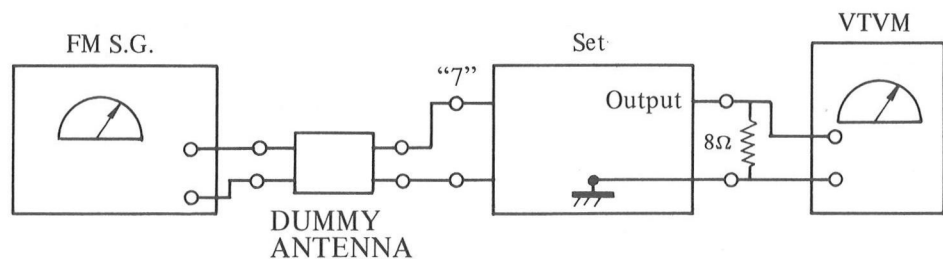
(Fig. - 2)
AM BAND
TRACKING



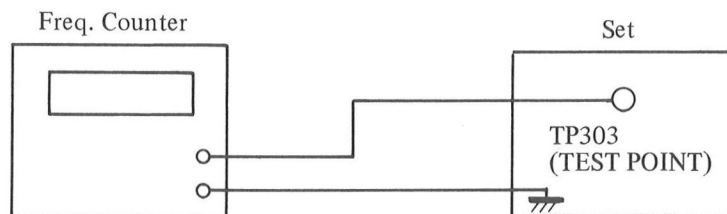
(Fig. - 3)
FM IF
RATIO DET.



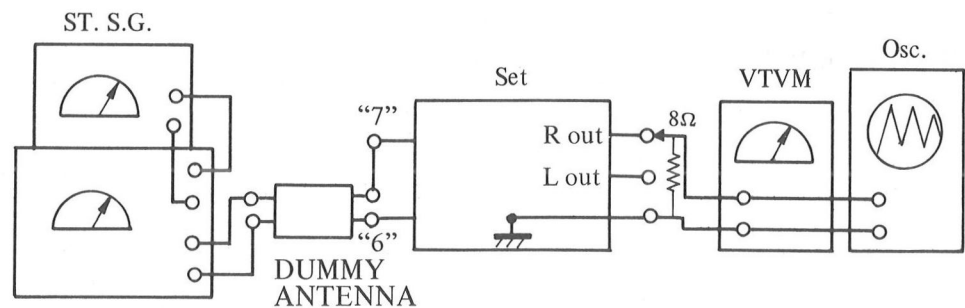
(Fig. - 4)
FM BAND
TRACKING



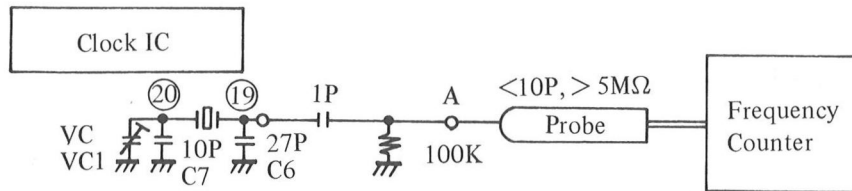
(Fig. - 5)
19KHz
Adjustment



(Fig. - 6)
MPX SEPARATION



(Fig.-7)
CLOCK ADJ.



TROUBLE-SHOOTING GUIDE

CIRCUIT	SYMPTOM	CAUSE	REMEDY
GENERAL	No sound		
		Open circuit of Trans- former	Check current and voltage. Replace as necessary.
		Defect in power source circuit	Check current and voltage. Replace as necessary.
AM	No sound	Defective Selector Switch	Replace or repair switch.
		Defect in Demodulator	Check voltage and current for its circuit. Replace if necessary.
		Open circuit of AM IFT. AM Ant. Coil or Osc. Coil.	Check current and resistance. Replace as necessary.
	Weak sound (Low Sensi- tivity)	IF tuning off. RF tracking off. Defective IC Poor contact in Antenna Circuit.	Re-adjust (see Alignment Instructions) Re-adjust (see Alignment Instructions) Check voltage and current. Replace as necessary. Check current and resistance. Replace as necessary

TROUBLE-SHOOTING GUIDE

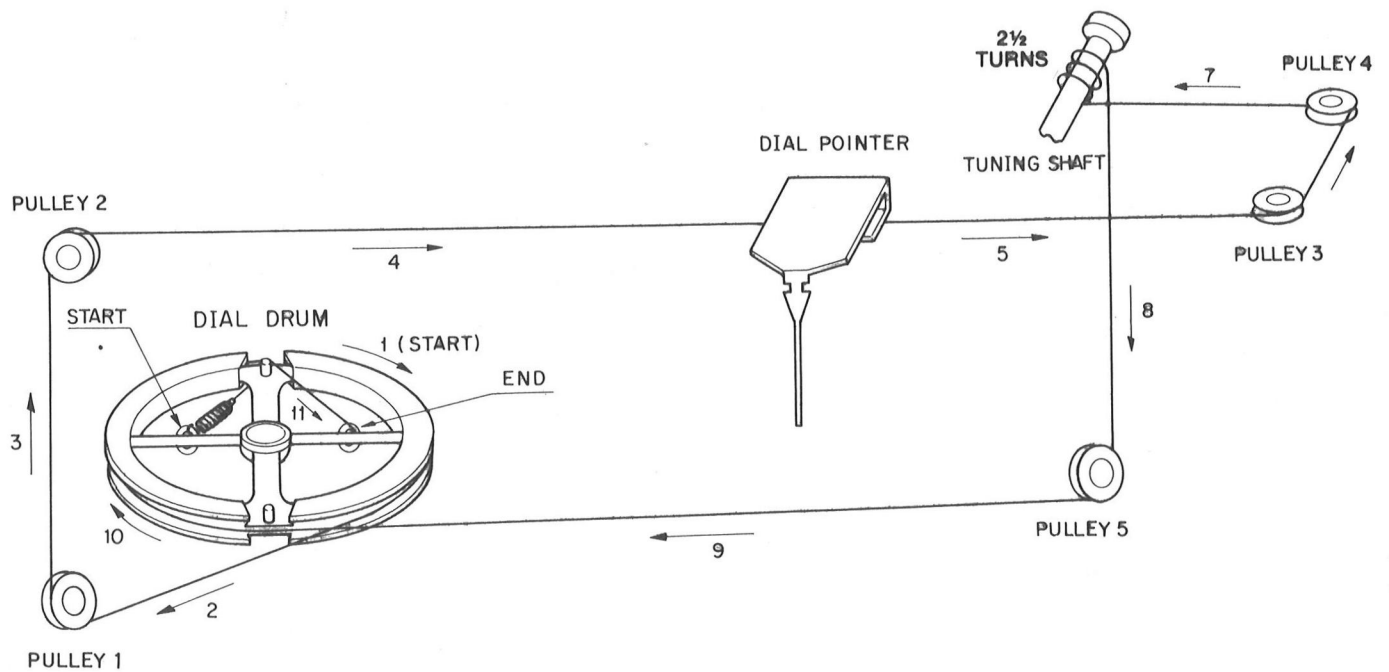
CIRCUIT	SYMPTOM	CAUSE	REMEDY
FM	No sound	Defective Selector Switch	Replace or repair switch.
		Defect in Demodulator	Check voltage and current.
		Open circuit of FM IFT FM Ant, FM Osc. Coil.	Check current of resistance. Replace as necessary.
		Defect in FM tuner	Check RF, IF and Demodulator circuit. Check voltage and current of transistor and IC. Replace parts as necessary, and re-adjust FM tuner.
	Weak sound (Low Sensitivity)	IF tuning off.	Re-adjust (see Alignment Instructions).
		RF tracking off.	Re-adjust (see Alignment Instructions).
		Defective IC. Defective Transistor	Check voltage and current. Replace as necessary.
		Poor contact in FM Antenna circuit.	Resolder or replace if necessary.
MPX	No sound	Defective Selector Switch	Replace or repair switch.
	Poor separation	Defect in switching circuit or defective IC.	Check voltage and current resistor and IC. Replace as necessary.
		VR301 indicator circuit	Re-adjust (see Alignment Instructions).
	Stereo Indicator Does Not Light		Check indicator lamp and circuit.
GENERAL	Inoperative	Defective On-Off Switch	Replace or repair switch
		Defective Selector Switch	Replace or repair switch
		Defective Volume Control	Check volume control resistance for continuous operation. Replace as necessary

SERVICE HINTS

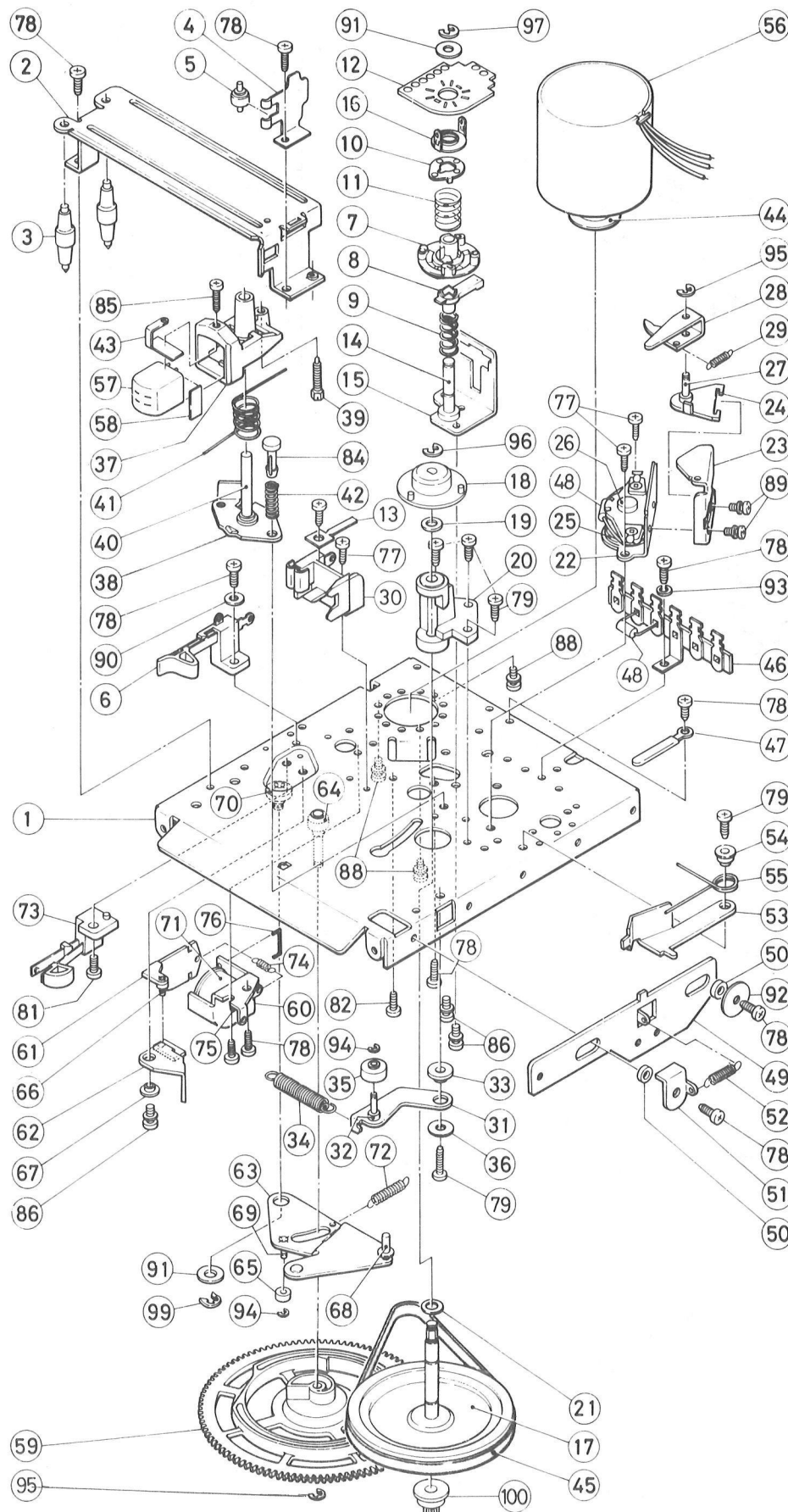
Trouble	Cause	Remedy
Power is not present	Power switch is faulty	Replace switch check the power supply circuits.
Indicator lamp will not light up.	Pilot lamp is burned out	Replace pilot lamp.
	Ratchet cam contact point is in imperfect contact with disc contact point.	Clean both contact points surface with a cleaner.
No sound is reproduced	Motor is faulty.	Replace motor.
	Cartridge is faulty.	Check by using a new cartridge.
	Signal wire is broken.	Check head lead wire. Check soldered joints. Check connectors and jacks.
	Amplifier is faulty.	Check for voltage of circuit board by using a tester.
Tape speed is incorrect	Motor is faulty.	Replace motor
	Cartridge is faulty	Check by using a new cartridge.
	Pinch roller pressure is weak.	Check pressure and read just it.

DIAL STRINGING

TUNING GANG FULLY OPEN



8 TRACK TAPE DECK EXPLODED VIEW



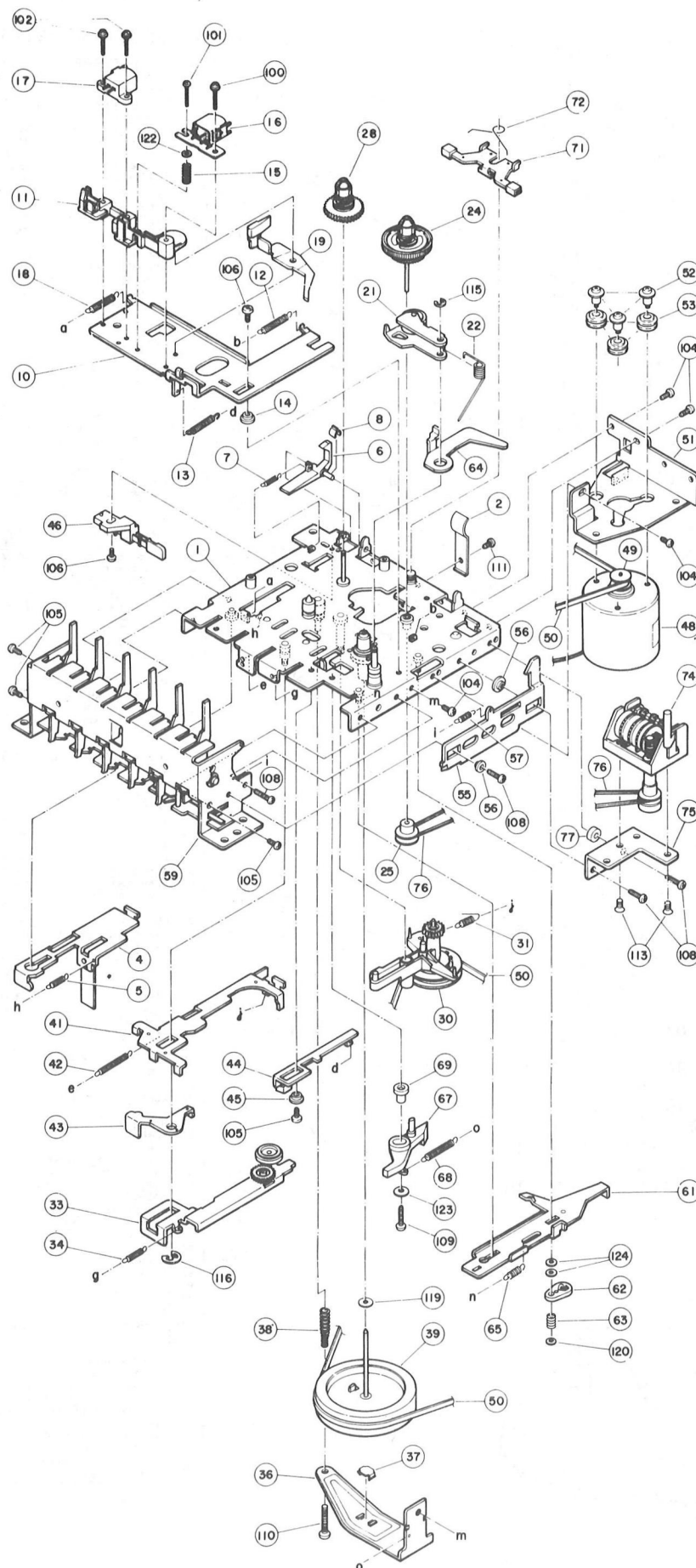
MODEL TN-999SRE

ITEM No.	PARTS NAME	DESCRIPTION
1	CHASSIS	560 01 01B
2	PACK COVER	151 01 02B
3	PACK ROLLER	11 02 02C
4	PACK HOLDER	560 01 04
5	PACK HOLD ROLLER	560 01 05
6	LEAF SWITCH	560 01 06
7	4 CAM	560 02 12
8	RATCHET CAM	560 02 13
9	CAM SPRING	560 02 08
10	INDICATOR CONTACT	560 02 04
11	CONTACT SPRING	560 02 05
12	INDICATOR P.C. BOARD	560 02 17
13	EARTH LUG	151 05 18
14	CAM SHAFT	151 02 23
15	CAM BASE	560 02 11
16	CONTACT PLATE	560 02 18
17	FLYWHEEL & CAPSTAN	560 03 01
18	CHANGE CAM	560 03 02B
19	THRUST WASHER	151 03 03
20	FLYWHEEL METAL	560 03 10
21	FL WASHER	560 13 15
22	YOKE A	560 04 01
23	YOKE B	560 04 02
24	SWITCHING IRON	151 04 22B
25	COIL A	560 04 12
26	CENTER POLE	151 04 23
27	CHANGE LEVER SHAFT	560 04 06B
28	CHANGE LEVER	560 04 07B
29	CHANGE LEVER SPRING	560 04 08
30	TAPE GUIDE ASSEMBLY	560 05 00
31	PRESSURE ROLLER ARM	560 06 01
32	PRESSURE ROLLER SHAFT	151 06 02
33	ARM METAL	560 06 03
34	PRESSURE ROLLER ARM SPRING	560 06 04
35	ROLLER	11 03 05
36	WASHER	203 06 06
37	HEAD HOUSING	560 08 01
38	HEAD BASE	560 08 02B
39	ADJUST SCREW	151 08 04
40	MAIN SHAFT	151 08 06
41	HEAD SUPPORT SPRING	560 08 07
42	ADJUST SPRING	560 08 08
43	EARTH PLATE	347 08 01
44	MOTOR PULLEY	151 09 10
45	BELT	561 09 02
46	LUG TERMINAL 3/2	
47	CORD CLAMP	560 01 11
48	DIODE	
49	RECORD LEVER*	333 12 04
50	RECORD LEVER COLLAR	115 12 06
51	SPRING HOLDER	317 12 06
52	KICK LEVER SPRING	48 11 03
53	RECORD PUSH ARM	491 12 02
54	RECORD PUSH COLLAR	491 12 03
55	RECORD PUSH ARM SPRING	491 12 04
56	MOTOR	
57	HEAD	
58	TN SPASER	151 09 01B
59	GEAR (A)	560 13 01
60	YOKE	560 13 02
61	ARMATURE	560 13 03
62	STOP P.ATE	560 13 04
63	KICK PLATE	560 13 05
64	GEAR SHAFT	560 13 06
65	GEAR ROLLER	560 13 07
66	ARMATURE PIN	560 13 08
67	STOP PLATE METAL	560 13 09
68	KICK PIN	560 13 10
69	KICK ROLLER SHAFT	560 13 11
70	KICK PLATE METAL	560 13 12
71	EJECT COIL	560 13 13
72	SPRING	238 04 06
73	LEAF SWITCH	MSW-9999
74	SPRING	238 14 01
75	SOLENOID SHAFT	11 08 04
76	STAPLE NO.3	
77	TAPPING SCREW M3X5	
78	TAPPING SCREW M3X6	
79	TAPPING SCREW M3X8	
80	SCREW M3X4	
81	SCREW M3X5	
82	SCREW M3X6	
83		
84	INSERT PIN	560 08 09
85	SCREW M2.6X8	
86	TAMS SCREW M3X5	
87	TAMS SCREW M3X8	
88	TAMS SCREW M2.6X4	
89	TAMS SCREW M2.6X5	
90	WASHER 3/8X8X0.5t	
91	WASHER 4/8X10X0.8t	
92	WASHER 3/8X14X1.1t	
93	SPRING WASHER M3	
94	E RING 1.5	
95	E RING 2.3	
96	E RING 2.0	
97	E RING 3.2	
98		
99	E RING BETW-3	
100	GEAR(B)	560 13 17
201	4 CAM ASSEMBLY (7,8,9,10,11,12,14,15,16,91,97)	
202	CHANNEL CHANG SOLENOID ASSEMBLY (22,23,24,25,26,27,28,29,48,89,95)	
203	PRESSURE ROLLER ARM ASSEMBLY (31,32,35,94)	
204	EJECT SOLENOID ASSEMBLY (60,61,66,71,74,75,76)	
205	KICK PLATE ASSEMBLY (63,65,68,69,94)	

*FOR REFERENCE ONLY

CASSETTE TAPE DECK EXPLODED VIEW

MODEL TN-57CN-210



No.	PARTS NAME	DESCRIPTION	QTY
1*	CHASSIS ASS'Y		1
2	PACK SPRING	959 01 02	1
3			
4	RECORD SLIDE LEVER ASS'Y	1260 02 92	1
5	SPRING	18 05 02B	1
6	RECORD SAFETY LEVER	910 03 01	1
7	SPRING	1260 02 02	1
8	RECORD SAFETY LEVER STOPPER	268 05 15	1
9			
10	HEAD PANEL	1260 03 01	1
11	HEAD BLOCK	1200 03 02	1
12	SPRING	1260 03 02	1
13	SPRING	1200 03 04	1
14	COLLAR	408 04 11	1
15	SPRING	48 04 08	1
16	R/P HEAD	H-55502-03	1
17	ERASE HEAD	H-52403-01	1
18	SPRING	1260 03 03	1
19	SENSING PLATE ASS'Y	1200 11 91	1
20			
21	PINCH ROLLER ASS'Y	1260 04 91	1
22	SPRING	1260 04 02	1
23			
24	TAKE-UP REEL ASS'Y	1260 05 91	1
25	DRIVE PULLEY	16 15 04	1
26			
27			
28	SUPPLY REEL ASS'Y	1260 06 91	1
29			
30	RF CLUTCH ASS'Y	1200 07 91	1
31	SPRING	1200 07 09	1
32	REW SPRING	1202 10 01	1
33	F.F. IDLER ARM ASS'Y	1200 08 91	1
34	SPRING	18 03 09	1
35			
36	FLYWHEEL HOLDER	1260 09 01	1
37	FLYWHEEL BEARING	1200 09 06	1
38	SPRING	1200 09 05	1
39	FLYWHEEL CAPSTAN	1200 09 03	1
40			
41	MAIN PLATE	1200 10 01	1
42	SPRING	238 04 10	1
43	REWIND ARM	1200 10 02	1
44	PLAY SLIDE LEVER	1260 10 03	1
45	COLLAR	09 03 02	1
46	LEAF SWITCH	630 14 01	1
47			
48	MOTOR	EG-510AD-TZ	1
49	MOTOR PULLEY	973 12 02S	1
50	MAIN BELT	1260 12 02	1
51	MOTOR BRACKET	1260 12 01	1
52	COLLAR SCREW(S)	1200 12 01	3
53	MOTOR RUBBER	58P 09 10	3
54			
55	EJECT SLIDE LEVER	1260 13 01	1
56	COLLAR	763 07 06	2
57	SPRING	268 12 01	1
58			
59	PUSH BUTTON ASS'Y	1260 14 91	1
60			
61	PAUSE SLIDE LEVER	1260 17 01	1
62	PAUSE LEVER	1222 17 02	1
63	SPRING	1222 17 03	1
64	ARM LEVER	1222 17 05	1
65	SPRING	1260 17 02	1
66	COLLAR	1260 17 03	1
67	AUTO-STOP LEVER	1260 11 01	1
68	SPRING	132 03 03	1
69	COLLAR	1260 11 02	1
70			
71	BRAKE ARM ASS'Y	1260 19 91	1
72	SPRING	1260 19 02	1
73			
74	COUNTER		1
75	COUNTER BRACKET	1199 15 01	1
76	COUNTER BELT	297 13 01	1
77	COLLAR	1199 15 10	1
78			
79			
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
100	CAP SCREW(+ -) 2×11		1
101	CAP SCREW(+ -) 2×11		1
102	CAP SCREW(+ -) 2×12		2
103			
104	TAPPING SCREW 2.6×4		4
105	TAPPING SCREW 2.6×5		4
106	TAPPING SCREW(BIND) 2.6×5		2
107			
108	TAPPING SCREW 2.6×8		4
109	TAPPING SCREW 2.6×10		1
110	SCREW 2.6×12		1
111	TAPPING SCREW 2.6×4		1
112	TAPPING SCREW 2.6×6		1
113	PH SCREW 3×5		2
114			
115	E RING 2.5		1
116	E RING 4		1
117			
118			
119	NYLON WASHER 2.2×7×0.5	408 11 20	1
120	NYLON WASHER 1.8×5×0.5	03 15 03	1
121			
122	WASHER 2.3×4.3×0.4		1
123	WASHER 2.6×8×0.5	706 15 01	1
124	WASHER 2.3×6×0.4		2

*FOR REFERENCE ONLY

PARTS LIST

ELECTRICAL

Ref. No.	Parts No.	Description
R101	R 1/4L 680 Ohm K.T.	
R102	R 1/4L 390K K.T.	
R103	R 1/4L 150 K.T.	
R104	R 1/4L 10 K.T.	
R105	R 1/4L 2.7K K.T.	
R106	R 1/4L 22K K.T.	
R107	R 1/4L 4.7K K.T.	
R108	R 1/4L 1K K.T.	
R109	R 1/4L 22K K.T.	
R110	R 1/4L 270K K.T.	
R111	R 1/4L 1.2K K.T.	
R112	R 1/4L 220 K.T.	
R113	R 1/4L 10 K.T.	
R114	R 1/4L 27K K.T.	
R115	R 1/4L 2.2K K.T.	
R116	R 1/4L 470 K.T.	
R117	R 1/4L 390 K.T.	
R118	R 1/4L 330 K.T.	
R119	R 1/4L 10K K.T.	
R120	R 1/4L 2.2K K.T.	
R121	R 1/4L 10K K.T.	
R122	R 1/4L 100 K.T.	
R201	R 1/4L 4.7K K.T.	
R202	R 1/4L 10K K.T.	
R203	R 1/4L 10K K.T.	
R204	R 1/4L 10K K.T.	
R205	R 1/4L 680 K.T.	
R206	R 1/4L 10K K.T.	
R207	R 1/4L 6.8K K.T.	
R208	R 1/4L 1.5K K.T.	
R209	R 1/4L 22K K.T.	
R210	R 1/4L 6.8K K.T.	
R211	R 1/4L 4.7K K.T.	
R212	R 1/4L 2.2K K.T.	
R213	R 1/4L 4.7K K.T.	
R214	R 1/4L 68 K.T.	
R215	R 1/4L 220 K.T.	
R216	R 1/4L 10 K.T.	
R217	R 1/4L 1.2K K.T.	
R218	R 1/4L 1.2K K.T.	
R219	R 1/4L 10K K.T.	
R220	R 1/4L 10K K.T.	
R221	R 1/4L 100K K.T.	
R222	R 1/4L 100K K.T.	

Ref. No.	Parts No.	Description
R223	R 1/4L 100K Ohm K.S.	
R301	R 1/4L 3.3K K.T.	
R302	R 1/4L 8.2K K.T.	
R303	R 1/4L 3.3K K.T.	
R304	R 1/4L 3.3K K.T.	
R305	R 1/4L 1.2K K.T.	
R306	R 1/4L 1.2K K.T.	
R307	R 1/4L 2.7K K.T.	
R308	R 1/4L 2.7K K.T.	
R309	R 1/4L 6.8K K.T.	
R310	R 1/4L 6.8K K.T.	
R311	R 1/4L 56K K.T.	
R401	R 1/4L 1K K.T.	
R402	R 1/4L 1K K.T.	
R403	R 1/4L 82K K.T.	
R404	R 1/4L 82K K.T.	
R405	R 1/4L 180K K.T.	
R406	R 1/4L 180K K.T.	
R407	R 1/4L 150K K.T.	
R408	R 1/4L 150K K.T.	
R409	R 1/4L 390K K.T.	
R410	R 1/4L 390K K.T.	
R411	R 1/4L 1.2K K.T.	
R412	R 1/4L 1.2K K.T.	
R413	R 1/4L 2.7K K.T.	
R414	R 1/4L 2.7K K.T.	
R415	R 1/4L 1K K.T.	
R416	R 1/4L 1K K.T.	
R417	R 1/4L 10K K.T.	
R418	R 1/4L 10K K.T.	
R419	R 1/4L 150K K.T.	
R420	R 1/4L 150K K.T.	
R421	R 1/4L 10K K.T.	
R422	R 1/4L 10K K.T.	
R423	R 1/4L 1K K.T.	
R501	R 1/4L 1M K.T.	
R502	R 1/4L 1M K.T.	
R503	R 1/4L 120K K.T.	
R504	R 1/4L 120K K.T.	
R505	R 1/4L 4.7K K.T.	
R506	R 1/4L 4.7K K.T.	
R507	R 1/4L 180 K.T.	
R508	R 1/4L 180 K.T.	
R509	R 1/4L 22K K.T.	

Ref. No.	Parts No.	Description
R510		R 1/4L 22K Ohm K.T.
R511		R 1/4L 2.7K K.T.
R512		R 1/4L 2.7K K.T.
R513		R 1/4L 5.6K K.T.
R514		R 1/4L 5.6K K.T.
R515		R 1/4L 5.6K K.T.
R516		R 1/4L 5.6K K.T.
R517		R 1/4L 3.3K K.T.
R518		R 1/4L 2.2K K.S.
R519		R 1/4L 2.2K K.S.
R601		R 1/4L 2.2K K.T.
R602		R 1/4L 2.2K K.T.
R603		R 1/4L 100K K.T.
R604		R 1/4L 100K K.T.
R605		R 1/4L 120K K.T.
R606		R 1/4L 120K K.T.
R607		R 1/4L 680 K.T.
R608		R 1/4L 680 K.T.
R609		R 1/4L 27 K.T.
R610		R 1/4L 27 K.T.
R611		R 1/4L 8.2K K.T.
R612		R 1/4L 8.2K K.T.
R613		R 1/4L 2.2K K.T.
R614		R 1/4L 2.2K K.T.
R615		R 1/4L 3.3K K.T.
R616		R 1/4L 3.3K K.T.
R617		R 1/2M 5.6 K.T.
R618		R 1/2M 5.6 K.T.
R619		R 1/4L 220 K.T.
R620		R 1/4L 220 K.T.
R621		R 1/4L 22 K.T.
R622		R 1/4L 22 K.T.
R623		R 1/4L 220 K.T.
R624		R 1/4L 220 K.T.
R625		R 1M 0.47 K.T.
R626		R 1M 0.47 K.T.
R627		R 1M 0.47 K.T.
R628		R 1M 0.47 K.T.
R629		R 1M 150K K.T.
R701		R 1/4L 560 K.T.(S)
R702		R 1/4L 560 K.T.(S)
R703		R 1/4L 10K K.T.(S)
R704		R 1/4L 10K K.T.(S)
R705		R 1/4L 39K K.T.
R706		R 1/4L 39K K.T.

Ref. No.	Parts No.	Description
R707		R 1/4L 47K Ohm K.T.
R708		R 1/4L 47K K.T.
R709		R 1/4L 330 K.T.
R710		R 1/4L 330 K.T.
R711		R 1/4L 100K K.T.
R712		R 1/4L 100K K.T.
R713		R 1/4L 5.6K K.T.
R714		R 1/4L 5.6K K.T.
R715		R 1/4L 1.5K K.T.
R716		R 1/4L 1.5K K.T.
R717		R 1/4L 4.7K K.T.
R719		R 1/4L 1K K.T.
R720		R 1/4L 1K K.T.
R721		R 1/4L 390K K.S.
R722		R 1/4L 390K K.S.
R725		R 1/4L 82K K.S.
R726		R 1/4L 82K K.S.
R727		R 1/4L 820 K.T.
R728		R 1/4L 820 K.T.
R729		R 1/4L 1.2K K.T.
R730		R 1/4L 1.2K K.T.
R731		R 1/4L 6.8K K.T.
R732		R 1/4L 6.8K K.T.
R733		R 1/4L 1M K.T.
R734		R 1/4L 1M K.T.
R735		R 1/4L 82K K.T.
R736		R 1/4L 82K K.T.
R737		R 1/4L 8.2K K.T.
R738		R 1/4L 8.2K K.T.
R739		R 1/4L 82 K.T.
R740		R 1/4L 82 K.T.
R741		R 1/4L 100K K.T.
R742		R 1/4L 100K K.T.
R743		R 1/4L 47K K.T.
R744		R 1/4L 47K K.T.
R745		R 1/4L 330 K.T.
R746		R 1/4L 330 K.T.
R747		R 1/4L 220K K.T.
R748		R 1/4L 220K K.T.
R749		R 1/4L 5.6K K.T.
R750		R 1/4L 5.6K K.T.
R751		R 1/4L 1K K.T.
R752		R 1/4L 1K K.T.
R753		R 1/4L 2.2K K.T.
R755		R 1/4L 220K K.T.

Ref. No.	Parts No.	Description
R756		R 1/4L 220K Ohm K.T.
R757		R 1/4L 82K K.T.
R758		R 1/4L 82K K.T.
R759		R 1/4L 1.5K K.T.
R760		R 1/4L 1.5K K.T.
R761		R 1/4L 10K K.T.
R762		R 1/4L 10K K.T.
R763		R 1/4L 1K K.T.
R764		R 1/4L 1K K.T.
R765		R 1/4L 1.2K K.T.
R766		R 1/4L 1.2K K.T.
R767		R 1/4L 330K K.T.
R768		R 1/4L 330K K.T.
R769		R 1/4L 56 K.T.
R770		R 1/4L 56 K.T.
R771		R 1/4L 1K K.T.
R772		R 1/4L 1K K.T.
R773		R 1/4L 5.6K K.T.
R774		R 1/4L 5.6K K.T.
R775		R 1/4L 100K K.T.
R776		R 1/4L 100K K.T.
R777		R 1/4L 270K K.T.
R778		R 1/4L 270K K.T.
R779		R 1/4L 2.2K K.T.
R780		R 1/4L 2.2K K.T.
R781		R 1/4L 1.8K K.T.
R782		R 1/4L 1.8K K.T.
R783		R 1/4L 18K K.S.
R784		R 1/4L 18K K.S.
R785		R 1/4L 12K K.S.
R786		R 1/4L 12K K.S.
R787		R 1/4L 1M K.S.
R788		R 1/4L 1M K.S.
R789		R 1/2M 100 K.S.
R790		R 1/2M 150 K.S.
R791		R 1/2M 56 K.S.
R801		R 1/4L 22K K.T.
R802		R 1/4L 22K K.T.
R803		R 1/4L 5.6 K.T.
R804		R 1/4L 680 K.T.
R805		R 1/4L 330 K.T.
R806		R 1/4L 33K K.T.
R807		R 1/2M 680 K.T.
R808		R 1/2M 120 K.T.
R809		R 1/4L 680 K.T.
R810		R 1/2M 680 K.T.

Ref. No.	Parts No.	Description
R811		R 1/2M 680 Ohm K.T.
R812		R 1M 22 K.T.
R813		R 1M 1.5K K.T.
R815		R 1M 470 K.T.
R816		R 1/2M 10 K.T.
R901		R 1/2M 330 K.T.
R902		R 1/2M 330 K.T.
R903		R 1/4L 1K K.T.(S)
R904		R 1/4L 1K K.T.(S)
R905		R 1/4L 1K K.T.(S)
R906		R 1/4L 1K K.T.(S)
R907		R 1/4L 3.3K K.T.(S)
R908		R 1/4L 3.3K K.T.(S)
R909		R 1/4L 2.2K K.T.(S)
R910		R 1/4L 2.2K K.T.(S)
R911		R 1/4L 1K K.T.(S)
R912		R 1/4L 1K K.T.(S)
R913		R 1/4L 4.7K K.T.(S)
R914		R 1/4L 4.7K K.T.(S)
R915		R 1/4L 1.2K K.T.(S)
R916		R 1/4L 1.2K K.T.(S)
R917		R 1/4L 1K K.T.(S)
R918		R 1/4L 1K K.T.(S)
R919		R 1/4L 6.8K K.T.(S)
R920		R 1/4L 6.8K K.T.(S)
R921		R 1/4L 820 K.T.(S)
R922		R 1/4L 820 K.T.(S)
R923		R 1/4L 1K K.T.(S)
R924		R 1/4L 1K K.T.(S)
R925		R 1/4L 10K K.T.(S)
R926		R 1/4L 10K K.T.(S)
R927		R 1/4L 680 K.T.(S)
R928		R 1/4L 680 K.T.(S)
R929		R 1/4L 1K K.T.(S)
R930		R 1/4L 1K K.T.(S)
R931		R 1/2M 330 K.T.
R932		R 1/2M 330 K.T.
R001		R 1/2W 2.2M K.T.
R002		R 5W 10 K.T.
R003		R 5W 10 K.T.
R004		R 1/2M 220 K.S.
R005		R 1/2M 220 K.S.
R006		R 1/4L 560K K.T.
R007		R 1/4L 560K K.T.
R008		R 1/4L 33K K.T.

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
R009		R 1/4L 33K Ohm K.T.	C109		CCD SL 5 pF
R010		R 2M 220 K.T.	C110		CCD SL 33 pF
R011		R 1/2M 820 K.T.	C111		CCD FZ 0.022 μ F
R012		R 1/4L 1.5K K.T.	C112		CCD FZ 0.022 μ F
R013		R 1/4L 1K K.T.	C113		CCD FZ 0.01 μ F
R014		R 1M 15 K.T.	C114		CCD SL 5 pF
R015		R 1/4L 8.2K K.T.	C115		CBS 0.015 μ F
R016		R 1/4L 8.2K K.T.	C116		CCD SL 6 pF
R1		R 1/2M 39 K.S.	C117		CCD FZ 0.022 μ F
R2		R 1/4L 680 K.S.	C118		CCD FZ 0.022 μ F
R3		R 1/4L 680 K.S.	C119		CCD FZ 0.022 μ F
R4		R 1/4L 8.2 K.S.	C120		CCD CH 18 pF
R5		R 1/4L 10K K.S.	C121		CCD CH 5 pF
R6		R 1/4L 22K K.S.	C122		CCD CH 7 pF
R7		R 1/4L 4.7K K.S.	C123		CCD SL 15 pF
R8		R 1/4L 1K K.S.	C124		CCD CH 5 pF
R9		R 1/4L 4.7K K.S.	C125		CCD CH 2 pF
R10		R 1/4L 1M K.S.	C126		CCD CH 5 pF
R11		R 1/4L 3.9K K.S.	C127		CCD FZ 0.022 μ F
R12		R 1/4L 10K K.S.	C128		CCD FZ 0.022 μ F
R13		R 1/4L 4.7K K.S.	C201		CEMY 10 μ F/16V
R14		R 1/4L 15K K.S.	C202		CCD FZ 0.022 μ F
R15		R 1/4L 100K K.S.	C203		CEMY 1 μ F/50V
R16		R 1/4L 33K K.S.	C204		CCD FZ 0.022 μ F
R17		R 1/4L 10K K.S.	C205		CCD FZ 0.022 μ F
R18		R 1/4L 10K K.S.	C206		CBS 0.015 μ F
R19		R 1/2M 12 K.T.	C207		CCD FZ 0.022 μ F
R20		R 1/4L 1K K.S.	C208		CCD FZ 0.022 μ F
R21		R 1/4L 1K K.S.	C209		CCD SL 10 pF
R22		R 1/4L 2.2K K.S.	C210		CCD FZ 0.022 μ F
R23		R 1/4L 1.5K K.S.	C211		CEMY 10 μ F/16V
R24		R 1/4L 1.2K K.S.	C212		CCD SL 10 pF
R25		R 1/4L 1.5K K.S.	C213		CCD FZ 0.022 μ F
R26		R 1/4L 4.7K K.S.	C214		CCD FZ 0.01 μ F
R27		R 1/4L 100K K.T.(S)	C215		CCD FZ 0.022 μ F
R28		R 1/2M 120 K.T.	C216		CEMY 1 μ F/50V
Capacitor			C217		CCD FZ 0.022 μ F
C101		CCD SL 22 pF	C218		CCD SL 7 pF
C102		CCD SL 4 pF	C219		CCD FZ 0.022 μ F
C103		CCD FZ 0.022 μ F	C220		CCD B 100 pF
C104		CCD SL 6 pF	C221		CCD B 100 pF
C105		CCD FZ 0.022 μ F	C222		CEMY 10 μ F/16V
C106		CCD FZ 0.022 μ F	C223		CEMY 1 μ F/50V
C107		CCD FZ 0.022 μ F	C224		CCD FZ 0.022 μ F
C108		CCD CH 18 pF	C225		CCD FZ 0.022 μ F

Ref. No.	Parts No.	Description
C226		CCD FZ 0.022 μ F
C227		CCD FZ 0.022 μ F
C301		CEMY 10 μ F/16V
C302		CEMY 0.33 μ F/50V HP
C303		CEMY 1 μ F/50V
C304		CEMY 0.22 μ F/50V HP
C305		CEMY 0.47 μ F/50V
C306		CST 1500 pF
C307		CBS 0.015 μ F
C308		CBS 0.015 μ F
C309		CEMY 0.47 μ F/50V
C310		CEMY 0.47 μ F/50V
C311		CBS 0.0047 μ F
C312		CBS 0.0047 μ F
C313		CBS 0.0082 μ F
C314		CBS 0.0082 μ F
C401		CEMY 2.2 μ F/50V
C402		CEMY 2.2 μ F/50V
C403		CCD B 100 pF
C404		CCD B 100 pF
C405		CEMY 10 μ F/16V
C406		CEMY 10 μ F/16V
C407		CCD B 100 pF
C408		CCD B 100 pF
C409		CBS 0.022 μ F
C410		CBS 0.022 μ F
C411		CBS 0.0082 μ F
C412		CBS 0.0082 μ F
C413		CEMY 0.47 μ F/50V
C414		CEMY 0.47 μ F/50V
C501		CEMY 0.47 μ F/50V
C502		CEMY 0.47 μ F/50V
C503		CCD B 100 pF
C504		CCD B 100 pF
C505		CEMY 0.47 μ F/50V
C506		CEMY 0.47 μ F/50V
C507		CBS 0.012 μ F
C508		CBS 0.012 μ F
C509		CBS 0.0015 μ F
C510		CBS 0.0015 μ F
C511		CBS 0.015 μ F
C512		CBS 0.015 μ F
C513		CBS 0.0068 μ F
C514		CBS 0.0068 μ F
C515		CBS 0.047 μ F

Ref. No.	Parts No.	Description
C516		CBS 0.047 μ F
C517		CBS 0.033 μ F
C518		CBS 0.033 μ F
C519		CBS 0.001 μ F
C520		CBS 0.001 μ F
C521		CBS 0.0082 μ F
C522		CBS 0.0082 μ F
C601		CEMY 1 μ F/50V
C602		CEMY 1 μ F/50V
C603		CCD B 220 pF
C604		CCD B 220 pF
C605		CEMY 220 μ F/16V
C606		CEMY 220 μ F/16V
C607		CCD B 100 pF
C608		CCD B 100 pF
C609		CEMY 22 μ F/50V
C610		CEMY 22 μ F/50V
C611		CCD B 470 pF
C612		CCD B 470 pF
C613		CEMY 1000 μ F/25V
C614		CEMY 1000 μ F/25V
C615		CBS 0.01 μ F
C616		CEMY 33 μ F/25V
C701		CST 470 pF
C702		CST 470 pF
C703		CBS 0.001 μ F
C704		CBS 0.001 μ F
C705		CBS 0.0015 μ F
C706		CBS 0.0015 μ F
C709		CEMY 100 μ F/16V
C713		CCD SL 22 pF
C714		CCD SL 22 pF
C715		CEMY 10 μ F/16V
C716		CEMY 10 μ F/16V
C717		CEMY 47 μ F/10V
C718		CEMY 47 μ F/10V
C723		CCD B 470 pF
C724		CCD B 470 pF
C725		CEMY 0.47 μ F/50V
C726		CEMY 0.47 μ F/50V
C727		CEMY 10 μ F/16V
C728		CEMY 10 μ F/16V
C729		CBS 0.0039 μ F
C730		CBS 0.0039 μ F
C731		CCD B 560 pF

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
C732	CCD B 560	pF	D101	DS442	Diode Clamping
C733	CCD B 470	pF	D102	1S188AM	Diode Clamping
C734	CCD B 470	pF	D103	1S553	Diode A.F.C.
C735	CEMY 100	$\mu\text{F}/16\text{V}$	D201	1S188AM	Diode FM AGC
C737	CEMY 1	$\mu\text{F}/50\text{V}$	D202	1S188FM	Diode Switching
C738	CEMY 1	$\mu\text{F}/50\text{V}$	D203	1S188FM	Diode Switching
C739	CCD B 100	pF	D204	1S188FM	Diode FM Det.
C740	CCD B 100	pF	D205	1S188FM	Diode FM Det.
C741	CCD SL 22	pF	D601	KB362C	Diode Bias
C742	CCD SL 22	pF	D602	KB362C	Diode Bias
C743	CEMY 10	$\mu\text{F}/16\text{V}$	D701	1S188AM	Diode Rectified
C744	CEMY 10	$\mu\text{F}/16\text{V}$	D702	1S188AM	Diode Rectified
C745	CEMY 47	$\mu\text{F}/\uparrow 10\text{V}$	D703	1S188AM	Diode Rectified
C746	CEMY 47	$\mu\text{F}/10\text{V}$	D704	1S188AM	Diode Rectified
C747	CBS 0.0047	μF	D801	DS442	Diode Switching
C748	CBS 0.0047	μF	D804	DS442	Diode Switching
C749	CEMY 0.47	$\mu\text{F}/50\text{V}$	D805/ D806	DS442	Diode Switching
C750	CEMY 0.47	$\mu\text{F}/50\text{V}$	D901	1S188AM	Diode Rectified
C751	CCD B 100	pF	D902	1S188AM	Diode Rectified
C752	CCD B 100	pF	D1	DS442	Diode Switching
C753	CEMY 10	$\mu\text{F}/16\text{V}$	D2	DS442	Diode Switching
C754	CEMY 10	$\mu\text{F}/16\text{V}$	D3	GZA 9.1U	Diode Zenner Bias
C755	CEMY 1	$\mu\text{F}/50\text{V}$	D4	DS442	Diode Switching
C756	CEMY 1	$\mu\text{F}/50\text{V}$	D5	DS442	Diode Switching
C757	CBS 0.0056	μF	D6	DS442	Diode Switching
C758	CBS 0.0056	μF	D7	DS442	Diode Switching
C759	CEMY 1	$\mu\text{F}/50\text{V}$	D8	DS442	Diode Switching
C760	CEMY 1	$\mu\text{F}/50\text{V}$	D9	DS442	Diode Switching
C761	CEMY 1	$\mu\text{F}/50\text{V}$	D10	DS442	Diode Switching
C762	CEMY 1	$\mu\text{F}/50\text{V}$	D11	DS442	Diode Switching
C801	CCD B 220	pF	D12	DS442	Diode Switching
C802	CCD B 220	pF	D13	DS442	Diode Switching
C803	CBS 0.01	μF (M)	D14	DS135E	Diode Protector
C804	CBS 0.01	μF (M)	D15	DS442	Diode Switching
C805	CBS 0.01	μF	D16	DS442	Diode Switching
C806	CEMY 220	$\mu\text{F}/16\text{V}$	D17	DS442	Diode Switching
C807	CBS 0.015	μF	Q101	2SK41E or F	Transistor(FET) FM RF
C808	CBS 0.0047	μF (M)	Q102	2SC930E	Transistor FM Conv.
C809	CEMY 100	$\mu\text{F}/16\text{V}$	Q103	2SC929E	Transistor AM Conv.
C811	CEMY 470	$\mu\text{F}/16\text{V}$	Q104	2SC930E	Transistor FM OSC.
C813	CBS 0.0056	μF (M)	Q201	2SC930D	Transistor 1F Amp.
			Q202	2SC536G	Transistor Switching
			Q203	2SC536G	Transistor Switching
			Q401	2SC1570G	Transistor PRE-Amp.
			Q402	2SC1570G	Transistor PRE-Amp.

Ref. No.	Parts No.	Description
Q403	2SC536G	Transistor PRE-Amp.
Q404	2SC536G	Transistor PRE-Amp
Q501	2SC536G	Transistor PRE-Amp.
Q502	2SC536G	Transistor PRE-Amp.
Q601	2SA608E	Transistor PRE-Driver
Q602	2SA608E	Transistor PRE-Driver
Q603	2SC2274E	Transistor Driver
Q604	2SC2274E	Transistor Driver
Q605	2SC2274E	Transistor Power-Driver
Q606	2SC2274E	Transistor Power-Driver
Q607	2SA984E	Transistor Power-Driver
Q608	2SA984E	Transistor Power-Driver
Q609	2SD325E	Transistor Power
Q610	2SD325E	Transistor Power
Q611	2SD325E	Transistor Power
Q612	2SD325E	Transistor Power
Q701	2SC1570G or F	Transistor PRE-Amp.
Q702	2SC1570G or F	Transistor PRE-Amp.
Q703	2SC1570G or F	Transistor PRE-Amp.
Q704	2SC1570G or F	Transistor PRE-Amp.
Q705	2SC536G	Transistor PRE-Amp.
Q706	2SC536G	Transistor PRE-Amp.
Q707	2SC536G	Transistor PRE-Amp.
Q708	2SC536G	Transistor PRE-Amp.
Q709	2SC536G	Transistor PRE-Amp.
Q710	2SC536G	Transistor PRE-Amp.
Q711	2SC536G	Transistor PRE-Amp.
Q712	2SC536G	Transistor PRE-Amp.
Q713	2SC536G	Transistor PRE-Amp.
Q714	2SC536G	Transistor PRE-Amp.
Q801	2SD400P ₂ F	Transistor Bias-OSC.
Q901	2SC536G	Transistor LED-Driver
Q902	2SC536G	Transistor LED-Driver
Q903	2SC536G	Transistor LED-Driver
Q904	2SC536G	Transistor LED-Driver
Q905	2SC536G	Transistor LED-Driver
Q906	2SC536G	Transistor LED-Driver
Q907	2SC536G	Transistor LED-Driver
Q908	2SC536G	Transistor LED-Driver
Q909	2SC536G	Transistor LED-Driver
Q910	2SC536G	Transistor LED-Driver
Q911	2SC536G	Transistor LED-Driver
Q912	2SC536G	Transistor LED-Driver
Q1	2SC2274E	Transistor Regulator
Q2	2SA608E	Transistor Switching

Ref. No.	Parts No.	Description
Q3	2SA608E	Transistor Switching
Q4	2SC536G	Transistor Switching
Q5	2SC536G	Transistor Switching
Q6	2SC536G	Transistor Switching
Q7	2SC536G	Transistor Switching
Q8	2SC536G	Transistor Switching
Q9	2SC536G	Transistor Switching
Q01	2SC2274E	Transistor IF-Regulator
Q010	2SD400F	Transistor Relay Driver
IC1	LC7258	IC Frequency-Driver
IC2	SP8629	IC Pre-Scalar
IC3	LM8360H	IC Clock-Driver
IC201	LA1201	IC AM/FM IF-Amp.
IC301	LA3350	IC FM MPX (P.L.L.)
D01	DS135E	Diode Rectified
D02	DS135E	Diode Rectified
D03	DS135E	Diode Rectified
D04	DS135E	Diode Rectified
D05	DS135E	Diode Rectified
D06	DS135E	Diode Rectified
D07	GZA12L	Diode Zenner Bias
D08	DS442	Diode Switching
D09	DS135E	Diode Switching
FS1	SLP-153B	LED CrO ₂ Indicator
FS2	SLP-153B	LED FeCr Indicator
FS3	SLP-153B	LED NORM Indicator
FC1	SLP-255B	LED TAPE Indicator
FC2	SLP-255B	LED MAG Indicator
FC3	SLP-255B	LED AUX Indicator
FC4	SLP-255B	LED AM Indicator
FC5	SLP-255B	LED FM Indicator
FC6	SLP-255B	LED FM AUTO Indicator
FC7	SLP-155B	LED Power Indicator
FC8	SLP-255B	LED MAN Indicator
FC9	SLP-255B	LED AUTO Indicator
P1	SLP-153B	LED Power Indicator
P2	SLP-153B	LED Power Indicator
P3	SLP-153B	LED Power Indicator
P4	SLP-153B	LED Power Indicator
P5	SLP-153B	LED Power Indicator
P6	SLP-153B	LED Power Indicator

Ref. No.	Parts No.	Description
P7	SLP-153B	LED Power Indicator
P8	SLP-153B	LED Power Indicator
P9	SLP-153B	LED Power Indicator
P10	SLP-153B	LED Power Indicator
P11	SLP-153B	LED Stereo Indicator
RC1	SLP-355B CASS	LED Recording Indicator
RC2	SLP-355B 8-TRACK	LED Recording Indicator
CH1	SLP-255B 8-TRACK	LED Channel Indicator
CH2	SLP-255B 8-TRACK	LED Channel Indicator
CH3	SLP-255B 8-TRACK	LED Channel Indicator
CH4	SLP-255B 8-TRACK	LED Channel Indicator
L101	HTX-350	FM Ant. Coil
L102	HTX-351	FM Ant. Coil
L103	HTX-353-1	FM RF Coil
L104	HTX-353-2	FM RF Coil
L105	HTX-283-11	FM BAR Ant.
L106	HTX-388	FM OSC Coil
L107	HTX-354	FM IF Trap Coil
L201	HTX-381	Trap Coil
L701	HTX-381	Bias Trap Coil
L702	HTX-381	Bias Trap Coil
L703	HTX-381	Bias Trap Coil
L704	HTX-381	Bias Trap Coil
T101	HTX-355	FM 1st IFT
T102	HTX-359	AM OSC Coil
T103	HTX-360	AM 1st IFT "P"
T104	HTX-361	AM 1st IFT "S"
T201	HTX-356	FM 2nd IFT
T202	HTX-362	AM 2nd IFT
T203	HTX-415	FM 3rd IFT
T204	HTX-357	FM DET Coil "P"
T205	HTX-358	FM DET Coil "S"
T801	HTX-385	Bias OSC Coil
CF101	HFX-101	Ceramic Filter
VR1	VRX-303	Semi-Fixed VR 10KΩB
VR2	VRX-303	Semi-Fixed VR 10KΩB
VR201	VRX-303	Semi-Fixed VR 10KΩB
VR202	VRX-252	Semi-Fixed VR 5KΩB
VR301	VRX-186	Semi-Fixed 1KΩB
VR302	VRX-252	Semi-Fixed 5KΩB
VR401	VRX-332 (Volume)	RV16GP30 50KΩBT ₂
VR402	VRX-368 (Balance)	RV16NF25 50KΩG
VR403	VRX-367 (Bass)	RV16GF25 50KΩA

Ref. No.	Parts No.	Description
VR404	VRX-367 (Treble)	RV16GF25 50KΩA
VR501	VRX-319 (Rec. Level)	RV16NF30 50KΩB
VR502	VRX-319 (Rec. Level)	RV16NF30 50KΩB
SW1, 2	SSX-319	Power Switch
SW3	SSX-320	Function Switch
SW4	SSX-321	Mode Switch
SW5	SSX-323	8-TRACK
SW6	SSX-249	R/P Switch Cassette
SW7	SSX-273	R/P Switch 8-TRACK
SW8	SSX-324	Clock
SW9	SSX-328	Tape Select
SW10	SSX-286	Lever Switch (N.R.C.)
SW11	SSX-286	Lever Switch (Timer)
PL1	EPX-453	Meter Lamp (16V 110mA)
PL2	EPX-453	Meter Lamp (16V 110mA)
PL3	EPX-451	Pointer Lamp(16V 110mA)
M1	EPX-450	Level Meter
M2	EPX-450	Level Meter
VC1	VC-32	Trimmer
	VC-33	Poly-Vari-Con
X1	XAL-102	Crystal
RY	SSR-105	Relay
	EPX-419	Desitron (Display)
	TEX-171	Ant. Base Connector
	TEX-172	SP. Base Connector
T1	PTX-243 x 0	Power Trans
	EPX-455	Remote Switch Cable
	EPX-343	Head Phone Jack
	EPX-333	Mic Jack
	EPX-452	Joiner
	EPX-454	Joiner
		FM Line Ant.
		Solderless Terminal

Ref. No.	Parts No.	Description
C1		CEMY 47 μ F/16V
C2		CEMY 0.47 μ F/50V
C3		CCD FZ 0.022 μ F/50V
C4		CCD FZ 0.01 μ F/50V
C5		CCD CH 1 pF/50V
C6		CCD CH 27 pF/50V
C7		CCD CH 10 pF/50V
C8		CBS 0.0082 μ F/50V
C9		CEMY 330 μ F/10V
C10		CBS 0.001 μ F/50V
C11		CCD FZ 0.022 μ F/50V
C12		CCD FZ 0.022 μ F/50V
C13		CCD SL 10 pF/50V
C14		CCD FZ 0.022 μ F/50V
C15		CCD SL 10 pF/50V
C16		CCD FZ 0.022 μ F/50V
C17		CCD FZ 0.022 μ F/50V
C18		CEMY 0.47 μ F/50V
C19		CCD FZ 0.022 μ F/50V
C719		CBS 0.0039 μ F/50V
C720		CBS 0.0039 μ F/50V
C721		CBS 0.0027 μ F/50V
C722		CBS 0.0027 μ F/50V

CABINET

PART No.	DESCRIPTION	Q'TY
CAW-311	MAIN CABINET	1
CFW-284J-1	BACK BOARD	1
MPM-495	FOOT	4
	3 x 12 CPTS	4
WAS-104	CLAW WASHER	11
	4 x 20 CPS	11
CFS-352	ORNAMENT PANEL	1
CFM-359H	DIAL COVER	1
CFM-360H	DECORATION COVER	1
CFM-361H	SIDE COVER	2
MPM-545	PUSH KNOB GUIDE (A)	20/7
MPM-546	PUSH KNOB GUIDE (B)	5/5
MPM-547	L.E.D. HOLDER	11/6
MPM-485	MIC JACK HOLDER	2/2
MPM-516H	LEVER SW HOLDER	2
CFS-354	VOLUME DECORATION	1
CFM-324H	CARTRIDGE FRAME	11
CFS-318K	TAPE COVER	1
CFS-313J	TAPE SHAFT	1
DLS-388H	TAPE SPRING	1
CFM-313	DECO. PLATE HOLDER	1
MPM-465	TUNING KNOB	1
MPM-486	VOLUME KNOB	1
MPM-548	CONTROL KNOB	5
MPM-439-A	PUSH KNOB (A)	1
MPM-543	PUSH KNOB	20
MPM-525	LEVER SW KNOB	2
MPM-523H	PUSH BUTTON	5
MPM-488H-A	CASSETTE KNOB	4
MPM-488H-B	CASSETTE KNOB	1
MPM-489J-1	RESET CAP	1
MPM-544	PUSH KNOB	3
MPM-488H-C	CASSETTE KNOB	1
CFM-362H	FRONT MOLD PANEL	1
CFM-341	DEGITRON COVER	1
DLS-487	DIAL PLATE	1
CFM-325K	CASSETTE LID	1
CFS-315H	LID PLATE	1
CFM-363H	CASSETTE WINDOW	1
SCS-110	CASSETTE COVER SCREW	2
DLS-430	LID SPRING	1
CFS-353H	DECORATION PLATE	1
MPM-526J	DEGITRON HOLDER	2
MPM-435H	PUSH KNOB GUIDE	1/6

CHASSIS

PART No.	DESCRIPTION	Q'TY
CHS-1181H	FRONT CHASSIS	1
PAW-796	INSULATOR FIBER	1
CHS-1190	LEVER SW. CHASSIS	1
CHS-1183	HEAT SINK	1
CHS-1009H	SCREW ANGLE	1
MPM-135H	ANTENNA HOLDER	1
DLA-256	DRIVING SHAFT ASS	1s
DLS-492	DRIVING SHAFT	1
DLS-493	METAL	1
WAM-151H	WASHER	1
WAM-153	WASHER	1
CHS-1053	SHAFT SUPPORTER	1
DLM-240-B	DIAL WHEEL	1
DLS-340	TENSION SPRING	1
CFS-317K-2	CASSETTE PLATE	1
PAW-700-B	TAPE MIRROR	1
MPM-485	MIC JACK HOLDER	1/2
DLS-494	CASSETTE SPRING (R)	1
DLS-495	CASSETTE SPRING (L)	1
DLS-488	POINTER	1
CHS-1192	METER HOLDER (R)	2
CHS-1193	METER HOLDER (L)	2
CHS-1191	REC. KNOB SHAFT	1
CHS-1081	RECORD SW PLATE	1
CHS-1082H	RECORD SW HOLDER	1
DLS-440J	REMOTE SPRING	1
DLM-258	GUIDE WHEEL	4
DLM-246	GUIDE WHEEL	1
DLA-247K-1	EJECT LEVER PLATE ASS	1u
CHS-1090H-1	EJECT LEVER PLATE	1
DLS-434H	EJECT LEVER SHAFT	1
RMX-149	DAMPER	1
CHS-1089	REC LEVER PLATE	1
	(REC SPRING PLATE)	1
DLS-445	LID STOPPER	1

SERVICE MANUAL



SUPPLEMENT MODEL NO. 5988

**THIS SUPPLEMENT APPLIES TO SERIAL NOS. 4000 and ABOVE
THIS SUPPLEMENT IS NOT COMPLETE WITHOUT THE
SERVICE MANUAL FOR MODEL 5988**

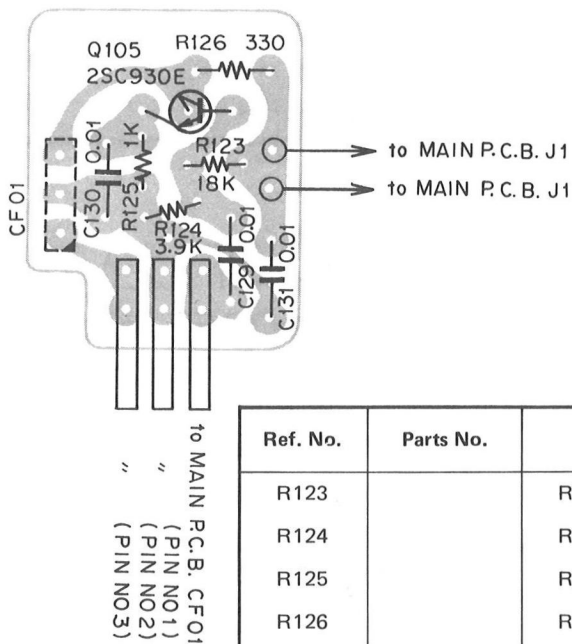
PART NUMBER DIFFERENCES BETWEEN TN-57CN-210 AND TN-57C-59

See exploded view of cassette deck on page 24 of Model 5988 Service Manual

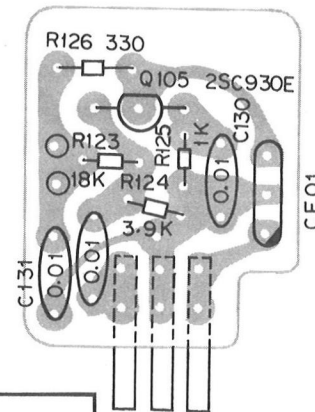
No.	Part Name	TN-57CN-210	TN-57C-59
			Serial No. 4000 & Above
2	Pack Spring	14250191	9590102
10	Head Panel	65600381	12600301
12	Spring	15600303	12600302
13	Spring	Not Used	12000304
15	Spring	15600305	480408
17	Erase Head	H-52403-02	H-52403-01
18	Spring	Not Used	12600303
34	Spring	12600801	180309
37	Flywheel Bearing	12000908	12000906
42	Spring	12601007	2380410
47	Slide Lever Spring	15601003	Not Used
48	Motor	EG-510ED-2B	EG-510AD-TZ
49	Motor Pully	9731202M	9731202S
50	Main Belt	12601202S	12601202
58	Collar Screw	12601503	Not Used
59	Push Button Ass'y	12941491	12601491
61	Pause Slide Lever	12601781	12601701
66	Collar	Not Used	12601703

IF AMP P.C.B.

BOTTOM VIEW



TOP VIEW

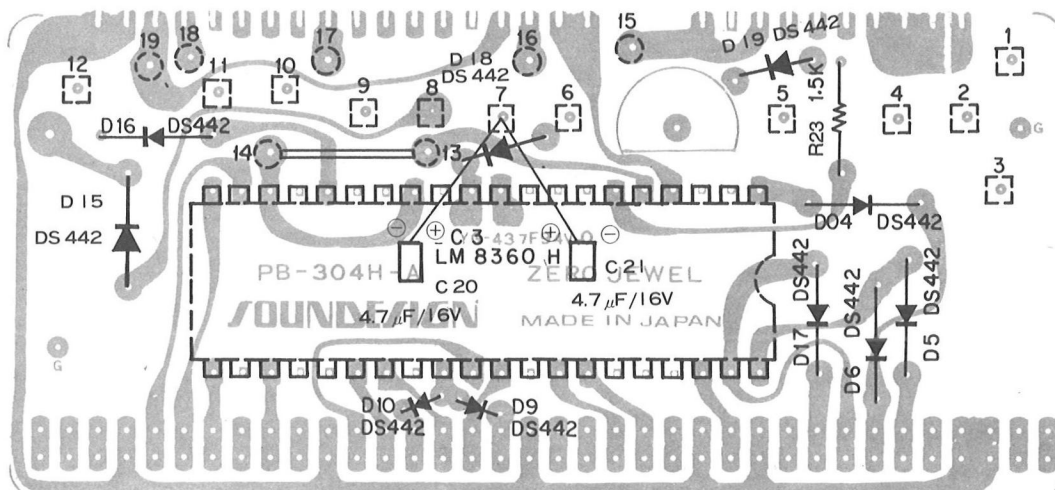


Ref. No.	Parts No.	Description
R123		R $\frac{1}{4}$ L 18K Ohm K.S.
R124		R $\frac{1}{4}$ L 3.9K " K.S.
R125		R $\frac{1}{4}$ L 1K " K.S.
R126		R $\frac{1}{4}$ L 330 " K.S.
C129		CCD FZ 0.01 μ F
C130		CCD FZ 0.01 μ F
C131		CCD FZ 0.01 μ F
Q105	2SC930E	Transistor IF AMP
CF01	HFX-101	Ceramic Filter CFM 10.7MA5

DISPLAY

BOTTOM

VIEW



MODEL 5988

SCHEMATIC DIAGRAM

