



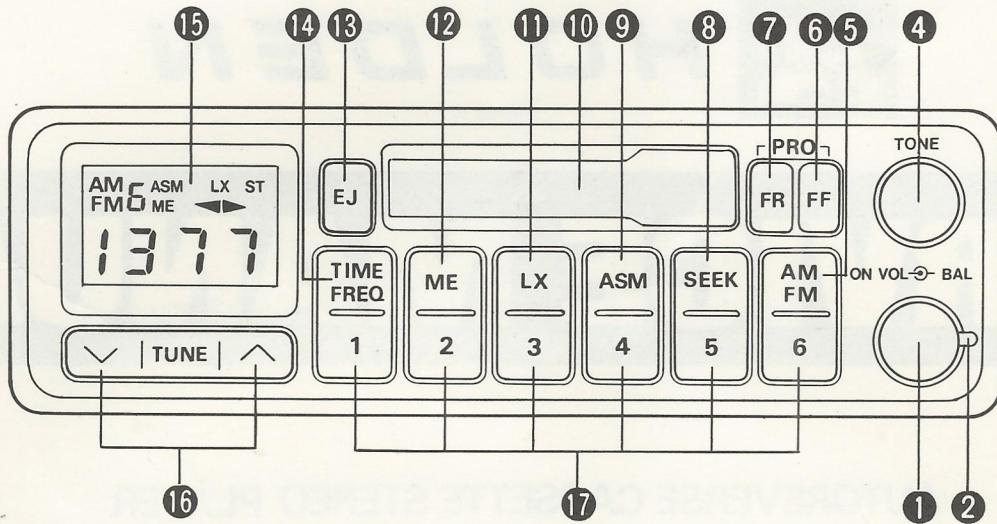
HOLDEN

SERVICE MANUAL

AUTOREVERSE CASSETTE STEREO PLAYER
& ELECTRONIC SEEK TUNE AM / FM STEREO RADIO
with 12 Programmable Memories & Digital Display

MCC-6615V/I

LOCATION OF CONTROLS



- ① Power On-Off Switch/Volume Control
- ② Balance Control (BAL)
- ③ -
- ④ Tone Control
- ⑤ AM/FM Waveband Selector Switch
- ⑥ Fast Forward Button (FF)
- ⑦ Fast Rewind Button (FR)
- ⑧ Automatic Seek Tuning Switch
- ⑨ Automatic Station Store Memory Switch (ASM)

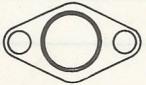
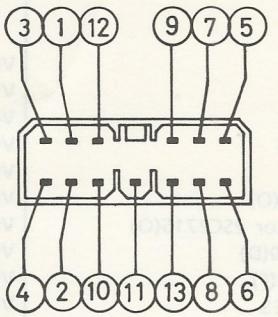
- ⑩ Cassette door
- ⑪ Local/Distant Selector Switch (LX)
- ⑫ Memory Enable Switch (ME)
- ⑬ Manual Cassette Eject Button (EJ)
- ⑭ Time/Frequency Selector Switch
- ⑮ LCD display
- ⑯ Manual Tuning Switch
- ⑰ Memory Address Switches

GENERAL INFORMATION

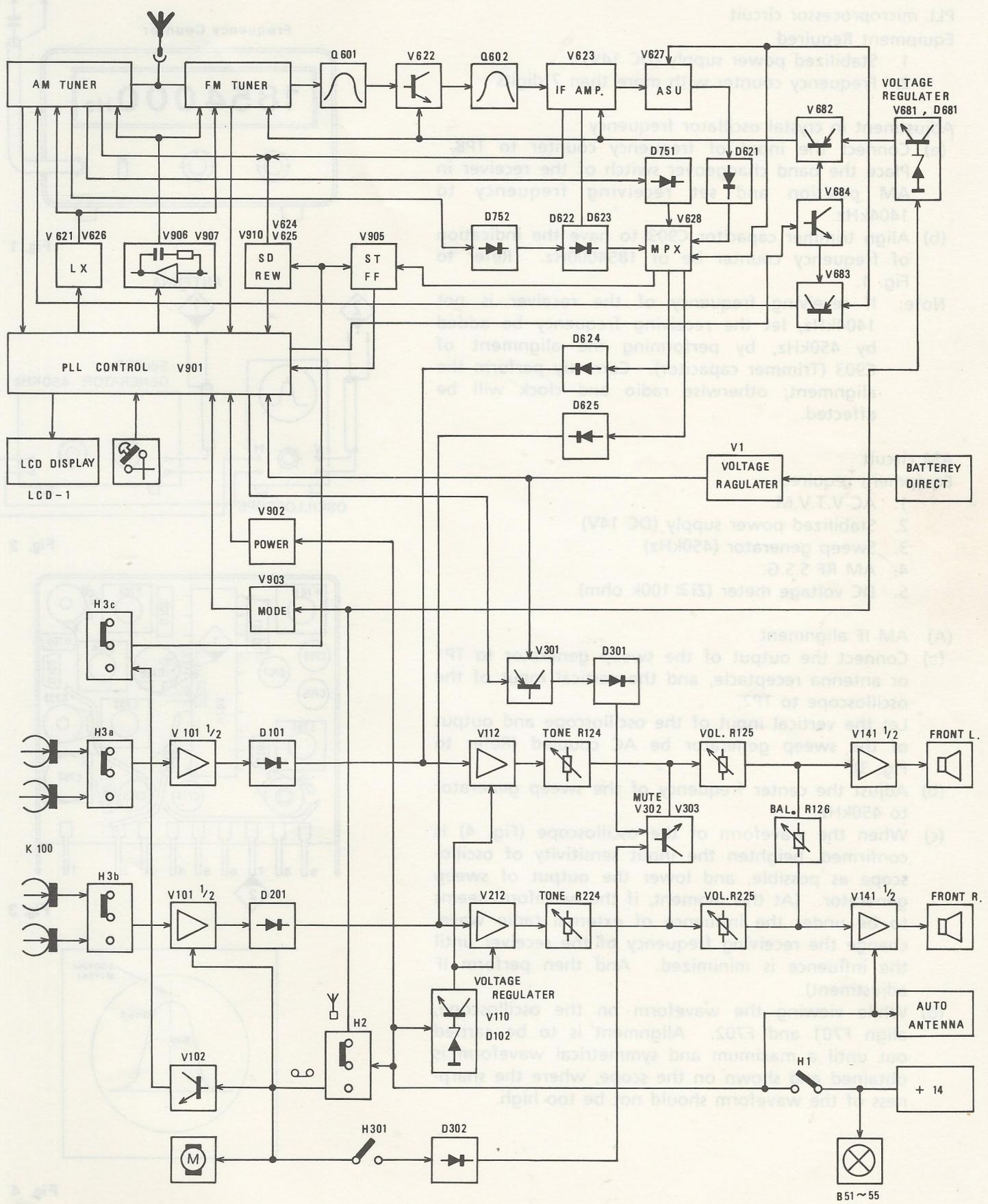
SEMICONDUCTORS: 8 ICs, 2 FETs, 27 Transistors, 36 Diodes, 1 LCD

DESCRIPTION	REF. NO.	Q'TY	EQUIVALENT
(AM Radio)			
AM IC LA1135	V704	1	
RF amplifier FET 2SK427(T)	V702	1	
RF AGC transistor 2SC2814(F3)	V703	1	
RF AGC transistor 2SC2812(L6)	V701	1	
Varactor diode SVC321SPA	D701, 702, 703	3	
(FM radio)			
IF IC LA1140	V623	1	
NB IC LA2110	V627	1	
MPX IC LA3370	V628	1	
RF amplifier FET 3SK101(GR)	V601	1	
Mixer transistor 2SC2620(B)	V602	1	2SC2714(O)
Oscillator transistor 2SC2995(O)	V603	1	
OSC buffer amplifier transistor 2SC2715(O)	V604	1	
IF amplifier transistor 2SC930(D)	V622	1	
Switching transistor 2SC2603(F)	V624	1	2SC2603(E)
Switching transistor DTC124ES	V621, 626	2	2SC3400
Switching transistor DTC114YS	V625	1	2SC4048
Varactor diode 1SV103	D601, 602, 603	3	
Voltage shift diode MA165	D622, 623	2	
Switching diode MA165	D621, 624, 625, 750, 751, 752	6	
(Pre amplifier)			
Pre amplifier IC LA3161	V101	1	
Switching transistor DTC124ES	V102	1	2SC3400
Switching diode MA165	D101, 201	2	
(AF amplifier)			
AF amplifier transistor 2SC2603(F)	V112, 212	2	2SC2603(E)
(Power amplifier)			
Power amplifier IC LA4445	V141	1	
Switching diode MA165	D141	1	
(Control)			
PLL IC μ PD1708AG-715	V901	1	
Switching transistor 2SC2603(F)	V902, 903	2	2SC2603(E)
Switching transistor 2SA1115(F)	V904, 905	2	2SC1115(E)
Low pass filter transistor 2SC2458L(BL)	V906, 907	2	
Switching diode MA165	D901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913	13	
(Muting)			
Muting transistor DTA124ES	V301	1	2SA1346
Muting transistor 2SC2603(F)	V302, 303	2	2SC2603(E)
Muting diode MA165	V301, 302	2	
(Regulator)			
Regulator IC AN8005	V1	1	
Regulator transistor 2SD973(R)	V681	1	2SD973(S)
Regulator transistor 2SC2603(F)	V110	1	2SC2603(E)
Switching transistor DTB123YS	V682	1	2SA1524
Switching transistor DTA114TS	V683	1	2SA1497
Switching transistor 2SC2603(F)	V684	1	2SC2603(E)
Voltage shift diode MA165	D2	1	
Zener diode HZS10N(B1)	D102, 681	2	RD10E(B1)
Protector diode ERB12-02	D1	1	DS135(D)
(Display)			
LCD Display	LCD-1	1	

INPUT AND OUTPUT

Indication	For Connection of:	Sensitivity	Impedance	Type of Socket	Connections
Antenna receptacle	Car radio aerial	1μV-3V	75 ohm		Aerial (Max. 500mA)
13P plug	Output Speaker Left CH and Right CH	1-2. 7.5W 3-4. 7.5W 5-6. 7.5W 7-8. 7.5W	4 ohm		1. Front Left Speaker (+) 2. Front Left Speaker (-) 3. Front Right Speaker (+) 4. Front Right Speaker (-) 5. Rear Left Speaker (+) 6. Rear Left Speaker (-) 7. Rear Right Speaker (+) 8. Rear Right Speaker (-) 13.Ground 9. Back light 12.+14V DC 10.Car battery +14V DC 11.Automatic aerial
	Small light switch	-	-		
	Power supply +14V (Ignition switch)	-	-		
	Power supply +14V (Car battery)	-	-		
	Automatic aerial	14V DC (Max. 500mA)	-		

CIRCUIT FUNCTION DIAGRAM



SERVICE ALIGNMENT PROCEDURE

PLL microprocessor circuit

Equipment Required

1. Stabilized power supply (DC 14V)
2. Frequency counter with more than 7 digits

Adjustment in crystal oscillator frequency

- (a) Connect the input of frequency counter to TP8. Place the band changeover switch of the receiver in AM position and set receiving frequency to 1404kHz.
- (b) Align trimmer capacitor C903 to have the indication of frequency counter be of 1854000Hz. Refer to Fig. 1.

Note: If receiving frequency of the receiver is not 1404kHz, let the receiving frequency be added by 450kHz, by performing the alignment of C903 (Trimmer capacitor). Correctly perform the alignment; otherwise radio and clock will be affected.

AM circuit

Equipment required

1. AC V.T.V.M.
2. Stabilized power supply (DC 14V)
3. Sweep generator (450kHz)
4. AM RF S.S.G.
5. DC voltage meter ($Z_i \geq 100k\ \Omega$)

(A) AM IF alignment

- (a) Connect the output of the sweep generator to TP1 or antenna receptacle, and the vertical input of the oscilloscope to TP2. Let the vertical input of the oscilloscope and output of the sweep generator be AC coupled (Refer to Fig. 3).

- (b) Adjust the center frequency of the sweep generator to 450kHz.

- (c) When the waveform of the oscilloscope (Fig. 4) is confirmed, heighten the input sensitivity of oscilloscope as possible, and lower the output of sweep generator. (At this moment, if the waveform seems to be under the influence of external radio wave, change the receiving frequency of the receiver until the influence is minimized. And then perform IF adjustment).

- (d) While viewing the waveform on the oscilloscope, align F701 and F702. Alignment is to be carried out until a maximum and symmetrical waveform is obtained and shown on the scope, where the sharpness of the waveform should not be too high.

Frequency Counter

1854000 Hz

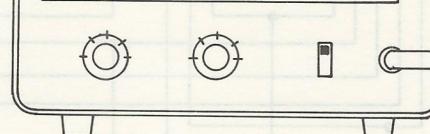


Fig. 1

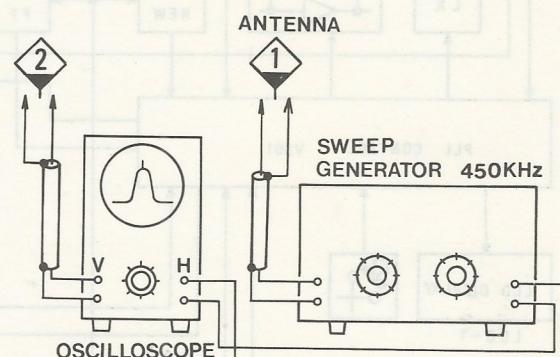


Fig. 2

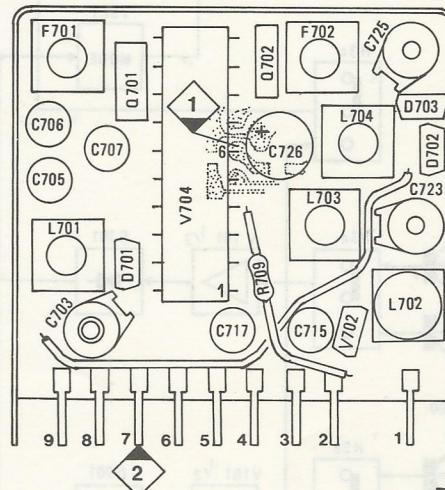


Fig. 3

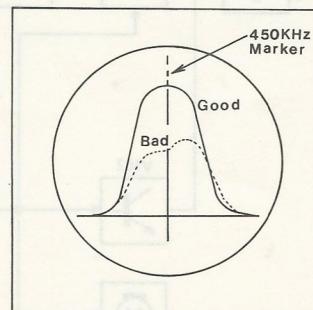


Fig. 4

(B) AM RF (Tracking) alignment

- (a) Connect the V.T.V.M. to the speaker output of either channel, and the output of AM RF S.S.G. to the antenna through dummy antenna (Fig. 5).
- (b) Tuning voltage calibration
Connect DC voltage meter to 9 pin of AM board.
Read the indications of DC voltage meter at the lower limit (522kHz) and upper limit (1629kHz).
Confirm that the voltage values (lower limit and upper limit) are approximately 1.5V and 7V, respectively. If the values obtained are greatly deviated from the standard ones, adjust L701 and C703.
- (c) Set the frequency of S.G. to 603kHz exactly. Let the output level be the level of AGC being not working (less than $30\mu V$).
- (d) Align L703 (ANT coil) and L704 (RF coil) to obtain the maximum output. At this moment, the core positions of L703 and L704 should be memorized.
- (e) Set the frequency of S.G. to 1404kHz, and the tuning of the receiver to 1404kHz also. Move C723 and C725 to observe the direction in which the output becomes great.
- (f) Repeat the above mentioned procedure several times. (Ensure that quieting sensitivity is within the specification).

Note:

1. If L703 and L704 are shifted slightly, align L704 to obtain the maximum sensitivity. And at this moment, ensure that the upper limit and lower limit of tuning voltage should be in the range of 1V-8.5V.
2. Since D701, D702 and D703 are used as a single set, these three components should be replaced at the same time even if only one of the three is defective.

(C) AM stop signal circuit alignment

Note: In the case of AM, confirmation is made by only performing the alignment of IF and RF.

- (a) Connect the output of AM RF signal generator to the antenna, set the frequency of signal generator to 999kHz exactly, perform auto search, change the output level of signal generator, and then confirm whether search stop is conducted correctly or not.

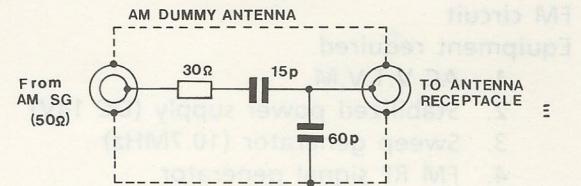
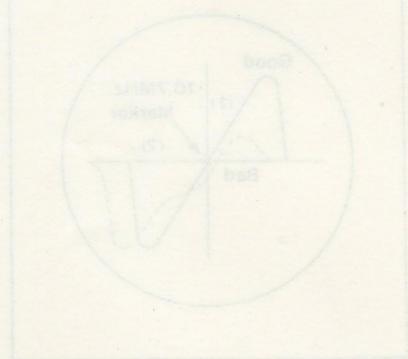


Fig. 5

FM circuit

Equipment required

1. AC V.T.V.M.
2. Stabilized power supply (DC 14V)
3. Sweep generator (10.7MHz)
4. FM RF signal generator
5. Stereo modulator
6. DC voltage meter ($Z_i \geq 100k\ \Omega$)

(A) FM IF alignment

- (a) Connect the output of sweep generator to the antenna, and the vertical input of oscilloscope to the TP6. (Refer to Fig. 6)
- (b) Set the center frequency of sweep generator to 10.7MHz.
- Note: Heighten the input sensitivity of oscilloscope as much as possible. The output level of sweep generator should be set at the level at which the limiter of IF amplifier can not be working.
- (c) Align F601 in order that the waveform of the oscilloscope may be the same as that shown in Fig. 7. The amplitude of the waveform should be maximum and symmetrical with respect to the vertical axis, and the end portion should be round shaped.
- (d) Place C.R circuit in Fig. 8 to the vertical input of oscilloscope, and connect the input to TP6. At this moment, the input sensitivity of oscilloscope is lower than that in procedure (b), and the output level of sweep generator will lower further.
- (e) Align F621 to have the waveform shown on the oscilloscope be the same as that shown in Fig. 9.
- (f) Connect the output of FM RF signal generator to the antenna through dummy antenna. Set the frequency of FM RF sweep generator to 98.1MHz exactly, and tune the receiver to 98.1MHz as well. Let the output level of FM RF sweep generator be 1mv. Refer to Fig. 10.
- (g) Connect DC voltage meter to TP3 and TP4. The voltage range of the meter should be set lower than 0.5V and then align F621 until the indication of voltage meter is at 0V.

(B) FM RF board alignment

- (a) Connect FM RF S.G. to the antenna of the receiver through dummy antenna, and AC V.T.V.M. to the speaker output of either channel.
- (b) Set the output level of FM RF signal generator to $3\mu V$, and modulation to 1kHz deviation (30%). Adjust VOL of the receiver to the adequate position in accordance with indication of AC V.T.V.M.

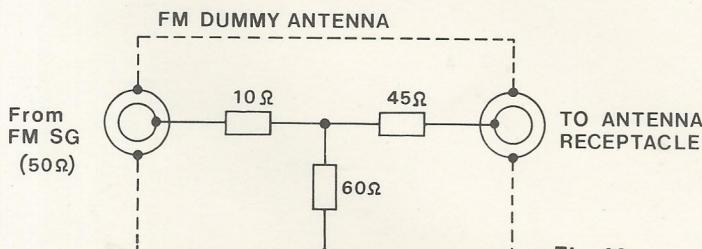


Fig. 10

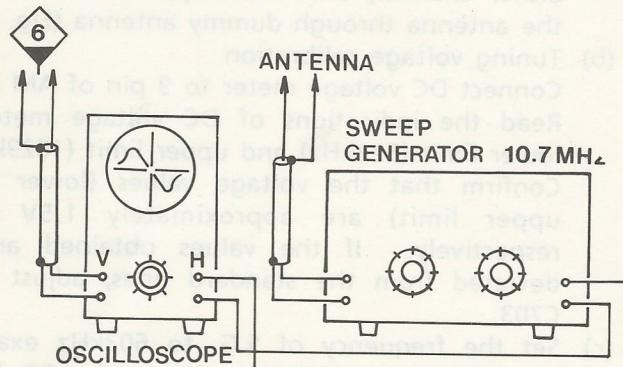


Fig. 6

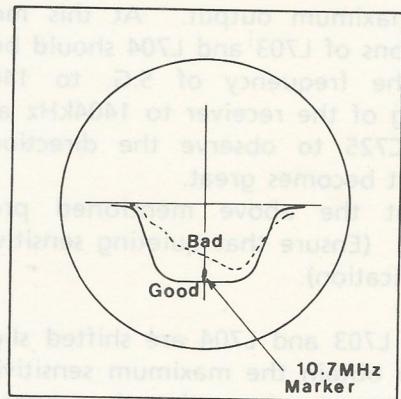


Fig. 7

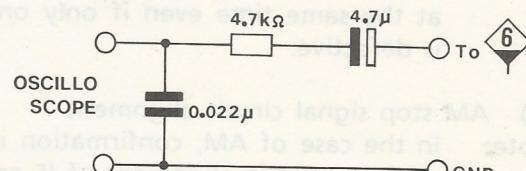


Fig. 8

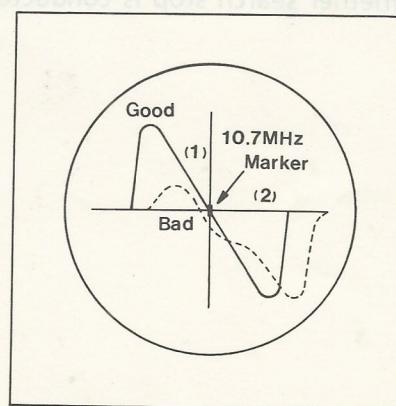


Fig. 9

(c) Tuning voltage calibration

Connect DC voltage meter to terminal No.4 of FM RF. Set the tuning of the receiver to 87.5MHz. Record the reading of DC voltage meter, then change the tuning of the receiver to 108.0MHz and in turn record the reading of DC voltage meter. Confirm that the two voltage values are to be approximately 1.5V and 7V, respectively. If the values indicated are greatly deviated from the standard ones, adjust L605 and C617.

Note: Since 1.2V and 9V are the allowable extreme values, reconfirmation must be made should L605 or C617 be moved for further alignment.

- (d) Tune the frequency of FM RF signal generator to 88.1MHz exactly, and the tuning of the receiver to 88.1MHz as well. Align L601 (Antenna coil) and L603 (RF coil) to obtain the maximum indication of the V.T.V.M.

- (e) Tune the frequency of FM RF signal generator to 107.9MHz, and the tuning of the receiver to 107.9MHz as well. Move L601 and L603 to observe the reading of the V.T.V.M. If the indication of the V.T.V.M. increases when the density of coils winding decreases (becomes coarse), replace C603 and C610 with other capacitors having smaller capacity, and then perform the alignment of procedure (d). To the contrary, when the density of coils winding increases (becomes dense), replace C603 and C610 with other capacitors having larger capacity.

- (f) Repeat the alignment of procedure (d) and (e) to obtain the maximum indication of the V.T.V.M.

Note: Since C603, C610 and C617 are chip capacitors, soldering iron used in soldering should be less than 30W, and the temperature of the iron tip should be less than 280°C. Do not touch ceramic part directly with iron tip when performing operation.

Note:

1. If the change of indication of the V.T.V.M. is only a bit when moving L601 and L603 for adjustment, adjust L605 at 88.1MHz to obtain maximum sensitivity.
2. The characteristics of D601, D602 and D603 are similar so that the three components should be replaced at the same time even if only one of the three is defective or damaged. Otherwise, the specified performance may not be obtained even the above mentioned adjustments are performed repeatedly.
3. Whenever (B) FM RF board alignment is done, it must be followed by (A) FM IF alignment.

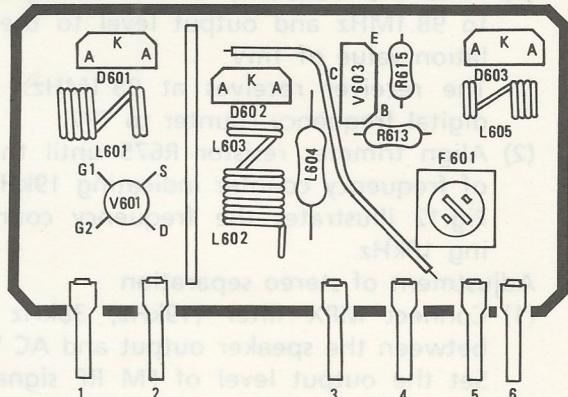


Fig. 11

(C) FM MPX circuit alignment

(a) Alignment of pilot 19kHz

- (1) Tune the frequency of FM RF signal generator to 98.1MHz and output level to the not modulation value of 1mV.

The receiver receives at 98.1MHz. Connect a digital frequency counter to TP7.

- (2) Align trimmer resistor R675 until the indication of frequency counter indicating 19kHz. Refer to Fig.12 illustrates the frequency counter indicating 19kHz.

(b) Adjustment of stereo separation

- (1) Connect MPX filter (19kHz, 38kHz Null filter) between the speaker output and AC V.T.V.M.

Set the output level of FM RF signal generator to 1mV, and set the modulator to 75kHz deviation (10% for pilot signal and 90% for 1kHz main signal L + R).

- (2) Tune the mode selector of the stereo modulator to the R channel. Align trimmer resistor R667 to obtain maximum separation.

In case L channel is selected by the mode selector, also perform the adjustment similarly. If the trimmer resistor R667 of the mode selector is set in different position for R and L channels, align it so that equal separation can be obtained on both channels.

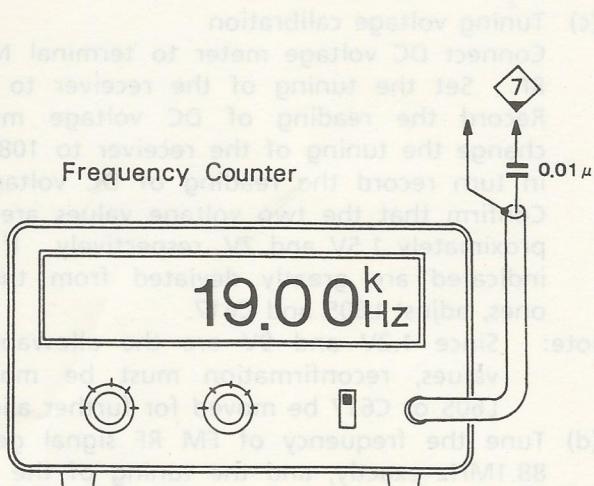


Fig. 12

TROUBLESHOOTING

RADIO SECTION	DEFECTIVE POINT AND CAUSE	DEFECTIVE CIRCUIT	DEFECTIVE POINT AND CAUSE
NO SOUND	AM/FM SECTION	Antenna input circuit	* Antenna input circuit defective. Check wiring. * Poor antenna contact. Due to lower sensitivity, it does search scanning but not search stop.
		Power supply circuit	* Power supply circuit defective. V681 or D681 defective. V110 or D102 defective.
		Switching circuit	* Diode D621, D624, D625 or D751 defective. * IC V628 defective. Check pin voltage of V628.
		Muting circuit	* Transistor V301, V302 or V303 defective.
	AM SECTION	Antenna input circuit	* Antenna input circuit defective. Noise choke coil L706 defective.
		RF, OSC, IF circuit	* AM IC V704 defective. Check pin voltage of V704. * Semiconductor defective. Check voltage of V701 and V702. * V701, L702, L703, L704, F701 or F702 open. * Q702 defective.
		Power supply circuit	* Power supply circuit defective.
		Connection of AM board	* Insufficient soldering at the terminal of AM board. * Cracked pattern at the terminal of AM board.
	FM SECTION	Power supply circuit	* Power supply circuit defective. Check voltage V682.
		RF, OSC circuit	* Semiconductor defective. Check voltage of V601, V602, V603 and V604. * Diode D601, D602 or D603 defective. * L601, L602, L603, L605 or F601 open or insufficient soldering.
		IF circuit	* Semiconductor defective. Check pin voltage of V622 and IF IC V623. * F621, Q601 or Q602 defective.
		ASU circuit	* ASU circuit defective. Check pin voltage of ASU IC V627.

TROUBLESHOOTING

SYMPTOM	DEFECTIVE CIRCUIT		DEFECTIVE POINT AND CAUSE
INSUFFICIENT SOUND	AM/FM SECTION	Antenna input circuit	* Poor antenna contact. * Capacitor C600 defective.
		MPX circuit	* MPX circuit defective. Check pin voltage of IC V628.
	AM SECTION	RF, IF circuit	* Deviation in tracking alignment (L703, L704). * Deviation in IF transformer F701 or F702. * Transistor V701 or FET V704 defective. * Diode D702 or D703 defective.
		RF, IF circuit	* Deviation in tracking alignment (L601, L603). * RF amplifier V601 defective. * Diode D601 or D602 defective. * IF transformer F601 defective. * IF amplifier V622 and IC V623 defective. Check for voltage of V622 and V623. * F601 misalignment. * Capacitor C600 defective.
	FM SECTION	ASU circuit	* ASU circuit defective. Check pin voltage of IC V627.
DISTORTED SOUND	AM SECTION	IF circuit	* Q702 defective. * AM IC V704 defective. * F701 or F702 misalignment.
OSCILLATION	FM SECTION	IF circuit	* Misalignment or defective of F621. * Q601 or Q602 defective.
	AM/FM SECTION	Power supply circuit	* Capacitor C681 defective.
	AM SECTION	RF, IF circuit	* Capacitor C708, C710, C721 or C726 defective.
	FM SECTION	RF, IF circuit	* RF circuit defective. Capacitor C607, C608, C609 or C621 defective. * IF circuit defective. Capacitor C623, C624, C632 or C634 defective.
POOR NB		NB circuit	* NB IC V627 defective. Check pin voltage of V627. * Capacitor C657, V658, C659 or C660 defective. * Capacitor C663 defective.
POOR MUTE IN SEARCH SCANNING AND AM/FM SWITCH POP NOISE	MUTE SECTION		* Semiconductor defective. Transistor V301, V302 or V303 defective. Diode D301 defective. * Capacitor C301 open.

TROUBLESHOOTING

SYMPTOM	DEFECTIVE CIRCUIT		DEFECTIVE POINT AND CAUSE
POOR STEREO EFFECT		NB circuit	<ul style="list-style-type: none"> * NB IC V627 defective. Check pin voltage of V627. * Capacitor C653, C654, C655 or C656 defective.
		MPX circuit	<ul style="list-style-type: none"> * MPX IC V628 defective. Check pin voltage of V628. * R667 and R674 misalignment.
INDICATOR DOES NOT LIGHT	LCD SECTION		<ul style="list-style-type: none"> * Check the wiring of indicator circuit. * Regulator IC V1 defective. Check pin voltage of V1. * Insufficient soldering at the terminal of LCD panel. * PLL IC V901 defective. * LCD panel defective.
	STEREO INDICATOR		<ul style="list-style-type: none"> * Check the wiring of stereo indicator circuit. * Transistor V904 or diode D909 defective. * MPX IC V628 defective. * PLL IC V901 defective.
LESS SENSITIVITY DRIFT OCCURS WITH AIR CON- DITIONER IS ON			<ul style="list-style-type: none"> * If the set was installed near the blower of the air conditioner, the sensitivity drift will be created by the temperature (Hot or Cold). Avoid installing the set near air conditioner is unavoidable, isolate the set by isolating material from the air conditioner.
ENGINE NOISE IS EXTREME	MOTOR COMPARTMENT		<ul style="list-style-type: none"> * Missing or poor connection of resistor wire on high tension coil of car. Insert noise preventing resistor between ignition coil and distributor of car. * Missing or poor connection of noise silencer by alternator of car. Install specified noise silencer on the alternator. * Missing or poor connection of grounding wire between engine chassis and engine, transmission and engine chassis of car.
	ANTENNA GROUND CIRCUIT		<ul style="list-style-type: none"> * Missing or poor connection of grounding wire for antenna to grounding point of the car chassis.

TROUBLESHOOTING

TAPE SECTION

SYMPTOM	DEFECTIVE CIRCUIT	DEFECTIVE POINT AND CAUSE
NO SOUND	Power supply circuit	* Switch H2 defective.
	Mechanism or motor	* Motor does not run. Motor defective. Resistor R3 defective. * Mechanism defective. Check for running of tape.
	Pre amplifier circuit	* Pre amplifier defective. Check each pin voltage of pre amplifier IC V101. * Leakage of large amount of DC current into capacitor C104 or C204. * Head lead wire open. * Capacitor C106 short.
	Head	* Head surface dirty. * Head azimuth angle misalignment.
OSCILLATION	Pre amplifier circuit	* C101, C105, C201 or C205 capacity insufficient or open.
ABNORMAL TAPE SPEED	Mechanism or motor	* Mechanism defective. * Motor defective.
WOW AND FLUTTER	Flywheel drive section	* Flywheel, capstan or intermediate gear defective. * Reel table defective. * Belt, pinchroller, idler, flywheel or pulley defective. * Motor defective.
NO SELECTION	Cassette program selection circuit	* Cassette program selection defective.
DOES NOT WORK FUNCTION SWITCHES	ATR mechanism	* H3 defective. * Does not reverse when program selector is depressed. * ATR mechanism defective. * Does not reverse when the end of tape comes.

TROUBLESHOOTING

RADIO AND TAPE SECTION

CONTROL SECTION

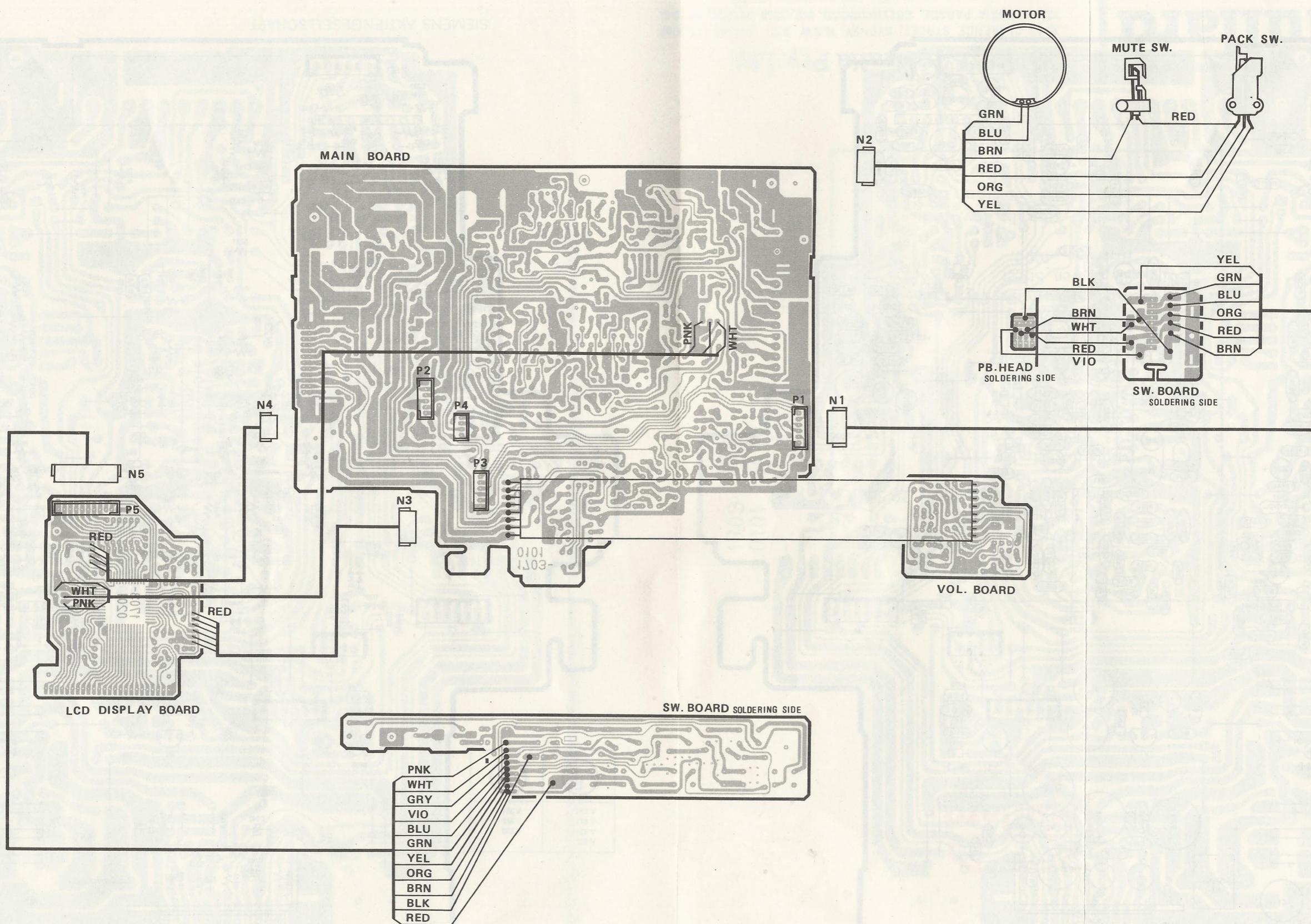
SYMPTOM	DEFECTIVE CIRCUIT	DEFECTIVE POINT AND CAUSE
NO SOUND	Power supply circuit	<ul style="list-style-type: none"> * Fuse open. * Faulty connection between battery. * Switch H1 defective. * Choke transformer L1 lead wire cold soldered.
	Output circuit	<ul style="list-style-type: none"> * Speaker voice coil open. * Faulty connection between speaker and connection core. * Power amplifier IC V141 defective. Check each pin voltage of IC V141.
	Control circuit	<ul style="list-style-type: none"> * Variable resistor R124, R125, R126, R224 or R225 defective.
	Flat amplifier circuit	<ul style="list-style-type: none"> * Flat amplifier circuit defective. Check voltage of transistor V112 and V212.
	Switching circuit	<ul style="list-style-type: none"> * Diode D101, D201, D624 or D625 defective.
	Muting circuit	<ul style="list-style-type: none"> * Transistor V301, V302 or V303 defective.
DISTORTED SOUND OR INSUFFICIENT SOUND	Output circuit	<ul style="list-style-type: none"> * Power amplifier circuit defective. Check each pin voltage of V141. * Capacitor C145 or C245 defective.
	Control circuit	<ul style="list-style-type: none"> * Variable resistor R124, R125, R126, R224 or R225 defective.
	Flat amplifier circuit	<ul style="list-style-type: none"> * Flat amplifier circuit defective. Check voltage of transistor V112 and V212.
OSCILLATION	Output circuit	<ul style="list-style-type: none"> * C1 or C246 capacitor insufficient or open. C143 or C243 capacity insufficient. R142 or R242 resistance insufficient.
ENGINE NOISE IS EXTREME	Power supply circuit	<ul style="list-style-type: none"> * Missing or poor connection of ground wire. * C1, C3, C106, C115 or C116 capacity insufficient. * R1 resistance insufficient. * Transistor V110 or zener diode D102 defective. Check voltage of transistor V110.

TROUBLESHOOTING

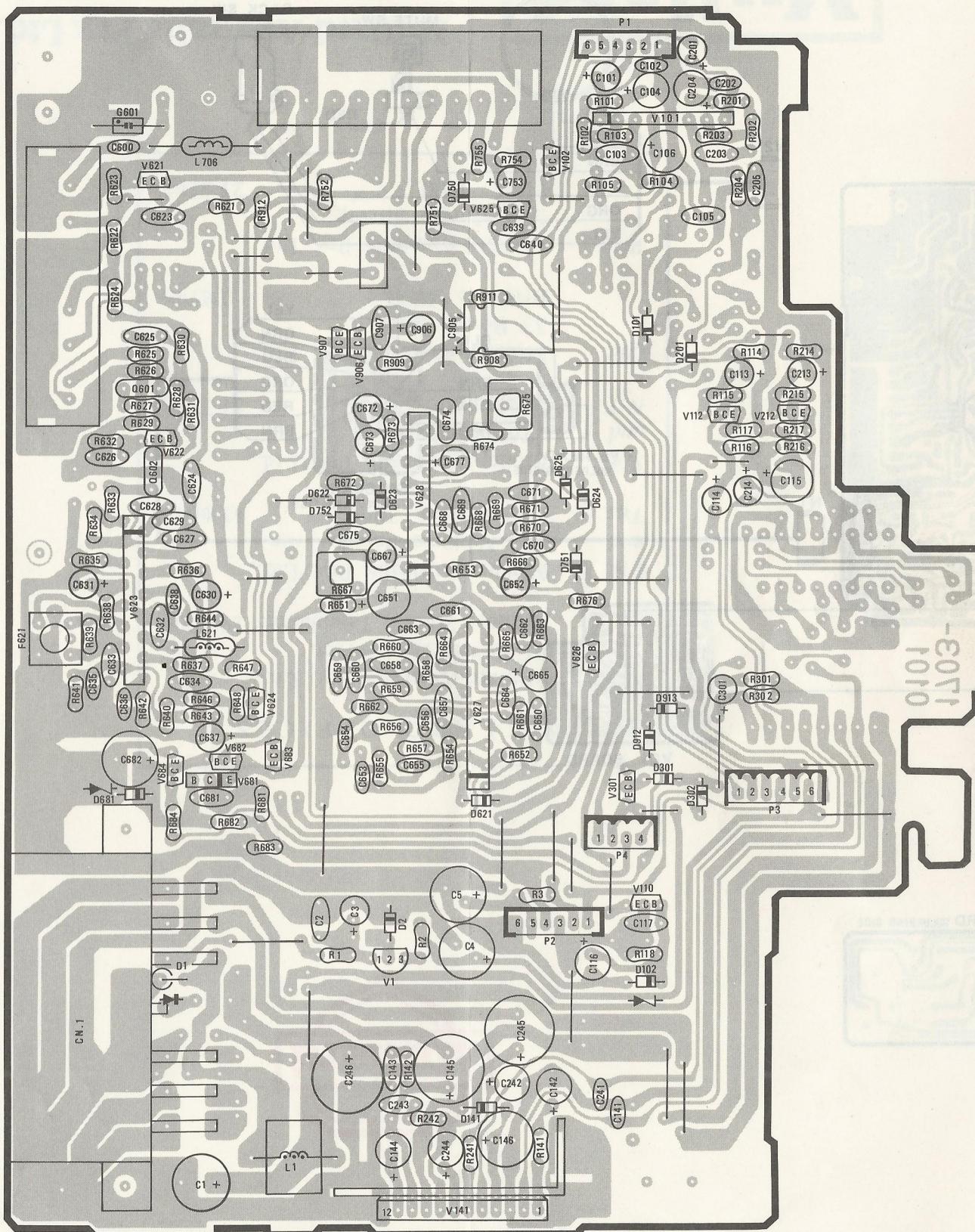
CONTROL SECTION

SYMPTOM	DEFECTIVE CIRCUIT	DEFECTIVE POINT AND CAUSE
CONTENTS OF THE MEMORY IS LOST		<ul style="list-style-type: none"> * Disconnection of back-up wire. * PLL IC V901 defective.
DISPLAY NEITHER TIME NOR FREQUENCY	Power supply circuit or battery back-up circuit	<ul style="list-style-type: none"> * Diode D901, D902 defective. * Regulator IC V1 defective. * Resistor R2 defective. * Faulty connection to the 4-pin socket (N4).
DISPLAY DOES NOT CHANGE		<ul style="list-style-type: none"> * H2 defective. * Faulty connection to the 11-pin socket (N5). * Transistor V903 or D908 defective.
MANUAL TUNING INOPERATIVE		<ul style="list-style-type: none"> * Faulty connection to the 11-pin socket (N5). * H51 or H52 defective.
PRESETTING OR SELECTION OF PRESET STATIONS INOPERATIVE		<ul style="list-style-type: none"> * Diode D903, D904, D905, D906 defective. * Switch defective (H53, H54, H55, H56, H57, H58). * Faulty connection to the 11-pin socket (N5). * PLL IC V901 defective.
NO SEARCH SEEKING	AM/FM SECTION PLL circuit	<ul style="list-style-type: none"> * Transistor V906, V907 defective. * 2-core shielding wire cold soldered. * PLL IC V901 defective.
THE UNIT SEARCH SEEKS BUT DOES NOT STOP	AM/FM SECTION AM SECTION FM SECTION	<ul style="list-style-type: none"> * Transistor V625 or V905 defective. * Diode D910 defective. * Faulty connection to the 6-pin socket (N3). * PLL IC V901 defective. <ul style="list-style-type: none"> * C753 or D750 defective. * AM IC V704 defective. * Ceramic filter Q701 defective. <ul style="list-style-type: none"> * Transistor V624 defective. * IF IC V623 defective.
		* Engine noise is extreme
		* Power supply circuit

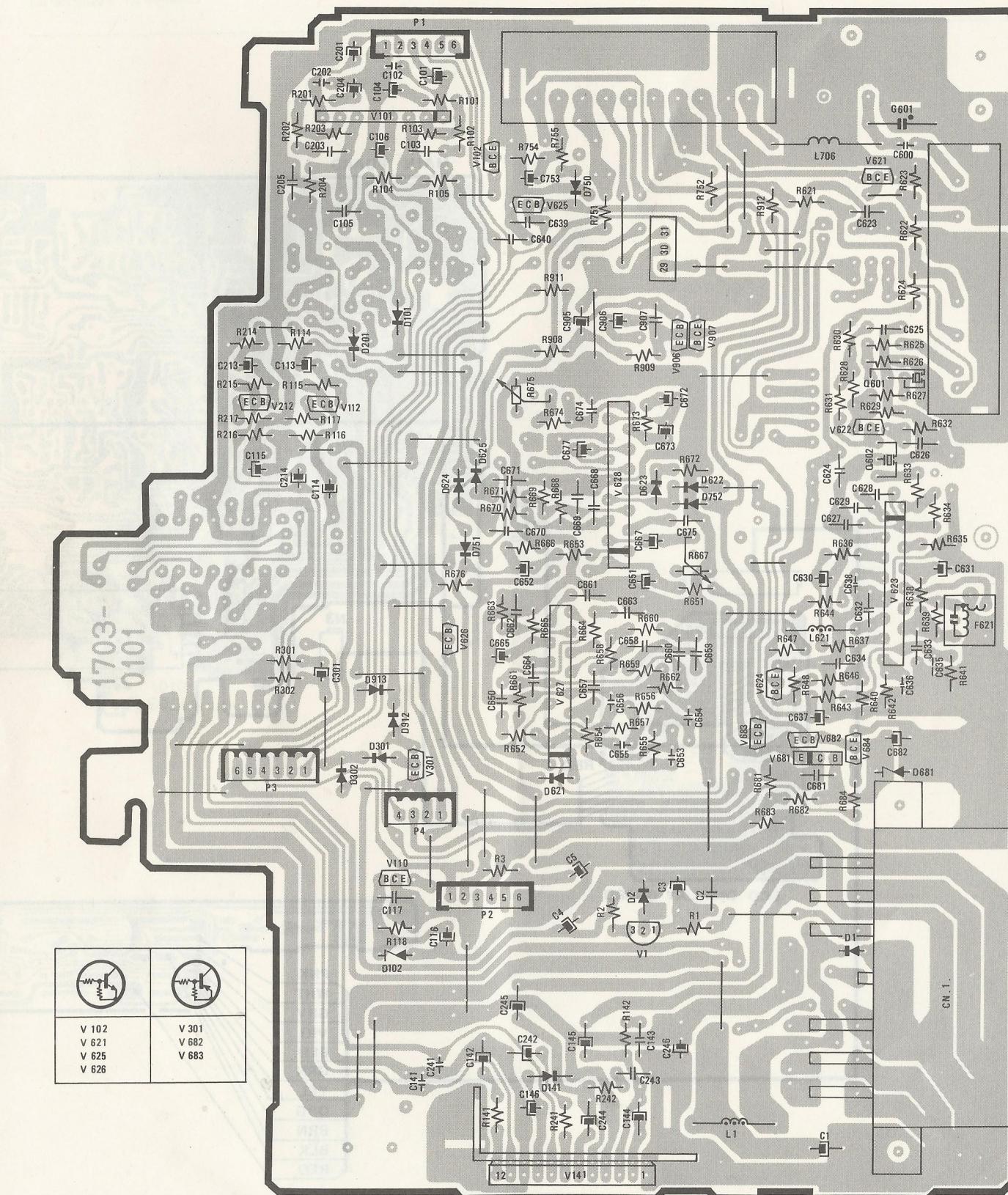
MAIN CIRCUIT BOARD WIRING LAYOUT



MAIN CIRCUIT BOARD COMPONENT LOCATION GUIDE



TOP VIEW



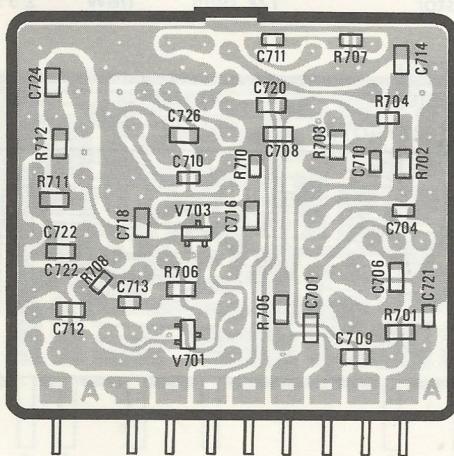
BOTTOM VIEW

REF. NO.28 CTP-1599-3 MAIN CIRCUIT BOARD ASSEMBLY PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
-	Main printed circuit board		440-1703-0101
C1	Electrolytic capacitor	1000 μ F 16V	250-102M-1C00-057
C2, 624, 625, 626, 627, 628, 629, 632, 633, 634, 639, 640, 675, 907	Monolithic capacitor	0.022 μ F 25V	262-223M-1EJR-111
C3, 106, 115, 116	Electrolytic capacitor	47 μ F 16V	250-470M-1C00-122
C4	Electrolytic capacitor	470 μ F 10V	250-471M-1A00-047
C5, 146, 905	Electrolytic capacitor	220 μ F 16V	250-221M-1C00-045
C101, 201, 630, 631	Electrolytic capacitor	2.2 μ F 50V	250-2R2M-1H00-114
C102, 141, 202, 241	Ceramic capacitor	0.001 μ F 50V	261-102K-1HJB-110
C103, 203	Monolithic capacitor	0.018 μ F 25V	262-183K-1EJR-111
C104, 204	Electrolytic capacitor	100 μ F 10V	250-101M-1A00-025
C105, 205, 662, 670, 671	Monolithic capacitor	0.001 μ F 25V	262-102M-1EJR-106
C113, 114, 213, 214, 677, 753	Electrolytic capacitor	1 μ F 50V	250-1R0M-1H00-114
C117, 663, 664, 681	Monolithic capacitor	0.01 μ F 25V	262-103M-1EJR-106
C142, 144, 242, 244	Electrolytic capacitor	100 μ F 10V	250-101M-1A00-128
C143, 243	Monolithic capacitor	0.1 μ F 16V	262-104M-1CJR-125
C145, 245	Electrolytic capacitor	1000 μ F 10V	250-102M-1A00-057
C246	Electrolytic capacitor	470 μ F 16V	250-471M-1C00-047
C301, 637, 652	Electrolytic capacitor	4.7 μ F 25V	250-4R7M-1E00-114
C600, 635, 636	Ceramic capacitor	33pF 50V	260-330K-1H00-105
C623	Monolithic capacitor	0.033 μ F 25V	262-333M-1EJR-116
C638	Ceramic capacitor	100pF 50V	260-101K-1H00-110
C650	Monolithic capacitor	0.0068 μ F 25V	262-682M-1EJR-106
C651	Electrolytic capacitor	100 μ F 10V	250-101M-1A00-133
C653, 654	Ceramic capacitor	680pF 50V	261-681K-1HJB-105
C655	Ceramic capacitor	0.0012 μ F 50V	261-122K-1HJB-110
C656	Ceramic capacitor	68pF 50V	260-680K-1H00-105
C657, 658, 659, 660	Ceramic capacitor	270pF 50V	260-271J-1H00-120
C661	Monolithic capacitor	0.0033 μ F 25V	262-332M-1EJR-106
C665	Electrolytic capacitor	22 μ F 6.3V	250-220M-0J00-114
C667	Electrolytic capacitor	10 μ F 16V	250-100M-1C00-114
C668, 669	Monolithic capacitor	0.015 μ F 25V	262-153K-1EJR-111
C672	Electrolytic capacitor	3.3 μ F 50V	250-3R3M-1H00-114
C673	Electrolytic capacitor	0.47 μ F 50V	250-R47M-1H00-114
C674	Polypropylene film capacitor	1000pF 100V	272-102J-2A00-010
C682	Electrolytic capacitor	220 μ F 10V	250-221M-1A00-045
C906	Electrolytic capacitor	2.2 μ F 50V	252-2R2M-1H00-114
CN1	13P plug		ESC-0327
D1	Diode ERB12-02		412-0327-0000
D2, 101, 141, 201, 301, 302, 621, 622, 623, 624, 625, 750, 751, 752, 912, 913	Diode MA165		ETD-ERB12 304-0032-1100 ETD-MA165 304-0037-0001
D102, 681	Zener diode HZS10N(B1)		ETD-HZS10N 306-0101-1001
F621	Quadrature tank coil		ELD-0357 351-0357-0900
6601	Surge protector		EIN-0005 431-0005-0000
L1	Choke coil		ELD-0213 351-0213-1400
L621	Inductor 4.7 μ H		ELD-0334 351-0334-1201
L706	Choke coil 15 μ H		ELA-0035 352-0035-1100
P1, 2, 3	6P plug		ESC-0275 412-0275-0000
P4	4P plug		ESC-0273 412-0273-0000
Q601, 602	Ceramic filter		EOP-0010 360-0010-0401
R1, 105	Carbon film resistor	150 ohm 1/6W ± 5%	200-151J-2C00-110
R2, 681	Carbon film resistor	2.2 ohm 1/6W ± 5%	200-2R2J-2C00-110
R3	Carbon film resistor	3.3 ohm 1/6W ± 5%	200-3R3J-2C00-110

REF. NO.	DESCRIPTION		PART NO.	MFR'S NO.		
R101, 201, 625, 912	Carbon film resistor	100 ohm	1/6W	± 5%		200-101J-2C00-110
R102, 202	Carbon film resistor	8.2k ohm	1/6W	± 5%		200-822J-2C00-110
R103, 203	Carbon film resistor	120k ohm	1/6W	± 5%		200-124J-2C00-110
R104, 204, 629, 658, 659, 683	Carbon film resistor	2.2k ohm	1/6W	± 5%		200-222J-2C00-110
R114, 214, 635, 662, 666, 676, 684, 754, 755	Carbon film resistor	22k ohm	1/6W	± 5%		200-223J-2C00-110
R115, 215	Carbon film resistor	680k ohm	1/6W	± 5%		200-684J-2C00-110
R116, 118, 216, 626, 628, 630, 632, 673, 682, 908, 910	Carbon film resistor	1k ohm	1/6W	± 5%		200-102J-2C00-110
R117, 217, 627	Carbon film resistor	180 ohm	1/6W	± 5%		200-181J-2C00-110
R141, 241	Carbon film resistor	47 ohm	1/6W	± 5%		200-470J-2C00-110
R142, 242	Carbon film resistor	4.7 ohm	1/6W	± 5%		200-4R7J-2C00-110
R301, 621, 644, 653, 654, 655, 656, 657, 663, 911	Carbon film resistor	4.7k ohm	1/6W	± 5%		200-472J-2C00-110
R302, 640, 641, 647, 665	Carbon film resistor	47k ohm	1/6W	± 5%		200-473J-2C00-110
R622	Carbon film resistor	68k ohm	1/6W	± 5%		200-683J-2C00-110
R623, 646, 648, 661	Carbon film resistor	100k ohm	1/6W	± 5%		200-104J-2C00-110
R624, 651, 752	Carbon film resistor	10 ohm	1/6W	± 5%		200-100J-2C00-110
R631	Carbon film resistor	330 ohm	1/6W	± 5%		200-331J-2C00-110
R633	Carbon film resistor	220 ohm	1/6W	± 5%		200-221J-2C00-110
R634	Carbon film resistor	120 ohm	1/6W	± 5%		200-121J-2C00-110
R636, 639, 643, 909	Carbon film resistor	10k ohm	1/6W	± 5%		200-103J-2C00-110
R637	Carbon film resistor	12k ohm	1/6W	± 5%		200-123J-2C00-110
R638, 672	Carbon film resistor	6.8k ohm	1/6W	± 5%		200-682J-2C00-110
R642	Carbon film resistor	82k ohm	1/6W	± 5%		200-823J-2C00-110
R652	Carbon film resistor	3.9k ohm	1/6W	± 5%		200-392J-2C00-110
R660	Carbon film resistor	2.7k ohm	1/6W	± 5%		200-272J-2C00-110
R664	Carbon film resistor	18k ohm	1/6W	± 5%		200-183J-2C00-110
R667	Trimmer resistor 20k ohm-B				ECRV-1006	340-1006-0200
R668, 669	Carbon film resistor	3.3k ohm	1/6W	± 5%		200-332J-2C00-110
R670, 671	Carbon film resistor	27k ohm	1/6W	± 5%		200-273J-2C00-110
R674	Carbon film resistor	16k ohm	1/6W	± 5%		200-163J-2C00-110
R675	Trimmer resistor 5k ohm-B				ECRV-1004	340-1004-0200
R751	Carbon film resistor	1.5k ohm	1/6W	± 5%		200-152J-2C00-110
V1	Regulator IC AN8005				ETI-AN8005	310-0243-0000
V101	Pre amplifier IC LA3161				ETI-LA3161	310-0071-0000
V102, 621, 626	Transistor DTC124ES				ETTC-DTC124ES	302-0125-0001
V110, 112, 212, 624, 684	Transistor 2SC2603(F)				ETTC-2SC2603	302-0091-1201-006
V141	Power amplifier IC LA4445				ETI-LA4445	310-0317-0000
V301	Transistor DTA124ES				ETTA-DTA124ES	301-0046-0001
V622	Transistor 2SC930(D)				ETTC-2SC930	302-0014-1001
V623	FM IF IC LA1140				ETI-LA1140	310-0083-0000
V625	Transistor DTC114YS				ETTC-DTC114YS	302-0131-0001
V627	NB IC LA2110				ETI-LA2110	310-0145-0000
V628	MPX IC LA3370				ETI-LA3370	310-0084-0000
V681	Transistor 2SD973(R)				ETTD-2SD973	302-0098-1100
V682	Transistor DTB123YS				ETTB-DTB123YS	301-0069-0001
V683	Transistor DTA114TS				ETTA-DTA114TS	301-0048-0001
V906, 907	Transistor 2SC2458L(BL)				ETTC-2SC2458L	302-0078-1401
	6P plug				ESC-0231	412-0231-0000
	Holder - IC				PL-7404	100-7404-0000
	Jumper resistor					209-0009-0000
	Pan head screw 3 x 10 (P-tight)				006310PT	020-0300-1000-421
	Terminal lug				PL-6521	100-6521-0000

AM RF CIRCUIT BOARD COMPONENT LOCATION GUIDE



CHIP VIEW

REF. NO.25 AR-0219 AM RF CIRCUIT BOARD ASSEMBLY PARTS LIST

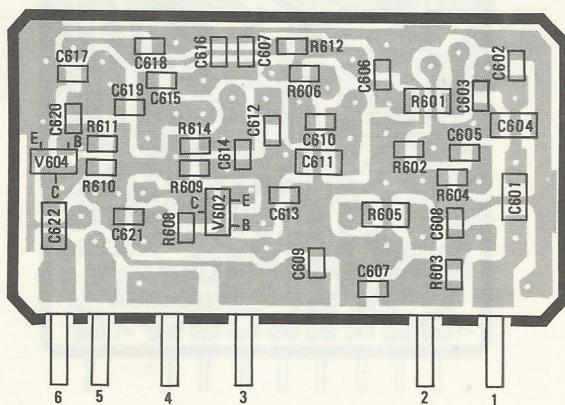
REF. NO.	DESCRIPTION				PART NO.	MFR'S NO.
-	AM RF printed circuit board					440-1715-0000
C701, 712, 714, 716, 718, 722, 724, 726	Chip ceramic capacitor	0.022 μ F	25V			263-223M-1EJB-210
C702	Chip ceramic capacitor	390pF	50V			265-391K-1EUJ-210
C703	Trimmer capacitor	50pF			ECCV-0106	345-0106-2300
C704	Chip ceramic capacitor	0.022 μ F	25V			263-223M-1EJB-201
C705	Electrolytic capacitor	4.7 μ F	25V			250-4R7M-1E00-012
C706	Electrolytic capacitor	3.3 μ F	50V			250-3R3M-1H00-012
C707	Electrolytic capacitor	0.47 μ F	50V			250-R47M-1H00-012
C708	Chip ceramic capacitor	0.01 μ F	25V			263-103M-1EJB-210
C709	Chip ceramic capacitor	0.0047 μ F	25V			263-472M-1EJB-210
C715	Electrolytic capacitor	22 μ F	6.3V			250-220M-0J00-012
C717	Electrolytic capacitor	1 μ F	50V			250-1R0M-1H00-012
C720	Electrolytic capacitor	100 μ F	16V			250-101M-1C00-033
C723, 725	Trimmer capacitor	10pF			ECCV-0105	345-0105-2300
D701, 702, 703	Diode SVC321SPÀ				ETC-SVC321	305-0014-1000
F701	IF coil				ELD-0366	351-0366-0900
F702	IF coil				ELD-0365	351-0365-0900
L701	OSC coil				ELD-0364	351-0364-0900
L702	ANT coil				ELD-0361	351-0361-0900
L703	RF coil				ELD-0362	351-0362-0900
L704	RF coil				ELD-0363	351-0363-0900
Q701	Ceramic filter				EOP-0064	360-0064-0400
Q702	Ceramic filter				EOP-0063	360-0063-0400
R701, 707, 711, 712	Chip resistor	100k ohm	1/8W	\pm 5%		202-104J-2B00-040
R702	Chip resistor	8.2k ohm	1/8W	\pm 5%		202-822J-2B00-040
R703	Chip resistor	82k ohm	1/8W	\pm 5%		202-820J-2B00-040
R704	Chip resistor	10k ohm	1/10W	\pm 5%		202-103J-2A00-050
R705	Chip resistor	2.7k ohm	1/8W	\pm 5%		202-272J-2B00-040
R706	Chip resistor	56 ohm	1/8W	\pm 5%		202-560J-2B00-040
R707	Chip resistor	100 ohm	1/8W	\pm 5%		202-101J-2B00-040
R708	Chip resistor	100k ohm	1/10W	\pm 5%		202-104J-2A00-050
R709	Carbon film resistor	2.7k ohm	1/6W	\pm 5%		200-272J-2C00-010
R710	Chip resistor	82 ohm	1/10W	\pm 5%		202-820J-2A00-050
V701	Chip transistor 2SC2812(L6)				ETTC-2SC2812	302-0109-1200
V702	FET 2SK427(T)				ETTF-2SK427	300-0041-1400
V703	Chip transistor 2SC2814(F3)				ETTC-2SC2814	302-0083-1100
V704	AM IC LA1135				ETI-LA1135	310-0148-0000

FM RF CIRCUIT BOARD COMPONENT LOCATION GUIDE

The diagram illustrates the layout of a printed circuit board (PCB) for a VHF/UHF printed circuit board. It consists of two views: the TOP VIEW and the BOTTOM VIEW.

TOP VIEW: This view shows the top surface of the PCB. Components visible include diodes D601, D602, and D603; inductors L601, L602, L603, L604, and L605; resistors R613 and R615; and a central integrated circuit V601. The board has six pins labeled 1 through 6 along its bottom edge.

BOTTOM VIEW: This view shows the underside of the PCB. Components are arranged differently from the top view, reflecting the physical layout. The same components (D601, D602, D603, V601, L601-L605, R613, R615) are present but in different locations. The board also has six pins labeled 1 through 6 along its bottom edge.

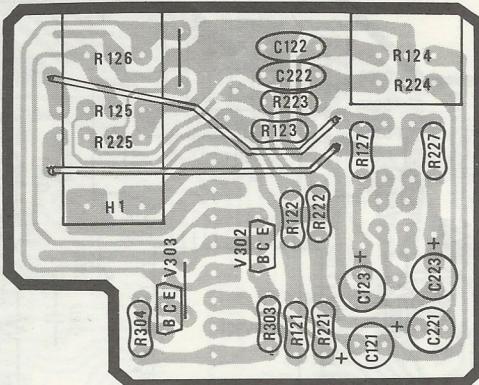


CHIP VIEW

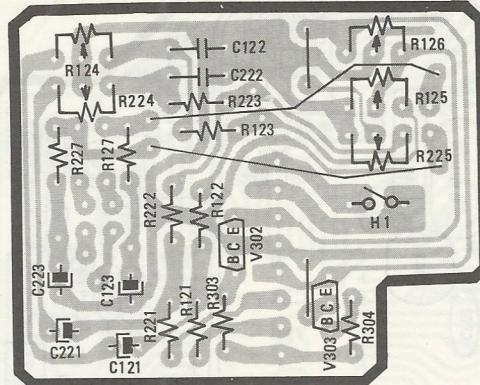
REF. NO.26 AR-0209 FM RF CIRCUIT BOARD ASSEMBLY PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
-	FM RF printed circuit board		440-1659-0000
C601	Chip ceramic capacitor 20pF 50V		260-200D-1HSL-200
C602	Chip ceramic capacitor 22pF 50V		260-220D-1HUJ-200
C603, 617	Chip ceramic capacitor 0-7pF 50V		260-7R0D-1HUJ-211
C604, 611	Chip ceramic capacitor 5pF 50V		260-5R0D-1HUJ-211
C605, 619	Chip ceramic capacitor 8pF 50V		260-8R0D-1HUJ-200
C606	Chip ceramic capacitor 0.0047 μ F 25V		263-472K-1EJV-200
C607, 608, 609, 621	Chip ceramic capacitor 0.02 μ F 25V		263-203K-1EJV-200
C610	Chip ceramic capacitor 0-7 pF 50V		260-7R0D-1HCK-211
C612	Chip ceramic capacitor 220pF 50V		260-221D-1HSL-200
C613	Chip ceramic capacitor 22pF 50V		260-220D-1HSL-200
C614	Chip ceramic capacitor 2pF 50V		260-2R0D-1HSL-200
C615	Chip ceramic capacitor 27pF 50V		260-270D-1HUJ-200
C616	Chip ceramic capacitor 12pF 50V		260-120D-1HUJ-200
C618	Chip ceramic capacitor 56pF 50V		260-560D-1HTH-200
C620	Chip ceramic capacitor 1pF 50V		260-1R0D-1HUJ-200
C622	Chip ceramic capacitor 0.001 μ F 25V		263-102K-1EJV-211
D601, 602, 603	Varactor diode 1SV103	ETD-1SV103	305-0012-0000
F601	Transformer	ELD-0329	351-0329-1300
L601	ANT coil	ELA-0109	352-0109-1300
L602	RF coil	ELA-0116	352-0116-1300
L603	RF coil	ELA-0113	352-0113-1300
L604	IF trap coil	ELD-0328	351-0328-1200
L605	OSC coil	ELA-0114	352-0114-1300
R601, 606	Chip resistor 33k ohm 1/10W \pm 5%		202-333J-2A00-050
R602	Chip resistor 470k ohm 1/10W \pm 5%		202-474J-2A00-050
R603	Chip resistor 10k ohm 1/10W \pm 5%		202-103J-2A00-050
R604	Chip resistor 100k ohm 1/10W \pm 5%		202-104J-2A00-050
R605	Chip resistor 0-100 ohm 1/10W \pm 5%		202-101J-2A00-050
R607	Chip resistor 1.5k ohm 1/10W \pm 5%		202-152J-2A00-050
R608	Chip resistor 22k ohm 1/10W \pm 5%		202-223J-2A00-050
R609	Chip resistor 560k 1/10W \pm 5%		202-105J-2A00-050
	-1M ohm		
R610, 614	Chip resistor 220 ohm 1/10W \pm 5%		202-220J-2A00-050
R611	Chip resistor 100k 1/10W \pm 5%		202-334J-2A00-050
	-330k ohm		
R612	Chip resistor 3.3k ohm 1/10W \pm 5%		202-332J-2A00-050
R613	Carbon film resistor 5.6k ohm 1/6W \pm 5%		200-562J-2C00-010
R615	Carbon film resistor 12k ohm 1/6W \pm 5%		200-123J-2C00-010
V601	FET 3SK101(GR)	ETTF-3SK101	300-0020-1100
V602	Transistor 2SC2620(B)	ETTC-2SC2620	302-0070-1100
V603	Transistor 2SC2995(O)	ETTC-2SC2995	302-0161-0000
V604	Chip transistor 2SC2715(O)	ETTC-2SC2715	302-0159-0000

VOLUME CONTROL CIRCUIT BOARD COMPONENT LOCATION GUIDE



TOP VIEW

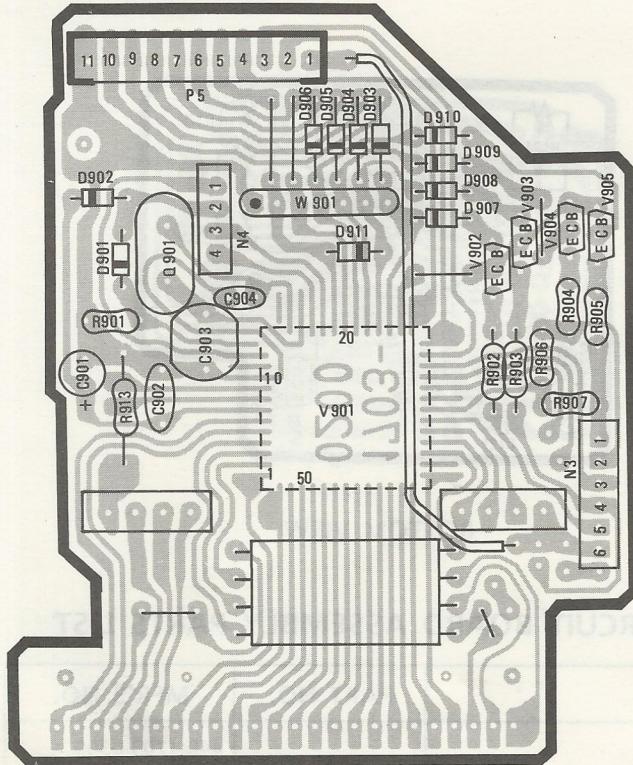


BOTTOM VIEW

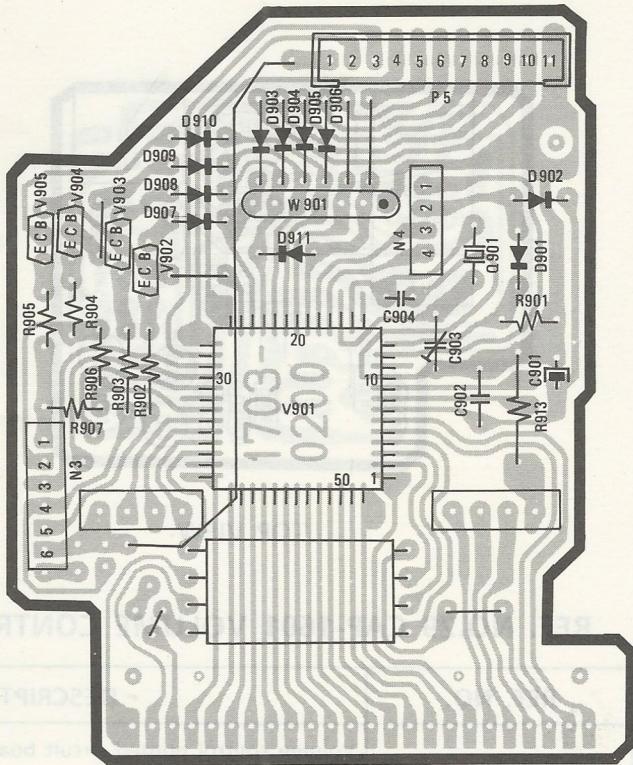
REF. NO.29 CAP-1601 VOLUME CONTROL CIRCUIT BOARD ASSEMBLY PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
-	Volume control printed circuit board		440-1703-0300
C121, 221	Electrolytic capacitor $0.1\mu F$ 50V		250-R10M-1H00-114
C122, 222	Monolithic capacitor $0.047\mu F$ 25V		262-473M-1EJR-120
C123, 223	Electrolytic capacitor $0.15\mu F$ 50V		250-R15M-1H00-114
R121, 221	Carbon film resistor 1k ohm 1/6W $\pm 5\%$		200-102J-2C00-110
R122, 127, 222, 227	Carbon film resistor 1.5k ohm 1/6W $\pm 5\%$		200-152J-2C00-110
R123, 223	Carbon film resistor 2.2k ohm 1/6W $\pm 5\%$		200-222J-2C00-110
R124, 224	Variable resistor Tone control 10k ohm-B	ECRV-0063	341-0063-0100
R125, 225	Variable resistor with switch Volume control 50k ohm-A	ECRV-0064	341-0064-0100
R126	Balance control 30k ohm-B		
H1	Power ON/OFF		
R303, 304	Carbon film resistor 4.7k ohm 1/6W $\pm 5\%$		200-472J-2C00-110
V302, 303	Transistor 2SC2603(F)	ETTC-2SC2603	302-0091-1201-006

LCD DISPLAY CIRCUIT BOARD COMPONENT LOCATION GUIDE



TOP VIEW

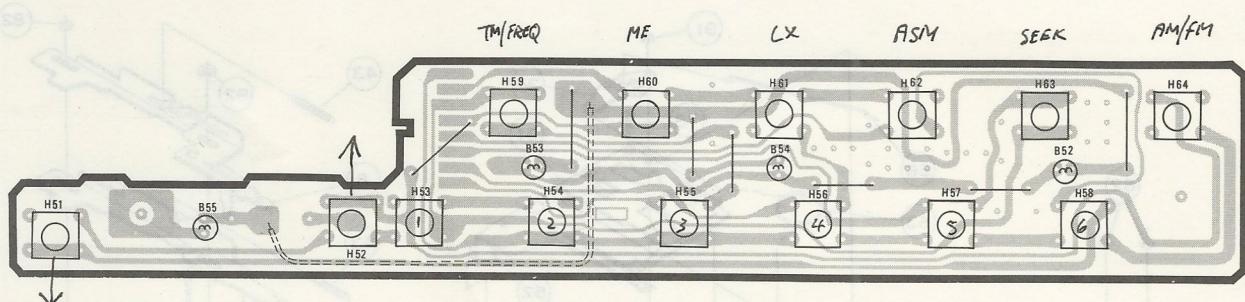


BOTTOM VIEW

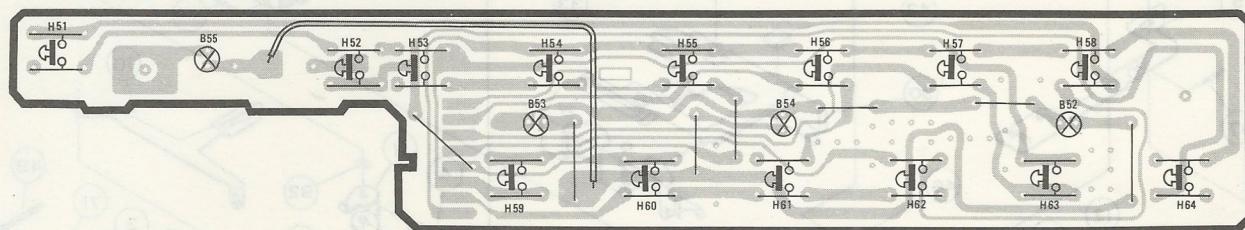
REF. NO.7 CTP-1602-1 LCD DISPLAY CIRCUIT BOARD ASSEMBLY PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
-	LCD display printed circuit board		440-1703-0200
C901	Electrolytic capacitor 10μF 16V		250-100M-1C00-114
C902	Monolithic capacitor 0.047μF 25V		262-473M-1EJR-120
C903	Trimmer capacitor 28pF	ECCV-0101	345-0101-0100
C904	Ceramic capacitor 22pF 50V		260-220K-1HCH-105
D901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911	Diode MA165	ETD-MA165	304-0037-0001-006
P5	11P plug	ESC-0420	412-0420-0000
Q901	Crystal 4.5MHz	EOC-0022	361-0022-1900
R901	Carbon film resistor 1M ohm 1/6W ± 5%		200-105J-2C00-110
R902, 903, 904	Carbon film resistor 220k ohm 1/6W ± 5%		200-224J-2C00-110
R906, 907	Carbon film resistor 22k ohm 1/6W ± 5%		200-223J-2C00-110
V901	PLL IC μPD1708AG-715	ETI-μPD1708AG -715	310-0293-0000
V902, 903	Transistor 2SC2603(F)	ETTC-2SC2603	302-0091-1201-006
V904, 905	Transistor 2SA1115(F)	ETTA-2SA1115	301-0033-1201-006
W901	Resistor array 33k ohm × 6	ECX-0065	370-0065-0100

SWITCH CIRCUIT BOARD COMPONENT LOCATION GUIDE



TOP VIEW

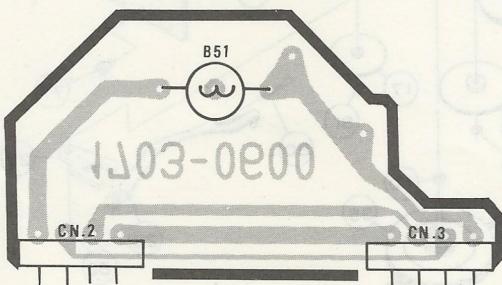


BOTTOM VIEW

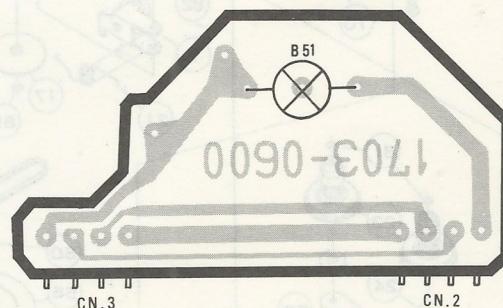
REF. NO. 10 CTP-1603-2 SWITCH CIRCUIT BOARD ASSEMBLY PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
—	Switch printed circuit board		440-1704-0001
B52, 53, 54, 55	Pilot lamp	EIL-0227	430-0227-0000
H51-H59	Tact switch	ESS-0569	400-0569-1300

LAMP CIRCUIT BOARD COMPONENT LOCATION GUIDE



TOP VIEW

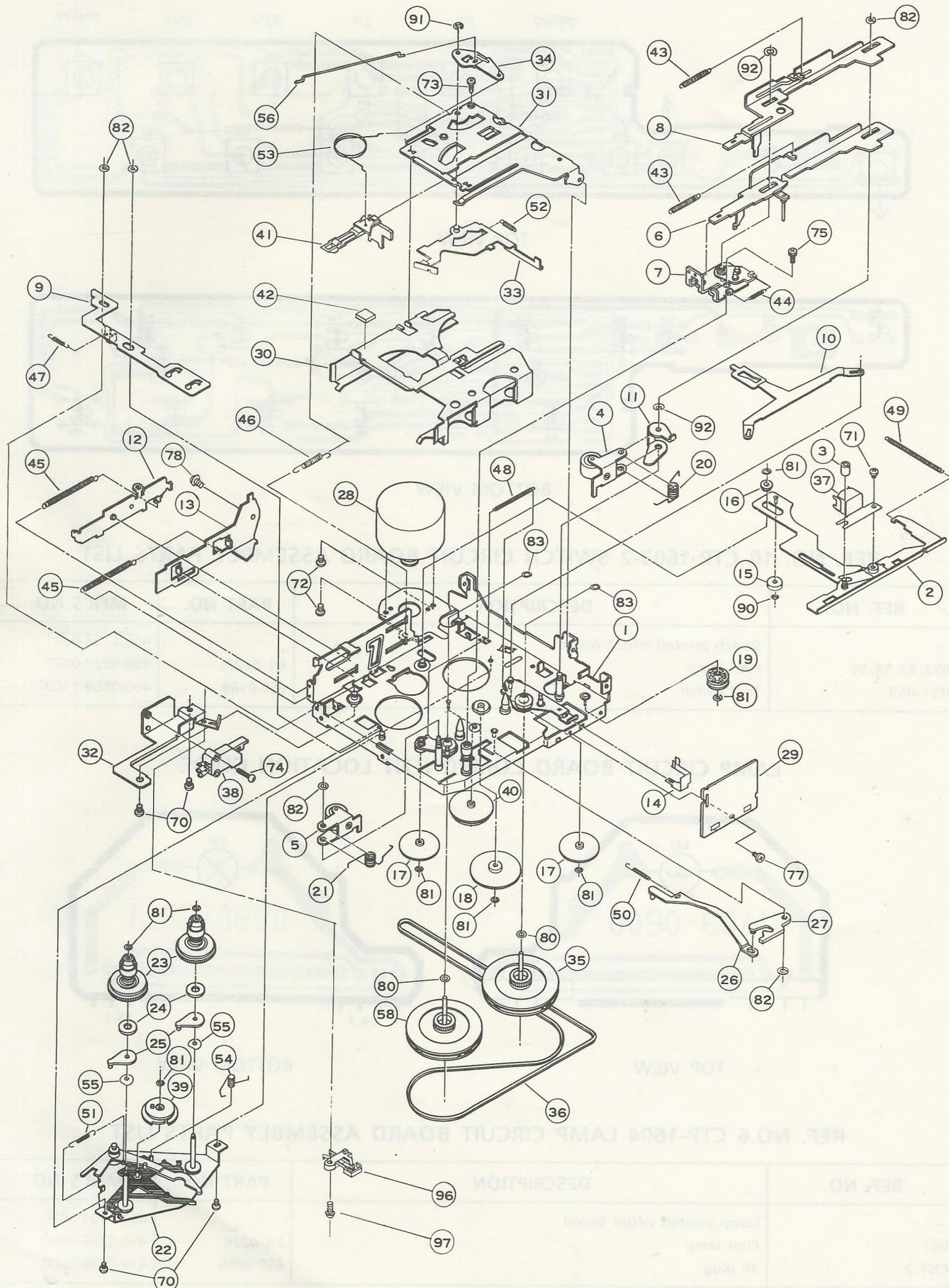


BOTTOM VIEW

REF. NO.6 CTP-1604 LAMP CIRCUIT BOARD ASSEMBLY PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
—	Lamp printed circuit board		440-1703-0600
B51	Pilot lamp	EIL-0226	430-0226-0000
CN1, 2	4P plug	ESP-0096	410-0096-0000

EXPLoded VIEW - MECHANISM

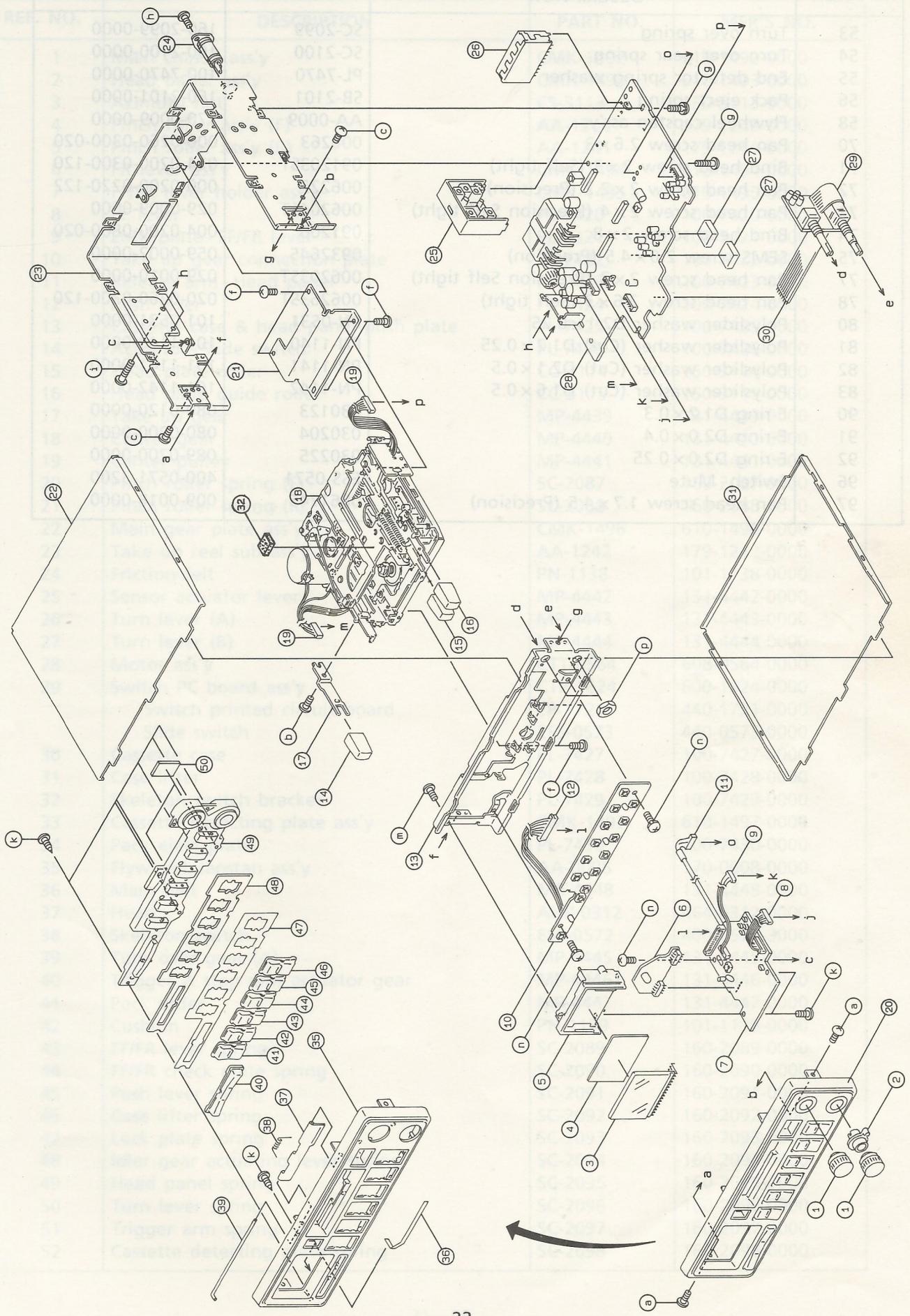


MECHANICAL PARTS LIST - MECHANISM

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
1	Main chassis ass'y	CMK-1492	610-1492-0000
2	Head panel ass'y	CMK-1493	610-1493-0000
3	Azimuth nut	CS-3113	150-3113-0000
4	Pinch roller ass'y (F)	AA-1240	179-1240-0000
5	Pinch roller ass'y (R)	AA-1241	179-1241-0000
6	FR lever ass'y	CMK-1494	610-1494-0000
7	FF/FR lever holder ass'y	CMK-1495	610-1495-0000
8	FF lever	PL-7420	100-7420-0000
9	Lock plate - FF/FR lever	PL-7421	100-7421-0000
10	Take up gear connection plate	PL-7422	100-7422-0000
11	Release arm - Head panel	PL-7423	100-7423-0000
12	Push lever	PL-7424	100-7424-0000
13	Cassette case & head panel push plate	PL-7425	100-7425-0000
14	Actuator - Slide switch	PL-7426	100-7426-0000
15	Head plate roller	CC-3114	150-3114-0000
16	Head plate guide roller	CC-3115	150-3115-0000
17	Take up gear	MP-4439	131-4439-0000
18	Center gear	MP-4440	131-4440-0000
19	Center pulley	MP-4441	131-4441-0000
20	Pinch roller spring (F)	SC-2087	160-2087-0000
21	Pinch roller spring (R)	SC-2088	160-2088-0000
22	Main gear plate ass'y	CMK-1496	610-1496-0000
23	Take up reel sub ass'y	AA-1242	179-1242-0000
24	Friction felt	PN-1138	101-1138-0000
25	Sensor actuator lever	MP-4442	131-4442-0000
26	Turn lever (A)	MP-4443	131-4443-0000
27	Turn lever (B)	MP-4444	131-4444-0000
28	Motor ass'y	CTT-0564	608-0564-0000
29	Switch PC board ass'y	CTP-1624	600-1624-0000
	Switch printed circuit board	EP-1721	440-1721-0000
	Slide switch	ESS-0573	440-0573-0000
30	Cassette case	PL-7427	100-7427-0000
31	Case lifter	PL-7428	100-7428-0000
32	Skeleton switch bracket	PL-7429	100-7429-0000
33	Cassette detecting plate ass'y	CMK-1497	610-1497-0000
34	Pack eject plate	PL-7430	100-7430-0000
35	Flywheel capstan ass'y	AA-0008	170-0008-0000
36	Main belt	MR-4448	131-4448-0000
37	Head	AHP-0312	464-0312-0000
38	Skeleton switch	ESS-0572	400-0572-3000
39	Turn over gear (A)	MP-4445	131-4445-0000
40	Trigger & stop arm actuator gear	MP-4446	131-4446-0000
41	Pack slider	MP-4447	131-4447-0000
42	Cushion	PN-1139	101-1139-0000
43	FF/FR lever spring	SC-2089	160-2089-0000
44	FF/FR check plate spring	SC-2090	160-2090-0000
45	Push lever spring	SC-2091	160-2091-0000
46	Case lifter spring	SC-2092	160-2092-0000
47	Lock plate spring	SC-2093	160-2093-0000
48	Idler gear actuating lever spring	SC-2094	160-2094-0000
49	Head panel spring	SC-2095	160-2095-0000
50	Turn lever spring	SC-2096	160-2096-0000
51	Trigger arm spring	SC-2097	160-2097-0000
52	Cassette detecting plate spring	SC-2098	160-2098-0000

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
53	Turn over spring	SC-2099	160-2099-0000
54	Turn over gear spring	SC-2100	160-2100-0000
55	End detector spring washer	PL-7470	100-7470-0000
56	Pack eject spring	SB-2101	160-2101-0000
58	Flywheel capstan ass'y	AA-0009	170-0009-0000
70	Pan head screw 2.6 x 3	006263	000-0260-0300-020
71	Bind head screw 2 x 3 (Self tight)	091203ST	024-0200-0300-120
72	Pan head screw 2 x 2.2 (Precision)	006222	000-0200-0220-122
73	Pan head screw 2 x 4 (Precision Self tight)	006204ST	029-0009-0000
74	Bind head screw 2 x 8	091208	004-0200-0800-020
75	SEMS screw 2.6 x 4.5 (Precision)	0932645	059-0002-0000
77	Pan head screw 2 x 3 (Precision Self tight)	006203ST	029-0010-0000
78	Pan head screw 2.6 x 3 (Self tight)	006263ST	020-0260-0300-120
80	Polyslider washer D2.1 x 0.25	PN-0531	101-0531-0000
81	Polyslider washer (Cut) D1.2 x 0.25	PN-1140	101-1140-0000
82	Polyslider washer (Cut) D2.1 x 0.5	PN-1141	101-1141-0000
83	Polyslider washer (Cut) D1.6 x 0.5	PN-1142	101-1142-0000
90	E-ring D1.2 x 0.3	030123	080-0120-0000
91	E-ring D2.0 x 0.4	030204	080-0200-0000
92	E-ring D2.0 x 0.25	030225	089-0200-0000
96	Switch - Mute	ESS-0571	400-0571-3200
97	Pan head screw 1.7 x 4.5 (Precision)	0061745	009-0018-0000

EXPLODED VIEW - CABINET



MECHANICAL PARTS LIST - CABINET

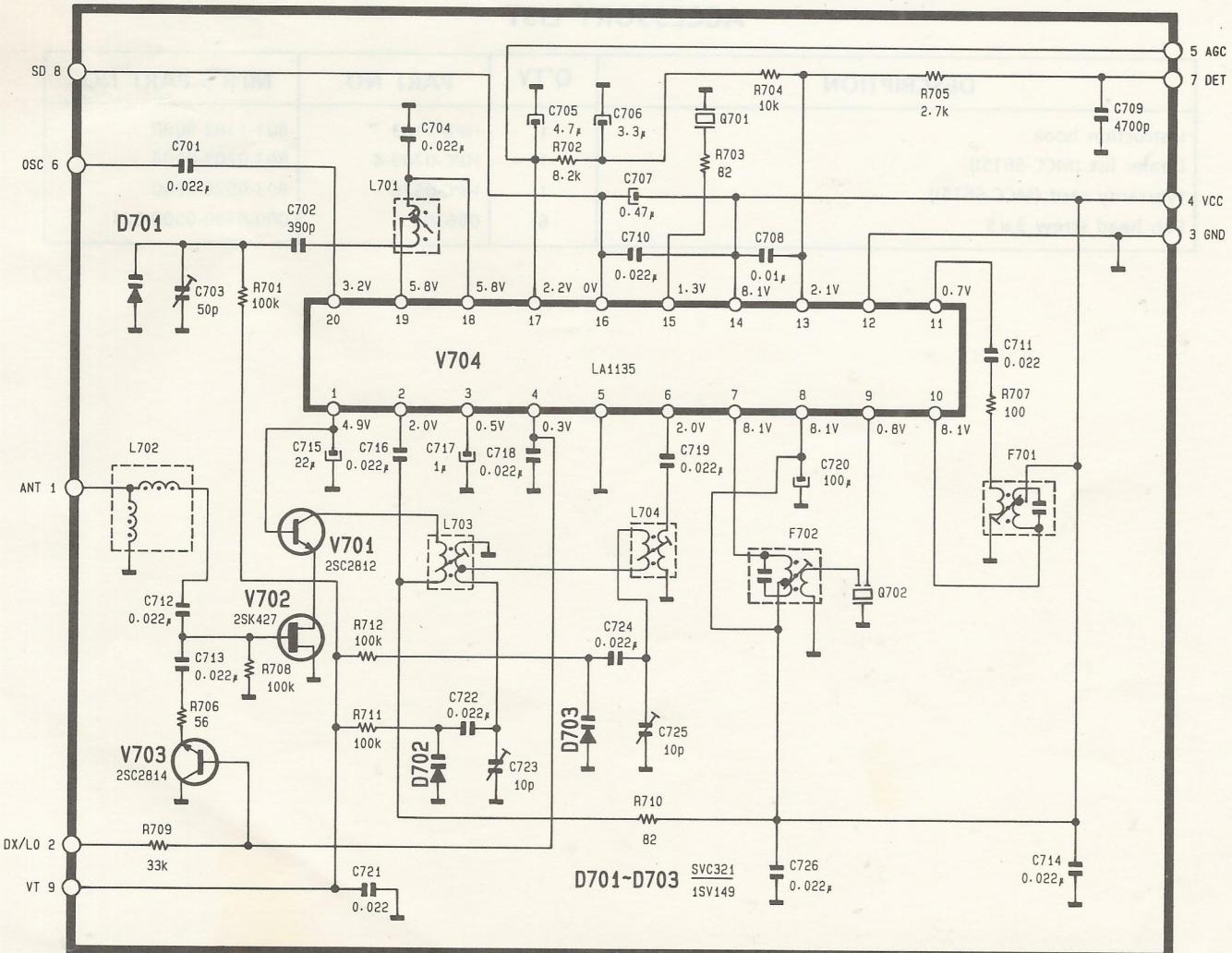
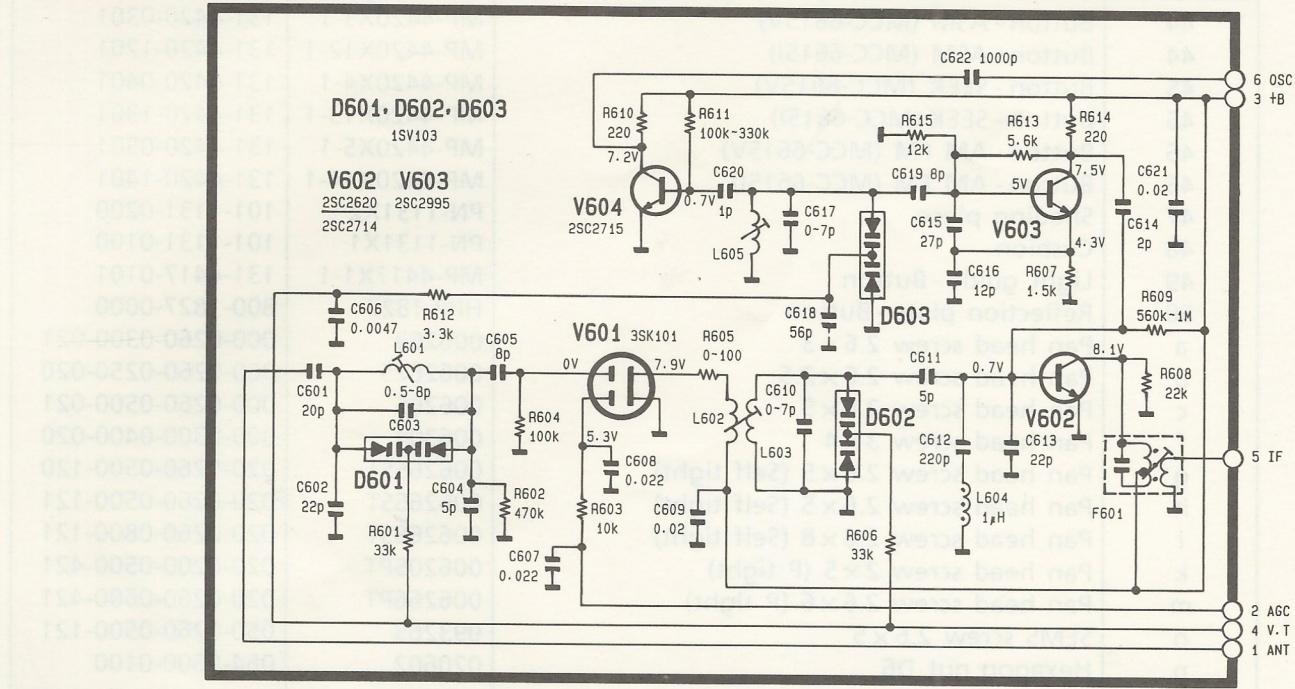
REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
1	Front knob (MCC-6615V)	MP-4422-1	131-4422-0001
1	Front knob (MCC-6615I)	MP-4422X1-1	131-4422-0101
2	Rear knob (MCC-6615V)	MP-4423	131-4423-0000
2	Rear knob (MCC-6615I)	MP-4423X1	131-4423-0100
3	LCD panel	EIX-0023	333-0023-0000
4	Reflection plate - LCD	PN-1579	181-1579-0000
5	Light guide - LCD	MP-4418-1	131-4418-0001
6	Lamp PC board ass'y	CTP-1604	600-1604-0000
7	LCD display PC board ass'y	CTP-1602-1	600-1602-0001
8	6P socket with wires	AH-0252	421-0252-0000
9	4P socket with wires	AH-0201	421-0201-0000
10	Switch PC board ass'y	CTP-1603-2	600-1603-0002
11	3P board-in connector	AH-0239	421-0239-0000
12	11P socket with wires	AH-0328	421-0328-0000
13	Front chassis	PL-7398	100-7398-0000
14	Button - Eject (MCC-6615V)	MP-4419X3	131-4419-0300
14	Button - Eject (MCC-6615I)	MP-4419X6	131-4419-0600
15	Button - FR (MCC-6615V)	MP-4419X4	131-4419-0400
15	Button - FR (MCC-6615I)	MP-4419X7	131-4419-0700
16	Button - FF (MCC-6615V)	MP-4419X5	131-4419-0500
16	Button - FF (MCC-6615I)	MP-4419X8	131-4419-0800
17	Eject lever	PL-7403	100-7403-0000
18	Autoreverse cassette mechanism	S-27	626-0010-0000
19	6P socket with wires	AH-0327	421-0327-0000
20	Escutcheon ass'y (MCC-6615V)	CMM-0550-2	613-0550-0002
20	Escutcheon ass'y (MCC-6615I)	CMM-0558	613-0558-0000
21	Holder - Mechanism	PL-7402-1	100-7402-0001
22	Top lid	PL-7400	100-7400-0000
23	Side chassis	PL-7399-2	100-7399-0002
24	Aerial socket	ESJ-0308	411-0308-0000
25	AM tuner	AR-0219	625-0219-0000
26	FM tuner	AR-0209	625-0209-0000
27	Cushion rubber	PN-1132	101-1132-0000
28	Main PC board ass'y	CTP-1599-3	600-1599-0003
29	Volume control PC board ass'y	CAP-1601	600-1601-0000
30	Flat cable	WX-0265	471-0265-0000
31	Bottom lid	PL-7401	100-7401-0000
32	Cushion	PN-1156	101-1156-0000
35	Escutcheon (MCC-6615V)	MP-4416X1	131-4416-0100
35	Escutcheon (MCC-6615I)	MP-4416X3	131-4416-0300
36	Electrostatic eraser	HPP-1719	800-1719-0000
37	Cassette door (MCC-6615V)	PL-7397X7	100-7397-0700
37	Cassette door (MCC-6615I)	PL-7397X3	100-7397-0300
38	Door spring	SC-2085	160-2085-0000
39	Door shaft	CC-3069	150-3069-0000
40	Button - TUNE (MCC-6615V)	MP-4421-1	131-4421-0001
40	Button - TUNE (MCC-6615I)	MP-4421X1-1	131-4421-0101
41	Button - TIME FREQ (MCC-6615V)	MP-4420-1	131-4420-0001
41	Button - TIME FREQ (MCC-6615I)	MP-4420X9-1	131-4420-0901
42	Button - ME (MCC-6615V)	MP-4420X1-1	131-4420-0101
42	Button - ME (MCC-6615I)	MP-4420X10-1	131-4420-1001
43	Button - LX (MCC-6615V)	MP-4420X2-1	131-4420-0201
43	Button - LX (MCC-6615I)	MP-4420X11-1	131-4420-1101

REF. NO.	DESCRIPTION	PART NO.	MFR'S NO.
44	Button - ASM (MCC-6615V)	MP-4420X3-1	131-4420-0301
44	Button - ASM (MCC-6615I)	MP-4420X12-1	131-4420-1201
45	Button - SEEK (MCC-6615V)	MP-4420X4-1	131-4420-0401
45	Button - SEEK (MCC-6615I)	MP-4420X13-1	131-4420-1301
46	Button - AM FM (MCC-6615V)	MP-4420X5-1	131-4420-0501
46	Button - AM FM (MCC-6615I)	MP-4420X14-1	131-4420-1401
47	Shading piece	PN-1131X2	101-1131-0200
48	Cushion	PN-1131X1	101-1131-0100
49	Light guide - Button	MP-4417X1-1	131-4417-0101
50	Reflection plate - Button	HPP-1827	800-1827-0000
a	Pan head screw 2.6 × 3	006263	000-0260-0300-021
b	Pan head screw 2.6 × 2.5	0062625	000-0260-0250-020
c	Pan head screw 2.6 × 5	006265	000-0260-0500-021
f	Pan head screw 3 × 4	006304	000-0300-0400-020
g	Pan head screw 2.6 × 5 (Self tight)	006265ST	020-0260-0500-120
h	Pan head screw 2.6 × 5 (Self tight)	006265ST	020-0260-0500-121
i	Pan head screw 2.6 × 8 (Self tight)	006268ST	020-0260-0800-121
k	Pan head screw 2 × 5 (P tight)	006205PT	020-0200-0500-421
m	Pan head screw 2.6 × 6 (P tight)	006266PT	020-0260-0600-421
n	SEMS screw 2.6 × 5	093265	050-0260-0500-121
p	Hexagon nut D6	020602	064-0600-0100

ACCESSORY LIST

DESCRIPTION	Q'TY	PART NO.	MFR'S PART NO.
Instruction book	1	HPB-1183	801-1183-0000
Dealer list (MCC-6615I)	1	HPC-0209-4	803-0209-0004
Warranty card (MCC-6615I)	1	HPC-0526	803-0526-0000
Pan head screw 3 × 5	6	006305	000-0300-0500-021

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM

