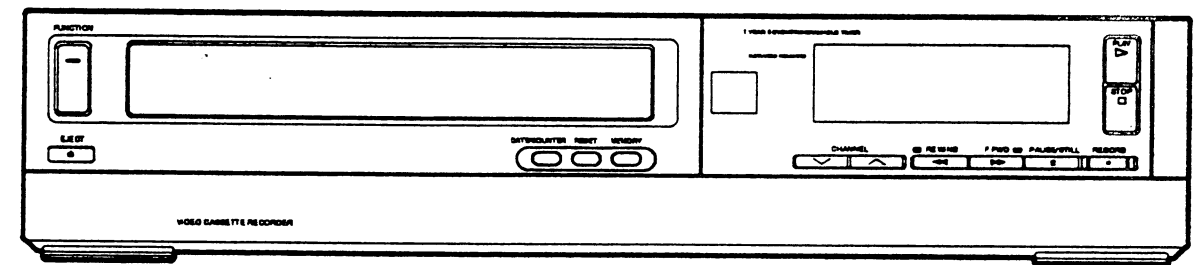




V-88HCMKII

HQ **VHS**
PAL

VIDEO CASSETTE RECORDER



SERVICE MANUAL

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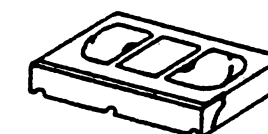
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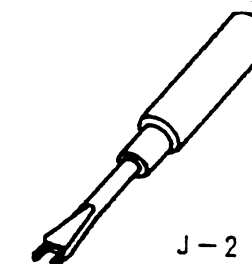
[SERVICE MANUAL SECTION]

1. SERVICE JIG AND TOOLS

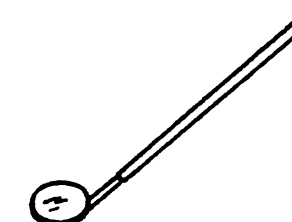
Fig. No.	Jig Item	Part No.	Adjustment
J - 1	Alignment Tape	F6-N or F6-NS	X Value / Envelope Waveform / Audio Control Erase Head Azimuth F6-NS : 2 Head LP Model
	Alignment Tape	F6-A	Audio Control Erase Head Height and Tilt
	Alignment Tape	F6-HI	Audio Output Adjustment (Hi-Fi Stereo Model)
	Alignment Tape	F6-VF	Half Loading Arm Height Adjustment (Index Model)
J - 2	Driver Large (Special)	VT-G-002	X Value
	Driver Small (Special)	VT-G-003	Guide Roller
J - 3	Mirror	VFX-0169	Tape Transportation Check
J - 4	Box Driver M3	Marketing goods	Guide Pole / Audio Control Erase Head Height
	Box Driver M2	Marketing goods	Half Loading Arm Height (Index Model)



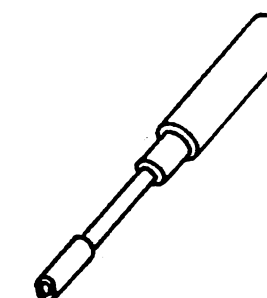
J - 1



J - 2



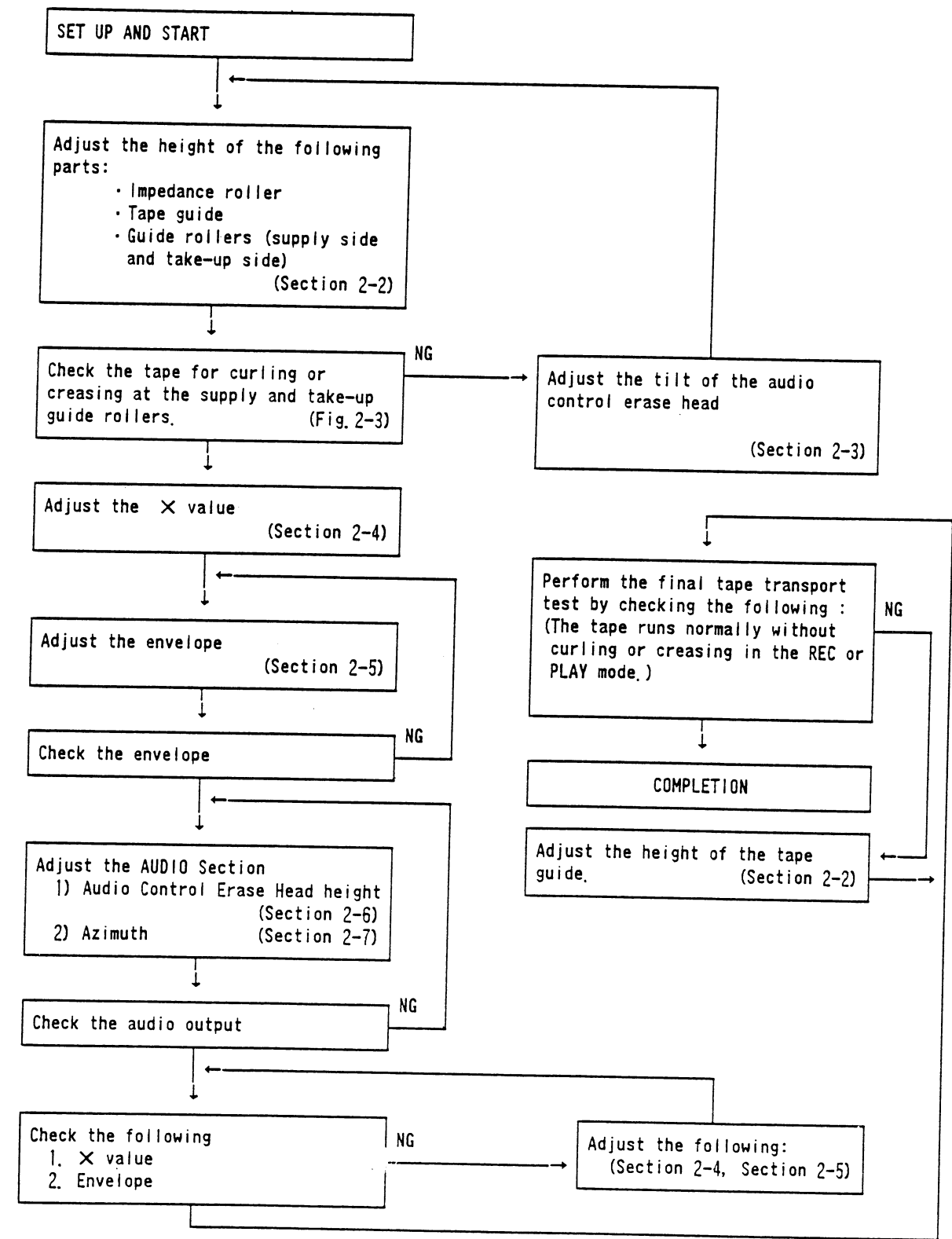
J - 3



J - 4

2. MECHANICAL ADJUSTMENT

2-1 TAPE TRANSPORT ADJUSTMENT FLOW CHART



2-2 TAPE RUNNING POSITION ADJUSTMENT (GUIDE ROLLER / TAPE GUIDE / IMPEDANCE ROLLER)

1. Perform the height adjustment for the following items to obtain the proper tape running position.
 - ① Impedance Roller
 - ② Guide Roller (Supply side)
 - ③ Guide Roller (Take-up side)
 - ④ Tape Guide

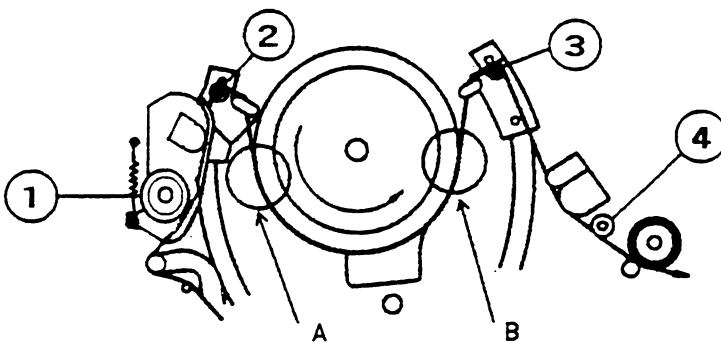


Fig. 2-1

2. Load a blank tape and set the VCR to the PLAY mode. Check the tape transport at points "A" and "B" as shown in Fig. 2-1.
3. Operate the VCR between the PLAY and STOP modes several times.
4. Observe the tape transport at the lead surface of the cylinder during the PLAY mode, and confirm that the tape runs smoothly along the lead surface of the cylinder without slipping downward or upward. (Refer to Fig. 2-2.)

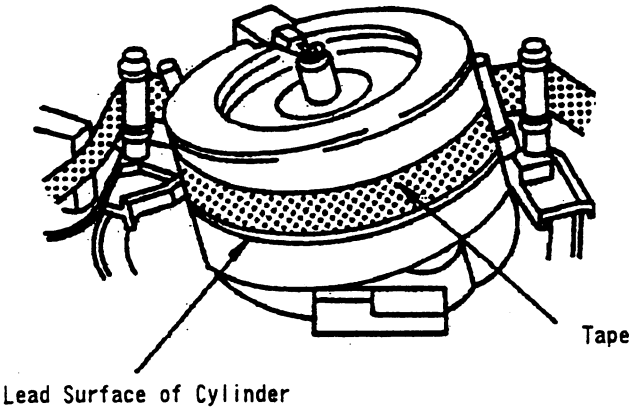


Fig. 2-2

5. During loading, play and unloading, observe the tape at the supply and take-up guide rollers, tape guide and impedance roller. Confirm that there is no curling or creasing etc., as shown in Fig. 2-3.

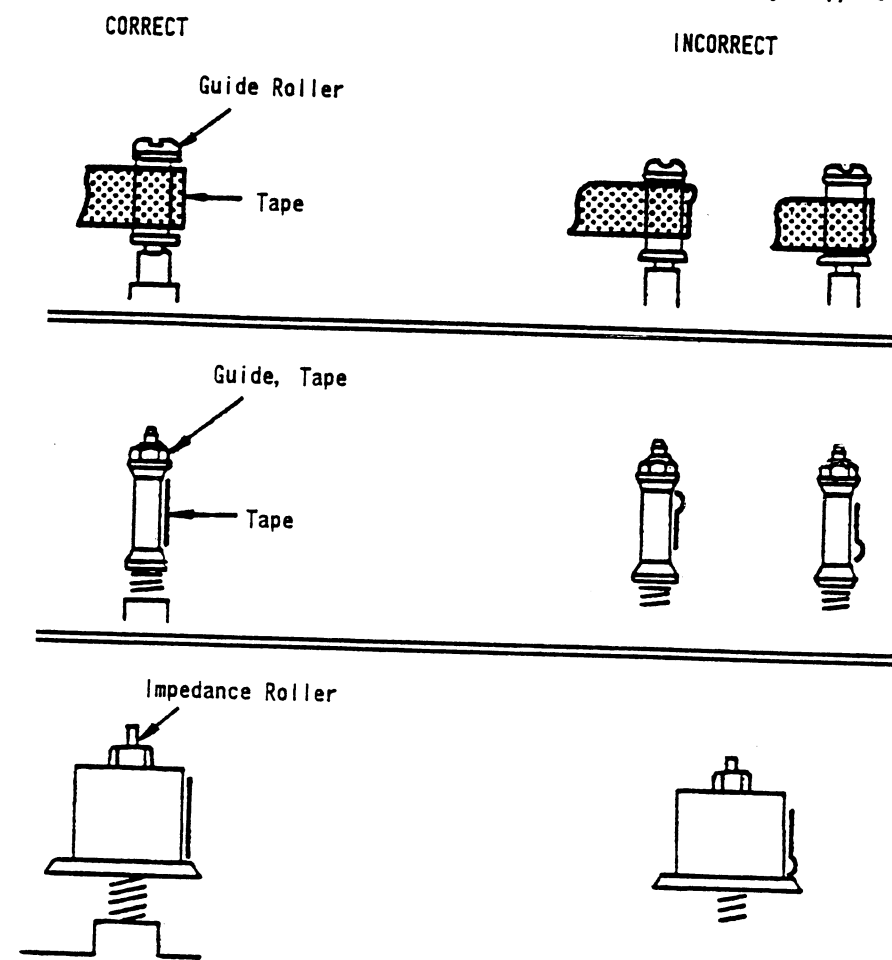


Fig. 2-3

6. If any curling or creasing is noted, adjust tape guide roller and impedance roller first. In this case, adjust the impedance roller in both PLAY and REV modes so that tape runs as shown in Fig. 2-4.

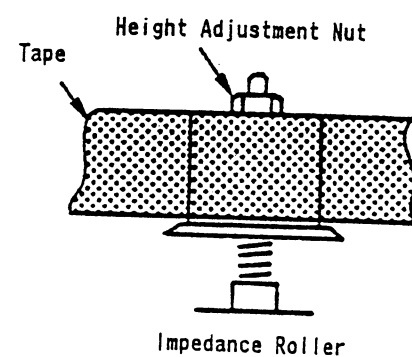


Fig. 2-4.

7. Next, adjust the guide roller height. Insert the adjustment driver into the guide roller top. (Refer to Fig. 2-5.) Adjust the height by turning the driver slightly so that the tape runs on the guide roller as shown in Fig. 2-3, and the lower edge of the tape runs along the lead surface of the cylinder.

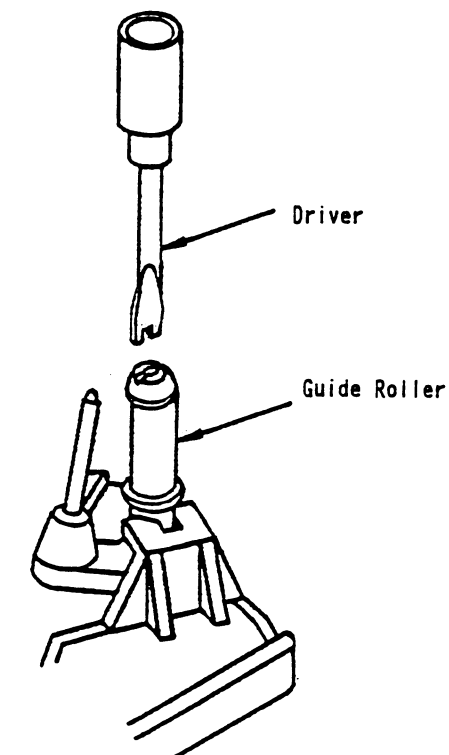


Fig. 2-5

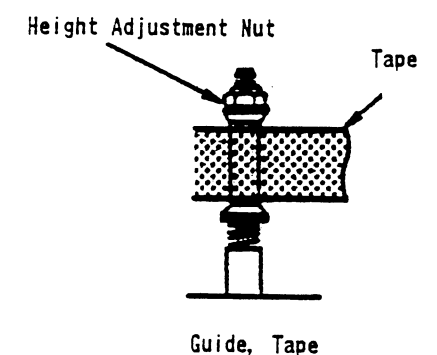


Fig. 2-6

8. After completion of the supply side guide roller adjustments, adjust tape guide so that tape runs as shown in Fig. 2-6, and adjust the take-up side guide roller by using the same procedures as for the supply side adjustments. In this case, adjust the guide roller height first.
9. Confirm that there is no curling or creasing at the impedance roller. (Both PLAY and REV modes.) If there is any curling or creasing at the impedance roller, adjust the same procedures of Fig. 2-6.
10. Finally, confirm that there is no curling or creasing at the take-up side guide roller and tape guide. If there is any curling or creasing between the take-up side guide roller and the audio control erase head, adjust the audio control erase head.

2-3 AUDIO CONTROL ERASE HEAD ADJUSTMENT

1. Load a recorded tape and set the VCR to PLAY mode.
2. Adjust the height of the edge of the audio track on the audio control head by using the height adjustment nut (A) and the tilt adjustment screw (C) so that the tape transport is smooth at the take-up guide pole. Align the audio control head height. (Refer to Fig.2-7.)

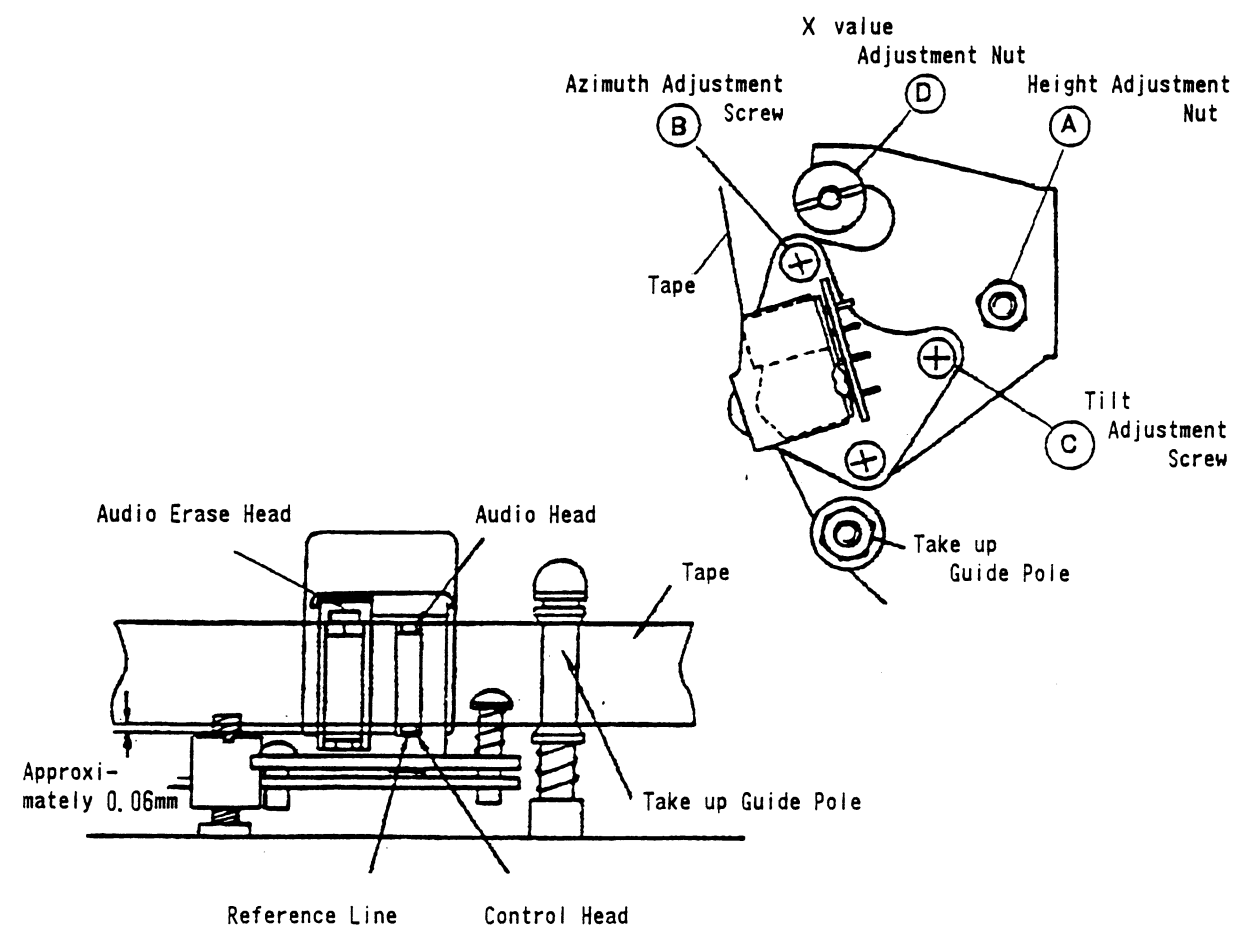


Fig. 2-7

3. The fine adjustment is not required at this time.
The following conditions are sufficient :
(a) Proper tape transport between the audio control head and the take-up guide pole.
(b) Stable SERVO system operation. (proper pickup of tape's recorded control signal.)

2-4 X VALUE ADJUSTMENT (PB FM PEAK ADJUSTMENT)

Measuring Method

Measuring Point	Measuring Equip.	ADJ. Condition
TP901 GND TP401	Oscilloscope	PLAY MODE Test tape F6-N (1 Speed model only) F6-NS (2 Speed model only)
ADJ. Location		ADJ. Value
X value adjustment nut		Maximum level (CH1 ENVE Signal)

Test Equipment Connecting Diagrams

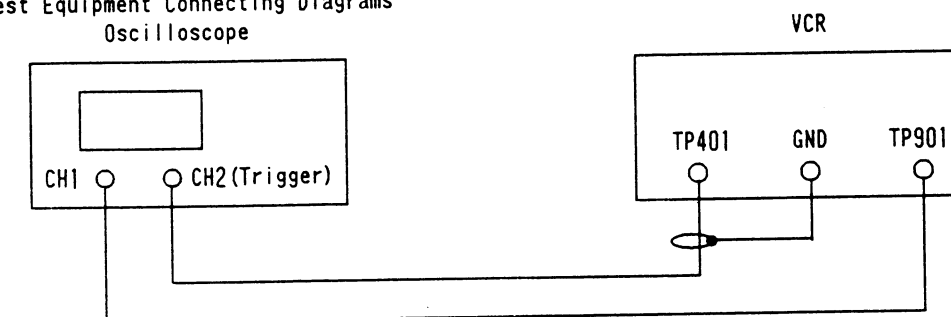


Fig. 2-8

1. Connect the equipment as shown in Fig.2-8.
2. Adjust Tracking Volume to its center position.
3. Adjust the X value adjustment nut (D) for maximum ENVE signal for CH1 by using F6-N test tape (Refer to Fig.2-9)
4. After adjusting the X value, check that the output level of the ENVE signal for CH1 changes symmetrically by rotating Tracking Volume.

Note:

1. X value adjustment above should be done so that the noise can be kept out on the TV screen with Tracking Volume set to its center.
2. Confirm that Electrical Adjustment (Video Head Switching Point and CTL Preset) has been done before Deck Adjustment.

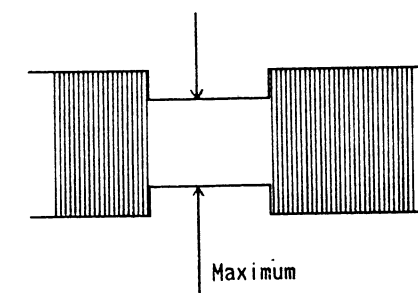


Fig. 2-9

2-5 ENVELOPE WAVEFORM ADJUSTMENT

Measuring Method

Measuring Point	Measuring Equip.	ADJ. Condition
TP901 GND TP401	Oscilloscope	PLAY MODE Test tape F6-N (1 Speed model only) F6-NS (2 Speed model only)
ADJ. Location		ADJ. Value
Guide rollers		Maximum level and correct waveform (EMVE Signal)

Test Equipment Connecting Diagrams

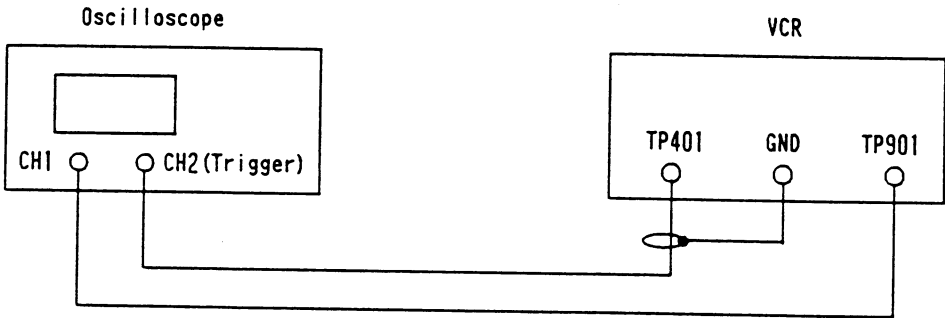


Fig. 2-10

1. Connect equipment as shown in Fig. 2-10.
2. Playback the test tape F6-N.
3. The envelope waveform can be performed by adjusting the height of both the supply side and take-up side guide rollers. Finely adjust the height of guide rollers so that the envelope waveform is as flat as possible.
4. Set Tracking Volume to its center position and confirm that a nearly maximum level is obtained. Then rotate the Tracking Volume in both directions while adjusting the height of guide rollers, in order to obtain the envelope waveform which is as flat as possible. If the tape is above or lower than helical tape position, the envelope waveforms will take the shape as shown in Fig. 2-11 and Fig. 2-12.
5. Adjust for maximum flatness of the envelope waveform according to the Fig. 2-11 and Fig. 2-12.
6. After adjustment, rotate Tracking Volume counterclockwise and clockwise, and check that the waveform changes symmetrically.
7. Check the tape curl. (Refer to Section 2-2.)

	Tape is too high	
	Supply side	Take-up side
When the tracking volume is rotated counterclockwise and clockwise directions.		
Adjustment	Supply side guide roller rotated clockwise direction (lowers guide roller) to flatten envelope.	Take-up side guide roller rotated clockwise direction (lowers guide roller) to flatten envelope.

Fig. 2-11

	Tape is too low	
	Supply side	Take-up side
When the tracking volume is rotated counterclockwise and clockwise directions.		
Adjustment	Supply side guide roller rotated counterclockwise direction (raises guide roller) to flatten envelope.	Take-up side guide roller rotated counterclockwise direction (raises guide roller) to flatten envelope.

Fig. 2-12

2-6 AUDIO CONTROL ERASE HEAD HEIGHT /
AUDIO CONTROL ERASE HEAD TILT ADJUSTMENT

Measuring Method

Measuring Point	Measuring Equip.	ADJ. Condition
Audio Output	Oscilloscope AC voltmeter	PLAY MODE Test tape F6-A
ADJ. Location		ADJ. Value
Height adjustment nut Azimuth adjustment screw		Maximum level (1KHz Audio Output Signal)
Tilt adjustment screw		

Test Equipment Connecting Diagrams

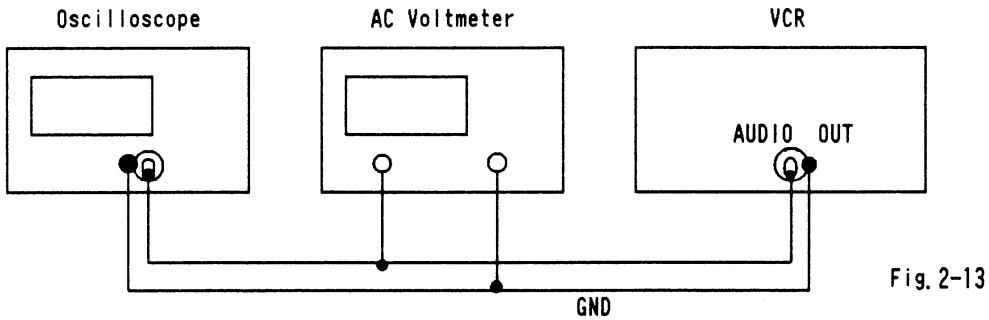


Fig. 2-13

1. Connect equipment as shown in Fig.2-13.
2. Confirm that the tape running between the take-up guide roller and the audio control erase head has no slack. If the tape has slack, take it up by turning the tilt adjustment screw ③. (Refer to Fig.2-7.) Then readjust GUIDE ROLLER HEIGHT in section 2-2 and the X value in section 2-4.
3. After confirming on the oscilloscope that a 1 kHz audio signal is being output by playing back F6-A test tape, adjust the height adjustment nut ④ so that the AC voltmeter's reading is brought to its maximum level. (Refer to Fig.2-7.)

2-7 AUDIO CONTROL ERASE HEAD AZIMUTH ADJUSTMENT

Measuring Method

Measuring Point	Measuring Equip.	ADJ. Condition
Audio Output	Oscilloscope AC voltmeter	PLAY MODE Test tape F6-N
ADJ. Location		ADJ. Value
Azimuth adjustment nut		Maximum level (6KHz Audio Output Signal)

Test Equipment Connecting Diagrams

Refer to Fig.2-13

1. After confirming on the oscilloscope that an audio signal is being output by playing back F6-N test tape, adjust the azimuth adjustment screw ⑤ so that the AC voltmeter's reading or oscilloscope waveform is brought to its maximum level (Refer to Fig.2-7).

Note: Fix the screw ⑤ with lock paint after readjustment (Refer to Fig.2-7).

3. ALIGNMENT INSTRUCTIONS

NOTE :

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

TEST EQUIPMENT REQUIRED

1. Oscilloscope : Dual-trace with 10:1 probe.
2. TV Monitor
3. Pattern Generator (Color bar with 100% white)
4. AC Voltmeter (RMS)
5. Test Tape F6-A
6. Spectrum Analyzer
7. Frequency Counter

3-1 SWITCHING POINT ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 951 (V-OUT) TP 401 (RF-SW) GND	VR401 (Switching Point) (MCV-A P. C. Board)	PLAY	F6-A	Fig. 3-1

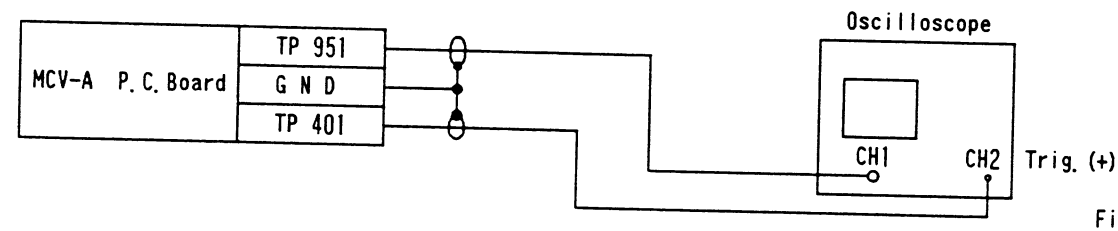
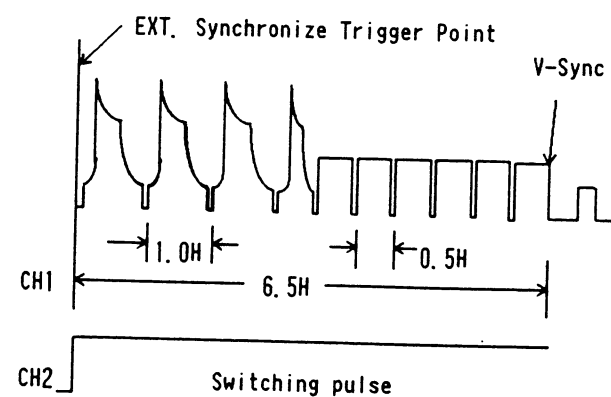


Fig. 3-1

1. Connect the equipment as shown in Fig. 3-1.
2. Set the input trigger mode to CH2 and set trigger slope to (+).
3. Tracking VR is center click position.
4. Playback the tape and adjust VR401 so that the V-sync front edge of CH1 video output waveform is delayed 6.5H (416μs) from the rising of CH2 Head Switching pulse waveform.



3-2 CTL PRESET ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 402 (CTL) TP 401 (RF SW) GND	VR402 (CTL) (MCV-A P. C. Board)	PLAY	F6-A	Fig. 3-2

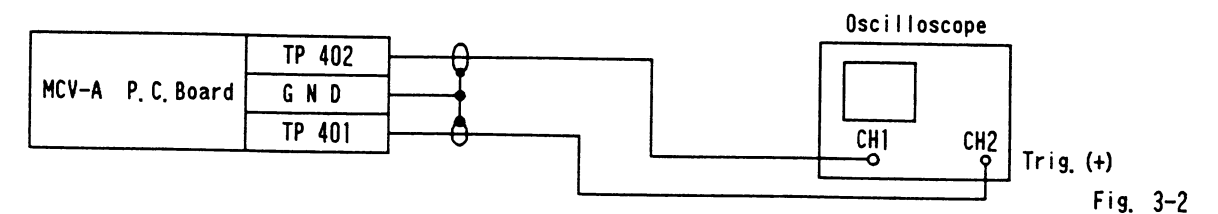
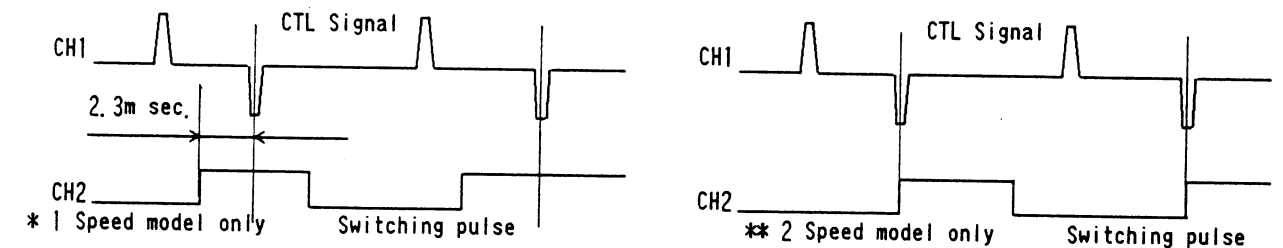


Fig. 3-2

1. Connect the equipment as shown in Fig. 3-2.
2. Set the input trigger mode to CH2 and set trigger slope to (-).
3. Set the tracking volume to the center click position.
- *4. Playback the tape and adjust VR402 to make the rising point of CH1 CTL signal where delayed 2.3msec. from the sitting of CH2 RF switching pulse.
- **4. Playback the tape and adjust VR402 so that the falling of CTL waveform of CH1 becomes same position with rising of switching pulse of CH2.



3-3 E-E LEVEL ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 54 (E-E) GND	VR 55 (E-E) (MSV P. C. Board)	E-E	—	Fig. 3-3

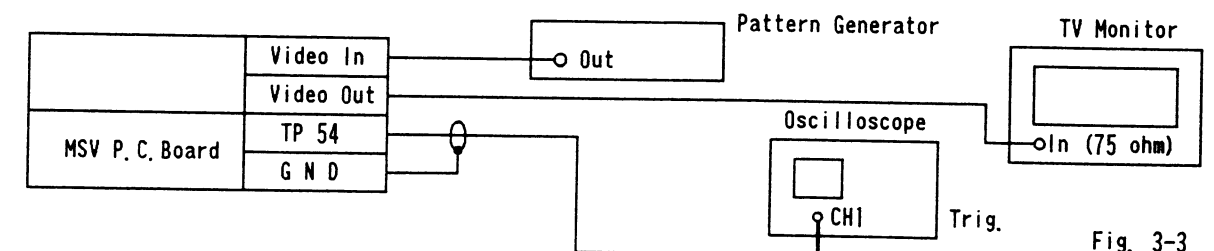
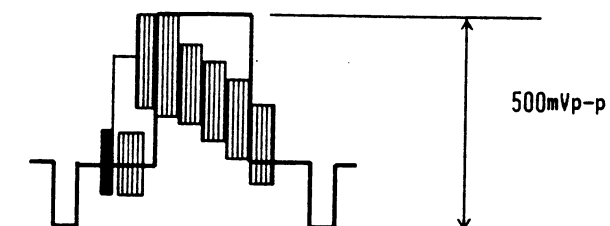


Fig. 3-3

1. Connect the equipment as shown in Fig. 3-3.
2. Input Color Bar signal with 100% white to Video Input.
3. Adjust VR55 so that the video level becomes 500mVp-p ±0.05V.



3-4 NOISE CANCEL ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 52 (N. C) TP 53 (N. C) GND	VR 54 (N. C) (MSV P. C. Board)	PLAY	F6-A	Fig. 3-4

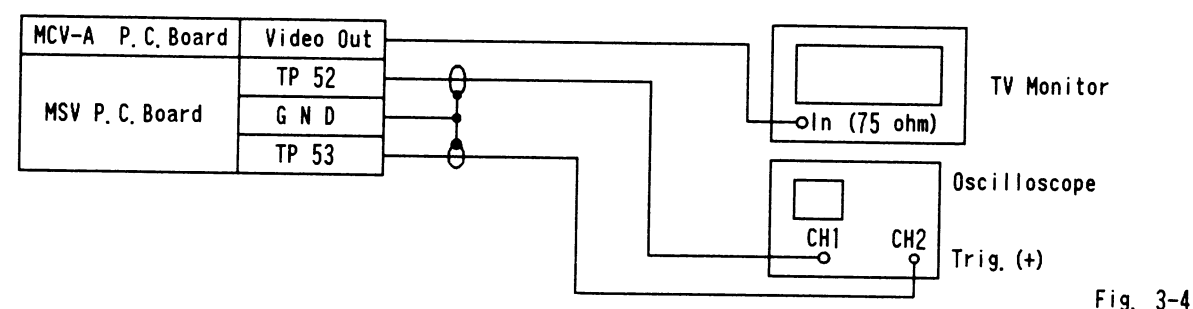
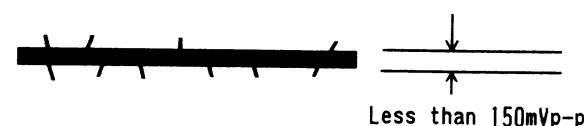


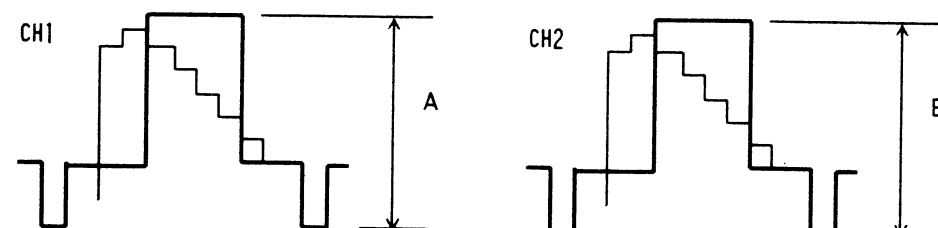
Fig. 3-4

Note : Adjust the Noise Cancel for choice (1) or (2).

- (1)
1. Connect the equipment as shown in Fig. 3-4.
 2. Set the input trigger mode to CH2 and set trigger slope to (+).
 3. Invert CH2 signal (TP53) and select ADD mode.
 4. Playback the tape and adjust VR54 so that the level becomes minimum.



- (2)
1. Connect the equipment as shown in Fig. 3-4.
 2. Set the input trigger mode to CH2 and set trigger slope to (+).
 3. Playback the tape and adjust VR54 so that the output levels(A,B) of both channels become the same.



3-5 P. B. OUTPUT LEVEL ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 951 (V-OUT) GND	VR 53 (P. B.) (MSV P. C. Board)	PLAY	F6-A	Fig. 3-5

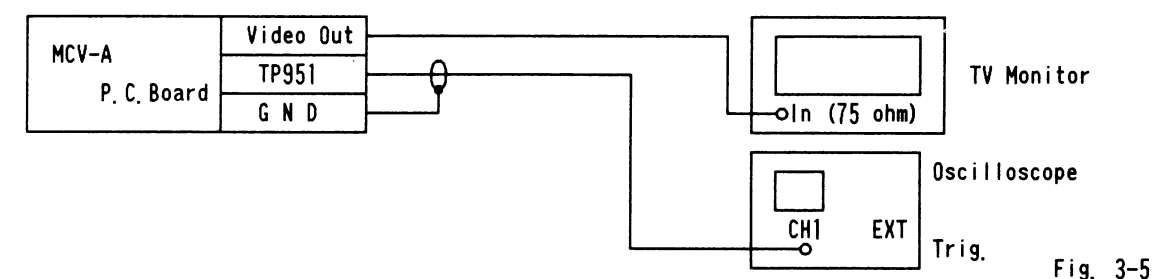
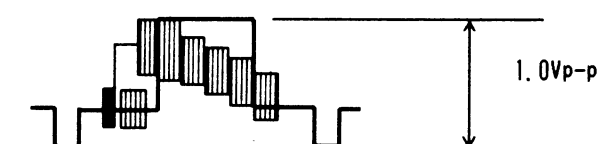


Fig. 3-5

1. Connect the equipment as shown in Fig. 3-5.
2. Adjust VR53 so that the video level becomes $1.0Vp-p \pm 0.05 V$.



3-6 REC. CURRENT ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 1 (REC Level) TP 401 (RF SW) GND	VR 1 (Y-REC) (MCV-B P. C. Board) VR 2 (C-REC) (MCV-B P. C. Board)	REC.	Blank tape	Fig. 3-6

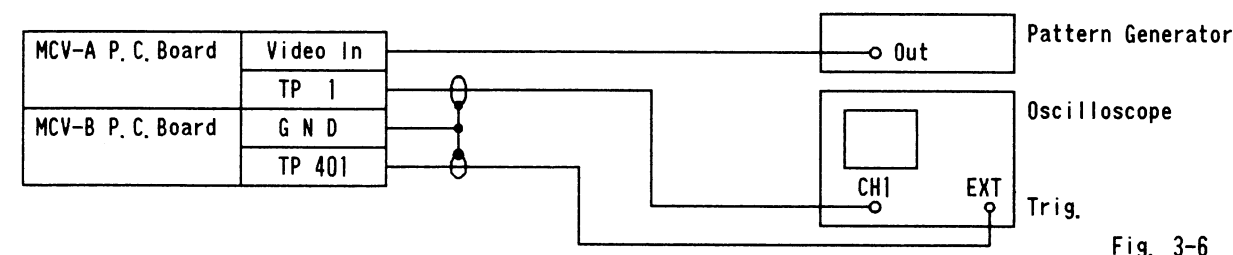
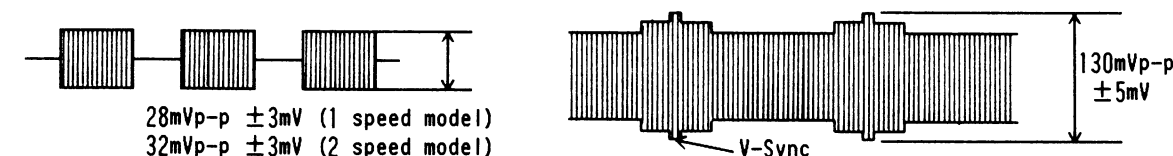


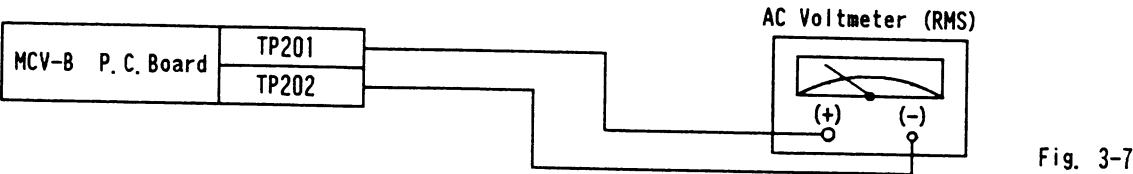
Fig. 3-6

1. Connect CH1 of oscilloscope across TP1 and Ground.
2. Connect EXT. Trigger of oscilloscope across TP401 and Ground.
3. Turn VR 1 fully clockwise.
4. Input red only signal to VIDEO INPUT.
5. Adjust VR 2 so that chroma level becomes $28mVp-p \pm 3mV$ (1 speed model), $32mVp-p \pm 3mV$ (2 speed model).
6. Input color bar signal with 100% white to VIDEO INPUT.
7. Adjust VR 1 so that V-Sync level becomes $130mVp-p \pm 5mV$.



3-7 REC. BIAS CURRENT ADJUSTMENT

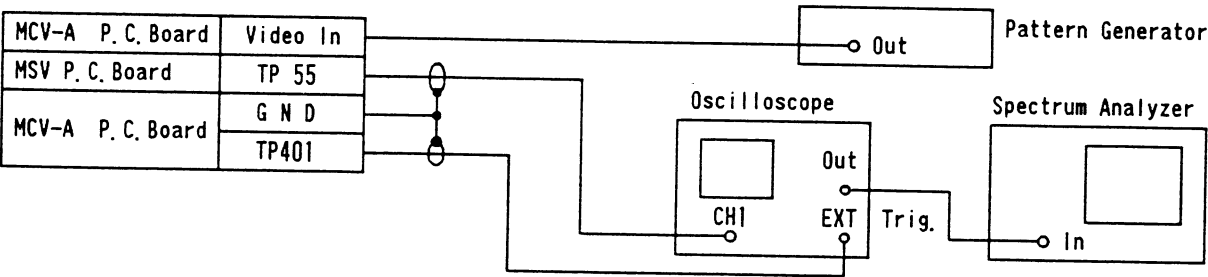
Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP201 (BIAS ⊕) TP202 (BIAS ⊖)	VR201 (BIAS) (MCV-B P. C. Board)	REC. (SP)	Blank tape	Fig. 3-7



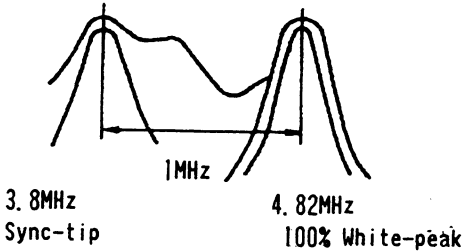
1. Connect the equipment as shown in Fig. 3-7.
2. Insert a blank tape and set the VCR to REC mode.
(Do not set to PAUSE. In PAUSE mode, the bias oscillation is stopped.)
3. Adjust VR201 so that the voltage becomes 22mV.

3-8 FM CARRIER DEVIATION ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP 55 (CRR/DEV) TP401 (RF-SW) GND	VR51 (CCR) VR52 (DEV) (MSV P. C. Board)	REC. (SP)	Blank tape	Fig. 3-8

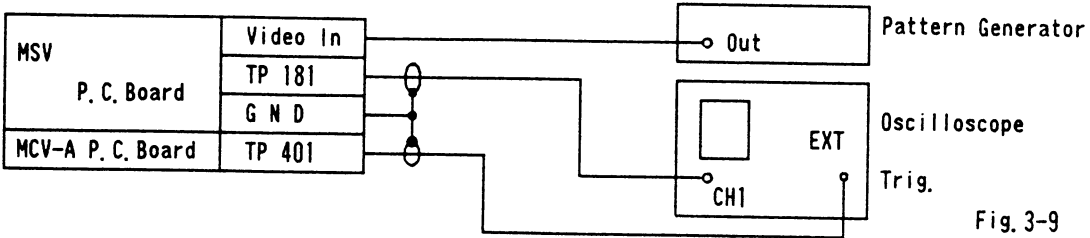


1. Connect the equipment as shown in Fig. 3-8.
2. Input color bar signal with 100% white to Video Input.
3. Adjust Sync-tip to 3.8MHz±20kHz by VR 52. White-peak to 4.82MHz ±20kHz by VR51.

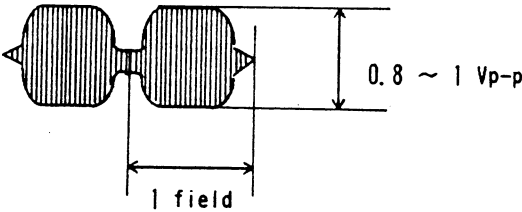


3-9 SECAM 1/2f TUNE ADJUSTMENT

Test Point	Adjustment Point	Mode	Test Tape	Connection Figure
TP181 (SECAM, CH1) TP401 (RF-SW)	L181 (MESECAM) (MSV P. C. Board)	REC.	Blank Tape	Fig. 3-9



1. Connect CH1 of oscilloscope across TP181 and Ground.
2. Connect EXT. Trigger of oscilloscope across TP401 and Ground.
3. Input SECAM color bar signal VIDEO IN.
4. Adjust by L181 so that output level becomes maximum.



* Note : Require this adjustment for MESECAM model only.

A B C D E F G H I J K L M N

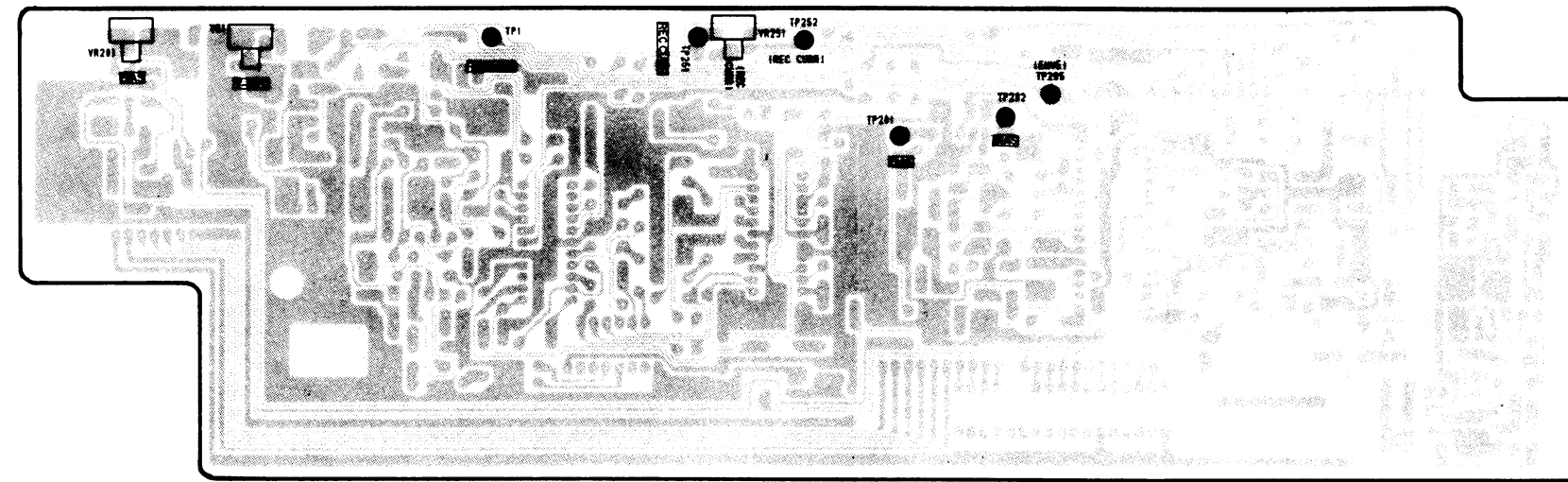
4. TEST POINTS

4-1. MCV-A P.C.BOARD



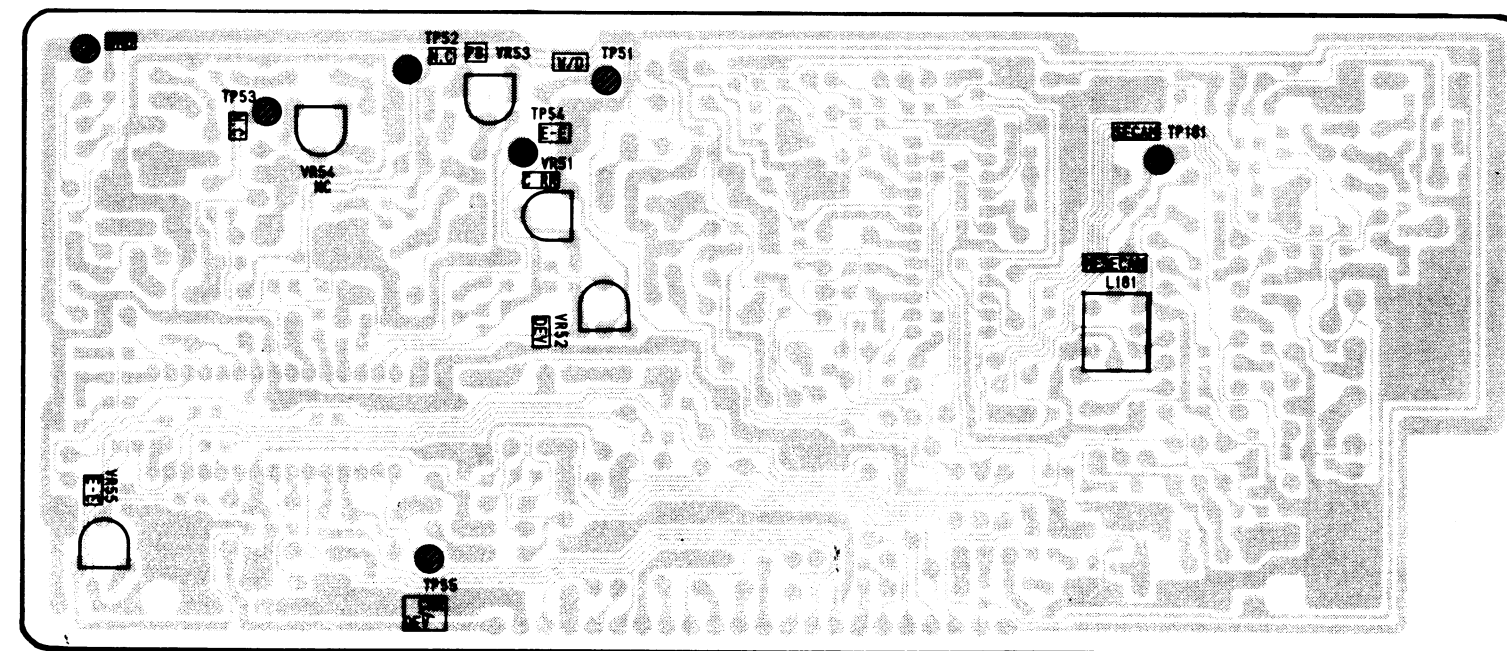
BS2300F01001A

4-2. MCV-B P.C.BOARD



BS2300F01001B

4-3. MSV P.C.BOARD



927

5-1

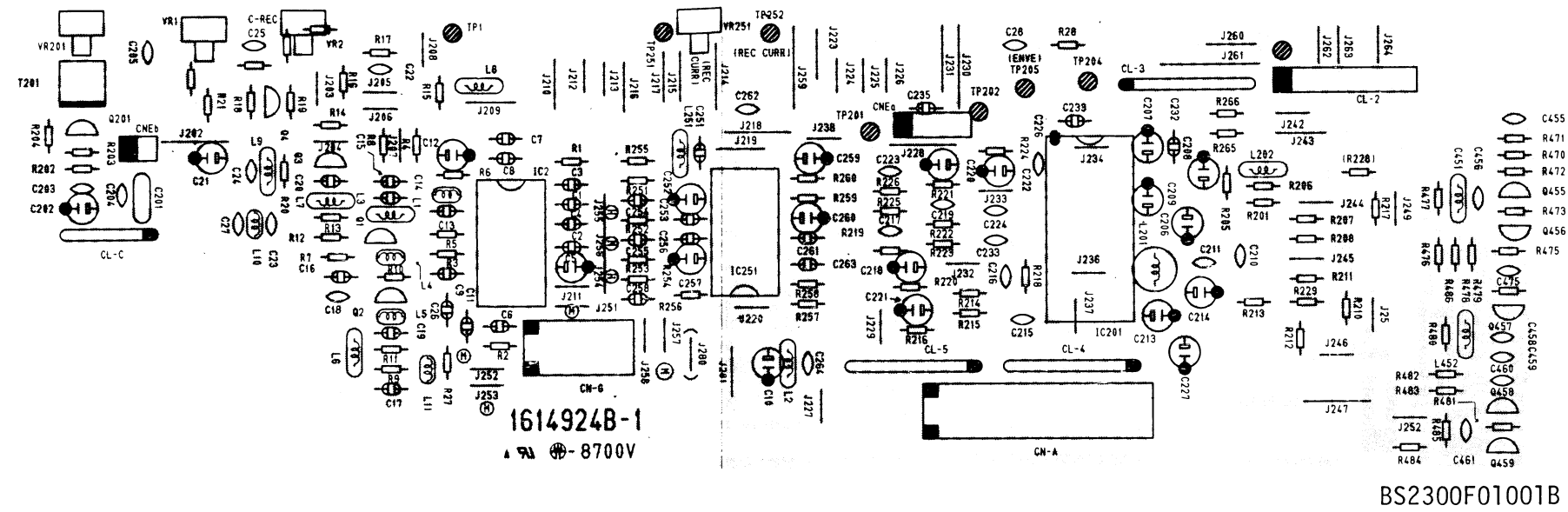


MCV-A PCB BOTTOM VIEW

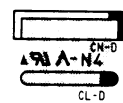
This is a detailed bottom view of the MCV-A PCB. The layout is densely packed with components, including integrated circuits (ICs), resistors (R), capacitors (C), and various connectors (J). The components are organized into several functional blocks, with labels such as J400, J401, J402, J403, J404, J405, J406, J407, J408, J409, J410, J411, J412, J413, J414, J415, J416, J417, J418, J419, J420, J421, J422, J423, J424, J425, J426, J427, J428, J429, J430, J431, J432, J433, J434, J435, J436, J437, J438, J439, J440, J441, J442, J443, J444, J445, J446, J447, J448, J449, J450, J451, J452, J453, J454, J455, J456, J457, J458, J459, J460, J461, J462, J463, J464, J465, J466, J467, J468, J469, J470, J471, J472, J473, J474, J475, J476, J477, J478, J479, J480, J481, J482, J483, J484, J485, J486, J487, J488, J489, J490, J491, J492, J493, J494, J495, J496, J497, J498, J499, J500, J501, J502, J503, J504, J505, J506, J507, J508, J509, J510, J511, J512, J513, J514, J515, J516, J517, J518, J519, J520, J521, J522, J523, J524, J525, J526, J527, J528, J529, J530, J531, J532, J533, J534, J535, J536, J537, J538, J539, J540, J541, J542, J543, J544, J545, J546, J547, J548, J549, J550, J551, J552, J553, J554, J555, J556, J557, J558, J559, J560, J561, J562, J563, J564, J565, J566, J567, J568, J569, J570, J571, J572, J573, J574, J575, J576, J577, J578, J579, J580, J581, J582, J583, J584, J585, J586, J587, J588, J589, J590, J591, J592, J593, J594, J595, J596, J597, J598, J599, J600, J601, J602, J603, J604, J605, J606, J607, J608, J609, J610, J611, J612, J613, J614, J615, J616, J617, J618, J619, J620, J621, J622, J623, J624, J625, J626, J627, J628, J629, J630, J631, J632, J633, J634, J635, J636, J637, J638, J639, J640, J641, J642, J643, J644, J645, J646, J647, J648, J649, J650, J651, J652, J653, J654, J655, J656, J657, J658, J659, J660, J661, J662, J663, J664, J665, J666, J667, J668, J669, J670, J671, J672, J673, J674, J675, J676, J677, J678, J679, J680, J681, J682, J683, J684, J685, J686, J687, J688, J689, J690, J691, J692, J693, J694, J695, J696, J697, J698, J699, J700, J701, J702, J703, J704, J705, J706, J707, J708, J709, J710, J711, J712, J713, J714, J715, J716, J717, J718, J719, J720, J721, J722, J723, J724, J725, J726, J727, J728, J729, J730, J731, J732, J733, J734, J735, J736, J737, J738, J739, J740, J741, J742, J743, J744, J745, J746, J747, J748, J749, J750, J751, J752, J753, J754, J755, J756, J757, J758, J759, J760, J761, J762, J763, J764, J765, J766, J767, J768, J769, J770, J771, J772, J773, J774, J775, J776, J777, J778, J779, J780, J781, J782, J783, J784, J785, J786, J787, J788, J789, J790, J791, J792, J793, J794, J795, J796, J797, J798, J799, J800, J801, J802, J803, J804, J805, J806, J807, J808, J809, J810, J811, J812, J813, J814, J815, J816, J817, J818, J819, J820, J821, J822, J823, J824, J825, J826, J827, J828, J829, J830, J831, J832, J833, J834, J835, J836, J837, J838, J839, J840, J841, J842, J843, J844, J845, J846, J847, J848, J849, J850, J851, J852, J853, J854, J855, J856, J857, J858, J859, J860, J861, J862, J863, J864, J865, J866, J867, J868, J869, J870, J871, J872, J873, J874, J875, J876, J877, J878, J879, J880, J881, J882, J883, J884, J885, J886, J887, J888, J889, J890, J891, J892, J893, J894, J895, J896, J897, J898, J899, J900, J901, J902, J903, J904, J905, J906, J907, J908, J909, J910, J911, J912, J913, J914, J915, J916, J917, J918, J919, J920, J921, J922, J923, J924, J925, J926, J927, J928, J929, J930, J931, J932, J933, J934, J935, J936, J937, J938, J939, J940, J941, J942, J943, J944, J945, J946, J947, J948, J949, J950, J951, J952, J953, J954, J955, J956, J957, J958, J959, J960, J961, J962, J963, J964, J965, J966, J967, J968, J969, J970, J971, J972, J973, J974, J975, J976, J977, J978, J979, J980, J981, J982, J983, J984, J985, J986, J987, J988, J989, J990, J991, J992, J993, J994, J995, J996, J997, J998, J999, J1000, J1001, J1002, J1003, J1004, J1005, J1006, J1007, J1008, J1009, J1010, J1011, J1012, J1013, J1014, J1015, J1016, J1017, J1018, J1019, J1020, J1021, J1022, J1023, J1024, J1025, J1026, J1027, J1028, J1029, J1030, J1031, J1032, J1033, J1034, J1035, J1036, J1037, J1038, J1039, J1040, J1041, J1042, J1043, J1044, J1045, J1046, J1047, J1048, J1049, J1050, J1051, J1052, J1053, J1054, J1055, J1056, J1057, J1058, J1059, J1060, J1061, J1062, J1063, J1064, J1065, J1066, J1067, J1068, J1069, J1070, J1071, J1072, J1073, J1074, J1075, J1076, J1077, J1078, J1079, J1080, J1081, J1082, J1083, J1084, J1085, J1086, J1087, J1088, J1089, J1090, J1091, J1092, J1093, J1094, J1095, J1096, J1097, J1098, J1099, J1100, J1101, J1102, J1103, J1104, J1105, J1106, J1107, J1108, J1109, J1110, J1111, J1112, J1113, J1114, J1115, J1116, J1117, J1118, J1119, J1120, J1121, J1122, J1123, J1124, J1125, J1126, J1127, J1128, J1129, J1130, J1131, J1132, J1133, J1134, J1135, J1136, J1137, J1138, J1139, J1140, J1141, J1142, J1143, J1144, J1145, J1146, J1147, J1148, J1149, J1150, J1151, J1152, J1153, J1154, J1155, J1156, J1157, J1158, J1159, J1160, J1161, J1162, J1163, J1164, J1165, J1166, J1167, J1168, J

5-2

5-2. MCV-B PCB TOP VIEW

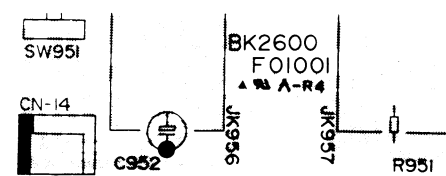


5-3. MCV-C PCB TOP VIEW



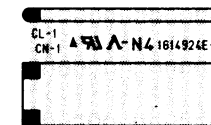
BS2300F01001C

5-4. BNC PCB TOP VIEW



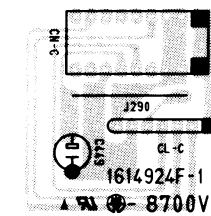
BK2600F01001

5-5. MCV-E PCB TOP VIEW



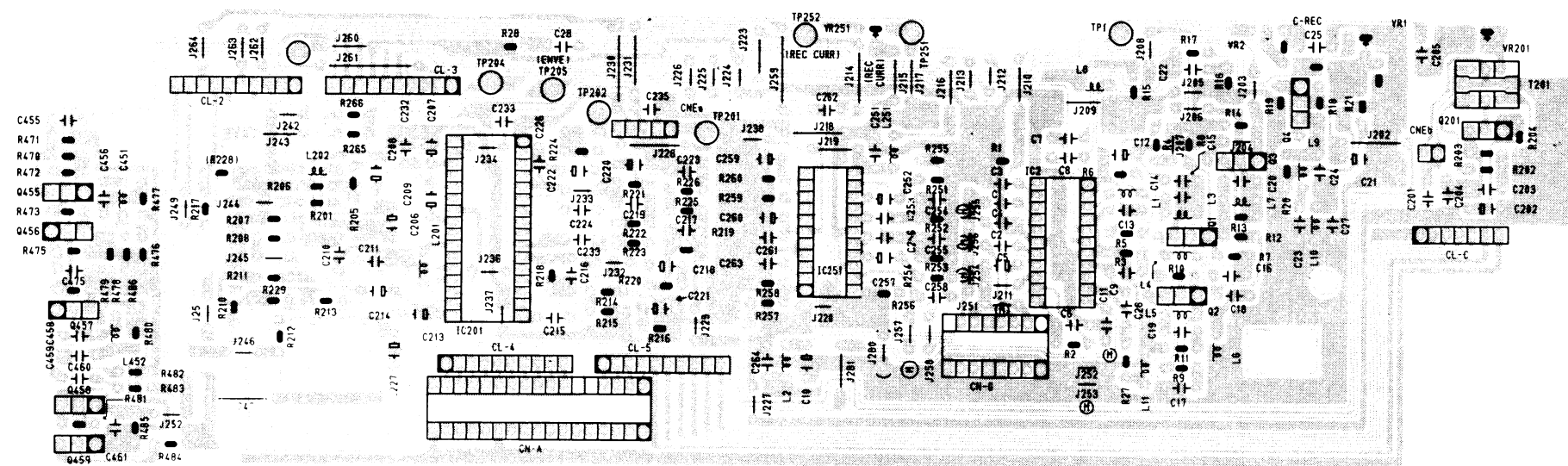
BS2300F01001E

5-6. MCV-F PCB TOP VIEW

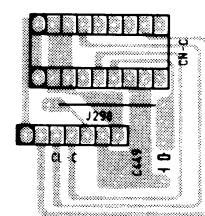


BS2300F01001F

A vertical number line with tick marks and labels from 1 to 13. The numbers are arranged vertically, with 1 at the top and 13 at the bottom. Each number is placed to the left of a horizontal tick mark on a vertical line.



**MCV-F PCB
BOTTOM VIEW**



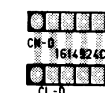
BS2300F01001F

**MCV-E PCB
BOTTOM VIEW**



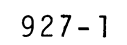
BS2300F01001E

MCV-C PCB
BOTTOM VIEW

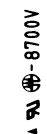


BS2300F01001C

A vertical axis with tick marks and labels from 1 to 13. The labels are positioned to the left of the axis line.



TOP VIEW

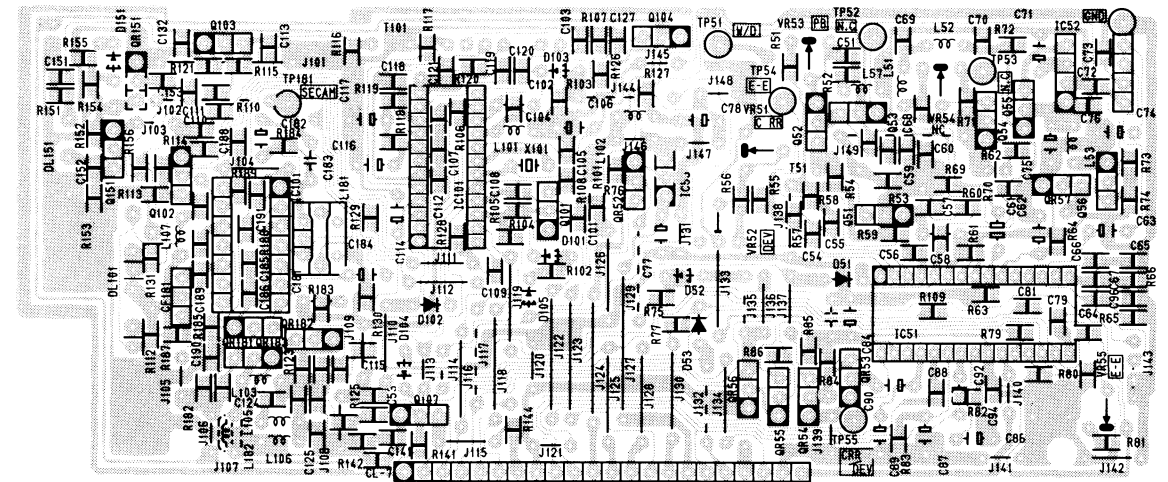


TMV-B P.C.BOARD BOTTOM VIEW



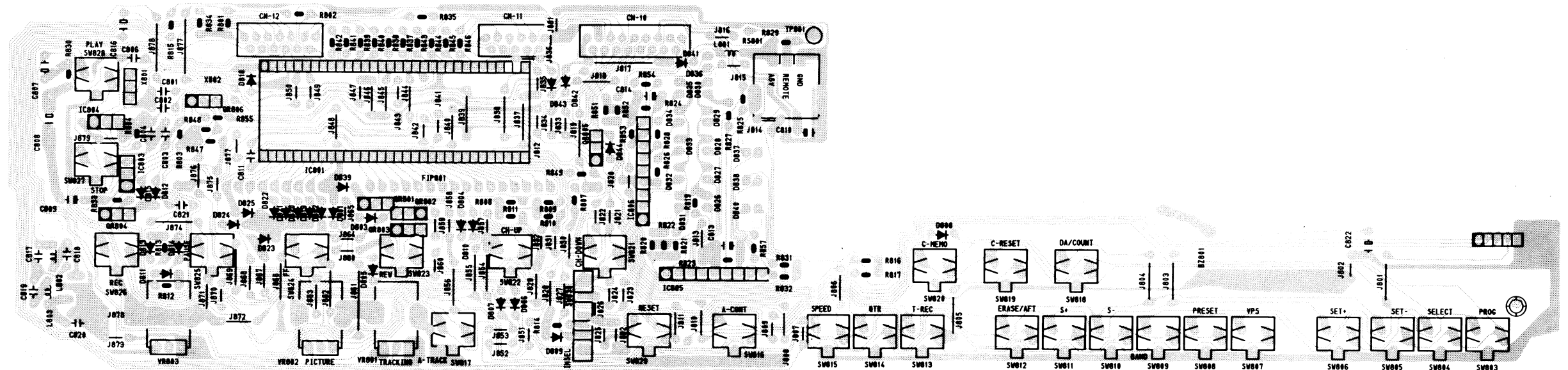
925B

MSV P.C.BOARD BOTTOM VIEW



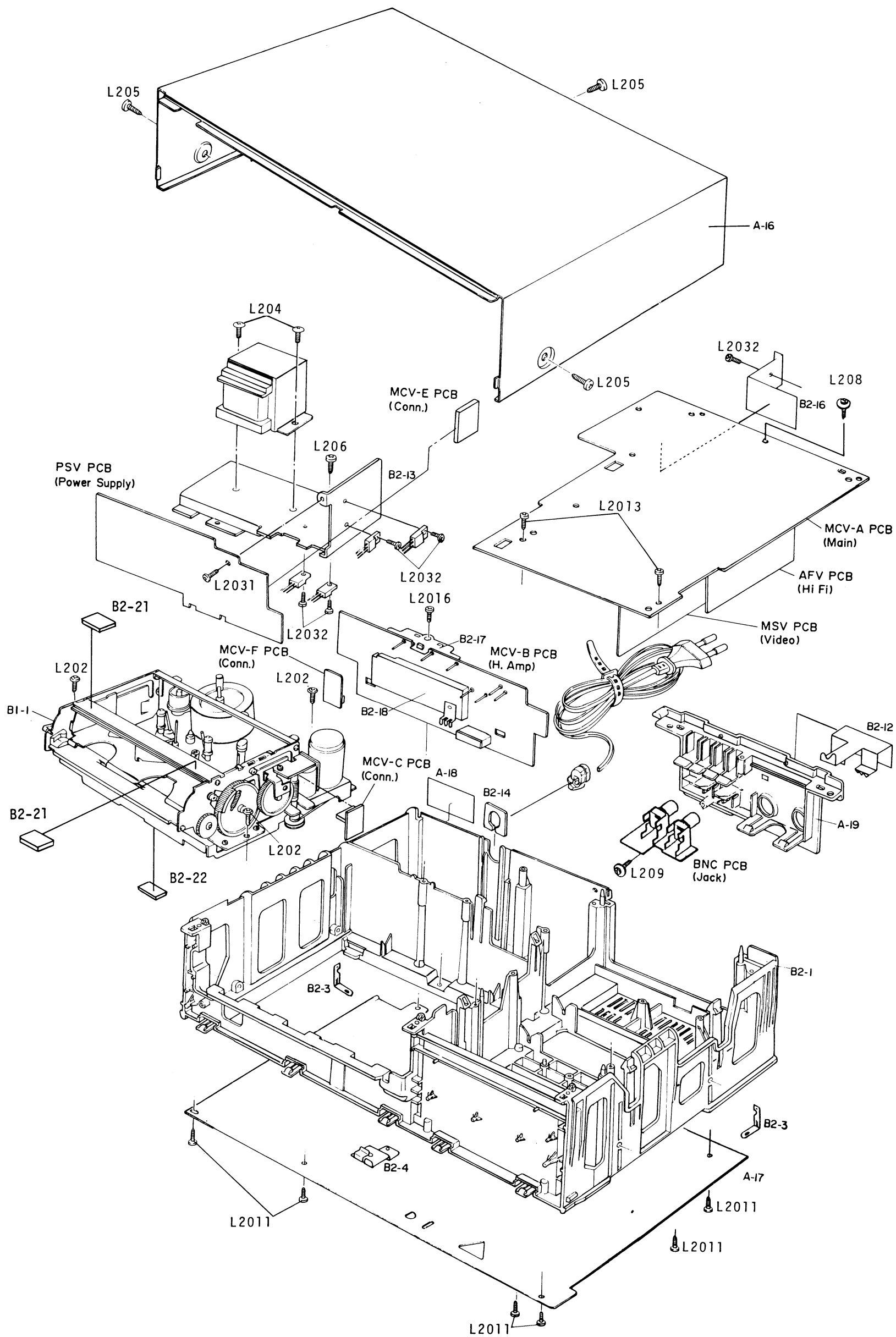
927-1

TMV-A P.C.BOARD BOTTOM VIEW

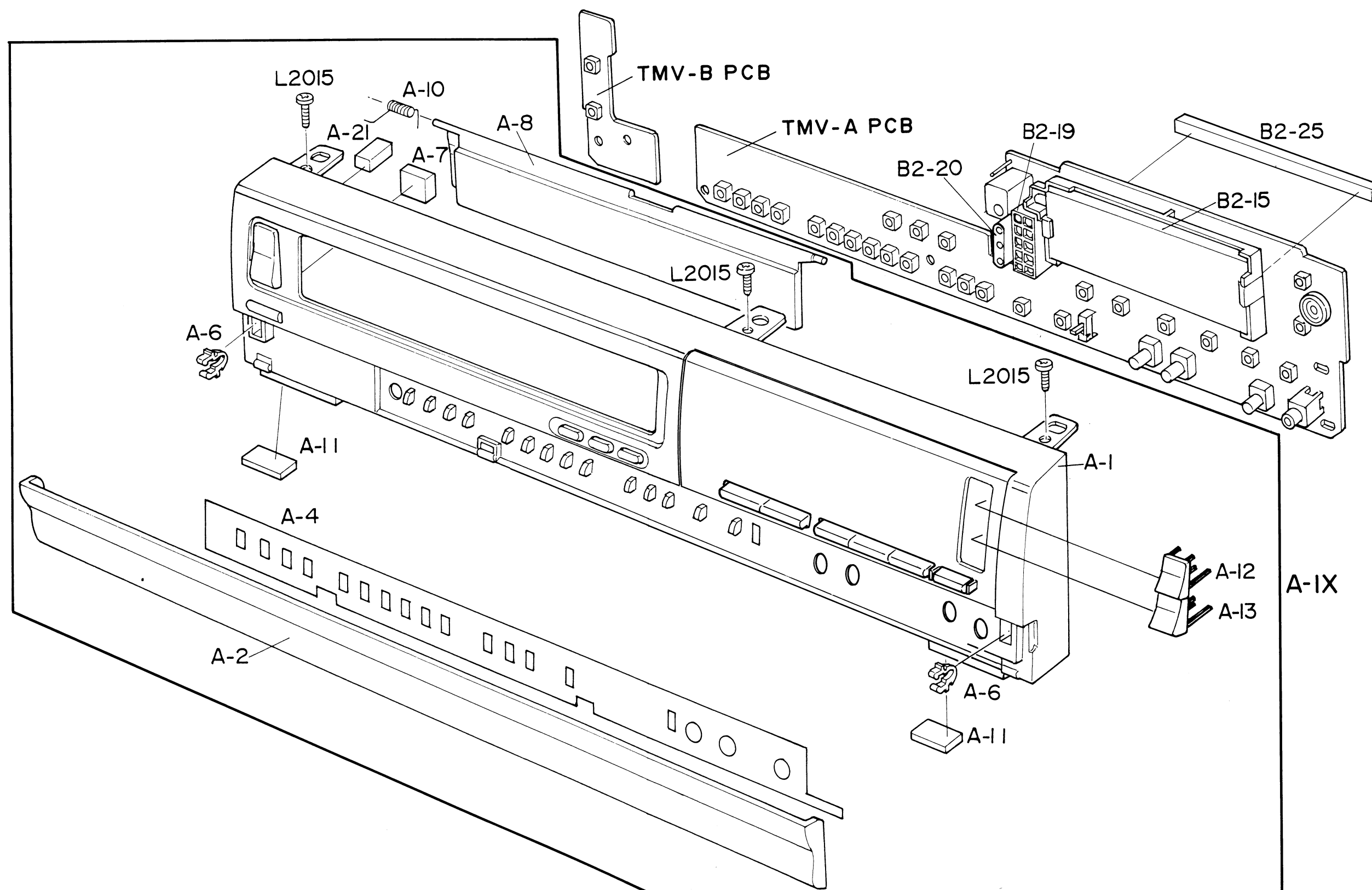


925A

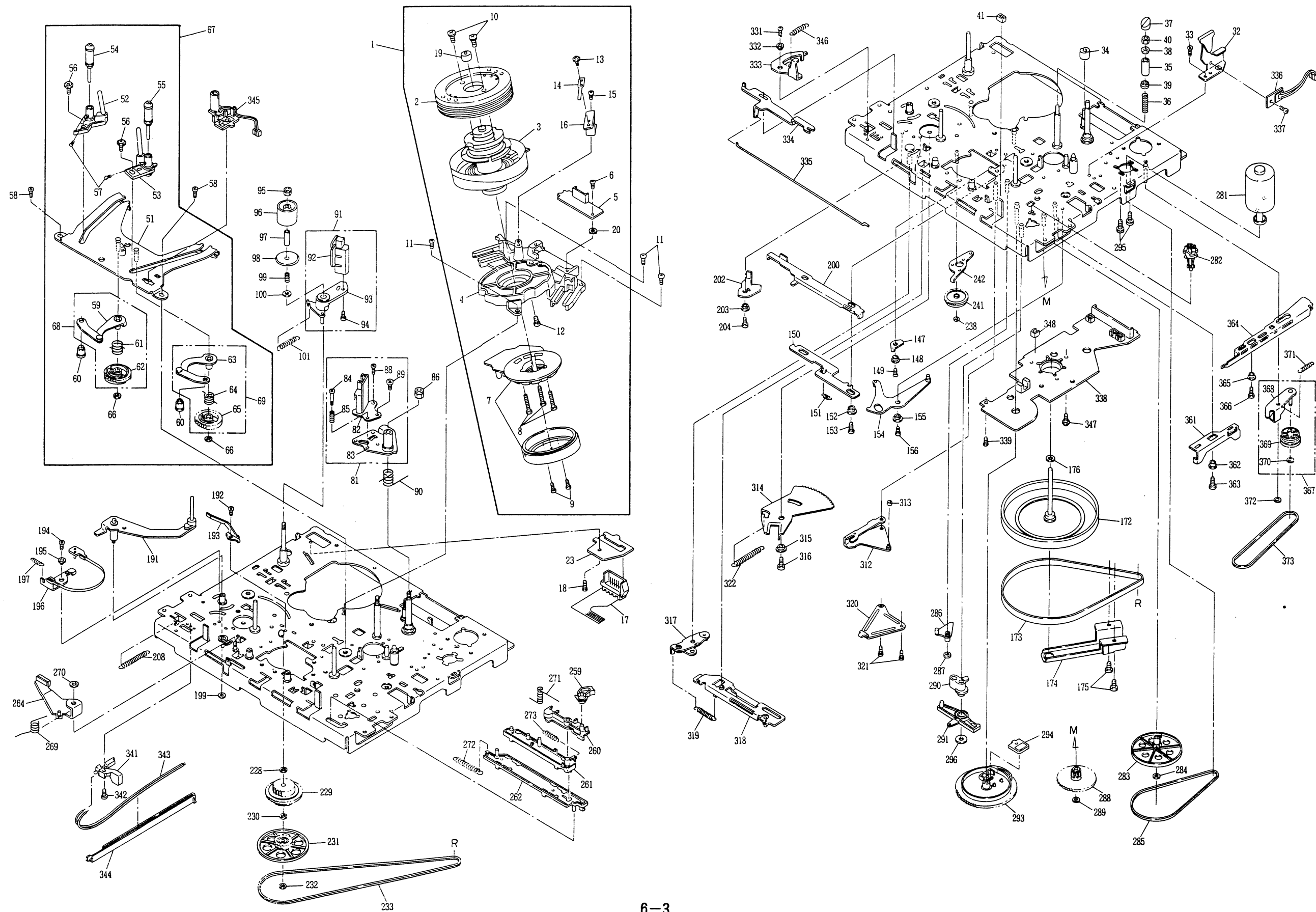
6-1. EXPLODED VIEW (CABINET)



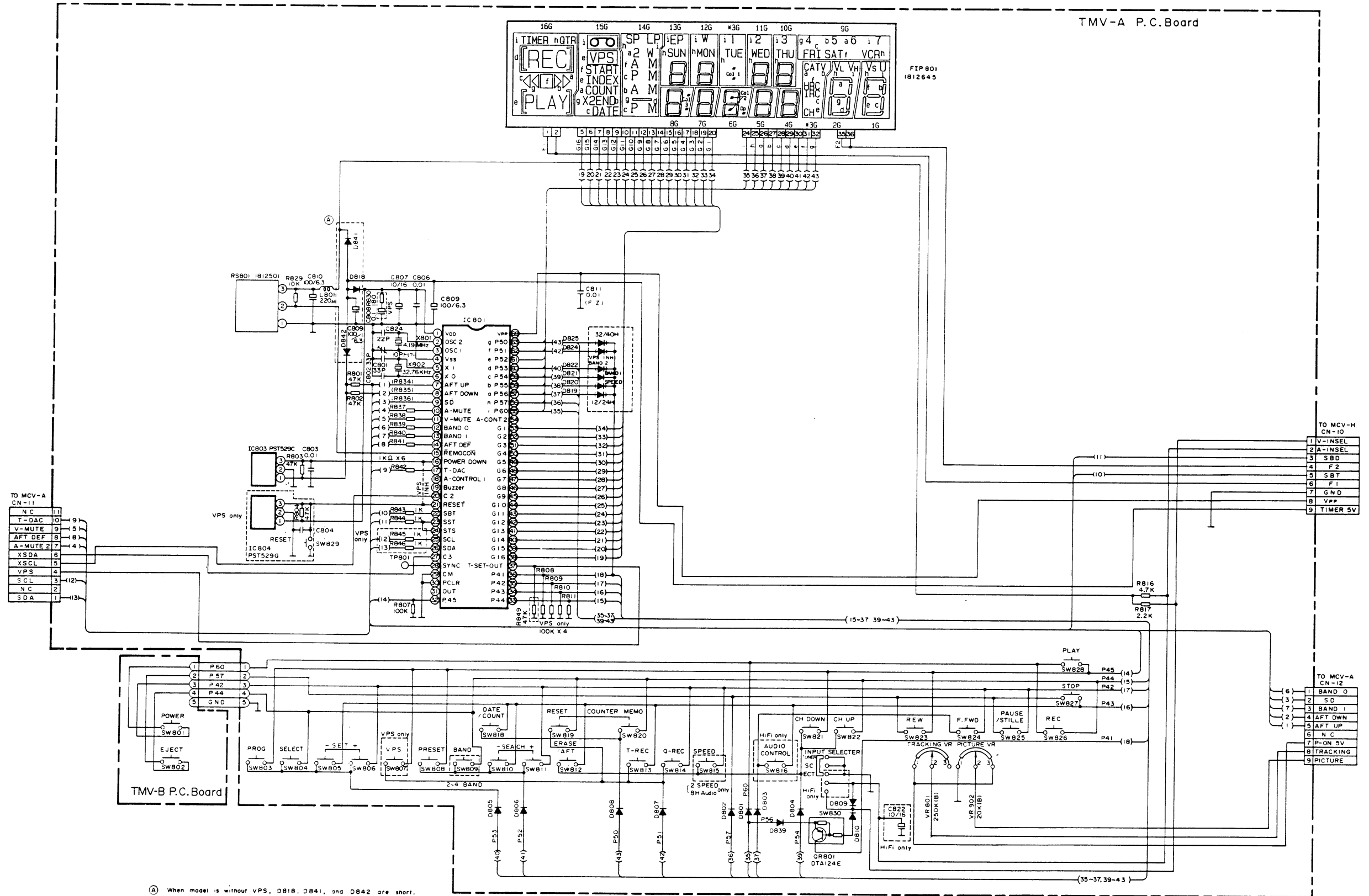
6-2. EXPLODED VIEW (FRONT)



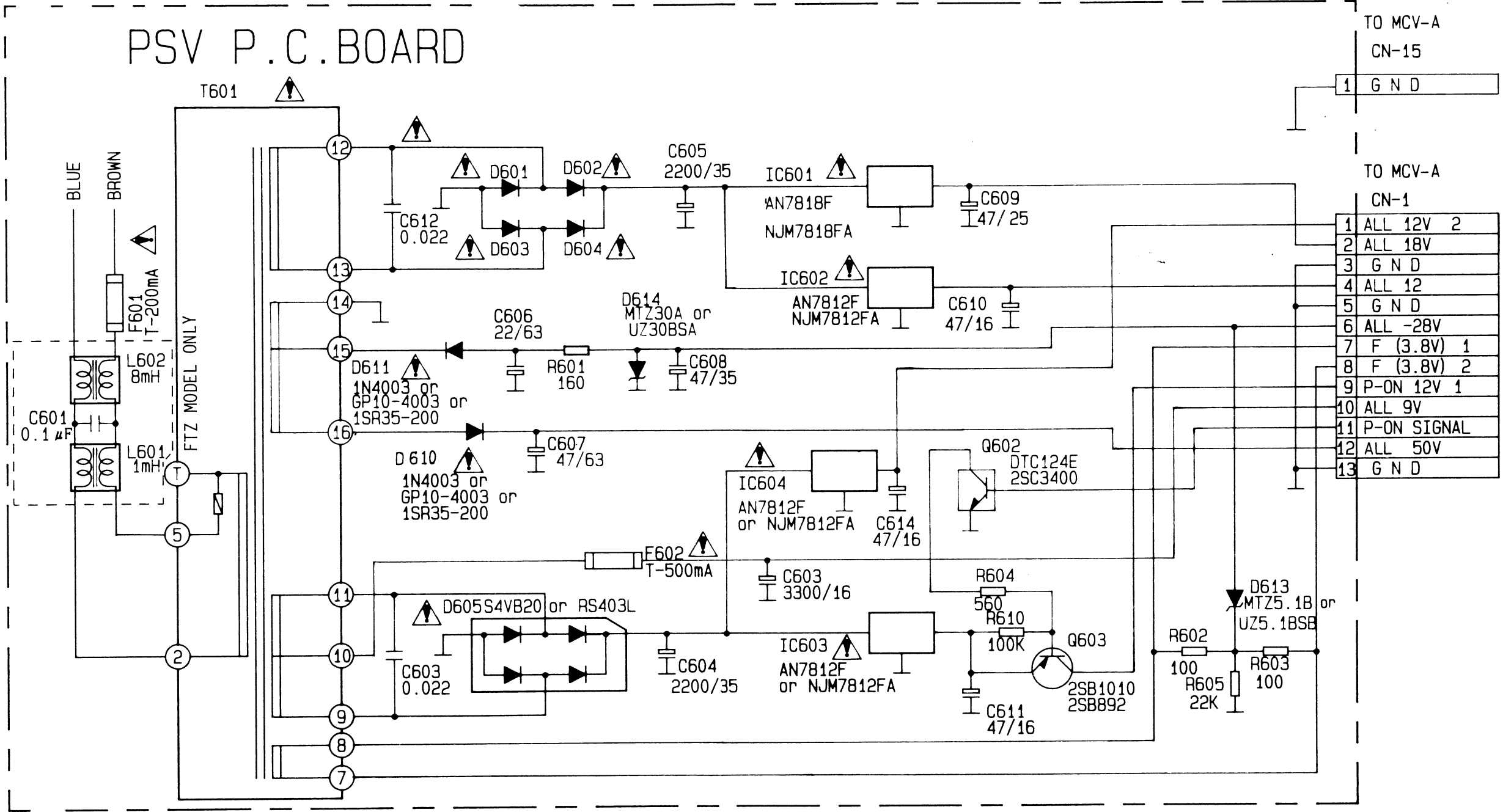
6-3. EXPLODED VIEW (DECK)



7-4. TIMER CONTROL

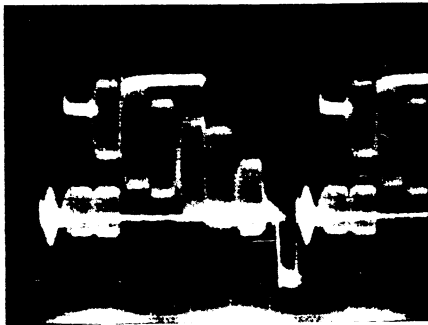


7-5. POWER SUPPLY

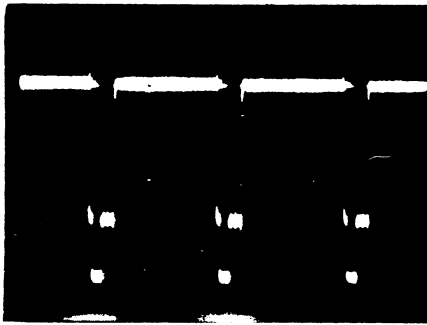


D601, D602, D603 and D604 are 1N4003.

8. WAVE FORM



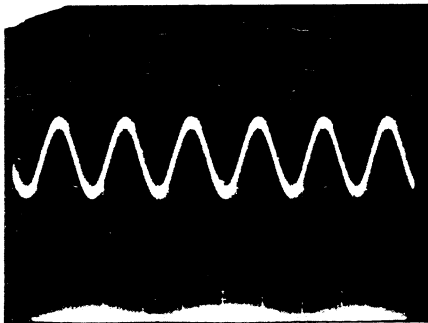
TP951 (V-OUT) MODE: P.B.
20mVx10/div 10μsec/div



TP54 (E-E) MODE: E-E
10mVx10/div 20μsec/div



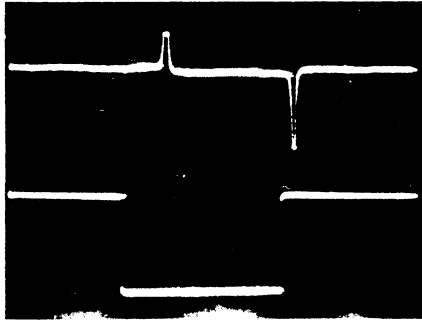
TP205 (ENVE) MODE: P.B.
20mVx10/div 5msec/div



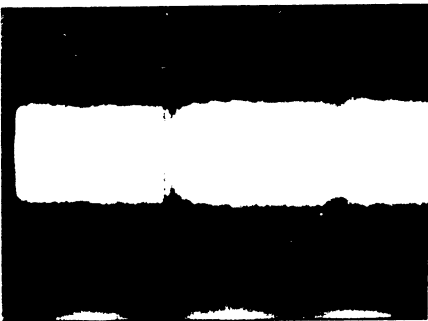
TP201-TP202 (BIAS) MODE: REC
10mVx10/divx5 5μsec/div



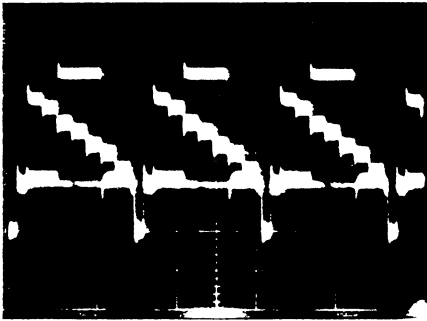
TP1 (REC LEVEL) MODE: REC
5mVx10/div 2msec/div



TP402 (CTL) MODE: P.B.
0.2Vx10/div 5msec/div
TP401 (RF-SW) MODE: P.B.
0.1Vx10/div 5msec/div



TP181 (SECAM) MODE: REC
5mVx10/div 5msec/div



TP52 (NC) MODE: P.B.
10mVx10/div 20μsec/div



TP53 (NC) MODE: P.B.
10mVx10/div 20μsec/div

SPECIFICATIONS

Test Items	Mode	Cond.	Unit	Normal	Limit	Remarks
1. VIDEO						
1-1 Output	SP	PB	Vp-p	1.0	1.0 ± 0.2	F6-A
1-2 Output	SP	R/P	Vp-p	1.0	1.0 ± 0.2	
1-3 S/N Y	SP	R/P	dB	43	40	
1-4 S/N Chroma AM	SP	R/P	dB	41	37	
1-5 S/N Chroma PM	SP	R/P	dB	36	30	
1-6 Resolution	SP	R/P	Line	245	230	
2. SERVO						
2-1 Won & Flutter RMS	SP	R/P	%	0.3	0.45	F6-N
2-2 Jitter at Low	SP	PB	μsec	0.07	0.12	
3. AUDIO						
3-1 Output level	SP	PB	dBv	-6	-6 ± 3	F6-A
3-2 Output level	SP	R/P	dBv	-6	-6 ± 3	
3-3 S/N	SP	R/P	dB	41	36	
3-4 Distortion(Input;-20dBv)	SP	R/P	%	1.0	4.0	
3-5 Freq. resp. at 200Hz	SP	R/P	dB	0	+3 ~ -6	
Input;-30dBv 6kHz	SP	R/P	dB	0	± 6	
4. TUNER						
4-1 Video output	E-E		Vp-p	1.0	1.0 ± 0.2	
4-2 Video S/N	E-E		dB	42	39	
4-3 Audio output	E-E		mv/rms	550	± 150	
4-4 Audio S/N	E-E		dB	46	40	

SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

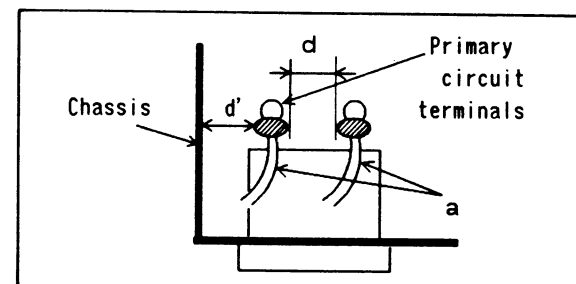


Table 1 : Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d) (d')
110 to 130 V	USA & Canada	---	900 V 1minute	≥ 3.2 mm
* 110 to 130 V	Europe	≥ 10 M Ω	3 kV 1minute	≥ 4 mm (d)
200 to 240 V	Australia	/500 V DC		≥ 6 mm (d')

* Class II model only.

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

4. Leakage current test

Confirm specified or lower leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts.

Use an AC voltmeter to measure across both terminals of load Z.

See figure and following table.

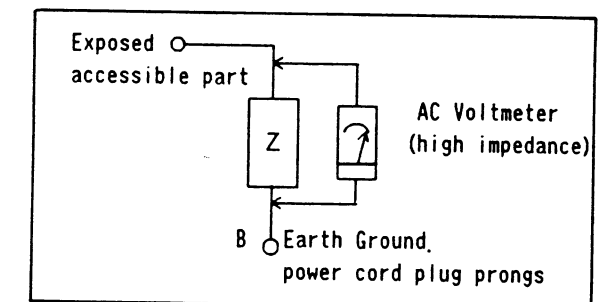


Table 2 : Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current(i)	Earth Ground (B) to:
110 to 130 V	USA & Canada	0.15 μ F 1.5 k Ω	$1 \leq 0.5$ mA rms	Exposed accessible parts
110 to 130 V 200 to 240 V	Europe Australia	2 k Ω	$1 \leq 0.7$ mA peak $1 \leq 2$ mA dc	Antenna terminals
		50 k Ω	$1 \leq 0.7$ mA peak $1 \leq 2$ mA dc	Other terminals

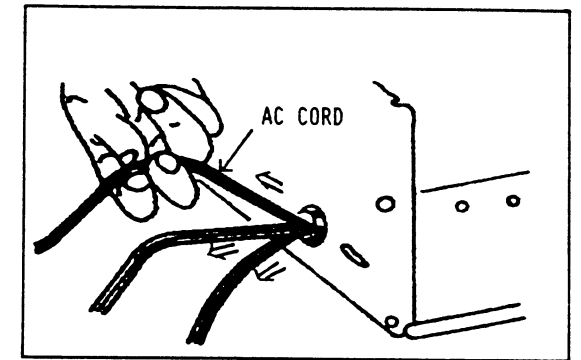
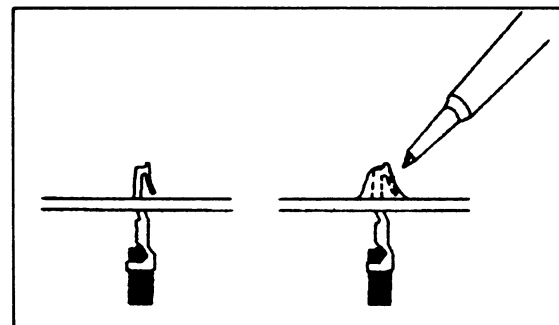
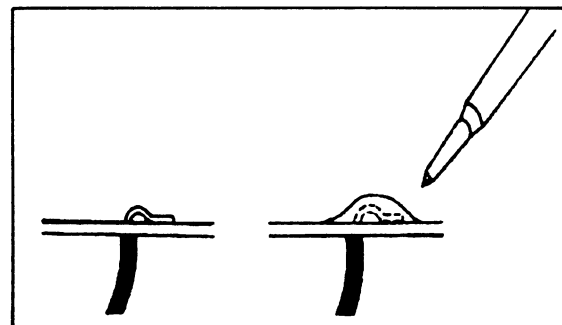
Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected to conform the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscribed on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
2. Parts identified by the  symbol parts are critical for safety. Replace only with specified part numbers.
3. Use specified internal wiring. Note especially :
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially :
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulation sheets for transistors

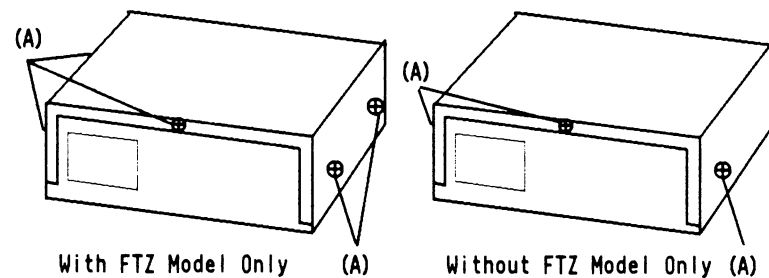


5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely around the terminals before soldering.
6. Observe that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.
9. Also check areas surrounding repaired locations.

1. DISASSEMBLY INSTRUCTIONS (SET)

1-1 Top Cabinet Removal (Fig. 1-1)

- Remove 5 screws (A).
(With FTZ Model Only)
- Remove 3 screws (A).
(Without FTZ Model Only)



(Fig. 1-1 Rear)

1-2 Bottom Panel Removal (Fig. 1-2)

- Remove 7 screws (B).

1-3 Front Ass'y Removal (Figs. 1-3 and 1-4)

- Remove 3 screws (C).
- Unfasten 3 hooks (D) from Cabinet top and bottom.

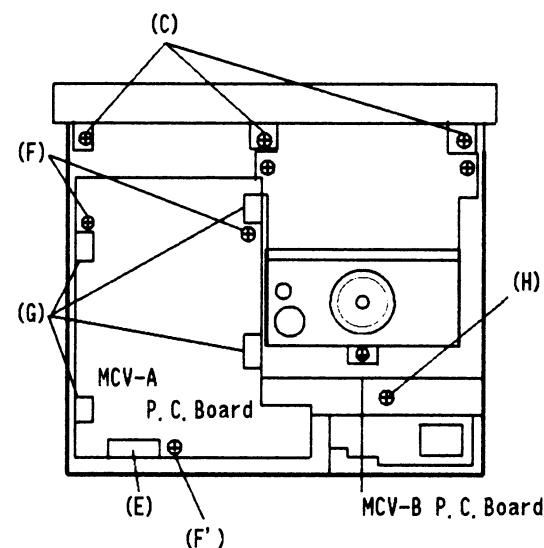
1-4 MCV-A P.C. Board Removal (Fig. 1-3)

- Remove Ground Plate (E).
- Remove 2 screws (F).
- * Remove screws (F')
- Unfasten 4 hooks (G) from Cabinet.

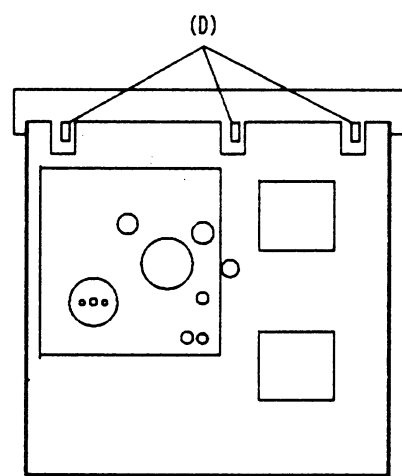
* Normal Audio Model Only

1-5 MCV-B P.C. Board Removal (Fig. 1-3)

- Remove 1 screw (H).



(Fig. 1-3 Top View)



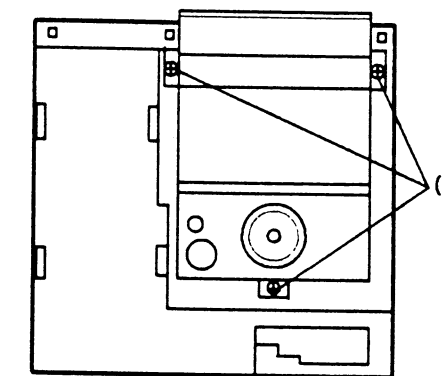
(Fig. 1-4 Bottom View)

1-6 Deck Ass'y Removal (Fig. 1-5)

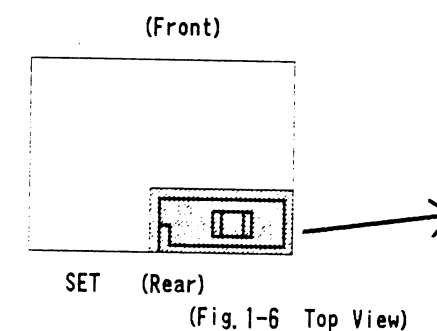
- Remove 3 screws (I).

1-7 PSV P.C. Board Removal (Figs. 1-6 and 1-7)

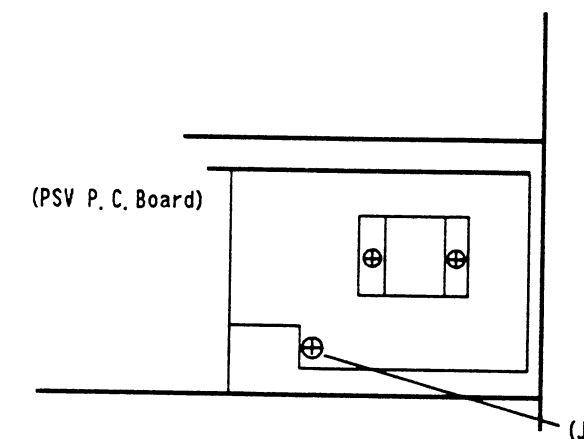
- Remove 1 screw (J).



(Fig. 1-5 Top View)



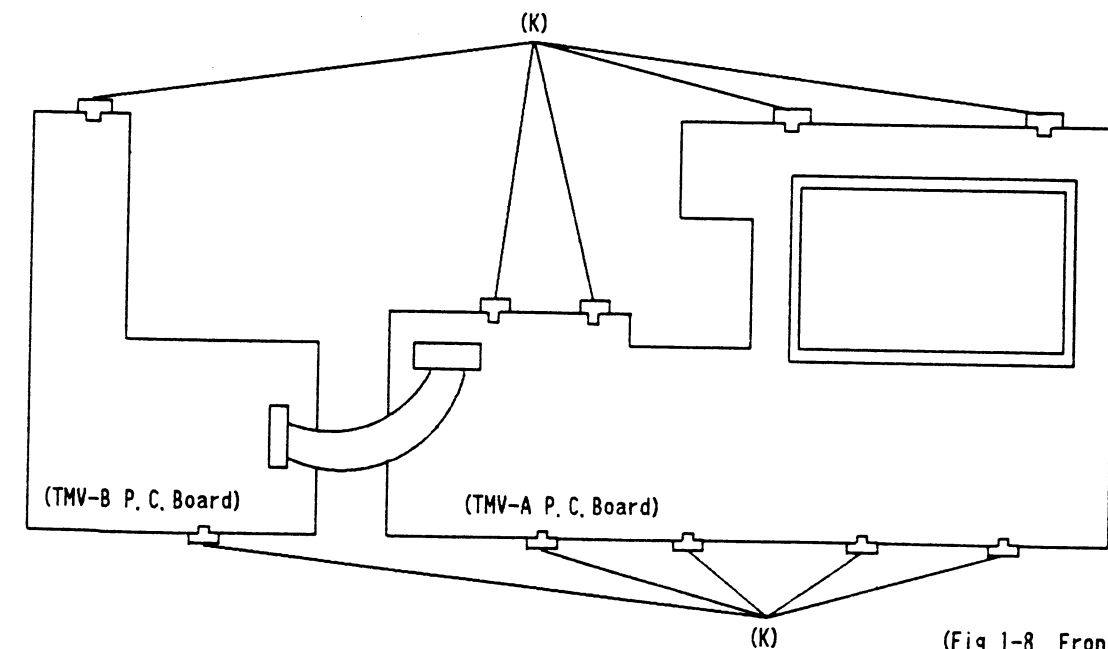
(Fig. 1-6 Top View)



(Fig. 1-7 Top View)

1-8 TMV-A P.C. Board and TMV-B P.C. Board Removal (Fig. 1-8)

- Release 10 hooks (K) from Main Cabinet.



(Fig. 1-8 Front)

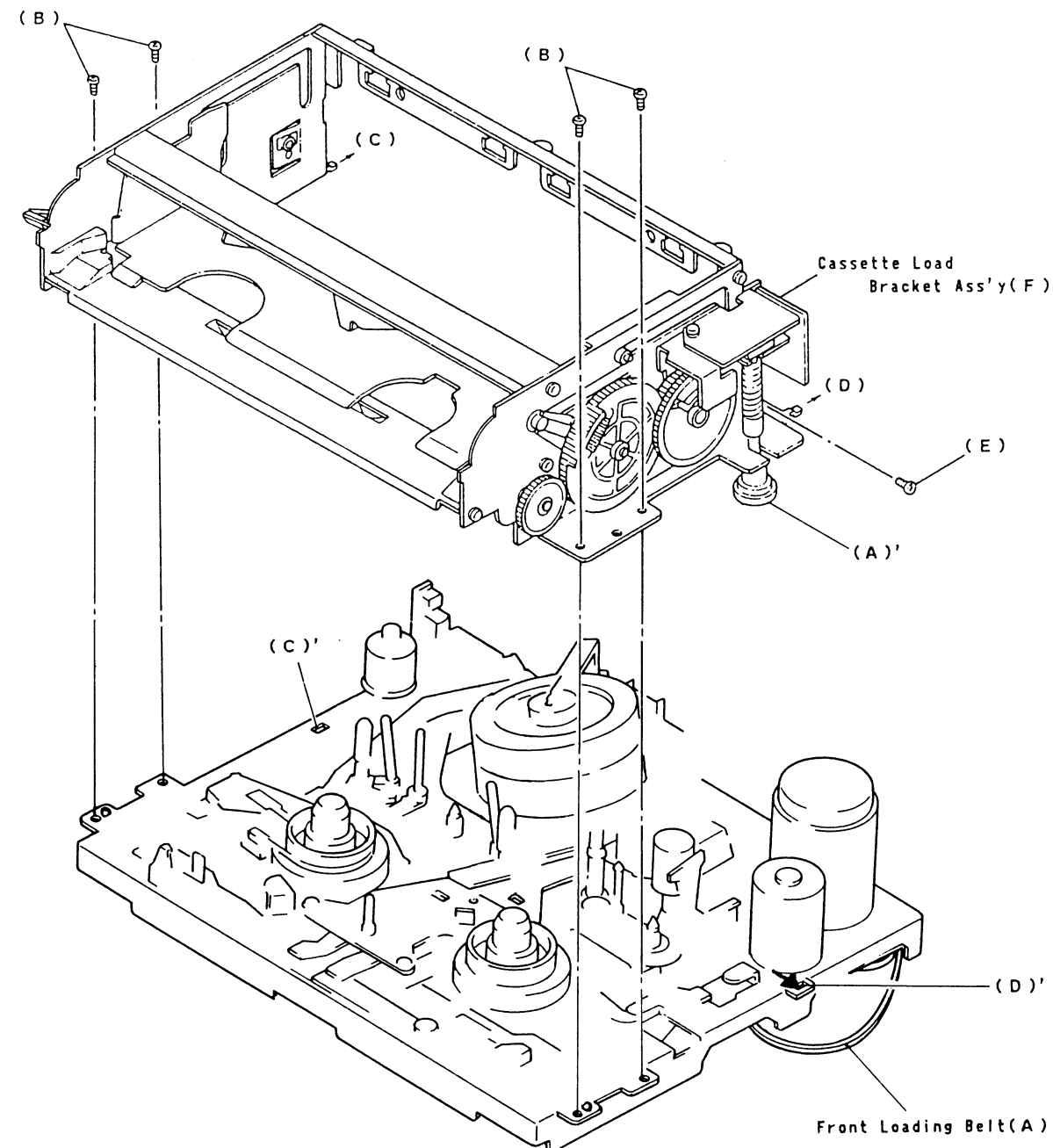
2. DISASSEMBLY INSTRUCTIONS (DECK)

(1) Front Loading Unit

1. Remove Front Loading Belt (A).
(Hook the Front Loading Belt (A) to (A').)
2. Remove 4 screws (B).
3. Take off Left side hook (C) and Right side hook (D).
(To unfasten the hook, lift up front edge of the Front Loading Unit and take it to forward.)

(2) Cassette Load Bracket Ass'y

1. Remove screw (E).
2. Take off the Cassette Load Bracket Ass'y (F).

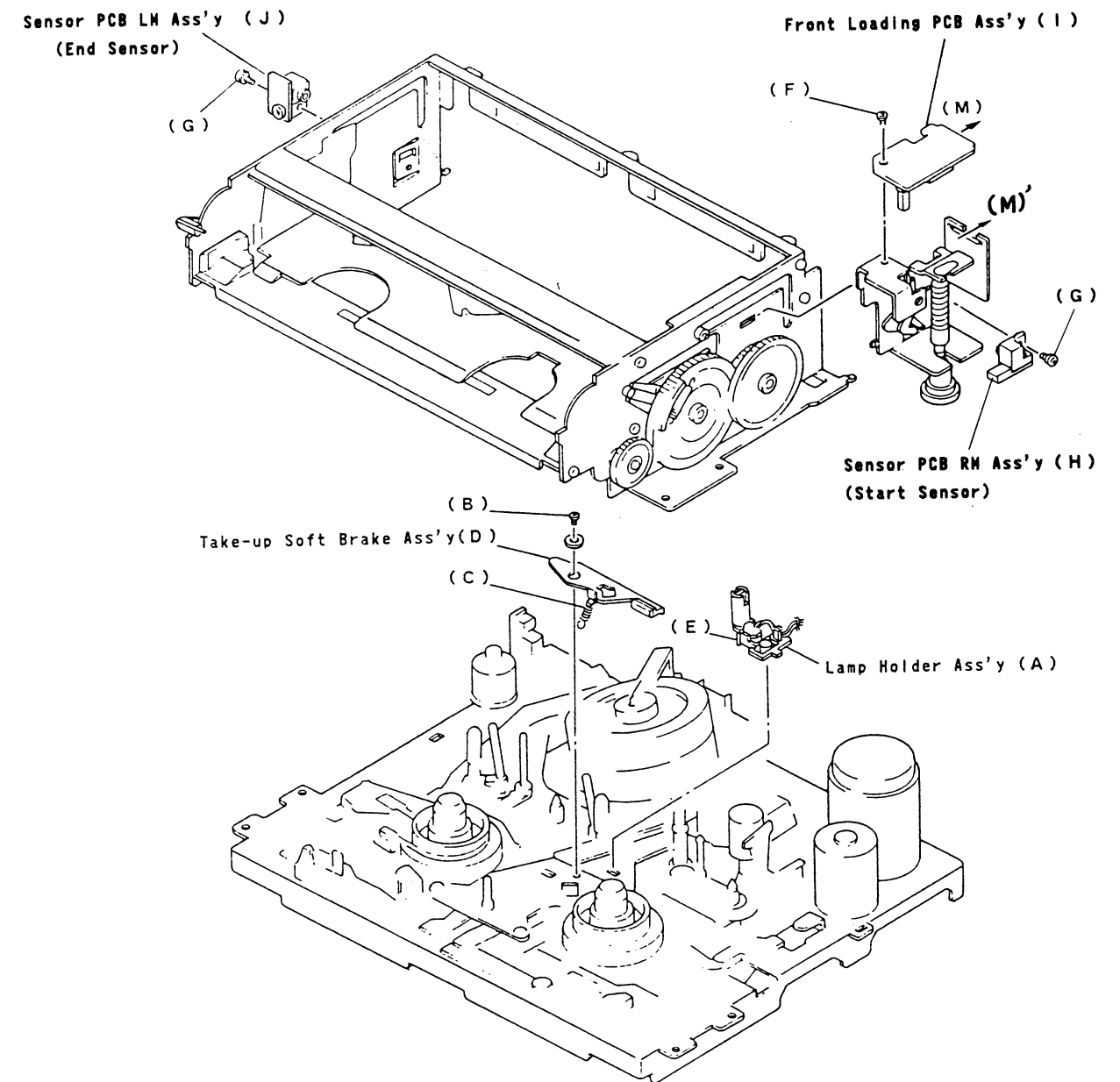


2-1

DD-1

(3) Photo Sensor

1. Replacement of Lamp Holder Ass'y (A).
 - (1) Remove screw (B), move away the Take-up Soft Brake Ass'y (D).
(At this time, do not take off the spring (C).)
 - (2) Hold Lamp Holder Ass'y (A) and pull up to remove the hook (E) from the chassis.
 - (3) Turn the Lamp Holder Ass'y (A) counterclockwise and take out the Lamp Holder Ass'y (A).
2. Start Sensor replacement of sensor PCB PM Ass'y (H).
 - (1) Remove screw (F) and take off the Front Loading PCB Ass'y (I).
 - (2) Remove screw (G) and take off the Sensor PCB RM Ass'y (H).
3. End Sensor replacement of sensor PCB LM Ass'y (J).
 - (1) Remove screw (G) and take off the Sensor PCB LM Ass'y (J).



2-2

DD-1

(4) Full Erase Head / Audio Control Head

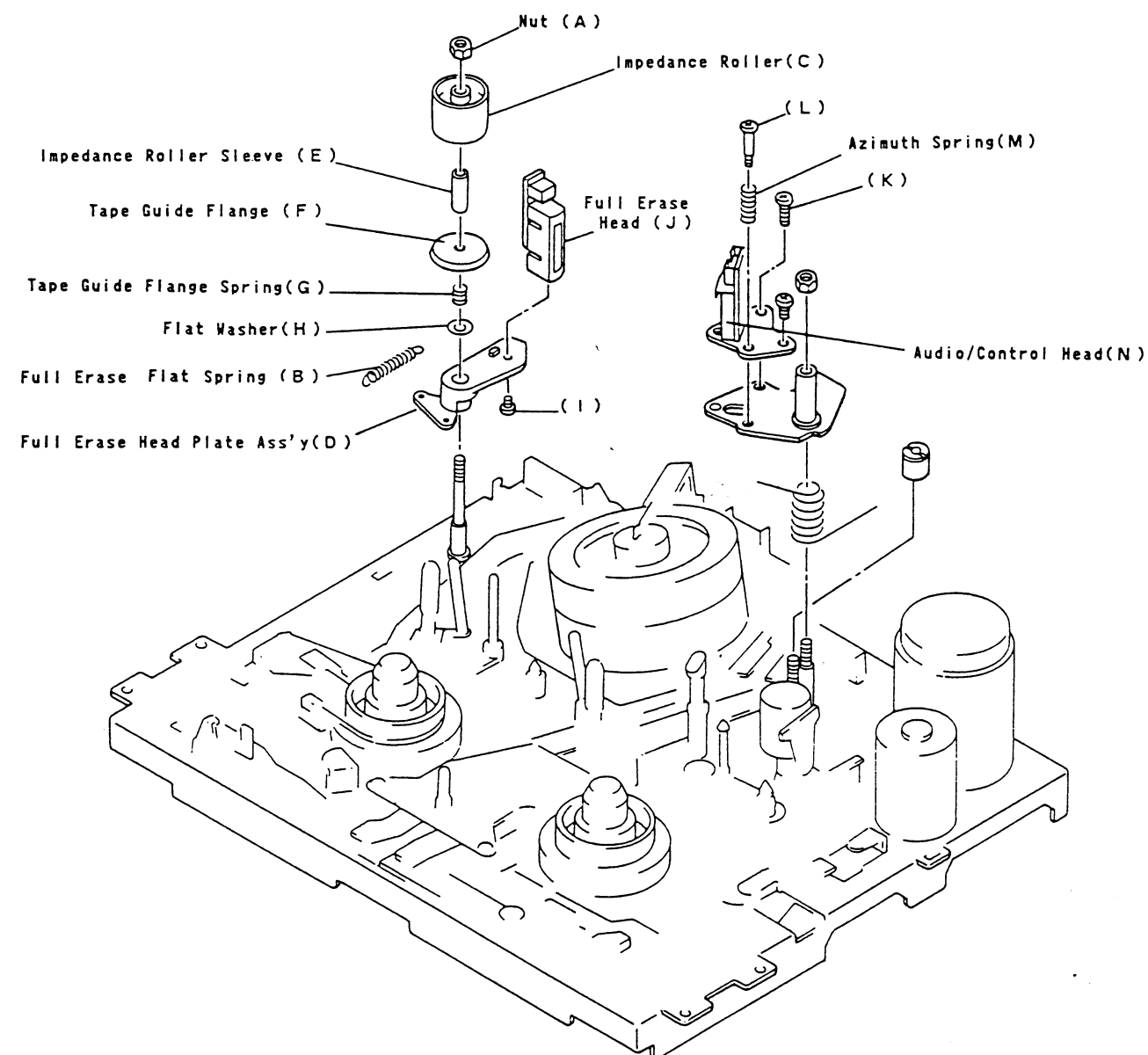
1. Erase Head (except Play Only Model)

- (1) Remove Nut (A).
- (2) Remove Spring (B).
- (3) Take out the Impedance Roller (C), and pull up the Full Erase Head Plate Ass'y (D).
(Carefully not to lose parts (E) (F) (G) (H) at the time of the Full Erase plate removal.)
- (4) Remove screw (I) and take off the Full Erase Head (J).

2. Audio / Control Head

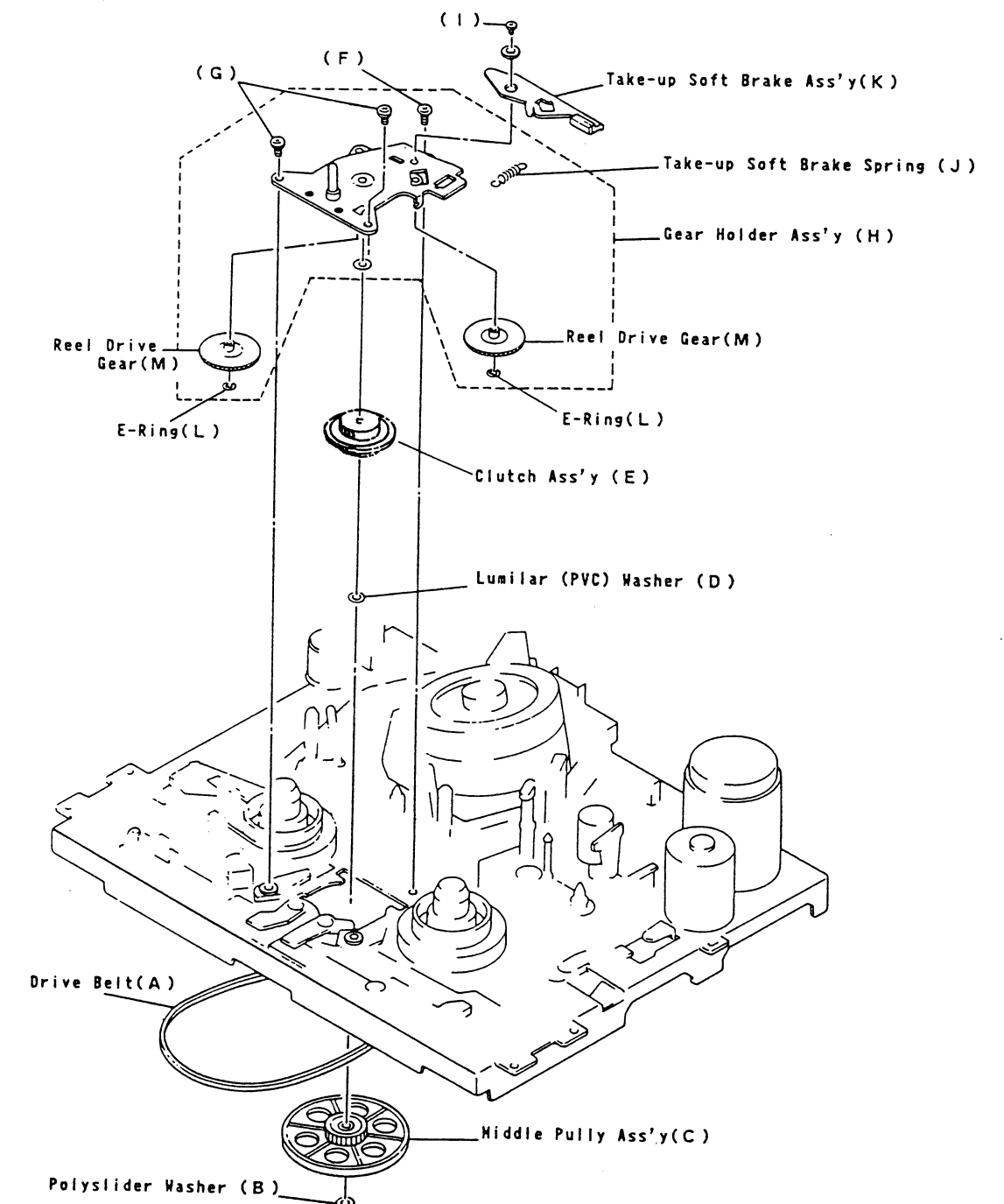
- (1) Remove screw (K), (L) and Azimuth Spring (M).
- (2) Remove Audio/Control Head (N).

Note : When reinstalling the Full Erase Head/Audio Control Head Unit, mechanical adjustment should be performed for proper operation.



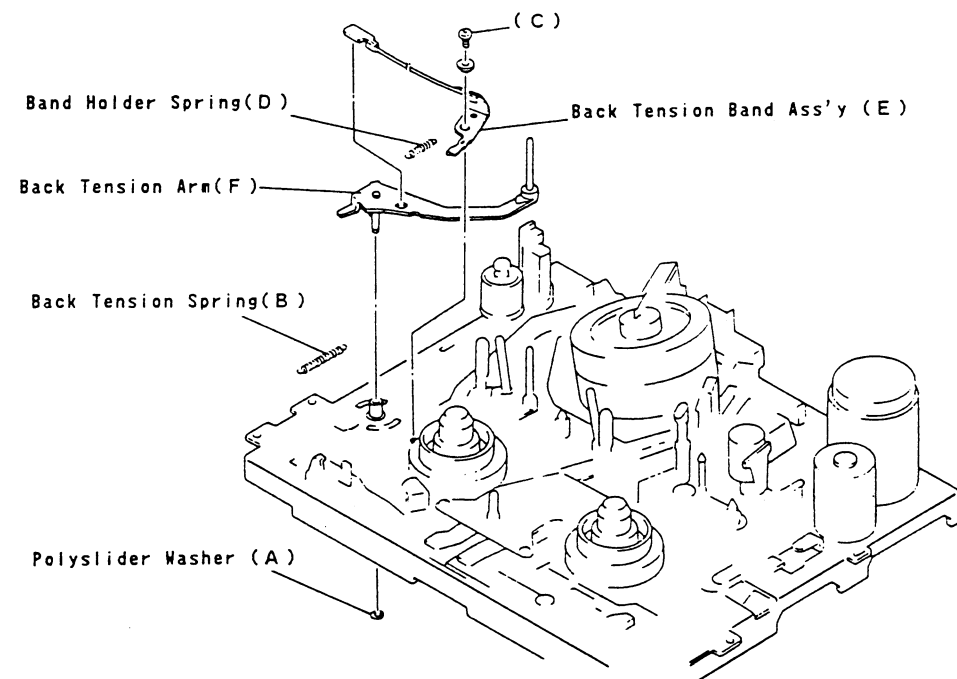
(5) Gear Holder Ass'y

1. Remove the Front Loading Unit (2. (1) on page 2-1).
2. Remove Drive Belt (A).
3. Remove Polyslider Washer (B) and middle Pulley Ass'y (C).
4. Remove Lumilar (PVC) Washer (D) and take off the Clutch Ass'y (E).
5. Remove screw (F) and 2 screws (G) and take off the Gear Holder Ass'y (H).
6. Remove screw (I) and take off the Take-up Soft Brake Spring (J).
7. Take off the Take-up Soft Brake Ass'y (K).
8. Remove 2 E-Rings (L) and take off the 2 Reel Drive Gears (M).



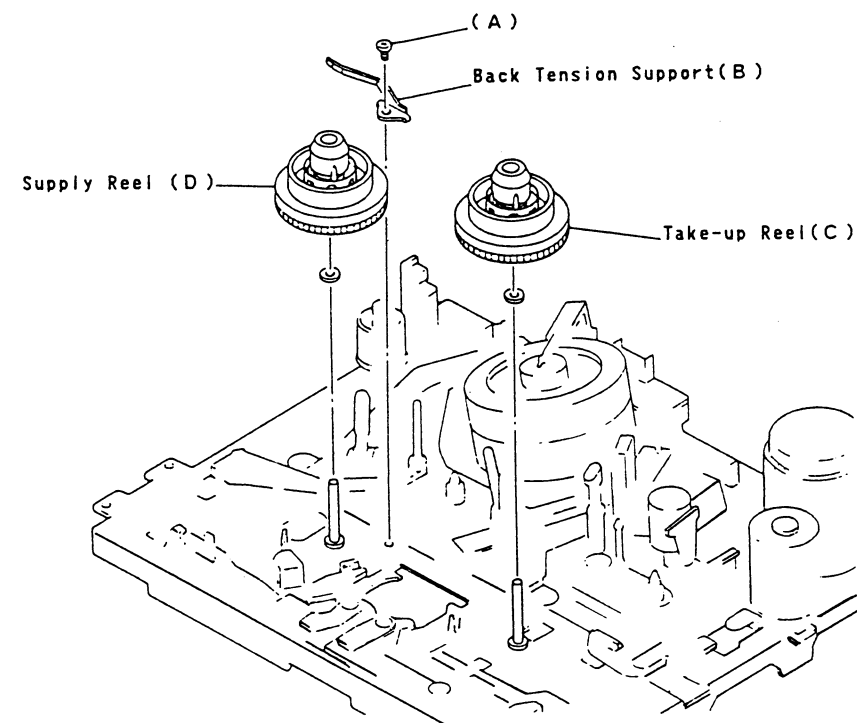
(6) Tension Arm Ass'y

1. Remove the Front Loading Unit (2. (1) on page 2-1).
2. Remove Polyslider Washer (A) and Back Tension Spring (B) from the Back Tension Arm (F).
3. Remove screw (C) and Band Holder Spring (D).
4. Take off the Back Tension Band Ass'y (E) from the Back Tension Arm (F).



(7) Reel (Take-up and Supply)

1. Remove the Front Loading Unit, Gear Holder Ass'y and Back Tension Band Ass'y.
2. Remove screw (A) and the Back Tension Support (B).
3. Remove the Take-up Reel (C) and the Supply Reel (D).

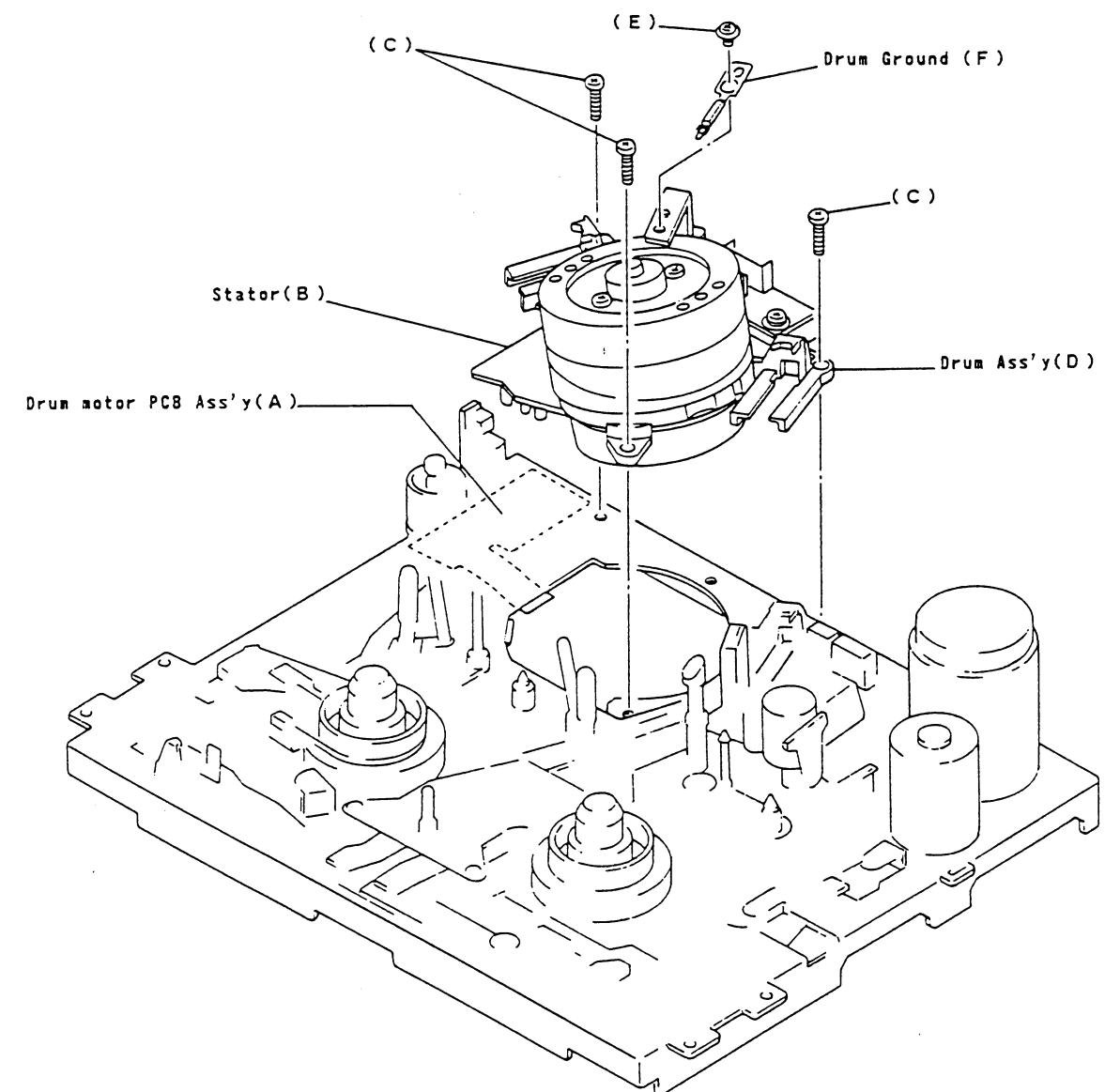


(8) Drum Ass'y

1. Remove the Front Loading Unit (2. (1) on page 2-1).
2. Disconnect the Drum Motor PCB Ass'y (A) from the stator (B).
3. Remove screw (E) and take off the Drum Ground (F).
4. Remove 3 screws (C) and take off the Drum Ass'y (D).

≡Remark≡

Take off the Drum Ass'y (D) carefully do not scratch or damage.

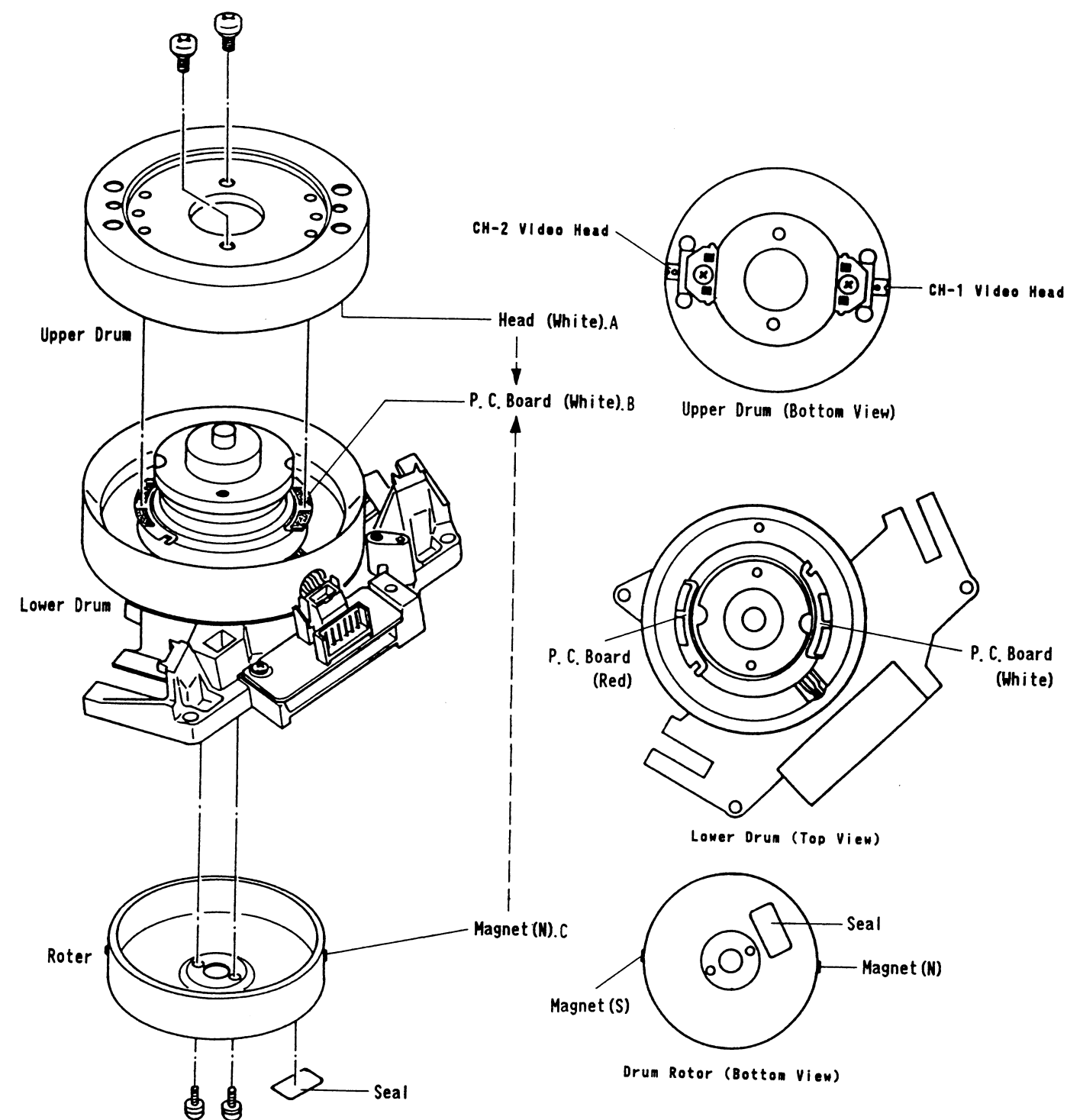
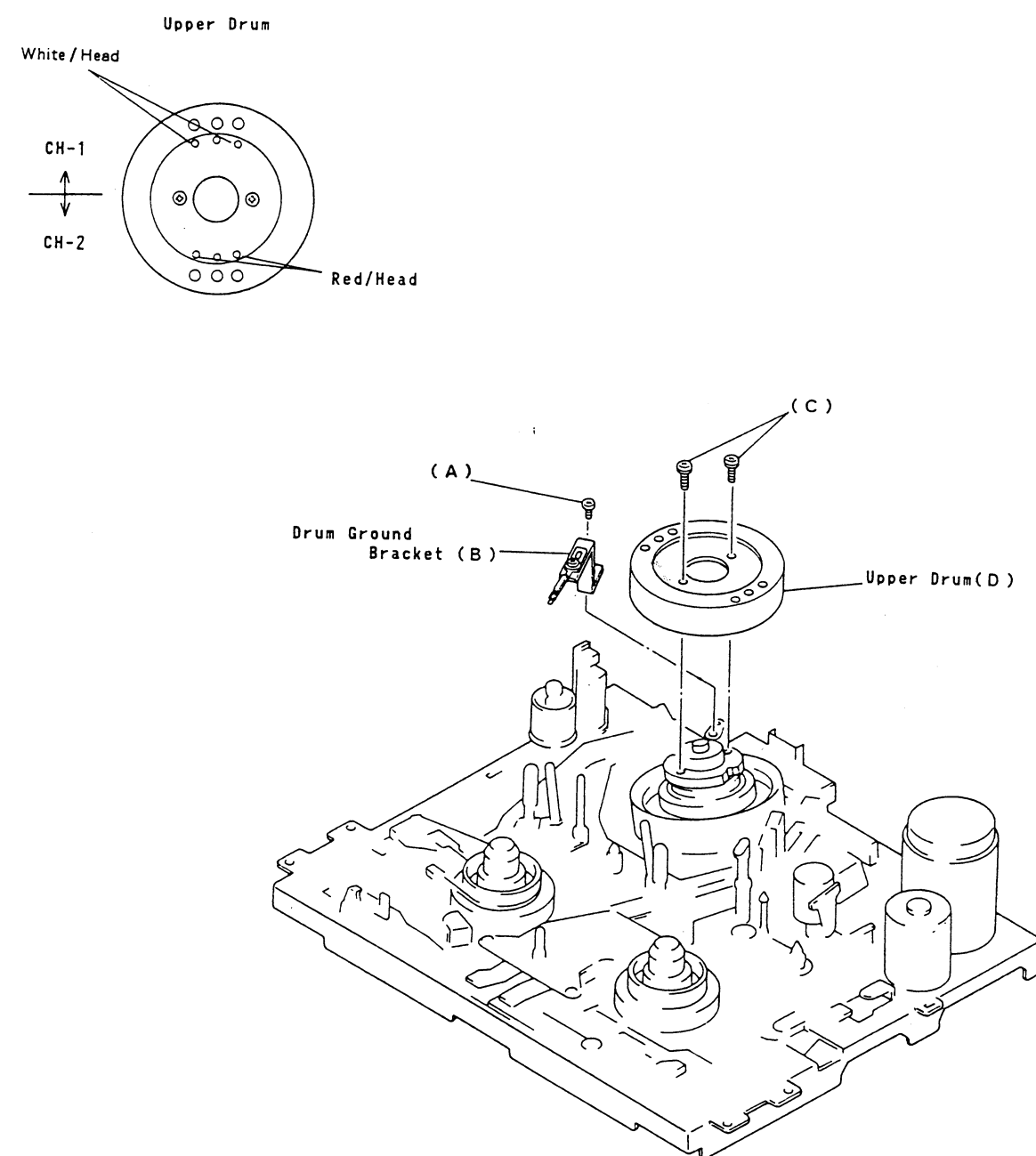


(9) Upper Drum / Reinstallation Upper, Lower Drums and Rotor

1. Remove the Front Loading Unit (2, (1) on page 2-1).
2. Remove screw (A) and take off the Drum Ground Bracket (B).
3. Remove 2 screws (C) and take off the Upper Drum (D).

≡Remark≡

1. Use gloves and do not touch the drum surface with bare fingers.
2. If the Video Head is defective, replace the upper drum with the Head.



≡Remark≡

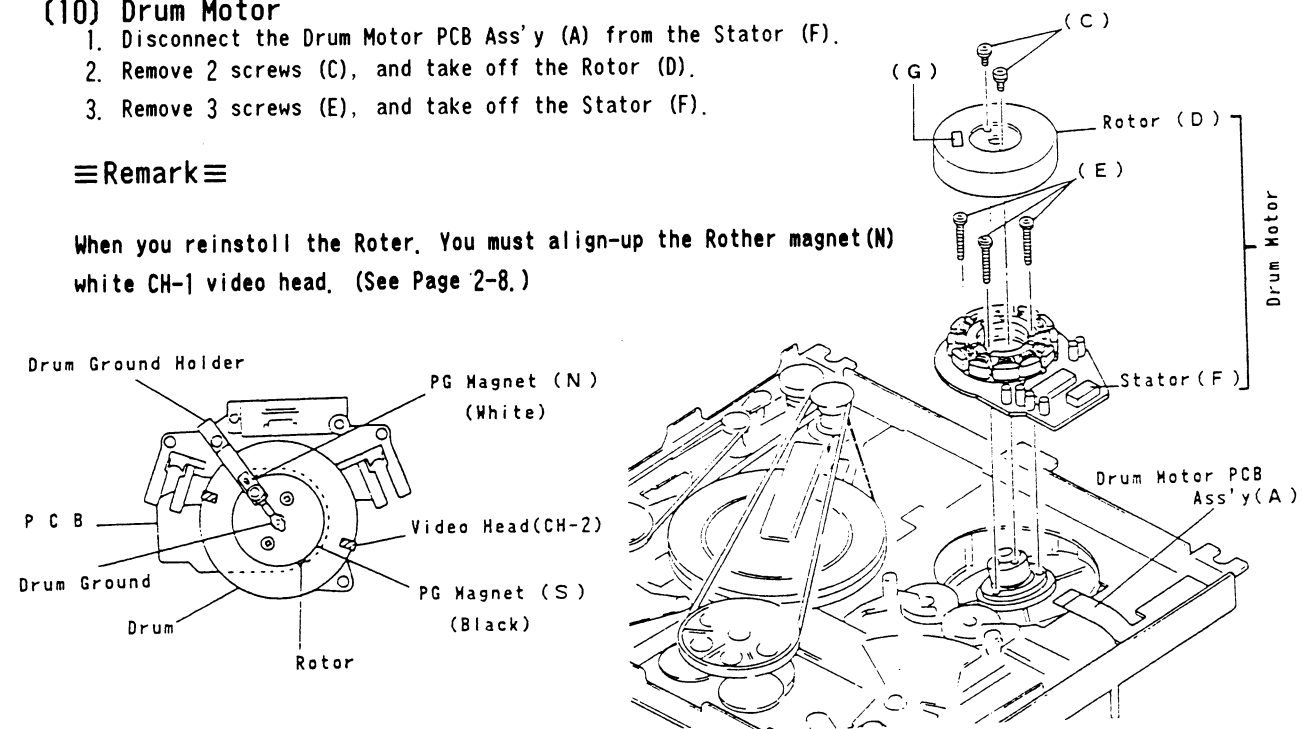
Upper Drum point-A, Lower Drum point-B and Rotor point-C these Points A, B, C, must line-up each other. Otherwise it will creates problem.

(10) Drum Motor

1. Disconnect the Drum Motor PCB Ass'y (A) from the Stator (F).
2. Remove 2 screws (C), and take off the Rotor (D).
3. Remove 3 screws (E), and take off the Stator (F).

≡Remark≡

When you reinstall the Rotor, You must align-up the Rotor magnet(N) white CH-1 video head. (See Page 2-8.)



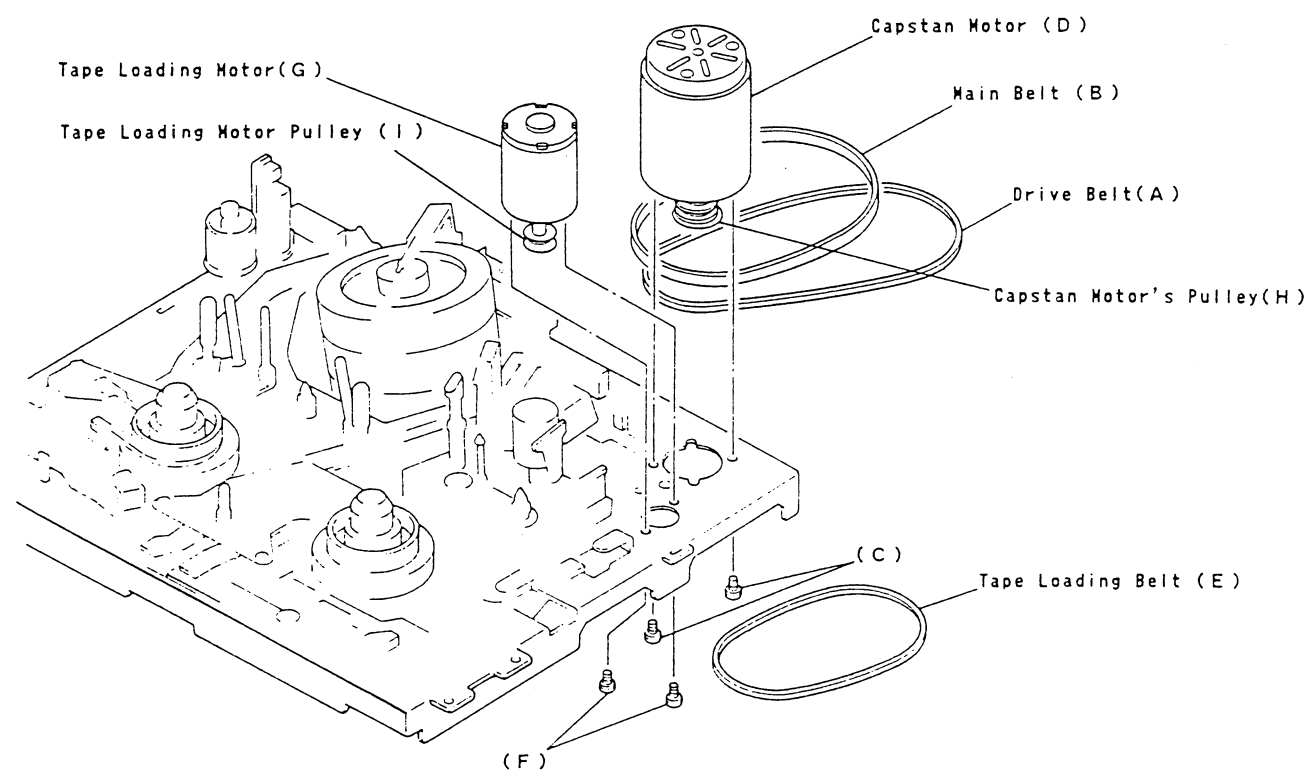
(11) Capstan Motor / Tape Loading Motor

1. Capstan Motor

- (1) Take off the Drive Belt (A) and Main Belt (B) from the Capstan Motor's Pulley (H).
- (2) Remove 2 screws (C), and take off the Capstan Motor (D).

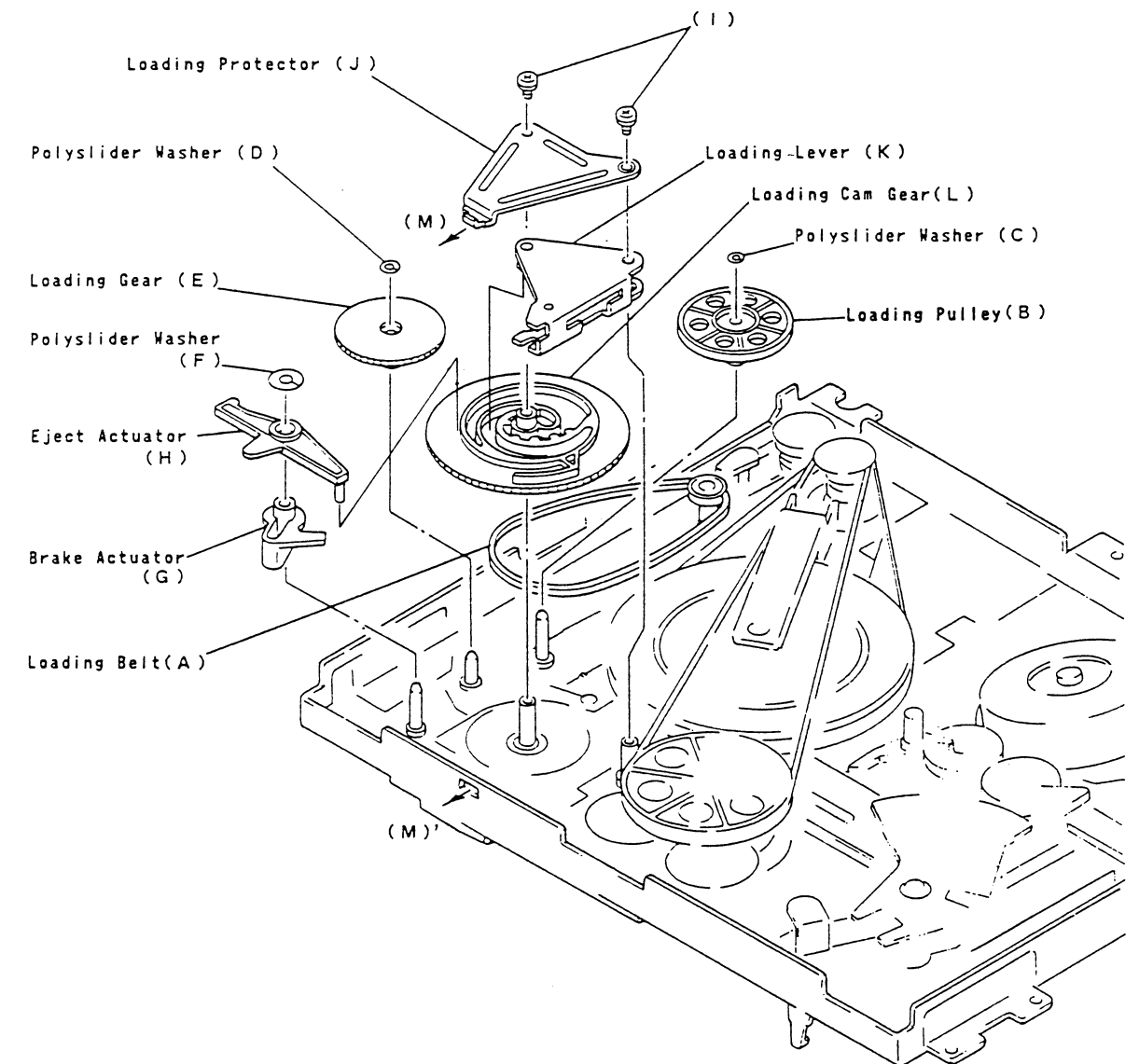
2. Tape Loading Motor

- (1) Take off the Tape Loading Belt (E) from the Tape Loading Motor's Pulley (I).
- (2) Remove 2 screws (F), and take off the Tape Loading Motor (G).



(12) Loading Cam Gear

1. Take off the Loading Belt (A) from the Loading Pulley (B).
2. Remove Polyslider Washer (C), and take off the Loading Pulley (B).
3. Remove Polyslider Washer (D), and take off the Loading Gear (E).
4. Remove Polyslider Washer (F), and take off the Eject Actuator (H) and the Brake Actuator (G).
5. Remove 2 screws (I), and take off the Loading Protector (J) and the Loading Lever (K).
6. Take off the Loading Cam Gear (L).

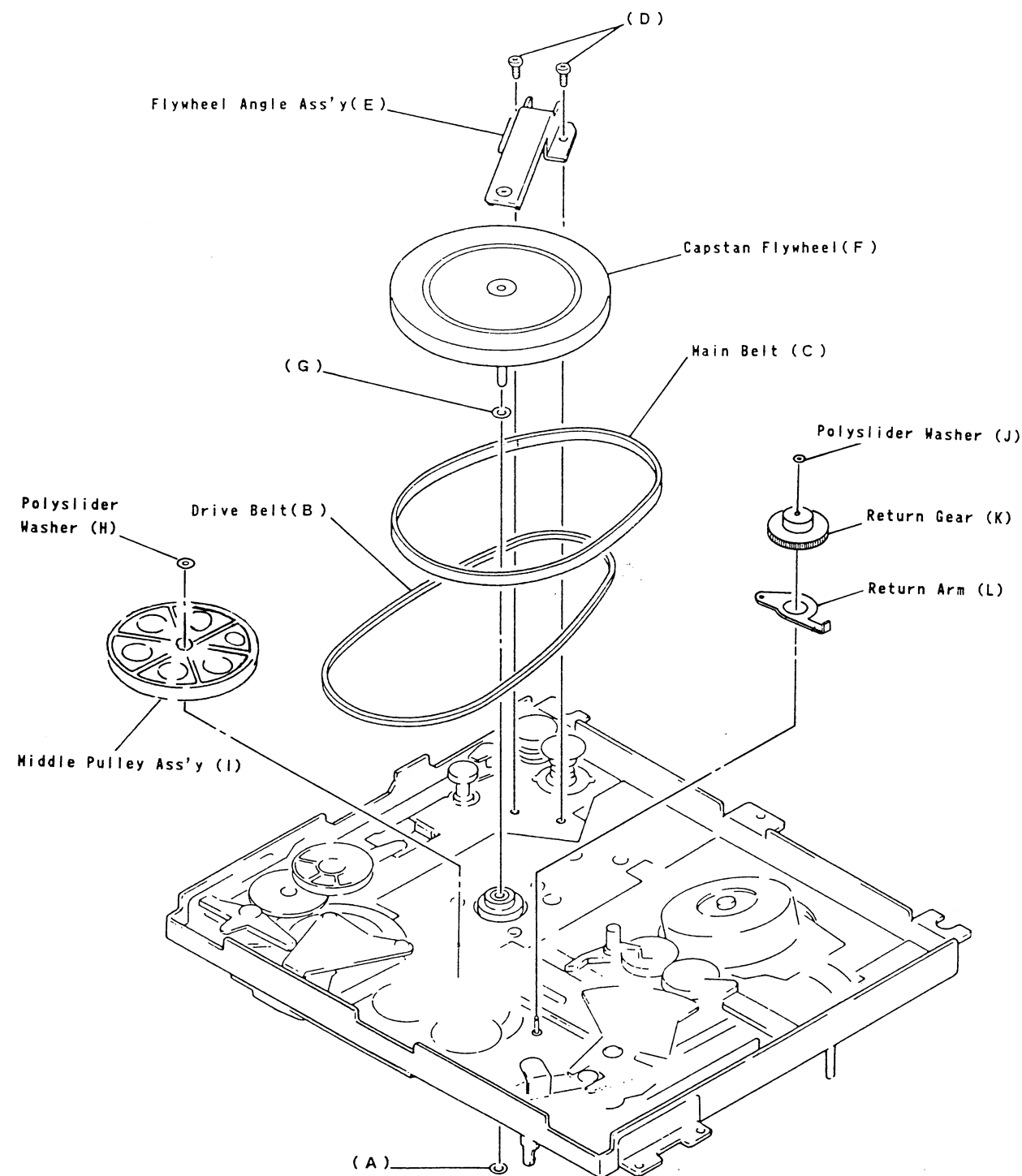


(13) Capstan Flywheel / Return Arm

1. Remove the Washer (A).
2. Take off the Drive Belt (B) and Main Belt (C).
3. Remove 2 screws (D), and Take off the Flywheel Angle Ass'y (E).
4. Take off the Capstan Flywheel (F).
5. Remove Polyslider Washer (H).
6. Take off the Middle Pulley Ass'y (I).
7. Remove Polyslider Washer (J).
8. Take off the Return Gear (K) and Return Arm (L).

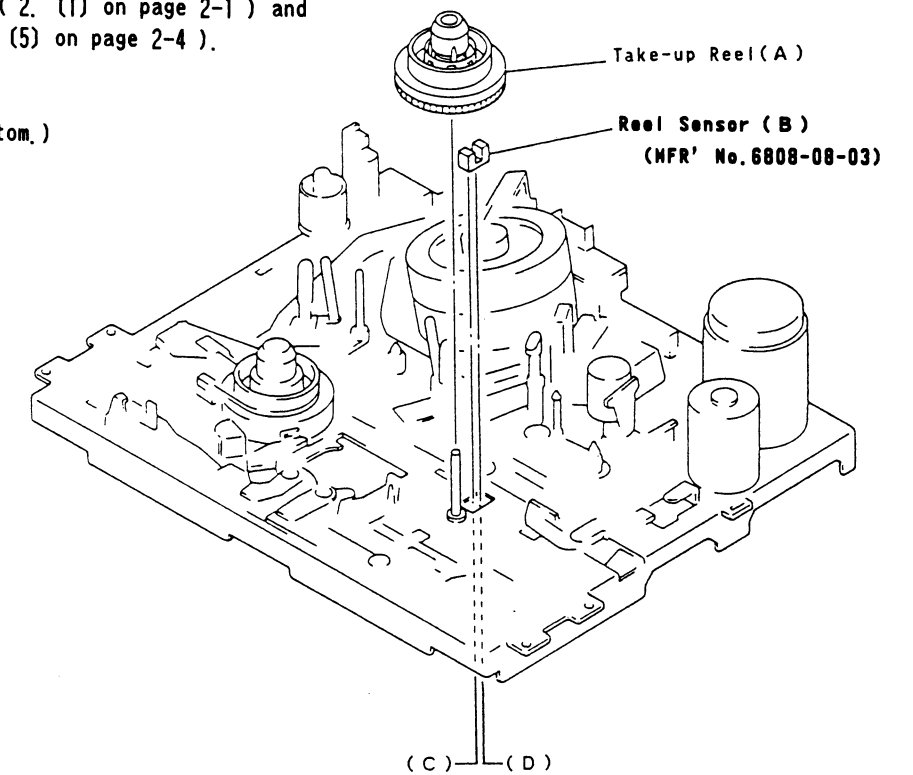
≡Remark≡

Do not miss the Washer (A) and (G) when pulling out the Capstan Flywheel.



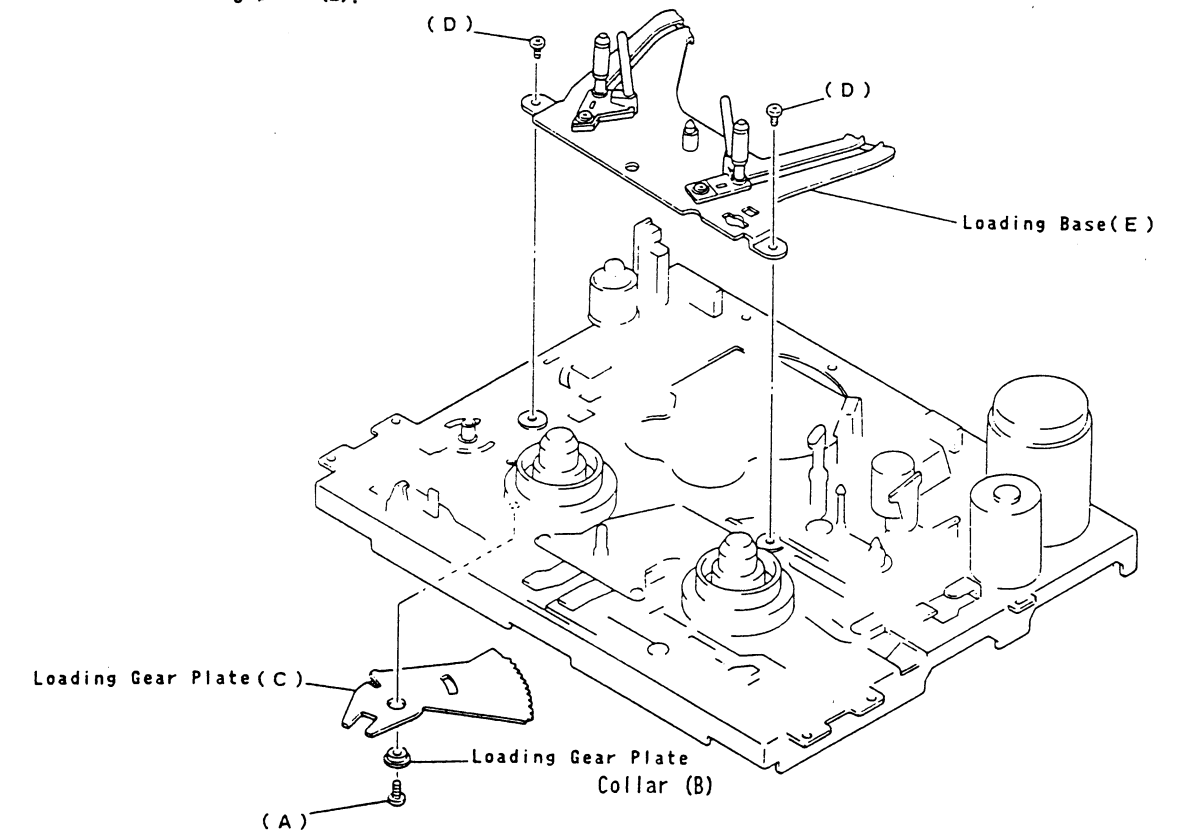
(14) Reel Sensor

1. Remove Front Loading Unit (2. (1) on page 2-1) and the Gear Holder Ass'y (2. (5) on page 2-4).
2. Remove Take-up Reel (A).
3. Remove Reel Sensor (B).
(Unsolder (C), (D) from bottom.)



(15) Loading Base

1. Remove Drum Ass'y, Tension Arm Ass'y and Photo Sensor. (Sensor Lamp)
2. Remove screw (A) and Loading Gear Plate Collar (B), Loading Gear Plate (C).
3. Remove 2 screws (D).
4. Take off the Loading Base (E).



(16) Front Loading Wormwheel Unit

1. Disassembly

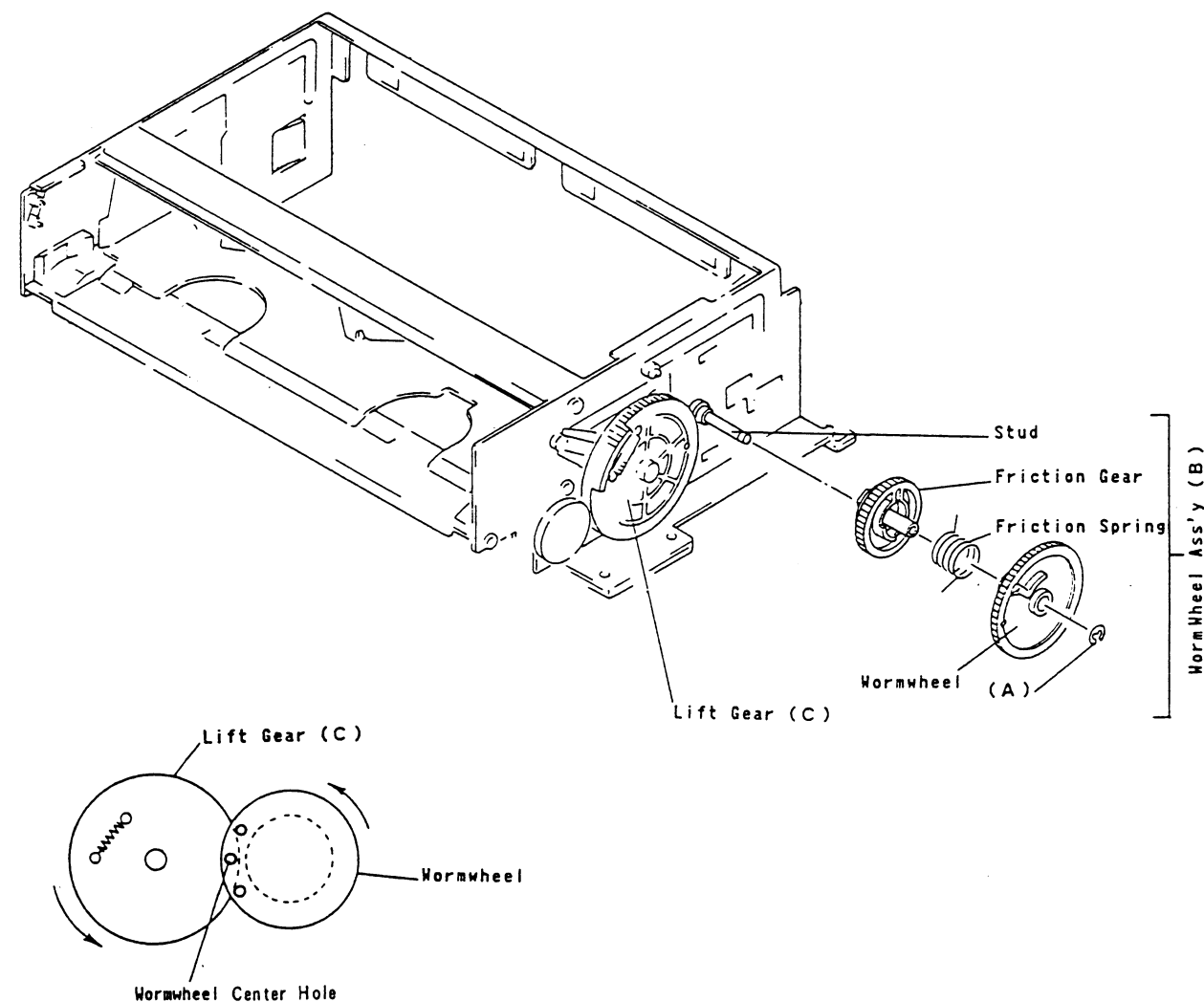
- (1) Remove Front Loading Belt and Bracket Ass'y. (See the Page 2-1 (2))
- (2) Remove E-Ring (A).
- (3) Remove Wormwheel Ass'y (B). (Wormwheel, Friction Spring, Friction Gear)

2. Assembly

- (1) Turn the Lift Gear (C) fully counterclockwise.
- (2) Restore Wormwheel Ass'y (B) to the stud.

≡Remark≡

Align the Lift Gear (C) Hole with Wormwheel Center Hole as illustrated.



3. STANDARD MAINTENANCE

3-1 Service schedule of components

○:Check ●:Change

D e c k		Periodic Service Schedule			
Ref. No.	Parts Name	1000 h	2000 h	3000 h	4000 h
2	Upper Drum	○	●	○	●
134	Pinch Roller (A)		●		●
171	Capstan Motor Assembly		●		●
229	Clutch Assembly		●		●
281	LM Assembly			●	
173	Main Belt		●		●
196	Back Tension Band		●		●
233	Drive Belt		●		●
251	Brake Shoe		●		●
285	Loading Belt		●		●
373	Front Loading Belt		●		●
14	Drum Ground			●	
82	ACE Head			●	
92	Full Erase Head (except Play Only Model)			●	
121	Reel Assembly			●	

Note:

1. Clean all parts for the tape transport.
Upper Drum with video head / Pinch Roller
Audio Control Head / Full Erase Head
2. After cleaning up the parts, perform all DECK ADJUSTMENTS.

3-2 Cleaning

1. Cleaning of Video Head

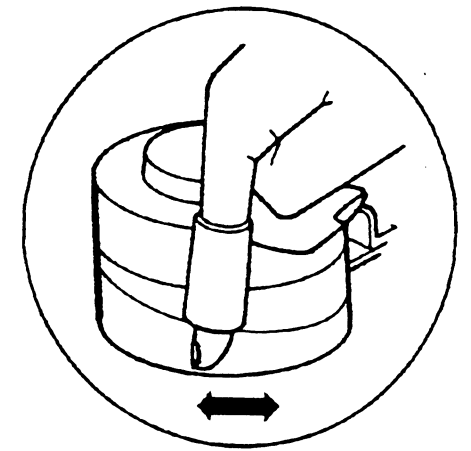
Head cleaning by using a chamois skin.

— Procedure —

- (1) Remove the top cabinet.
- (2) Put on a glove (thin type) to avoid touching the upper drum and lower drum with bare hand.
- (3) Put a few drops of alcohol on the Chamois skin, and by slightly placing it against the head tip, allow the upper drum to turn the right and left.

— Remark —

- (1) The video head is very hard material, but since it is very thin, avoid cleaning it vertically.
- (2) Wait for the cleaned part to dry out before operating the unit.
- (3) Do not reuse the stained chamois skin.



2. Cleaning of Audio Control Head

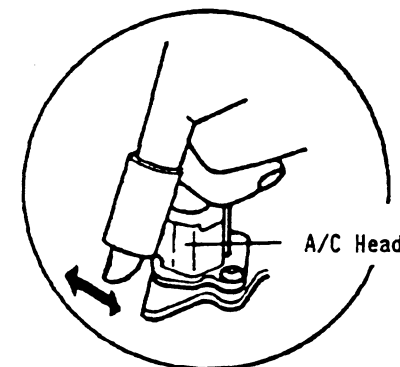
Head cleaning by using a chamois skin.

— Procedure —

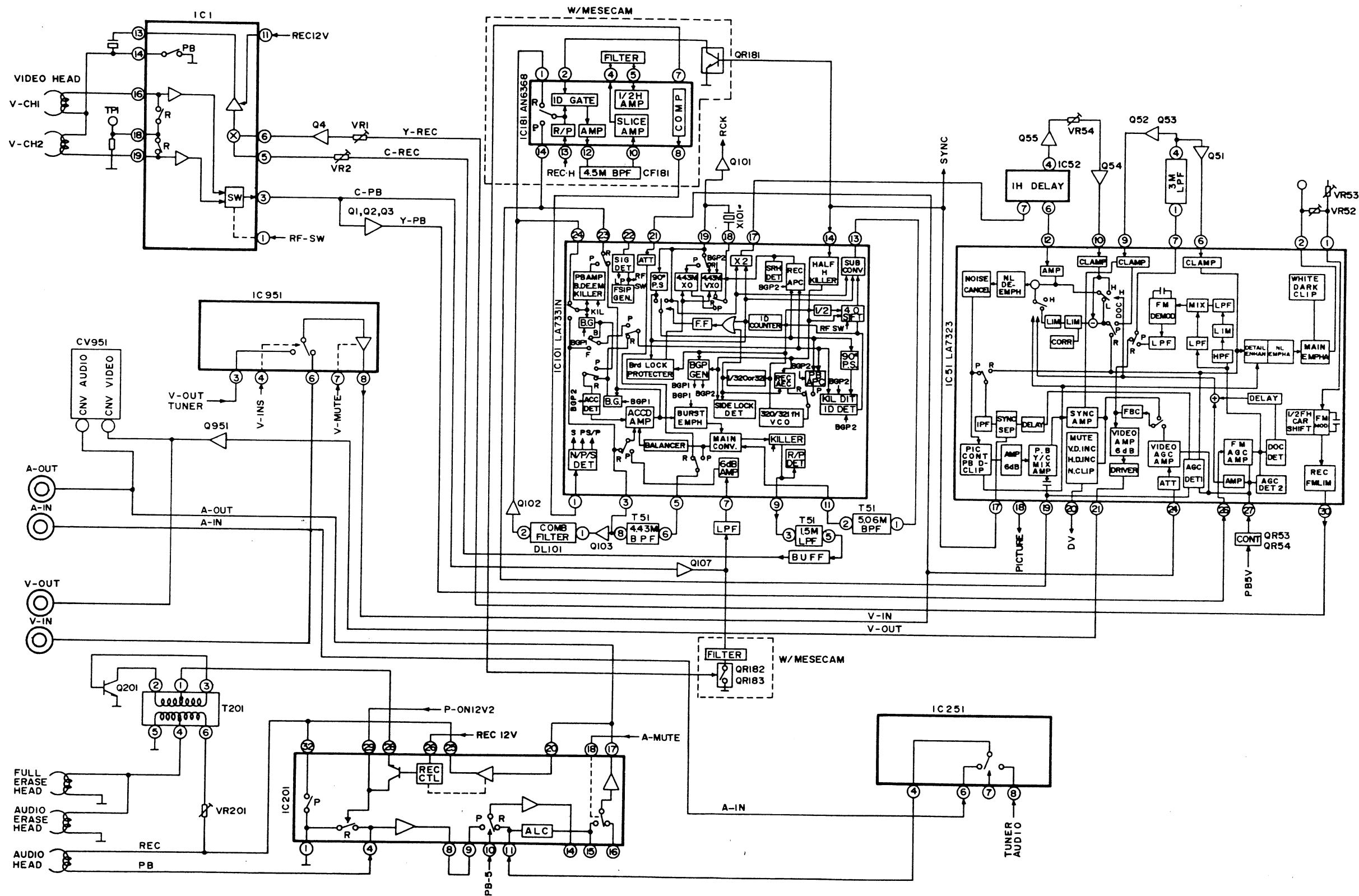
- (1) Remove the Top Cabinet.
- (2) Put a few drops of alcohol on the chamois skin, Clean up the audio control head, being careful not to damage the upper drum and other tape running parts.

— Remark —

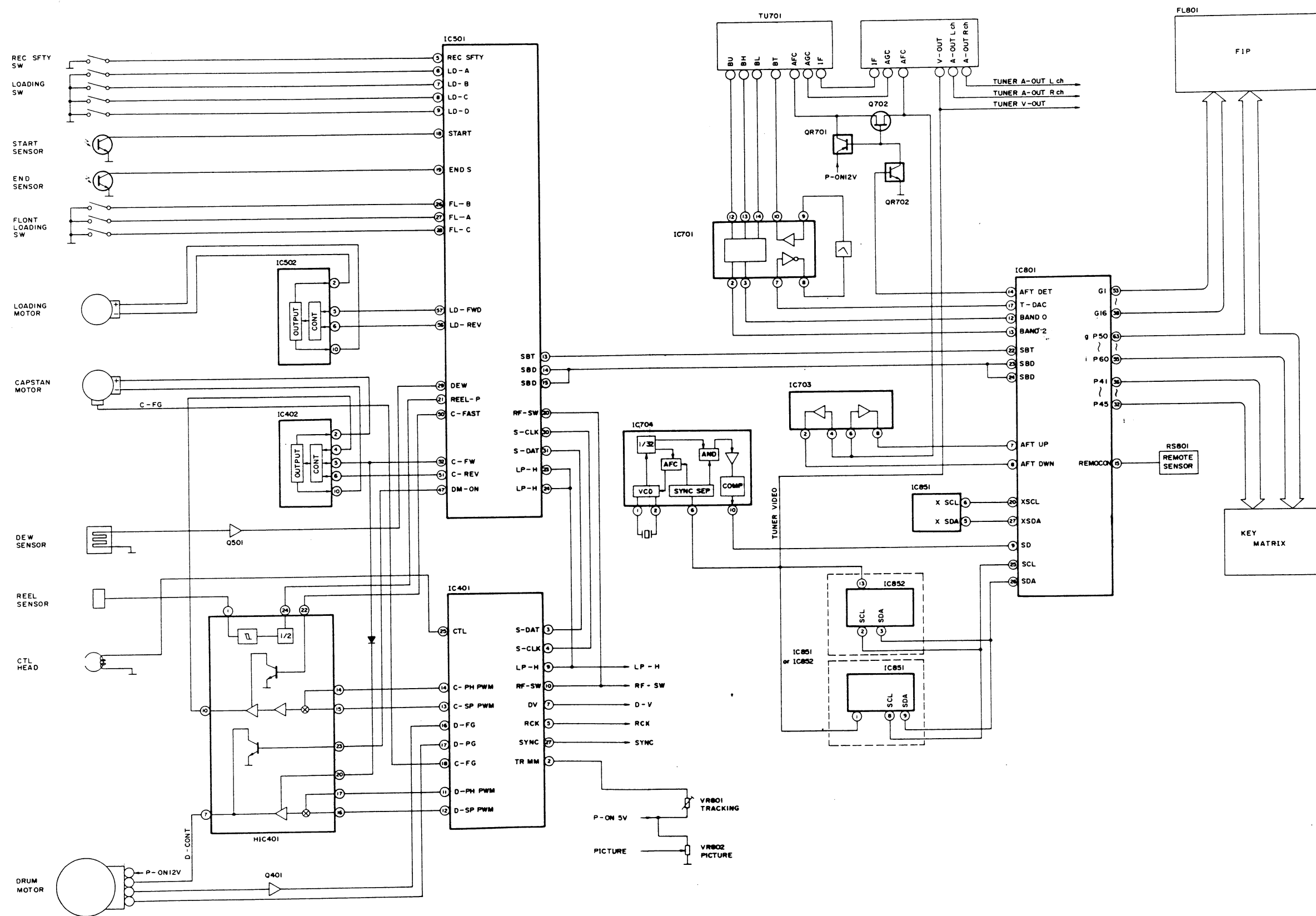
- (1) Avoid cleaning audio control head vertically.
- (2) Wait for the cleaned part to dry well, before operating the unit.



4-1. VIDEO/AUDIO



4-2. SYSCON/SERVO/TIMER



5. IC PIN FUNCTION

14DN363 (SERVO IC)

H : 5V L : 0V

Pin No	IN/OUT	Signal name	Function	Active Level
1	IN	V _{DD}	Power Terminal "H" Input (5V) Digital	H
2	IN	TRMM	Tracking Mono-mult Control (25Hz)	L
3	IN	SDAT	Mode Transfer (Data Signal)	H
4	IN	SCLK	Mode Transfer (Clock Signal)	H
5	IN	RCK	Clock Base (4.43MHz)	2.5V
6	IN	TEST	Test Input (GND)	H
7	OUT	D-V	Dummy V (50Hz)	L
8	OUT	MOD 0	REC Mode	~
9	OUT	MOD 1	REC Mode	~
10	OUT	HSW	Video Head Switch (25Hz)	~
11	OUT	PWM 2	Cylinder Servo Phase Error (34.5kHz)	~
12	OUT	PWM 1	Cylinder Servo Speed Error (69.4kHz)	~
13	OUT	PWM 3	Capstan Servo Speed Error (34.5kHz)	~
14	OUT	PWM 4	Capstan Servo Phase Error (34.5kHz)	~
15	IN	V _{SS}	Power Terminal "L" Input (GND) Digital	L
16	IN	D-FG	Cylinder FG Amp (600Hz)	2.5V
17	IN	D-PG	Cylinder PG Amp (25Hz)	2.5V
18	IN	C-FG	Capstan FG Amp (504Hz)	2.5V
19	IN	RI	Reference Amp	2.5V
20	OUT	V-REF	Reference Amp	2.5V
21	IN	C 1	Control Peak Clamp	2.5V
22	OUT	C 0	Control F/R Amp (25Hz)	2.5V
23	IN	CTLG	Control GND	L
24	IN	CTLA	Play Control Head Amp (Negative Input)	2.5V
25	IN/OUT	CTLH	Play Control Head Amp Positive Input, REC Control Output	2.5V
26	IN	AV	Power Terminal "H" Input (5V) Analog	H
27	IN	V-SYNC	V-Sync Signal (50Hz)	2.5V
28	IN	RF-SW	PG Mono-mult Control	L

14DN513 (IC501, SYSCON IC)

H : 5V L : 0V

Pin No	IN/OUT	Signal name	Function	Active Level
1	IN	Vss	GND	0V
2	IN	SAFT	Power Abnormal Detector	L
3	—	—		—
4	—	—		—
5	IN	R-SAFT	Erasere Prevention Switch	H
6	IN	LD-A	Tape Loading Position Detector	L
7	IN	LD-B	Tape Loading Position Detector	L
8	IN	LD-C	Tape Loading Position Detector	L
9	IN	LD-D	Tape Loading Position Detector	L
10	—	—		—
11	—	—		—
12	—	—		—
13	IN/OUT	SBT	Serial Transfer Timing Clock IN/OUT (between Clock)	L → H
14	IN/OUT	SBD	Serial Transfer Data IN/OUT (between Clock)	H
15	—	—		H
16	IN	RST	Reset	L
17	IN	V-REF	Comparator Input Reference Volatge	—
18	IN	ST-S	Tape Start Position Detector	L
19	IN	END-S	Tape End Position Detector	L
20	IN	RF-SW	Switching Pulse	H/L
21	IN	REEL-P	Control Input Pulse	H/L
22	IN	V-REF	Comparator Output Reference Voltage	—
23	IN	LP/EP-H	Tape Speed	H
24	IN	EP-HWN	Tape Speed	L
25	—	—		—
26	IN	FL-B	Cassette out Detector	L
27	IN	FL-A	Cassette in Start Detector	L
28	IN	FL-C	Cassette down Detector	L
29	IN	DEW	Dew Sensor	L
30	OUT	S-CLK	Servo IC Timing Clock	L → H
31	OUT	S-DATA	Servo IC Data	H/L
32	—	—		—
33	—	—		—
34	—	—		—
35	—	—		—

Pin No	IN/OUT	Signal name	Function	Active Level
36	—	—		—
37	—	—		—
38	—	—		—
39	—	—		—
40	—	—		—
41	—	—		—
42	—	—		—
43	—	—		—
44	—	—		—
45	—	—		—
46	OUT	TV/VCR	TV/VCR Control	H:TV, L:VCR
47	OUT	A-MUTE	Sound Mute Output	H
48	OUT	PAUSE	Pause Control	H
49	OUT	DM-ON	Drum Rotation Output	L
50	OUT	C-FAST	Capstan Motor High Speed	H
51	OUT	C-REV	Capstan Motor Reverse	H
52	OUT	C-FWD	Capstan Motor Forward	H
53	—	—		—
54	—	—		—
55	—	—		—
56	OUT	LD-REV	Tape Loading/Cassette Loading Motor Control	H
57	OUT	LD-FWD	Tape Loading/Cassette Loading Motor Control	H
58	—	—		—
59	OUT	D-REC	Record Control	H
60	OUT	D-PB	Play Contorl	H
61	OUT	P-ON	Power on Contorl	H
62	OUT	OSC-2	Clock Oscillation	1V
63	IN	OSC-1	Clock Oscillation	-1V
64	IN	V _{DD}	Power + 5V	+5V

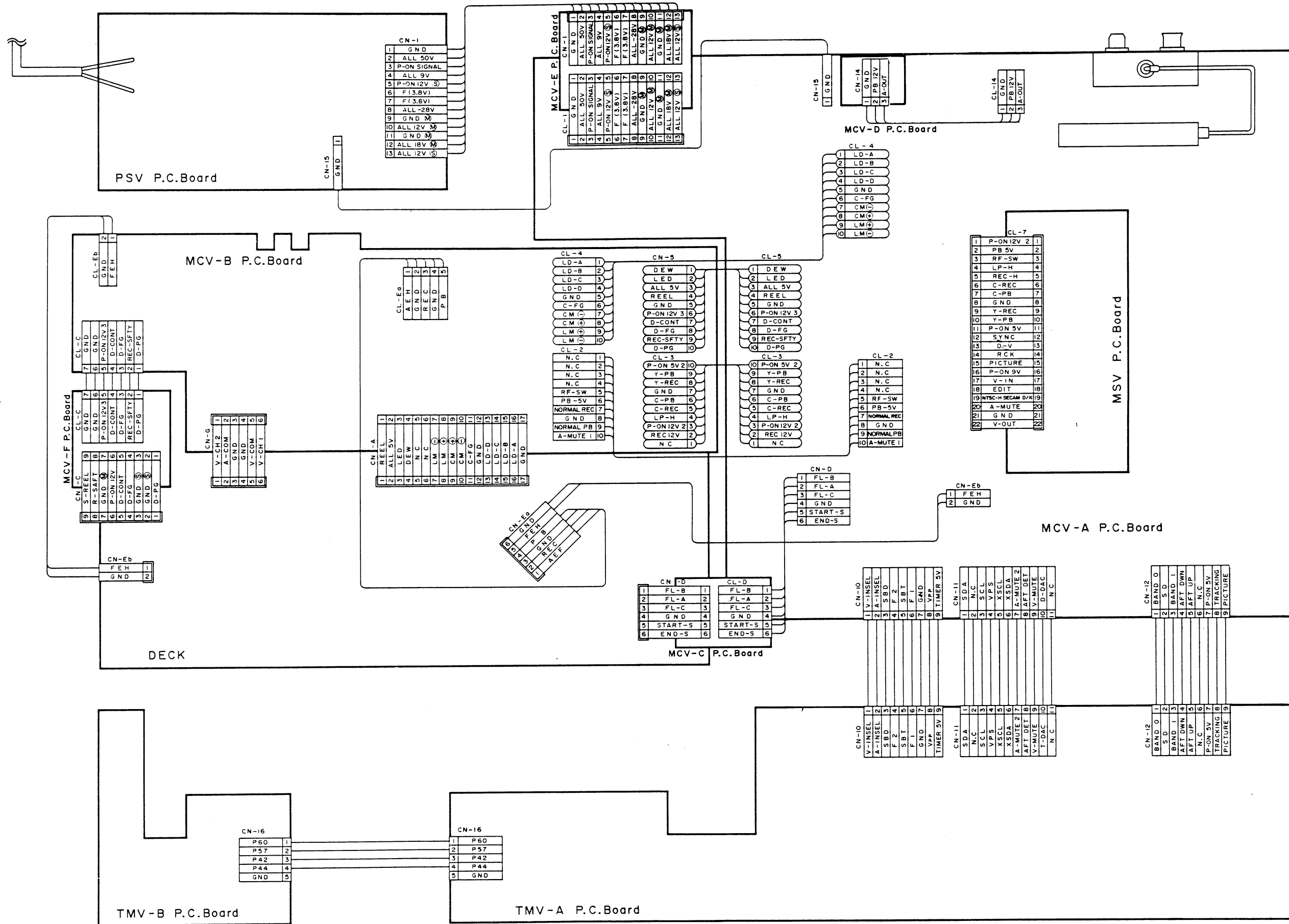
14DN728 (Timer IC)

H : 5V L : 0V

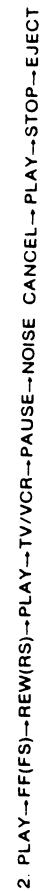
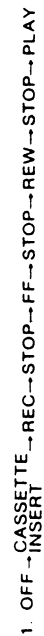
Pin No	IN/OUT	Signal name	Function	Active Level
1	IN	V _{DD}	+ 5 V	+5V
2	OUT	OSC2	Crystal Oscillator (4.19 MHz)	+5V~-28V
3	IN	OSC1	Crystal Oscillator (4.19 MHz)	+5V~-28V
4	IN	V _{SS}	GND	0V
5	IN	X1	Crystal Oscillator (32 kHz)	~
6	OUT	X0	Crystal Oscillator (32 kHz)	~
7	IN	AFT UP	Tuner AFT Voltage Input, "H" at over 8V of AFT Voltage	H
8	IN	AFT DOWN	Tuner AFT Voltage Input, "L" at under 4V of AFT Volatage	L
9	IN	SD	Tuner Video Signal Sync Signal Input, "L" at Sync Signal	L
10	OUT	A-MUTE	Audio Mute Signal	H
11	OUT	V-MUTE	Video Mute Signal	H
12	OUT	BAND 0	Tuner Band Set Signal 0	H
13	OUT	BAND 1	Tuner Band Set Signal 1	H
14	OUT	AFT DEF	AFT Defeat Signal	H
15	IN	REMOCON	Remote Control Signal	H/L
16	IN	POWER DOWN	Power Down Input Signal	L
17	OUT	T-DAC	Tuner Tuning Voltage Control (Serial Data Line 14Bit PWN)	H
18	OUT	A CONT 1	Audio Control 1	H
19	OUT	BUZZER	Buzzer Control Output	H/L
20	OUT	C ₂	VPS Interface Clock	L
21	IN	RESET	System Intialize Signal	L
22	IN/OUT	SBT	Serial Transfer Clock IN/OUT Control Signal (Syscon IC)	L
23	IN	SST	16Bit Serial Transfer Data Input Port (From Syscon IC)	H
24	OUT	STS	8Bit Serial Transfer Data Output Port (To Syscon IC)	H
25	OUT	SCL	MNOS Interface Clock	H
26	—	SDA	VPS Interface Data	H/L
27	—	C ₃	MNOS Interface Data	H
28	OUT	SYNC	Sync Signal Output (128 Hz Clock Signal)	H/L
29	IN	CM	GND	L
30	—	—	—	—
31	—	—	—	—
32	IN	P 45	Key Scan Input Signal	H
33	IN	P 44	Key Scan Input Signal	H
34	IN	P 43	Key Scan Input Signal	H
35	IN	P 42	Key Scan Input Signal	H

Pin No	IN/OUT	Signal name	Function	Active Level
36	IN	P 41	Key Scan Input Signal	H
37	IN	T-SET-OUT	Key Scan Input Data Signal	H
38	OUT	G 16	Display Digit	H/Vp-p
39	OUT	G 15	Display Digit	H/Vp-p
40	OUT	G 14	Display Digit	H/Vp-p
41	OUT	G 13	Display Digit	H/Vp-p
42	OUT	G 12	Display Digit	H/Vp-p
43	OUT	G 11	Display Digit	H/Vp-p
44	OUT	G 10	Display Digit	H/Vp-p
45	OUT	G 9	Display Digit	H/Vp-p
46	OUT	G 8	Display Digit	H/Vp-p
47	OUT	G 7	Display Digit	H/Vp-p
48	OUT	G 6	Display Digit	H/Vp-p
49	OUT	G 5	Display Digit	H/Vp-p
50	OUT	G 4	Display Digit	H/Vp-p
51	OUT	G 3	Display Digit	H/Vp-p
52	OUT	G 2	Display Digit	H/Vp-p
53	OUT	G 1	Display Digit	H/Vp-p
54	OUT	A CONT 2	Audio Control 2	H
55	OUT	i P 60	Display Segment / Key Scan Output Signal	H
56	OUT	h P 57	Display Segment / Key Scan Output Signal	H
57	OUT	a P 56	Display Segment / Key Scan Output Signal	H
58	OUT	b P 55	Display Segment / Key Scan Output Signal	H
59	OUT	c P 54	Display Segment / Key Scan Output Signal	H
60	OUT	d P 53	Display Segment / Key Scan Output Signal	H
61	OUT	e P 52	Display Segment / Key Scan Output Signal	H
62	OUT	f P 51	Display Segment / Key Scan Output Signal	H
63	OUT	g P 50	Display Segment / Key Scan Output Signal	H
64	IN	V _{pp}	-28 V Input	-28V

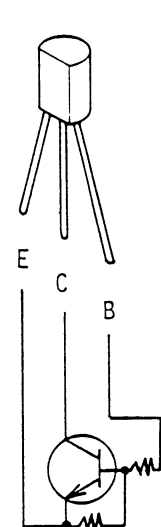
6. WIRING DIAGRAM



7. SYSTEM CONTROL TIMING CHART



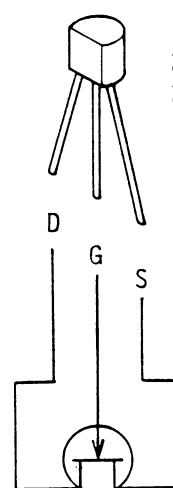
8. LEAD IDENTIFICATION



2SA608
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2SC536

2SC1740
2SC1741
2SC2058
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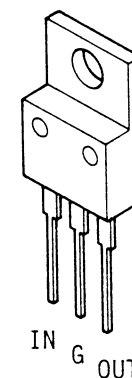


2SK128
2SK304



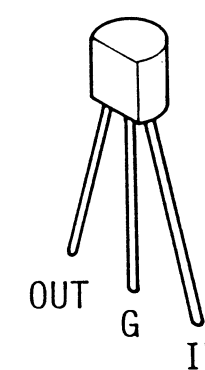
L5631

A: Anode
C: Cathode



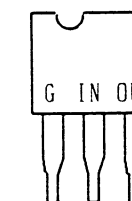
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AN7818
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AN78M05
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NJM78M05

μ pc7812
 μ pc7805
 μ pc7818
 μ pc78M05

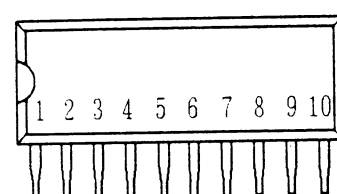


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 μ pc78L05J
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PST529C-2

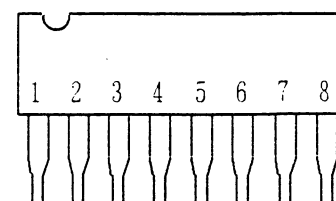
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NJM78L18



MN1280



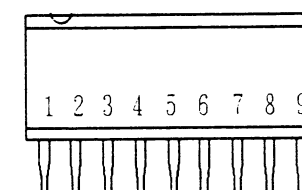
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BA6209N



AN6913
BA7001
BA6993N
LA6393S

NJM2903S
NJM2233BL
BA15218N
BA10393N

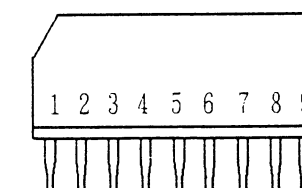
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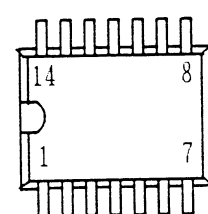
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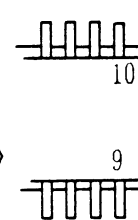
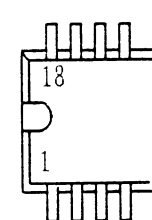
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NJM2235S
LVA521S



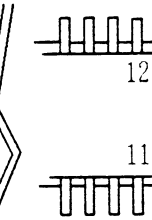
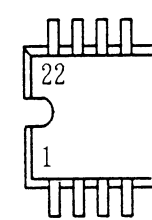
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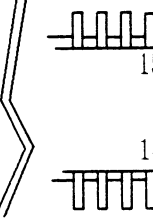
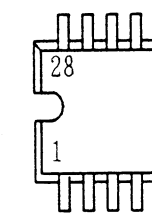
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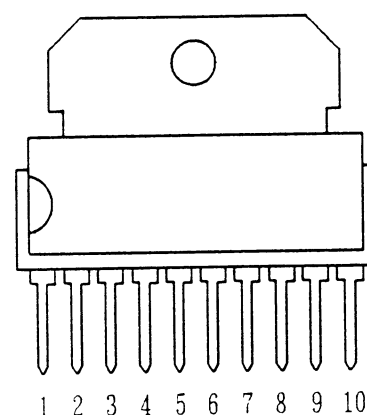


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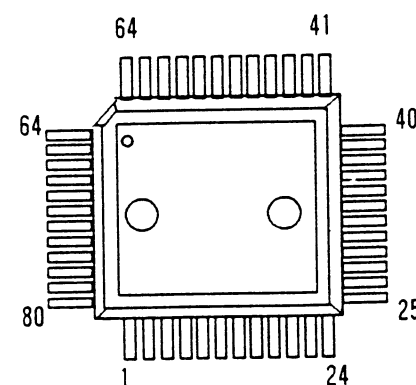
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FEVSE14DN363

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SDA5232
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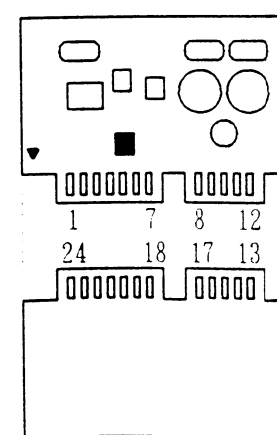


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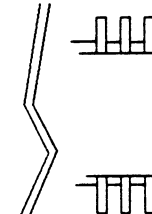
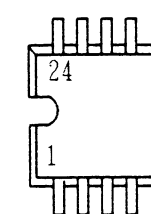
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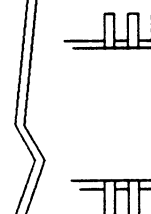
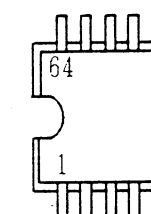
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HIC401
(SERVO)

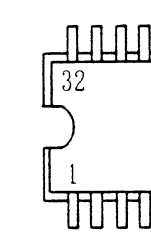


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LA7331

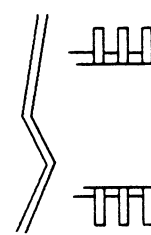
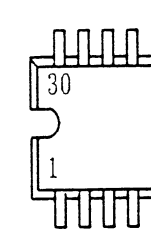


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FEVT114DN771
FEVT114DN728



BA7767
AN3932



AN3330K
BA6800AS
LA7096
14LN392
LA7326

LA7323
14DN264

[PARTS LIST SECTION]

1. PARTS LIST

1-1. PARTS LIST (CABINET/FRONT)

REF. NO.	DESCRIPTION	PART NO.
A- 1X	FRONT ASS'Y	0VM100199
A- 1	FRONT PANEL ASS'Y	0VM100199X
A- 2	DOOR, TIMER	0VM200715
A- 4	PLATE, TIMER	0VM300811
A- 6	LATCH	6D51218
A- 7	CUSHION, DOOR	0VM400346
A- 7	PANEL, BOTTOM	0VM200017
A- 8	DOOR, CASSETTE	0VM402250
A- 10	SPRING, DOOR	6V50109
A- 11	FOOT	6E50453
A- 12	BUTTON, PLAY	0VM400751
A- 13	BUTTON, STOP	0VM400752
A- 15	BADGE	6D52254
A- 16	CASE, TOP	0VM100007
A- 18 ▲	LABEL, RATING	0VM402587
A- 19	JACK BOARD	0VM300651
A- 21	SPACER	0VM400719
B1- 1	DECK ASS'Y TN5900P1NRM554	0VDK00085
B2- 1	CHASSIS	0VM100066
B2- 3	METAL GROUND (L) (V3)	6S50356
B2- 4	PLATE, GROUND :PCB(V3)	6S50367
B2- 12	PLATE, GROUND(U1)	0VM400481
B2- 13	HEAT SINK	0VM300245
B2- 14	HOLDER STOPPER (B)	6S50286A
B2- 15	HOLDER F.I.P.	0VM300086
B2- 16	HEAT SINK	6S50354
B2- 17	SHIELD, BOTTOM	6S50457
B2- 18	SHIELD, TOP ASS'Y	0VM400705
B2- 21	SPACER, DECK	0VM401389
B2- 22	CUSHION	0VM400836
L 202	SCREW, P-TIGHT, WASHER HEAD M3X10	GCMP3100
L 204	SCREW, CE-TIGHT, TRAS HEAD M4X8	GZMC408
	SCREW, E-TIGHT, TRAS HEAD M4X8	GTMC408
L 205	SCREW, P-TIGHT, BIND HEAD M4X12	GBKP4120
L 206	P TIGHT SCREW M4X12 BIND +	GBMP4120
L 208	P TIGHT SCREW M3X10 BIND +	GBMP3100
L 209	P-TITE M3X3	23X9251
L2011	P TIGHT SCREW 3X10 BIND +	GBMP3100
L2013	P TIGHT SCREW 3X10 BIND +	GBMP3100
L2015	P TIGHT SCREW 3X10 BIND +	GBMP3100
L2016	P TIGHT SCREW 3X10 BIND +	GBMP3100
L2017	SCREW, TAPPING, BIND HEAD M3X8	GBMP3080
L2031	SCREW, TAPPING, BIND HEAD M3X10	DBM13100
L2032	SCREW, TAPPING, BIND HEAD M3X10	DBM13100
▲	OWNER'S MANUAL K2309PA	0VMN00687
	REMOCON BOX RRT2000-5702R	1813081
	DRY BATTERY UM-3(M) 2PCS PACK	1790849
	DRY BATTERY UM3/RS6 2PCS PACK	579W099
	RF CABLE PAL 1.5M	1750967
	RF CABLE PAL 1.5M	5750109
	RF CABLE PAL 1.5M	5750421

REF. NO.	DESCRIPTION	PART NO.

1-2. PARTS LIST (DECK)

Ref No.	Description	Parts No.	Q' ty
1	Cylinder Assembly	8059-72-40A	1
2	Drum, Upper	8059-01-19	1
3	Drum Assembly, Lower	8059-01-304	1
4	Mount, Cylinder	8059-01-01	1
5	P.C.B. Assembly, Video Out	8059-01-305	1
6	Screw, W Sems, M2.6 × 6	9973-00-00	1
7	Motor TM84	6004-09-02	1
8	Screw, C-Tight, M2.6 × 20	9055-00-00	3
9	Screw, Sems, M2.6 × 6	9098-00-00	2
10	Screw, Bind Sems, M3 × 8	9972-00-00	2
12	Screw, B-Tight M2 × 6	9999-18-18	1
13	Screw, Cap, M2.6 × 3	9665-00-00	1
*14	Flat Spring, Drum Ground	8059-01-54	1
15	Screw, C-Tight, M2.6 × 5	9192-00-00	1
16	Bracket, Drum Ground	8059-01-02	1
*19	Drum Ground	8059-01-23	1
20	Washer, Toothed Lock, M2.6	9715-00-00	1
11	Screw, C-Tight, M3 × 10	9205-00-00	3
17	P.C.B. Assembly, DM	8059-01-347	1
18	Screw, C-Tight, M2.6 × 5	9192-00-00	1
21	Not used		
22	Not used		
23	Connector Bracket	8059-01-71	1
24-31	Not used		
32	Open Angle	8059-02-301	1
33	Screw, C-Tight, M2.6 × 4	9191-00-00	1
34	Adjuster, Tracking	8059-02-29	1
35	Guide, Tape	8000-03-14	1
36	Spring, Tape Guide	8059-02-26	1
37	Cap, Guide	8000-03-19	1
38	Flange (C), Tape Guide	8000-03-28	1
39	Flange (D), Tape Guide	8000-03-29	1
40	Nut M3.0	9453-00-00	1
41	Rubber, Damper	8059-02-23	1
42-50	Not used		
58	Screw, C-Tight, M2.6 × 5	9192-00-00	2
67	Loading Base Assembly	8059-03-301	1
51	Loading Base	8059-03-501	1
52	Block (L), Loading	8059-03-04	1
53	Block (R), Loading	8059-03-05	1
54	Roller Post ST	8000-03-37	1
55	Roller Post ST	8000-03-37	1
56	Screw, Cup, M2.6 × 3	9665-00-00	2
57	Screw, Set, M2.0 × 3 (Plane Type)	9550-00-00	2
60	Boss, Loading	8059-03-14	2
66	Washer, Polyslider, $\phi 2.6 \times \phi 6 \times t 0.5$	9884-00-00	2
68	Loading Gear (L) Assembly	8059-03-302	1
59	Plate (L), Loading	8059-03-502	1
61	Spring (L), Loading Gear	8059-03-08	1
62	Gear (L), T Loading	8059-03-06	1

* Items 14 and 19 must be replaced together.

Ref No.	Description	Parts No.	Q' ty
69	Loading Gear (R) Assembly	8059-03-303	1
63	Plate (R), Loading	8059-03-503	1
64	Spring (R), Loading Gear	8059-03-09	1
65	Gear (R), T Loading	8059-03-07	1
70-80	Not used		
81	Head Base Assembly	8059-04-308	1
82	Head, ACE	6204-15-06	1
83	Base, Head	8059-04-502	1
84	Screw, Azimuth Spring	8000-06-26	1
85	Spring, Azimuth	8000-06-04	1
87	Not used		
88	Screw, M2.6 × 7	9705-00-00	1
89	Screw, Set, M3 × 6	9999-20-25	1
86	Nut, Nylon M3	9953-00-00	1
90	Spring, Head	8059-04-15	1
91	Plate Assembly, Full Erase	8059-04-302	1
92	Head, Full Erase	6204-15-03	1
93	Plate, Full Erase	8059-04-04	1
94	Screw, Flange Bind, M2 × 3	9114-00-00	1
95	Nut, Nylon M3	9953-00-00	1
96	Roller, Impedance	8059-04-05	1
97	Sleeve, Impedance Roller	8059-04-06	1
98	Flange (A), Tape Guide	8059-04-07	1
99	Spring, Tape Guide Flange	8059-04-09	1
100	Washer, Plane, $\phi 3 \times \phi 8 \times t 0.5$	9337-00-00	1
101	Spring, FE Plate	8059-04-08	1
102	Plate, FE Slide	8059-04-10	1
103	Spring, FE Actuate	8059-04-12	1
104	Lever, FE Actuate	8059-04-11	1
105	Washer, Polyslider, $\phi 2.1 \times \phi 5 \times t 0.5$	9876-00-00	1
106-120	Not used		
121	Reel Assembly	8059-05-301	2
122	Washer, $\phi 3.1 \times \phi 6 \times t 0.5$	9912-00-00	2
123-130	Not used		
131	Arm Assembly, Pinch Roller	8059-06-301	1
132	Arm Pinch Roller	8059-06-501	1
133	Screw, M2.6 × 4	9038-00-00	1
134	Roller (A), Pinch	8000-09-22	1
135	Washer, Polyslider, $\phi 5 \times \phi 8 \times t 0.5$	9999-03-11	1
136	Screw, Sems, M2.6 × 4	9096-00-00	1
137	Collar	8059-06-18	1
138	Angle, P Actuate	8059-06-05	1
139	Holder, P Angle	8059-06-19	1
140	Spring, P Roller	8059-06-20	1
141	Plate (A), P Slide	8059-06-24	1
142	Collar	8059-06-18	1
143	Screw, C-Tight, M2.6 × 5	9192-00-00	1
144	Joint Plate	8059-06-06	1
145	Arm, P Actuate	8059-06-04	1
146	Spring, P Actuate Arm	8059-06-09	1
147	Crank, P	8059-06-12	1
148	Collar, P Crank	8059-06-13	1
149	Screw, C-Tight FH (For Camera), M2.6 × 4	9999-18-10	1

Ref No.	Description	Parts No.	Q' ty
150	Slider, P	8059-06-10	1
151	Spring, P Slider	8059-06-23	1
152	Collar, P Slider	8059-06-11	1
153	Screw, C-Tight, M2.6X5	9192-00-00	1
154	Lever, P Cam	8059-06-502	1
155	Collar, P Cam Lever	8059-06-17	1
156	Screw, C-Tight, M2.6X5	9192-00-00	1
157	Plate (B), P Slide	8059-06-25	1
158-170	Not used		
171	Motor Assembly, Capstan	8059-07-302	1
177	Housing Assembly, Metal	8059-07-301	1
178	Screw, C-Tight, M2.6X8	9195-00-00	3
179	Screw, Sems, M3 X4	9105-00-00	2
180	Nylon Washer $\phi 2.92 \times \phi 5 \times t 0.5$	9999-06-03	1
172	Capstan, Flywheel	8059-07-14	1
173	Belt, Main	8059-07-10	1
174	Angle Assembly, Flywheel	8059-07-303	1
175	Screw, C-Tight, M3X5	9202-00-00	2
176	Washer, $\phi 3.1 \times \phi 6 \times t 0.5$	9912-00-00	1
181-190	Not used		
191	Arm, Back Tension	8059-08-501	1
192	Screw, C-Tight, M2.6X4	9191-00-00	1
193	Support, Back Tension	8059-08-09	1
194	Screw, C-Tight, M2.6X4	9191-00-00	1
195	Collar, Band Holder	8059-08-15	1
196	Band, BT	8059-08-302	1
197	Spring, Band Holder	8059-08-17	1
198	Spring, Back Tension	8059-08-13	1
199	Washer, Polyslider, $\phi 2.1 \times \phi 4 \times t 0.5$	9999-03-15	1
200	Plate, BT Change	8059-08-10	1
201	Not used		
202	Lever, BT Return	8059-08-23	1
203	Collar	8059-06-18	1
204	Screw, C-Tight, M2.6X5	9192-00-00	1
205	Plate, BT Actuate	8059-08-19	1
206	Lever, BT Actuate	8059-08-18	1
207	Collar, BT Actuate Plate	8059-08-21	2
208	Spring, BT Actuate Plate	8059-08-20	1
209	Collar	8059-06-18	1
210	Screw, S-Tight (For Camera) M2.6X3.5	9840-00-00	2
211	Screw, C-Tight M2.6 X5	9192-00-00	1
212-220	Not used		
221	Plate Assembly	8059-09-312	1
222	Plate Semi Assembly	8059-09-503	1
223	Screw, Sems, M2 X4	9077-00-00	2
224	Screw, C-Tight, M2.6X4	9192-00-00	1
225	Not used		
226	Gear, Reel Drive	8059-09-06A	2
227	Not used		
238	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	2
263	Brake, Take-up soft	8059-10-303	1
265	Screw, SL FH (For Camera), M2 X3	9974-00-00	1
266	Collar, Take-up Soft Brake Arm	8059-10-07	1

Ref No.	Description	Parts No.	Q' ty
268	Spring, Take-up Soft Brake Arm	8059-10-06	1
228	Washer, Nylon, $\phi 3.1 \times \phi 6 \times t 0.3$	9853-00-00	1
229	Clutch Assembly	8059-09-311	1
230	Washer, Nylon, $\phi 2.98 \times \phi 6 \times t 0.3$	9999-06-04	1
231	Pulley Assembly, Middle	8059-09-301	1
232	Washer, Polyslider, $\phi 2.6 \times \phi 6 \times t 0.5$	9884-00-00	1
233	Belt, Drive	8059-09-17	1
238	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	1
239	Gear Assembly, P	8059-09-314	1
234	Arm Assembly, P Gear	8059-09-303	1
235	Gear, Play	8059-09-20A	1
238	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	1
240	Gear Assembly, RF	8059-09-315	1
236	Arm Assembly, RF Gear	8059-09-304	1
237	Gear, FF	8059-09-22A	1
238	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	1
241	Return Gear Assembly	8059-09-313	1
242	Retrun Arm	8059-09-53	1
243-250	Not used		
253	Spring, Brake Arm	8059-10-02	2
255	Arm Assembly, S Brake	8059-10-301	1
251	Shoe, Brake	8059-10-19	1
252	Arm, S Brake	8059-10-01	1
256	Arm Assembly, T Brake	8059-10-302	1
251	Shoe, Brake	8059-10-19	1
254	Arm, T Brake	8059-10-03	1
257	Lifter, Brake	8059-10-16	1
258	Actuator, L Brake	8059-10-17	1
259	Hook, Trigger	8059-10-14	1
260	Lever, Trigger	8059-10-13	1
261	Plate, Brake	8059-10-11	1
262	Brake Actuate, Base	8059-10-09	1
264	Brake, S Soft	8059-10-304	1
267	Spring, L Brake Actuator	8059-10-18	1
269	Spring, S Soft Brake	8059-10-22	1
270	Washer, Polyslider, $\phi 2.1 \times \phi 5 \times t 0.5$	9876-00-00	1
271	Spring, Trigger Lever	8059-10-23	1
272	Brake Actuate Base Spring	8059-10-10	1
273	Brake Plate Spring	8059-10-12	1
274-280	Not used		
281	LM Assembly	8059-11-301	1
282	Bearing Assembly, Trigger	8059-11-302	1
283	Pulley, Loading	8059-11-03	1
284	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	1
285	Belt, Loading	8059-11-06	1
286	Arm (B), Search	8059-11-12	1
287	Washer, Polyslider, $\phi 2.6 \times \phi 6 \times t 0.5$	9884-00-00	1
288	Gear, Loading	8059-11-04	1
289	Washer, Polyslider, $\phi 2.1 \times \phi 5 \times t 0.5$	9876-00-00	1
290	Arm, Brake Actuate	8059-11-13	1
291	Arm, Eject Actuate	8059-11-14	1
292	Not used		
293	Cam, Loading	8059-11-01	1

Ref No.	Description	Parts No.	Q' ty
294	Brush, S	8059-11-02	1
295	Screw, C-Tight, M3×4	9105-00-00	2
296	Washer, Polyslider, $\phi 2.6 \times \phi 8 \times t 0.5$	9999-03-10	1
297-311	Not used		
312	Lever Semi Assembly, Loading	8059-12-501	1
313	Roller, Cam	8059-12-13	1
314	Plate, Loading Gear	8059-12-09	1
315	Collar, Loading Gear Plate	8059-12-10	1
316	Screw, C-Tight, M3×6	9203-00-00	1
317	Lever Semi Assembly, Loading Actuate	8059-12-502	1
318	Plate, Semi Assembly, Loading Actuate	8059-12-503	1
319	Spring, Loading Actuate	8059-12-05	1
320	Plate, Loading Lever Reinforce	8059-12-11	1
321	Screw, Sems, M2 ×5	9078-00-00	2
322	Spring, L Gear Plate	8059-12-12	1
323-330	Not used		
331	Screw, C-Tight, M2.6×5	9192-00-00	1
332	Collar	8059-06-18	1
333	Lever, REC	8059-13-06	1
334	Actuator, REC	8059-13-07	1
335	Spoke, REC Actuate	8059-13-11	1
336	Sensor, DEW	6808-08-04	1
337	Screw, Sems, M2.6 ×4	9096-00-00	1
338	Plate, Base	8059-13-307	1
348	Sensor, Reel	6808-08-03	1
339	Screw, S-Tight (For Camera), M2.6×5	9691-00-00	1
340	Not used		
346	Spring, Rec Lever	8059-13-14	1
347	Collar, Screw	8059-13-17	1
341	Switch, Leaf	6401-01-151	1
342	Screw, C-Tight, M2.6×5	9192-00-00	1
343	Wire	8059-13-08	2
344	Holder, Wire	8059-13-10	1
345	Lamp Holder Assembly	8059-13-306	1
349-360	Not used		
361	Actuator, Eject	8059-15-08	1
362	Collar	8059-06-18	1
363	Screw, C-Tight, M2.6×5	9192-00-00	1
364	Plate, L Brake	8059-15-07	1
365	Collar	8059-06-18	1
366	Screw, C-Tight, M2.6×5	9192-00-00	1
367	Arm Assembly, E Idler	8059-15-303	1
368	Arm Semi Assembly, E Idler	8059-15-502	1
369	Pulley, Eject	8059-15-15	1
370	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	1
371	Spring, Idler Arm	8059-15-11	1
372	Washer, Polyslider, $\phi 2.1 \times \phi 6 \times t 0.5$	9876-00-00	1
373	Belt, Front Loading	8059-15-06	1
374-389	Not used		
390	Loading Assembly, Front	8059-16-337	1
391	Bracket Assembly, Cassette Load	8059-16-318	1
392	Clutch Assembly, Front Loading	8059-16-319	1
393	P.C.B. Assembly, Front Loading	8059-16-320	1

Ref No.	Description	Parts No.	Q' ty
394	Sensor, P.C.B. (RM)	8059-16-316	1
395	Bracket Semi Assembly, Cassette Load	8059-16-506	1
396	Lever, IN SW	8059-16-34	1
397	Lever, S SW	8059-16-33	1
398	Bearing (A), F Worm	8059-16-06	1
399	Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$	9743-00-00	1
400	Screw, Sems, M2.6 ×4	9096-00-00	2
401	Screw, Sems, M2 ×5	9678-00-00	1
402-410	Not used		
411	Holder Assembly, Cassette	8059-16-306	1
412	Holder, Cassette	8000-22-03	1
413	Plate, Slide	8000-22-13	1
414	Plate (A), C Lock	8000-22-12	1
415	Collar	8059-06-18	1
416	Spring, Lock	8059-16-29	1
417	Screw, SL (For Camera), M2.6 ×3	9968-00-00	1
418-419	Not used		
420	Angle Assembly, Front	8059-16-307	1
421	Angle, Front	8059-16-18	1
422	Guide (R), Tape	8059-16-25	1
423	Guide (L), Tape	8059-16-24	1
424-429	Not used		
430	Plate (R) Assembly, Side	8059-16-308	1
431	Plate (R), Side	8059-16-502	1
434	Lever, Open	8000-22-25	1
435	Spring, Open Lever	8000-22-44	1
436	Lever Collar, Open	8000-22-42	1
437	Screw, SL (For Camera), M2×4	9967-00-00	1
438	Lever, Lock Release	8000-22-16	1
439	Roller, Guide	8000-22-75	2
440	Roller, Guide	8000-22-23	1
432	Plate, Cassette Push	8059-16-28	1
433	Screw (For Camera), M2.3×2	9833-00-00	1
441-444	Not used		
445	Plate (L) Assembly, Side	8059-16-309	1
446	Plate (L), Side	8059-16-503	1
449	Plate (L), C Lock	8000-22-66	1
450	Spring (L), Lock Plate	8059-16-30	1
451	Collar, Lock Plate	8000-19-63	1
452	Screw (For Camera), M2×2.5	9966-00-00	1
453	Roller, Guide	8000-22-75	2
447	Plate, Cassette Push	8059-16-28	1
448	Screw (For Camera), M2.3×2	9833-00-00	1
454-459	Not used		
460	Frame (R) Assembly	8059-16-339	1
461	Frame (R)	8059-16-507	1
462	Wheel Assembly, Worm	8059-16-321	1
463	Wheel, Worm	8059-16-36	1
464	Gear, Friction	8059-16-45	1
465	Spring, Friction	8059-16-31	1
466	Gear (R) Assembly, Lift	8059-16-312	1
467	Gear (R), Lift	8000-22-15	1
468	Arm, Lift	8000-22-11	1

Ref No.	Description	Parts No.	Q'ty
469	Spring, LP	8000-22-45	1
470	Guide, Open Lever	8000-22-26	1
471	Sleeve, Guide	8000-22-24	1
472	E Ring S 2.5	9504-00-00	2
473-479	Not used		
480	Frame (L) Assembly	8059-16-338	1
481	Frame (L)	8059-16-508	1
482	Sensor, P.C.B. (LM)	8059-16-301	1
483	Gear (L) Assembly, Lift	8059-16-314	1
484	Gear, Lift	8000-22-14	1
485	Arm, Lift	8000-22-11	1
486	Spring, LP	8000-22-45	1
487	Lever, Lift	8059-16-67	1
488	Spring, Lift Lever	8059-16-68	1
489	E Ring S 2.5	9504-00-00	1
490	Screw, Sems, M2.6 X7	9099-00-00	1
491	Sleeve, Guide	8000-22-24	1
492-497	Not used		
498	Stay, Top	8000-22-65	1
499	Wire, End Sensor	8059-16-19	1
500	Angle, Rear	8059-16-09	1
501	Plate, Upper	8059-16-66	1
502	Shaft, Synchronize	8059-16-60	1
503	Gear (A), Synchronize	8059-16-17	2
504	E Ring S 2.5	9504-00-00	2
505	Screw, Sems, M2.6 X4	9096-00-00	10
506	Screw (For Camera), M2.6X3	9556-00-00	2
507	Screw (For Camera), M2.3X2.5	9991-00-00	2
508	Screw, C-Tight, M2.6X5	9192-00-00	4
509-530	Not used		
531	Plate, RG Slide	8059-17-03	1
532	Spring, RG Slide	8059-17-11	1
533	Collar, RG Slide Plate	8059-17-10	1
534	Screw, Sems, M2 X4	9077-00-00	1
535	Base, RG Slide	8059-17-09	1
536	Arm Semi Assembly, RG	8059-17-502	1
537	Washer, Polyslider, $\phi 2.6 \times \phi 6 \times t 0.5$	9884-00-00	1
538	Arm, RG Actuate	8059-17-01	1
539	Washer, Polyslider, $\phi 2.1 \times \phi 5 \times t 0.5$	9876-00-00	1
540	RG Actuator	8059-17-02	1

2. ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE : Products marked with a $\triangle$ have special characteristics important to safety.
 Before replacing any of these components, read carefully the product safety notice of the Service Manual.
 Don't degrade the safety of the product through improper servicing.

Tolerance of capacitors and other parts are noted with follow symboles;

C..... $\pm 0.25\%$	J..... $\pm 5\%$	Z.....+80/-20%
D..... $\pm 0.5\%$	K..... $\pm 10\%$	X.....+40/-20%
F..... $\pm 1\%$	M..... $\pm 20\%$	P.....+100%
G..... $\pm 2\%$	N..... $\pm 30\%$	

ELECTRICAL PARTS LIST

REF. NO.	DESCRIPTION		PART NO.
	MSV PCB ASS'Y		
	CAPACITORS		
C 51	CHIP CERAMIC CAP.	SL J 100PF/50V	1270101C
C 52	CHIP CERAMIC CAP.	SL J 220PF/50V	1270221C
C 53	CHIP CERAMIC CAP.	F Z 0.047UF/50V	12F3473C
C 54	CHIP CERAMIC CAP.	SL C 5PF/50V	1270509C
C 55	CHIP CERAMIC CAP.	SL J 390PF/50V	1270391C
C 57	CHIP CERAMIC CAP.	SL J 15PF/50V	1270150C
C 58	ELECTROLYTIC CAP.	0.47UF/50V M NP	126X474S
C 59	CHIP CERAMIC CAP.	SL J 47PF/50V	1270470C
C 60	CHIP CERAMIC CAP.	SL J 180PF/50V	1270181C
C 61	ELECTROLYTIC CAP.	2.2UF/50V M NP	126X225S
C 62	ELECTROLYTIC CAP.	2.2UF/50V M	126F225S
C 63	ELECTROLYTIC CAP.	0.47UF/50V M	126F474S
C 66	CHIP CERAMIC CAP.	SL J 100PF/50V	1270101C
C 67	CHIP CERAMIC CAP.	SL J 47PF/50V	1270470C
C 68	CHIP CERAMIC CAP.	SL J 22PF/50V	1270220C
C 69	CHIP CERAMIC CAP.	SL J 82PF/50V	1270820C
C 70	CHIP CERAMIC CAP.	SL J 22PF/50V	1270220C
C 71	ELECTROLYTIC CAP.	1UF/50V M	126F105S
C 72	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 73	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 74	ELECTROLYTIC CAP.	4.7UF/25V M	126D475S
C 75	ELECTROLYTIC CAP.	10UF/16V M	126C106S
C 76	CHIP CERAMIC CAP.	F Z 0.047UF/50V	12F3473C
C 77	ELECTROLYTIC CAP.	10UF/16V M	126C106S
C 78	ELECTROLYTIC CAP.	47UF/6.3V M	126A476S
C 79	CHIP CERAMIC CAP.	B K 0.068UF/16V	12B6683C
	CHIP CERAMIC CAP.	B K 0.068UF/25V	12B2683C
C 80	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 81	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 84	ELECTROLYTIC CAP.	47UF/6.3V M	126A476S
C 86	ELECTROLYTIC CAP.	2.2UF/50V M	126F225S
C 87	ELECTROLYTIC CAP.	2.2UF/50V M	126F225S
C 88	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 89	ELECTROLYTIC CAP.	0.47UF/50V M	126F474S
C 90	ELECTROLYTIC CAP.	10UF/16V M	126C106S
C 92	ELECTROLYTIC CAP.	10UF/16V M	126C106S
C 94	CHIP CERAMIC CAP.	B K 0.068UF/16V	12B6683C
	CHIP CERAMIC CAP.	B K 0.068UF/25V	12B2683C
C 101	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 102	ELECTROLYTIC CAP.	1UF/50V M	126F105S
C 103	CHIP CERAMIC CAP.	B K 0.01UF/50V	12B3103C
C 104	CHIP CERAMIC CAP.	SL J 47PF/50V	1270470C
C 105	CHIP CERAMIC CAP.	SL J 100PF/50V	1270101C
C 106	ELECTROLYTIC CAP.	47UF/6.3V M	126A476S
C 108	CHIP CERAMIC CAP.	SL J 100PF/50V	1270101C
C 109	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 110	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 111	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 112	CHIP CERAMIC CAP.	B K 0.047UF/50V	12B3473C
C 113	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 114	ELECTROLYTIC CAP.	1UF/50V M H7	526W105S
C 115	CHIP CERAMIC CAP.	B K 0.01UF/50V	12B3103C
C 116	ELECTROLYTIC CAP.	1UF/50V M	126F105S
C 117	ELECTROLYTIC CAP.	2.2UF/50V M	126F225S
C 118	CHIP CERAMIC CAP.	B K 0.022UF/50V	12B3223C
C 119	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 120	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 121	CHIP CERAMIC CAP.	B K 0.1UF/50V	12B3104C
C 123	CHIP CERAMIC CAP.	SL J 150PF/50V	1270151C

REF. NO.	DESCRIPTION		PART NO.
C 124	CHIP CERAMIC CAP.	SL J 200PF/50V	1270201C
C 125	CHIP CERAMIC CAP.	SL J 330PF/50V	1270331C
C 126	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 127	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 132	CHIP CERAMIC CAP.	F Z 0.047UF/50V	12F3473C
C 133	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
C 141	CHIP CERAMIC CAP.	F Z 0.01UF/50V	12F3103C
	RESISTORS		
R 51	CHIP RES.	1/10W J 1K OHM	134F102C
R 52	CHIP RES.	1/10W J 1.2K OHM	134F122C
R 53	CHIP RES.	1/10W J 2.7K OHM	134F272C
R 54	CHIP RES.	1/10W J 1.1K OHM	134F112C
R 55	CHIP RES.	1/10W J 4.7K OHM	134F472C
R 56	CHIP RES.	1/10W J 8.2K OHM	134F822C
R 57	CHIP RES.	1/10W J 2.7K OHM	134F272C
R 58	CHIP RES.	1/10W J 560 OHM	134F561C
R 60	CHIP RES.	1/10W J 220 OHM	134F221C
R 61	CHIP RES.	1/10W J 1M OHM	134F105C
R 62	CHIP RES.	1/10W J 1K OHM	134F102C
R 63	CHIP RES.	1/10W J 1M OHM	134F105C
R 64	CHIP RES.	1/10W J 1M OHM	134F105C
R 66	CHIP RES.	1/10W J 3.9K OHM	134F392C
R 67	CHIP RES.	1/10W J 1K OHM	134F102C
R 68	CHIP RES.	1/10W J 4.7K OHM	134F472C
R 69	CHIP RES.	1/10W J 2.2K OHM	134F222C
R 70	CHIP RES.	1/10W J 2.2K OHM	134F222C
R 71	CHIP RES.	1/10W J 560 OHM	134F561C
R 72	CHIP RES.	1/10W J 1K OHM	134F102C
R 73	CHIP RES.	1/10W J 1.8K OHM	134F182C
R 74	CHIP RES.	1/10W J 12K OHM	134F123C
R 77	CHIP RES.	1/10W J 33K OHM	134F333C
R 78	CHIP RES.	1/10W J 1.2K OHM	134F122C
R 79	CHIP RES.	1/10W J 1K OHM	134F102C
R 80	CHIP RES.	1/10W J 1K OHM	134F102C
R 81	CHIP RES.	1/10W J 68 OHM	134F680C
R 82	CHIP RES.	1/10W J 470K OHM	134F474C
R 83	CHIP RES.	1/10W J 100K OHM	134F104C
R 84	CHIP RES.	1/10W J 8.2K OHM	134F822C
R 85	CHIP RES.	1/10W J 11K OHM	134F113C
R 101	CHIP RES.	1/10W J 3.3K OHM	134F332C
R 104	CHIP RES.	1/10W J 100K OHM	134F104C
R 106	CHIP RES.	1/10W J 0 OHM	134F000C
R 107	CHIP RES.	1/10W J 8.2K OHM	134F822C
R 108	CHIP RES.	1/10W J 4.7K OHM	134F472C
R 109	CHIP RES.	1/10W J 390 OHM	134F391C
R 110	CHIP RES.	1/10W J 100 OHM	134F101C
R 111	CHIP RES.	1/10W J 470 OHM	134F471C
R 112	CHIP RES.	1/10W J 270 OHM	134F271C
R 113	CHIP RES.	1/10W J 1.8K OHM	134F182C
R 114	CHIP RES.	1/10W J 5.6K OHM	134F562C
R 115	CHIP RES.	1/10W J 2.7K OHM	134F272C
R 116	CHIP RES.	1/10W J 1.8K OHM	134F182C
R 117	CHIP RES.	1/10W J 1K OHM	134F102C
R 118	CHIP RES.	1/10W J 22K OHM	134F223C
R 119	CHIP RES.	1/10W J 1.2K OHM	134F122C
R 120	CHIP RES.	1/10W J 1K OHM	134F102C
R 121	CHIP RES.	1/10W J 1K OHM	134F102C
R 123	CHIP RES.	1/10W J 1.8K OHM	134F182C
R 124	CHIP RES.	1/10W J 1.8K OHM	134F182C
R 125	CHIP RES.	1/10W J 0 OHM	134F000C
R 126	CHIP RES.	1/10W J 1K OHM	134F102C

REF. NO.	DESCRIPTION		PART NO.
R 127	CHIP RES.	1/10W J 2.2K OHM	134F222C
R 128	CHIP RES.	1/10W J 1K OHM	134F102C
R 129	CHIP RES.	1/10W J 0 OHM	134F000C
R 130	CHIP RES.	1/10W J 47K OHM	134F473C
R 141	CHIP RES.	1/10W J 470 OHM	134F471C
R 142	CHIP RES.	1/10W J 2.2K OHM	134F222C
R 143	CHIP RES.	1/10W J 220 OHM	134F221C
R 144	CHIP RES.	1/10W J 0 OHM	134F000C
	SEMICONDUCTORTS		
D 51	DIODE	US1040M	US1040MT
	DIODE	1SS254	1SS254T
	DIODE	GMB01B	GMB01BT
D 102	DIODE	US1040M	US1040MT
	DIODE	1SS254	1SS254T
	DIODE	GMB01B	GMB01BT
IC 51	IC	LA7323	GLA7323*****
IC 52	IC	LC8992	14LQ489
IC 53	VOLTAGE REGULATOR IC	AN78M05F	AN78M05F
	VOLTAGE REGULATOR IC	UPC78M05HF	78M05HF
	VOLTAGE REGULATOR IC	NJM78M05FA	14L0238
IC 101	IC, CROMA	LA7333	GLA7333*****
Q 51	TRANSISTOR	2SA933(Q)	A933QZ
	TRANSISTOR	2SA933(R)	A933RZ
	TRANSISTOR	2SA608SP(F)	A608SFZ
	TRANSISTOR	2SA608SP(E)	A608SEZ
Q 52	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
Q 53	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
Q 54	TRANSISTOR	2SC536SP(F)	C536SFZ
	TRANSISTOR	2SA933(Q)	A933QZ
	TRANSISTOR	2SA933(R)	A933RZ
	TRANSISTOR	2SA608SP(F)	A608SFZ
	TRANSISTOR	2SA608SP(E)	A608SEZ
Q 55	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
Q 56	TRANSISTOR	2SC536SP(F)	C536SFZ
	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
Q 101	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
	TRANSISTOR	2SC536SP(F)	C536SFZ
Q 102	TRANSISTOR	2SC2839(E)	C2839EZ
	TRANSISTOR	2SC2839(F)	C2839FZ
	TRANSISTOR	2SC2058(Q)	C2058QZ
	TRANSISTOR	2SC2058(R)	C2058RZ
Q 103	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
	TRANSISTOR	2SC536SP(F)	C536SFZ
Q 104	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
	TRANSISTOR	2SC536SP(F)	C536SFZ

REF. NO.	DESCRIPTION		PART NO.
Q 107	TRANSISTOR	2SC2839(E)	C2839EZ
	TRANSISTOR	2SC2839(F)	C2839FZ
	TRANSISTOR	2SC2058(Q)	C2058QZ
	TRANSISTOR	2SC2058(R)	C2058RZ
QR 53	RES. BUILT-IN TRANSISTOR	DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR	2SC3400	C3400Z
QR 54	RES. BUILT-IN TRANSISTOR	DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR	2SC3400	C3400Z
QR 57	RES. BUILT-IN TRANSISTOR	DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR	2SC3400	C3400Z
	COILS & TRANSFORMER		
L 51	MICRO INDUCTOR	68UH-K-AXT	2165680T
L 52	MICRO INDUCTOR	68UH-K-AXT	2165680T
L 53	MICRO INDUCTOR	100UH-K-AXT	2165101T
L 57	MICRO INDUCTOR	47UH-K-AXT	2165470T
L 101	MICRO INDUCTOR	18UH-K-AXT	2165180T
L 102	MICRO INDUCTOR	3.9UH-K-AXT	2165399T
L 103	MICRO INDUCTOR	680UH-K-5FT	2162681S
L 105	MICRO INDUCTOR	330UH-K-AXT	2165331T
L 106	MICRO INDUCTOR	680UH-K-5FT	2162681S
L 107	MICRO INDUCTOR	15UH-K-AXT	2165150T
DL 101	COMB FILTER	4.433619MHZ	1813193
T 51	L.P.F. 3MHZ	ELB-4M031N	1810805
	L.P.F. 3MHZ	LPF-U30-A	1810994
T 101	LC FILTER	ELB4W009N	1813477
	MISCELLANEOUS		
TP 51	TEST PIN	RT-08T-1.3BT	1770482
TP 52	TEST PIN	RT-08T-1.3BT	1770482
TP 53	TEST PIN	RT-08T-1.3BT	1770482
TP 54	TEST PIN	RT-08T-1.3BT	1770482
TP 55	TEST PIN	RT-08T-1.3BT	1770482
VR 51	P.O.T.	5KOHM B	138J780
	P.O.T.	5KOHM B	138N780
VR 52	P.O.T.	5KOHM B	138J780
	P.O.T.	5KOHM B	138N780
VR 53	P.O.T.	2KOHM B	138J778
	P.O.T.	2KOHM B	138N778
VR 54	SEMI FIXED RES.	500 OHM B	138J776
	SEMI FIXED RES.	500 OHM B	138N776
	P.O.T.	500 OHM B	1380712
VR 55	P.O.T.	5KOHM B	138J780
	P.O.T.	5KOHM B	138N780
X 101	X'TAL	4.433619MHZ	1811366
	X'TAL	4.433619MHZ	1811388
CL- 7	PIN HEADER, ANGLE, 22P	6030B-1-22Z027-T	5700320
	WIRE	70/WHI/AWG26#1007	0VE400150
	P.C.B.(-3)	VIDEO	1614927

REF. NO.	DESCRIPTION	PART NO.
	MCV PCB ASS'Y	
	MCV-A PCB ASS'Y	
	CAPACITORS	
C 241	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 242	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 243	CERAMIC CAP. SL J 330PF/50V	1270331S
C 244	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 245	CERAMIC CAP. F Z 0.01UF/50V	12F3103S
C 401	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 402	ELECTROLYTIC CAP. 1UF/50V M NP	126X105S
C 403	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 404	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 405	SEMICONDUCTOR CAP. SR K 0.022UF/25V	12Y2223S
C 406	SEMICONDUCTOR CAP. SR K 0.047UF/25V	12Y2473S
C 407	SEMICONDUCTOR CAP. SR K 0.047UF/25V	12Y2473S
C 408	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 409	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 410	ELECTROLYTIC CAP. 2.2UF/50V M NP	126X225S
C 411	ELECTROLYTIC CAP. 8.2UF/16V M	126C825S
C 412	SEMICONDUCTOR CAP. SR K 0.01UF/25V	12Y2103S
C 413	ELECTROLYTIC CAP. 47UF/6.3V M	126A476S
C 414	ELECTROLYTIC CAP. 47UF/6.3V M	126A476S
C 415	SEMICONDUCTOR CAP. SR K 0.1UF/25V	12Y2104S
C 417	SEMICONDUCTOR CAP. SR K 0.0047UF/25V	12Y2472S
C 418	SEMICONDUCTOR CAP. SR K 0.0047UF/25V	12Y2472S
C 419	MYLAR CAP. 0.033UF/50V J	1254333S
C 420	MYLAR CAP. 0.15UF/50V J	1254154S
C 421	ELECTROLYTIC CAP. 0.22UF/50V M	126F224S
C 422	ELECTROLYTIC CAP. 100UF/25V M	126D107S
C 423	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 424	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 427	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 428	SEMICONDUCTOR CAP. SR K 0.1UF/25V	12Y2104S
C 501	CERAMIC CAP. F Z 0.01UF/50V	12F3103S
C 502	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 503	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 506	ELECTROLYTIC CAP. 2.2UF/50V M	126F225S
C 651	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 652	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 653	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 654	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 656	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
	CERAMIC CAP. F Z 0.022UF/25V	1220843T
C 663	ELECTROLYTIC CAP. 220UF/16V M	126C227S
C 701	ELECTROLYTIC CAP. 47UF/35V M	126E476S
C 702	MYLAR CAP. 0.015UF/50V J	1254153S
C 703	SEMICONDUCTOR CAP. SR K 0.033UF/25V	12Y2333S
C 704	MYLAR CAP. 0.1UF/50V J	1254104S
C 705	SEMICONDUCTOR CAP. SR K 0.033UF/25V	12Y2333S
C 706	MYLAR CAP. 0.015UF/50V J	1254153S
C 707	MYLAR CAP. 0.1UF/50V J	1254104S
C 708	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 710	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 711	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 712	CERAMIC CAP. F Z 0.01UF/50V	12F3103S
C 713	ELECTROLYTIC CAP. 4.7UF/25V M	126D475S
C 714	ELECTROLYTIC CAP. 22UF/25V M	126D226S
C 715	CERAMIC CAP. F Z 0.01UF/50V	12F3103S
C 717	ELECTROLYTIC CAP. 0.22UF/50V M	126F224S
C 718	ELECTROLYTIC CAP. 100UF/16V M	126C107S

REF. NO.	DESCRIPTION	PART NO.
C 720	CERAMIC CAP. B K 0.001UF/50V	12B3102S
C 721	CERAMIC CAP. SL J 330PF/50V	1270331S
C 722	ELECTROLYTIC CAP. 0.47UF/50V M	126F474S
C 723	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 724	CERAMIC CAP. SL J 270PF/50V	1270271S
C 725	ELECTROLYTIC CAP. 0.47UF/50V M	126F474S
C 727	ELECTROLYTIC CAP. 1000UF/6.3V M	126A108S
C 730	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
	CERAMIC CAP. F Z 0.022UF/25V	1220843T
C 756	ELECTROLYTIC CAP. 47UF/16V M	126C476S
C 761	CARBON RES. 1/5W J 47K OHM	1324473T
	CARBON RES. 1/6W J 47K OHM	132A473T
C 951	ELECTROLYTIC CAP. 1000UF/6.3V M	126A108S
C 953	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 955	ELECTROLYTIC CAP. 47UF/16V M	126C476S
C 961	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 962	ELECTROLYTIC CAP. 0.22UF/50V M	126F224S
C 967	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
	CERAMIC CAP. F Z 0.022UF/25V	1220843T
C 968	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 969	CERAMIC CAP. SL J 56PF/50V	1270560S
C 971	CERAMIC CAP. SL J 56PF/50V	1270560S
C 975	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 976	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 977	CERAMIC CAP. B J 100PF/50V	3B41101T
C 979	CERAMIC CAP. F Z 0.047UF/50V	12F3473
C 980	CERAMIC CAP. B J 100PF/50V	3B41101T
C 982	CERAMIC CAP. B K 0.001UF/50V	12B3102
C 983	CERAMIC CAP. F Z 0.022UF/50V	12F3223
C 984	SEMI.-COND.-CAP. F Z 0.1UF/25V	1220520
	RESISTORS	
QR 402	RES. BUILT-IN TRANSISTOR DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR 2SC3400	C3400Z
QR 651	RES. BUILT-IN TRANSISTOR DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR 2SC3400	C3400Z
QR 652	RES. BUILT-IN TRANSISTOR DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR 2SC3400	C3400Z
QR 653	RES. BUILT-IN TRANSISTOR DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR 2SC3400	C3400Z
QR 654	RES. BUILT-IN TRANSISTOR DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR 2SC3400	C3400Z
QR 701	RES. BUILT-IN TRANSISTOR DTA124ES	A124ESZ
	RES. BUILT-IN TRANSISTOR 2SA1346	A1346Z
QR 702	RES. BUILT-IN TRANSISTOR DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR 2SC3400	C3400Z
R 401	CARBON RES. 1/5W J 4.7K OHM	1324472T
	CARBON RES. 1/6W J 4.7K OHM	132A472T
R 402	CARBON RES. 1/5W J 47K OHM	1324473T
	CARBON RES. 1/6W J 47K OHM	132A473T
R 403	CARBON RES. 1/5W J 470K OHM	1324474T
	CARBON RES. 1/6W J 470K OHM	132A474T
R 404	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 405	CARBON RES. 1/5W J 4.7K OHM	1324472T
	CARBON RES. 1/6W J 4.7K OHM	132A472T
R 406	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 407	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 408	CARBON RES. 1/5W G 10K OHM	1354103T
R 409	CARBON RES. 1/5W G 10K OHM	1354103T

REF. NO.	DESCRIPTION	PART NO.
R 410	CARBON RES. 1/5W J 100 OHM	1324101T
	CARBON RES. 1/6W J 100 OHM	132A101T
R 411	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 412	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 413	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 414	CARBON RES. 1/5W J 13K OHM	1324133T
	CARBON RES. 1/6W J 13K OHM	132A133T
R 415	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 416	CARBON RES. 1/5W J 5.6K OHM	1324562T
	CARBON RES. 1/6W J 5.6K OHM	132A562T
R 417	CARBON RES. 1/5W J 820 OHM	1324821T
	CARBON RES. 1/6W J 820 OHM	132A821T
R 418	CARBON RES. 1/5W J 150 OHM	1324151T
	CARBON RES. 1/6W J 150 OHM	132A151T
R 419	CARBON RES. 1/5W J 2.7K OHM	1324272T
	CARBON RES. 1/6W J 2.7K OHM	132A272T
R 420	CARBON RES. 1/5W J 2.7K OHM	1324272T
	CARBON RES. 1/6W J 2.7K OHM	132A272T
R 421	CARBON RES. 1/5W J 39K OHM	1324393T
	CARBON RES. 1/6W J 39K OHM	132A393T
R 422	CARBON RES. 1/5W J 39K OHM	1324393T
	CARBON RES. 1/6W J 39K OHM	132A393T
R 423	CARBON RES. 1/5W J 33K OHM	1324333T
	CARBON RES. 1/6W J 33K OHM	132A333T
R 424	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 425	METAL RES. 2W J 3.3 OHM	1330318
	METAL RES. 2W J 3.3 OHM	1330460
R 503	METAL RES. 1W J 3.3 OHM	1330395
	METAL RES. 1W J 3.3 OHM	1330320
R 504	CARBON RES. 1/5W J 180 OHM	1324181T
	CARBON RES. 1/6W J 180 OHM	132A181T
R 505	CARBON RES. 1/5W J 2.7K OHM	1324272T
	CARBON RES. 1/6W J 2.7K OHM	132A272T
R 506	CARBON RES. 1/5W J 2.7K OHM	1324272T
	CARBON RES. 1/6W J 2.7K OHM	132A272T
R 507	CARBON RES. 1/5W J 2.7K OHM	1324272T
	CARBON RES. 1/6W J 2.7K OHM	132A272T
R 509	CARBON RES. 1/5W J 47K OHM	1324473T
	CARBON RES. 1/6W J 47K OHM	132A473T
R 510	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 511	CARBON RES. 1/5W J 470K OHM	1324474T
	CARBON RES. 1/6W J 470K OHM	132A474T
R 512	CARBON RES. 1/5W J 470K OHM	1324474T
	CARBON RES. 1/6W J 470K OHM	132A474T
R 513	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 514	CARBON RES. 1/5W J 47K OHM	1324473T
	CARBON RES. 1/6W J 47K OHM	132A473T
R 516	CARBON RES. 1/5W J 82K OHM	1324823T
	CARBON RES. 1/6W J 82K OHM	132A823T
R 517	CARBON RES. 1/5W J 1.2K OHM	1324122T
	CARBON RES. 1/6W J 1.2K OHM	132A122T
R 518	CARBON RES. 1/5W J 4.7K OHM	1324472T
	CARBON RES. 1/6W J 4.7K OHM	132A472T
R 520	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T

REF. NO.	DESCRIPTION	PART NO.
R 521	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 522	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 523	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 524	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 527	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 528	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 529	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 530	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 531	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 532	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 533	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 534	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 535	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 536	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 537	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 539	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 540	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 541	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 542	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 543	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 544	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 545	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 546	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 547	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 651	CARBON RES. 1/5W J 1.2K OHM	1324122T
	CARBON RES. 1/6W J 1.2K OHM	132A122T
R 652	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 654	CARBON RES. 1/5W J 4.7K OHM	1324472T
	CARBON RES. 1/6W J 4.7K OHM	132A472T
R 655	CARBON RES. 1/5W J 47K OHM	1324473T
	CARBON RES. 1/6W J 47K OHM	132A473T
R 656	CARBON RES. 1/5W J 47K OHM	1324472T
	CARBON RES. 1/6W J 4.7K OHM	132A472T
R 657	CARBON RES. 1/5W J 47K OHM	1324473T
	CARBON RES. 1/6W J 47K OHM	132A473T
R 660	CARBON RES. 1/5W J 1.5K OHM	1324152T
	CARBON RES. 1/6W J 1.5K OHM	132A152T

REF. NO.	DESCRIPTION		PART NO.
R 661	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 663	CARBON RES.	1/5W J 1.5K OHM	132A152T
	CARBON RES.	1/6W J 1.5K OHM	132A152T
R 664	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 701	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 702	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 703	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 704	METAL RES.	1W J 1.5K OHM	534A152
R 705	CARBON RES.	1/5W J 33K OHM	1324333T
	CARBON RES.	1/6W J 33K OHM	132A333T
R 706	CARBON RES.	1/5W J 470K OHM	1324474T
	CARBON RES.	1/6W J 470K OHM	132A474T
R 707	CARBON RES.	1/5W J 220K OHM	1324224T
	CARBON RES.	1/6W J 220K OHM	132A224T
R 708	CARBON RES.	1/5W J 220K OHM	1324224T
	CARBON RES.	1/6W J 220K OHM	132A224T
R 709	CARBON RES.	1/5W J 220K OHM	1324224T
	CARBON RES.	1/6W J 220K OHM	132A224T
R 710	CARBON RES.	1/5W J 22K OHM	1324223T
	CARBON RES.	1/6W J 22K OHM	132A223T
R 711	CARBON RES.	1/5W J 56K OHM	1324563T
	CARBON RES.	1/6W J 56K OHM	132A563T
R 712	CARBON RES.	1/5W J 1M OHM	1324105T
	CARBON RES.	1/6W J 1M OHM	132A105T
R 713	CARBON RES.	1/5W J 3.3K OHM	1324332T
	CARBON RES.	1/6W J 3.3K OHM	132A332T
R 725	CARBON RES.	1/5W G 12K OHM	1354123T
R 726	CARBON RES.	1/5W G 12K OHM	1354123T
R 727	CARBON RES.	1/5W G 12K OHM	1354123T
R 728	CARBON RES.	1/5W J 15K OHM	1324153T
	CARBON RES.	1/6W J 15K OHM	132A153T
R 729	CARBON RES.	1/5W J 1.2K OHM	1324122T
	CARBON RES.	1/6W J 1.2K OHM	132A122T
R 730	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 731	CARBON RES.	1/5W J 330K OHM	1324334T
	CARBON RES.	1/6W J 330K OHM	132A334T
R 733	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 734	CARBON RES.	1/5W J 22K OHM	1324223T
	CARBON RES.	1/6W J 22K OHM	132A223T
R 735	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 736	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 737	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 742	CARBON RES.	1/5W J 3.9K OHM	1324392T
	CARBON RES.	1/6W J 3.9K OHM	132A392T
R 755	CARBON RES.	1/5W J 15K OHM	1324153T
	CARBON RES.	1/6W J 15K OHM	132A153T
R 756	CERAMIC CAP.	B K 0.001UF/50V	12B3102S
R 757	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 841	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T

REF. NO.	DESCRIPTION		PART NO.
R 842	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 952	CARBON RES.	1/5W J 82 OHM	1324820T
	CARBON RES.	1/6W J 82 OHM	132A820T
R 953	METAL RES.	1W J 330 OHM	134A331
	METAL RES.	1W J 330 OHM	1330363
	METAL RES.	1W J 330 OHM	1330419
R 954	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 955	CARBON RES.	1/5W J 910 OHM	1324911T
R 956	CARBON RES.	1/5W J 18K OHM	1324183T
	CARBON RES.	1/6W J 18K OHM	132A183T
R 957	CARBON RES.	1/5W J 560 OHM	1324561T
	CARBON RES.	1/6W J 560 OHM	132A561T
R 963	CARBON RES.	1/5W J 5.6K OHM	1324562T
	CARBON RES.	1/6W J 5.6K OHM	132A562T
R 964	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 965	CARBON RES.	1/5W J 4.7K OHM	1324472T
	CARBON RES.	1/6W J 4.7K OHM	132A472T
R 969	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 970	CARBON RES.	1/5W J 75 OHM	1324750T
	CARBON RES.	1/6W J 75 OHM	132A750T
R 971	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 972	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
SEMICONDUCTORS			
D 401	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 402	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 504	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 505	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 506	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 507	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 508	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 653	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 703	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 704	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT

REF. NO.	DESCRIPTION		PART NO.
D 951	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 952	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 957	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
HIC	HYBRID IC	SERVO	1812455
IC 241	IC, VIDEO SWITCH	NJM2233BS	14L0325
	IC, VIDEO SWITCH	LVA521S-2	14LM465
IC 401	IC, SERVO	MN6748FVAP-1	14DN363
IC 402	IC, MOTOR DRIVER	BA6219B	14LF232
IC 501	IC, SYSCON	MN158461FVBQ	14DN513
IC 502	IC, MOTOR DRIVER	BA6209N	14LF492
IC 651	VOLTAGE REGULATOR IC	AN78L05	AN78L05
	VOLTAGE REGULATOR IC	NJM78L05A	J78L05A
	VOLTAGE REGULATOR IC	UPC78L05J	78L05J
IC 653	VOLTAGE REGULATOR IC	AN78L05	AN78L05
	VOLTAGE REGULATOR IC	NJM78L05A	J78L05A
	VOLTAGE REGULATOR IC	UPC78L05J	78L05J
IC 701	IC	LA7913	14LQ237
IC 702	IC	L5631	L5631
	IC	UPC574J	UPC574J
IC 703	IC	LA6393S	14LQ282
	IC	BA10393N	14LF519
IC 704	IC	LA7210	14LQ115
IC 841	IC	X24C01P	GX24C01P0000
IC 951	IC, VIDEO SWITCH	BA7021	14LF276
	IC	LA7221	14LQ466
Q 401	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
	TRANSISTOR	2SC536SP(F)	C536SFZ
Q 501	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
	TRANSISTOR	2SC536SP(F)	C536SFZ
Q 651	TRANSISTOR	2SD1384(Q)	D1384QZ
	TRANSISTOR	2SD1384(R)	D1384RZ
	TRANSISTOR	2SD1207(S)	D1207SZ
	TRANSISTOR	2SD1207(T)	D1207TZ
Q 652	TRANSISTOR	2SA854S(Q)	A854QZ
	TRANSISTOR	2SA854S(R)	A854RZ
	TRANSISTOR	2SA1317(S)	A1317SZ
	TRANSISTOR	2SA1317(T)	A1317TZ
Q 653	TRANSISTOR	2SA934(Q)	A934QZ
	TRANSISTOR	2SA934(R)	A934RZ
	TRANSISTOR	2SA1317(S)	A1317SZ
	TRANSISTOR	2SA1317(T)	A1317TZ
Q 654	TRANSISTOR	2SB892(S)	B892SZ
	TRANSISTOR	2SB892(T)	B892TZ
	TRANSISTOR	2SB1010(Q)	B1010QZ
	TRANSISTOR	2SB1010(R)	B1010RZ
Q 655	TRANSISTOR	2SB892(S)	B892SZ
	TRANSISTOR	2SB892(T)	B892TZ
	TRANSISTOR	2SB1010(Q)	B1010QZ
	TRANSISTOR	2SB1010(R)	B1010RZ

REF. NO.	DESCRIPTION		PART NO.
Q 702	FET	2SK304(C)	K304CZ
	FET	2SK304(D)	K304DZ
	FET	2SK128(P)	K128PZ
	FET	2SK128(Q)	K128QZ
Q 703	TRANSISTOR	2SD1012(F)	D1012FZ
	TRANSISTOR	2SD1012(G)	D1012GZ
	TRANSISTOR	2SD1468(R)	D1468RZ
	TRANSISTOR	2SD1468(R)	D1468RZ
Q 951	TRANSISTOR	2SA933(Q)	A933QZ
	TRANSISTOR	2SA933(R)	A933RZ
	TRANSISTOR	2SA608SP(E)	A608SEZ
	TRANSISTOR	2SA608SP(F)	A608SFZ
Q 952	TRANSISTOR	2SC1740(Q)	C1740QZ
	TRANSISTOR	2SC1740(R)	C1740RZ
	TRANSISTOR	2SC536SP(E)	C536SEZ
	TRANSISTOR	2SC536SP(F)	C536SFZ
Q 954	TRANSISTOR	2SA934(Q)	A934QZ
	TRANSISTOR	2SA934(R)	A934RZ
	TRANSISTOR	2SA1317(S)	A1317SZ
	TRANSISTOR	2SA1317(T)	A1317TZ
COILS & TRANSFORMERS			
L 208	P TIGHT SCREW	3X10 BIND +	GBMP3100
L2017	SCREW, P-TIGHT, BIND HEAD	M3X8	GBMP3080
L2032	SCREW, TAPPING, BIND HEAD	M3X10	DBM13100
MISCELLANEOUS			
J 357	CARBON RES.	1/5W J 820 OHM	1324821
	CARBON RES.	1/6W J 820 OHM	132A821
J 543	CARBON RES.	1/5W J 560 OHM	1324561T
	CARBON RES.	1/6W J 560 OHM	132A561T
JK 952	RCA JACK(WHITE)	JPJ2023-01-0300	1780078
JK 954	RCA JACK(WHITE)	JPJ2023-01-0300	1780078
CL- 2	CONNECTOR ASS'Y 10P		0VE400293
CL- 3	JUMPER WIRE, 10P	AWG26#2468/P2.0/180	WX1K2600-005
CL- 4	JUMPER WIRE, 10P	AWG26#2468/P2.0/140	WX1K2600-004
CL- 5	JUMPER WIRE, 10P	AWG26#2468/P2.0/140	WX1K2600-004
CL- 14	CONNECTOR ASS'Y 4P		0VE400384
CL-D	JUMPER WIRE, 6P	AWG26#2468/P2.0/130	5750076
CN- 10	FFC BASE, TOP 9P	52045-0910	1700885
	FFC BASE, TOP 9P IL-FPC- 9S-S1T1-S		1700915
	FFC BASE, TOP 9P 00 8370 091 000 8		1700449
	FFC BASE, TOP 9P 09FE-BT-M		1700515
CN- 11	FFC BASE, TOP 7P 07FE-BT-M		1700513
	FFC BASE, TOP 7P 00 8370 071 000 8		1700447
	FFC BASE, TOP 7P 52045-0710		1700558
	FFC BASE, TOP 7P IL-FPC- 7S-S1T1-S		1700913
CN- 12	FFC BASE, TOP 9P 52045-0910		1700885
	FFC BASE, TOP 9P IL-FPC- 9S-S1T1-S		1700915
	FFC BASE, TOP 9P 00 8370 091 000 8		1700449
	FFC BASE, TOP 9P 09FE-BT-M		1700515
CN-E	CONNECTOR ASS'Y 6P-7P		0VE400292
CV 951	RF CONVERTOR	MDF32-UD3601	1812577
	RF CONVERTOR	MDF32-UD3609	1813448
TU 701	TUNER UNIT	TPS7-ID002	1812742
VR 401	METAL P.O.T.	200K OHM B	238J017
	METAL P.O.T.	200KOHM B	1380832
VR 402	P.O.T.	200KOHM B	138J786
	P.O.T.	200KOHM B	138N786
X 501	CERAMIC RESONATOR	3.58MHZ	1812206
	CERAMIC RESONATOR	3.58MHZ	1811211

REF. NO.	DESCRIPTION	PART NO.
X 701	CERAMIC RESONATOR 500KHZ CSB500E CONNECTOR ASS'Y 1P LEAD CLAMPER RCA PLUG CORD FFC CABLE, 7P FFC/P1.25/130 FFC CABLE, 7P FFC/P1.25/142 FFC CABLE, 9P TFL-125K-9-130 FFC CABLE, 9P FFC/P1.25/142	1810414 0VE400318 1790356 5750481 WX1S2300-001 WX3907QZ6614 5750529 WX3909QZ6614
	MCV-B PCB ASS'Y	
	CAPACITORS	
C 1	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 2	CERAMIC CAP. F Z 0.1UF/50V	3F40104T
C 3	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.01UF/16V	122Z122T
C 4	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
C 5	ELECTROLYTIC CAP. 4.7UF/50V M H7	526W475S
C 6	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
C 7	CERAMIC CAP. F Z 0.01UF/16V	1220842T
	CERAMIC CAP. Y M 0.01UF/16V	3Y4D103T
C 8	CERAMIC CAP. F Z 0.01UF/16V	1220842T
	CERAMIC CAP. Y M 0.01UF/16V	3Y4D103T
C 9	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
C 10	ELECTROLYTIC CAP. 47UF/16V M H7	526T476S
C 11	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 12	ELECTROLYTIC CAP. 47UF/6.3V M H7	526R476S
C 13	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
C 14	CERAMIC CAP. SL J 22PF/50V	3S41220T
C 15	CERAMIC CAP. SL J 18PF/50V	3S41180T
C 16	CERAMIC CAP. SL J 56PF/50V	3S41560T
C 18	CERAMIC CAP. SL J 470PF/50V	1270471S
C 19	CERAMIC CAP. SL J 27PF/50V	3S41270T
C 20	CERAMIC CAP. SL J 22PF/50V	3S41220T
C 21	ELECTROLYTIC CAP. 22UF/16V M	126C226S
C 22	CERAMIC CAP. SL J 22PF/50V	1270220S
C 23	CERAMIC CAP. SL J 150PF/50V	1270151S
C 24	CERAMIC CAP. SL J 68PF/50V	3S41680T
C 25	CERAMIC CAP. F Z 0.047UF/25V	3F45473T
C 26	CERAMIC CAP. SL J 22PF/50V	3S41220T
C 27	CERAMIC CAP. SL J 18PF/50V	3S41180T
C 28	CERAMIC CAP. SL J 68PF/50V	3S41680T
C 201	MYLAR CAP. 0.047UF/100V J	1255473S
C 202	ELECTROLYTIC CAP. 47UF/16V M	126C476S
C 203	SEMICONDUCTOR CAP. SR K 0.01UF/25V	12Y2103S
C 204	SEMICONDUCTOR CAP. SR K 0.01UF/25V	12Y2103S
C 205	CERAMIC CAP. SL J 220PF/50V	1270221S
C 206	ELECTROLYTIC CAP. 100UF/16V M	126C107S
C 207	ELECTROLYTIC CAP. 33UF/16V	126C336S
C 208	ELECTROLYTIC CAP. 3.3UF/50V M	126F335S
C 209	ELECTROLYTIC CAP. 4.7UF/25V M	126D475S
C 210	SEMICONDUCTOR CAP. SR K 0.01UF/25V	12Y2103S
C 213	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 214	ELECTROLYTIC CAP. 2.2UF/50V M	126F225S
C 215	SEMICONDUCTOR CAP. F Z 0.1UF/25V	1220520S
	SEMI.-COND.-CAP. F Z 0.1UF/25V	1220461S
C 216	CERAMIC CAP. B K 0.001UF/50V	12B3102S

REF. NO.	DESCRIPTION	PART NO.
C 217	SEMICONDUCTOR CAP. SR K 0.0033UF/25V	12Y2332S
C 218	ELECTROLYTIC CAP. 1UF/50V M	126F105S
C 219	SEMICONDUCTOR CAP. SR K 0.01UF/25V	12Y2103S
C 220	ELECTROLYTIC CAP. 10UF/16V M	126C106S
C 221	ELECTROLYTIC CAP. 47UF/6.3V M	126A476S
C 222	ELECTROLYTIC CAP. 4.7UF/25V M	126D475S
C 223	CERAMIC CAP. B K 0.0018UF/50V	12B3182S
C 226	CERAMIC CAP. B J 100PF/50V	3B41101T
C 227	ELECTROLYTIC CAP. 0.47UF/50V M	126F474S
C 232	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
C 233	CERAMIC CAP. F Z 0.022UF/25V	1220843T
	CERAMIC CAP. F Z 0.022UF/25V	122Z122T
C 235	CERAMIC CAP. B J 82PF/50V	3B41820T
	RESISTORS	
R 1	CARBON RES. 1/5W J 4.7 OHM	1324479T
	CARBON RES. 1/6W J 4.7 OHM	132A479T
R 2	CARBON RES. 1/5W J 220 OHM	1324221T
	CARBON RES. 1/6W J 220 OHM	132A221T
R 3	CARBON RES. 1/5W J 180 OHM	1324181T
	CARBON RES. 1/6W J 180 OHM	132A181T
R 4	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 5	CARBON RES. 1/5W J 680 OHM	1324681T
	CARBON RES. 1/6W J 680 OHM	132A681T
R 6	CARBON RES. 1/5W J 390 OHM	1324391T
	CARBON RES. 1/6W J 390 OHM	132A391T
R 7	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 8	CARBON RES. 1/5W J 390 OHM	1324391T
	CARBON RES. 1/6W J 390 OHM	132A391T
R 10	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 11	CARBON RES. 1/5W J 820 OHM	1324821T
	CARBON RES. 1/6W J 820 OHM	132A821T
R 12	CARBON RES. 1/5W J 560 OHM	1324561T
	CARBON RES. 1/6W J 560 OHM	132A561T
R 13	CARBON RES. 1/5W J 820 OHM	1324821T
	CARBON RES. 1/6W J 820 OHM	132A821T
R 14	CARBON RES. 1/5W J 3.9K OHM	1324392T
	CARBON RES. 1/6W J 3.9K OHM	132A392T
R 15	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 16	CARBON RES. 1/5W J 1K OHM	1324102T
	CARBON RES. 1/6W J 1K OHM	132A102T
R 17	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 18	CARBON RES. 1/5W J 6.8K OHM	1324682T
	CARBON RES. 1/6W J 6.8K OHM	132A682T
R 19	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 20	CARBON RES. 1/5W J 3.3K OHM	1324332T
	CARBON RES. 1/6W J 3.3K OHM	132A332T
R 21	CARBON RES. 1/5W J 680 OHM	1324681T
	CARBON RES. 1/6W J 680 OHM	132A681T
R 27	CARBON RES. 1/5W J 100 OHM	1324101T
	CARBON RES. 1/6W J 100 OHM	132A101T
R 28	CARBON RES. 1/5W J 2.2K OHM	1324222T
	CARBON RES. 1/6W J 2.2K OHM	132A222T
R 201	CARBON RES. 1/5W J 22 OHM	1324220T
	CARBON RES. 1/6W J 22 OHM	132A220T

REF. NO.	DESCRIPTION	PART NO.
R 202	CARBON RES. 1/5W J 47 OHM	1324470T
	CARBON RES. 1/6W J 47 OHM	132A470T
R 203	CARBON RES. 1/5W J 6.8K OHM	1324682T
	CARBON RES. 1/6W J 6.8K OHM	132A682T
R 204	CARBON RES. 1/5W J 4.7 OHM	1324479T
	CARBON RES. 1/6W J 4.7 OHM	132A479T
R 205	CARBON RES. 1/5W J 22K OHM	1324223T
	CARBON RES. 1/6W J 22K OHM	132A223T
R 206	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 207	CARBON RES. 1/5W J 470 OHM	1324471T
	CARBON RES. 1/6W J 470 OHM	132A471T
R 210	CARBON RES. 1/5W J 22K OHM	1324223T
	CARBON RES. 1/6W J 22K OHM	132A223T
R 211	CARBON RES. 1/5W J 3.9K OHM	1324392T
	CARBON RES. 1/6W J 3.9K OHM	132A392T
R 212	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 213	CARBON RES. 1/5W J 5.6K OHM	1324562T
	CARBON RES. 1/6W J 5.6K OHM	132A562T
R 214	CARBON RES. 1/5W J 4.7K OHM	1324472T
	CARBON RES. 1/6W J 4.7K OHM	132A472T
R 215	CARBON RES. 1/5W J 33K OHM	1324333T
	CARBON RES. 1/6W J 33K OHM	132A333T
R 216	CARBON RES. 1/5W J 1M OHM	1324105T
	CARBON RES. 1/6W J 1M OHM	132A105T
R 217	CARBON RES. 1/5W J 22K OHM	1324223T
	CARBON RES. 1/6W J 22K OHM	132A223T
R 218	CARBON RES. 1/5W J 1.5K OHM	1324152T
	CARBON RES. 1/6W J 1.5K OHM	132A152T
R 219	CARBON RES. 1/5W J 8.2K OHM	1324822T
	CARBON RES. 1/6W J 8.2K OHM	132A822T
R 220	CARBON RES. 1/5W J 22K OHM	1324223T
	CARBON RES. 1/6W J 22K OHM	132A223T
R 221	CARBON RES. 1/5W J 180 OHM	1324181T
	CARBON RES. 1/6W J 180 OHM	132A181T
R 222	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 224	CARBON RES. 1/5W J 390K OHM	1324394T
	CARBON RES. 1/6W J 390K OHM	132A394T
R 225	CARBON RES. 1/5W J 33K OHM	1324333T
	CARBON RES. 1/6W J 33K OHM	132A333T
R 226	CARBON RES. 1/5W J 100 OHM	1324101T
	CARBON RES. 1/6W J 100 OHM	132A101T
R 228	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
R 229	CARBON RES. 1/5W J 10K OHM	1324103T
	CARBON RES. 1/6W J 10K OHM	132A103T
	SEMICONDUCTORS	
IC 2	IC LA7320	14LQ486
IC 201	IC BA7767AS	14LF301
Q 1	TRANSISTOR 2SC2058(Q)	C2058QZ
	TRANSISTOR 2SC2058(R)	C2058RZ
	TRANSISTOR 2SC2839(E)	C2839EZ
	TRANSISTOR 2SC2839(F)	C2839FZ
Q 2	TRANSISTOR 2SC2058(Q)	C2058QZ
	TRANSISTOR 2SC2058(R)	C2058RZ
	TRANSISTOR 2SC2839(E)	C2839EZ
	TRANSISTOR 2SC2839(F)	C2839FZ

REF. NO.	DESCRIPTION	PART NO.
Q 3	TRANSISTOR 2SC1740(Q)	C1740QZ
	TRANSISTOR 2SC1740(R)	C1740RZ
	TRANSISTOR 2SC536SP(E)	C536SEZ
	TRANSISTOR 2SC536SP(F)	C536SFZ
Q 4	TRANSISTOR 2SC2058(Q)	C2058QZ
	TRANSISTOR 2SC2058(R)	C2058RZ
	TRANSISTOR 2SC2839(E)	C2839EZ
	TRANSISTOR 2SC2839(F)	C2839FZ
Q 201	TRANSISTOR 2SC2060(Q)	C2060QZ
	TRANSISTOR 2SD400(F)	D400FZ
	SEMICONDUCTORS	
T 201	COIL, OSC AUDIO	113M686
	COIL, OSC AUDIO	1130686
	COIL, OSC AUDIO	113D686
L 1	MICRO INDUCTOR 2.2UH-K-AXT	2165229T
L 2	MICRO INDUCTOR 100UH-K-AXT	2165101T
L 3	MICRO INDUCTOR 18UH-K-AXT	2165180T
L 4	MICRO INDUCTOR 56UH-K-AXT	2165560T
L 5	MICRO INDUCTOR 22UH-K-AXT	2165220T
L 6	MICRO INDUCTOR 150UH-K-AXT	2165151T
L 7	MICRO INDUCTOR 33UH-K-AXT	2165330T
L 8	MICRO INDUCTOR 18UH-K-AXT	2165180T
L 9	MICRO INDUCTOR 180UH-K-AXT	2165181T
L 10	MICRO INDUCTOR 82UH-K-AXT	2165820T
L 11	MICRO INDUCTOR 18UH-K-AXT	2165180T
L 201	INDUCTOR 18MH	117D657
	INDUCTOR 18MH	1170524
	INDUCTOR 18MH	117M547
L 202	MICRO INDUCTOR 100UH-K-AXT	2165101T
	MISCELLANEOUS	
TP 1	TEST PIN RT-08T-1.3BT	1770482
TP 201	TEST PIN RT-08T-1.3BT	1770482
	TEST PIN RT-08T-1.3BT	1770482
VR 1	P.O.T. 2.2KOHM B	138A955
	P.O.T. 2KOHM B	138J914
VR 2	P.O.T. 1KOHM B	138A953
	P.O.T. 1KOHM B	138J913
VR 201	P.O.T. 100KOHM B	138A965
	P.O.T. 100KOHM B	138J921
CL-F	CONNECTOR ASS'Y 2P	0VE400315
CN-A	ANGLE SOCKET, 17P IL-SDD-17S-S2L2-F	1700762
CN-G	ANGLE SOCKET, 6P IL-SDA-6S-S2L2	1770601
	MCV-C PCB ASS'Y	
CN-D	ANGLE PIN, 6P IL-SDA-6P-S2L2	1770617
	MCV-E PCB ASS'Y	
CL- 1	JUMPER WIRE, 13P AWG26#2468/P2.0/110	WX1K2600-003
CN- 1	CONNECTOR HOUSING, 13P 52257-1310	"5700262
	MCV-F PCB ASS'Y	
C 449	ELECTROLYTIC CAP. 470UF/16V M	126C477
CN-C	ANGLE SOCKET, 9P IL-SDA-9S-S2L2	1770604
CL-C	JUMPER WIRE, 7P AWG26#2468/P2.0/70	5750126

REF. NO.	DESCRIPTION		PART NO.
	BNC PCB ASS'Y		
	P.C.B.		BK2600F01001
	ANGLE PIN HEADER, 4P	173979-4	1770249
	ELECTROLYTIC CAP.	10UF/16V M H7	526T106
C 952	BNC JACK	HXC0328-01-210	1780207
JK 956	BNC JACK	HXC0328-01-210	1780207
JK 957	BNC JACK	HXC0328-01-210	1780207
R 951	CARBON RES.	1/5W J 82 OHM	1324820
	CARBON RES.	1/6W J 82 OHM	132A820
	P-TITE	3X8 CUP +	23X9251
	TMV PCB ASS'Y		
	TMV-A PCB ASS'Y		
	CAPACITORS		
C 801	CERAMIC CAP.	CH J 33PF/50V	12CH330S
C 802	CERAMIC CAP.	CH J 33PF/50V	12CH330S
C 803	CERAMIC CAP.	Y M 0.01UF/16V	3Y4D103T
	CERAMIC CAP.	F Z 0.01UF/16V	1220842T
C 806	CERAMIC CAP.	Y M 0.01UF/16V	3Y4D103T
	CERAMIC CAP.	F Z 0.01UF/16V	1220842T
C 807	ELECTROLYTIC CAP.	10UF/16V M H7	526T106S
C 809	ELECTROLYTIC CAP.	100UF/6.3V M H7	526R107S
C 810	ELECTROLYTIC CAP.	100UF/6.3V M H7	526R107S
C 811	CERAMIC CAP.	F Z 0.01UF/50V	12F3103
C 816	ELECTROLYTIC CAP.	10UF/16V M H7	526T106S
C 822	ELECTROLYTIC CAP.	10UF/16V M H7	526T106S
C 824	CERAMIC CAP.	CH J 22PF/50V	12CH220S
C 825	CERAMIC CAP.	F Z 0.047UF/50V	12F3473
C 826	CERAMIC CAP.	F Z 0.047UF/50V	12F3473
	RESISTORS		
R 801	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 802	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 803	CARBON RES.	1/5W J 47K OHM	1324473T
	CARBON RES.	1/6W J 47K OHM	132A473T
R 807	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 808	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 809	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 810	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 811	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
R 816	CARBON RES.	1/5W J 4.7K OHM	1324472T
	CARBON RES.	1/6W J 4.7K OHM	132A472T
R 817	CARBON RES.	1/5W J 2.2K OHM	1324222T
	CARBON RES.	1/6W J 2.2K OHM	132A222T
R 829	CARBON RES.	1/5W J 10K OHM	1324103T
	CARBON RES.	1/6W J 10K OHM	132A103T
R 837	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 838	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 839	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T

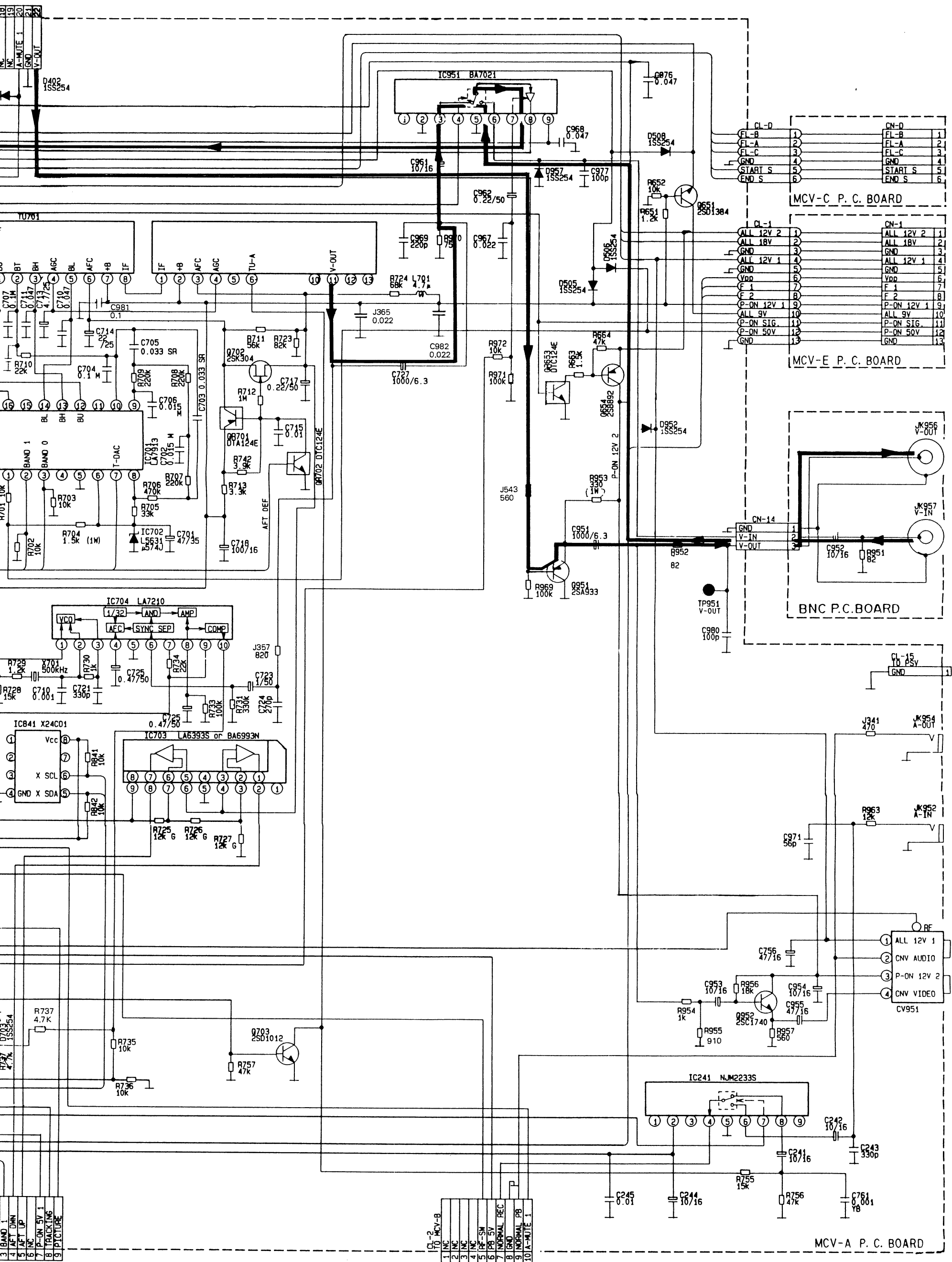
REF. NO.	DESCRIPTION		PART NO.
R 840	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 841	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 842	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 843	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
R 844	CARBON RES.	1/5W J 1K OHM	1324102T
	CARBON RES.	1/6W J 1K OHM	132A102T
	SWITCHES		
SW 803	PUSH SWITCH		5622102
	PUSH SWITCH		5622101
	PUSH SWITCH		5622123
SW 804	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 805	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 806	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 808	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 809	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 810	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 811	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 812	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 813	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 814	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 818	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y

REF. NO.	DESCRIPTION		PART NO.
SW 819	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
SW 820	PUSH SWITCH	EVQ-295 05K	5622206Y
	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 821	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 822	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 823	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 824	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 825	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 826	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 827	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 828	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 830	SLIDE SWITCH	1C-2P	1621752
	SEMICONDUCTORS		
D 801	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 802	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 803	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 804	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 805	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 806	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT

REF. NO.	DESCRIPTION		PART NO.
D 807	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 808	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 809	DIODE	1SS254	1SS254T
	DIODE	US1040M	US1040MT
	DIODE	GMB01B	GMB01BT
D 810	DIODE	1SS254	1SS254T
	DIODE	GMB01B	GMB01BT
	DIODE	GMB01B	GMB01BT
D 824	DIODE	1SS254	1SS254T
	DIODE	GMB01B	GMB01BT
	DIODE	GMB01B	GMB01BT
D 839	DIODE	1SS254	1SS254T
	DIODE	GMB01B	GMB01BT
	DIODE	GMB01B	GMB01BT
IC 801	IC, TIMER	MN187164FVCJ	14DN728
IC 803	IC, RESET	PST529D-2	14DM763
	COILS & TRANSFORMERS		
L 801	MICRO INDUCTOR	220UH-K-AXT	2165221T
	MISCELLANEOUS		
TC 801	TRIMMER CAP.	10PF/NP0	1280177
	TRIMMER CAP.	10PF/NP0	1280178
TP 801	TEST PIN	RT-08T-1.3BT	1770482
VR 801	VOLUME	250KOHM B	539A660
	VOLUME	250KOHM B	539N661
VR 802	VOLUME	20KOHM B	539A845
	VOLUME	20KOHM B	539N703
X 801	X'TAL	4.194304MHZ HC49U	1811191
X 802	X'TAL	32KHZ (10PPM)	1811370
	X'TAL	32KHZ (10PPM)	1811351
FIP 801	F.I.P.	16MT-14GK	1812645
RS 801	REMOTE SENSOR UNIT	SFN-R0011	1812501
QR 801	RES. BUILT-IN TRANSISTOR	DTA124ES	A124ESZ
	RES. BUILT-IN TRANSISTOR	2SA1346	A1346Z
CN- 10	FFC BASE, SIDE	9P 00 8370 097 000	1700475
	FFC BASE, SIDE	9P IL-FPC- 9S-S1L1-	1700935
CN- 11	FFC BASE, SIDE	7P 00 8370 077 000	1700473
	FFC BASE, SIDE	7P IL-FPC- 7S-S1L1-	1700933
CN- 12	FFC BASE, SIDE	9P 00 8370 097 000	1700475
	FFC BASE, SIDE	9P IL-FPC- 9S-S1L1-	1700935
	WIRE	50/GRA/AWG26#1007	0VE400149
	WIRE	110/PUR/AWG26#1007	0VE400197
	WIRE	70/RED/AWG26#1007	0VE400337
	WIRE	60/RED/AWG26#1007	0VE400479
	TMV-B PCB ASS'Y		0VDM02829
SW 801	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
SW 802	PUSH SWITCH	SKHVBE KHV-902	5622160Y
	PUSH SWITCH	EVQ2150SR	5622158Y
	PUSH SWITCH	R66-441Q	5622161
	PUSH SWITCH	EVQ-295 05K	5622206Y
	P.C.B.(-4)	TIMER	1614925

REF. NO.	DESCRIPTION		PART NO.
	PSV PCB ASS'Y		0VSA02410
	CAPACITORS		
C 603	△ ELECTROLYTIC CAP.	3300UF/16V M W/F	626C338
C 604	△ ELECTROLYTIC CAP.	2200UF/35V M W/F	6.26E+230
C 605	△ ELECTROLYTIC CAP.	2200UF/35V M W/F	6.26E+230
C 606	ELECTROLYTIC CAP.	22UF/63V M	126G226S
C 607	ELECTROLYTIC CAP.	47UF/63V M	126G476S
C 608	ELECTROLYTIC CAP.	47UF/35V M	126E476S
C 609	ELECTROLYTIC CAP.	47UF/25V M	126D476S
C 610	ELECTROLYTIC CAP.	47UF/16V M	126C476S
C 611	ELECTROLYTIC CAP.	47UF/16V M	126C476S
C 612	CERAMIC CAP.	F Z 0.022UF/50V	12F3223S
C 613	CERAMIC CAP.	F Z 0.022UF/50V	12F3223S
C 614	ELECTROLYTIC CAP.	47UF/16V M	126C476S
	RESISTORS		
R 601	CARBON RES.	1/5W J 160 OHM	1324161T
	CARBON RES.	1/6W J 160 OHM	132A161T
R 602	CARBON RES.	1/5W J 100 OHM	1324101T
	CARBON RES.	1/6W J 100 OHM	132A101T
R 603	CARBON RES.	1/5W J 100 OHM	1324101T
	CARBON RES.	1/6W J 100 OHM	132A101T
R 604	CARBON RES.	1/5W J 560 OHM	1324561T
	CARBON RES.	1/6W J 560 OHM	132A561T
R 605	CARBON RES.	1/5W J 22K OHM	1324223T
	CARBON RES.	1/6W J 22K OHM	132A223T
R 610	CARBON RES.	1/5W J 100K OHM	1324104T
	CARBON RES.	1/6W J 100K OHM	132A104T
	SEMICONDUCTORS		
D 601	△ DIODE	1N4003	1N4003F2
	DIODE	GP10-4003	MPL5209
D 602	△ DIODE	1N4003	1N4003F2
	DIODE	GP10-4003	MPL5209
D 603	△ DIODE	1N4003	1N4003F2
	DIODE	GP10-4003	MPL5209
D 604	△ DIODE	1N4003	1N4003F2
	DIODE	GP10-4003	MPL5209
D 605	△ BRIDGE DIODE	S4VB20	S4VB20
	BRIDGE DIODE	RS403L	RS403L
	BRIDGE DIODE	BR32J01	BR32J01
D 610	DIODE	1SR35-200A	35200AT
	DIODE	1N4003	1N4003T
D 611	DIODE	1SR35-200A	35200AT
	DIODE	1N4003	1N4003T
D 613	ZENER DIODE	MTZ5.1B	MTZ5.1BT
	ZENER DIODE	UZ5.1BSB	UZ5.1BSBT
D 614	ZENER DIODE	MTZ30A	MTZ30AT
	ZENER DIODE	UZ30BSA	UZ30BSAT
IC 601	△ VOLTAGE REGULATOR IC	AN7818F	14DN228
	VOLTAGE REGULATOR IC	NJM7818FA	14L0253
IC 602	△ VOLTAGE REGULATOR IC	AN7812F	AN7812F
	VOLTAGE REGULATOR IC	NJM7812FA	14L0251
IC 603	△ VOLTAGE REGULATOR IC	AN7812F	AN7812F
	VOLTAGE REGULATOR IC	NJM7812FA	14L0251
IC 604	△ VOLTAGE REGULATOR IC	AN7812F	AN7812F
	VOLTAGE REGULATOR IC	NJM7812FA	14L0251
Q 602	RES. BUILT-IN TRANSISTOR	DTC124ES	C124ESZ
	RES. BUILT-IN TRANSISTOR	2SC3400	C3400Z

REF. NO.	DESCRIPTION		PART NO.
Q 603	TRANSISTOR	2SB1010(Q)	B1010QZ
	TRANSISTOR	2SB1010(R)	B1010RZ
	TRANSISTOR	2SB892(S)	B892SZ
	TRANSISTOR	2SB892(T)	B892TZ
	COILS & TRANSFORMERS		
T 601	△ POWER TRANS	220V 50HZ	LTT57EPSA001
L 204	SCREW, CE-TIGHT, TRAS HEAD	M4X8	GZMC408
	SCREW, C-TIGHT, TRAS HEAD	M4X8	GTMC408
L2032	SCREW, TAPPING, BIND HEAD	M3X10	DBM13100
	MISCELLANEOUS		
CN- 1	CONNECTOR BASE, 13P	53178-1310	5700244
F 601	△ FUSE	T200MA/250V	1790474
	FUSE	T200MA	1790985
F 602	△ FUSE	T500MA/250V	1790478
	FUSE	T500MA	1790989
L	SCREW, TAPPING, BIND HEAD	M3X10	DBM13100
	P.C.B.(-2)	PSV	1614926
	CONNECTOR PIN 1P	RT-01N-2.3A	1730688
	LEAD CLAMPER		1790356
	FUSE HOLDER		1790424
△	CORD STOPPER	SR-4N-4	1790173
△	AC CORD	EP-549-E17	5750192



REC MODE

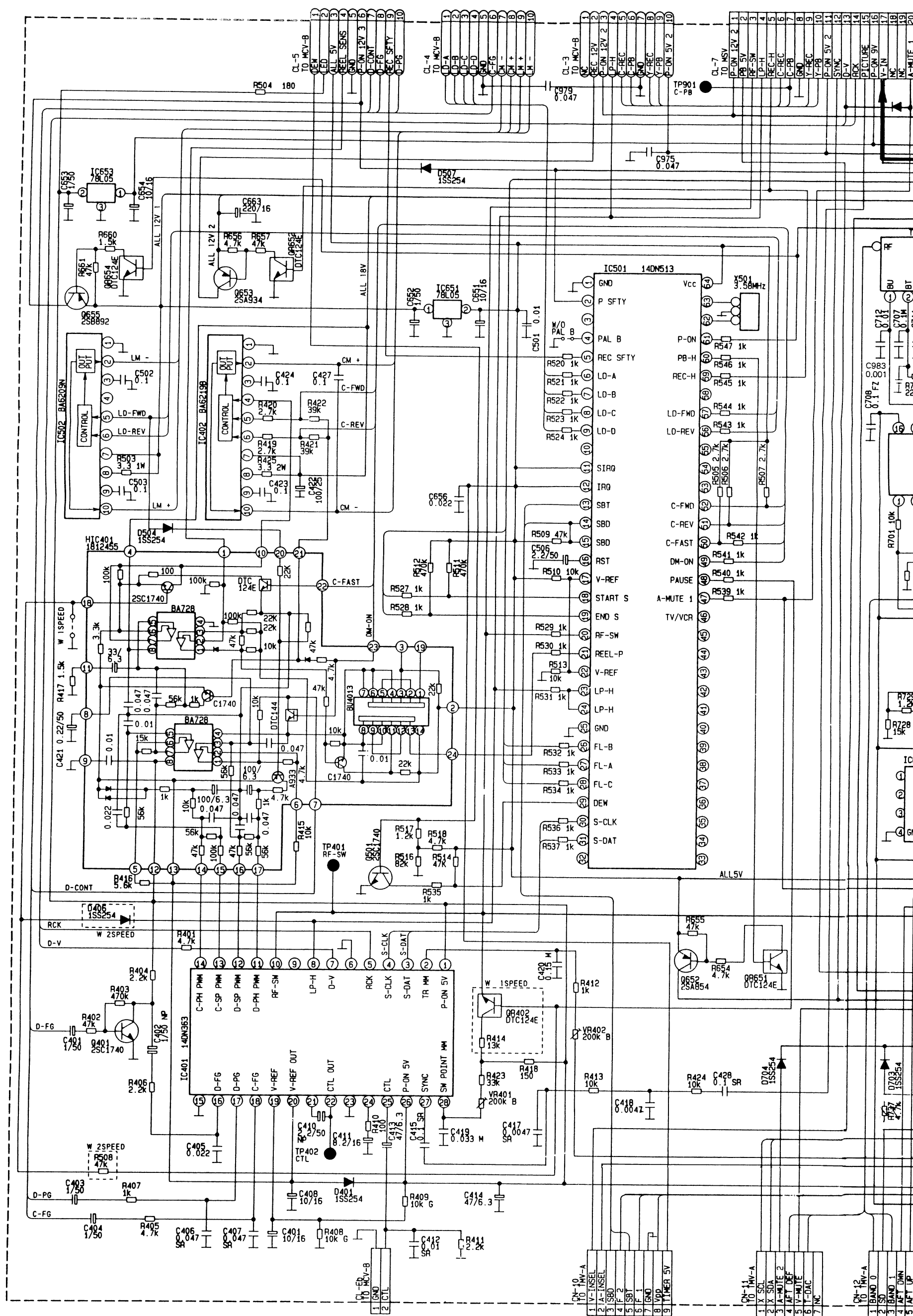
PLAY MODE

Luminance + Chrominance

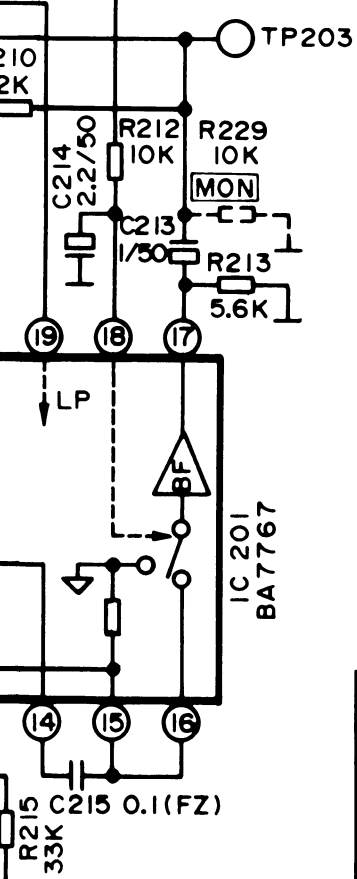
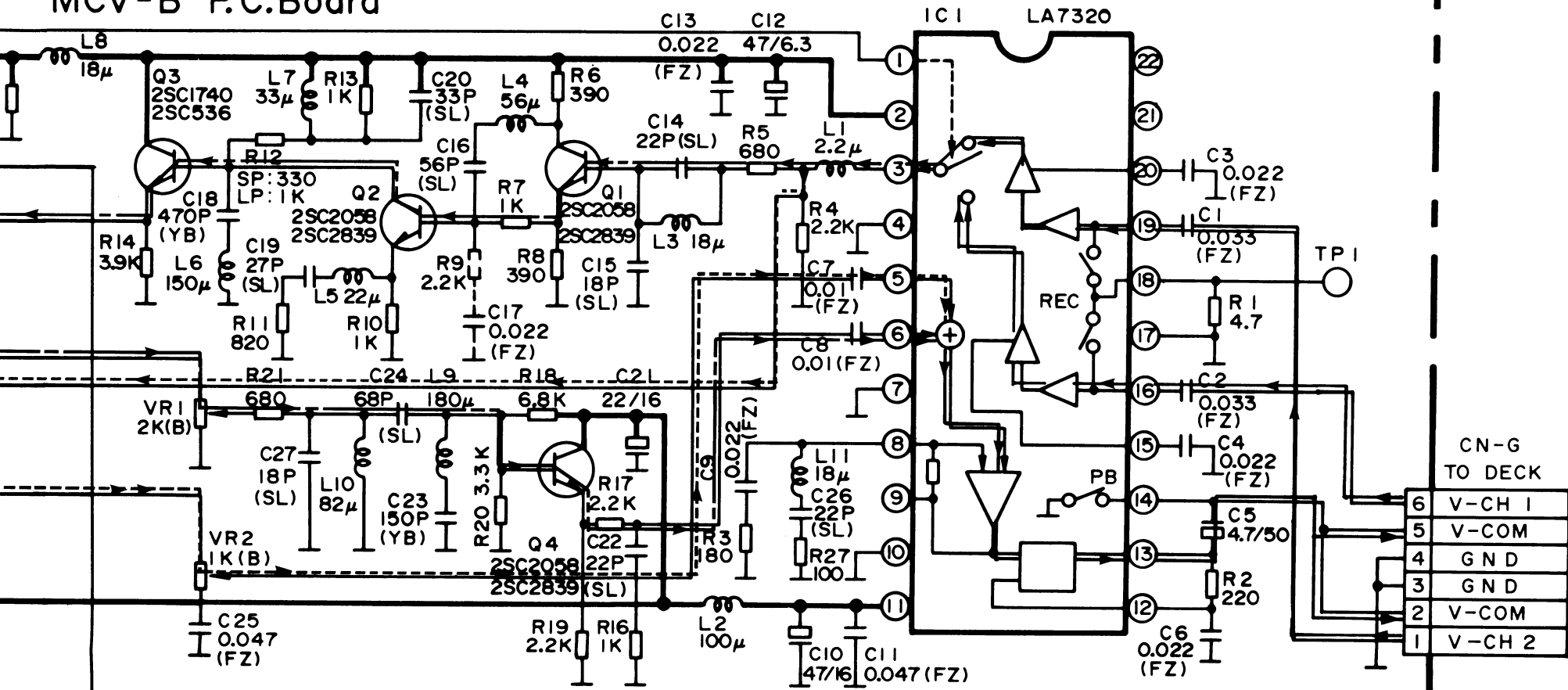
Luminance + Chrominance

7-1. SERVO/SYSTEM CONTROL

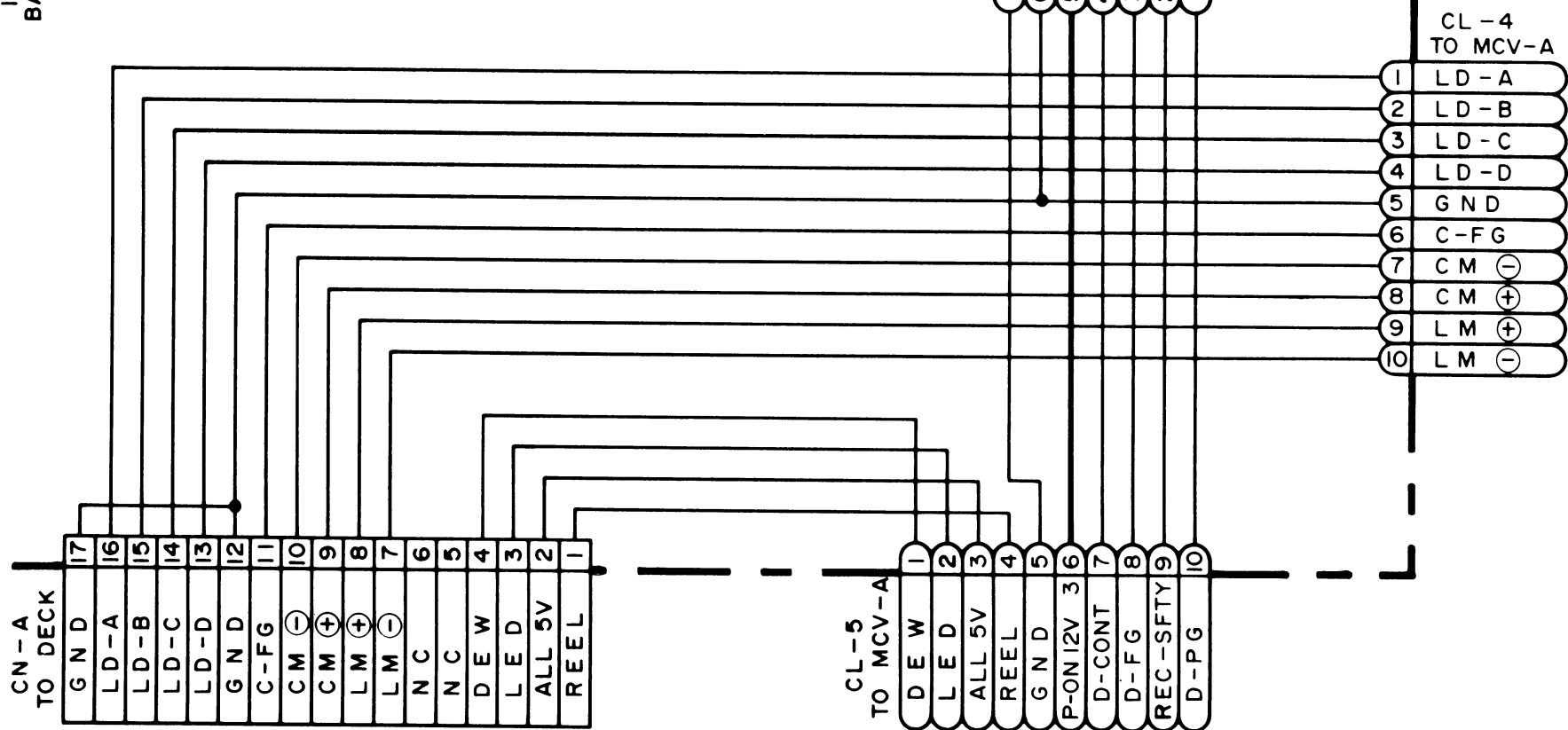
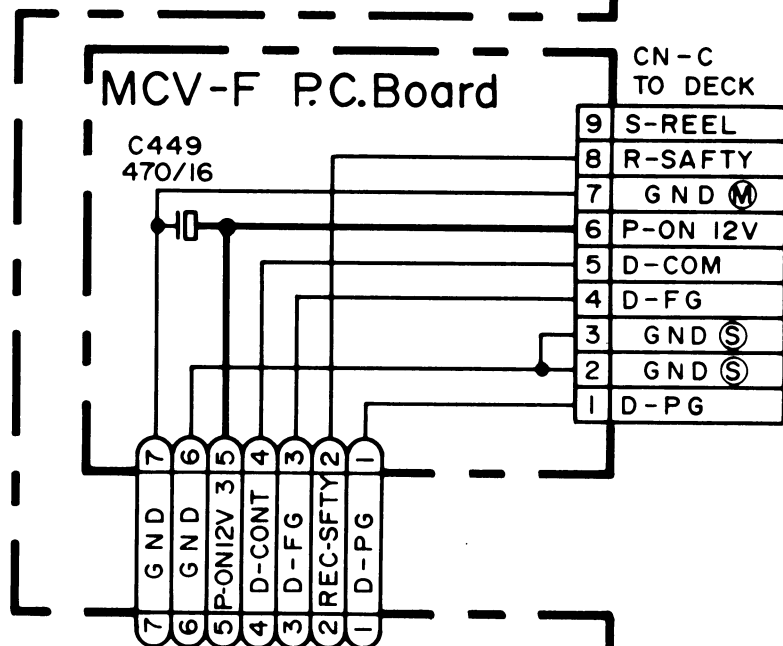
7-1. SERVO/SYSTEM CONTROL



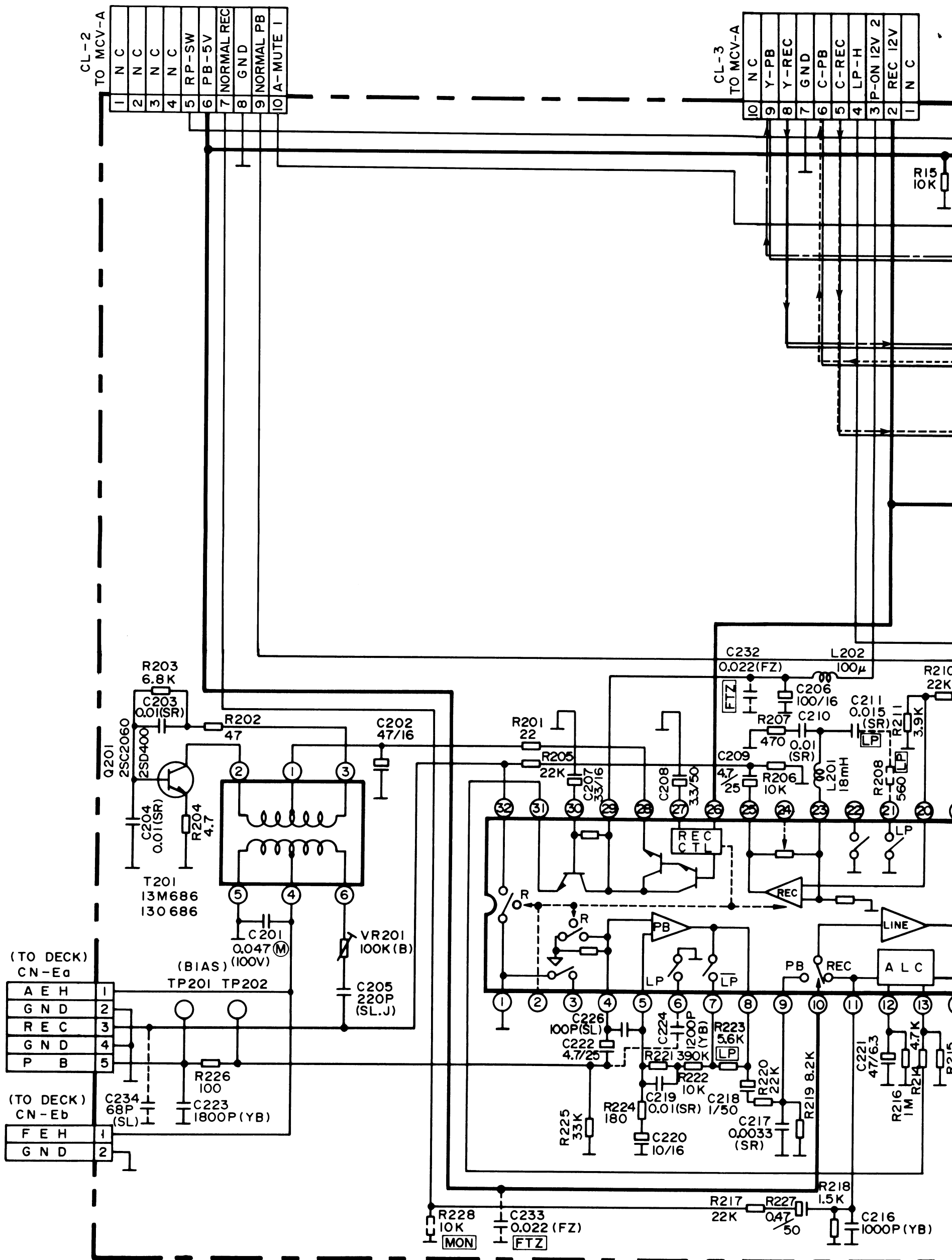
MCV-B P.C.Board



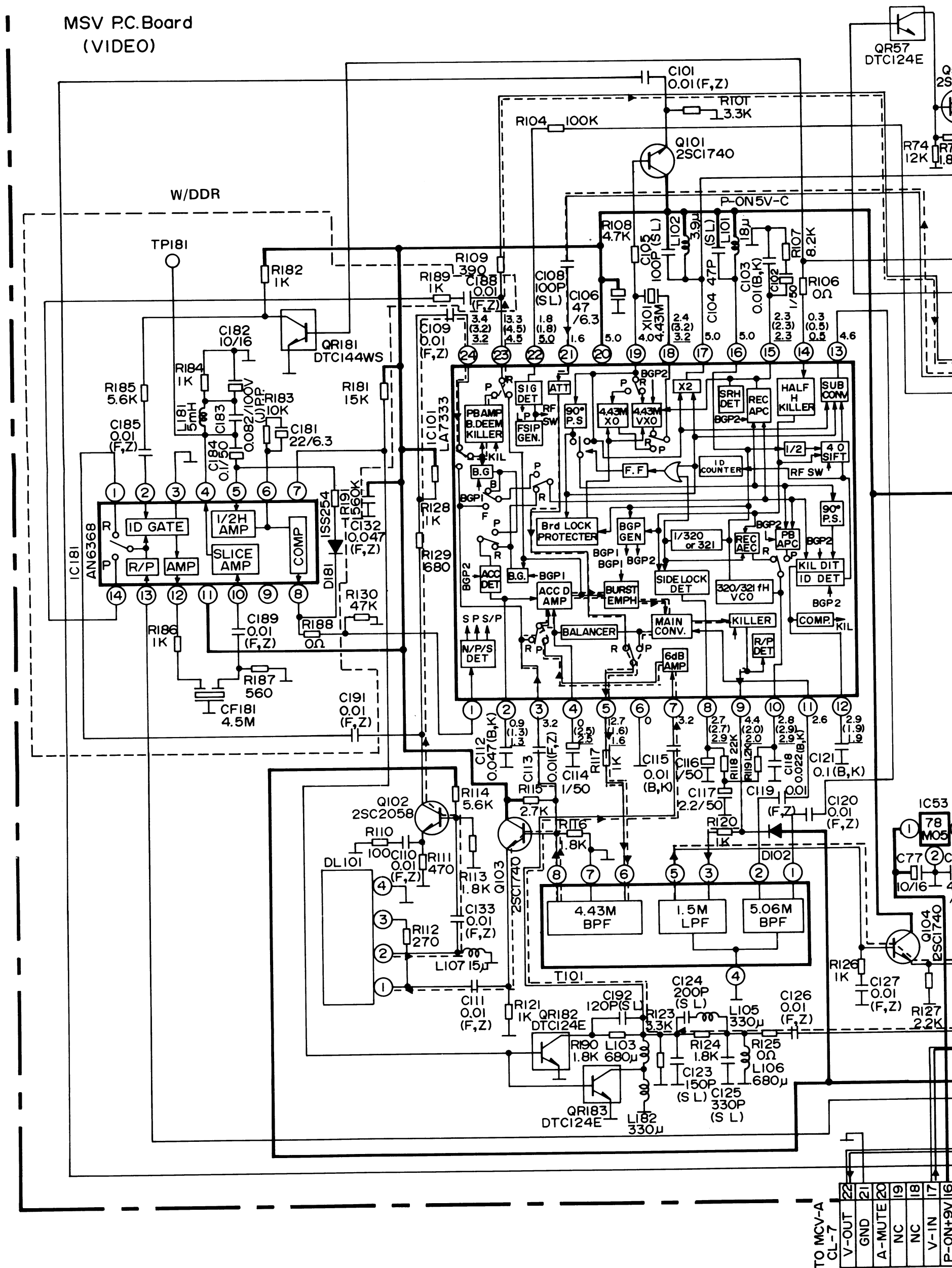
MCV-F P.C.Board



7-3. HEAD AMP/AUDIO



MSV P.C.Board (VIDEO)



_____ Luminance + Chrominance (REC)

———— Luminance (REC)

----- Chrominance (REC)

_____ Luminance + Chromi

———— Luminance (PLAY)

----- Chrominance (PLAY)