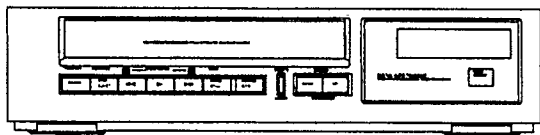


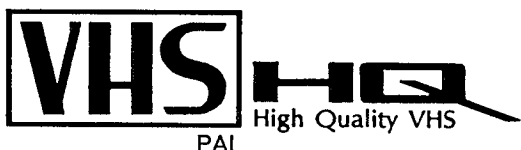
TEAC®



SERVICE MANUAL

MV-314/MV-315

Video Cassette Recorder



PAL

NOTES

- PC boards shown are viewed from parts side.
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

MAIN SECTION

MODEL NO. MV-314/MV-315

VIDEO CASSETTE RECORDER

**MAIN
SECTION**

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SPECIFICATIONS

Test Items	Unit	Minimum	Normal	Maximum	Note
1. VIDEO					
1-1 Video Output (PB)	Vp-p	0.8	1.0	1.2	F6A
1-2 Video Output (R/P)	Vp-p	0.8	1.0	1.2	
1-3 Video S/N (R/P)	dB	40	43		
1-4 Video Color S/N AM (R/P)	dB	37	41		
1-5 Video Color S/N PM (R/P)	dB	30	36		
1-6 Resolution (R/P)	Line	230	245		
2. SERVO					
2-1 Jitter at Low (PB)	μsec		0.07	0.12	F6N
2-2 Wow & Flutter (R/P)	%		0.3	0.5	
3. AUDIO					
3-1 Output (PB)	dBv	-11	-8	-5	F6A
3-2 Output (R/P)	dBv	-11	-8	-3.5	
3-3 S/N (R/P)	dB	36	41		
3-4 Distortion (R/P) input; -10dBv	%		1.0	4.0	
3-5 Freq. resp (R/P) at 200Hz	dB	-6	0	3	
input; -20dB 8kHz	dB	-12	-6	0	
4. TUNER					
4-1 Channel VHF LOW HIGH UHF	ch		0 - 5		
	ch		5A - 11		
	ch		E21-E69		
4-2 Video Output	Vp-p	0.8	1.0	1.2	
4-3 Video S/N (E45ch)	dB	39	42		
4-4 Audio Output	mV/rms	400	550	700	
4-5 Audio S/N	dB	40	46		

Note:

- 1] Nominal specifications represent the design specifications. All unit should be able to approximate these-some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable; in no case should a unit fail to meet limit specifications.
- 2] Specifications are subject to modification.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for 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.

Precaution During Servicing

1. Locations requiring special caution are denoted by labels and inscribed on the cabinet, chassis and certain parts of the product. When servicing the unit, 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 $\triangle$ 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 (23-34.5lbs) of force in any direction will not loosen it after assembling completely.
9. Also check areas surrounding repaired locations.

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 their original positions. Afterwards, apply the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm the specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. See Figure 1 below.

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
230 V	Europe	$\geq 4 \text{ mm (d)}$ $\geq 6 \text{ mm (d')}$

Note:

This table is unofficial and for reference only. Be sure to confirm the precise values.

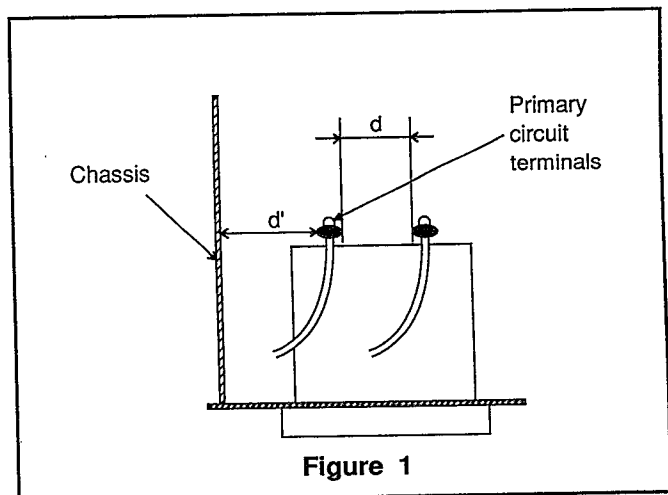


Figure 1

2. Leakage Current Test

Confirm the 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 2 and Table 2.

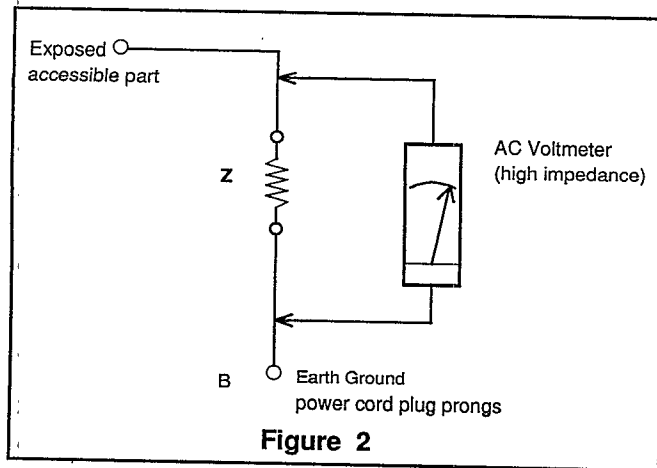


Table 2 : Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
200 to 240 V	Europe Australia	2k Ω RES. in connected	1 $\leq$ 0.7mA Peak 1 $\leq$ 2mA dc	Antenna terminals
		50k Ω RES. in connected	1 $\leq$ 0.7mA Peak 1 $\leq$ 2mA dc	Other terminals

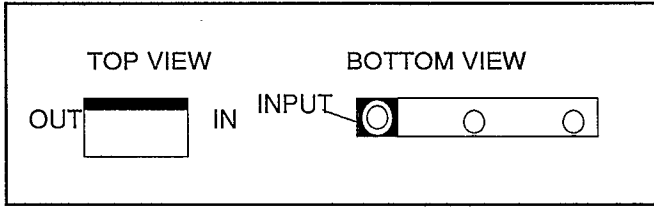
Note:

This table is unofficial and for reference only. Be sure to confirm the precise values.

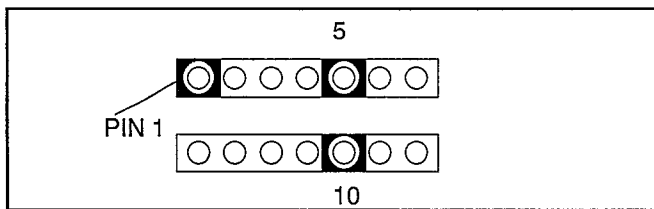
STANDARD NOTES FOR SERVICING

Circuit Board Indications

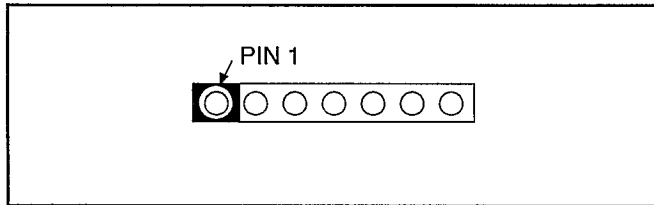
- a. The output pin of the 3 pin Regulator ICs is indicated as shown.



- b. For other ICs, pin 1 and every fifth pin are indicated as shown.



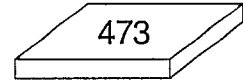
- c. The 1st pin used is indicated as shown.



How to read the values of the flat type chip components

Example :

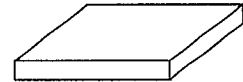
- (a) Resistor



=473=47[kΩ]

(Top View)

- (b) Capacitor



=Not Shown

(Top View)

Caution:

Once chip parts (Resistors, Capacitors, Transistors, etc.) are removed, they must not be reused. Always use a new part.

Replacement Procedures for Leadless (Chip) Components

The following procedures are recommended for the replacement of the leadless components used in this unit.

1.Preparation for replacement

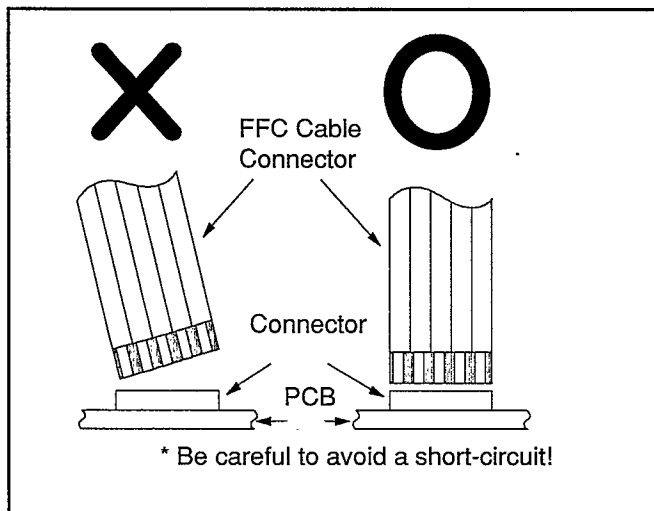
- Soldering iron
Use a pencil-type soldering iron (less than 30 watts).
- Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.
- Soldering time
Do not apply heat for more than 4 seconds.
- Preheating
Leadless capacitors must be preheated before installation.
(266°F-302°F, 130°C-150°C, for about two minutes.)

Note:

- Leadless components must not be reused after removal.
- Excessive mechanical stress and rubbing of the component electrode must be avoided.

Instructions for Connectors

- When you connect or disconnect FFC (Flexible Foil Connector) cable, be sure to disconnect the AC cord.
- FFC cable (Connector) should be inserted parallel into the connector, not at stet.



2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes has melted, remove the leadless component with a twisting motion.

Note:

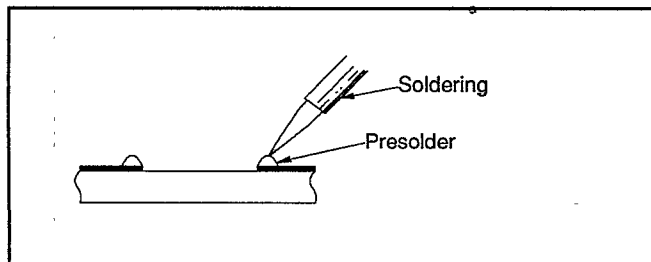
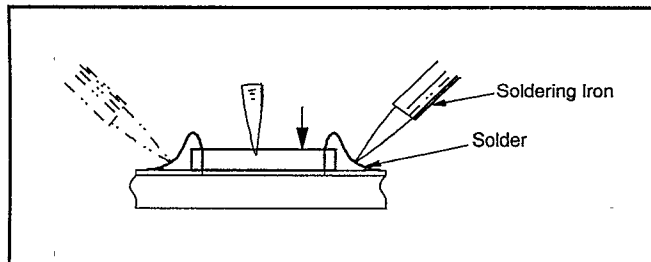
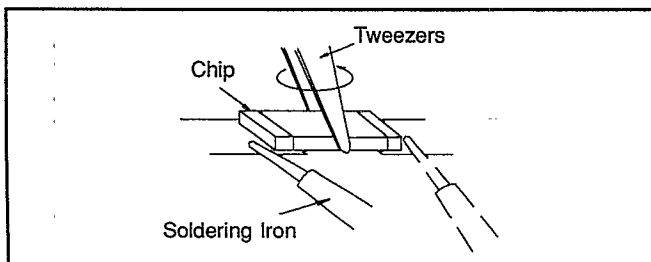
- Do not attempt to lift the component off the board until the component is completely disconnected from the board by the twisting action.
- Be careful not to break the copper foil on the printed circuit board.

3. Installing the leadless component

- Presolder the contact points of the circuit board.
- Press the part downward with tweezers and solder both electrodes as shown below.

Note:

Do not glue the replacement leadless component to the circuit board.



How to Remove / Install Flat Pack IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

- (1) Prepare the HOT-AIR FLAT PACK-IC DESOLDERING MACHINE, then apply hot air to the Flat Pack-IC (about 5~6 seconds) (Fig. S-1-1).

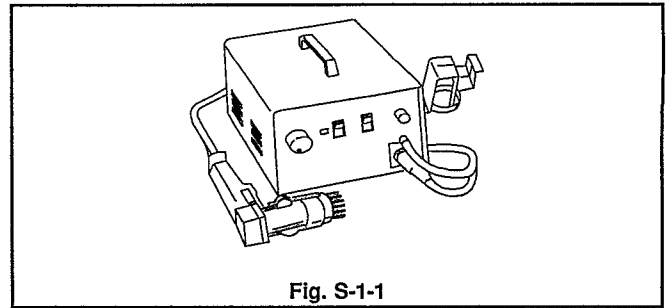


Fig. S-1-1

- (2) Remove the Flat Pack-IC with tweezers while applying the hot air.

Caution:

- Do not supply hot air to the chip parts around the Flat Pack-IC for over 6 seconds because damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage (Fig. S-1-2).

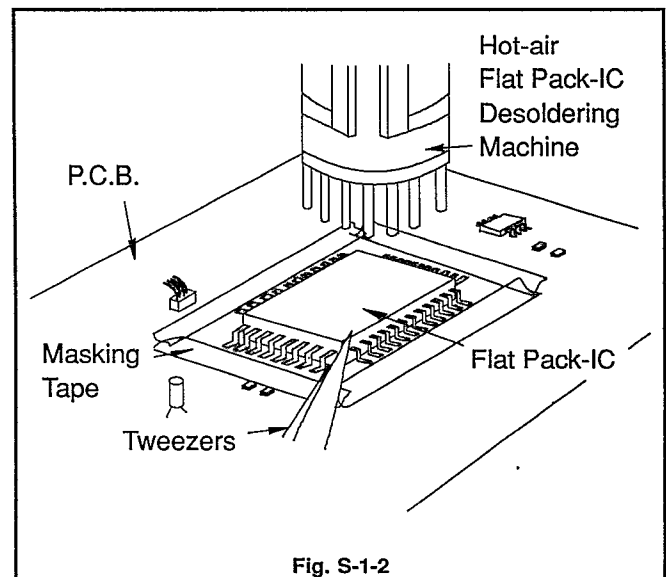
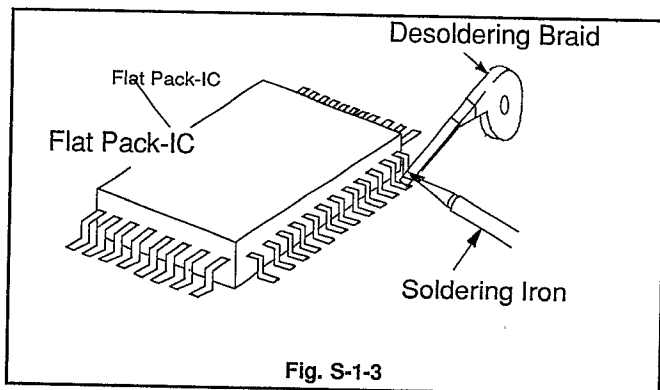


Fig. S-1-2

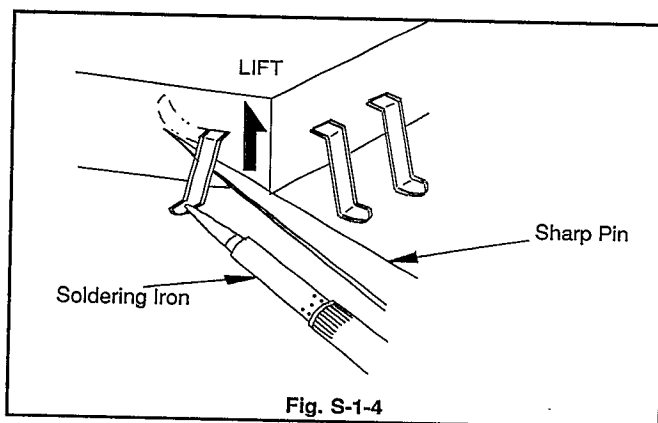
- The Flat Pack-IC on the P.C.B. is affixed with glue, so be careful not to break or damage the foil of each pin or the solder-lands under the IC when removing it.

With Soldering Iron:

- (1) Using desoldering braid, remove the solder from all pins of the Flat Pack-IC. When you use solder flux which is applied to all pins of the Flat Pack-IC, you can remove it easily (Fig. S-1-3).

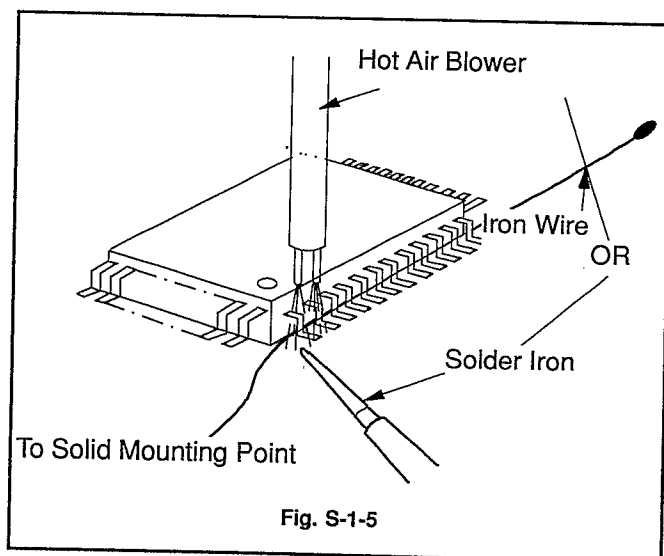


- (2) Lift each lead of the Flat Pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine (Fig. S-1-4).



With Iron Wire:

- (1) Using desoldering braid, remove the solder from all pins of the Flat Pack-IC. When you use solder flux which is applied to all pins of the Flat Pack-IC, you can remove it easily (Fig. S-1-3).
- (2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.



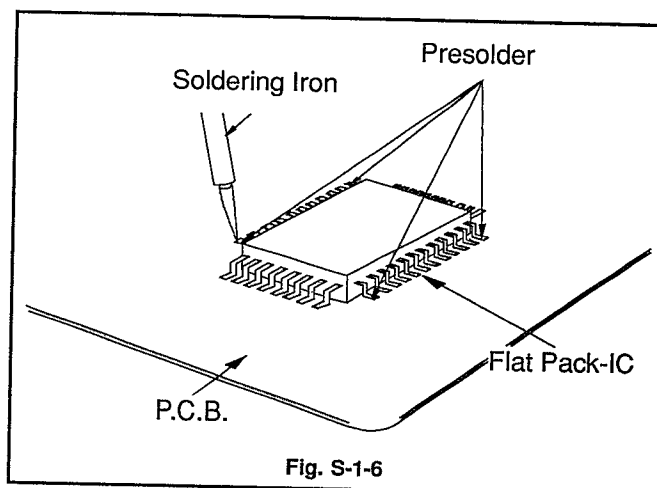
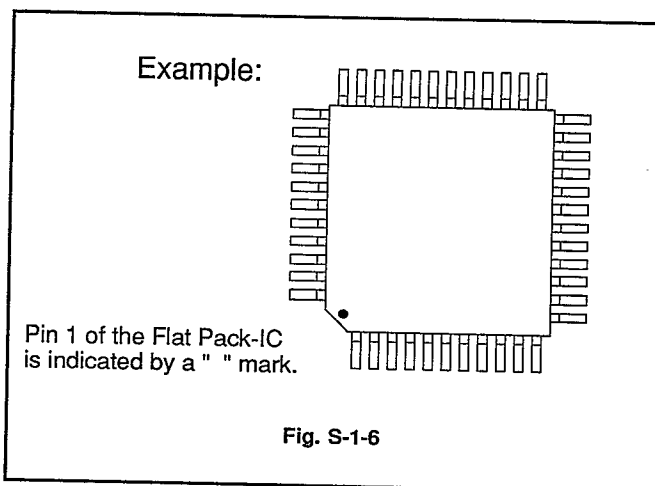
- (3) While heating the pins using a fine tip soldering iron or hot air blower, pull up wire as the solder melts so as to lift the IC leads from the P.C.B. contact pad as shown in Fig. S-1-5.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack-IC is not being held by glue. When the Flat Pack-IC is removed from the P.C.B., handle it gently because it may be damaged if force is applied.

2. Installation

- (1) Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack-IC on the P.C.B., so you can install a replacement Flat Pack-IC more easily.
- (2) The "●" mark on the Flat Pack-IC indicates pin 1 (See Fig. S-1-6). Be sure this mark matches the 1 on the P.C.B. when positioning for installation. Then pre-solder the four corners of the Flat Pack-IC (See Fig. S-1-7).



- (3) Solder all pins of the Flat Pack-IC. Be sure that none of the pins have solder bridges.

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

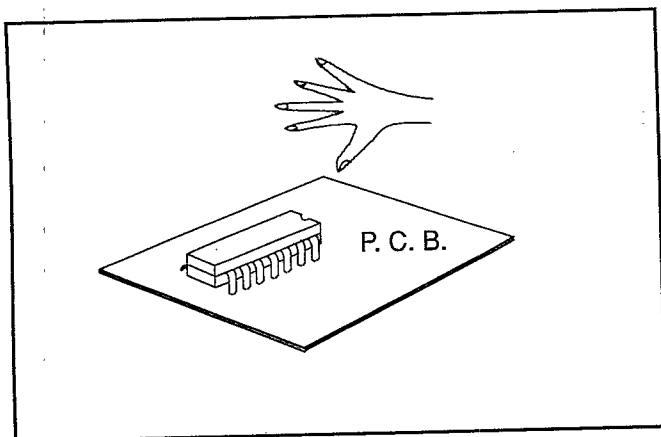
Ground for Human Body

Be sure to wear a grounding band (1M ohm) that is properly grounded to remove any static electricity that may be charged on the body.

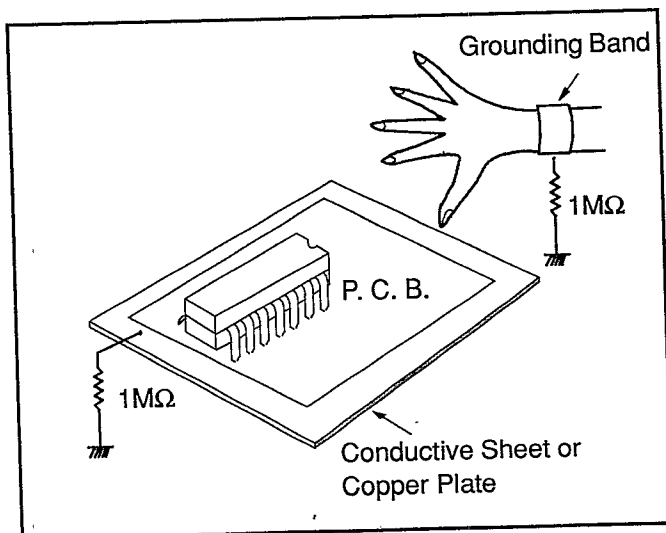
Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1M ohm) on the workbench or other surface, where the semiconductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors with your clothing.

Incorrect



Correct



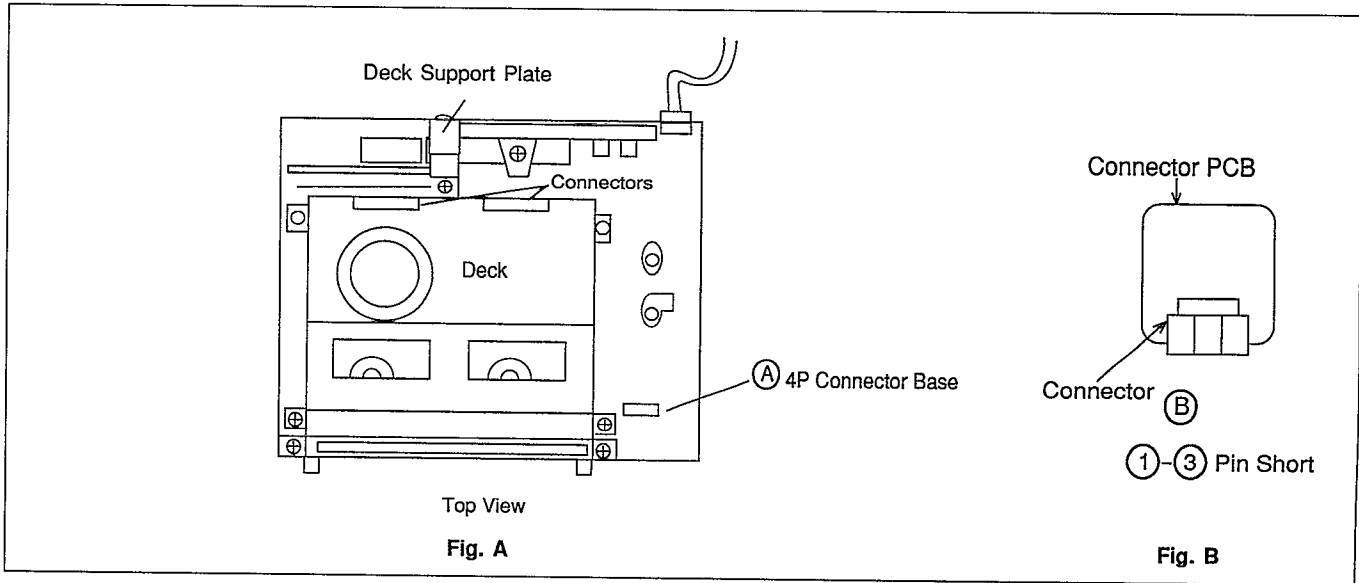
PREPARATION FOR SERVICING

Note:

Optical System is used for Tape Start and End detection. So there are cases unit moves incorrectly when Top Cover is removed.

Preparing:

Insert the service connector P.C.B. (B) (Fig. B) to the connector base of unit (A) (Fig. A) to cut the signal from sensors.



[CIRCUIT]

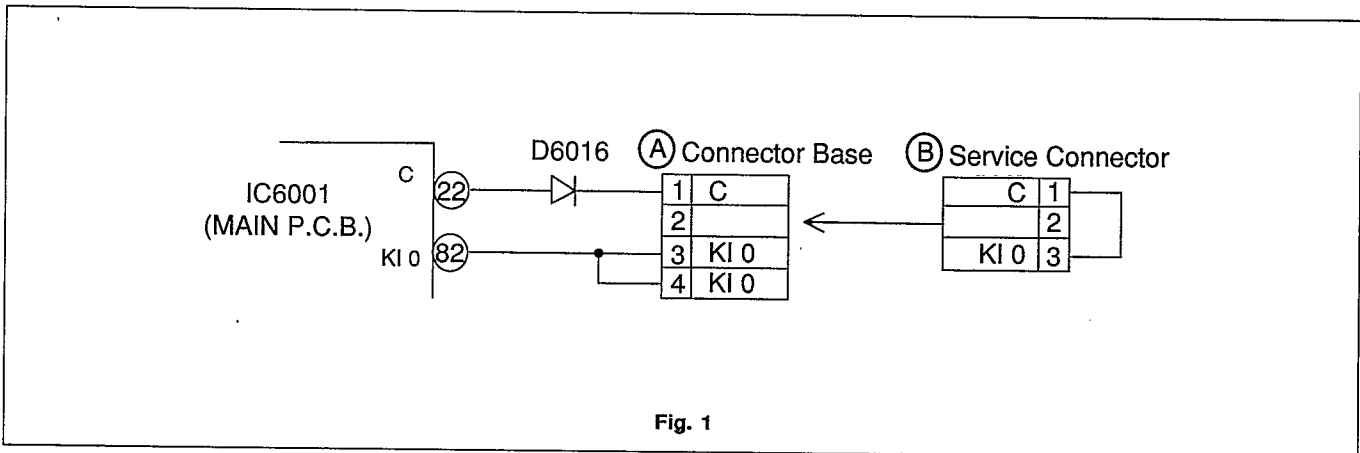


Fig. 1

DISASSEMBLY INSTRUCTIONS [CABINET]

1-1. Bottom Plate Removal

Remove 3 Screws (S-1).
Slide the Bottom Plate in the direction of the arrow.
Remove 8 Locking Tabs (L-1). (Fig.1)

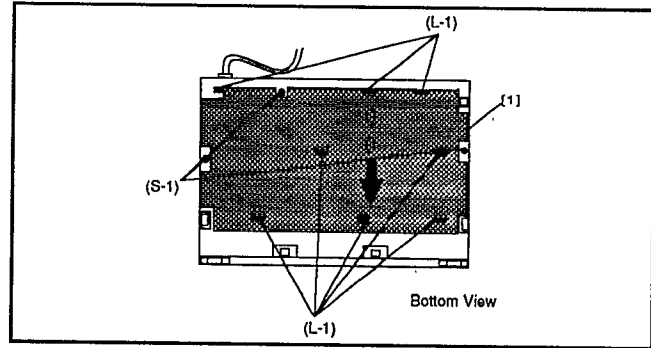


Fig. 1

1-2. Top Case Removal

Remove 1 Screws (S-2).

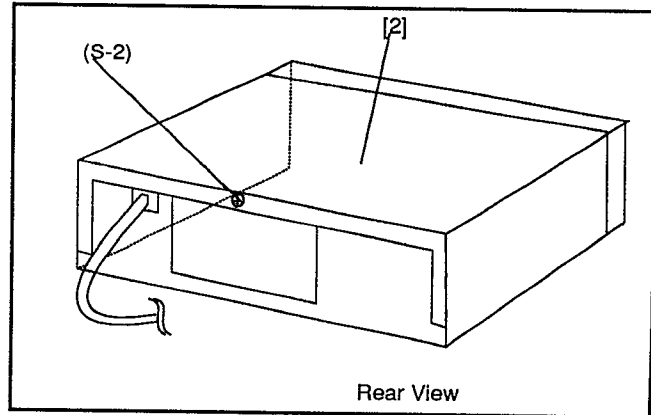


Fig. 2

1-3. Front Assembly Removal

Remove 2 Screws (S-3).
Release 7 Locking Tabs (L-2). (Fig. 3).

Note:

When you reinstall the Front Ass'y, take care not to break the Locking Tabs. First install the Locking Tab (A), then install the Locking Tab (B), holding up the the Cassette Door Lift (Fig. 4).

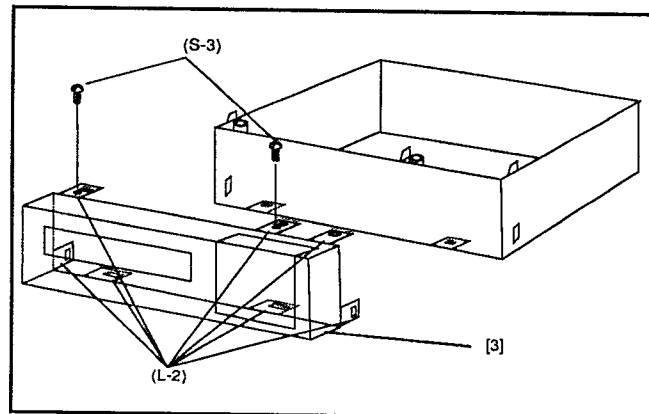


Fig. 3

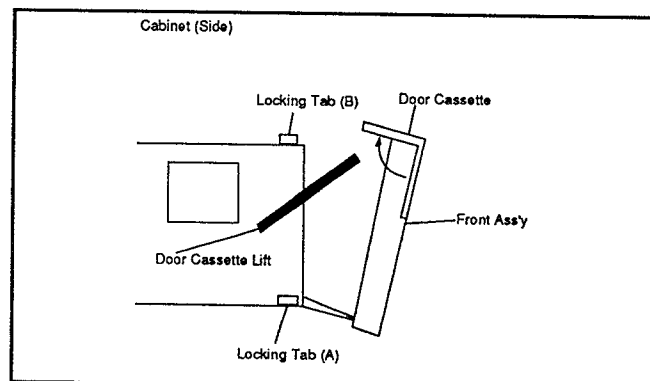


Fig. 4

1-4. Control P.C.B. Removal

Release 2 Locking Tabs (L-3).
Disconnect 2 Connectors. (Fig. 5)

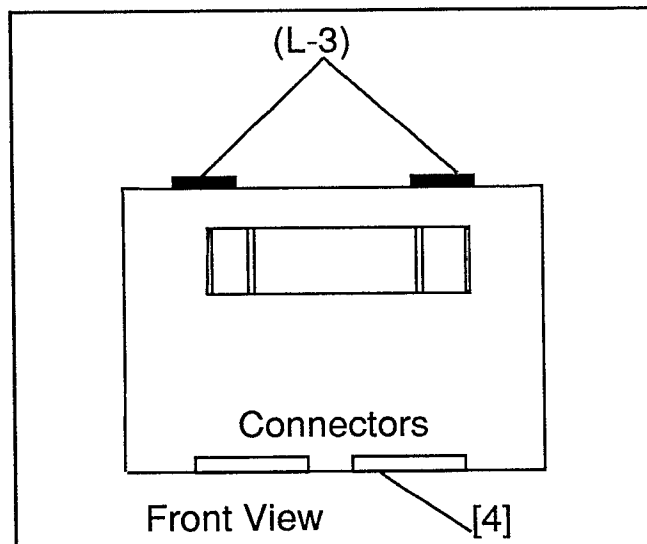
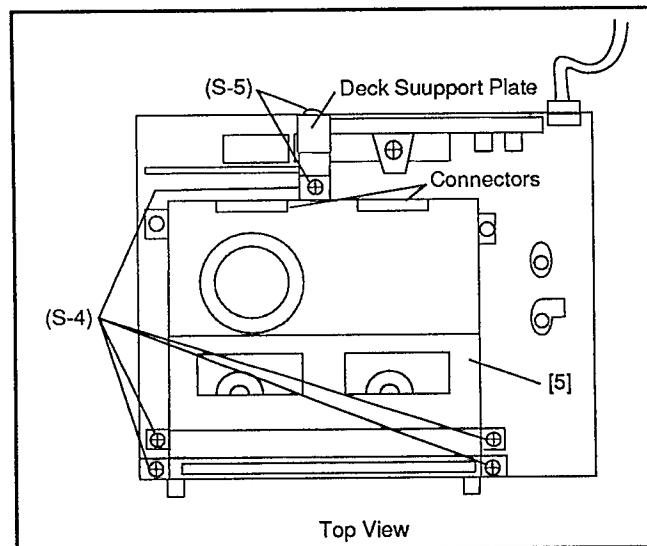


Fig. 5

1-5. Deck Assembly Removal

Remove 2 Screws (S-5).
Remove the Deck Support Plate.
Remove 4 Screws (S-4).
Disconnect the 2 Connectors. (Fig. 6)

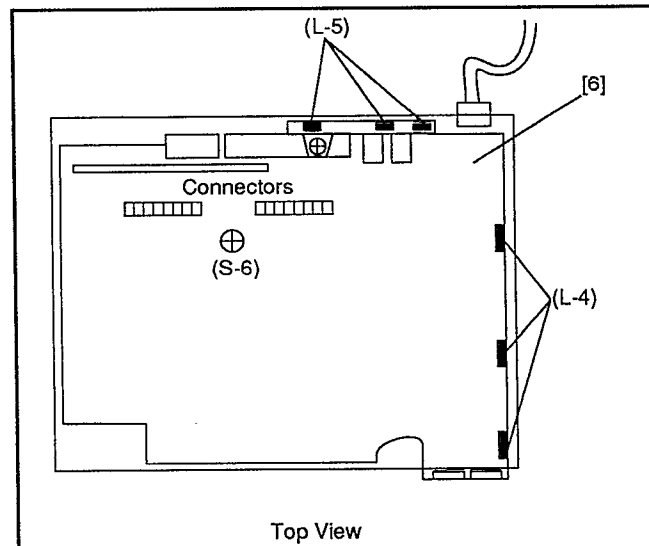


Top View

Fig. 6

1-6. Main P.C.B. Removal

Remove Screw (S-6).
Release 3 Locking Tabs (L-4) and 3 Locking Tabs (L-5). (Fig. 7)

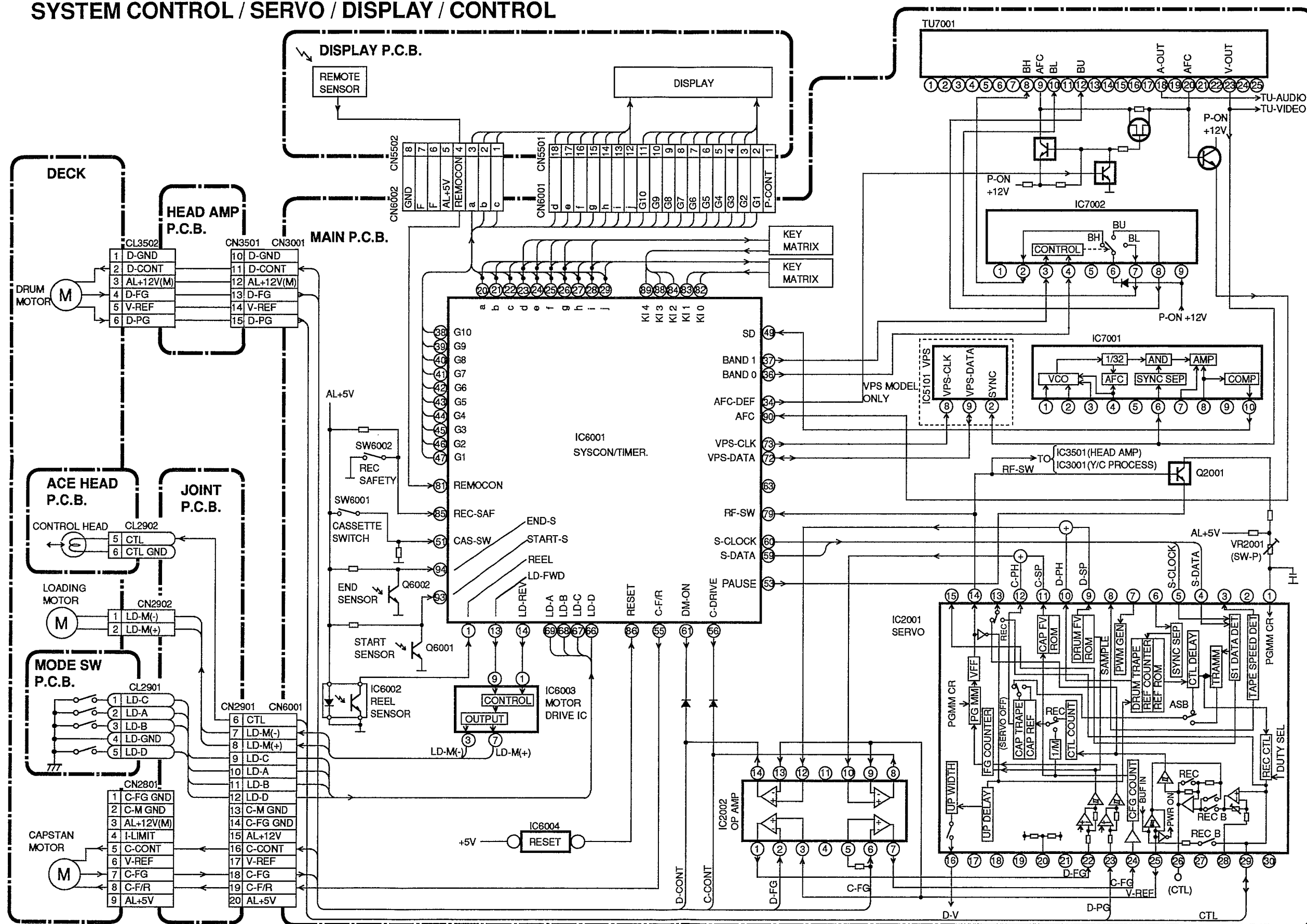


Top View

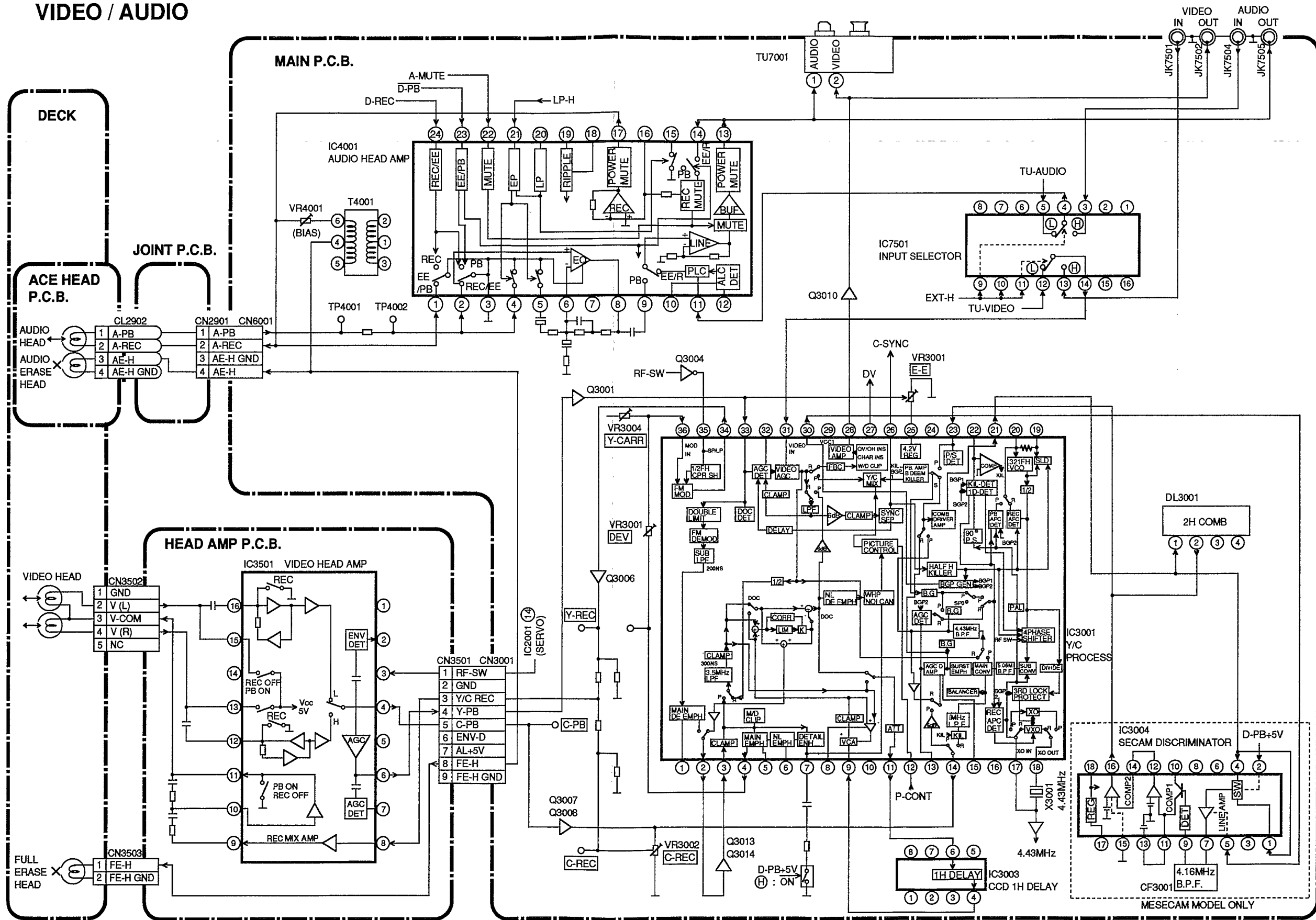
Fig. 7

BLOCK DIAGRAMS

SYSTEM CONTROL / SERVO / DISPLAY / CONTROL



VIDEO / AUDIO



ELECTRICAL ADJUSTMENT INSTRUCTIONS

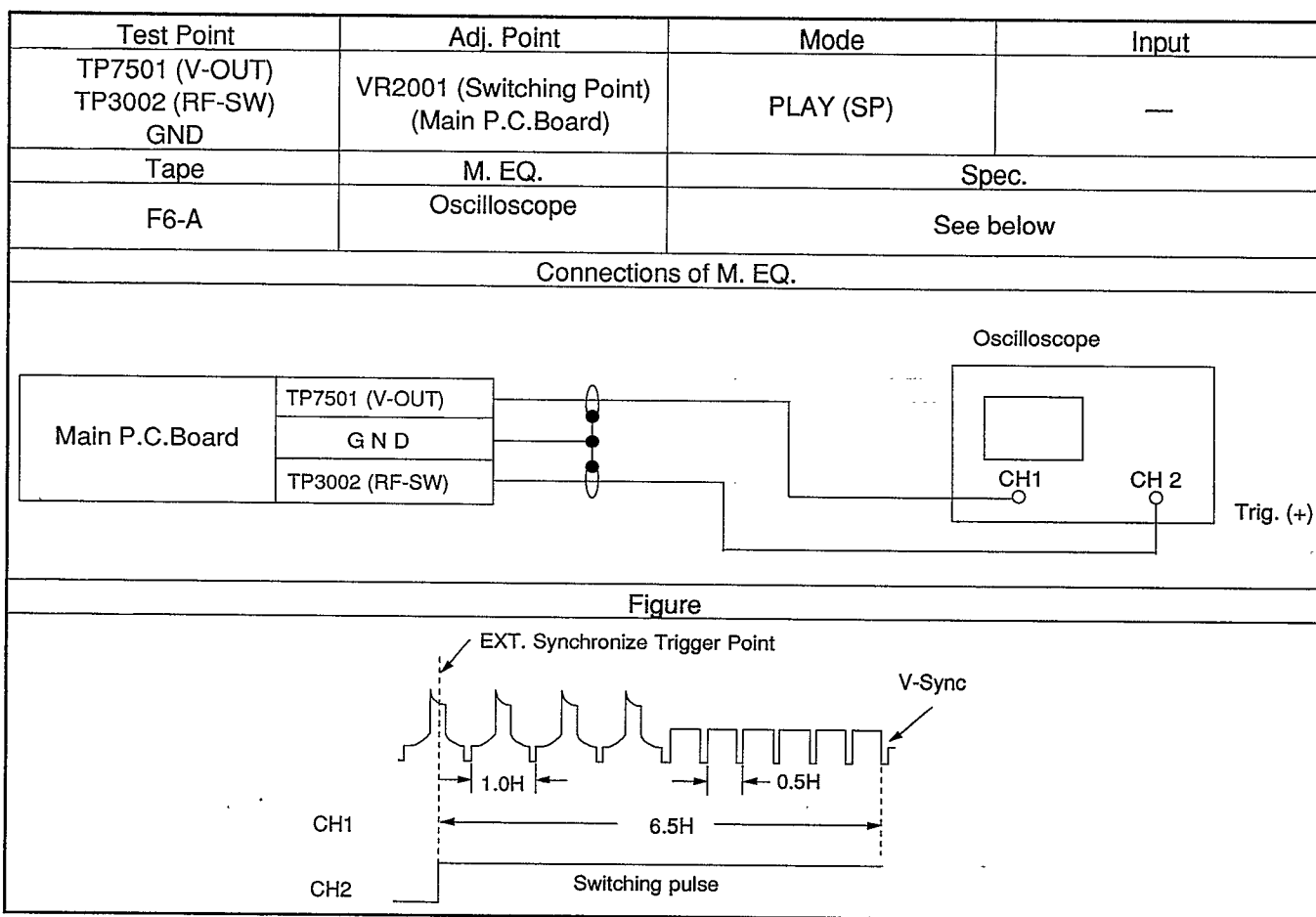
NOTE:

Electrical adjustment 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, Frequency Counter

SWITCHING POINT ADJUSTMENT



Reference Notes:

1. Connect equipments as shown in the above table.
2. Adjust the Tracking control to its center position. Press + and – of Tracking control Button at same time.
3. Playback the test tape and adjust VR2001 so that the V-sync front edge of CH1 video output waveform is delayed 6.5H(416 μ s) from the rising of CH2 Head Switching pulse waveform.

E-E LEVEL ADJUSTMENT

Purpose:

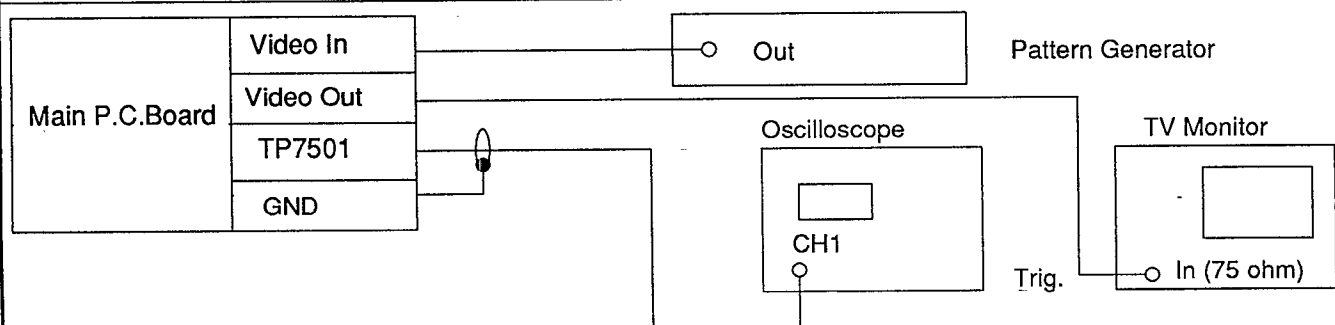
Set the optimum E-E Luminance Level.

Symptom of Misadjustment:

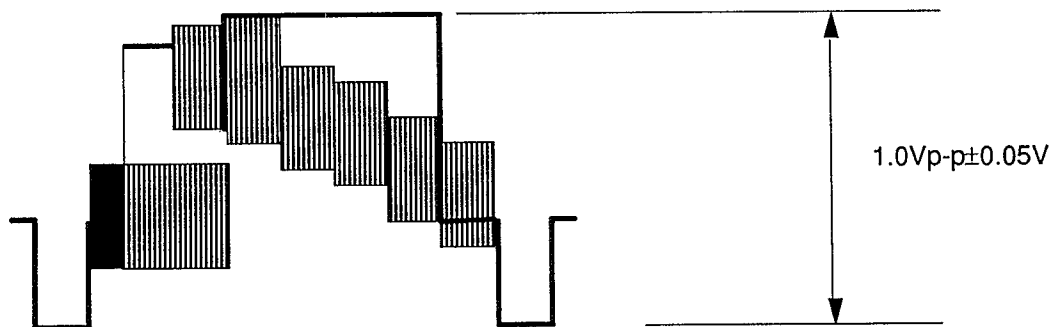
If the E-E Level is too high, TV may overload. If the Level is too low, the S/N Ratio deteriorates.

Test Point	Adj. Point	Mode	Input
TP7501 (V-OUT) GND	VR3003 (Main P.C.Board)	E-E	Color Bar signal with 100% White
Tape	M. EQ.	Spec.	
----	Pattern Generator TV Monitor Oscilloscope	1.0Vp-p±0.05V	

Connections of M. EQ.



Figure



Reference Notes:

1. Connect equipments as shown in the above table.
2. Input Color Bar signal with 100% White to Video Input.
3. Adjust VR3003 so that the video level becomes 1.0Vp-p±0.05V.

FM CARRIER DEVIATION ADJUSTMENT

Purpose:

To align FM carrier deviation.

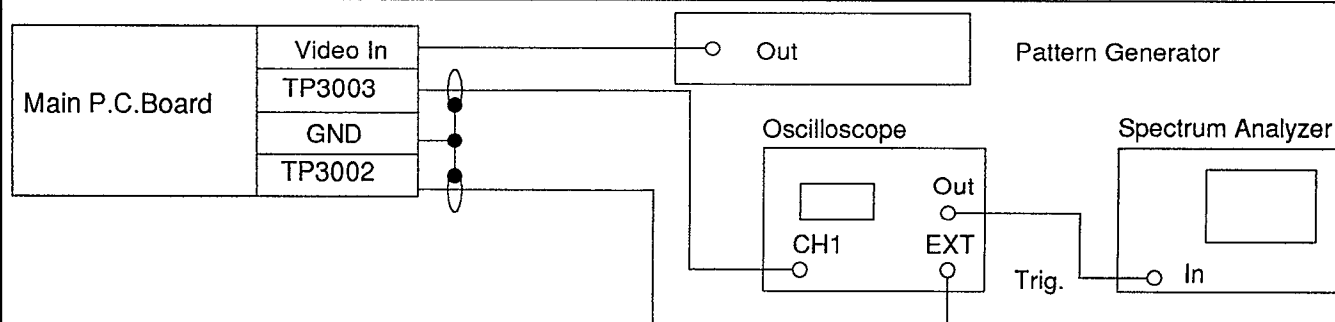
Symptom of Misadjustment:

If the deviation is not correct, abnormal contrast of light and shadow on the picture may be seen.

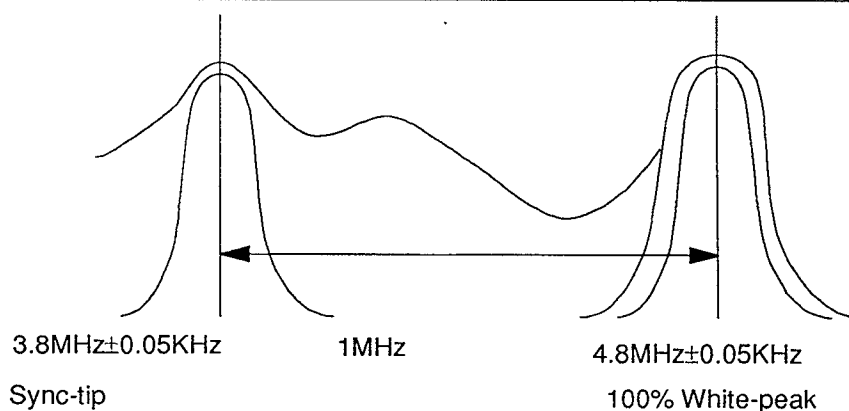
If the carrier deviation is not correct, Beats appear on the picture.

Test Point	Adj. Point	Mode	Input
TP3003 (Y-REC) TP3002 (RF-SW)	VR3004 (CRR) VR3001 (DEV) (Main P.C.Board)	REC (SP)	Color Bar signal with 100% White
Tape	M. EQ.	Spec.	
Blank Tape	Pattern Generator Spectrum Analyzer Oscilloscope	Sync-tip $3.8\text{MHz} \pm 0.05\text{MHz}$ White-peak $4.8\text{MHz} \pm 0.05\text{MHz}$	

Connections of M. EQ.



Figure



Reference Notes:

1. Connect equipments as shown in the above table.
2. Input Color Bar signal with 100% White to Video Input.
3. Adjust Sync-tip to $3.8\text{MHz} \pm 0.05\text{MHz}$ by VR3004, White-peak to $4.8\text{MHz} \pm 0.05\text{MHz}$ by VR3001.

REC. CURRENT ADJUSTMENT

Purpose:

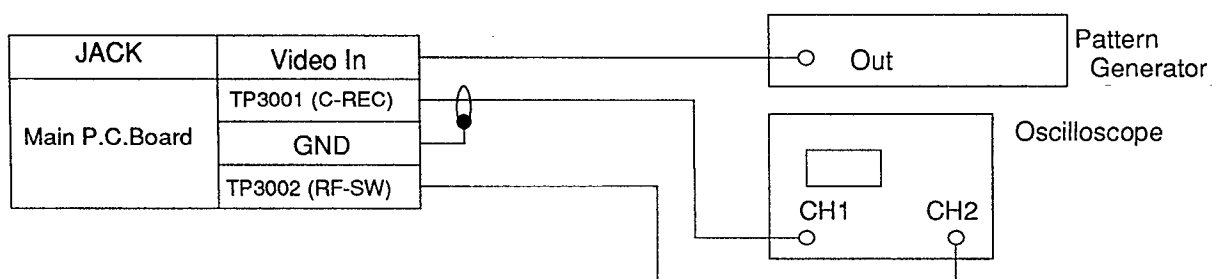
Set the optimum Record Chroma and Luminance Levels.

Symptom of Misadjustment:

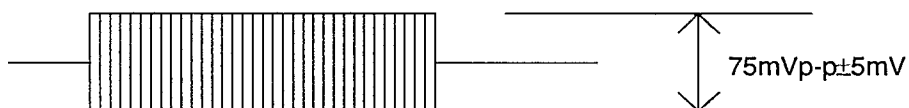
If the Record Chroma Level is too high, beats may cause on the picture, and in case of too low, the Chroma S/N Ratio will be lower. If the Record Luminance Level is too high, Video may overload, and in case of too low, S/N Ratio deteriorates.

Test Point	Adj. Point	Mode	Input
TP3001 (C-REC) TP3002 (RF-SW)	VR3002 (Main P.C.Board)	REC	Red only
Tape	M. EQ.	Spec.	
Blank Tape	Pattern Generator Oscilloscope	Chroma 75mVp-p±5mV	

Connections of M. EQ.



Figure



Reference Notes:

1. Connect equipments as shown in the above table.
2. Input Red only signal to Video Input.
3. Adjust VR3002 so that chroma level becomes 75mVp-p±5mV.

REC. BIAS CURRENT ADJUSTMENT

Purpose:

Set Optimum Record Audio Bias Level.

Symptom of Misadjustment:

If Audio Bias Level is too high, the Frequency Responce deteriorates. If the level is too low, sound distortion may cause.

Test Point	Adj. Point	Mode	Input
TP4001 (BIAS +) TP4002 (BIAS -)	VR4001 (BIAS) (Main P.C.Board)	REC (SP)	—
Tape	M. EQ.	Spec.	
Blank Tape	AC Voltmeter (RMS)	25±2mV RMS	

Connections of M. EQ.

Main P.C.Board

TP4001

TP4002

AC Voltmeter (RMS)

(+)

(-)

Reference Notes:

1. Connect equipments as shown in the above table.
2. Insert a blank tape and set the VCR to REC mode.
(Do not set to PAUSE mode, the bias oscillation is stopped.)
3. Adjust VR4001 so that the voltage becomes 25±2mV RMS

SECAM 1/2f COIL ADJUSTMENT

Purpose:

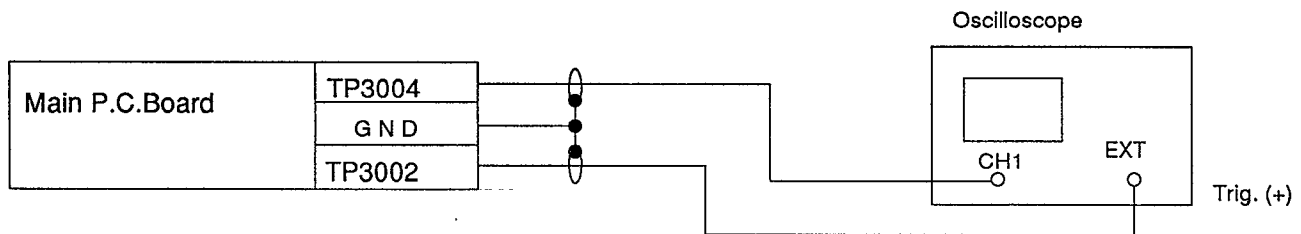
To detect SECAM Signal Correctly.

Symptom of Misadjustment:

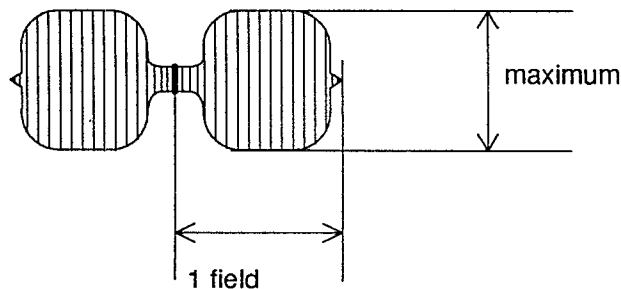
Black and White Picture only appears if SECAM Signal is Low Level.

Test Point	Adj. Point	Mode	Input
TP3004 (SECAM, CH1) TP3002 (RF-SW)	T3001 (MESECAM) (Main P.C.Board)	PLAY	—
Tape	M. EQ.	Spec.	
F5-A	Oscilloscope	See below.	

Connections of M. EQ.



Figure



Reference Notes:

1. Connect equipments as shown in the above table.
2. Adjust T3001 so that output level becomes maximum.

Note: Require this adjustment for MESECAM mode only.

SCHEMATIC DIAGRAMS / C. B. A. AND TEST POINTS

STANDARD NOTES

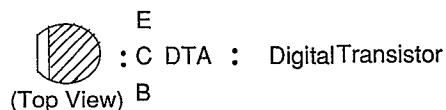
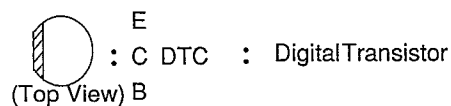
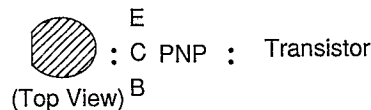
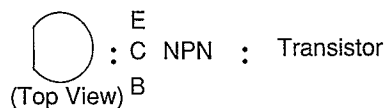
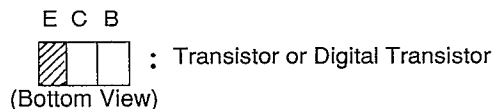
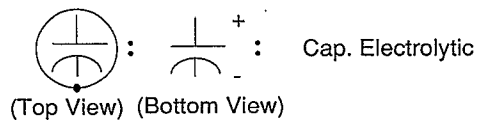
Warning

Many electrical and mechanical parts marked with  in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes :

- ① Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- ② All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
- ③ Resistor wattages are 1/5W or 1/6W unless otherwise specified.
- ④ All capacitance values are indicated in μF ($P=10^{-6}\mu F$).
- ⑤ All voltages are DC voltages unless otherwise specified.

☆ Capacitors and transistors are noted with the following symbols.

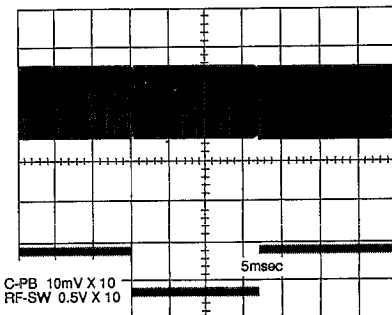
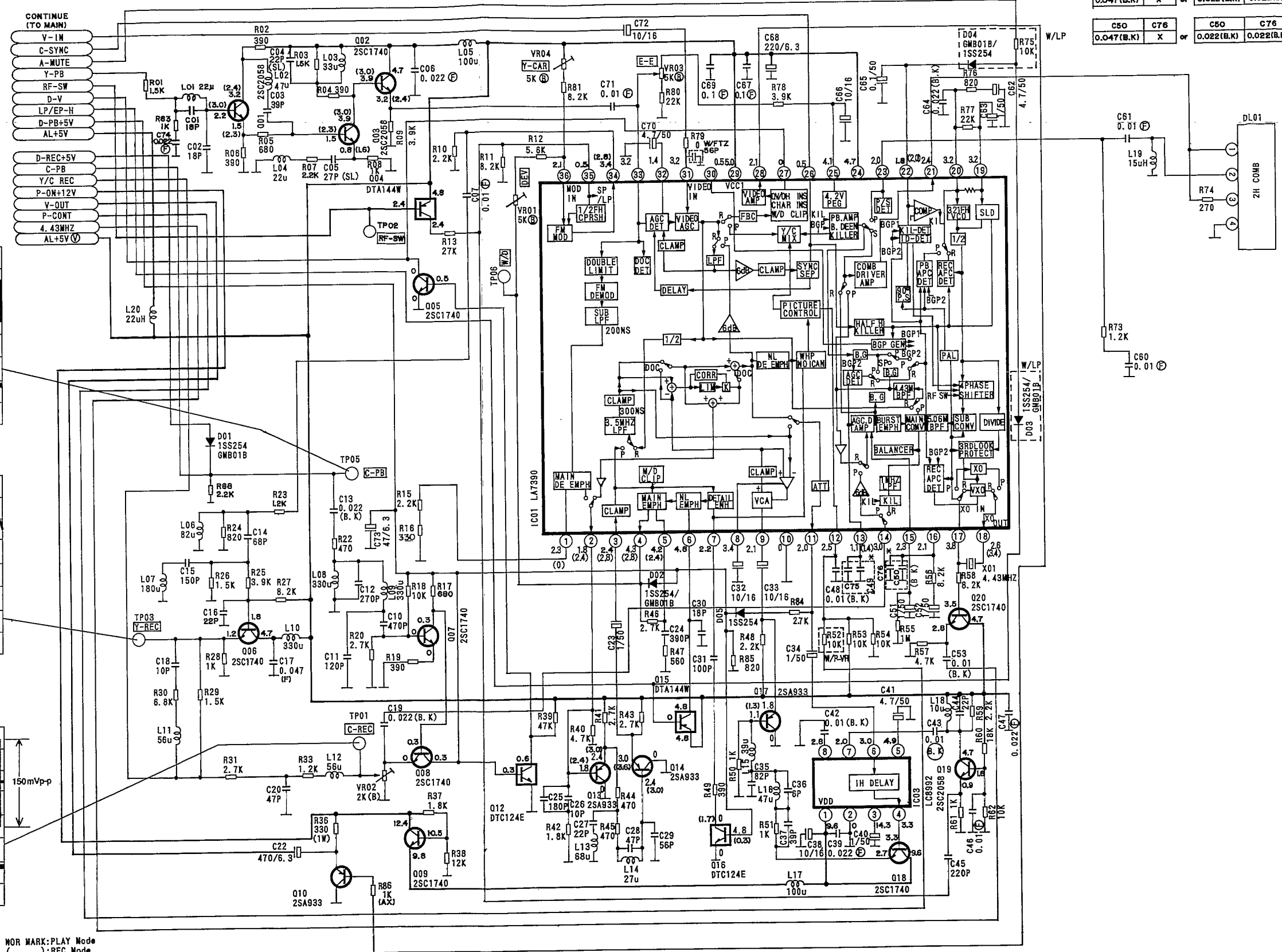


Y / C PROCESS SCHEMATIC DIAGRAM

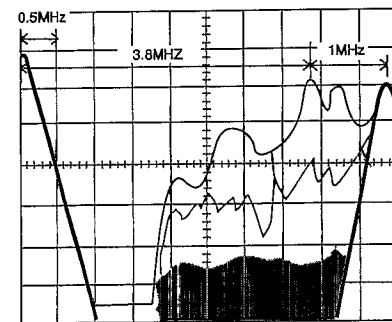
SYMBOL NO. #30** ~

*NOTE:

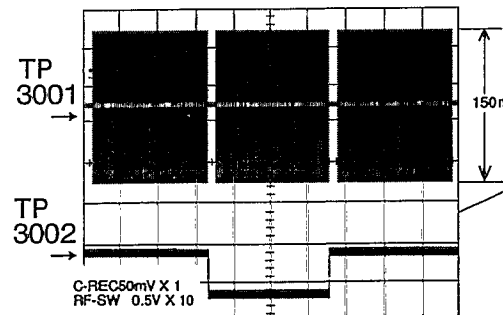
C49	C75	C49	C75
0.047(B.K)	X	0.022(B.K)	0.022(B.K)
C50	C76	C50	C76
0.047(B.K)	X	0.022(B.K)	0.022(B.K)



Mode: PLAY
Test Tape: F6-A



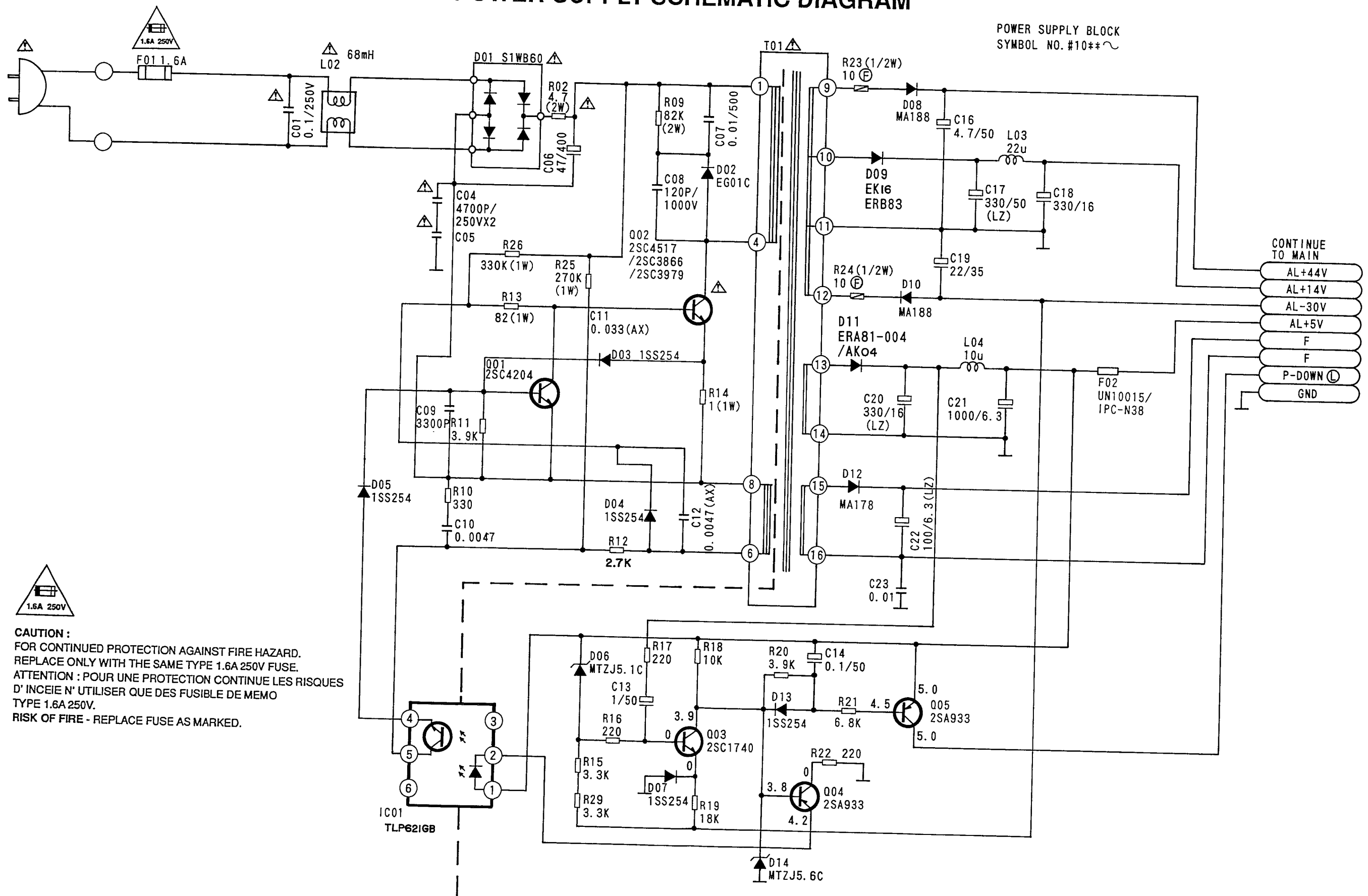
Mode: REC(SP)
Input: Color Bar Signal
with 100% White



Mode: REC
Input: RED ONLY Signal

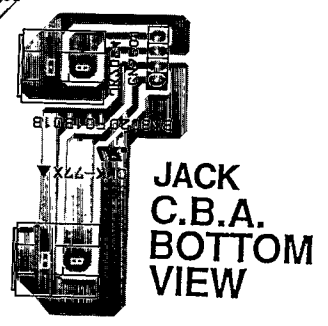
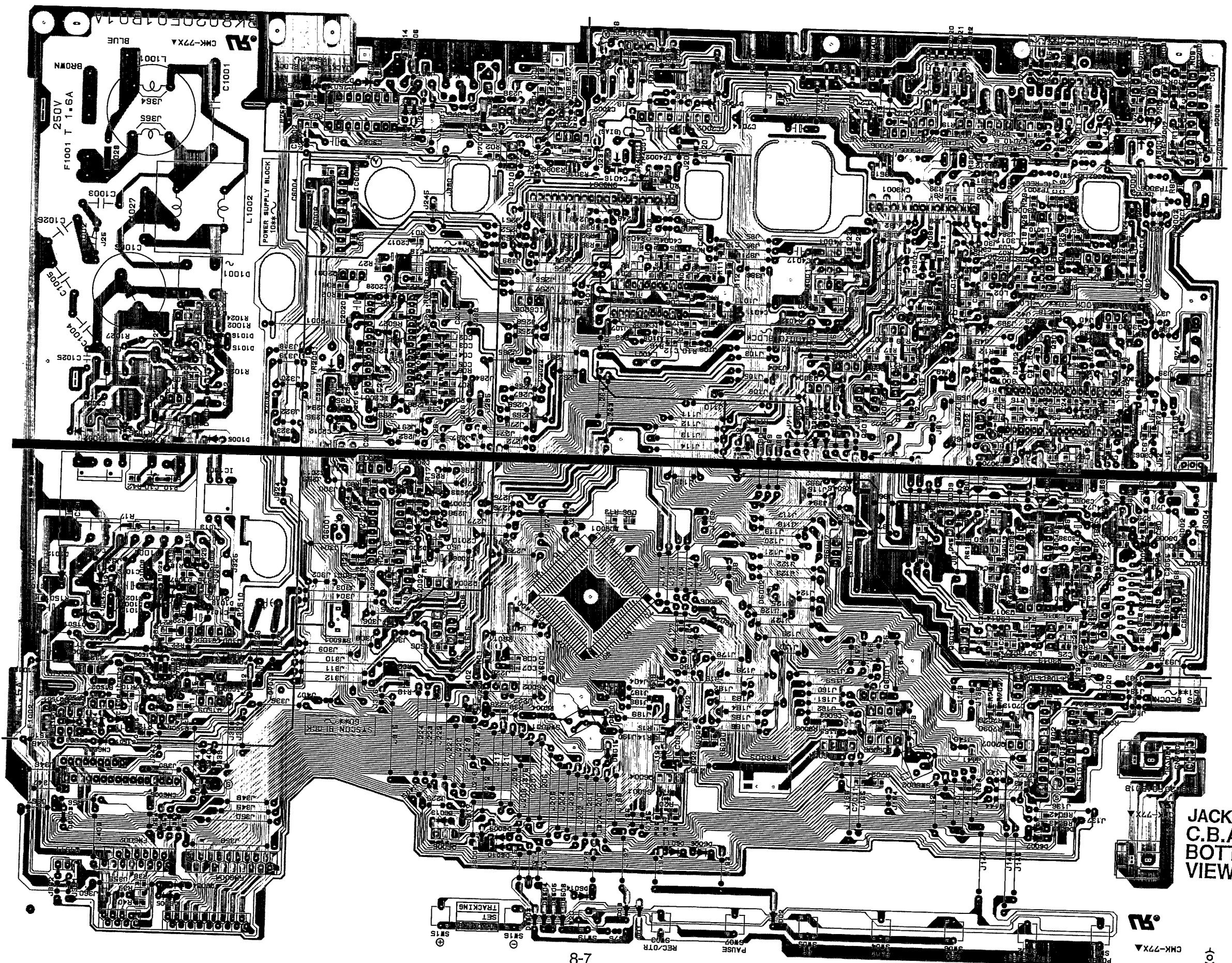
WDR MARK:PLAY Mode
():REC Mode

POWER SUPPLY SCHEMATIC DIAGRAM

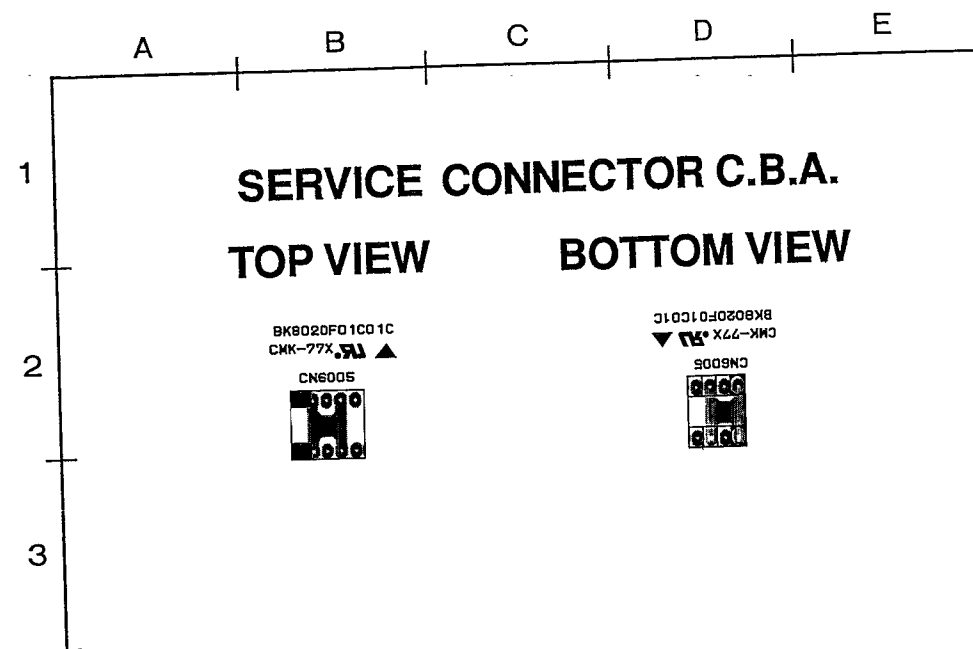


A B C D E F G H I J K L M N

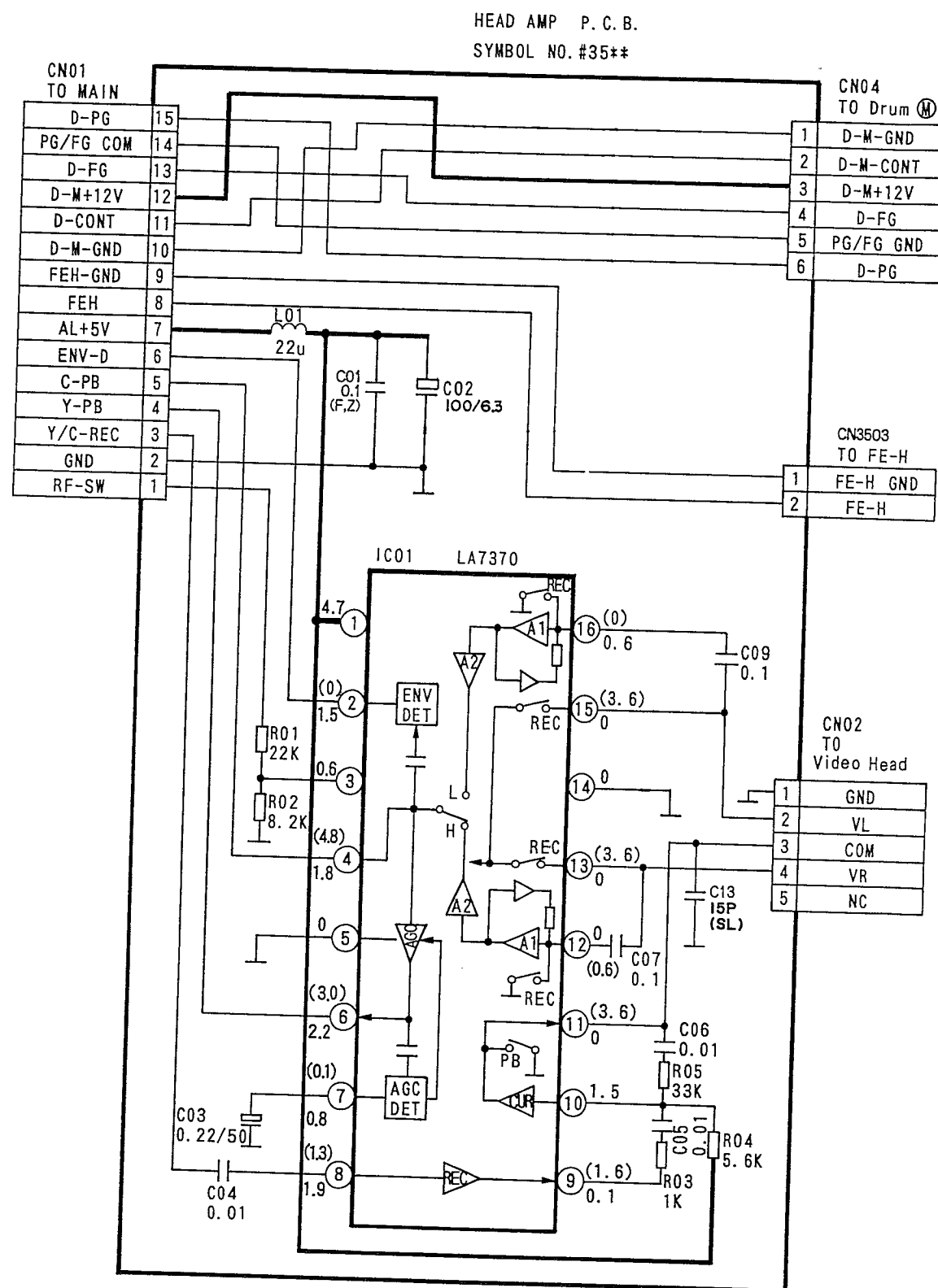
MAIN C.B.A. BOTTOM VIEW



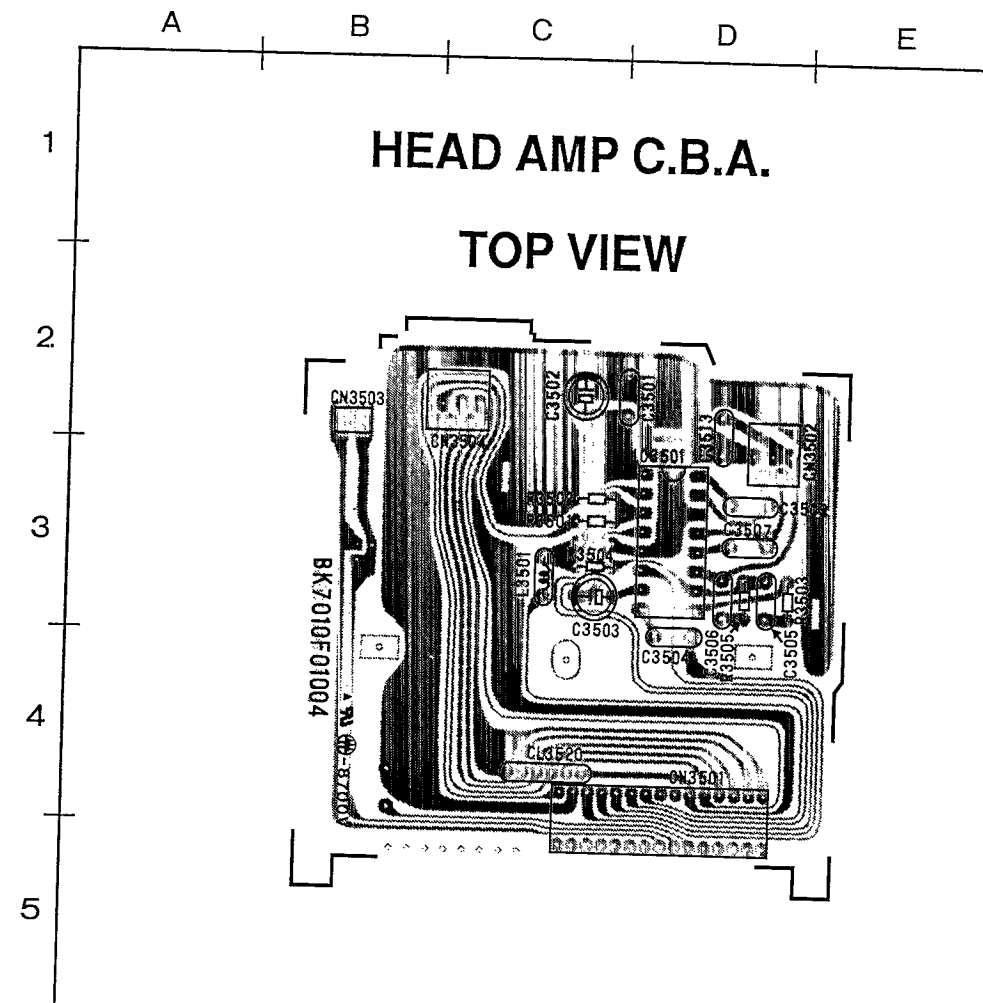
BK8020F01B01A/B



HEAD AMP SCHEMATIC DIAGRAM



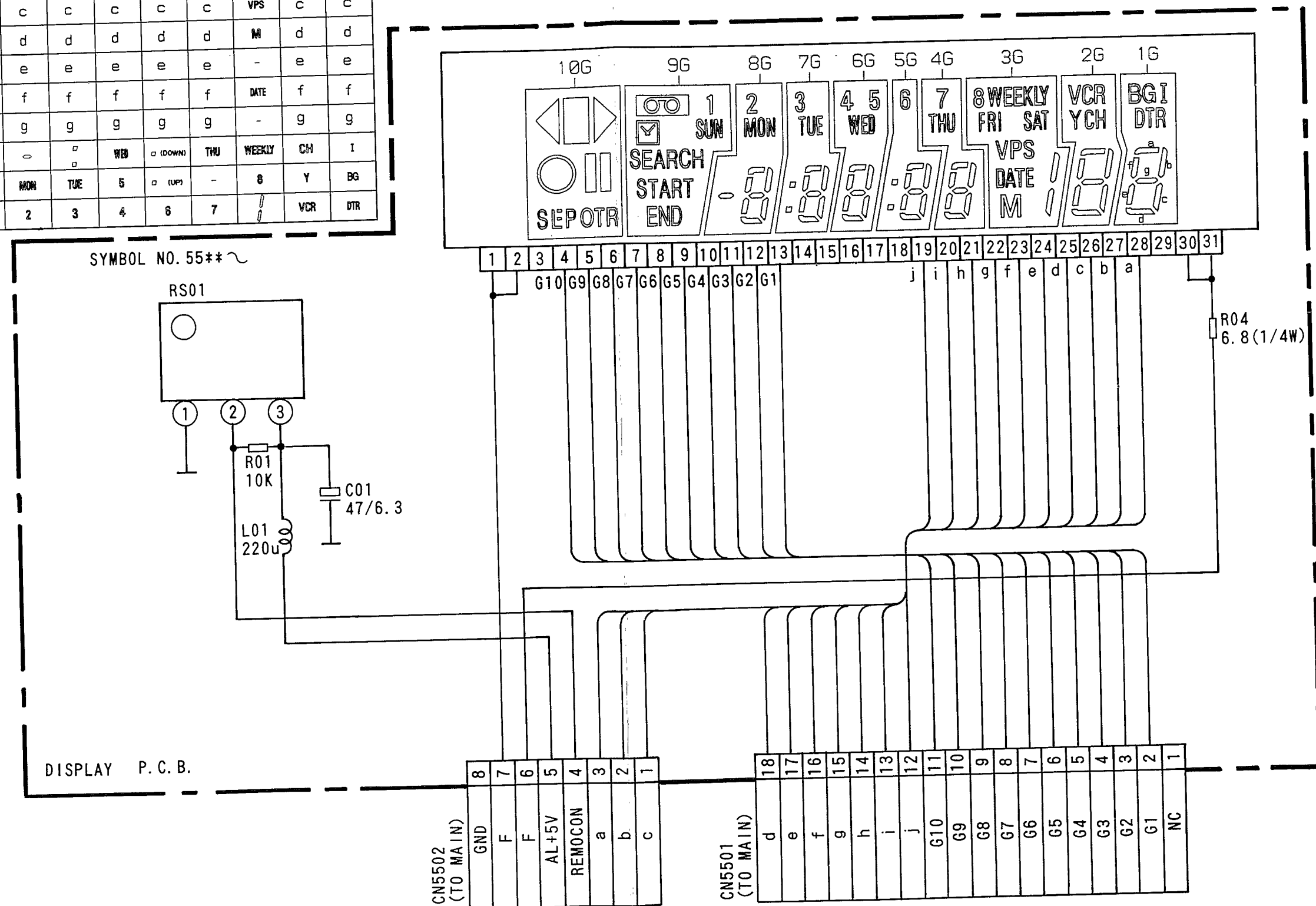
HEAD AMP C.B.A. TOP VIEW



ANODE CONNECTION

10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
		a	a	a	a	a	FRI	a	a
	SUN	b	b	b	b	b	SAT	b	b
OTR	-	c	c	c	c	c	VPS	c	c
L	-	d	d	d	d	d	M	d	d
P	START	e	e	e	e	e	-	e	e
S	SEARCH	f	f	f	f	f	DATE	f	f
=	-	g	g	g	g	g	-	g	g
	END	-		WED		THU	WEEKLY	CH	I
	1	MON	TUE	5		-	8	Y	BG
		2	3	4	6	7	/	VCR	DTR

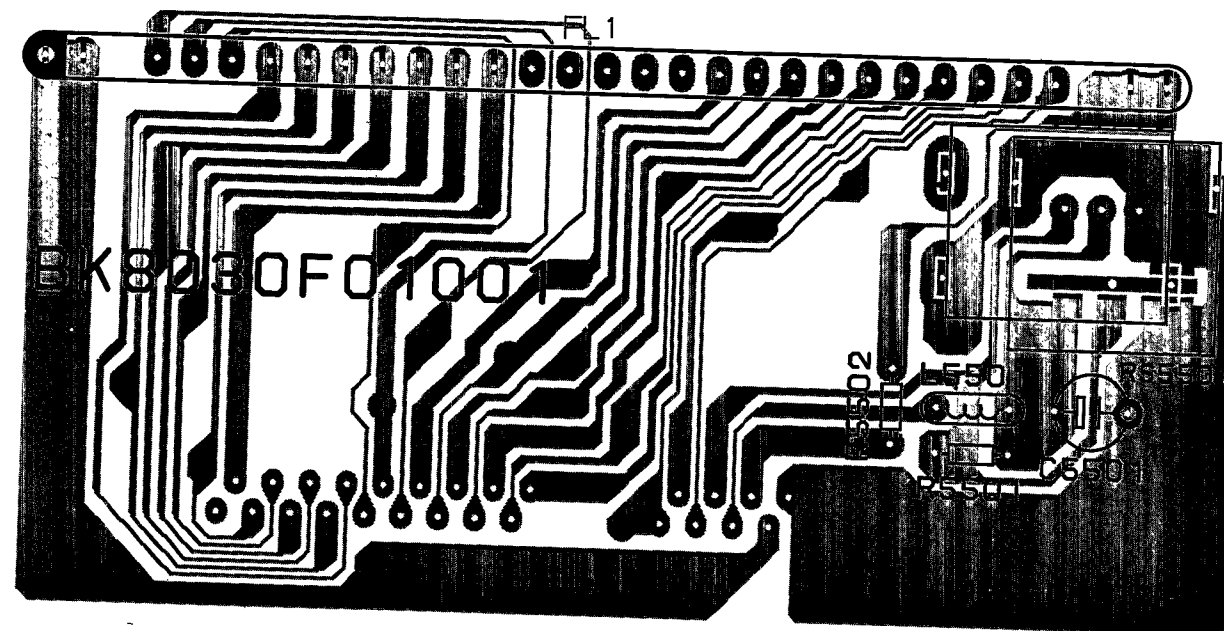
DISPLAY / CONTROL SCHEMATIC DIAGRAMS



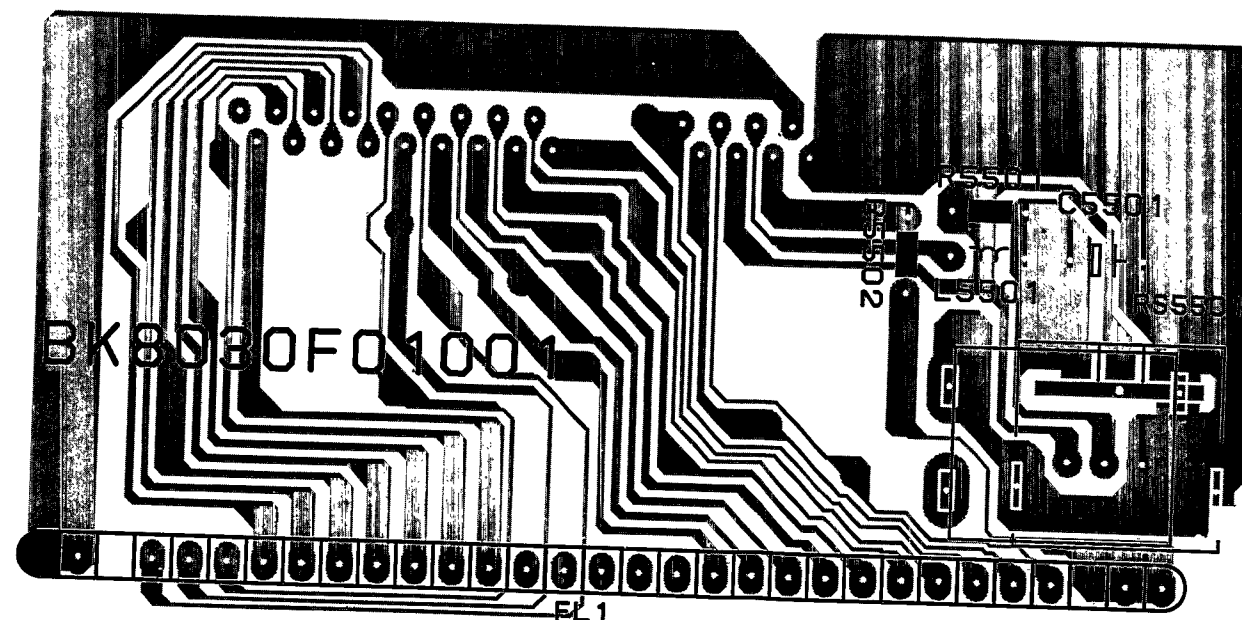
A B C D E F G H I J K L M N

DISPLAY / CONTROL C.B.A.

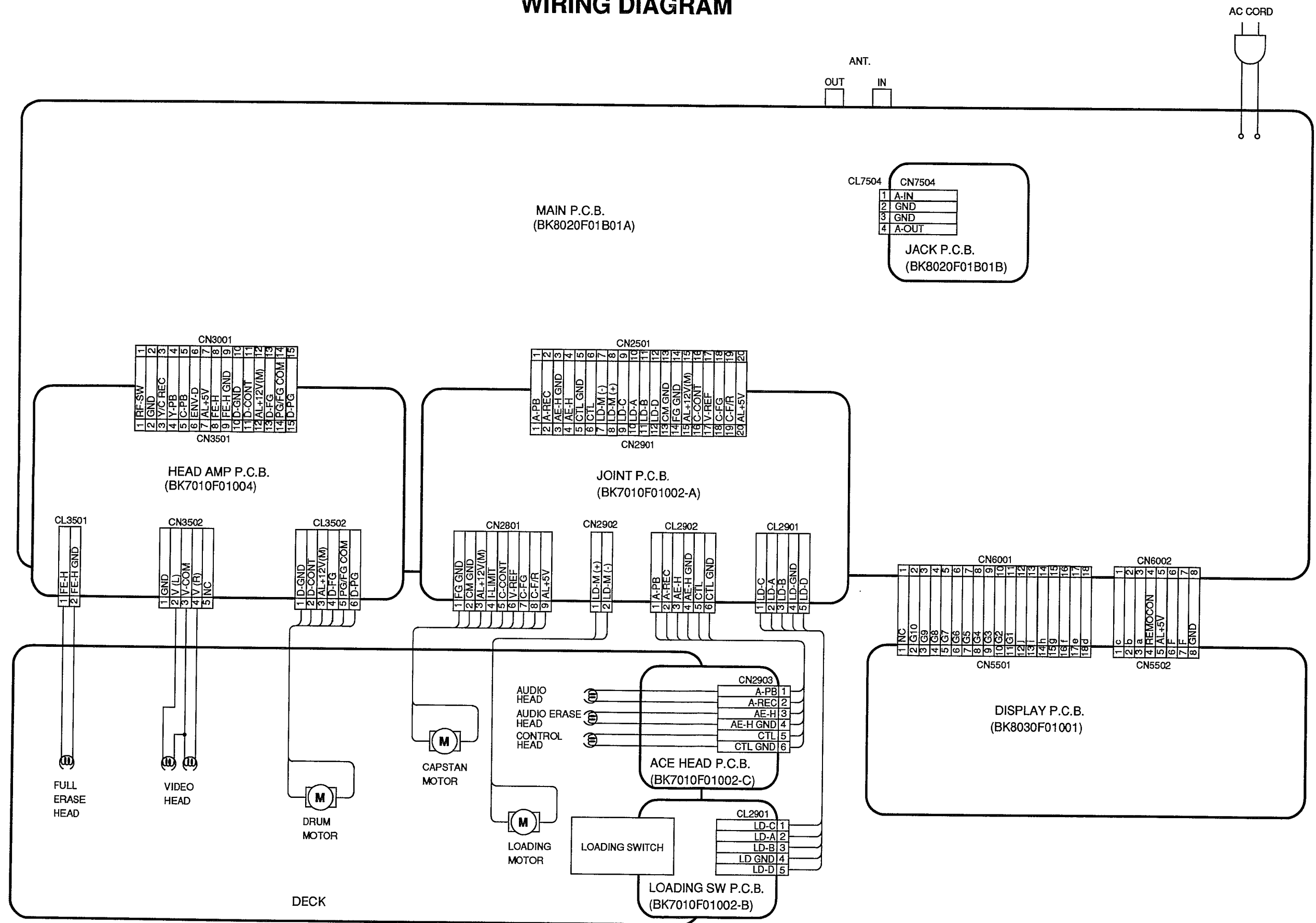
TOP VIEW



BOTTOM VIEW



WIRING DIAGRAM



SYSTEM CONTROL TIMING CHARTS

LOADING SW : LD-A / LD-B / LD-C / LD-D

LD-SW				Symbol	Stop Position (Stop Pattern)
LD-A	LD-B	LD-C	LD-D		
L	H	H	H	EJ	Eject
H	H	H	H	CL	REW Reel
L	L	H	H	SB	Stop (B)
H	L	H	H	TL	Brake Cancel
H	L	L	H	FB	FF / REW
H	H	L	H	SF	Stop (A)
H	H	L	L	AU	Play / REC (FS Pause 2 Head Still)
H	L	H	L	AL	4 Head / Slow
H	H	H	L	SS	Capstan Reversal
H	H	H	H	GC	RS (REV Reel)
L	H	H	L	RS	

↑ Note :

EJ → RS : Loading FWD (LM-FWD "H", LM-REV "L")

RS → EJ : Loading REV (LM-FWD "L", LM-REV "H")

Stop (A) = LOADING

Stop (B) = UNLOADING

Note :

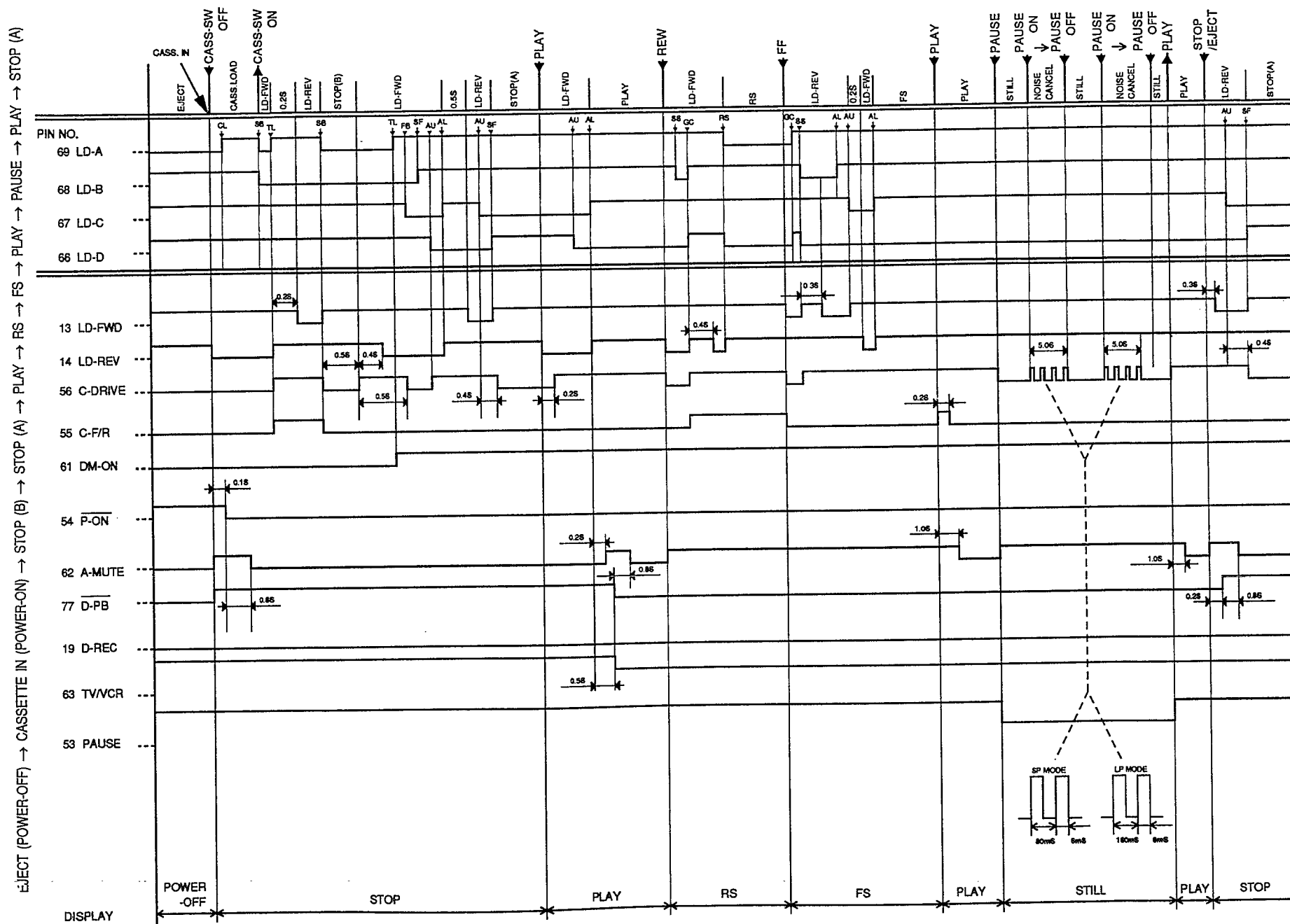
Symbol	Loading Status
EJ	EJECT
CL	EJECT ~ LOADING Completion
SB	REW ~ STOP(B)
TL	STOP(B) ~ BRAKE Cancel
FB	BRAKE Cancel ~ FF / REW
SF	FF / REW ~ STOP(A)
AU	STOP(A) ~ PLAY / REC
AL	PLAY / REC ~ 4 HEAD STILL / SLOW
SS	4 HEAD STILL / SLOW ~ CAPSTAN Reversal
GC	CAPSTAN Reversal ~ REW Reel
RS	REW

LOADING MOTOR / CONTROL

LM-FWD	LM-REV	Description
H	H	STOP
H	L	LOADING FWD
L	H	LOADING REV

CAPSTAN MOTOR / CONTROL

C-DRIVE	C-F/R	Description
L	L/H	STOP, The BRAKE Is Not Applied.
H	L	CAPSTAN, Reel PLAY, Cassete Out Direction
H	H	CAPSTAN, Reel Revers Rotation, Cassete In Direction



The timing diagram illustrates the sequence of operations for the VHS Hi-Fi system. The signals shown are:

- PIN NO. (69 LD-A, 68 LD-B, 67 LD-C, 66 LD-D)
- 13 LD-FWD
- 14 LD-REV
- 56 C-DRIVE
- 55 C-F/R
- 61 DM-ON
- 54 P-ON
- 62 A-MUTE
- 77 D-PB
- 19 D-REC
- 63 TV/VCR
- 53 PAUSE

The DISPLAY bar at the bottom indicates the sequence of operations: STOP, FF, STOP, REW, STOP, REC, REC PAUSE, REC, STOP. Various time intervals are marked, such as 0.15, 0.45, 0.25, 0.35, 0.45, 1.05, 1.55, and 1.58.

ELECTRICAL REPLACEMENT PARTS LIST

NOTE:

As regards the resistors and capacitors, refer to the circuit diagrams and the PCB assy drawings contained in this manual.

MCV PCB ASSY...MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
*9A03952100 MCV PCB ASSY (Consists of MCV-A,B PCB ASSY)		
*9A03941700 P.C.B., K8020/MCV (Consists of MCV-A,B PCB)		
MCV-A	MAIN PCB ASSY	
C1001	△ 9A03942100	C., MYLAR 0.047UF/250V M
C1001	△ 9A03944000	C., MYLAR 0.047UF/250V K
C1004	△ 9A03952700	C., CERAMIC 4700PF/400V
C1004	△ 9A03942400	C., CERAMIC 4700PF/400V M
C1005	△ 9A03952700	C., CERAMIC 4700PF/400V
C1005	△ 9A03942400	C., CERAMIC 4700PF/400V M
C1006	9A03952600	C., ELEC 47UF/400V M
C1006	9A03942200	C., ELEC 47UF/400V M
C1006	9A03942300	C., ELEC 47UF/400V M
C1007	9A03861200	C., CERAMIC 0.01UF/500V
C1007	9A03942600	C., CERAMIC 0.01UF/500V
C1008	9A03942500	C., CERAMIC 120PF/1KV SL J
C1008	9A03942700	C., CERAMIC 120PF/1KV SL K
CN3001	9A01756600	CONNECTOR, 15P
CN5501	9A03865700	CONN., 18P TRC-X18P-A2 BLK
CN5502	9A03865600	CONN., 8P TRC-X08P-A2 BLK
CN6001	9A01739200	CONN., 20P 1L-SDA-20P-S2T2
CN6005	9A03953000	CONN., 3P 1L-SDA-3S-S2L2
CN6005	9A03953100	CONN., 4P 1L-SDA-4P-S2T2
D1001	△ 9A03860000	DIODE, SIWB60
D1002	9A03945400	DIODE, EG01C
D1003-05	9A02556800	DIODE, ISS254
D1003-05	9A02361500	DIODE, GMB01B
D1006	9A03859600	ZENER DIODE, MTZ J5.1C
D1007,13	9A02556800	DIODE, ISS254
D1007,13	9A02361500	DIODE, GMB01B
D1008,10	9A03868300	DIODE, MA188
D1009	9A03945600	DIODE, EK16
D1009	9A03945700	DIODE, ERB83-006 L6
D1011	9A03945500	DIODE, AK03
D1011	9A03945300	DIODE, ERA81-004
D1012	9A03868200	DIODE, MA178
D1014	9A03941500	ZENER DIODE, MTZ J5.6C
D1501	9A02626900	DIODE, ZENER MTZ6.8B
D1502,04	9A02556800	DIODE, ISS254
D1502-05	9A02361500	DIODE, GMB01B
D1503	9A03859900	ZENER DIODE, MTZ11B
D1505,08	9A02556800	DIODE, ISS254
D1508	9A02361500	DIODE, GMB01B
D2001-03	9A02556800	DIODE, ISS254
D2001-03	9A02361500	DIODE, GMB01B
D3001-05	9A02556800	DIODE, ISS254
D3001-05	9A02361500	DIODE, GMB01B
D5501-03	9A02556800	DIODE, ISS254

MCV PCB ASSY...MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
MCV-A	MAIN PCB ASSY	
D5501-03	9A02361500	DIODE, GMB01B
D5508	9A02556800	DIODE, ISS254
D5508	9A02361500	DIODE, GMB01B
D6001,07	9A02556800	DIODE, ISS254
D6001,07	9A02361500	DIODE, GMB01B
D6002	9A03868900	LED, SIR-481ST3F
D6013,16	9A02556800	DIODE, ISS254
D6013,16	9A02361500	DIODE, GMB01B
D7001	9A03941600	ZENER DIODE, MTZ4.3B
D7002-04	9A02361500	DIODE, GMB01B
D7501,02	9A03391200	ZENER DIODE, MTZ5.6B T77
D7502-04	9A02556800	DIODE, ISS254
DL3001	9A03953400	FILTER, COMB 4.433619MHZ
DL3001	9A02314300	FILTER, COMB 4.433619MHZ
F1001	△ 9A00504700	FUSE, 1.6A
F1001	△ 9A03953200	FUSE, T1.60A/250V
F1002	△ 9A03867200	IC, UN10015
F1002	△ 9A03867300	IC, ICP-N38
FH1001	9A03513600	FUSE HOLDER, PFC5000-0202
FH1002	9A03513600	FUSE HOLDER, PFC5000-0202
IC1001	△ 9A03945900	PHOTO COUPLER, PC111LY2
IC1001	△ 9A03945800	PHOTO COUPLER, PC111LYS
IC1501	9A00746500	IC., AN7812F
IC1501	9A01720800	IC, NJM7812FA
IC1502	9A00749100	IC., AN78L05 LINEAR
IC1502	9A01142800	IC, NJM78L05A
IC2001	9A03944300	IC, BU2845S
IC2002	9A03286500	IC, BA10324
IC3001	9A03946400	IC, VIDEO LA7390A
IC3003	9A02314600	IC, LC8992
IC4001	9A03790900	IC, LA7282
IC6001	9A03946300	IC, UPD75237GJ-029-5BG
IC6002	9A03867400	REEL SENSOR, SG-211L
IC6003	9A02041000	IC, TA7191S
IC6004	9A02561200	IC., PST529-2 SYSTEM RESET
IC6005	9A03510000	IC, X24C01P
IC6006	9A00749100	IC., AN78L05 LINEAR
IC6006	9A01142800	IC, NJM78L05A
IC7001	9A00519300	IC., LA7210 LINEAR
IC7001	9A03509900	IC, MM1021XS
IC7002	9A03509800	IC, LA7910
IC7003	9A00742300	IC., L5631
IC7501	9A01762000	IC, NJU4053BD (LINEAR)
JK7502	9A03944500	BNC JACK, HXC0328-01-010
JK7503	9A03944500	BNC JACK, HXC0328-01-010
L1002	△ 9A03944900	FILTER, 68MH ELF-18D222FN
L1002	△ 9A03945000	FILTER, 50MH UF2327S503Y0R
L1003	9A03866400	LEAD INDUCTOR, 22UH K
L1004	9A03866300	LEAD INDUCTOR, 10UH K
L1005	9A03875900	BEAD CORE, HF70BB4.1X3X2
L3001,004	9A02627400	INDUCTOR, 22UH-K-AXT
L3001,004	9A02627300	INDUCTOR, 22UH-K-AXT
L3002,16	9A03288800	INDUCTOR, 47UH-K-26T
L3002,16	9A02559600	INDUCTOR, 47UH-K-AXT
L3003	9A02628500	INDUCTOR, 33UH-K-AXT

REF. NO.	PARTS NO.	DESCRIPTION
MCV-A	MAIN PCB ASSY	
L3003	9A02555200	INDUCTOR, 33UH-K-AXT
L3004	9A02627300	INDUCTOR, 22UH-K-AXT
L3005, 17	9A02628800	INDUCTOR 100UH-K-AXT
L3005, 17	9A02555100	INDUCTOR 100UH-K-AXT
L3006	9A02627500	INDUCTOR, 82UH-K-AXT
L3006	9A02556900	INDUCTOR, 82UH-K-AXT
L3007	9A02627600	INDUCTOR 180UH-K-AXT
L3007	9A02557100	INDUCTOR 180UH-K-AXT
L3008-10	9A03790200	INDUCTOR, 330UH-K-26T
L3011, 012	9A02628700	INDUCTOR, 56UH-K-AXT
L3011, 012	9A02628600	INDUCTOR, 56UH-K-AXT
L3013	9A03790300	INDUCTOR, 68UH-K-26T
L3013	9A03790000	INDUCTOR, 68UH-K-26T
L3014	9A03511300	INDUCTOR, 27UH-K-26T
L3014	9A03511100	INDUCTOR, 27UH-K-26T
L3015	9A03866200	INDUCTOR, 39UH-K-26T
L3015	9A03866100	INDUCTOR, 39UH-K-26T
L3018	9A03277500	INDUCTOR, 10UH-K-26T
L3018	9A02559400	INDUCTOR, 10UH-K-AXT
L3019	9A02627200	INDUCTOR, 15UH-K-AXT
L3019	9A02627100	INDUCTOR, 15UH-K-AXT
L3020	9A03866400	LEAD INDUCTOR, 22UH K
L4001	9A02382700	INDUCTOR, 18MH
Q1001	9A03882800	TR., 2SC4204
Q1002	Δ 9A03946200	TR., 2SC4517
Q1002	Δ 9A03946000	TR., 2SC3866
Q1002	Δ 9A03946100	TR., 2SC3979
Q1003	9A02752100	TR., 2SC1740(Q)
Q1003	9A02752200	TR., 2SC1740(R)
Q1003	9A02752900	TR., 2SC536(E)
Q1003	9A02753000	TR., 2SC536(F)
Q1004, 05	9A02751400	TR., 2SA933(Q)
Q1004, 05	9A02751500	TR., 2SA933(R)
Q1004, 05	9A02751300	TR., 2SA608SP(F)
Q1004-06	9A02751200	TR., 2SA608SP(E)
Q1501	9A03869200	TR., 2SD1581(L)
Q1501	9A03869100	TR., 2SD1581(K)
Q1502	9A02752100	TR., 2SC1740(Q)
Q1502	9A02752200	TR., 2SC1740(R)
Q1502	9A02752900	TR., 2SC536(E)
Q1502	9A02753000	TR., 2SC536(F)
Q1504, 10	9A03274800	RES. BUILT-IN TRANSISTOR
Q1506	9A02751400	TR., 2SA933(Q)
Q1506	9A02751500	TR., 2SA933(R)
Q1506	9A02751300	TR., 2SA608SP(F)
Q1507, 11	9A02752000	D. TR., DTC124ES
Q1507, 11	9A02752800	D. TR., 2SC3400
Q2002, 03	9A02750800	D. TR., DTA124ES
Q2002, 03	9A02751100	D. TR., 2SA1346
Q2004	9A02752000	D. TR., DTC124ES
Q2004	9A02752800	D. TR., 2SC3400
Q3001, 03	9A03275800	TR., 2SC2058(P)
Q3001, 03	9A02752300	TR., 2SC2058(Q)
Q3001, 03	9A02752600	TR., 2SC2839(E)
Q3001, 03	9A02752700	TR., 2SC2839(F)
Q3002	9A02752200	TR., 2SC1740(R)

REF. NO.	PARTS NO.	DESCRIPTION
MCV-A	MAIN PCB ASSY	
Q3002	9A02752100	TR., 2SC1740(Q)
Q3002	9A02752900	TR., 2SC536(E)
Q3002	9A02753000	TR., 2SC536(F)
Q3004, 15	9A03274900	RES. BUILT-IN TRANSISTOR
Q3005-09	9A02752100	TR., 2SC1740(Q)
Q3005-09	9A02752200	TR., 2SC1740(R)
Q3005-09	9A02752900	TR., 2SC536(E)
Q3005-09	9A02753000	TR., 2SC536(F)
Q3010, 13	9A02751400	TR., 2SA933(Q)
Q3010, 13	9A02751500	TR., 2SA933(R)
Q3010, 13	9A02751200	TR., 2SA608SP(E)
Q3010, 13	9A02751300	TR., 2SA608SP(F)
Q3012, 16	9A02752000	D. TR., DTC124ES
Q3012, 16	9A02752800	D. TR., 2SC3400
Q3014, 17	9A02751400	TR., 2SA933(Q)
Q3014, 17	9A02751500	TR., 2SA933(R)
Q3014, 17	9A02751200	TR., 2SA608SP(E)
Q3014, 17	9A02751300	TR., 2SA608SP(F)
Q3018, 20	9A02752100	TR., 2SC1740(Q)
Q3018, 20	9A02752200	TR., 2SC1740(R)
Q3018, 20	9A02752900	TR., 2SC536(E)
Q3018, 20	9A02753000	TR., 2SC536(F)
Q3019	9A03275800	TR., 2SC2058(P)
Q3019	9A02752300	TR., 2SC2058(Q)
Q3019	9A02752600	TR., 2SC2839(E)
Q3019	9A02752700	TR., 2SC2839(F)
Q4001	9A02752100	TR., 2SC1740(Q)
Q4001	9A02752200	TR., 2SC1740(R)
Q4001	9A02752900	TR., 2SC536(E)
Q4001	9A02753000	TR., 2SC536(F)
Q6001	9A03869700	PHOTO TR., RPT-38PB3F
Q6002	9A03869700	PHOTO TR., RPT-38PB3F
Q6003	9A02753500	TRANSISTOR, 2SD400(F)
Q6005	9A02750800	D. TR., DTA124ES
Q6005	9A02751100	D. TR., 2SA1346
Q7001, 02	9A02752100	TR., 2SC1740(Q)
Q7001, 02	9A02752200	TR., 2SC1740(R)
Q7001, 02	9A02752900	TR., 2SC536(E)
Q7001, 02	9A02753000	TR., 2SC536(F)
Q7003	9A03510600	FET, 2SK128(P)
Q7003	9A03510700	FET, 2SK128(Q)
Q7003	9A03510800	FET, 2SK304(C)
Q7003	9A03510900	FET, 2SK304(D)
Q7004	9A02750800	D. TR., DTA124ES
Q7004	9A02751100	D. TR., 2SA1346
Q7005	9A03509200	TRANSISTOR, 2SD1468(R)
Q7005	9A03944100	TR., 2SD1468(S)
Q7005	9A03508900	TRANSISTOR, 2SD1012(F)
Q7005	9A03509000	TRANSISTOR, 2SD1012(G)
Q7006	9A02752000	D. TR., DTC124ES
Q7006	9A02752800	D. TR., 2SC3400
Q7007	9A02752100	TR., 2SC1740(Q)
Q7007	9A02752200	TR., 2SC1740(R)
Q7007	9A02752900	TR., 2SC536(E)
Q7007	9A02753000	TR., 2SC536(F)
Q7009	9A02751400	TR., 2SA933(Q)

MCV PCB ASSY, MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
Q7009	9A02751500	TR., 2SA933(R)
Q7009	9A02751200	TR., 2SA608SP(E)
Q7009	9A02751300	TR., 2SA608SP(F)
R1002	Δ 9A03874800	R., WIREWOUND 2W 4.7
R1009	9A03952900	R., METAL 2W J 82K
R1013	9A03880600	R., METAL 1W 82 J
R1014	9A03940200	R., METAL 1W 1.0 J
R1023	Δ 9A03881100	R., FUSE 1/2W 10 J
R1023	Δ 9A03883300	R., FUSE 1/2W 10 J
R1024	Δ 9A03881100	R., FUSE 1/2W 10 J
R1024	Δ 9A03883300	R., FUSE 1/2W 10 J
R1025	9A03946800	R., METAL 1W 270K J
R1026	9A03946900	R., METAL 1W 330K J
R3036	9A00486200	R., OXIDE FILM 1W 330 J
R6008	9A03880500	R., METAL 1W 2.7 J
SW5501-07	9A03875300	SW. PUSH, EVQ-21509K
SW5501-07	9A03875200	SW. PUSH, SOR-142HS R664519
SW5501-07	9A03875100	SW. PUSH, SKHVBH
SW5515,16	9A03875300	SW. PUSH, EVQ-21509K
SW5515,16	9A03875200	SW. PUSH, SOR-142HS R664519
SW5515,16	9A03875100	SW. PUSH, SKHVBH
SW5519	9A03875300	SW. PUSH, EVQ-21509K
SW5519	9A03875200	SW. PUSH, SOR-142HS R664519
SW5519	9A03875100	SW. PUSH, SKHVBH
SW6001	9A03875000	SW. PUSH, SPPB61
SW6002	9A03874900	SW. PUSH, SW-112-3
T1001	Δ 9A03945100	PULSE TRANS, ETS29K468V
T4001	9A01146700	COIL, OSC, AUDIO
T4001	9A00740900	COIL, OSC, AUDIO
T4001	9A01897100	COIL, OSC, AUDIO MV-355
TU7001	9A03947800	TUNER/IF/CVTR UNIT, EC-RR-
VR2001	9A02558300	R., CARBON VARIABLE 100K
VR2001	9A02558500	R., CARBON VARIABLE 100K
VR3001	9A02570000	R., CARBON VARIABLE 4.7K
VR3001	9A02570200	R., CARBON VARIABLE 5K
VR3002	9A02558000	R., CARBON VARIABLE 2.2K
VR3002	9A02558200	R., CARBON VARIABLE 2K
VR3003,04	9A02570000	R., CARBON VARIABLE 4.7K
VR3003,04	9A02570200	R., CARBON VARIABLE 5K
VR4001	9A02558300	R., CARBON VARIABLE 100K
VR4001	9A02558500	R., CARBON VARIABLE 100K
X3001	9A02315200	X'TAL 4.433619MHZ
X3001	9A02315300	X'TAL 4.433619MHZ
X6001	9A01895100	X'TAL, 32KHZ
X6001	9A01895200	X'TAL, 32KHZ 10PPM
X6002	9A01895300	RESONATOR, 4.19MHZ CERAMIC
X6002	9A03953300	RESONATOR, CERA.EFOGC4194A
X7001	9A01147700	CERAMIC RESONATOR 500KHZ
2B6	*9A03877400	HOLDER, REEL SENSOR
2B8	*9A03881200	BUSH, LED VD6574
2L071	9A03864800	SCREW, S-TIGHT BIND M3*5
2L101	9A02515600	SCREW, P-TI. BIND HEAD 3*10
A17	*9A03949400	JACK BOARD
AC1001	Δ 9A03512400	AC CORD, SP-189-J01
	9A03947900	CONNECTOR ASSY, 4P

MCV PCB ASSY, MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
MCV-B	JACK PCB ASSY	
CN7501	9A01960500	CONNECTOR BASE4P(2MM TOP)
JK7504	9A01432400	JACK, RCA
JK7505	9A01432400	JACK, RCA

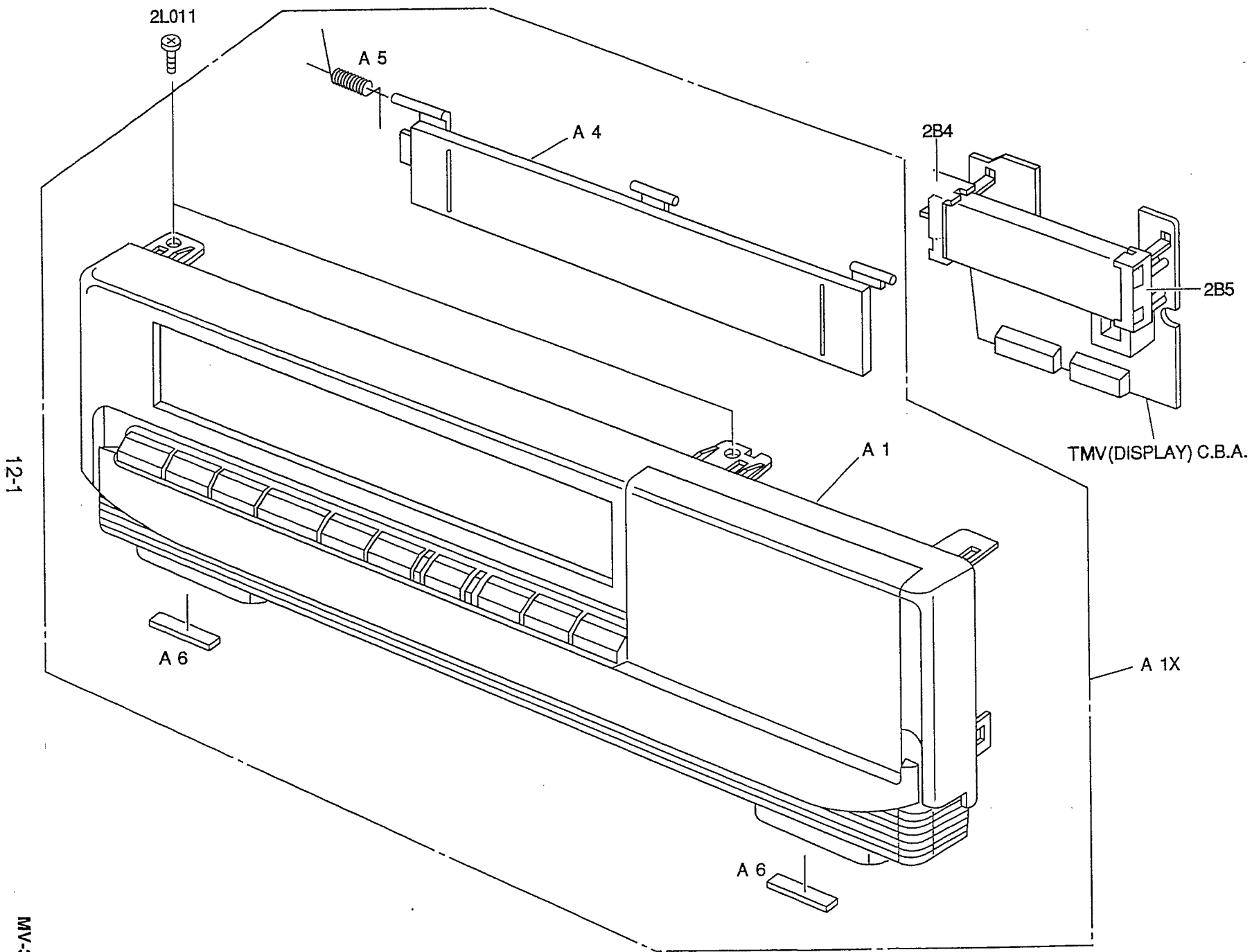
PRV PCB ASSY, MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
PRV	*9A03921200	HEAD AMP PCB ASSY
	*9A03894000	P.C.B., PRV
CN3502	9A03895300	CONN., SIDE 5P 9602S-05F
CN3502	9A03922500	CONN., SIDE 5P 00 8370 057
CN3503	9A03896700	CONNECTOR ASSY, 2P
CN3504	9A03895400	CONN., SIDE 6P 9602S-06F
CN3504	9A03922600	CONN., SIDE 6P 00 8370 067
IC3501	9A03276300	IC, LA7370
IC3501	9A03896200	IC, LA7375
L3501	9A02627400	INDUCTOR, 22UH-K-AXT
L3501	9A02627300	INDUCTOR, 22UH-K-AXT
2B2	*9A03902600	SHIELD, TOP (A)
2B3	*9A03902700	SHIELD, BOTTOM (A)

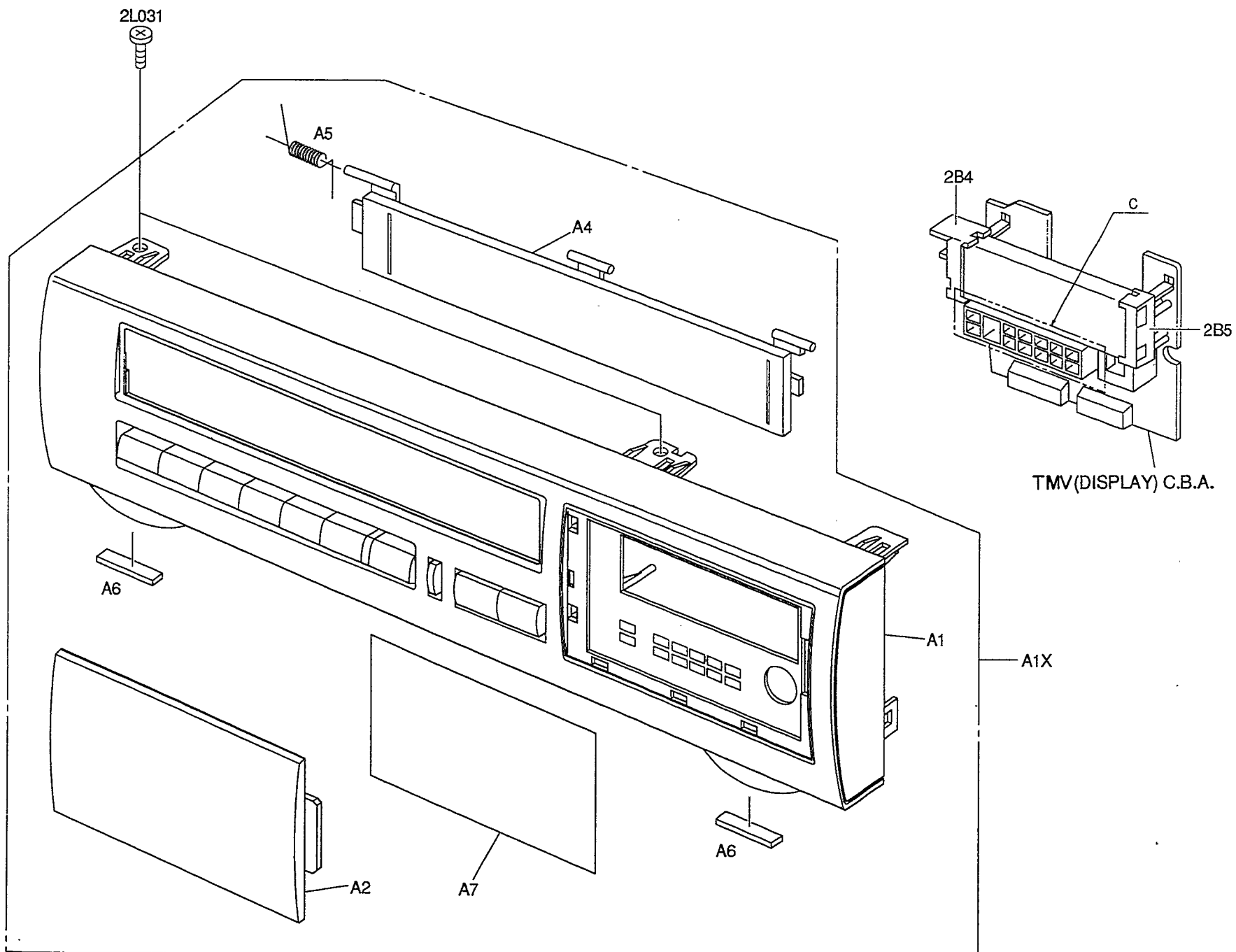
TMV PCB ASSY, MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
TMV	*9A03951700	DISPLAY/CONTROL PCB ASSY
	*9A03941800	P.C.B., K8030/TMV
CN5501	9A03865100	CONN., 18P TRC-X18X-A2 BLK
CN5502	9A03865000	CONN., 8P TRC-X08X-A2 BLK
FP5501	9A03947500	F.I.P., 10-BT-103GBK
FP5501	9A03947600	F.I.P., FIP10BQM6A
L5501	9A03944800	INDUCTOR, 220UH-K
L5501	9A03944700	INDUCTOR, 220UH-K
RS5501	9A03278300	REMO-CON UNIT, RCDHC-278
RS5501	9A01147200	REMOTE SENSOR UNIT
2B4	*9A03877500	HOLDER, F.I.P.(L)
2B5	*9A03877600	HOLDER, F.I.P.(R)
2B9	*9A02422000	FILM, DOUDEN

EXPLODED VIEW
MODEL NO. MV-314 FRONT EXPLODED VIEW

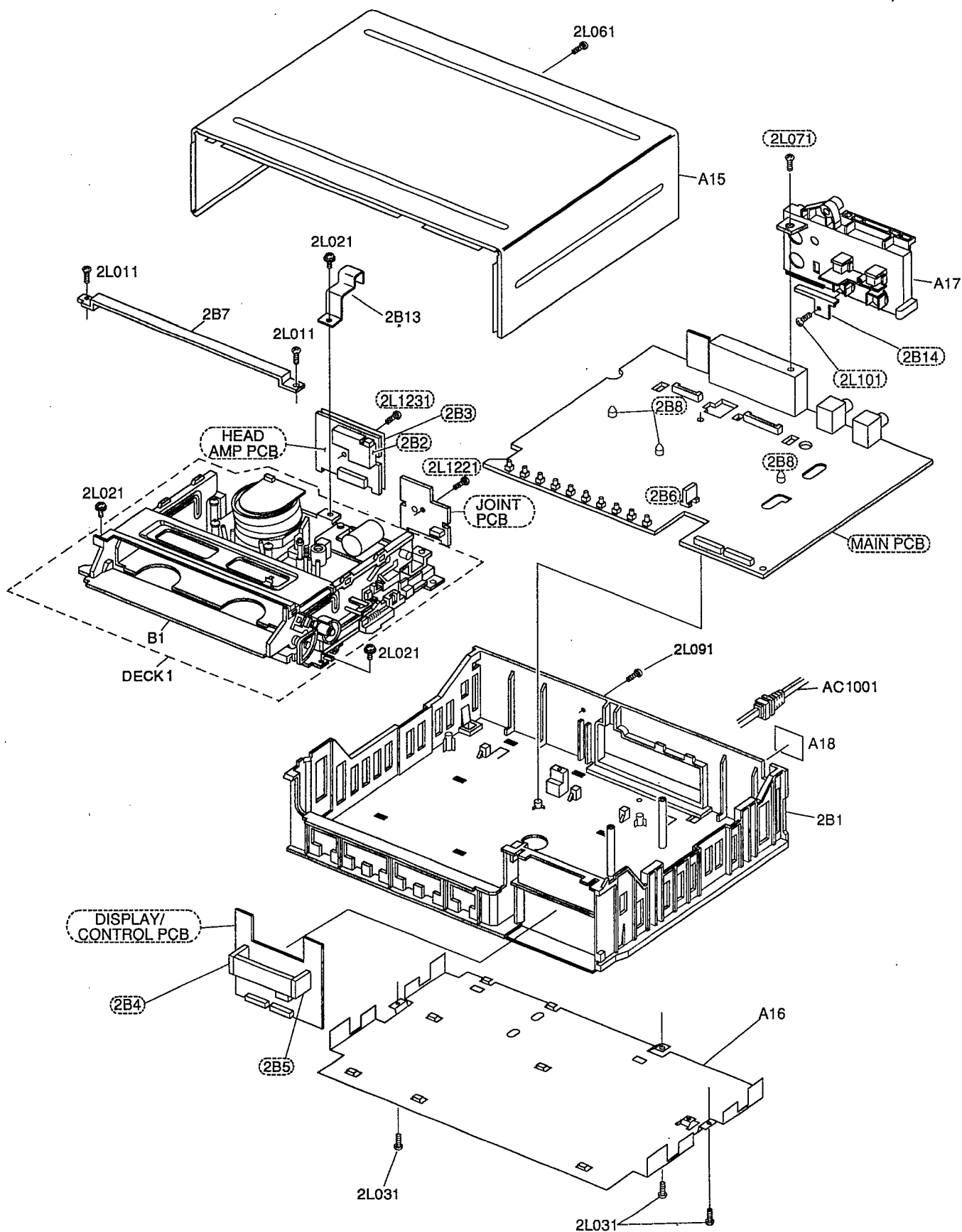


MODEL NO. MV-315 FRONT EXPLODED VIEW



CABINET EXPLODED VIEW

* () Marked Parts See the Electrical Parts List



MECHANICAL REPLACEMENT PARTS LIST

EXPLODED VIEW FRONT PANEL PARTS LIST...MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
A1X	*9A03949500	FRONT ASSY, (MV-314)	
A1X	*9A03953900	FRONT ASSY, (MV-315)	
A1	*9A03949600	FRONT PANEL ASSY, (MV-314)	
A1	*9A03954000	FRONT PANEL ASSY, (MV-315)	
A2	*9A03954200	PANEL, COUNTER (MV-315)	
A4	*9A03951300	DOOR, CASSETTE	
A5	*9A03878400	SPRING, DOOR	
A6	*9A03878600	FOOT	
A7	*9A03878300	PLATE, COUNTER (MV-315)	
TMV	*9A03951700	DISPLAY/CONTROL PCB ASSY	...See Electrical List
2B4	*9A03877500	HOLDER, F.I.P.(L)	
2B5	*9A03877600	HOLDER, F.I.P.(R)	
2L011	9A02515600	SCREW, P-TI.BIND M3*10 (MV-314)	
2L031	9A03864200	SCREW, RAMI-TI.BIND M3*10 (MV-315)	

EXPLODED VIEW CABINET PARTS LIST...MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
A15	*9A03949100	CASE, TOP	
A16	*9A03949000	PANEL, BOTTOM FTZ	
A17	*9A03949400	JACK BOARD	
A18	*9A03951500	LABEL, RATING	
AC1001	Δ 9A03512400	AC CORD, SP-189-J01	
B1	*9A03920300	CHASSIS ASSY	
DECK1	*9A03945200	DECK ASSY, N1101AA	...See Deck List
L1221	*9A03915600	SCREW, SPECIAL	
L1231	*9A03916100	SCREW, SPACER ASSY	
MCV-A	- - - - -	MAIN PCB ASSY (MCV-A)	...See Electrical List
PCB-2	- - - - -	JOINT PCB ASSY (JOINT-A)	...See Deck Electrical List
PRV	*9A03921200	HEAD AMP PCB ASSY	...See Electrical List
TMV	*9A03951700	DISPLAY/CONTROL PCB ASSY	...See Electrical List
2B1	*9A03948900	CHASSIS, U5-SSC(PAL)	
2B2	*9A03993800	SHIELD, TOP (A) K7010UA	
2B3	*9A03902700	SHIELD, BOTTOM (A)	
2B4	*9A03877500	HOLDER, F.I.P.(L)	
2B5	*9A03877600	HOLDER, F.I.P.(R)	
2B6	*9A03877400	HOLDER, REEL SENSOR	
2B7	*9A03878100	HOLDER, DECK	
2B8	*9A03881200	BUSH, LED VD6574	
2B13	*9A03950900	DECK SUPPORTER	
2L011	9A02515600	SCREW, P-TI.BIND HEAD 3*10	
2L021	9A02515400	SCREW, P-TIGHT FLANGE 3*10	
2L031	9A03864200	SCREW, RAMI-TI.+BIND M3*10	
2L061	9A02545700	SCREW, P-TI.BIND HEAD 4*12	
2L071	9A03864800	SCREW, S-TIGHT BIND M3*5	
2L081	9A03864700	SCREW, P-TIGHT BIND M3*10	
2L091	9A03944200	SCREW, S-TIGHT M3*8	

INCLUDED ACCESSORIES PARTS LIST, MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
X1	*9A03947700	REMOCON BOX, SFN-R05309	
X2	*9A03948800	OWNER'S MANUAL, (MV-314)	
X2	*9A03953800	OWNER'S MANUAL, (MV-315)	
X3	*9A03512500	RF CORD, PAL 1.2M	
	9A01027100	DRY BATTERY	
	9A02533800	DRY BATTERY	

IC PIN FUNCTION DESCRIPTION

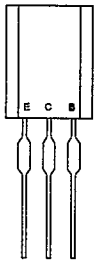
NOTE: With * $L < 2.3V$, $H \geq 2.7V$
Without * $L < 0.5V$, $H \geq 4.6V$

SYSCON/TIMER (QSMQAORNE008)

PIN NO.	IN/OUT	SIGNAL NAME	FUNCTION	ACTIVE LEVEL
1	IN	REEL	Take Up Reel Rotation Signal Input	
2	—	A V _{REF}	+5V	* H/L
3	—	A V _{DD}	+5V	
4	—	V _{DD}	+5V	—
5	—	V _{PP}	+5V	—
6	OUT	X ₂	Crystal Oscillator (4.19MHz Output)	—
7	IN	X ₁	Crystal Oscillator (4.19MHz Input)	—
8	—	IC	GND	—
9	OUT	XT ₂	Crystal Oscillator (32KHz Output)	—
10	IN	XT ₁	Crystal Oscillator (32KHz Input)	—
11	—	V _{SS}	GND	—
12	—	—	—	—
13	OUT	LD-FWD	Loading Motor Forward Control Output (Forward/Stop= "H")	—
14	OUT	LD-REV	Loading Motor Reverse Control Output (Reverse/Stop= "H")	H
15	OUT	LED-P	Pulse Output Signal for Sensor (for ST/END SENSOR)	H
16	OUT	V-MUTE	Video Mute Signal	H/L
17	OUT	EXT-H	External Input Signal (External Input= "H" output)	H
18	OUT	—	—	H
19	OUT	D-REC	Delayed Record Control Signal (Record = "H")	—
20	OUT	a	Display Segment Control Signal Output/Kye Scan Signal Output	H
21	OUT	b	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
22	OUT	c	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
23	OUT	d	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
24	OUT	e	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
25	OUT	f	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
26	OUT	g	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
27	OUT	h	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
28	OUT	i	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
29	OUT	j	Display Segment Control Signal Output/Kye Scan Signal Output	VPP/H
30	—	V _{DD}	+5V	VPP/H
31	—	V _{LOAD}	-30V	VPP
32	OUT	A-CONT 0	Audio Control Signal 0 (Not used)	—
33	OUT	A-CONT 1	Audio Control Signal 1 (Not used)	—
34	OUT	AFT-DEF	AFT Defeat Signal	H/L
35	OUT	VPS-CHK	VPS-Check Signal	H/L
36	OUT	BAND 0	Tuner Band Set Signal 0	H
37	OUT	BAND 1	Tuner Band Set Signal 1	H
38	OUT	G 10	Display Grid Control Output	H
39	OUT	G 9	Display Grid Control Output	—
40	OUT	G 8	Display Grid Control Output	—
41	OUT	G 7	Display Grid Control Output	—
42	OUT	G 6	Display Grid Control Output	—
43	OUT	G 5	Display Grid Control Output	—
44	OUT	G 4	Display Grid Control Output	—
45	OUT	G 3	Display Grid Control Output	—
46	OUT	G 2	Display Grid Control Output	—

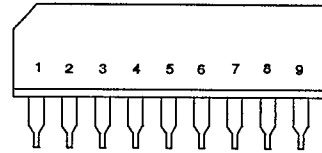
PIN NO.	IN/OUT	SIGNAL NAME	FUNCTION	ACTIVE LEVEL
47	OUT	G 1	Display Grid Control Output	—
48	—	V _{DD}	+5V	—
49	IN	SD	Tuner Video Signal Sync Signal Input "L" at Sync Signal	L
50	IN	P-SFT	Power Voltage Failure Detect= "L" When Power On	L
51	IN	CAS-SW	Cassette IN/OUT Detector (IN/OUT Rotation= "H")	H
52	OUT	T-DAC	Tuner Tuning Voltage Control Signal	H or L
53	OUT	PAUSE	Pause Control	L
54	OUT	P-ON	Power On Signal	L
55	OUT	C-F/R	Capstan Motor FWD/REV Control Signal (Forward= "L", Reverse = "H")	H/L
56	OUT	C-DRIVE	Capstan Motor Drive Signal Output (Rotation = "H", Stop = "L")	H
57	IN	DEW	Dew Sensor	L
58	IN	P-DOWN	Power Failure Derection Signal (Usually = "H", Power Voltage Down = "L")	L
59	OUT	S-DATA	Servo IC Data	—
60	OUT	S-CLOCK	Servo IC Timing Clock	—
61	OUT	DM-ON	Drum Rotation Control Signal Output (Rotation = "H")	H
62	OUT	A-MUTE	Sound Mute Signal	H
63	OUT	TV/VCR	RF Modulator ON/OFF Signal (VCR Mode = "L")	L
64	—	—	—	—
65	—	V _{SS}	GND	—
66	IN	LD-D	Tape Loading Position Detector	—
67	IN	LD-C	Tape Loading Position Detector	—
68	IN	LD-B	Tape Loading Position Detector	—
69	IN	LD-A	Tape Loading Position Detector	H/L
70	IN/OUT	SDA	Memory IC Data	H
71	OUT	SCL	Memory IC Timing Clock	H/L
72	IN/OUT	VPS-DATA	VPS Interface Data H/L (VPT Interface Data H/L)	H
73	OUT	VPS-CLK	VPS Interface Clock (VPT Interface Clock)	—
74	OUT	TRIM OUT	Trimming Out	H
75	OUT	B/G-H	B/G, D/K Change Output (B/G= "H")	L
76	OUT	TV-SP	Canal Signal On/Off Detection Output (Not used)	L
77	OUT	D-PB	Video/Audio Playback Control Output (Playback = "L")	—
78	IN	TRIM IN	Trimming IN	H/L
79	IN	RF-SW	Head Switching Pulse	—
80	IN	CTL-P	Control Pulse In	H
81	IN	REMOCON	Remote Control Input Signal	H
82	IN	KI 0	Key Scan Signal Input	H
83	IN	KI 1	Key Scan Signal Input	H
84	IN	KI 2	Key Scan Signal Input	L
85	IN	REC-SAF	Record Safety Tab Detect ("L" =Existing, "H" =None)	L
86	IN	RESET	System Reset Signal (Usually = "H", Record = "L")	—
87	—	A V _{SS}	GND	H
88	IN	KI 3	Key Scan Signal Input	H
89	IN	KI 4	Key Scan Signal Input	—
90	IN	AFC	Tuner AFC Voltage Input	—
91	—	—	—	—
92	IN	ENV-D	Video Envelop Level Input	L
93	IN	START-S	Tape Start Position Detector	L
94	IN	END-S	Tape End Position Detector	L

LEAD IDENTIFICATIONS

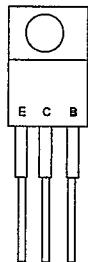


DTA124
DTA143
DTA144
DTC124
A1346

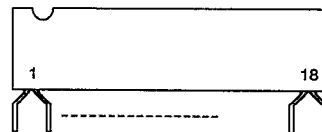
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2SA933
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2SC1740
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2SC2839
2SD400
2SC4204



LA7910



2SC3979
2SC4517
2SC3866

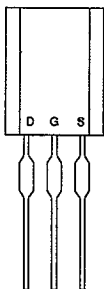


BA7025

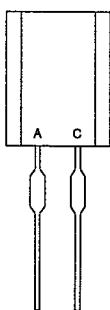
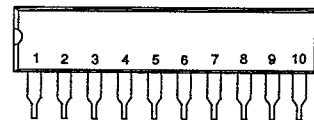
(W/O MESECAM Model)

(W/O 1BAND Model)

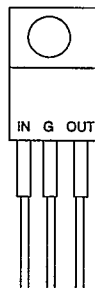
LA7210



2SK128
2SK304



L5631

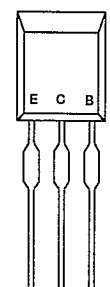


AN7812
NJM7812

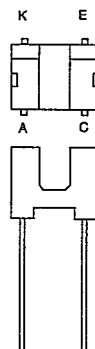


AN78L05
NJM78L05A

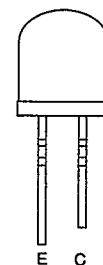
A: Anode
C: Cathode



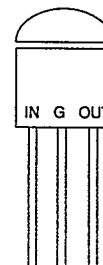
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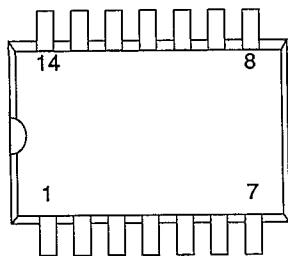
SG-211



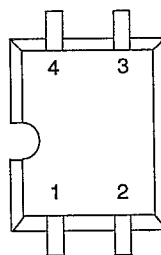
RPT-38PB3F



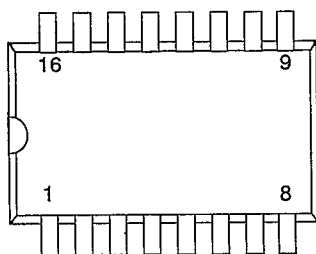
T529D



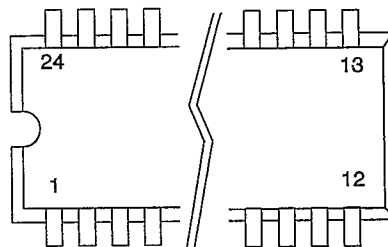
BA10324



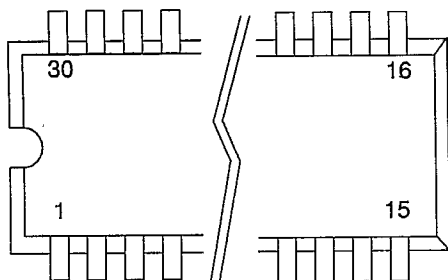
PC111



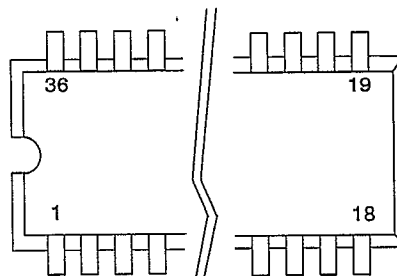
LA7370
BU4053B
NJU4053BD



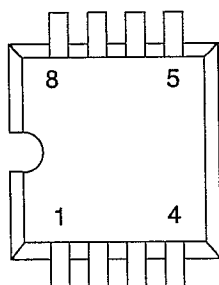
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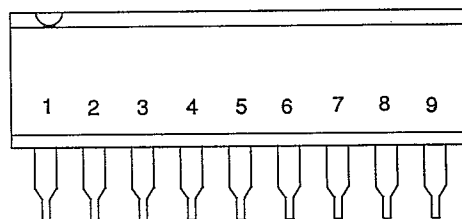
GC90RM013



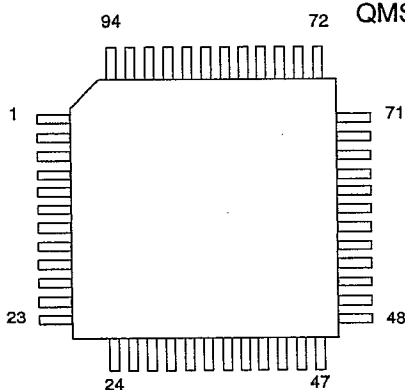
LA7390



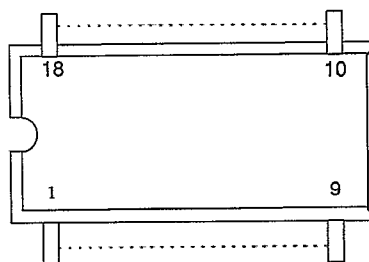
LC8992
X24C01P



TA7291S



QMSQCORNE008



SA4700

(With VPS Model)

DECK MECHANISM SECTION

**MODEL NO. MV-314/MV-315
(TYPE NO. N1101AA)**

VIDEO CASSETTE RECORDER

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STANDARD MAINTENANCE

SERVICE SCHEDULE OF COMPONENTS

○:Check ●:Change

Deck		Periodic Service Schedule			
Ref. No.	Parts Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Ass'y	○	●	○	●
B3	Loading Motor			●	
B7	Pinch Roller Arm Ass'y		●		●
B8	Pulley Sub Ass'y		●		●
B21	Belt LDG		●		●
B26	Clutch Block Assembly		●		●
B27	Band Break Ass'y		●		●
B28	Main Break S Ass'y		●		●
B29	Main Break T Ass'y		●		●
B30	T Break Arm Ass'y		●		●
B31	AC Head Ass'y			●	
B32, B33	Reel Assembly			●	
B37	Capstan Motor		●		●
B52	Belt FWD		●		●
B54	Drum Ground			●	
* B73	Full Erase Head			●	
☆ B86	F Break Ass'y		●		●

Note:

1. Clean all parts for the tape transport (Upper Drum with video head / Pinch Roller / Audio Control Head / Full Erase Head) using 91% Isoprophyl Alcohol.
2. After cleaning up the parts, perform all DECK ADJUSTMENTS.
3. All Reference Numbers listed above refer to parts shown on Deck Exploded View .
4. Parts marked ☆ are used in 4 head model only.
5. Parts marked * is used in Rec / Play model only.

CLEANING

1. Cleaning of Video Head

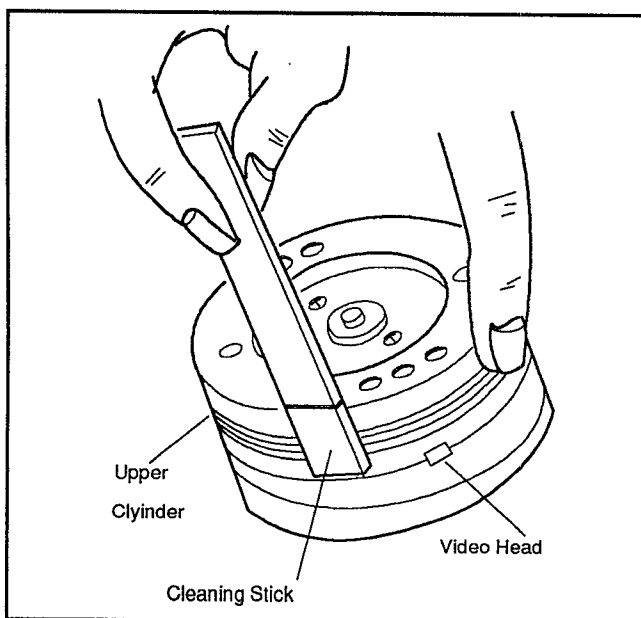
Use a Head Cleaning Stick or Chamois Skin

Procedure

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

NOTE:

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 Head Cleaning Stick.



2. Cleaning of Audio Control Head

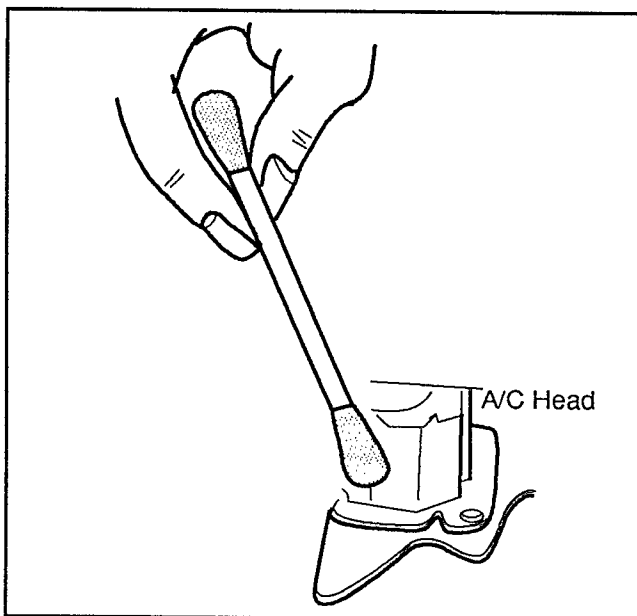
Use a cotton swab (Q-Tip)

Procedure

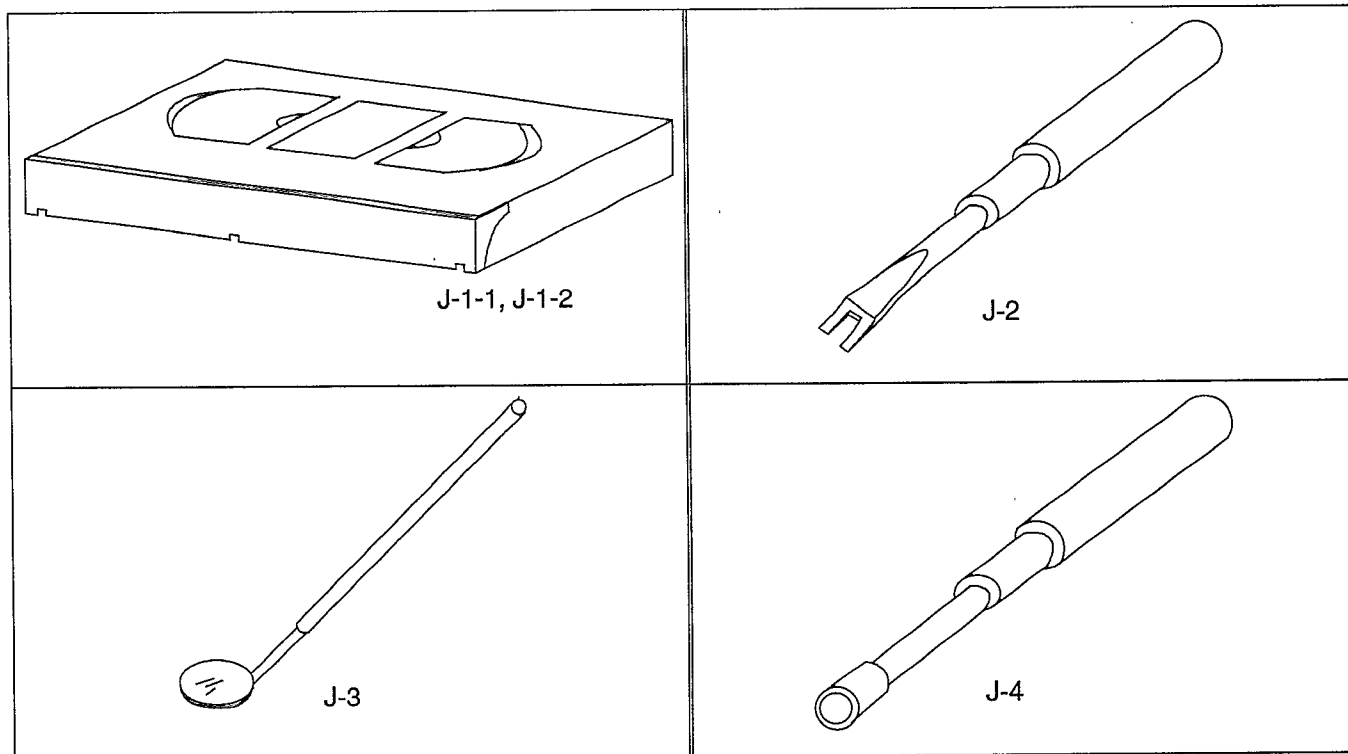
1. Remove the top cabinet.
2. Put a few drops of alcohol on the cotton swab, and clean up the audio control head, being careful not to damage the upper drum and other tape running parts.

NOTE:

1. Avoid cleaning audio control head vertically.
2. Wait for the cleaned part to dry out, before operating the unit, or damage will occur.



SERVICE FIXTURES AND TOOLS



Ref. No.	Name	Adjustment
J-1-1	Alignment Tape (F6-A)	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape (F6-N): 2 Head Model	Azimuth Adjustment of Audio Control Head / X Value / Confirmation / Adjustment of Envelope Waveform
	Alignment Tape (F6-NS): 4 Head Model	
	Alignment Tape (F6-NF): 4 Head Model	
J-2	Special Driver Large (FSJ-0001)	Tape Guide Height
J-3	Mirror (FSJ-0004)	Tape Transportation Check
J-4	Box Driver, Mx3 (FSJ-0005)	Guide Pole / A/C Head Height

MECHANICAL ALIGNMENT PROCEDURES

SERVICE INFORMATION

A. Method for Manual Tape Loading/Unloading of VCR.

To place the Cassette Holder in the down position, turn the Pulley Ass'y clockwise by seeing from the back of Deck inserting a tape. To place in the up position, turn the Pulley Ass'y counterclockwise by seeing from the back of Deck.

B. How to place the Cassette Holder in the down position without a cassette tape.

1. Disconnect AC Plug and remove the Top Cover.

2. Cover the LED Sensors for Prism L and Prism R. (See below.)

Note: Protect LED Sensors by keeping them away from Electrostatic Discharge .

3. Turn the Pulley Ass'y clockwise by seeing from the back of Deck.

Top View

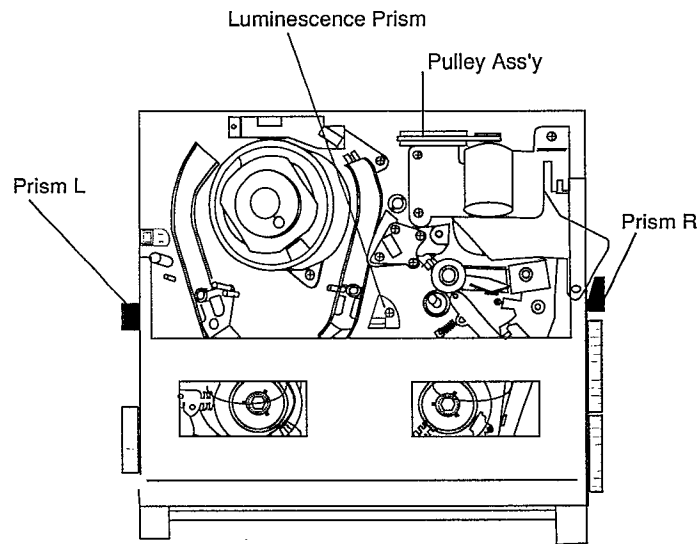


Fig. M1

Bottom View

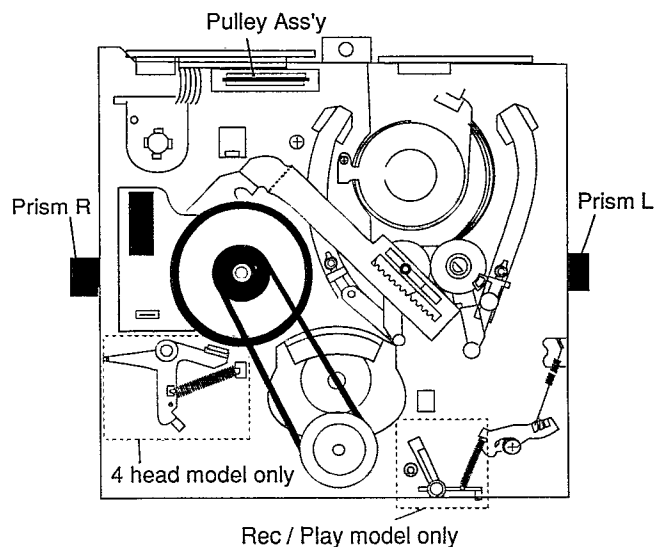


Fig. M2

1. TAPE INTERCHANGEABILITY ALIGNMENT (FINAL ALIGNMENT)

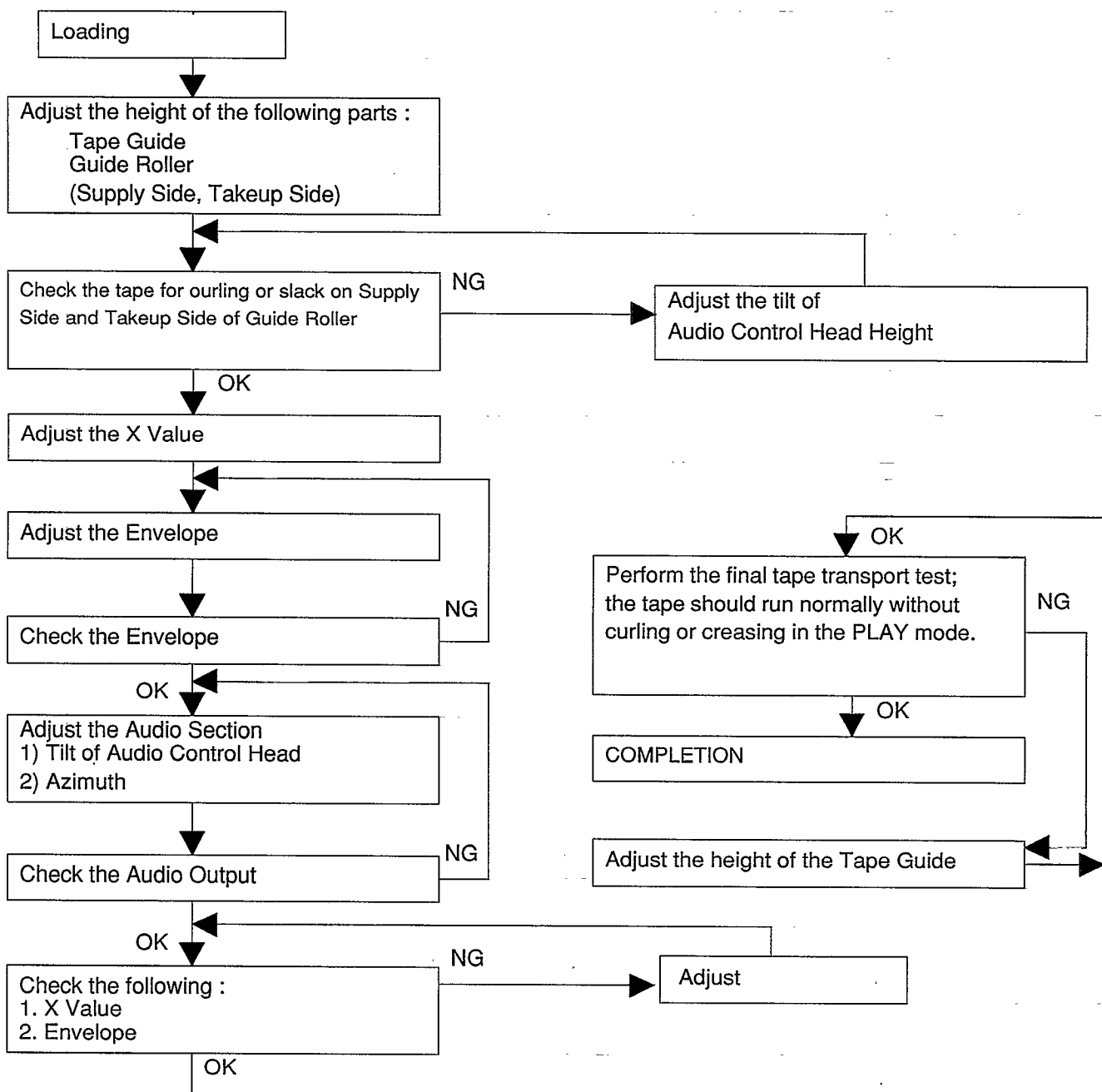
Note: To perform these alignment / checking procedures, make sure that the Tracking Control is set in the Neutral position.

Equipment required :

Dual Trace Oscilloscope
VHS Alignment Tape {F6-A F6-N, F6-NS(LP model)}
Post Alignment Screwdriver
X-Position Alignment Fixture
Screwdriver (Lock the Tape Guide Rollers)
Box Driver M3

Note: After this Mechanical Alignment is completed, perform the Electrical Adjustment method.

Tape Running Alignment Flow Chart



1-A. CHECKING AND ALIGNMENT OF TAPE RUNNING

Purpose:

To make sure that the tape running is stable.

Symptom of Misalignment:

If the tape runs with instability, the tape will be damaged.

1. Playback (on forward) a cassette tape and check that the tape runs without curling or creasing at the guide rollers [2] and [3], and at the points A and B on the lead surface. (Refer to Fig M3 and M4)
2. If curling or creasing is apparent, align the height of guide rollers by turning the top of guide rollers [2] and [3] with Post Adjustment Screwdriver. (Refer to Fig. M3 and M5)

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may become damaged.

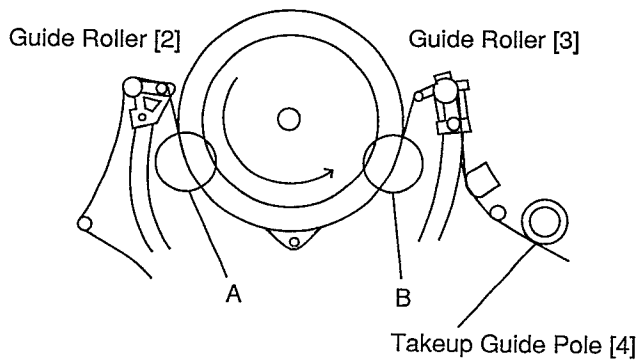


Fig. M3

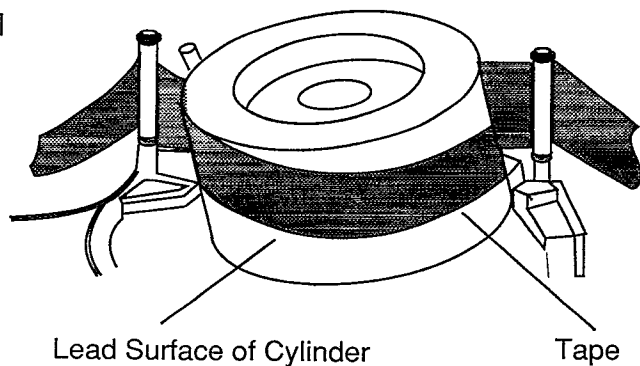


Fig. M4

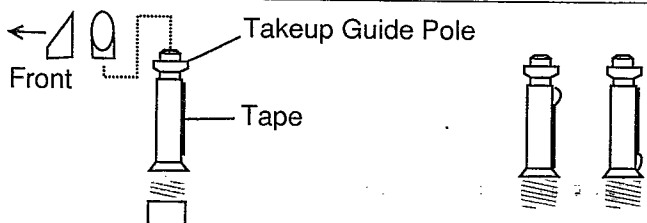
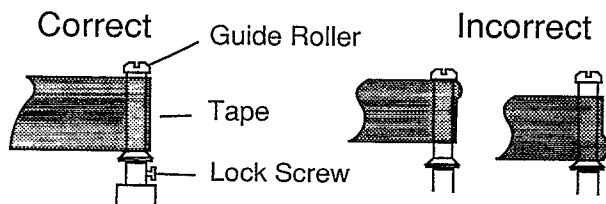


Fig. M5

1-B. CHECKING OF AUDIO CONTROL HEAD HEIGHT

Purpose :

To make sure that the tape runs properly along the Control Head.

Symptom of Misalignment:

If the control signal is not properly picked up, proper Servo Operation can not be achieved.

This checking is required when the Audio Control Head is replaced and for a preliminary height alignment. For final alignment, perform items 1-C and 1-D.

1. Playback a cassette tape. Looking at the lower edge of the Control Head with the tape in motion, ensure that the lower edge of the tape runs 0.15~0.25mm above the lower edge of the Control Head. If it is not correct, turn the Height Adjustment Nut [A] slightly in either direction as necessary to correct it. Turn clockwise by seeing from the top to lower the head and counterclockwise to raise it. (Refer to Fig. M6 and M7)

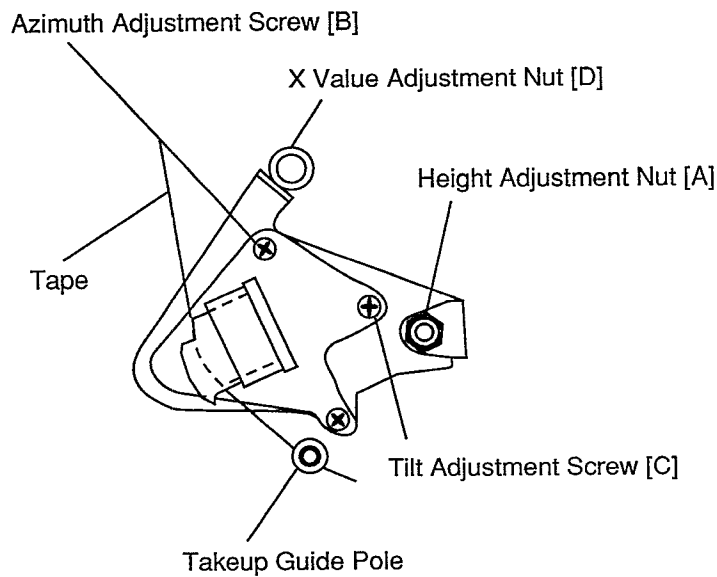


Fig. M6

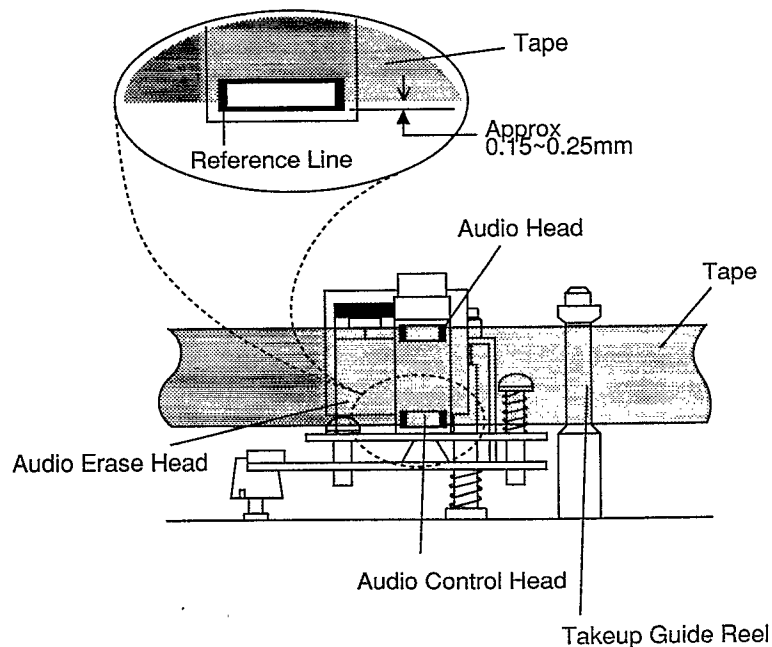


Fig. M7

1-C. CHECKING OF TILT OF AUDIO CONTROL HEAD

Purpose:

To check that the tape running is well stable. In particular, check that the signals on the tape is properly picked up by the Audio Signal at the upper part and by the Control Signal at the lower part.

Symptom of Misalignment:

If the tilt of the Audio Control Head is poorly aligned, the tape will eventually be damaged.

Playback a cassette tape and check that the tape running between Takeup Guide Pole [4] in Fig. M3 and Audio Control Head has no slack. If tape has slack, align the Control Head by turning tilt adjustment screw [C] in Fig. M6 so that the tape has no slack.

1-D. HEIGHT ALIGNMENT OF AUDIO CONTROL HEAD

Purpose:

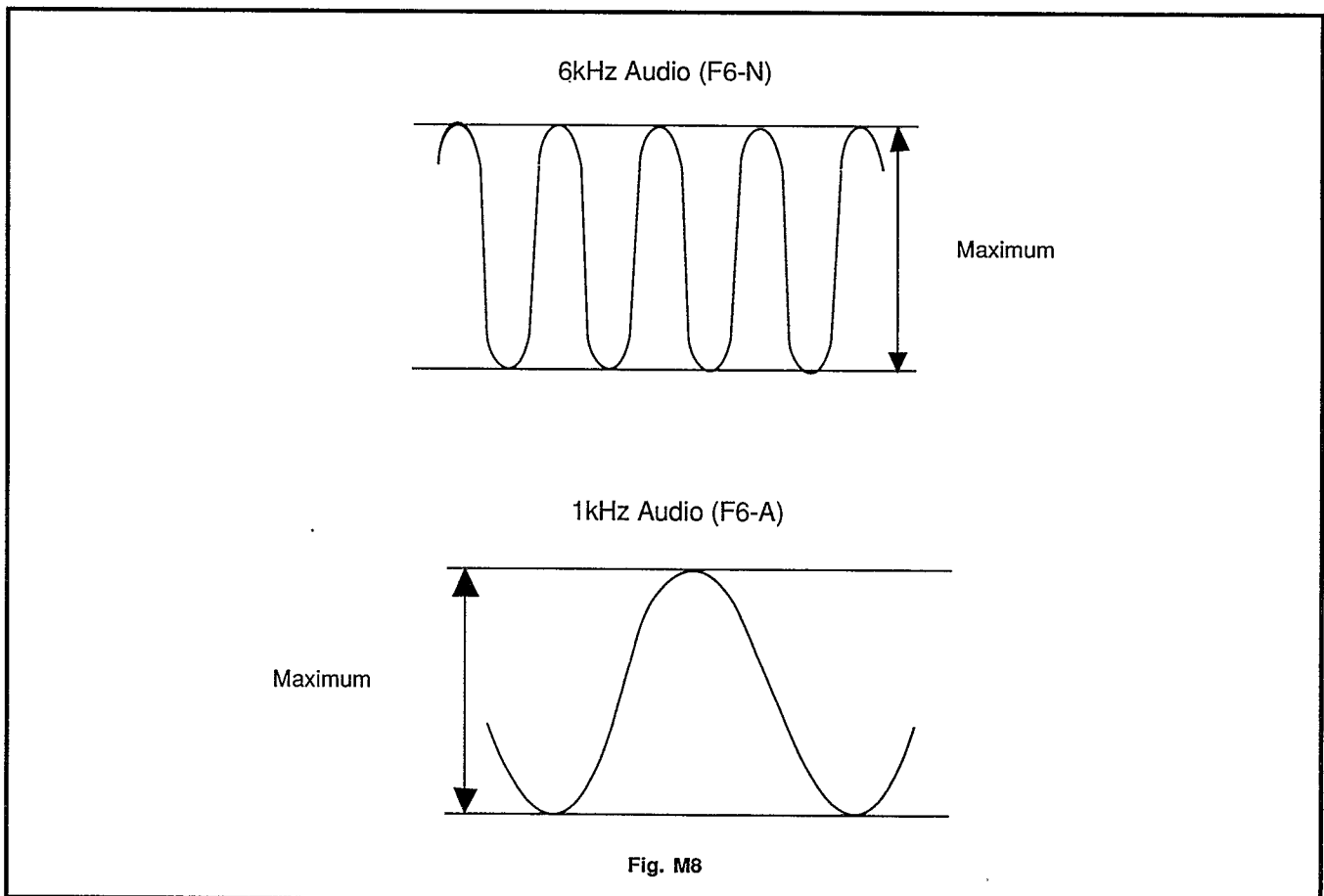
To align the position and height of Audio Control Head so that it meets the tape tracks properly.

Symptom of Misalignment:

If the position of Audio Control Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear of deck.
2. Check that the Tape running condition between Takeup Guide Roller and Audio Control Head has no tape slack. If there is tape slack, remove the tape slack by turning the Tilt Adjustment screw [C]. Then realign the height of Guide Roller (P3-3) and X Value (P3-6).
3. Playback the Monoscope Portion (1kHz, Audio) on the alignment tape (F6-A), and check that the audio signal output level is 1KHz. Adjust the Height Adjustment Nut [A] so that the output level is at maximum.
4. Adjust the Azimuth Adjustment Nut [B] so that the output level of AC Voltmeter Value is at maximum.

Note: Fix the screw [C] with lock paint after realignment.



Azimuth Alignment of Audio Control Head

Purpose:

To correct the Azimuth alignment so that the Control Head angle meets tape tracks properly.

Symptom of Misalignment:

If the position of Audio Control Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear of the deck.
2. Playback the Monoscope pattern (6kHz, audio) on the alignment tape {(F6-N, F6-NS(LP model))}, and adjust the Azimuth Adjustment Screw [B] so that the output level of AC Voltmeter or waveform of oscilloscope is at maximum.

Note:

Fix the screw [B] with lock paint after realignment.

1-E. X VALUE ALIGNMENT

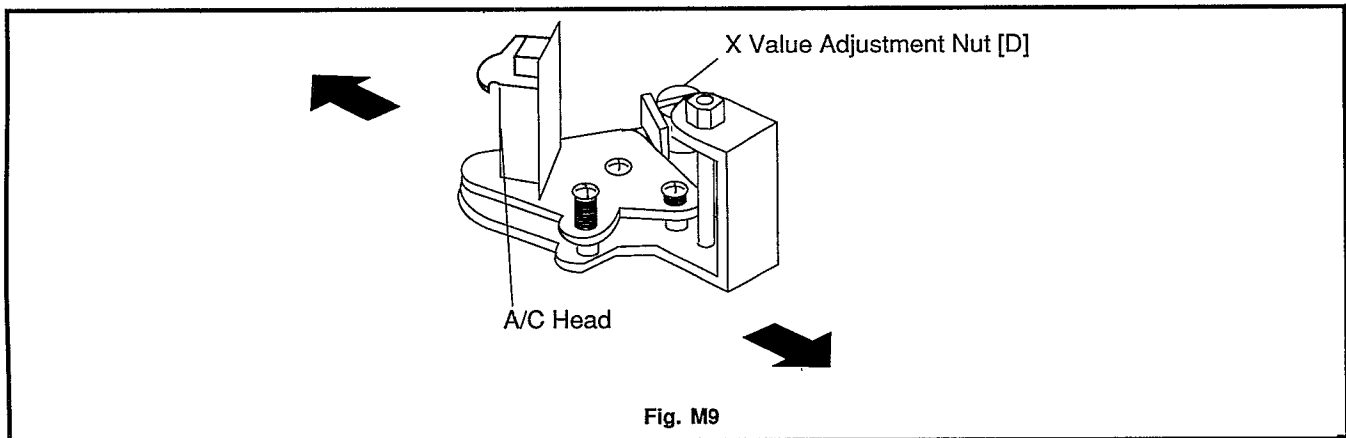
Purpose:

To align the Horizontal Position of the Audio Control Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio Control Head is not properly aligned, maximum envelope cannot be obtained at the Neutral Position of the Tracking Control Circuit.

1. Set the Tracking Control to the Neutral (detent) position.
2. Connect the oscilloscope to TP of C.PB on Main C.B.A. Use TP of RF-SW as a Trigger.
3. Playback the Monoscope pattern on the Alignment Tape {(F6-N, F6-NS(LP model))}.
4. Adjust the X Value adjustment Nut [D] so that the PB FM signal is at Maximum level by the Test Point or Audio Output.



1-F. CHECKING / ADJUSTMENT OF ENVELOPE WAVEFORM

Purpose:

To achieve a satisfactory picture and secure precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control.

1. Set the Tracking Control to the Neutral (detent) Position.
2. Connect the oscilloscope to TP of C-PB on Main C.B.A. Use TP of RF-SW as a Trigger.
3. Playback the Monoscope pattern on the Alignment Tape {F6-N, F6-NS(LP model)}. Adjust the height of Guide Rollers [2] and [3] watching scope display so that the envelope becomes as flat as possible. If adjustment is required, turn the top of the Guide Roller with the Post Adjustment Screwdriver.
4. When the Scope Display is as shown in Fig. M10, adjust the height of [2] so the waveform looks like Fig. M12.

Dropping Envelope Level at the Beginning of Track.

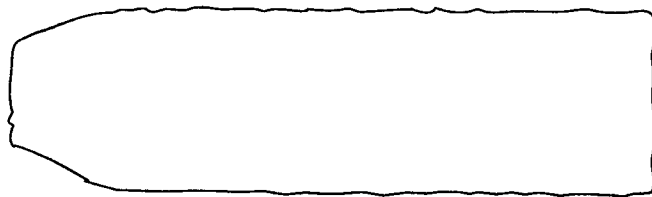


Fig. M10

5. When the Scope display is as shown in Fig. M11, adjust the height of [3] so the waveform looks like Fig. M12.

Dropping Envelope Level at the End of track.

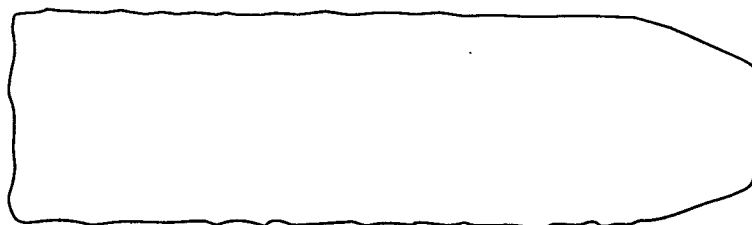


Fig. M11

6. When [2] and [3] are aligned properly, there is no Envelope Drop at the beginning and end of track as shown in Fig. M12.

Envelope is adjusted properly (No Envelope Drop)

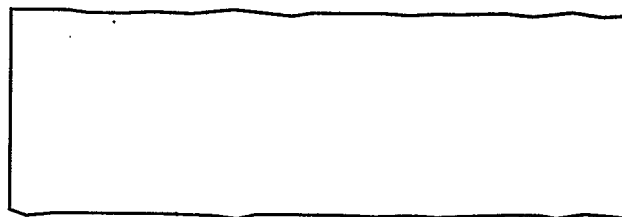


Fig. M12

Note:

After alignment, check the X VALUE by pushing the Tracking Control Up or Down buttons alternately, to check the symmetry of the envelope. If required, perform "X VALUE ALIGNMENT".

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Main Mechanism

This procedure starts with the condition that the Cabinet Parts and Cassette Up Unit have been removed. Also, all the following procedures for adjustment and parts replacement should be performed in Stop mode. When reassembling, perform the steps in the reverse order.

STEP /LOC. No.	START- ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	MOTOR HOLDER ASS'Y	T	DM1 DM4	3(S-2), Belt	
[2]	[1]	LDG MOTOR PREPARATION	T	DM1 DM4	2(S-3), CN2902	
[3]	[1]	CASSETTE DRIVE LEVER ASS'Y	T	DM1 DM4		
[4]	[1]	PINCH ROLLER ARM ASS'Y	T	DM1 DM4	(C-1) Pinch Roller Spring	
[5]	[1]	PINCH ARM ASS'Y	T	DM1 DM4		
[6]	[1]	CAM	T	DM1 DM4		
[7]	[1]	JOINT CBA	T	DM1 DM2 DM8	(S-8), CN2903 CN2801, *CL2901	For Connecting, Refer to Connectors Points
[8]	[1]	PULLEY ASS'Y	T	DM1 DM5	*(L-5), LDG BELT (W-1)	
[9]	[1]	CLUTCH BLOCK ASS'Y	T	DM1 DM2 DM7	2(S-7) CAPSTAN BELT	
[10]	[1]	HEAD AMP CBA	T	DM1 DM2 DM8	(S-9), CN02, CN03 CN1(CYL MTR)	For Connecting, Refer to Connectors Points.
[11]	[1]	CAPSTAN MOTOR UNIT	B	DM2 DM10	3(S-10)	
[12]	[1]	MODE SW	B	DM2 DM8	(L-5), *CL2901	For Connecting, Refer to Connectors Points.
[13]	[1]	M LEVER HOLDER ASS'Y	T	DM2 DM9	(S-14)	(+)
[14]	[1]	KICK ARM HOLDER ASS'Y	B	DM2 DM9		(+)
[15]	[1]	KICK ARM	B	DM2 DM9		(+)
[16]	[1]	MODE CHANGE LEVER	T	DM1 DM11	*2(L-2)	
[17]	[1]	MAIN LEVER ASS'Y	T	DM1 DM12	*(L-3)	
[18]	[1]	TAPE GUIDE ASS'Y	T	DM1 DM12	*(P-5), *(L-4), (M5.5)	See Fig. DM12
[19]	[1]	A/C HEAD ASS'Y	T	DM1 DM13	Nylon Nut, Head Height Adjustment Spring	See Fig. DM13
[20]	[1]	TENSION LEVER SUB ASS'Y	T	DM1 DM14	*(L-1)	(+)
[21]	[1]	BAND BRAKE SUB ASS'Y	T	DM1 DM14	(S-1), (L-6)	
[22]	[1]	M BRAKE (S)	T	DM1 DM15	*(P-2), (L-7)	(+) When reassembling, hook the Spring after in- stallation of Mode Change Lever.
[23]	[1]	M BRAKE (S) LEVER	T	DM1 DM15		
[24]	[1]	S BRAKE ARM	T	DM1 DM15	*(P-3)	When reassembling, hook the Spring after in- stallation of Mode Change Lever.
[25]	[1]	M BRAKE (T) ASS'Y	T	DM1 DM15		

STEP /LOC. No.	START- ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[26]	[1]	T BRAKE ARM ASS'Y	T	DM1 DM15	*(P-4)	When reassembling, hook the Spring after in- stallation of Mode Change Lever
[27]	[1]	REEL BASE ASS'Y'S (S+T)	T	DM1 DM16	2 Poly Slider Washers	(+)
[28]	[1]	EARTH BRUSH ASS'Y	B	DM2 DM17	(S-4)	When reassembling, check that the brush is within 1 mm of center of shaft.
[29]	[1]	CYLINDER DRUM ASS'Y	T	DM1 DM17	3(S-5), 3(S-6), CN02	
[30]	[1]	MOVING GUIDE ASS'Y	T	DM1 DM20	(S-15)	(+)
[31]	[1]	MOVING GUIDE T ASS'Y	T	DM1 DM20	(S-15)	(+)
[32]	[1]	LOADING ARM M ASS'Y	B	DM2 DM21	(C-3)	When installing, match the marks.
[33]	[1]	LOADING GEAR B	B	DM2 DM21	(P-8)	(+)
[34]	[1]	LOADING GEAR A	B	DM2 DM21	(P-9)	(+)
[35]	[1]	REC ARM	B	DM2 DM19	(S-16), (P-6)	
[36]	[1]	BT DRIVE ARM	B	DM2 DM19	(S-16), (P-7)	
[37]	[1]	FE HEAD	T	DM2 DM20	(S-12)	(+)
[38]	[1]	LUMINESCENCE PRISM	T	DM2 DM20	(S-13)	(+)
*[39]	[1]	F BREAK ASS'Y	B	DM2 DM10	B-87 F Break Spring	(+)

↓ ↓ ↓ ↓ ↓ ↓ ↓
 ① ② ③ ④ ⑤ ⑥ ⑦

Note:

- ①: Order of steps in Procedure. When reassembling, perform the step(s) in the reverse order.
The numbers are also used as the identification (Location) No. of parts in Figures.
- ②: The step No. to start with before coming to the corresponding step No. when disassembling.
- ③: Parts to be removed or installed.
- ④: Location of part
T=Top B=Bottom R=Right L=Left
- ⑤: Fig. No. Showing Procedure or Part Location
- ⑥: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug or Desolder
2(C-2) = 2 Cut Washer(C-2), 2(L-2) = 2 Locking Clips(L-2), (N-1) = 1 Locking Pin(N-1)
- ⑦: Adjustment Information for Installation(+)
Refer to Deck Exploded Views for lubrication information.

*[39]-----4 head model only

TOP VIEW

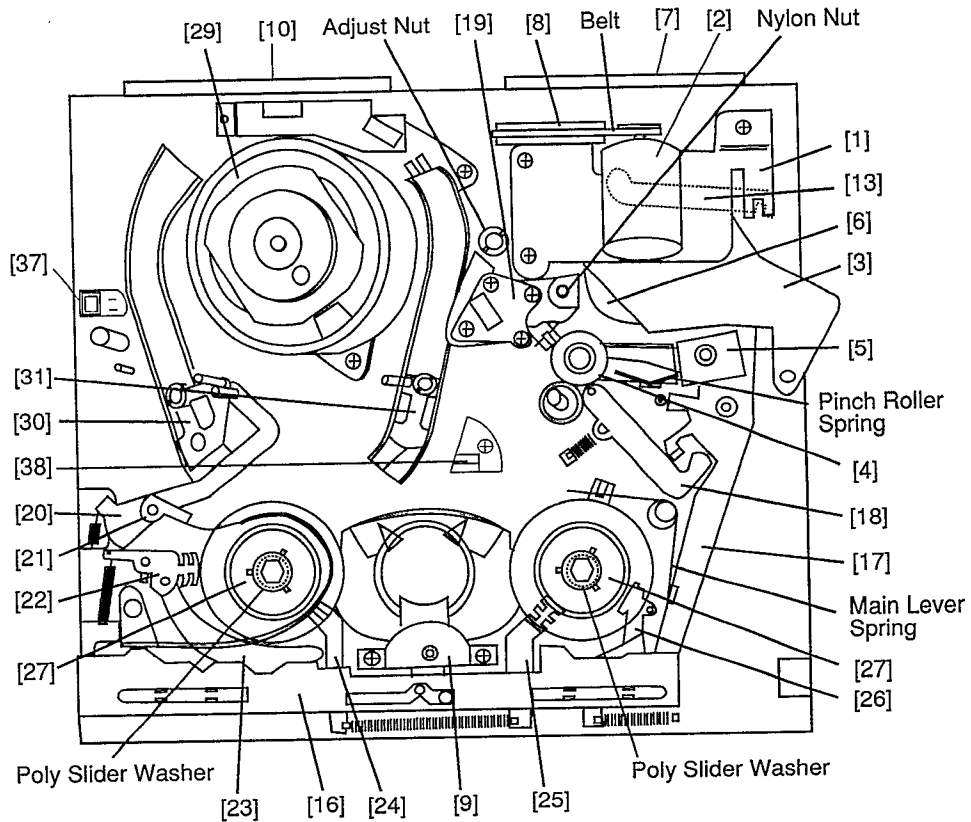


Fig. DM1

BOTTOM VIEW

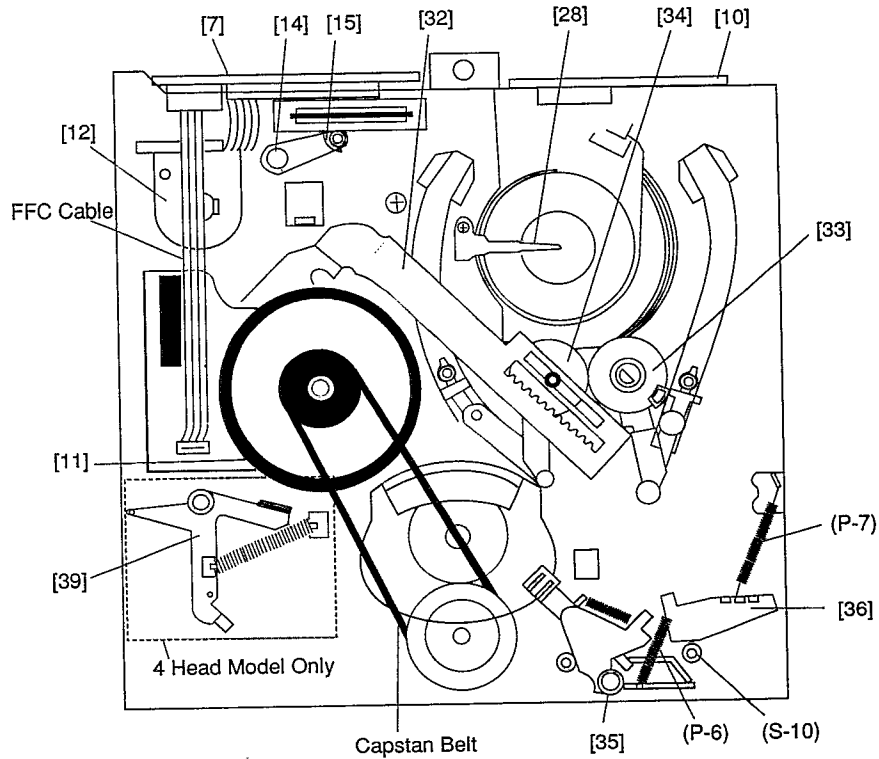


Fig. DM2

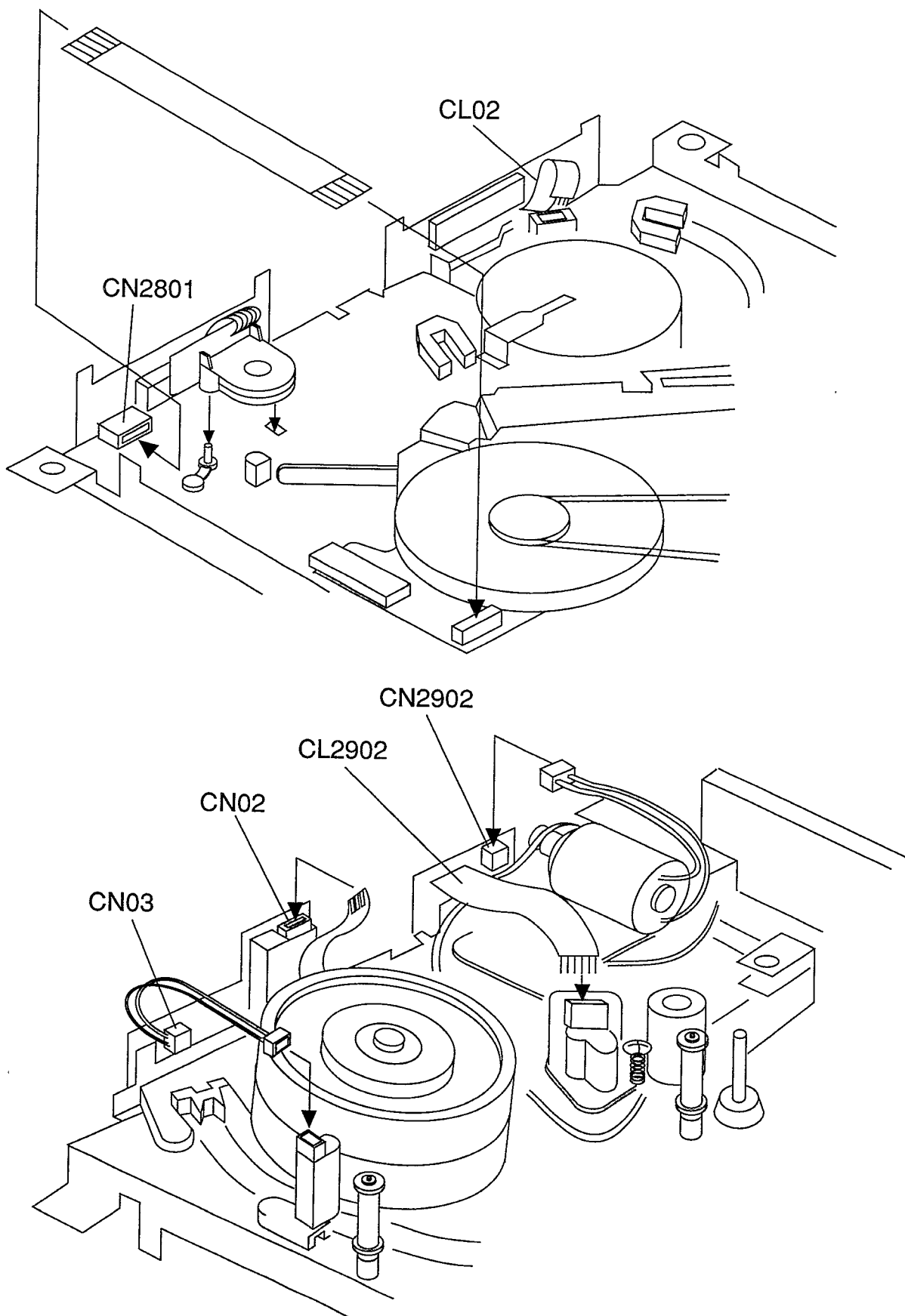


Fig. DM3

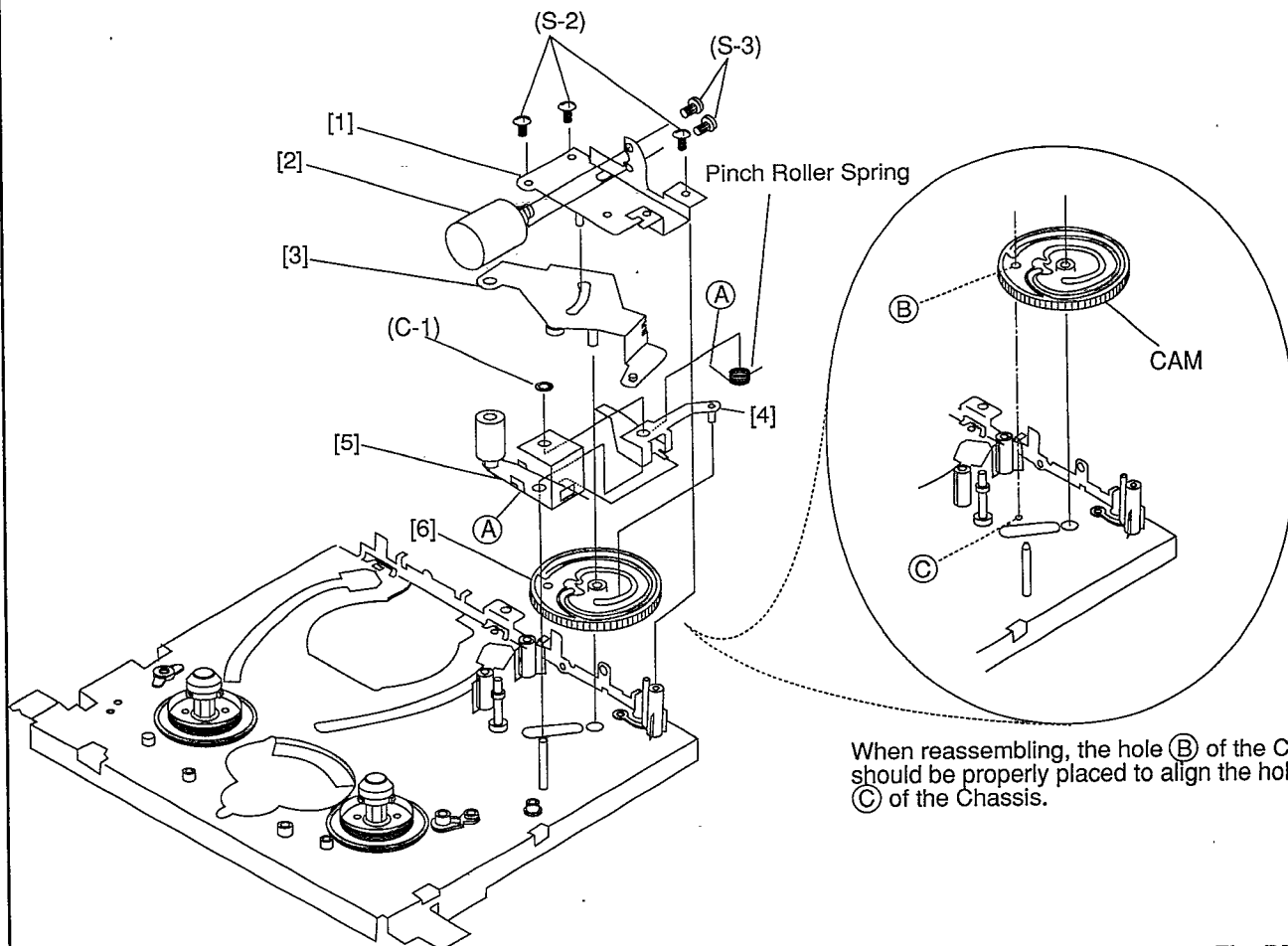


Fig. DM4

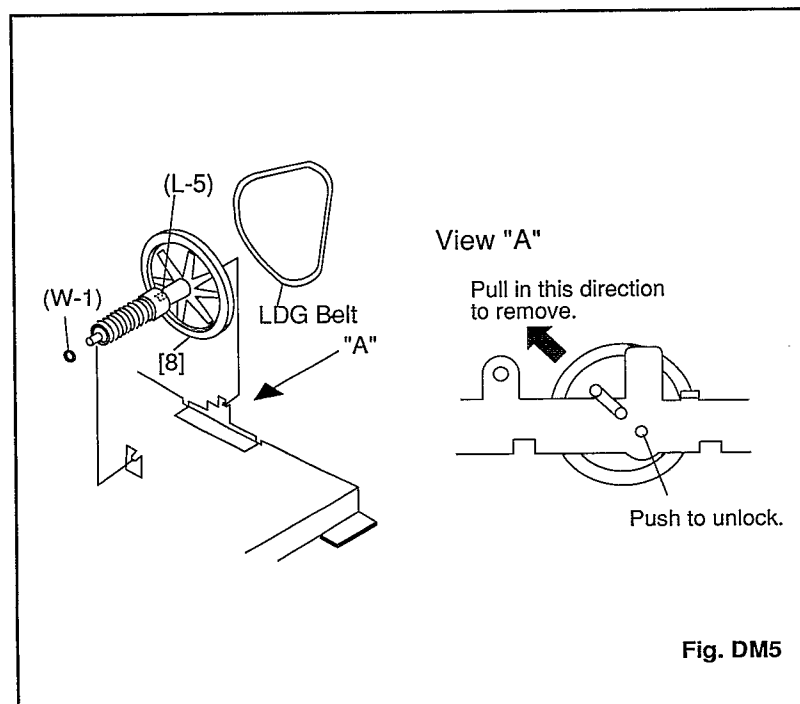


Fig. DM5

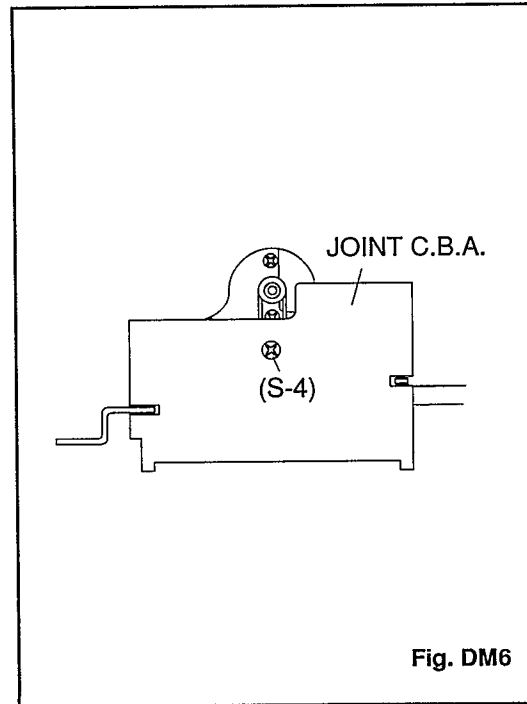


Fig. DM6

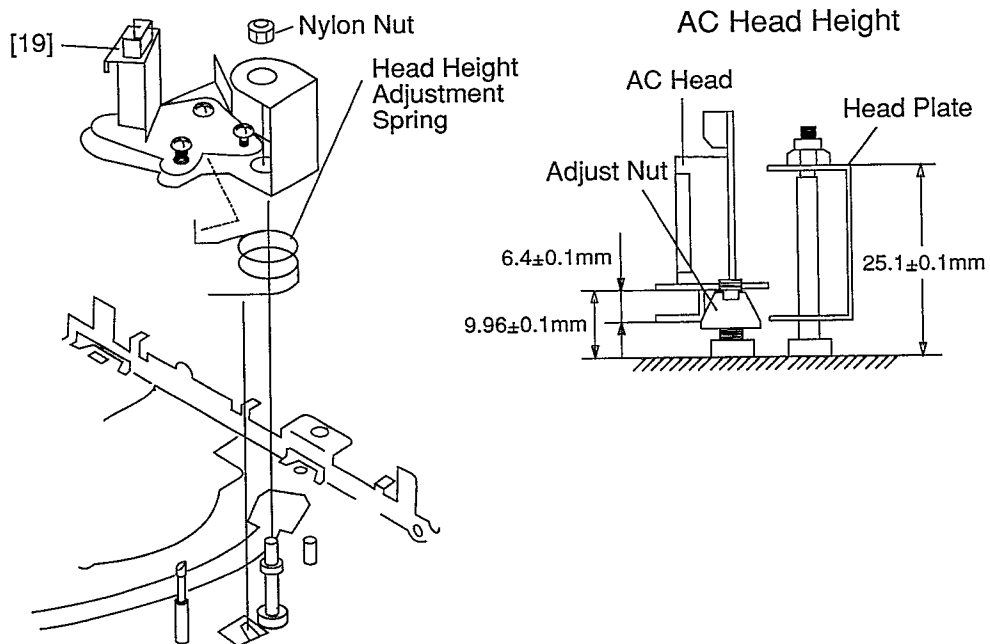


Fig. DM13

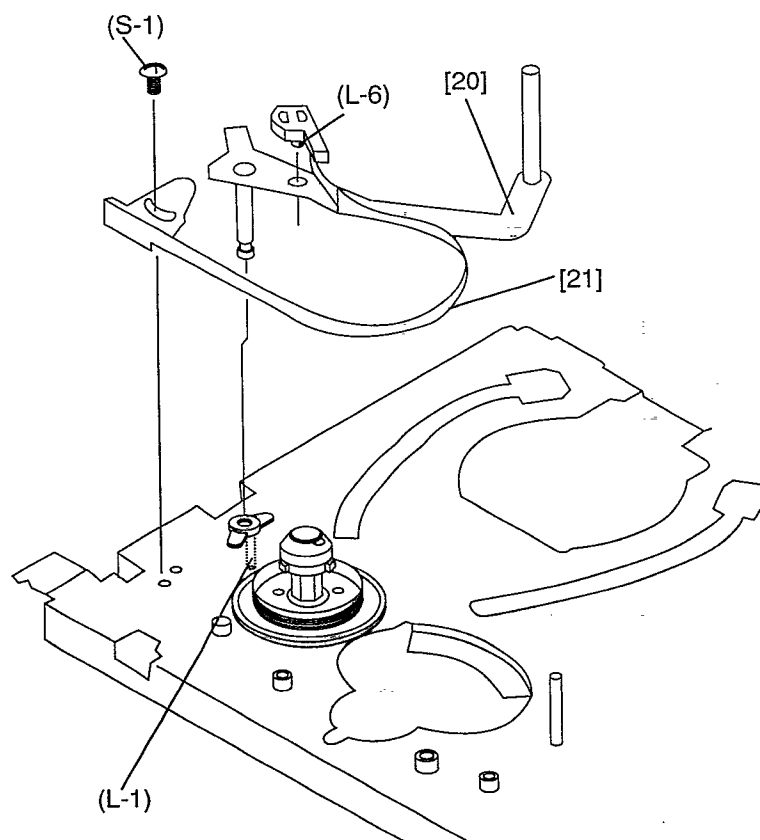


Fig. DM14

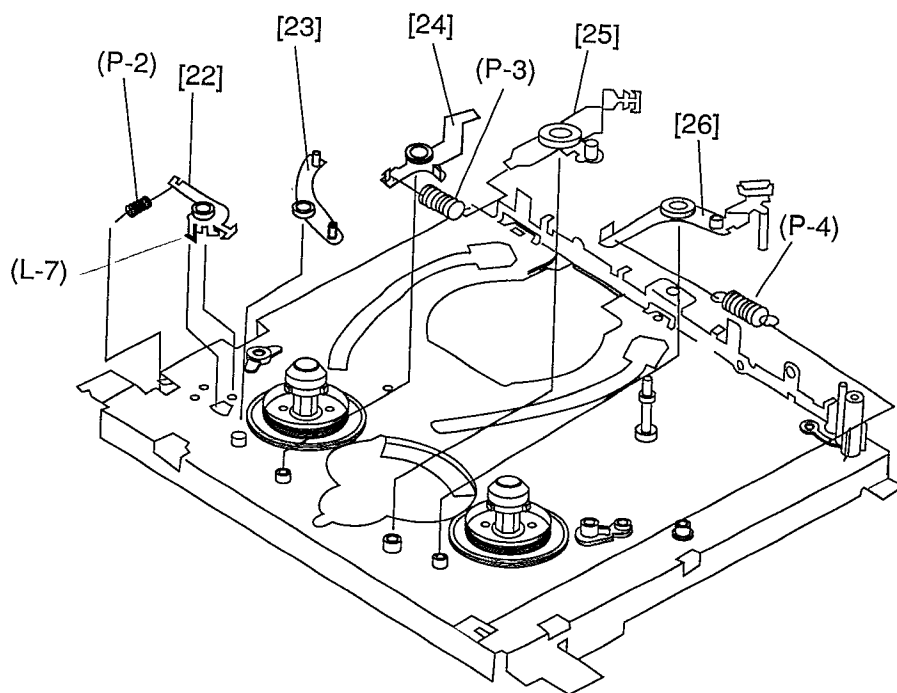


Fig. DM15

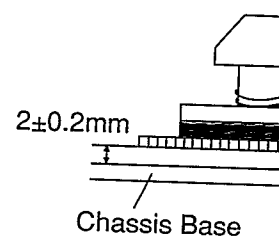
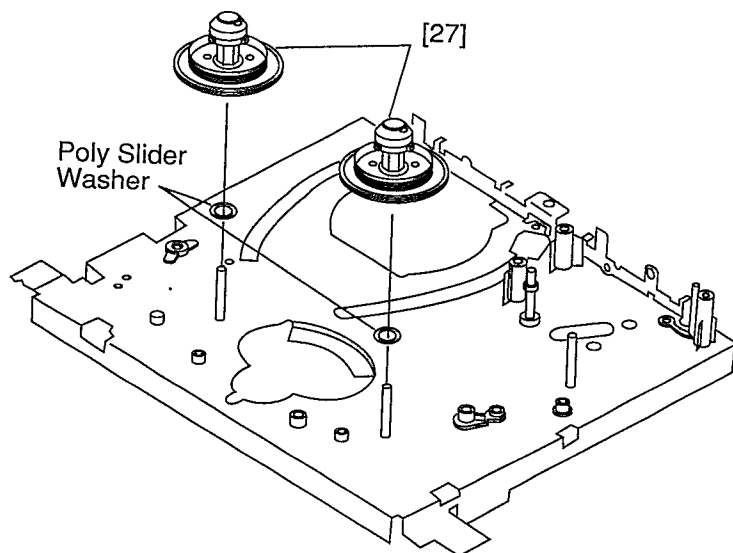
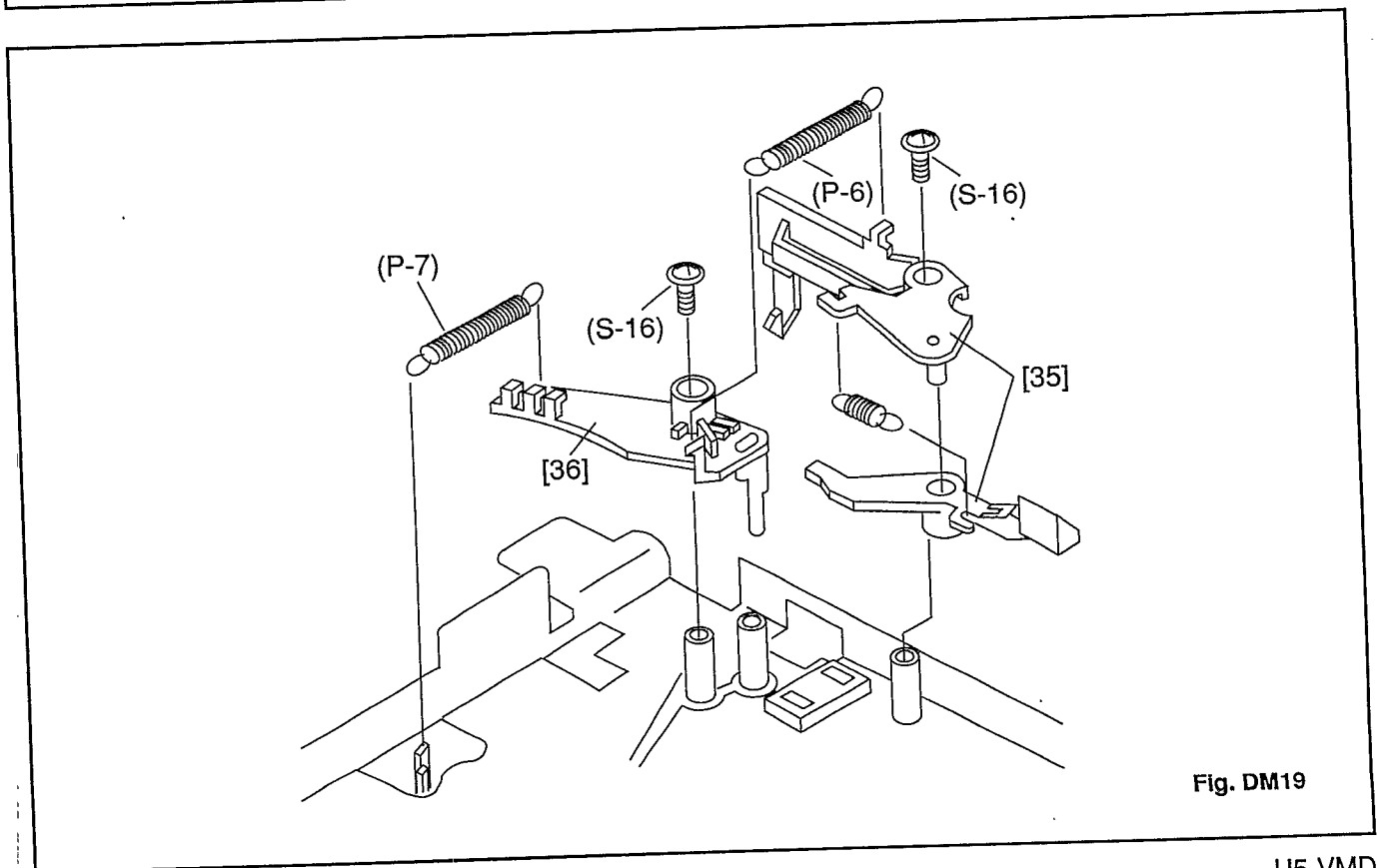
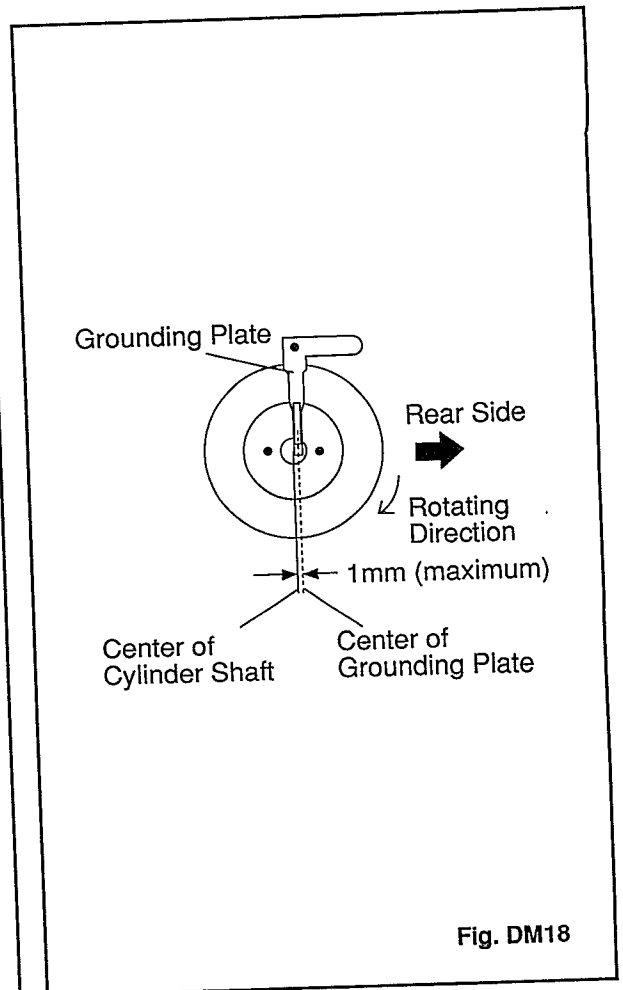
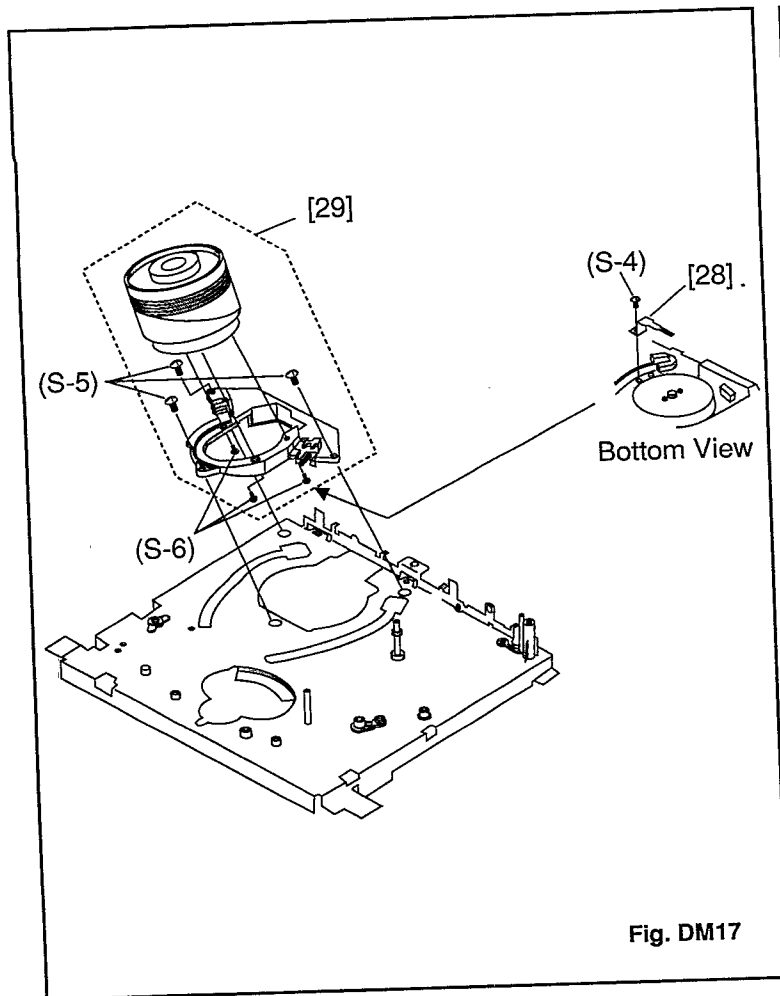


Fig. DM16



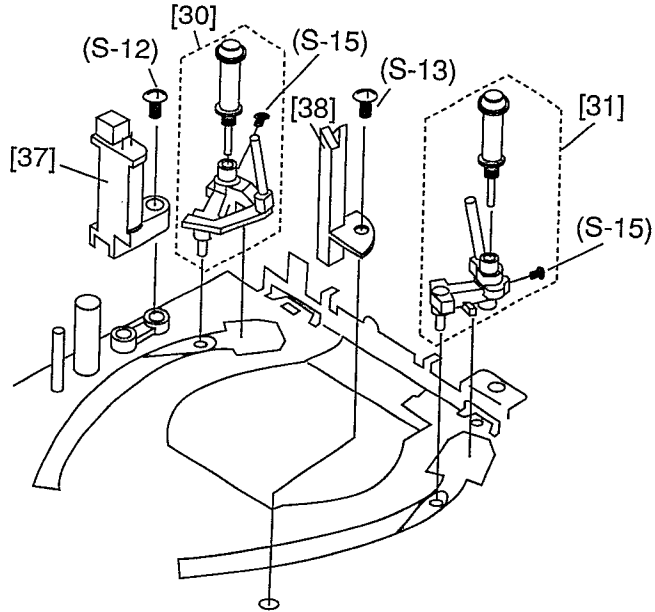
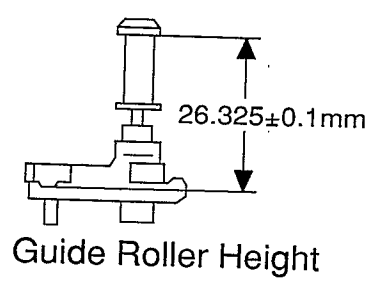


Fig. DM20

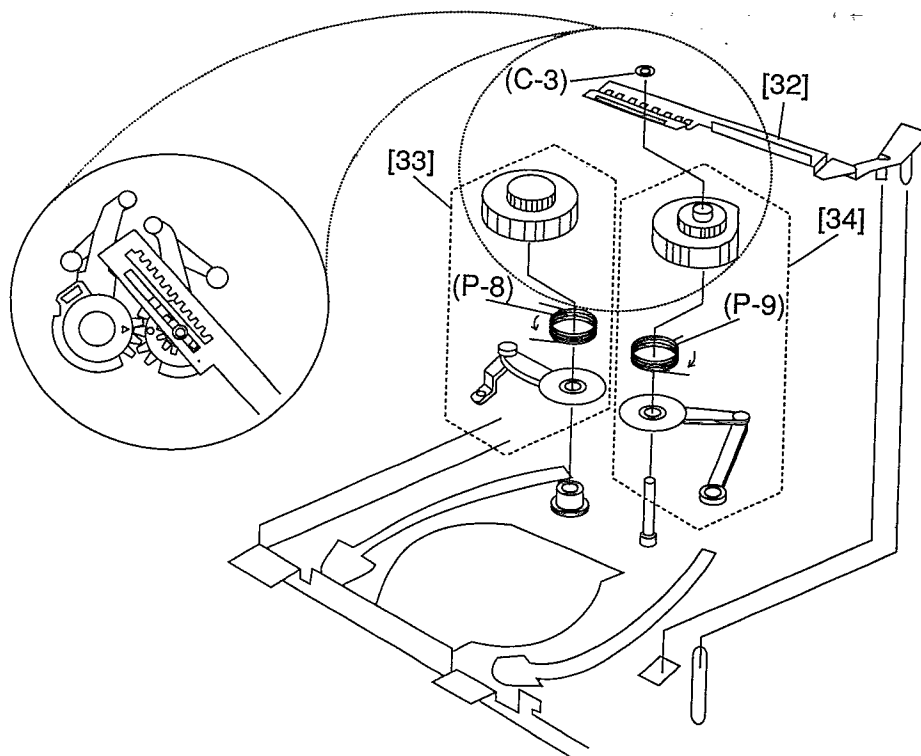


Fig. DM21

Cassette Up Unit

This procedure starts with the condition that the Cassette Up Unit has removed from chassis. When reassembling, perform the step(s) in the reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE *UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	DRIVE GEAR REINFORCEMENT	R	DM22	(S-1)	
[2]	[1]	CASSETTE DRIVE GEAR (R)	R	DM22	*(L-1) Cassette Drive Gear Spring(R)	Refer to the setting condition in Fig. DM22.
[3]	[3]	PRISM (R)	R	DM22	*2(L-6)	
[4]	[3]	DOOR OPENER	R	DM22	Door Opener Spring	When installing the Door Opener Spring, refer to the setting condition in Fig. DM22.
[5]	[4]	CASSETTE DRIVE GEAR (L)	(L)	DM23	*(L-3)	
[6]	[4]	INTERLOCKING GEAR (L)	L	DM23	*(L-4)	
[7]	[4]	FRONT DOOR OPENER	L	DM23	Front Door Opener Spring	When installing, refer to the setting condition in Fig. DM23.
[8]	[7]	CASSETTE HOLDER PLATE	T	DM24	*2(L-5), 2(S-2)	
[9]	[1]	RACK ASS'Y	R	DM22		
[10]	[10]	PRISM (L)	L	DM23	*2(L-7)	

①
②
③
④
⑤
⑥
⑦

Note:

- ①: Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order.
These numbers are also used as the identification (Location) No. of parts in Figures.
- ②: The step No. to start with before coming to the corresponding step No. when disassembling.
- ③: Parts to be removed or installed.
- ④: Location of part
T=Top B=Bottom R=Right L=Left
- ⑤: Fig. No. Showing Procedure or Part Location
- ⑥: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug or Desolder
2(C-2) = 2 Cut Washer(C-2)
- ⑦: Adjustment Information for Installation(+)
Refer to Deck Exploded Views for lubrication information.

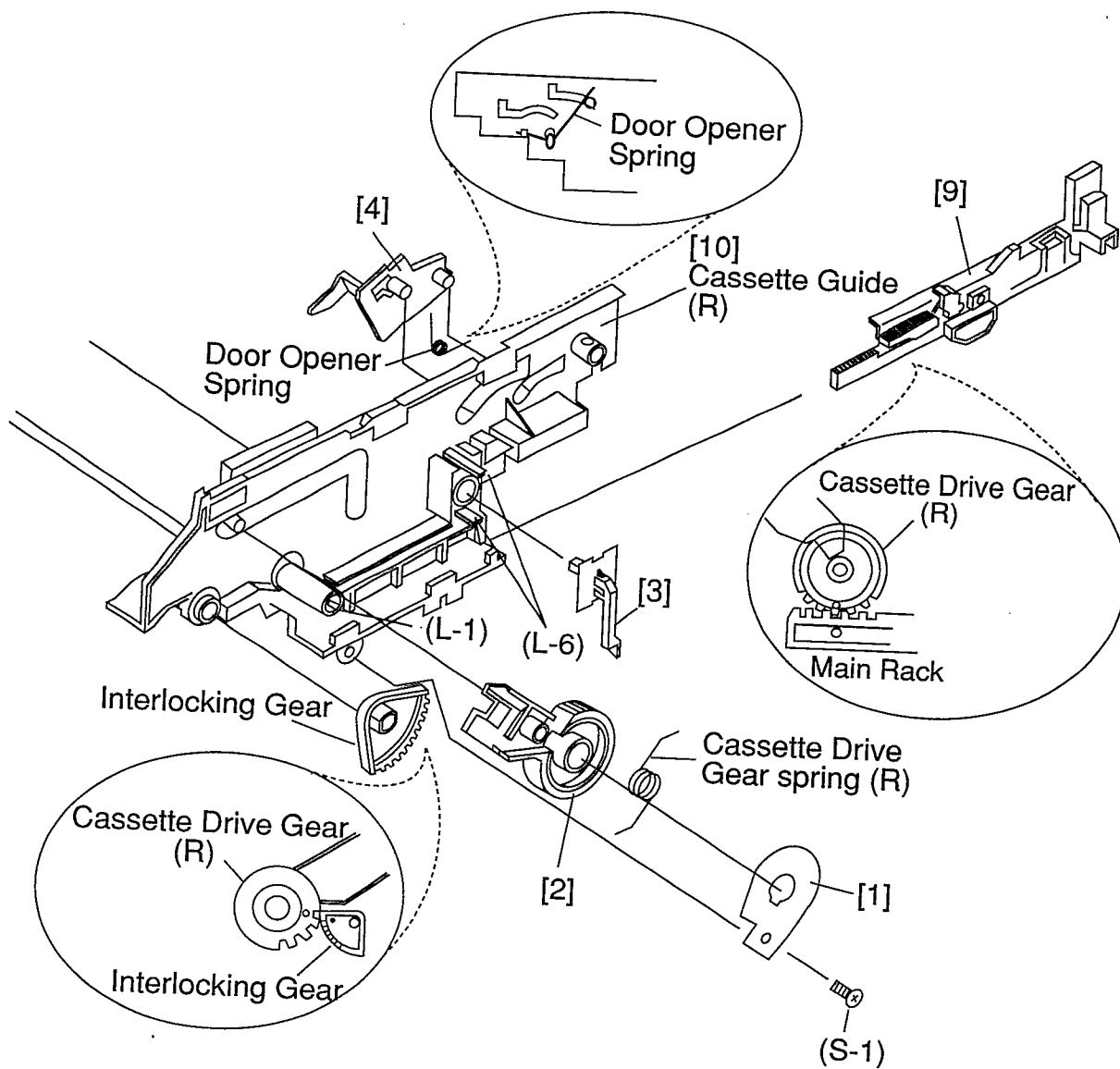


Fig. DM22

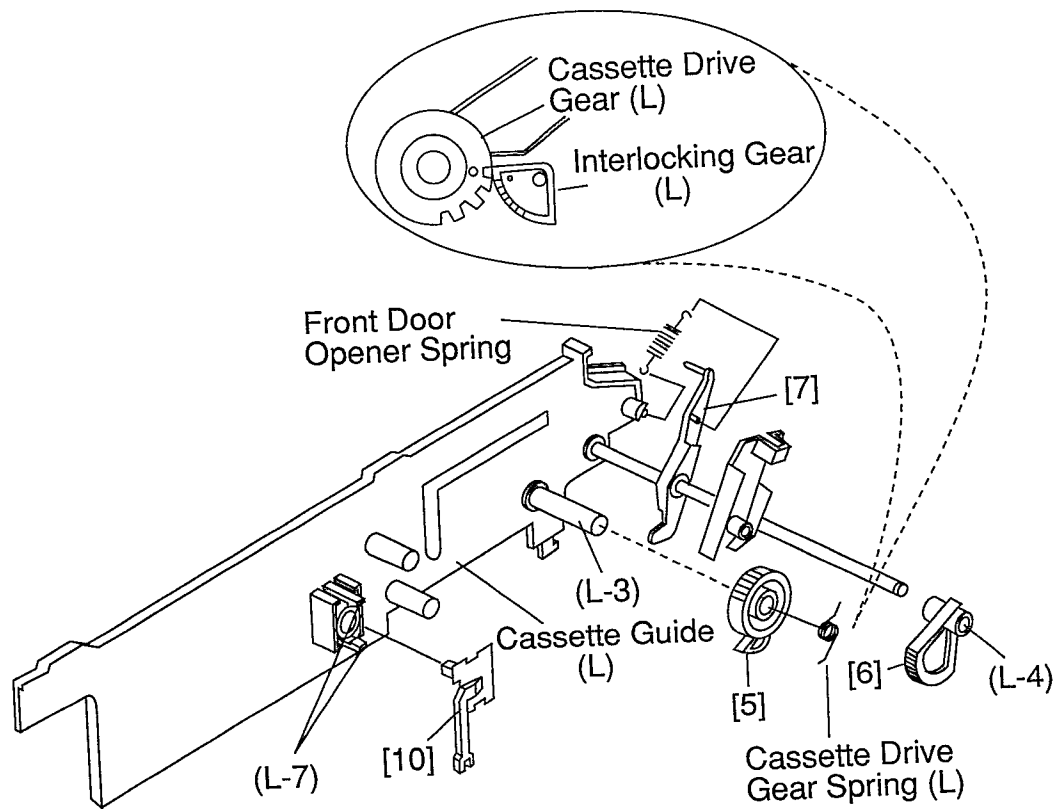


Fig. DM23

When disassembling the Cassette Up Unit, perform the procedures above.

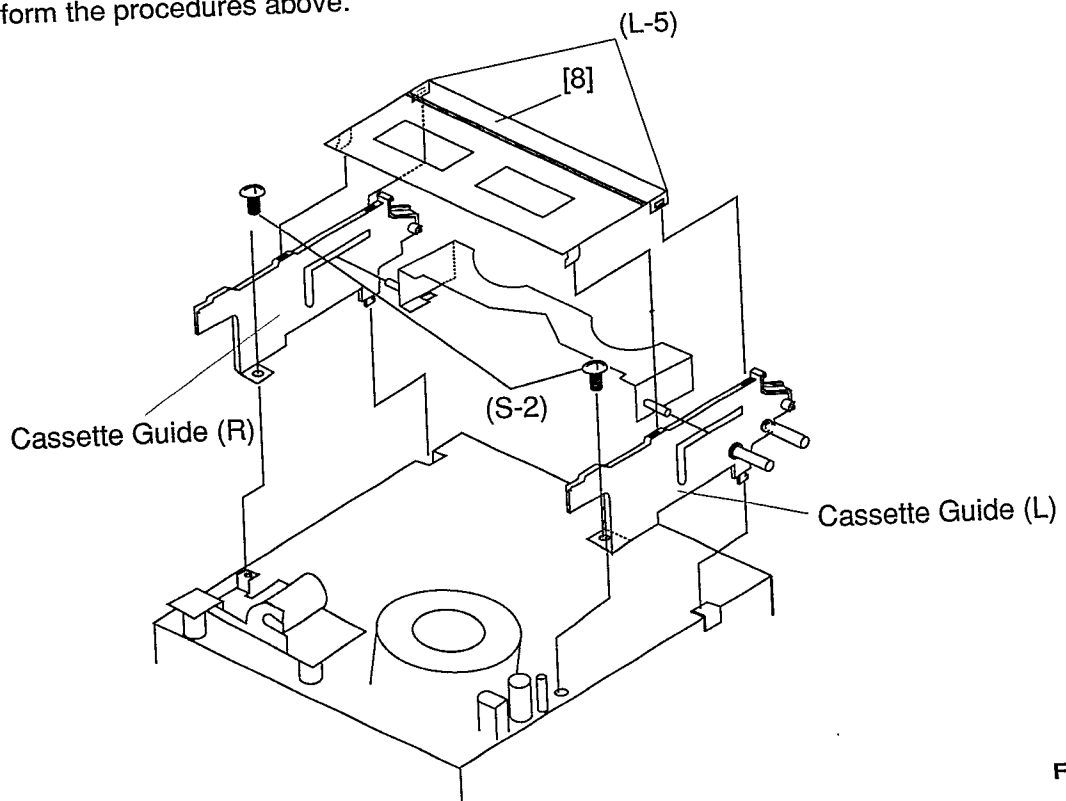
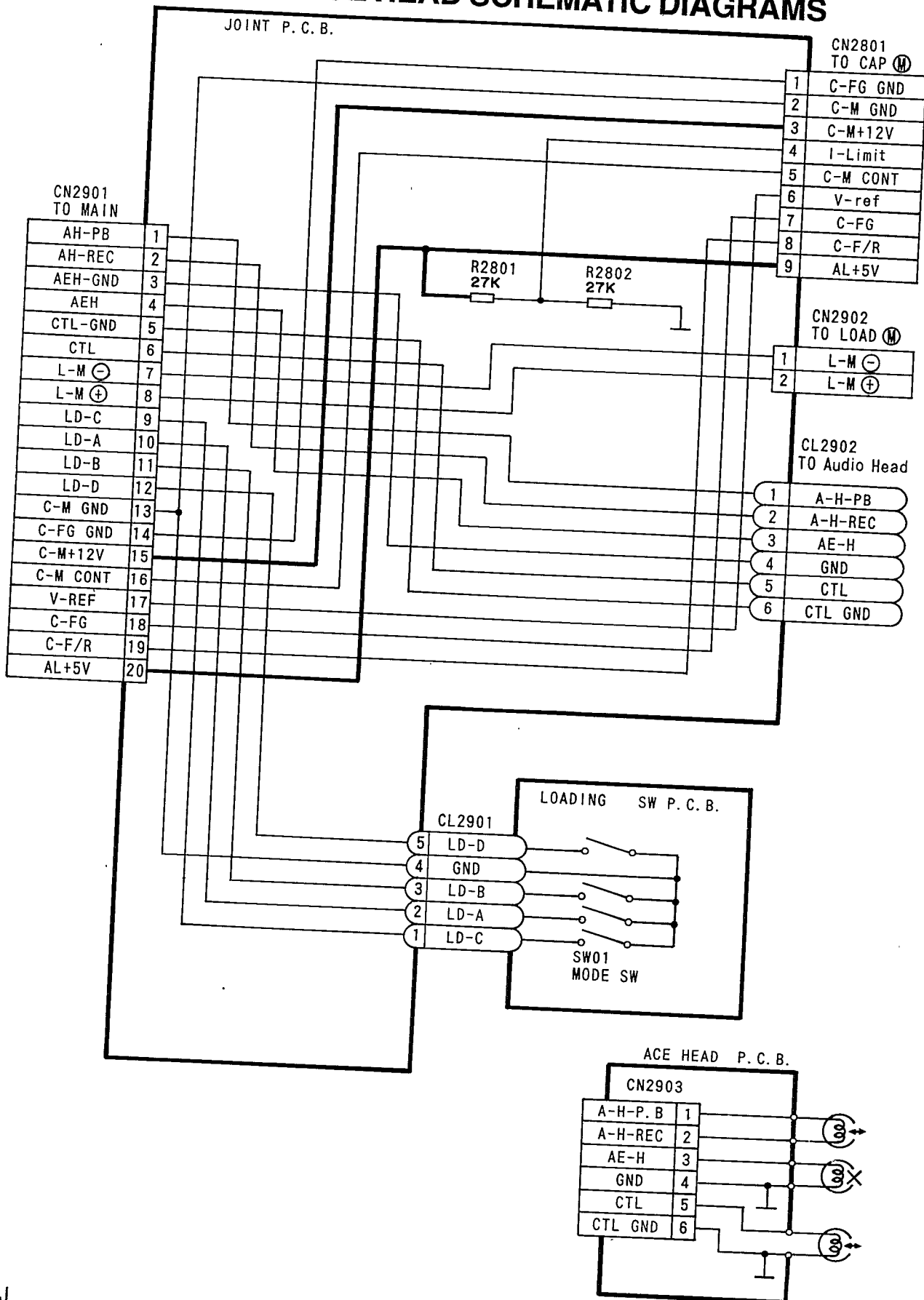


Fig. DM24

SCHEMATIC DIAGRAMS AND C.B.A.

JOINT / MODE SW / ACE HEAD SCHEMATIC DIAGRAMS

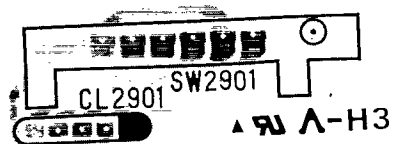
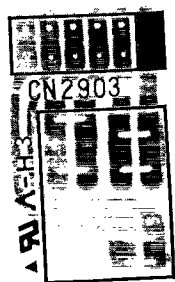


A B C D E F G

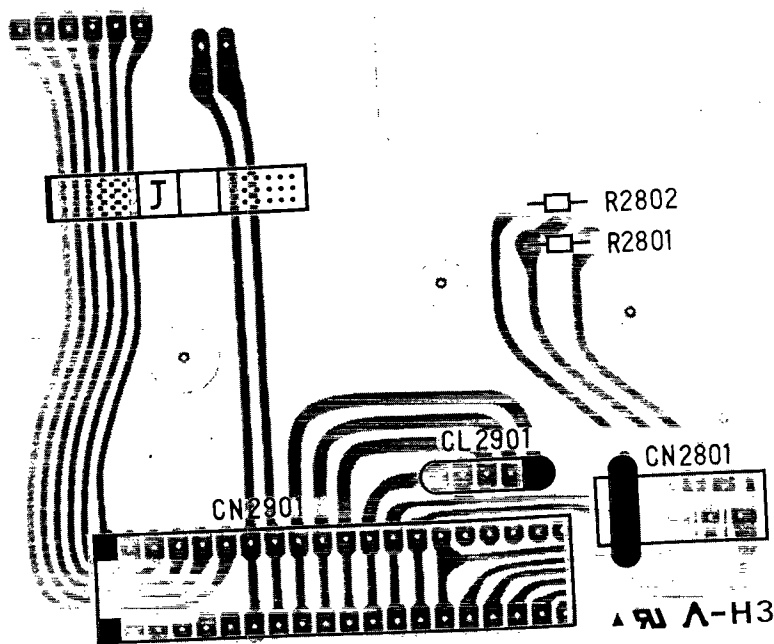
DECK C.B.A.

ACE HEAD C.B.A. TOP VIEW

MODE SW C.B.A. TOP VIEW

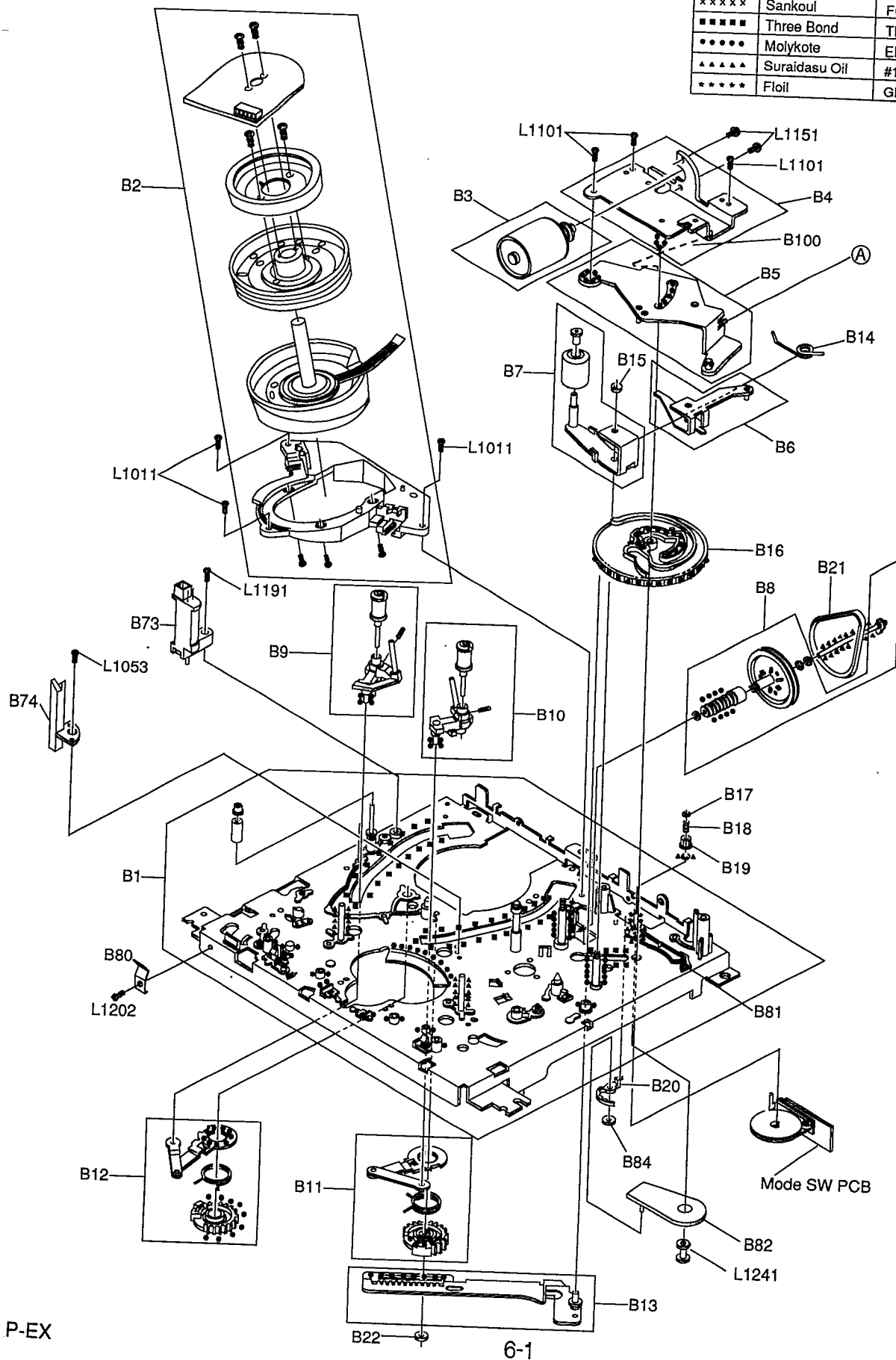


JOINT C.B.A. TOP VIEW

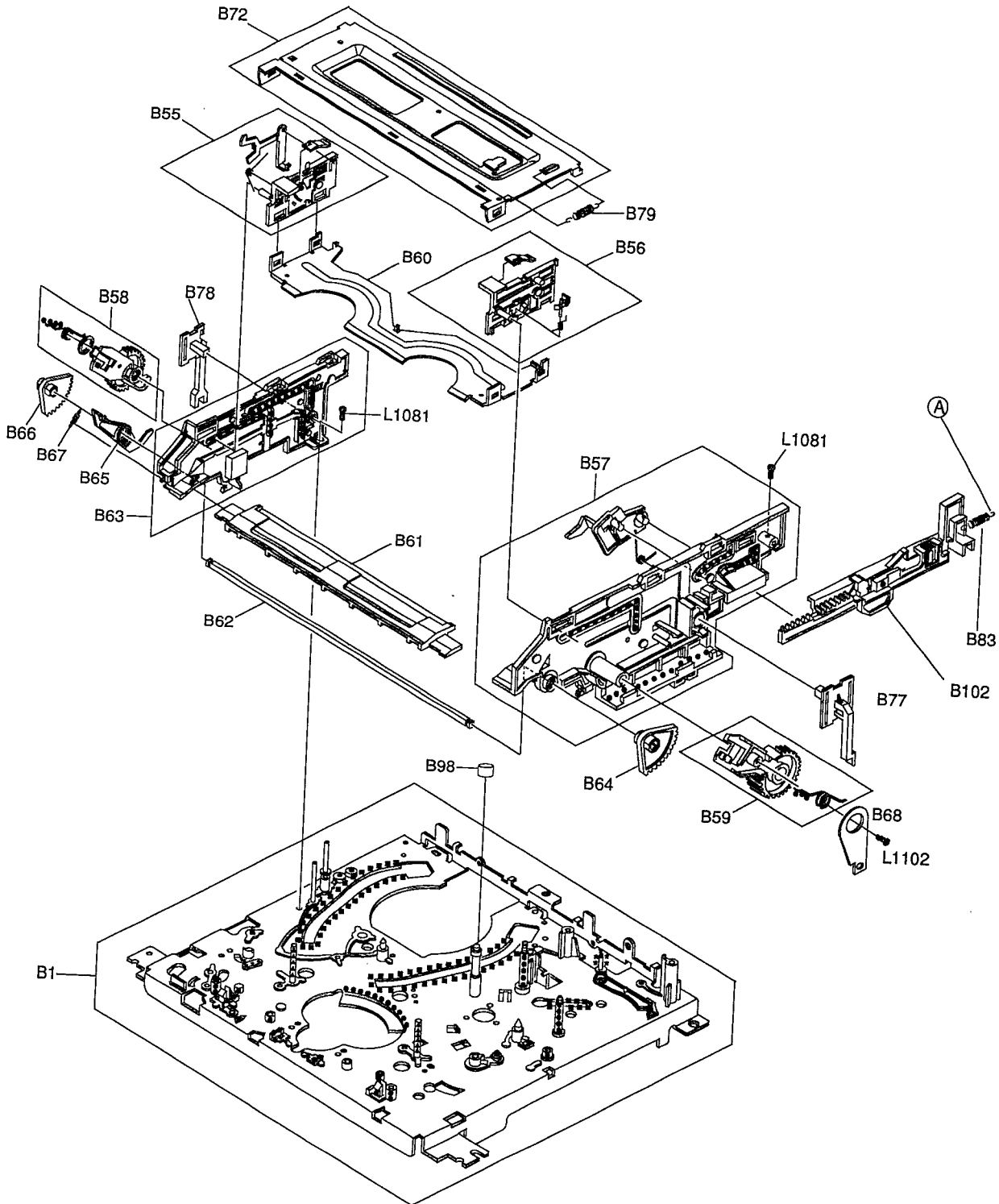


EXPLODED VIEW (DECK)

Mark	Description	Part No.
xxxxx	Sankoul	FG-84M
■■■■■	Three Bond	TB-1901
●●●●●	Molykote	EM-30LG
▲▲▲▲▲	Suraidasu Oil	#150
*****	Floil	GP-327



Mark	Description	Part No.
xxxxx	Sankohi	FG-84M
■■■■■	Three Bond	TB-1901
●●●●●	Molycourt	EM-30LG
▲▲▲▲▲	Slidus Oil	#150
*****	Floil	GP-327



DECK MECHANICAL REPLACEMENT PARTS LIST

EXPLODED VIEW (1) DECK PARTS LIST...MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
DECK I	*9A03945200	DECK ASSY, N1101AA..(VIEW 1-4)	
B 1	*9A03920300	CHASSIS ASSY	
B 2	*9A03993600	CYLINDER DROM ASSY	
B 3	*9A03920400	LDG MTR.PREPARATION	
B 4	*9A03914400	MOTOR HOLDER CALKING ASSY	
B 5	*9A03914700	CASS./D.LEVER ASSY	
B 6	*9A03909600	PINCH ROLLER ARM ASSY	
B 7	*9A03902800	PINCH ARM ASSY	
B 8	*9A03919800	PULLEY ASSY	
B 9	*9A03918000	MOVING GUIDE (S) ASSY	
B10	*9A03918100	MOVING GUIDE (T) ASSY	
B11	*9A03917800	LOADING ARM (A) ASSY	
B12	*9A03917900	LOADING ARM (B) ASSY	
B13	*9A03909200	LOADING ARM(M) ASSY	
B14	*9A03917100	PINCH ROLLER SP,(U5)	
B15	*9A03913900	WASHER, LUMIRROR	
B16	*9A03898100	CAM,	
B17	*9A03915500	P.S.W,	
B18	*9A03912800	FRICTION GEAR SPG.	
B19	*9A03911600	FRICTION GEAR	
B20	*9A03911700	KICK ARM	
B21	*9A03914600	LDG BELT,	
B22	*9A03911200	P.S.W. (A)	
B73	*9A03894200	FE HEAD, HVFHF0002A	
B74	*9A03901600	LUMINESCENCE PRISM	
B80	*9A03915400	SPRING FOR PRESSING PACK	
B81	*9A03901900	M LEVER HOLDER	
B82	*9A03902000	KICK ARM HOLDER	
B84	*9A03915300	PRESS FIT BUSH	
B100	*9A03916200	HOLDER SPRING	
L1011	9A03894900	SCREW, C-TI.PAN HEAD M3*9	
L1053	9A03895100	SCREW, S-TIGHT PAN M2.6*6	
L1101	9A02646400	SCREW, P-TIG.BIND HEAD M3*8	
L1151	9A03894100	SCREW, SEMS PAN HEAD M3*4	
L1191	9A03895000	SCREW, P-TIGHT PAN M2.6*10	
L1202	9A03894800	SCREW, B-TIG.BIND HEAD M3*6	
L1241	9A02791900	SCREW, P-TIGHT, BIND M2*6	
PCB-1	- - - - -	MODE SW PCS ASSY (JOINT-B)	See Deck Electrical List

EXPLODED VIEW (2) DECK PARTS LIST, MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
B26	*9A03920800	CLUTCH BLOCK ASSY	
B27	*9A03919600	BAND BRAKE ASSY	
B28	*9A03917600	MAIN BRAKE(S) ASSY	
B29	*9A03917700	MAIN BRAKE(T) ASSY	
B30	*9A03919300	T BRAKE ARM ASSY	
B31	*9A03919700	AC HEAD ASSY	
B32	*9A03920000	REEL BASE ASSY	
B34	*9A03909100	MAIN LEVER ASSY	
B35	*9A03909300	TAPE GUIDE ASSY	
B36	*9A03918900	TENS. LEVER SP ASSY	
B37	*9A03895700	CAPSTAN MOTOR, F2QKB92	
B38	*9A03898400	MODE CHANGE LEVER	
B39	*9A03910400	M BRAKE (S) SPRING	
B40	*9A03898700	M BRAKE (S) LEVER	
B41	*9A03898800	S BRAKE ARM	
B42	*9A03910700	M BRAKE(T) ARM SPG.	
B43	*9A03910500	T BRAKE SPRING	
B44	*9A03909700	HEAD ADJUST SPRING	
B45	*9A03910000	M LEVER SPRING	
B46	*9A03910600	TAPE GUIDE ARM SPG.	
B47	*9A03913700	SCREW, T./GUIDE ARM ADJUST	
B48	*9A03915700	NUT, ADJUST	
B49	*9A03899000	BT DRIVE ARM	
B51	*9A03904200	CHANGE ARM	
B52	*9A03903400	BELT, FWD	
B53	*9A03915900	P.S.W,	
B53	*9A03916000	P.S.W,	
B76	*9A03910300	REC ARM SPRING	
B88	*9A03951100	CLEANING CALKING ASSY	
B89	*9A03949900	CLEANING BEARING	
B90	*9A03950400	CLEANING ROLLER	
B91	*9A03950500	CLEANING SPRING	
B92	*9A03950600	P.S.W, 7.5*2.1*0.5T	
B93	*9A03950700	CUT P.S.W, 6.1*1.6*0.5T	
B94	*9A03949700	IR ARM	
B95	*9A03950000	SPRING IR	
B96	*9A03950100	SHAFT CIR	
B97	*9A03950800	CUT P.S.W, 5.0*2.1*0.3T	
B103	*9A03954800	LEC ARM (A)	
B104	*9A03954900	LEC ARM (B)	
B105	*9A03955000	LEC SPRING	
L1051	9A03895100	SCREW, S-TIGHT PAN M2.6*6	
L1052	9A03895100	SCREW, S-TIGHT PAN M2.6*6	
L1091	9A03894700	SCREW, S-TIGHT CUP+ M3*6	
L1111	9A03894600	SCREW, P-TIGHT WASHER M3*6	
L1112	9A03894600	SCREW, P-TIGHT WASHER M3*6	
L1121	9A03896100	NUT, HEXAGON M3	
L1221	9A03915600	SCREW, SPECIAL	
L1231	9A03916100	SCREW, SPACER ASSY	
PCB-2	- - - - -	JOINT PCB ASSY (JOINT-A)	See Deck Electrical List
PRV	*9A03921200	HEAD AMP PCB ASSY	See Electrical List

EXPLODED VIEW (3) DECK PARTS LIST., MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
B1	*9A03920300	CHASSIS ASSY	
B55	*9A03918300	C. SLIDER (L) ASSY	
B56	*9A03918400	C. SLIDER (R) ASSY	
B57	*9A03920100	CASS. GUIDE (R) ASSY	
B58	*9A03918700	C.D. GEAR (L) ASSY	
B59	*9A03918800	C.D. GEAR (R) ASSY	
B60	*9A03900300	CASSETTE PLATE	
B61	*9A03900100	FRONT GUIDE,	
B62	*9A03908300	GEAR CONNECT SHAFT	
B63	*9A03897900	CASSETTE GUIDE, (L)	
B64	*9A03900800	INTERLOCKING GEAR, (R)	
B65	*9A03900500	FRONT DOOR, OPENER	
B66	*9A03900900	INTERLOCKING GEAR, (L)	
B67	*9A03917200	FRT.DOOR OPENER SPG.	
B68	*9A03913100	D.GEAR REINFORCEMEN	
B72	*9A03898300	UPPER PLATE	
B77	*9A03901700	PRISM, (R)	
B78	*9A03901800	PRISM, (L)	
B79	*9A03914800	EARTH SPRING	
B83	*9A03916800	RACK SPRING	
B98	*9A03915800	TG CAP,	
B102	*9A03898200	FL RACK,	
L1081	9A03894500	SCREW, S-TIGHT BIND M3*6	
L1102	9A02646400	SCREW, P-TIG,BIND HEAD 3*8	

DECK ELECTRICAL REPLACEMENT PARTS LIST

NOTE:

As regards the resistors and capacitors, refer to the circuit diagrams and the PCB assy drawings contained in this manual.

JOINT PCB ASSY...MV-314/315

REF. NO.	PARTS NO.	DESCRIPTION
	*9A03919500	JOINT PCB ASSY (Consists of JOINT-A,B,C PCB ASSY)
	*9A03893900	P.C.B., DECK JOINT (Consists of JOINT-A,B,C PCB)
PCB-2	JOINT PCB ASSY (JOINT-A)	
CL2901	9A03896600	JUMPER WIRE, 5P
CL2902	9A03896500	JUMPER WIRE, 6P
CN2801	9A03895200	CONNECTOR, TOP 9P 9602S09C
CN2801	9A03922800	CONNECTOR, TOP 9P 1L-FPC-9S-SI
CN2801	9A03922400	CONNECTOR, TOP 9P 8370 091 000
CN2801	9A03922700	CONNECTOR, TOP 9P 09FE-BT-M
CN2801	9A03922900	CONNECTOR, TOP 9P CFF1109-0101
CN2901	9A01744500	CONNECTOR, ANGLE SOCKET 20P
CN2902	9A01896600	CONNECTOR, SIDE 2P
PCB-1	MODE SW PCB ASSY (JOINT-B)	
SW2901	9A03896300	SW, MODE HMW0420-510010
PCB-C	ACE HEAD PCB ASSY (JOINT-C)	
CN2903	9A03895500	CONNECTOR, CABLE 6P HBRK06RI

MV-314/MV-315

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MAIN SCHEMATIC DIAGRAM

