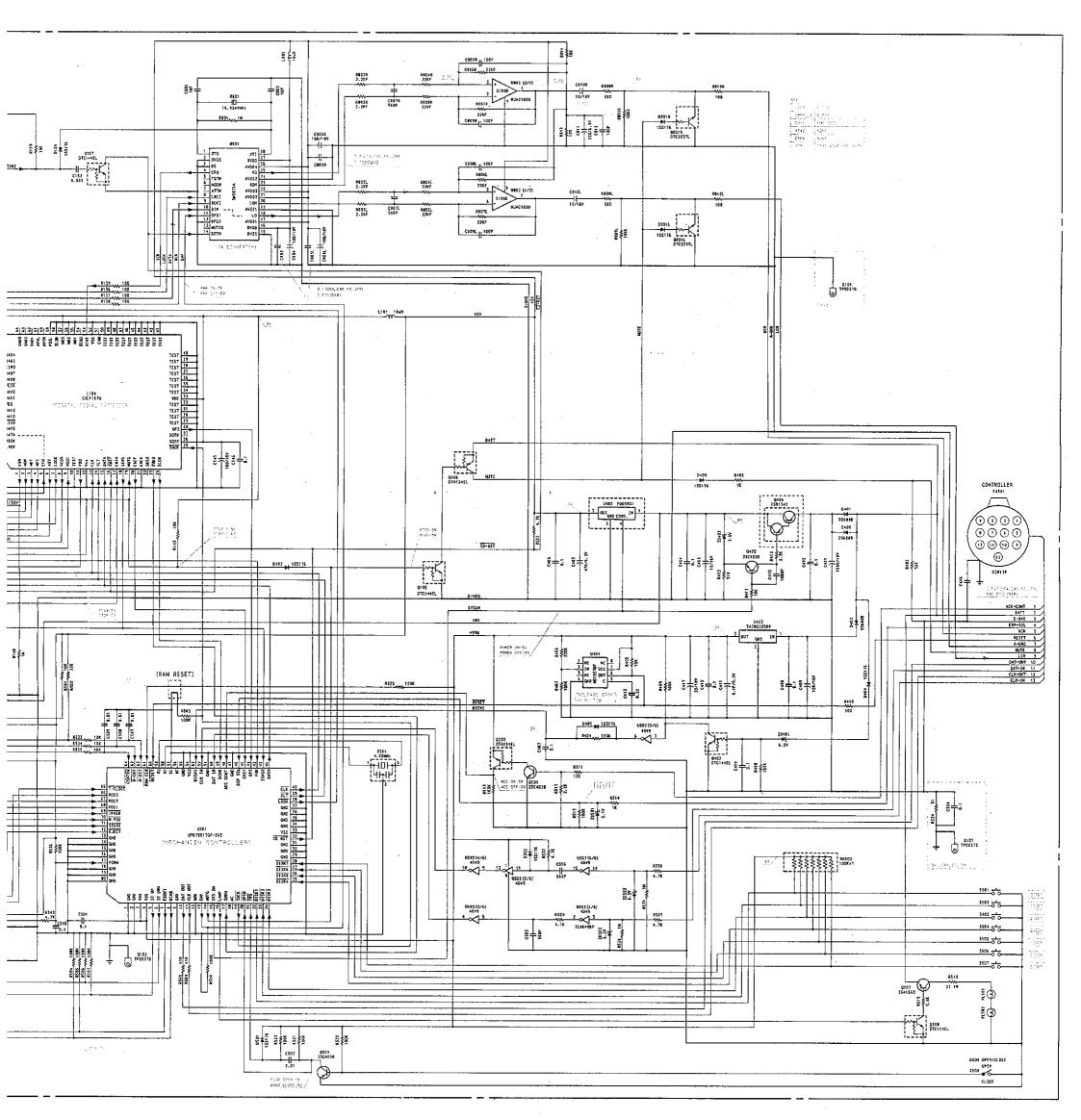


. .

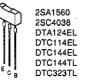
11.1k 193 FR. 08 MB-7 \$-

SCHEMATIC DIAGRAM (MB-7)

MB-7



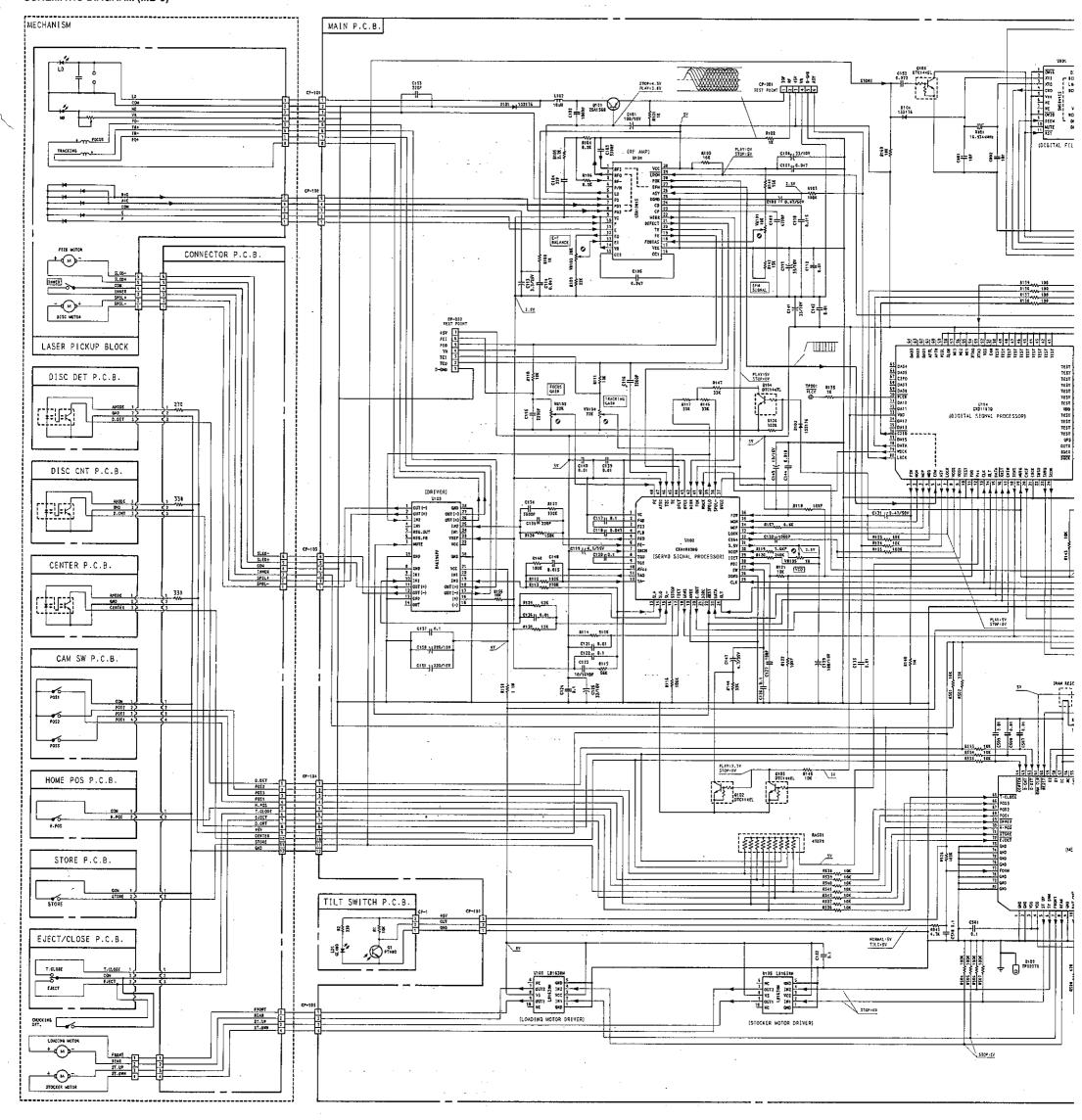
MB-7



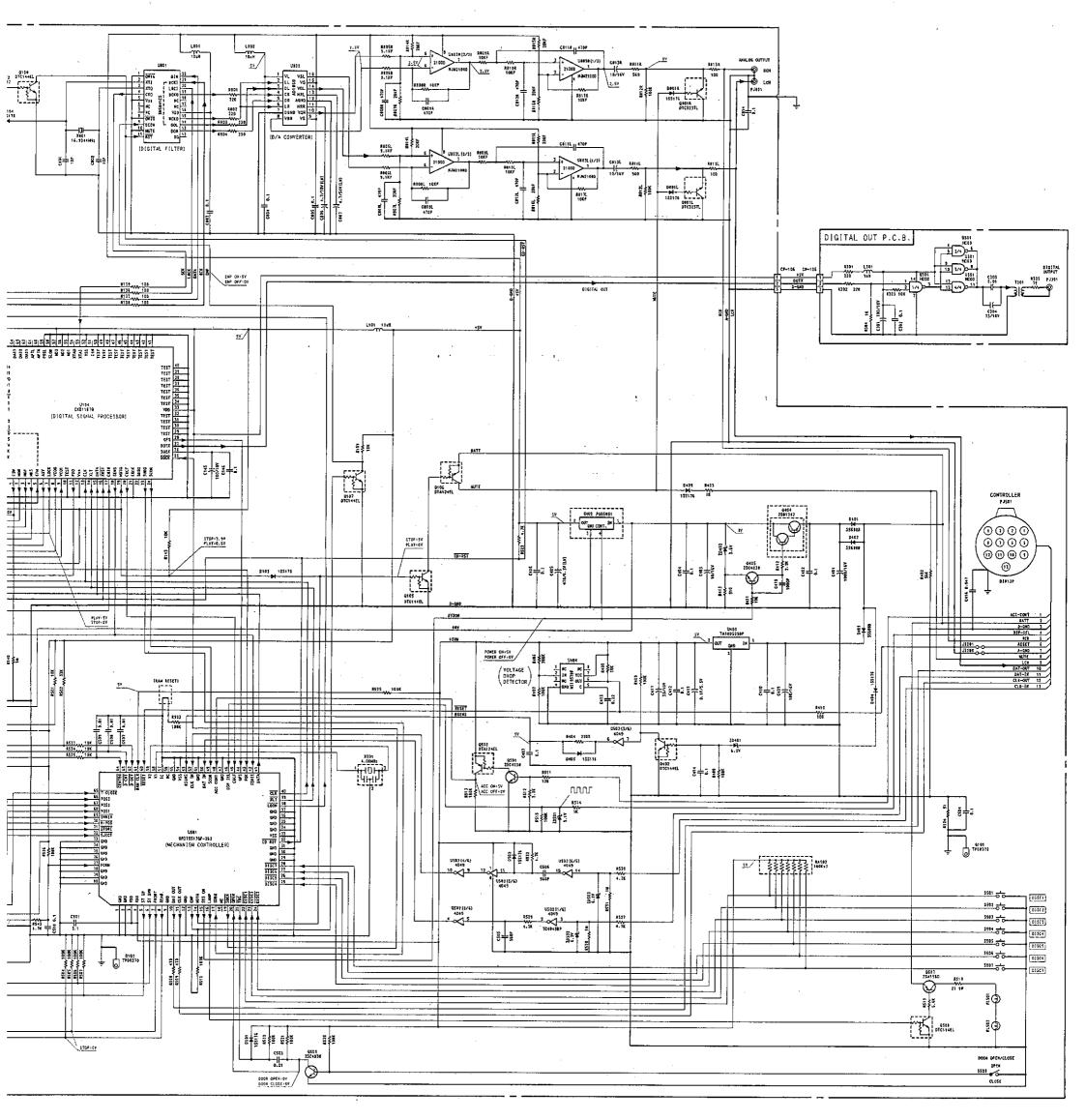
0 B C E 2SB1342

NOTES: 1. Diode is 1SS176, 1SS53, or 1S1555 unless otherwise specified. 2. Description of electrolytic capacitor: 100/16V = 100µ 16V





MB-9



MB-9



NOTES: 1. Diode is 1SS176, 1SS53, or 1S1555 unless otherwise specified. 2. Description of electrolytic capacitor:  $100/16V = 100\mu 16V$ 

<u>ن</u> ،

E 2SB1342



2.5

# MB-7 MB-9

### Mobile MusicBank CD Changer

	(°)	小林 1.11.08 修一
<u>05:</u>	7 Disc MusicBank System	
MB-7 Mobile Music	Bank CD Changer	



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### 1. GENERAL

1.1. Product Codes N730 (MB-7) N731 (MB-9) 1.2. Destinations

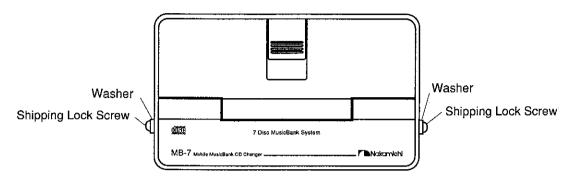
USA, CAN, EP, GER, JPN

Abbreviations					
USA	—	U.S.A.			
CAN	<u> </u>	Canada			
EP		Europe			
GER	—	Germany			
JPN	—	Japan			

### 1.3. Cautions/Warnings

### (1) Before Returning the Unit

Before returning the unit, eject all CDs and then secure the mechanism by fastening all four Shipping Lock Screws together with four Washers. See Fig. 1.1. For the Shipping Lock Screws and Washers, see Ref. Nos. 32 and 31 in Fig. 7.1.



.

Fig. 1.1

### (2) Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing, DO NOT LOOK AT THE LASER BEAM.

Laser Diode Pro	operties
Material:	GaAlAs
Laser output:	0.5mW Max.
Wavelength:	790 ± 25 nm
Emission durati	on: Continuous

### (3) Laser Caution CAUTION

Adjusting the knobs, switches, and controls, etc. or taking actions not specified herein may result in a harmful emission of laser beams. This Compact Disc Player must be adjusted and repaired only by qualified service personnel.

### **OBSERVERA!**

Sådana inställningar av rattarna, omkopplarna eller övriga kontrollknappar som inte är beskriva i bruksanvisningen kan resultera i farlig laserutstrålning. Justering eller reparation av denna kompaktskivspelare skall endast utföras av kvalificerad servicepersonal.

#### OBS!

Indstilling af knapper, cmskiftere og øvrige kontrolknapper, som ikke følger den i brugsanvisningen beskrevne måde, kan resultere i farlig laserudstråling. Justering eller reparation af denno CD-afspiller må kun udføres af kvalificeret servicepersonale.

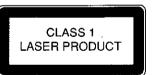
#### OBS!

Justering av ratt, brytere og kontroller andre enn de som er beskrevet her, kan resultere i farlig laserbestråling. Justering eller reparasjon av denne kompaktdiskspilleren ma bare utføres av kvalifiserte fagfolk.

### HUOMAUTUS

Jos nuppeja, kytkimiä ja säätimiä ym, säädetään tai laitetta käytetään toisella tavalla kuin on selostettu, tuloksena saattaa olla vaarallista lasersäteiden vuotoa. CD-soittimen säätö ja korjaus on jätettävä aina asiantuntevan huoltoteknikon tehtäväksi.

ADVERSEL:	USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSAETTELSE FOR STRÅLING.
VAROI:	AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	-OSYNLIG LASERSTRÅLNING NAR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.



THIS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS 1 LASER PRODUCT. THE CLASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

#### 1.4. Handling the Laser Pickup

In case of repair or replacement of the Laser Pickup, pay attention to the following handling instructions since the laser diode in the Laser Pickup is not resistant to static electricity.

### (1) Grounding

When you repair a Laser Pickup, first ground the human body, as well as the measuring instruments and other tools (with particular caution to soldering iron). What's more, your workbench and floor should desirably be grounded using conductive sheet or copper plate. See Fig. 1.2.

NOTE: Be careful so as not to let your clothes touch the Laser Pickup, as static electricity on the clothes will not be released even if your body is grounded.

### (2) Discharge of Electricity

Be sure to discharge electricity from objects brought into contact with the Laser Pickup (i.e., soldering iron, tweezers, probes, volt-ohm-meter probes, etc.) before starting work by contacting them with the body chassis. Besides, never touch the Laser Pickup while power is applied.

### (3) Soldering Iron to be Used

The soldering iron for use in repair work should be: (1) a ceramic soldering iron, (2) a soldering iron with its metal part grounded, or (3) a soldering iron whose insulation resistance after five minutes of power application is 10 M-ohm or more at 500 VDC. Soldering should be completed promptly, at a soldering iron temperature of 320° max (39 W). A soldering iron heated above this temperature can break down the laser diode.

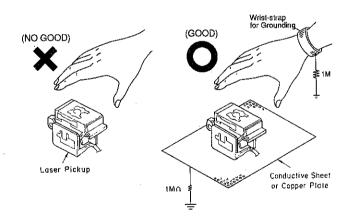


Fig. 1.2 Handling the Laser Pickup

### 1.5. Stocker Operation Check Function

A series of stocker operation can be checked by shortcircuiting the RAM Reset lands on the Main P.C.B. Ass'y. This function is useful to check whether any CD is left in the stocker before returning the unit to the customer.

- (1) Remove the Bonnet (Upper).
- (2) Turn ON the power.
- (3) Short the RAM Reset lands. See Fig. 1.3.
- (4) The stocker raises to the uppermost position, and then starts a series of CD unload operation as follows:

Disc No.: 7 (uppermost)  $\rightarrow 6 \rightarrow 5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$ 

(5) After completion of the stocker operation, the unit returns to standby condition.

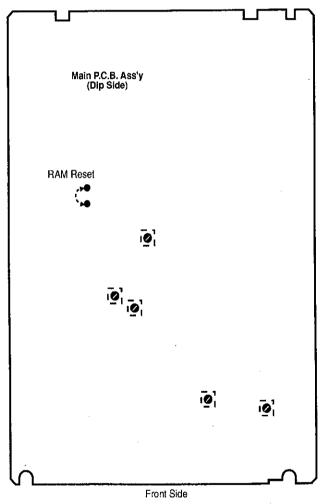


Fig. 1.3 Stocker Operation Check

### 1.6. Package Ass'y and Accessary Ass'y

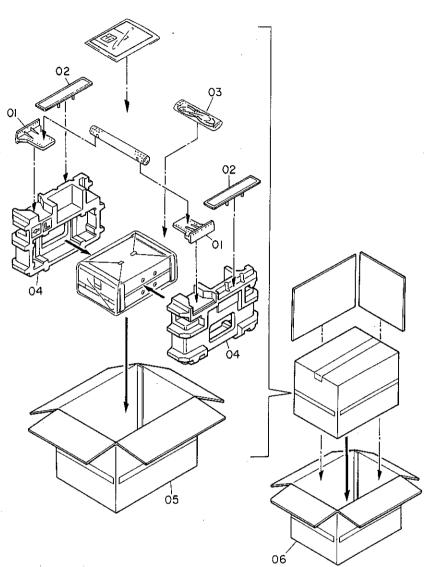


Fig. 1.4

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
		Package Ass'y			DA04803A	Accessory Ass'y (USA, CAN) [MB-7]	1
						Accessory Ass'y (EP) [MB-7]	1
01	0H06760C	Angle A	2		DA04802A	Accessory Ass'y (JPN) [MB-7]	1
02	HG06893A	Angle B Ass'v	2		DA04808A	Accessory Ass'y (USA, CAN) [MB-9]	1
03	0D06545A	DIN Wire	1		DA04809A	Accessory Ass'y (EP) [MB-9]	1
04	0F04834A	Packing L.R	1		DA04807A	Accessory Ass'y (JPN) [MB-9]	1
05	0F04875A	Inner Carton (USA, CAN, EP)	1			• • • • •	
		[MB-7]			0D06546C	Owner's Manual (English) [MB-7]	1
	0F04832A	Inner Carton (JPN) [MB-7]	1		0D06568B	Owner's Manual (English) [MB-9]	1
	0F04849A	Inner Carton [MB-9]	1			Owner's Manual (Japanese) [MB-7]	1
06	0F04876A	Outer Carton (USA, CAN, EP)	1		0D06571B		1
		[MB-7]			DA04806A	Screw Ass'v	1
	0F04833A	Outer Carton (JPN) [MB-7]	1			,	
	0F04850A	Outer Carton [MB-9]					
_	0F04874A	Sheet	1			•	
	010407474	ONOOL					

### 2. REMOVAL PROCEDURES

### 2.1. Bonnet (Upper) and Front Panel Ass'y

Refer to Figs. 2.1.1 and 2.1.2.

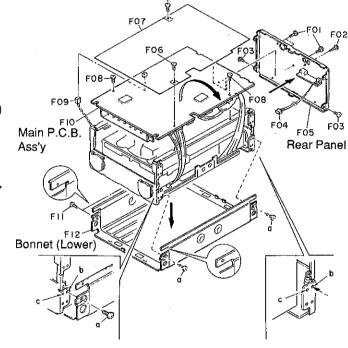
- (1) Remove F01 (Protector Front). See Fig. 2.1.1.
- (2) Pull out F02 (Push Rivet, 5 pcs.) and remove F03 (Protector Rear).
- (3) Remove screws F04 (2 pcs.) and F05 (2 pcs.).
- (4) Remove screws F06 (3 pcs.). See Fig. 2.1.2.
- (5) Remove screws F07 (5 pcs.) and F08 (Bonnet (Upper)).
- (6) Remove screws F09 (2 pcs.) and detach F10 (Front Panel Ass'y).
- **NOTE:** Installing direction of the Bonnet (Upper): install the Bonnet (Upper) so that the bent lower edge comes to the right side and the straight lower edge comes to the left side as shown in Fig. 2.1.2.

2.2. Rear Panel, Main P.C.B. Ass'y and Bonnet (Lower) Refer to Fig. 2.2.

- (1) Remove the Bonnet (Upper) and Frant Panel Ass'y. Refer to item 2.1.
- (2) Remove screws F01 (3 pcs.), F02 (1 pce., MB-9 only) and F03 (2 pcs.), disconnect a connector F04 (MB-9 only), and detach F05 (Rear Panel).
- (3) Remove screws F06 (2 pcs.) and detach F07 (Insulating Sheet).
- Remove screws F08 (2 pcs.) and pull out F09 (3P Connector).

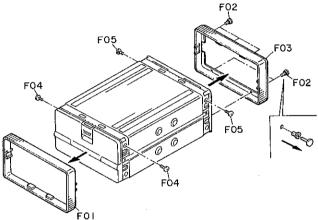
**NOTE:** Do not pull out other connectors yet to avoid damage to the laser pickup.

- (5) Turn over F10 (Main P.C.B. Ass'y) in the direction of the arrow.
- (6) Remove screws F11 (2 pcs.) and detach F12 (Bonnet (Lower)) downward.
- **NOTES:** 1. Installing direction of the Bonnet (Lower) Install the Bonnet (Lower) so that the straight lower edge comes to the right side and the bent lower edge comes to the left side as shown in the figure.
  - Installing the Bonnet (Lower) Install the Bonnet (Lower) on the Mechanism Deck Ass'y so that the four screws "a" on both sides are fastened to the screwed hole "b" (not "c").



FQ6

Fig. 2.2





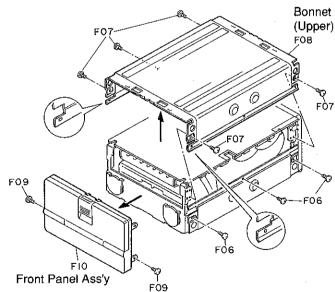
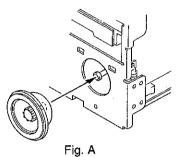


Fig. 2.1.2

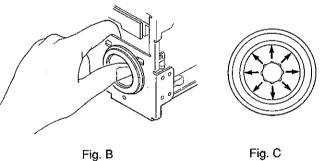
### Mounting the Dampers

When mounting four Dampers which act to absorb mechanical shock or vibration, pay attention so that they are mounted correctly. Incorrect mounting causes the playback sound to be skipped.

- Mount the Dampers as follows:
- (1) Insert the Damper into the damper holding shaft.



- (2) Press the Damper so that it is securely inserted into the damper holding shaft. See Fig. B.
- Push the damper edge along with the circumference of the damper mounting hole to make a circle. See Fig. C.



(4) Slide the Damper Holder over the Damper as shown in Fig. D and insert two claws of the Damper Holder into the Chassis Ass'y. See Fig. E.

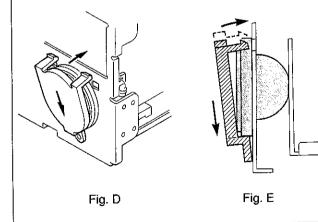
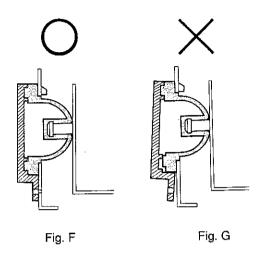


Fig. F shows the condition that the Damper is securely inserted into the Damper Holder. While, Fig. G shows the unsuccessful case.



(5) With pushing the Damper Holder with your finger tip as it is not fastened with a screw yet, move the Mechanism Deck Ass'y back and forth to securely engage the Damper with the Damper Holder.

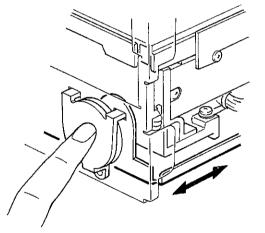
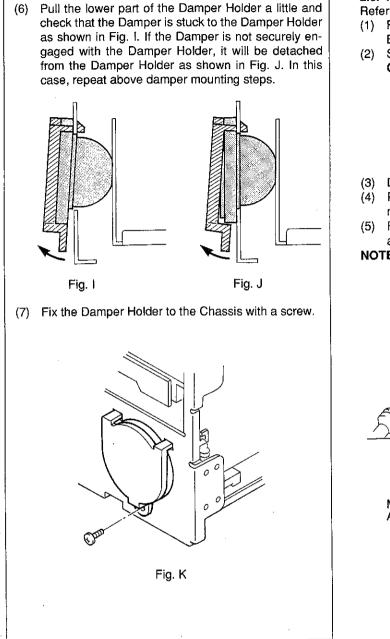


Fig. H

(to be continued.)

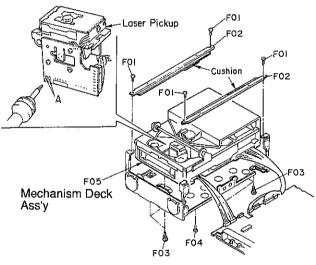


### 2.3. Mechanism Deck Ass'y

### Refer to Fig. 2.3.

- (1) Remove the Rear Panel Ass'y, Main P.C.B. Ass'y and Bonnet (Lower). Refer to item 2.2.
- (2) Shortcircuit the lands "A" of the Laser Pickup.
  - CAUTIONS: 1. Use a soldering iron whose metal part is grounded, or a ceramic soldering iron.
    - Do not forget shortcircuiting the lands "A" as the laser diode in the Laser Pickup will be damaged when the connectors of the Laser Pickup are removed from the Main P.C.B. Ass'y.

- (3) Disconnect all connectors on the Main P.C.B. Ass'y.
- (4) Remove screws F01 (4 pcs.) and detach F02 (Channels (R and L).
- (5) Remove screws F03 (6 pcs.) and F04 (1 pce.) and disassemble F05 (Mechanism Deck Ass'y)
- NOTE: Installing direction of F02 (Channels (R and L)): Install the Channel so that the cushion of the Channel comes to the rear as shown in the figure.



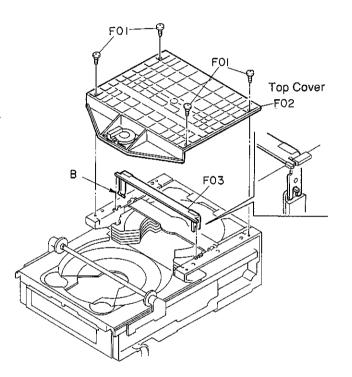


### 2.4. Mechanism Top Cover

Refer to Figs. 2.4.1 and 2.4.2.

- (1) Remove the Mechanism Deck Ass'y. Refer to item 2.3.
- (2) Remove screws F01 (4 pcs.) and disassemble F02 (Top Cover).
- (3) Remove F03 (Assist Arm).
- **NOTE:** When assembling F03 (Assist Arm), make sure that F03 (Assist Arm ) is in place as shown in the figure.

Also, make sure that the lowest carriage is held by the angle "B" of F03 (Assist Arm) as shown in Fig. 2.4.2 so that the carriages are in horizontal position. (Refer to "Leveling the carriages at the left side" in item 2.9.3.)





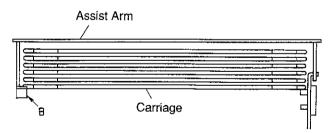


Fig. 2.4.2 Leveling the carriages at the left side

### 2.5. Drawing the Tray Ass'y

- Refer to Fig. 2.5.
- (1) Remove the Mechanism Deck Ass'y. Refer to item 2.3.
- (2) Turn the pulley in the direction of the arrow to draw the Tray Ass'y. (You can only access to the bottom part of the pulley.)
- (3) After drawing the Tray Ass'y about 3cm or so, you can draw the rest of it by hand.

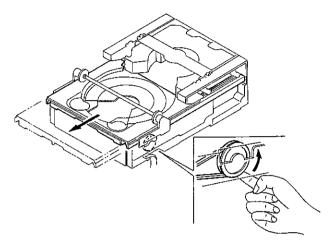


Fig. 2.5

### 2.6. Laser Pickup

### 2.6.1. Removing the Laser Pickup

Refer to Fig. 2.6.1.

- (1) Draw the Tray Ass'y. Refer to item 2.5.
- (2) Remove screws F01 (2 pcs.) and disassemble F02 (Plate Rack).
- (3) Remove screws F03 (4 pcs.) and disassemble F04 (Laser Pickup with Guide Bars A and B).
- (4) Pull out the Guide Bars A and B from the Laser Pickup.

## F03 F03 F03 F04 Laser Pickup

### 2.7. Tray Ass'y

### 2.7.1. Removing the Tray Ass'y

Refer to Fig. 2.7.1.

- (1) Draw the Tray Ass'y. Refer to item 2.5.
- (2) Remove screws F01 (4 pcs.) and disassemble F02 (Tray Holder L) and F03 (Tray Holder R).
- (3) Remove F04 (Timing Ass'y).
- (4) Remove F05 (Tray Ass'y).

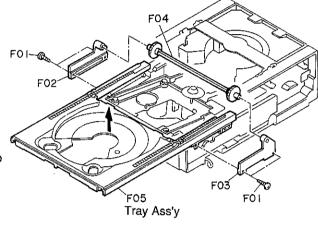


Fig. 2.7.1

Fig. 2.6.1

### 2.6.2. Installing a New Laser Pickup

Refer to Fig. 2.6.2.

- **NOTE:** As a Laser Pickup is packed in a conductive pack, do not take it out of the pack until you need it.
- (1) Install the Laser Pickup by reversing the above procedure.
- (2) Connect the connectors of the Laser Pickup to the Main P.C.B. Ass'y. Then, remove the soldering bridge on the lands "A" shown in the figure with a soldering iron whose metal part is grounded or with a ceramic iron.

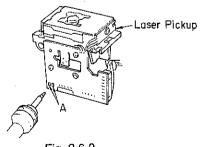


Fig. 2.6.2

### 2.7.2. Installing the Tray Ass'y

S-F-Gear

When installing the Tray Ass'y, perform positioning as follows:

- (1) Turn the pulley in the direction of the arrow until it stops. Refer to Fig. 2.7.2.
- (2) Turn the pulley in the opposite direction a little so that the center of two marks (holes) "C" on the S-F-Gear is in the vertical position. Refer to Fig. 2.7.2.
- (3) Place the Tray Ass'y so that the protrusion "D" of the Tray Ass'y is positioned between the marks (holes) "C" on the S-F-Gear. Refer to Fig. 2.7.3.
- (4) Reverse the removal procedure in item 2.7.1.

### 2.8. Drive Unit Section

Refer to Fig. 2.8.

- (1) Remove the Laser Pickup. Refer to item 2.6.
- (2) Remove the Tray Ass'y. Refer to item 2.7.
- (3) Remove screws F01 (2 pcs.) and disassemble F02 (Disc Det. P.C.B.).
- (4) Remove screws F03 (2 pcs.) and disassemble F04 (Mecha B Stopper).
- (5) Disconnect a connector and remove F05 (Drive Unit Section).
- **NOTE:** When installing F05 (Drive Unit Section), insert the pin "E" of the Drive Unit Section into the groove of the Mecha UD Cam as shown in the figure.

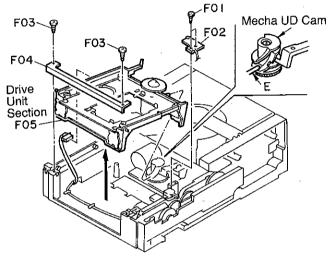
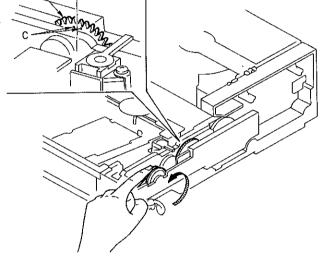


Fig. 2.8





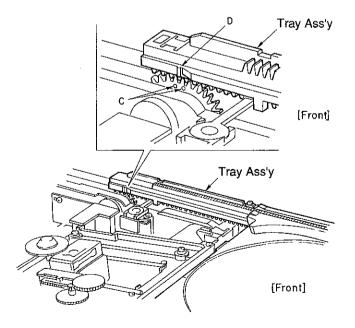


Fig. 2.7.3

### 2.9. Side Chassis R Section

### **2.9.1.** Removing the Side Chassis R Section Refer to Fig. 2.9.1.

(1) Remove the Drive Unit Section. Refer to item 2.8.

- (2) Remove a screw F01 and F02 (Wire Clamper), and disassemble F03 (Eject/Close P.C.B.).
- (3) Remove a screw F04 and disassemble F05 (Store P.C.B.).
- (4) Disconnect 2P connector of the Loading Motor from the Connector P.C.B. at the back of the Mechanism Unit.
- (5) Remove screws F06 (2 pcs.) and F07 (3 pcs.), and disassemble F08 (Side Chassis R Section) in the direction of the arrow.



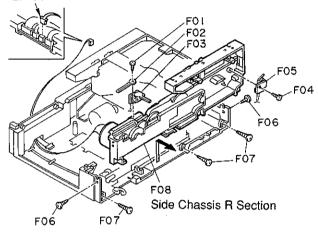


Fig. 2.9.1

### **2.9.2.** Accessing to the Gears and Loading Motor Belt Refer to Fig. 2.9.2.

- Remove screws F09 (3 pcs.), F10 (1 pce.) and F11 (2 pcs.), and disassemble F12 (Gear Holder). Then, you can access to the gears (S-F-Gear, S-I-Gear and S-M-Gear) and Loading Motor Belt F13 (Belt-C-S).
  - **NOTE:** When you replace one of gears, perform gear positioning according to 3.1 "Gear Position-ing".
- (2) Remove screws F14 (3 pcs.) and disassemble F15 (Change Plate Ass'y) and F16 (Carriage Opener). Then, you can access to the Change Gear.
  - NOTE: When you replace the Change Gear, perform gear positioning according to 3.1 "Gear Positioning".

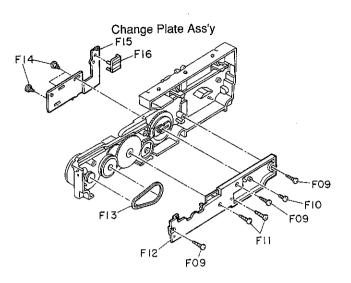


Fig. 2.9.2

### 2.9.3. Installing the Side Chassis R Section

- NOTE: When you replace one of gears in the Side Chassis R Section, perform 3.1 "Gear Positioning" before installing the Side Chassis R Section.
- (1) Push the Change Arm against the D6-ST-Gear so that they are engaged each other. Refer to Fig. 2.9.3.
- (2) Place the Side Chassis R Section so that the pin "F" of the Side Chassis R Section is inserted into the hole in the Change Arm as shown in Fig. 2.9.3.

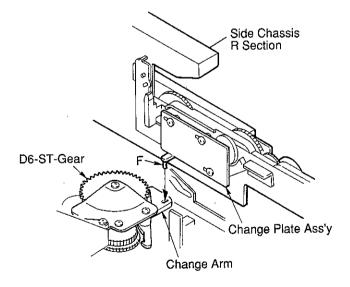


Fig. 2.9.3

### (3) Leveling the carriages:

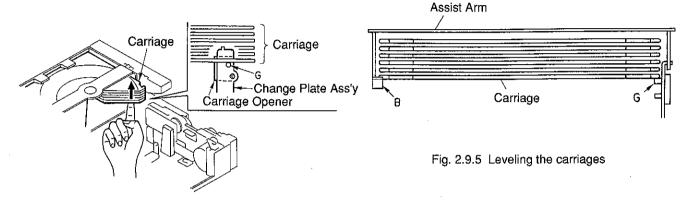
The carriages must be set in correct position where they are horizontal.

### • Leveling carriages at the right side

Lift the right end of the carriages (6 pcs.) with your finger tip as shown in Fig. 2.9.4, and place the lowest carriage onto the pin "G" (white one).

### Leveling the carriages at the left side

Lift the left end of the carriages (6 pcs.) with your finger tip and place the lowest carriage onto the angle "B" of the Assist Arm. Refer to Fig. 2.9.5.



### Fig. 2.9.4 Leveling the carriages at the right side

#### 2.10. Side Chassis L

Refer to Fig. 2.10.

- (1) Remove the Drive Unit Section. Refer to item 2.8.
- (2) Remove screws F01 (3 pcs.) and F02 (2 pcs.), and disassemble F03 (Side Chassis L).

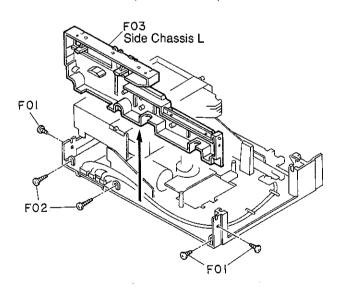


Fig. 2.10

### **2.11.** Stocker Ass'y and Main Chassis Section Refer to Fig. 2.11.

- (1) Remove the Side Chassis R Section and Side Chassis L. Refer to items 2.9 and 2.10.
- (2) Remove F01 (Stocker Ass'y including the carriages) from F02 (Main Chassis Section) as shown in the figure.

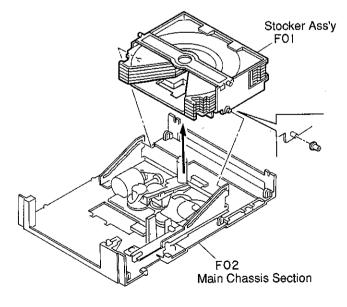


Fig. 2.11

### 3. MECHANICAL ADJUSTMENTS

### 3.1. Gear Positioning in the Side Chassis R Section

When one of the gears in the Side Chassis R section is replaced, perform the following gear positioning. (To access to the gears, refer to 2.9 "Side Chassis R Section".)

### 3.1.1. Positioning Three Gears

Refer to Fig. 3.1.1.

- Align the marks (holes) of the S-I-Gear with the mark (hole) of the S-F-Gear and S-M-Gear as shown in the figure.
  - NOTE: The S-F-Gear and S-M-Gear have another mark (hole). Pay attention so as not to align with the wrong hole.
- (2) Insert the pin of the Tray Arm Ass'y into the groove of the S-M-Gear as shown in the figure.

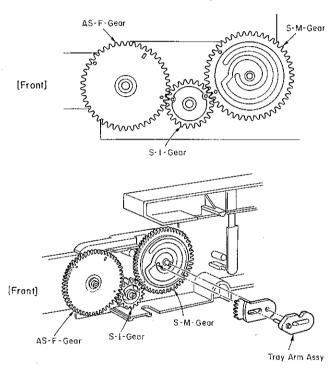
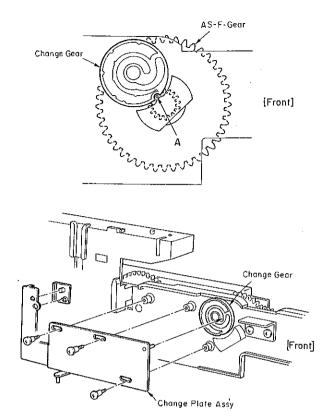


Fig. 3.1.1 Positioning of Three Gears

### 3.1.2. Positioning the Change Gear

Refer to Fig. 3.1.2.

- (1) Position the Change Gear so that the notch of the Change Gear meets the mark "A" of the S-F-Gear.
- (2) Insert the pin of the Change Plate Ass'y into the groove of the Change Gear, and mount the Change Plate Ass'y with three screws.





### 3.2. Positioning the Tray Ass'y

When installing the Tray Ass'y on the mechanism unit, perform the following positioning. (Refer to 2.7.2 "Installing the Tray Ass'y".)

 Install the Tray Ass'y so that the protrusion "B" of the Tray Ass'y is positioned between two marks (holes) "C" of the S-F-Gear. Refer to Fig. 3.2.

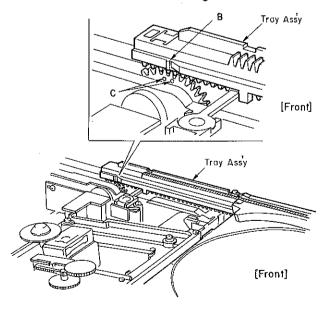


Fig. 3.2 Positioning of the Tray Ass'y

### 3.3. Lubrication

1

Apply the specified lubricant (grease) to the following places when parts are replaced. (Refer to Figs. 7.2 to 7.5.)

Fig.	Ref. No.	Location	Lubricant
(Mec	:hanism E	Deck Ass'y)	
7.2	07	Stocker Ass'y	
		<ul> <li>Carriage contacting surface (both sides)</li> </ul>	FLOIL FL777
		<ul> <li>Boss (both sides)</li> </ul>	FLOIL G425
	09	Side Chassis L	FLOIL G425, FL777
	10	Side Chassis R Section	FLOIL G425, FL777
(Tray	y Ass'y)		
7.3	01	Tray Top	
		<ul> <li>Carriage contacting surface</li> </ul>	FLOIL FL777
	05	Tray R	
		Carriage contacting surface	FLOIL FL777
	06	Tray L	
	07	Carriage contacting surface	FLOIL FL777
	07	TR Guide Shaft	
		Right Side     Left Side	FLOIL G425 FLOIL FL777
(Side	e Chassis	R Section)	
7.4	01	Change Plate Ass'y (3 places)	FLOIL G425
	03	Change Gear (Groove)	FLOIL G425
	06	Side Chassis R Sub Ass'y (5 places)	FLOIL G425
	09	Side Idler	FLOIL G425
	12	S-M-Gear (Groove)	FLOIL G425
	13	Tray Stopper	FLOIL G425
	14	Tray Arm Ass'y	FLOIL G425
	15	Gear Holder (Groove)	FLOIL G425
(Mai	n Chassis	Section)	
7.5	04	Mecha UD Cam	FLOIL G425
	11	D5-ST-Gear	FLOIL G425
	12	Lock Idler	FLOIL G425
	13	D7-ST-Gear	FLOIL G425
	14	D6-ST-Gear	FLOIL G425
	16	Stocker Cam (5 places)	FLOIL G425
	18	ST-Worm-Gear	FLOIL FL777
	20	Worm Shaft (Shaft head and	FLOIL G425
	<b>.</b> (	shaft end)	
	24	Main Chassis Ass'y (7 places)	FLOIL G425
_			

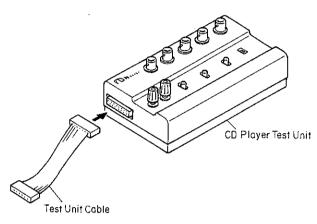
NOTE: We suggest that you use the above specified lubricant or equivalent type. The company dealing the above lubricant is as follows: Kanto Chemicals CO., Ltd., 2-7 Kanda Sakuma-cho,Chiyoda-Ku, Tokyo, Japan •Name of Lubricant: FLOIL G425/FLOIL FL777

#### MEASUREMENT INSTRUMENTS AND JIGS 4.

- Oscilloscope (15 MHz or more) (1)
- DC Voltmeter (2)
- Oscillator (3)
- (4) Frequency Counter
- (5) Philips Test Disc 5/5A or 444/444A
- (6) SONY Test Disc YEDS-7 (Type 3)
- (7) CD Player Test Unit Set (DA09157A) Consisting of the following items: CD Player Test Unit
  - 1 pce. MB-7/9Test Unit Cable (DA09186A) 1 pce.
  - Test Unit Cable for MB-1s/2s/3s/4s, 1000Mb, CD Player 1/2/3, Sound Space 7 (DA09158A)
  - 1 pce. CD Player 4 Test Unit Cable (DA09156A) 1 pce.
  - CD Cassette Player 1 Test Unit Cable 1 pce.
  - (DA09162A)

NOTE: The CD Player Test Unit (Test Unit Cable is excluded) for MB-7/9 can be used in the following Models:

- MB-1s/2s/3s/4s
- Sound Space 7
- 1000Mb/i, 1000Mb
- CD Player 1/2/3
- CD Cassette Player 1
- CD Player 4





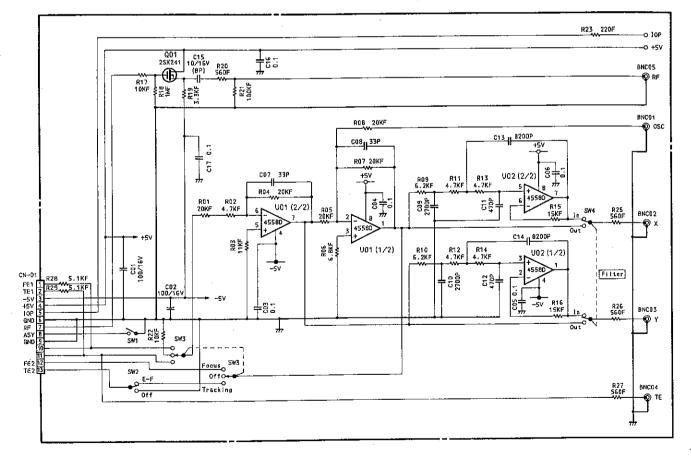
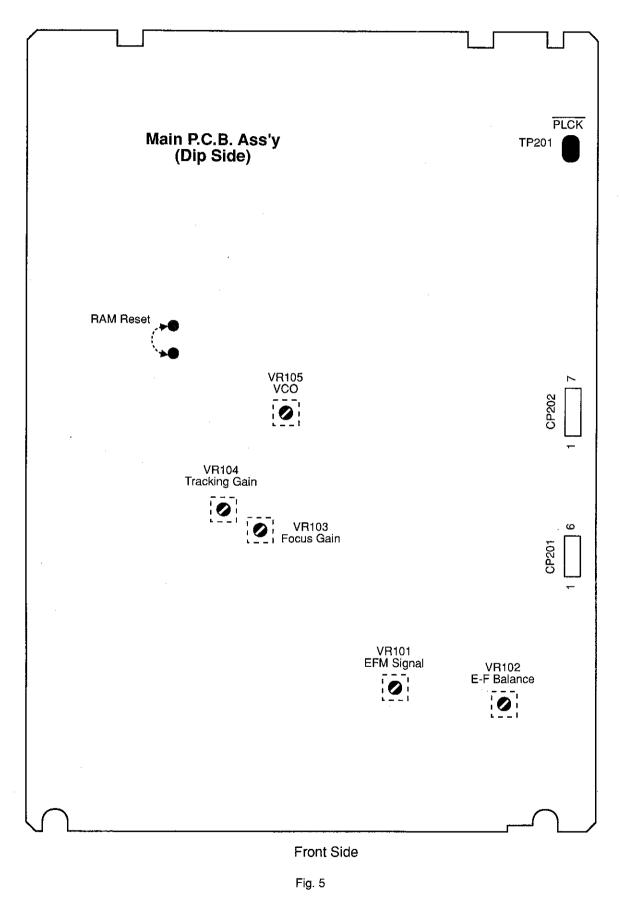


Fig. 4.2 Circuit of the Test Unit

### 5. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT



### 6. ELECTRICAL ADJUSTMENTS

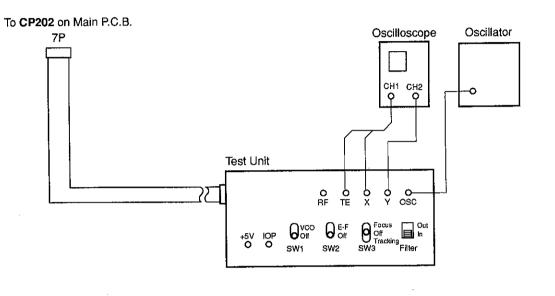
### NOTES:

1. Preset position of the semi-fixed volumes:

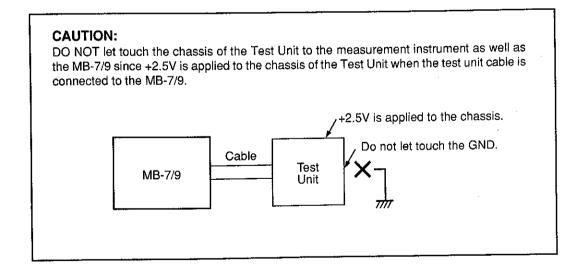
When the Main P.C.B. Ass'y or semi-fixed volume VR101, VR102, VR103, or VR104 is replaced with new one, preset the following semi-fixed volumes to their mechanical center positions before starting adjustment. VR101, VR102, VR103 and VR104

2. Connecting the Test Unit:

For adjusting the steps 4 through 6, the Test Unit is required. In steps 4 through 6 ONLY, connect the 7P cable of the Test Unit to the test connector CP202 on the Main P.C.B. Ass'y.





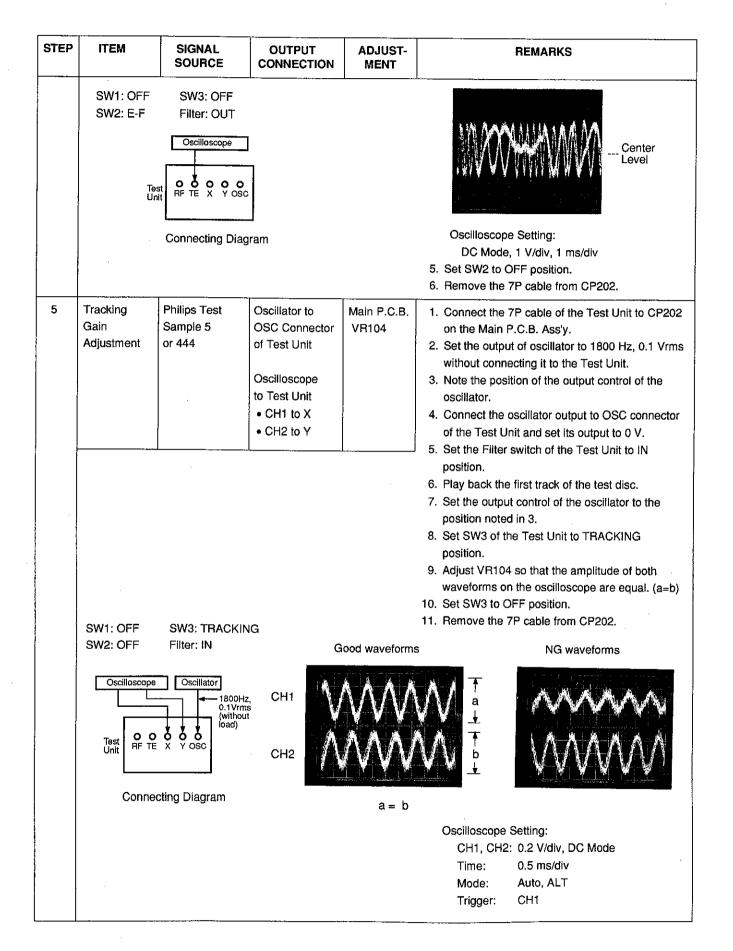


STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST- MENT	REMARKS
1	Laser Current Check	Philips Test Sample 5 or 444	DC Voltmeter between pins 1 (IOP) and 3 (+5V) of CP201 on Main P.C.B. DC Voltmeter Common: Pin 3 (+5V)		<ol> <li>Turn the power ON and load the test disc.</li> <li>Play back the test disc and calculate the current flowing into R101 on the Main P.C.B. Ass'y from the following formula.         <ul> <li>Voltmeter Value</li> <li>I = Use Content (100 mm)</li> <li>Check that the calculated current is in a range of 50 to 60 mA.</li> </ul> </li> <li>Note: If the current doubles, pickup will be defective.</li> </ol>
2	VCO Frequency Adjustment	None	Frequency Counter (10/1 probe) to TP201 (PLCK) and GND on Main P.C.B.	Main P.C.B. VR105	<ol> <li>Set the shorting pin between pins 5 (GND) and 6 (ASY) of CP201 on Main P.C.B.</li> <li>Adjust VR105 to obtain 4.322 ±0.005 MHz on the frequency counter.</li> <li>Remove the shorting pin.</li> </ol>
3	EFM Signal Adjustment	Philips Test Sample 5 or 444	Oscilloscope between pins 2 (RF) and 4 (VR) of CP201 on Main P.C.B. Oscilloscope Common: Pin 4 (VR)	Main P.C.B. VR101	<ol> <li>Play back the first track of the test disc.</li> <li>Adjust VR101 until waveform amplitude becomes maximum and the waveform becomes clear (not thick) as shown below:</li> </ol>
	Ą			NG OK NG	Oscilloscope Setting: AC Mode, 0.2 V/div, 0.5 μs/div
4	E-F Balance Adjustment (Supple- mentary Beam Balance Adjustment)	Philips Test Sample 5 or 444	Oscilloscope to TE Connector of Test Unit	Main P.C.B. VR102	<ol> <li>Connect the 7P cable of the Test Unit to CP202 on the Main P.C.B. Ass'y.</li> <li>Play back the first track of the test disc.</li> <li>Set SW2 of the Test Unit to E-F position.</li> <li>Adjust VR102 so that the center level of the waveform is within the range of 0 V ±0.1 V DC as shown below:</li> </ol>
					(To be continued.)

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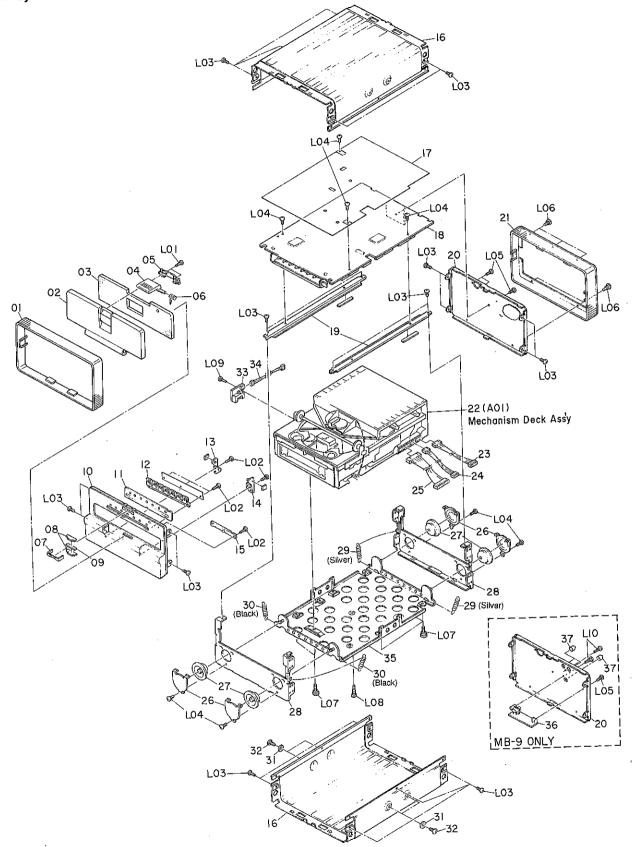
**CERTIFICATION** 



STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST- MENT	REMARKS	
6	Focus Gain Adjustment	Philips Test Sample 5 or 444	Oscillator to OSC connector of Test Unit	Main P.C.B. VR103	<ol> <li>Connect the 7P cable of the Test Unit to CP202 on the Main P.C.B. Ass'y.</li> <li>Set the output of oscillator to 1200 Hz, 0.1 Vrms without connection is to the Test Usit.</li> </ol>	
			Oscilloscope to Test Unit • CH1 to X • CH2 to Y		<ul> <li>without connecting it to the Test Unit.</li> <li>3. Note the position of the output control of the oscillator.</li> <li>4. Connect the oscillator output to OSC connector of the Test Unit and set its output to 0 V.</li> <li>5. Set the Filter switch of the Test Unit to IN.</li> </ul>	
	SW1: OFF SW3: FOCUS			<ol> <li>Set the Filter switch of the Test Unit to IN position.</li> <li>Play back the first track of the test disc.</li> <li>Set the output control of the oscillator to the position noted in 3.</li> <li>Set SW3 of the Test Unit to FOCUS position</li> <li>Adjust VR103 so that the amplitude of both waveforms on the oscilloscope are equal. (a</li> <li>Set SW3 to OFF position.</li> <li>Set the Filter switch to OUT position.</li> <li>Remove the 7P cable from CP202.</li> <li>After adjustment, perform "EFM Signal Adjust ment" in Step 3.</li> </ol>		
		Dope Osciliator	CH1	Good wavef		
				a = b	Oscilloscope Setting: CH1, CH2: 0.2 V/div, DC Mode Time: 0.5 ms/div Mode: Auto, ALT Trigger: CH1	
7	Operation Check	Philips Test Sample 5A or 444A			<ul> <li>Play back the following test programs on the test dis (Philips Test Sample 5A or 444A) and make sure that there is no noise and track-jumping.</li> <li>Interruption 500 μm: 6th program</li> <li>Black Dot 800 μm: 17th program</li> <li>Simulated fingerprint: 19th program</li> </ul>	

### 7. MECHANISM ASS'Y AND PARTS LIST

### 7.1. Synthesis



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Fig. 7.1

7.1. Synthesis

#### Schematic

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Schematic	_		
Ref. No.	Part No.	Description	Q'ty
		Synthesis	
01	0H06765D	Protector Front	
02	0H06763C		1
03	0H06774E		1
04	0H06771C	Door Handle	1
05	0J07270A		1
06	0J07276B		1
07	0J07275A	Magnet Holder	<b>1</b> 1
08	0J07274A		2
09	0J07269A	Magnet	1
10	0H06764D	Front Panel [MB-7]	i
	0H06799A	Front Panel [MB-9]	i
11	HG06892A	Indicator Ass'y	i
12	0H06770C	Button Disc	i
13	0H06773C	Door Pin L	1
14	0H06772C	Door Pin R	1
15	0H06801E	Button Door Switch	1
16	0H06767C	Bonnet	2
17	0J07271B	Insulating Sheet	1
18	BA09182A	Main P.C.B. Ass'y [MB-7]	i
		(USA, CAN, EP, JPN)	
	BA09183A	Main P.C.B. Ass'v (MB-71 (GER)	1
	BA09192A	Main P.C.B. Ass'v [MB-9]	i
		(USA, CAN, FP, JPN)	
	BA09193A	Main P.C.B. Ass'y [MB-9] (GER)	1
19	0J07264C	Channel	2
20	0H06768B	Rear Panel [MB-7]	1
21	0H06800A	Rear Panel [MB-9]	1
22	0H06766C CG09212B	Protector Rear	1
23	0B80670B		1
24	0B80672A	6P Connector Ass'y CN103	1
25	0B80671A	4P Connector Ass'y CN105 12P Connector Ass'y CN104	1
26	0J07263B	Damper Holder	1
27	0J07261A	Damper	4
28	0J07258A	Chassis Sub	4
29	0J07260A	Spring Sus R (Silver)	2
30	0J07352A	Spring Sus F (Black)	2 2
31	0J04310A	Poly Washer	4
32	0J07268A	Shipping Lock Screw	4
33	0B80685A	3P Connector Ass'v CN107	1
34	BA09210A	Tilt Switch P.C.B. Ass'y	1
35	JG04890B	Chassis Ass'v	i
36	BA09194A	Digital Out P.C.B. Ass'y [MB-9]	1
		(USA, CAN, EP, JPN)	-
27	BA09195A	Digital Out P.C.B. Ass'y [MB-9] (GER)	1
37	0B84524A	RCA Cap (MB-9)	з
L01	0E03809A	PT2x4 + Binding (Black Chromate)	
L02	0E03638A	P12x6 + Binding	
L03	0E03816A	ST3x4 + Binding (Black Chromate)	
L04	0E00800A	SI3X6 + Binding	
L05	0E00985A	M3x6 + Binding (Black Chromate)	
L06	0E03810A	Push Rivet	
L07	0E03805A	PT Special Screw 3x9.5	
L08	0E03815A	PT3x12 Flat Head	
L09 L10	0E03769A	PT2.6x8 + Binding	
210	0E03749A	PT3x8 + Binding (Black Chromate) [MB	-9]
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### 7.2. Mechanism Deck Ass'y (A01)

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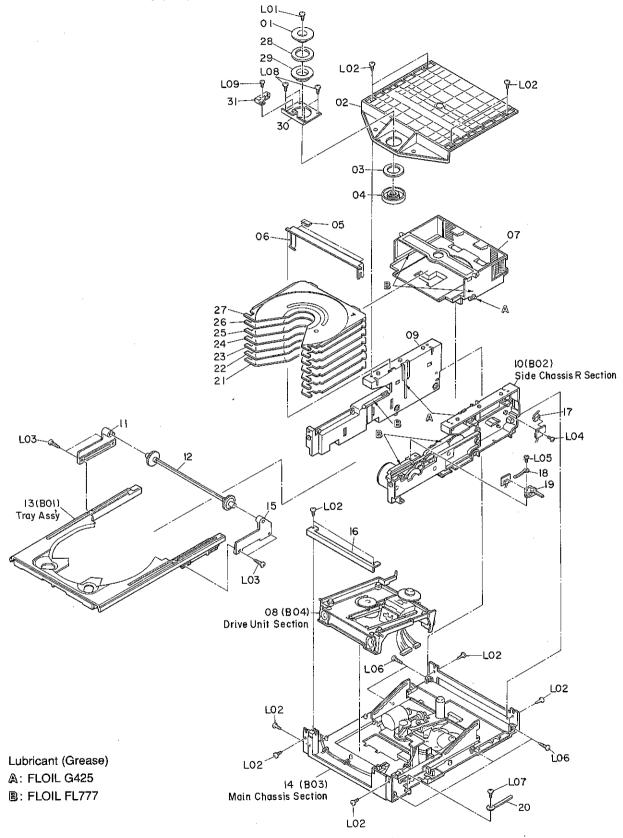


Fig. 7.2

### 7.2. Mechanism Deck Ass'y (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	CG09212B		<u>- uriy</u> 1
01	2C00128A	Clamper Top MSS	
02	2C00094A	Top Cover	1
03	2C00016A	Magnet 17x27x5	<b>1</b> 1
04	2C00015A	Clamper LO	1
05	2C00101A	A Arm Cushion	1
06	2C00116A		1
07	CB00245A	Stocker Ass'y	1
08		Drive Unit Section	1
09	2C00090A	Side Chassis L	i
10		Side Chassis R Section	i
11	2C00098A	Tray Holder L	i
12	CB00230A	Timing Ass'y	1
13	CB00246A	Tray Ass'y	i
14	_	Main Chassis Section	i
15	2C00097A	Tray Holder R	1
16	2C00086A	Mecha B Stopper	1
17	2870009A	Store SW MŚŚ-10L2-1	1
18	2C00107A	Wire Clamper 3B4	1
19	2B70007A	Eject/T-Close SW SSS13	1
20	2C00106A	Wire Clamper 3A6	1
21	0C09830A	Carriage-S-1	1
22	0C09831A	Carriage-S-2	1
23	0C09832A	Carriage-S-3	1
24	0C09833A	Carriage-S-4	-1
25	0C09834A	Carriage-S-5	1
26 27	0C09835A 0C09836A	Carriage-S-6	1
28	2C00129A	Carriage-S-7	1
29	2C00129A	Magnet 17x28.5x2 Clamper HI MSS	1
30	2C00130A	Clamper Plate	1
31	2B70013A	Chacking Detecting Switch	ť
L01	0E00976A	M2x5 + Binding	ı
L02	0E00825A	BT2.6x8 + Binding (Black Chromate)	
L03	2E00005A	BT2.6x12 + Binding	
L04	0E00961A	BT2x5 + Binding	
L05	0E03442A	ST2.6x5 + Pan	
L06	0E03612A	BT2.6x10 + Binding	
L07	0E00873A	BT2.6x5 + Binding	
L08	0E00859A	BT2.6x6 + Binding	
. L09	0E00954A	BT2.6x8 + Binding	
		-	

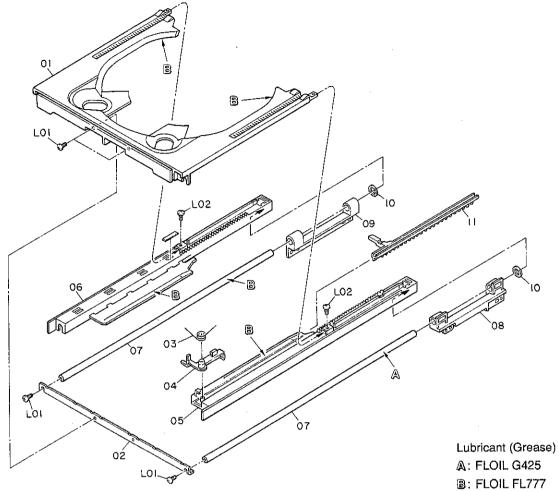
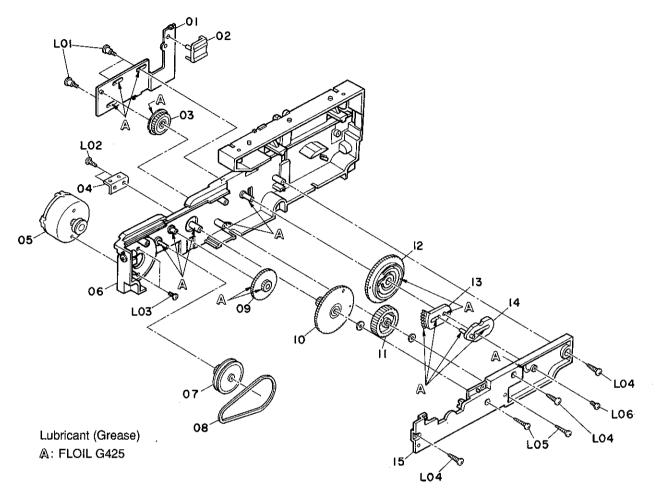


Fig. 7.3

### 7.3. Tray Ass'y (B01)

Schematic Ref. No.	Part No.	Description	<u>Q'ty</u>
B01	CB00246A	Tray Ass'y	1
01	2C00067A	Тгау Тор	1
02	2C00066A	Tray Plate	1
03	2C00068A	Shuttle Lock Spring	1
04	2C00061A	Shuttle Lock	1
05	2C00064A	Tray R	1
06	2C00065A	Tray L	1
07	2C00069A	Tray Guide shaft	2
08	2C00063A	Tray Guide R	1
09	2C00062A	Tray Guide L	1
10	2C00070A	Stopper Rubber	2
11	2C00060A	Shuttle	1
L.01	0E00945A	M2.6x4 + Binding (Black Chromate)	
L02	0E03022A	BT2x4 + Binding (Black Chromate)	

7.4. Side Chassis R Section (B02)

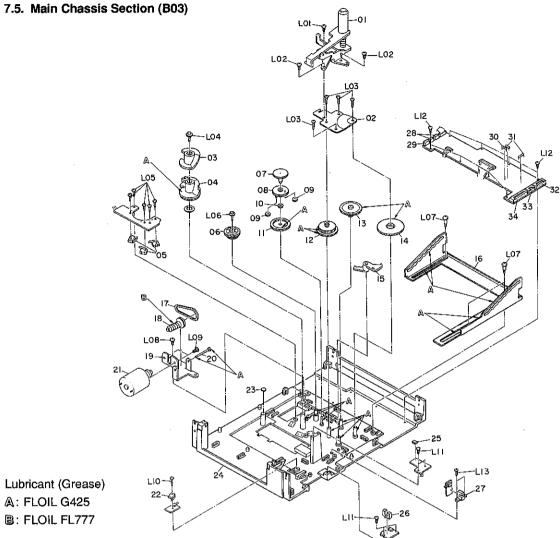




### 7.4. Side Chassis R Section (B02)

		,	
Schematic			
Ref. No.	Part No.	Description	Q'ty
B02		Side Chassis R Section	1
01		Change Plate Ass'y	1
02	2C00072A	Carriage Opener	1
03	2C00039A		1
04	2C00093A	Switch-Bracket	1
05	CB00216A	Loading Motor Ass'y	1
06	CB00222A	Side Chassis R Sub Ass'y	1
07	2C00044A	S-P-Gear	1
08	2C00017A	Belt-C-S	1
09	2C00041A	Side Idler	1
10	2C00054A	S-F-Gear	1
11	2C00042A	S-I-Gear	1
12	2C00043A	S-M-Gear	1
13	2C00045A	Tray Stoper	1
14	CB00225A	Trace Arm Ass'y	1
15	2C00040A	Gear Holder	1
· L04	0E00825A	BT2.6x8 + Binding (Black Chromate)	
L03	0E00945A	M2.6x4 + Binding (Black Chromate)	
L02	0E03610A		
L05	0E03756A		
L01	2E00002A		
L06	2E00013A	M2x4 Binding (Black Chromate)	

7.5. Main Chassis Section (B03)



### 7.5. Main Chassis Section (B03)

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
							<u>~~</u>
B03		Main Chassis Section	1	27	2B10020A	Photo Interrupter GP1S 51V	1
				28	0B81459A	B2B-PH-K-S	2
01		Disc Lock Arm Ass'y	1	29	0B81460A	B3B-PH-K-S	1
02		Gear Plate	1	30	0B09663A		1
03		ME UD Cam Top	1	31	0B09665A		2
04	2C00118A		1	32	0B81470A	S6B-PH-K-S	1
05		Cam Switch MSS-10R2-16	3	33	0B81468A		1
06		ID-ST-Gear	1	34	0B84475A		1
07		D1-ST-Gear	1 '	L01	0E03610A	BT2.6x6 + Binding (Black Chromoate	
08	CB00226A	D2-ST-Gear Ass'y	1	L02	0E00945A		
09	2C00075A	D3-ST-Gear	2	L03	0E00969A	BT2x8 + Binding	
10	2C00076A	D4-ST-Gear	1	L04	2E00010A	BT3x10 + Binding Washer Faced	
11	2C00077A	D5-ST-Gear	1	L05	2E00008A	BT1.7x5.5 + Binding	
12	2C00083A	Lock Idler	1	L06	2E00009A	BT2x8 + Binding Washer Faced	
13	2C00079A	D7M-ST-Gear	1	L07	2E00001A	BT2.6x1.4x7.4	
14	2C00078A	D6P-ST-Gear	1	L08	0E00873A	BT2.6x5 + Binding	
15	2C00073A	Change Arm	1	L09	0E00501A	M3x3 + Pan	
16	2C00091A	Stocker Cam	1	L10	2E00007A	BT1.7x8 + Binding	
17	2C00018A	Belt-T-C	1	L11	0E00961A	BT2x5 + Binding	
18	2C00092A	ST-Worm-Gear	1	L12	2E00006A	BT1.7x4 + Binding	
19	2C00088A	Motor Bracket	1	L13	0E00869A	BT2.6x4 + Binding	
20	2C00100A	Worm Shaft	1		2B80006A	Wire CNW-W6P	1
21	CB00213A	Stocker Motor Ass'y	1	_	2B80007A	Wire CNW-2P175	1
22	2B70012A	Home Position MSS-10R2-17	1	_	2B80008A	Wire CNW-2P330	1
23	2C00099A		2	—	2B80009A	Wire CNW-W4P	1
24	CB00221A	Main Chassis Ass'y	1	_	2B80010A		1
25	2B10019A	Photo Refrector GP2S40	1	—	2B80011A	Wire CNW-W11P	1.
26	2B10021A	Photo Interrupter GP1S 52V	1	<del></del>	2B80012A	Wire CNW-3P	1

Fig. 7.5

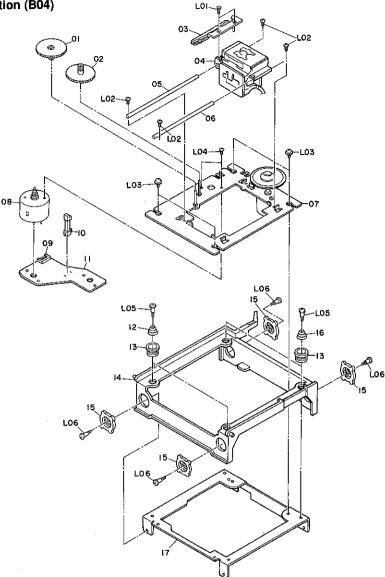


Fig. 7.6

### 7.6. Drive Unit Section (B04)

Sche	ematic
Ref.	No.

chematic lef. No.	Part No.	Description	Qʻty
B04		Drive Unit Section	1
01 02 03 04 05 06 07 08 09 10	2C00023A 2C00105A 2C00140A 2C00140A 2C00021A 2C00020A CB00217A CB00218A 0B81470A 2B70011A	Plate Rack Pick-Up SF91PQ Guide Bar B Guide Bar A Disc Motor Ass'y Feed Motor Ass'y 6P S-Post	1 1 1 1 1 1 1 1 1
11 12 13 14 15 16 17 L01	2B60002A 2C00027A 2C00025A CB00227A 2C00024A 2C00026A 2C00026A 2C00087A 0E03648A	Motor P.C.B. 90V1-M Mecha SP B Mecha Limit Mecha Base Ass'y Mecha SUS Mecha SP A Mecha Chassis	1 2 4 1 4 2 1

Schematic Ref. No.	Part No.	Description	Q'ty
L02	2E00011A	ST2.6x6 + Binding	
L03		ST2.6x6 Cup Screw	
L04	0E03439A	M2x2.5 + Pan (Black Chromate)	
L05	2E00004A	ST2.0x10x15	
L06	2E00003A	ST2.0x3.0x8.0	

### 8. MOUNTING DIAGRAMS AND PARTS LIST

- **NOTE:** 1. Component side is illustrated unless otherwise specified.
  - 2. Polarity of electrolytic capacitor.



8.1. Tilt Switch P.C.B. Ass'y Diagram is omitted.

### 8.2. Digital Out P.C.B. Ass'y (MB-9 only)

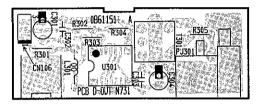
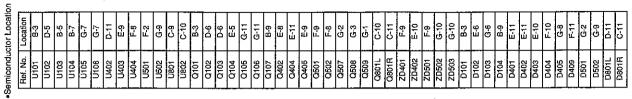
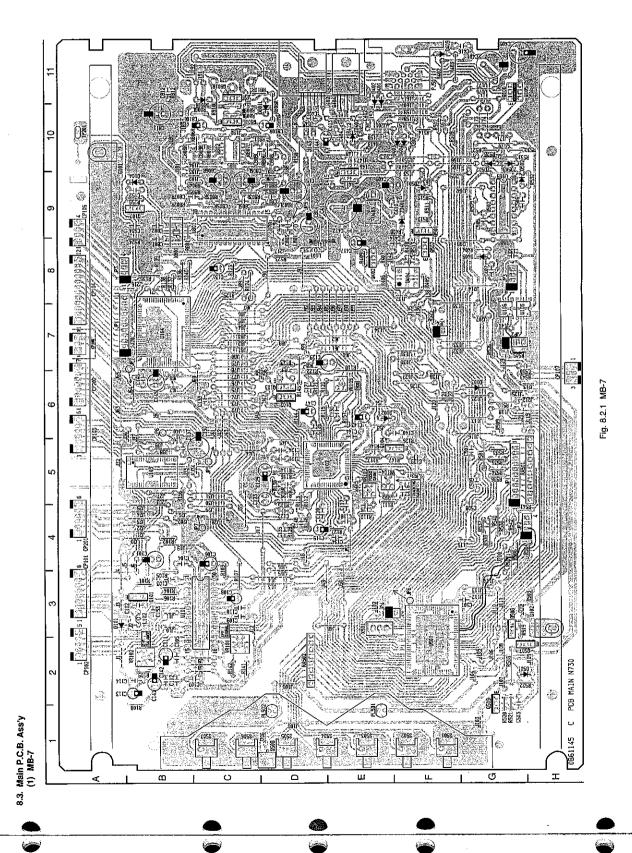
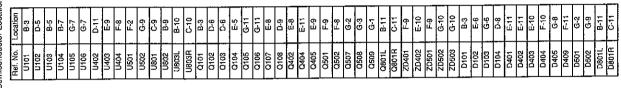
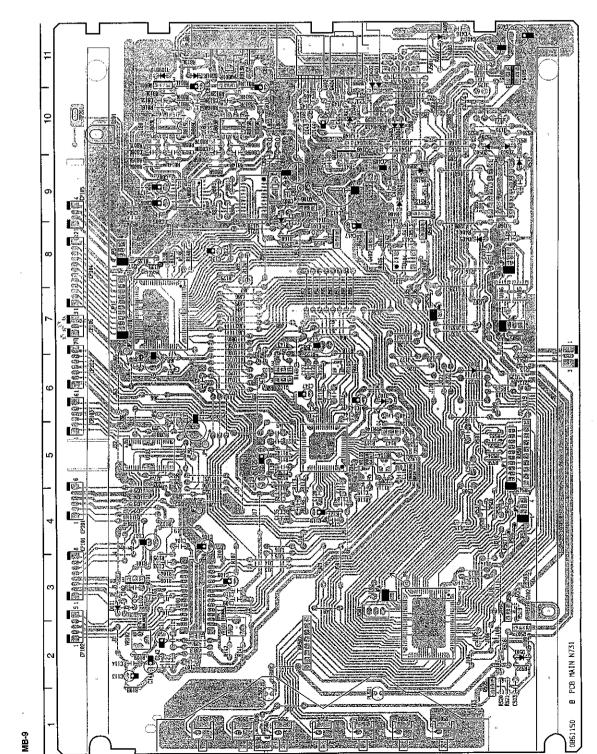


Fig. 8.1 (MB-9 only)









Semiconductor Location

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Fig. 8.2.2 MB-9

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(2) MB-9

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MB-7 Electrical Parts list (1/2)

#### NOTES: 1. Abbreviations

TR - Transistor, SID - Silicon Diode, ZD - Zener Diode, Varicap - Variable Capacitance Diode

RK - Carbon Resistor, RM - Metal Film Resistor, RF - Fail Safe Type Resistor,

RC - Cement Resistor, CE - Electrolytic Capacitor, CML - Mylar Capacitor,

CC - Ceramic Capacitor, CPP - PP Capacitor, CMM - Metalized Mylar Capacitor,

CSP - Polystyrene Capacitor, C - Mica Capacitor, CT - Tantalum Capacitor

2. Description of capacitor:  $10 \ 16V = 10\mu \ 16V$ 

3. Parts marked with \* show chip parts.

#### 8.1. Tilt Switch P.C.B. Ass'y (MB-7)

Schematic Ref. No.	Part No.	[	Description	Schematic Ref. No.	Part No.	1	Descript	ion	Schematic Ref. No.	Part No.	1	Descript	tion
	BA09210A	Tilt	Switch P.C.B. Ass'y	D801L,R	0B06398A		1SS1			******			
			лион т.о.в. наа у	L101,102	0B51300A		ctor 10		R411	0B09701A	RK	10K	1/6W .
	0B61154A	Tilt S	witch P.C.B.	L801					R412	0B09685A	RK	2.2K	1/6W L
Q1	3B10604A	TR	PT480		0B51300A		ctor 10L		R413	0B09676A	RK	910	1/6W 、
LD1				X501	0B92033A		onator 4		R501	0B09701A	RK	10K	1/6W 🗤
			GL480	X801	0B92063A		16.934		R502	0B09713A	RK	33K	1/6W .
Rí	0B09701A	ŖΚ	10K 1/6W J	VR101	0B32193A		i VR 10		R503,504	0B09725A	RK	100K	1/6W .
R2	0B09665A	RK	330 1/6W J	VR102	0B32194A		i VR 20		R505,506	0B09725A	RK	100K	1/6W .
CP1	3B81467A	3P S	-Post	VR103,104	0B32186A	Sem	i VR 22	K (B)	R507	0B09725A	RK	100K	1/6W .
	0H06837B	Swite	ch Body N730 (1)	VR105	0B30174A		i VR 1K		R508,509	0B09669A	RK	470	1/6W
	0J07337A	Ball	3.0 (1)	RA501	0B20667A		ray 47K	· ·	R510	0B09725A	RK	100K	1/6W
	0E03769A	PT2.	6x8 Binding (2)	RA502	0B20668A		ray 100		R511	0B09703A	RK	12K	1/6W
			3()	R101	0B09629A	RK	10	1/6W J	R512	0B09685A			1/6W
				R102	0B09677A	RK	1K	1/6W J	R512		RK	2.2K	
8.3 Main P	.C.B. Ass'y (	MB-7	)	R103						0B09725A	RK	100K	1/6W .
	A, CAN, EP,		/		0B09701A	RK	10K	1/6W J	R514	0B09677A	RK	1K	1/6W J
17 10103	A, CAN, EF,	UP IN		R104	0B09699A	RK	8.2K	1/6W J	R515	0B09725A	RK	100K	1/6W 🗸
Schematic				R105	0B09685A	RK	2.2K	1/6W J	R518	0B24443A	RF	27	1W
	Dart Ma	~	a continution	R106	0B09699A	RK	8.2K	1/6W J	R519	0B09695A	RK	5.6K	1/6W J
Ref. No.	Part No.		escription	R107	0B09725A	RK	100K	1/6W J	R520,521	0B09725A	RK	100K	1/6W
	BA09182A	Main	P.C.B. Ass'y	R108	0B09677A	RK	1K	1/6W J	R522	0B09725A	RK	100K	1/6W
		(US/	A, CAN, EP, JPN)	R109	0B09709A	RK	22K	1/6W J	R523	0B09693A	RK	4.7K	1/6W
		•	, , , , ,	R110,111	0B09701A	RK	10K	1/6W J	R524	0B09646A	RK	51	1/6W J
	0B61145C	Main	P.C.B.	R112	0B09731A	RK	180K	1/6W J	R525,526	0B09725A	RK		
U101	0B11818A	IC	CXA1081S	R113	0B09735A	RK	270K	1/6W J				100K	1/6W J
U102	0B10580A	iČ	CXA1082BQ	R114					R527	0B09693A	RK	4.7K	1/6W J
U103	0B10558A	ič	BA6296FP		0B09742A	RK	510K	1/6W J	R528	0B09749A	RK	1M	1/6W J
U104	0B10558A	ič		R115	0B09719A	RK	56K	1/6W J	R529,530	0B09693A	RK	4.7K	1/6W J
			CXD1167Q	R116	0B09725A	RK	100K	1/6W J	R531	0B09749A	RK	1M	1/6W J
U105,106	0B10465A	IC .	LB1638M	R117	0B09713A	RK	33K	1/6W J	R532	0B09693A	RK	4.7K	1/6W J
U402	0B10567A	IC		R118	0B25291A	RM	10K	1/4W F	R533,534	0B09701A	RK	10K	1/6W J
U403	0B10462A	IC	TA78DS05BP	R119	0B25666A	RM	3.6K	1/4W F	R535.536	0B09701A	RK	10K	1/6W J
U404	0B10466A	IC	M51957BF	R120	0B09734A	RK	240K	1/6W J	R537,538	0B09701A	RK	10K	1/6W J
U501	0B10612A	IC	uPD75517GF	R121	0B09701A	RK	10K	1/6W J	R539,540	0B09701A	RK	10K	1/6W J
U502	0B06215A	IC	TC4049BP	R122	0B25291A	RM	10K	1/4W F	R541,542	0B09701A	RK	10K	1/6W J
U801	0B10589A	IC	SM5871AN	R123	0B09721A	RK	68K	1/6W J	R543	0B09693A	RK	4.7K	1/6W J
U802	0B10588A	IC	NJM2100D	R124	0B09701A	RK	10K	1/6W J	R801	0B09749A	RK	1M	1/6W J
Q101	0B10585A	TR		R125,126		RK							
Q102	0B10322A	TR	DTC114EL	R125,126	0B09725A		100K	1/6W J	R802L,R	0B25661A	RM	2.2K	1/4W F
Q103	0B10324A	TR	DTC144EL	R128	0B09737A	RK	330K	1/6W J	R803L,R	0B25661A	RM	2.2K	1/4W F
Q104		TR			0B09729A	RK	150K	1/6W J	R804L,R	0B25679A	RM	22K	1/4W F
	0B10330A			R129	0B09720A	RK	62K	1/6W J	R805L,R	0B25679A	RM	22K	1/4W F
Q105	0B10324A	TR		R130	0B09704A	RK	13K	1/6W J	R806L,R	0B25679A	RM	22K	1/4W F
Q106	0B10584A	TR		R135	0B09677A	RK	1K	1/6W J	R807L,R	0B25679A	RM	22K	1/4W F
Q107	0B10324A	TR		R136,137	0B09653A	RK	100	1/6W J	R808L,R	0B09671A	RK	560	1/6W J
Q402	0B10324A	TR		R138,139	0B09653A	RK	100	1/6W J	R809L,R	0B09725A	RK	100K	1/6W J
Q404	0B10578A	ŦR	2SB1342	R140	0B09749A	RK	1M	1/6W J	R810L,R	0B09653A	RK	100	1/6W J
Q405	0B10398A	TR	2SC4038	R141,142	0B09705A	RK	15K	1/6W J	R811,812	0B09701A	RK	10K	1/6W J
Q501	0B10398A	TR		R143	0B09701A	RK	10K	1/6W J	C101	0B48040A	CE	100 10	
Q502	0B10584A	TR		R144	0B09713A	RK	33K	1/6W J		0B41944A			
Q507	0B10585A	TR	-	R145					C102		CC	1000P	
Q508		TR			0B09701A	RK	10K	1/6W J	C103	0B42237A		3300P	
				R146,147	0B09713A	RK	33K	1/6W J	C104	0B41708A	CC	22P 50	J V
Q509		TR		R148	0B09731A	RK	180K	1/6W J	C105	0B42095A	CML.	0.047 5	50V J
Q801L,R		TR	DTC323TL	R156	0B09701A	RK	10K	1/6W J	C106	0B40160A	CE	33 10V	1
ZD401	0B12154A	ZD	RD6.2V JS B3	R157	0B09697A	RK	6.8K	1/6W J	C107	0B42095A	CML	0.047 5	50V J
ZD402	0B10579A	ZD	RD3.6ESB1	R158	0B24235A	RF	1	1W	C108	0B40268A		0.47 50	
ZD501	0B12147A	ZD		R159	0B09701A	RK	10K	1/6W J	C109	0B42239A		4700P	-
ZD502,503		ZD		R402	0B09719A	RK	56K	1/6W J	C110			0.015 5	
D101,102		SID	1SS176	R403	0B09719A								
D103,104		SID				RK	1K	1/6W J	C111	0B40160A	CE	33 10V	
D401,402			· · · · · · ·	R404	0B09733A	RK	220K	1/6W J	C112	0B41553A	CC	0.01 25	
U401.40Z		SID SID		R405	0B09701A	RK	10K	1/6W J	C113	0B40271A		3.3 25\	
		5111	S56888	R406	0B09732A	RK	200K	1/6W J	C114	0B42095A	CMI	0.047 5	501/1
D403									0114	0042095A	CIVIL	0.047 5	10 4 0
D403 D404,405	0B06398A	SID	1SS176	R407,408	0B09725A	RK	100K	1/6W J	C115,116	0B42235A		2200P	
D403	0B06398A 0B06398A	SID SID	1SS176								CML		50V J

# MB-7 Electrical Parts list (2/2)

Schematic Ref. No.	Part No.	Description
	<u></u>	
C119	0B40170A 0B42099A	CE 4.7 35V CML 0.1 50V J
C120 C121	0B42099A	CML 0.01 50V J
C122	0B42099A	CML 0.1 50V J
C123	0B42025A	CE 10 16V (BP)
C124	0B42099A	CML 0.1 50V J
C125	0B40160A	CE 33 10V
C126	0B42099A	CML 0.1 50V J
C127	0B47122A	CC 100P 50V K
C129	0B48040A 0B42231A	CE 100 10V CML 1000P 50V J
C130 C131	0B42251A	CE 0.47 50V
C132	0B42099A	CML 0.1 50V J
C133	0B42087A	CML 0.01 50V J
C134	0B42240A	CML 5600P 50V J
C135	0B42223A	CML 220P 50V J
C136	0B42087A	CML 0.01 50V J
C137	0B42099A	CML 0.1 50V J
C139,140	0B41553A 0B40160A	CC 0.01 25V Z CE 33 10V
C141 C142	0B40160A 0B41553A	CC 0.01 25V Z
C143	0B40162A	CE 10 16V
C144	0B42090A	CML 0.018 50V J
C145	0B48040A	CE 100 10V
C146	0B42099A	CML 0.1 50V J
C147	0B40170A	CE 4.7 35V
C148	0B42089A	CML 0.015 50V J
C150,151	0B40789A	CE 220 10V CML 0.022 50V J
C152 C153	0B42091A 0B47126A	CC 220P 50V K
C401	0B40082R	CE 1000 16V
C402	0B42099A	CML 0.1 50V J
C403	0B40162A	CE 10 16V
C404	0B42099A	CML 0.1 50V J
C405 C406,407	0B40052A 0B42099A	CE 470 6.3V CML 0.1 50V J
C400,407	0B40698A	CE 100 16V
C410	0B42099A	CML 0.1 50V J
C411	0B42247A	CE 0.1F 5.5V
C412	0B42099A	CML 0.1 50V J CML 0.22 50V J
C413 C414	0B42103A 0B42099A	CML 0.1 50V J
C415	0B42231A	CML 1000P 50V J
C416	0B41555A	CC 0.047 25V Z
C417	0B40160A	CE 33 10V
C501	0B42099A	CML 0.1 50V J
C503 C504	0B41553A 0B42099A	CC 0.01 25V Z CML 0.1 50V J
C504 C505,506	0B42238A	CML 560P 50V J
C507,508	0B41553A	CC 0.01 25V Z
C509	0B41553A	CC 0.01 25V Z
C510	0B42099A	CML 0.1 50V J
C801	0B41872A	CC 18P 50V J CC 10P 50V C
C802 C803	0B41975A 0B42099A	CML 0.1 50V J
C804	0B48040A	CE 100 10V
C805L	0B42099A	CML 0.1 50V J
C805R	0B42099A	CML 0.1 50V J
C806L,R	0B48040A	CE 100 10V
C807L,R	0B42228A 0B42219A	CML 560P 50V J CML 100P 50V J
C808L,R C809L,R	0B42219A	CML 100P 50V J
C810L,R	0B40162A	
C811	0B40837A	
C812	0B42219A	
CP101	0B81465A	
CP102 CP103	0B81462A 0B81463A	
CP103	0B84087A	
CP105	0B81461A	4P T-Post
CP107	0B81460A	
CP201 CP202	0B84288A 0B84291A	
G101,102	0B80673A	

JP1 0B80675C 11P Connector Ass'y JP	
JP2 0B80676A 4P Connector Ass'y JP2	
JP3 0B80677C 11P Connector Ass'y JP3	
JP4 0B80678B 2P Flat Cable JP4	•
JP5 0B80679C Lead Wire JP5	
JP6 0B80680A Lead Wire JP6	
JP7 0B80681B Lead Wire JP7	
PJ501 0B80668A DIN Socket 13P	
PL501,502 0B90644A Lamp 115mA 5V	
S501,502 0B70230A Tact Switch	
S503,504 0B70230A Tact Switch	
S505,506 0B70230A Tact Switch	
S507 0B70230A Tact Switch	
S508 0B70233A Detect Switch	
TP201 0B80674A Check Terminal 1P	
0E00818A M3x8 + Binding	
(Black Chromate) (3)	
0E03749A PT3x8 + Binding	
(Black Chromate) (2)	
0H06769B Reflector (1)	
0J06212B Lamp Holder (2)	
0J07267A Heat Sink (1)	
0J07284B Light Shield (1)	

## (2) For GER

BA09183A		Ass'y (GER)
Schematic Ref. No.	Part No.	Description

The following parts are different from those for USA, CAN, EP, JPN

R524		None
C504		None
C416	0B50265A	EMI Coil
C803	0B41529A	CML 0.033 50V J
C805L,R	0B41529A	CML 0.033 50V J
JP8	0B80720A	Lead Wire (for Earth
		Plate G101)

#### 8.1. Tilt Switch P.C.B. Ass'y (MB-9)

		•				
Schematic Ref. No.	Part No. BA39210A	Description Tilt Switch P.C.B. Ass'y	Se Ri U			
Q1 LD1 R1 R2 CP1	3B20933A 3B20897A 3B81467A	RK 470 1/6W J 3P S-Post PT2.6x8 + Binding (2)				
8.2. Digital (1) For US	Out P.C.B. A A, CAN, EP,	Ass'y (MB-9) JPN	0000			
Schematic Ref. No.	Part No. BA09194A	Description Digital Out P.C.B. Ass'y (JPN, USA, EP)				
U301 L301 R301,302 R303 R304 R305 C301 C302 C303 C304 CN106 PJ301 T301	0B61151A 0B11613A 0B51138A 0B09661A 0B09701A 0B09650A 0B40063A 0B40063A 0B42087A 0B40160A 0B80684A 0B80692A 0B51351A 0B84388A	RK         220         1/6W J           RK         10K         1/6W J           RK         1K         1/6W J           RK         75         1/6W J           CE         100         10V           CML         0.1         50V J           CML         0.01         50V J           CONDECTOR Ass'y         CN001           1P Pin Jack         Pulse Trans				
(2) For GER F						
Schematic Ref. No.	Part No. BA09195A	Description Digital Out P.C.B. Ass'y (GER)				
	thos JPN	s which are different from e for USA, CAN, EP & will be informed by ice Information later on.				

#### 8.3. Main P.C.B. Ass'y (MB-9) (1) For USA, CAN, EP, JPN

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Schematic Ref. No.	Part No. BA09192A	Main	escription P.C.B. Ass'y A, CAN, EP, JPN)
	0B61150B	Main	P.C.B.
U101	0B11818A	IC	CXA1081S
U102	0B10580A	IC	CXA1082BQ
U103	0B10558A	IC	BA6296FP
U104	0B11946A	IC	CXD1167Q
U105,106	0B10465A	IC	LB1638M
U402	0B10567A	1C	PQ05RG1
U403	0B10462A	IC	TA78DS05BP
U404	0B10466A	IÇ	M51957BF
U501	0B10612A	IC	uPD75517GF
U502	0B06215A	IC	TC4049BP
U801	0B10593A	IC	SM5841CS

Schernatic Ref. No.	Part No.	D	escriptic	'n
U802	0B17010A		AD186	
U8031.,R	0B10588A	ič	NJM21	
Q101	0B10585A	TR	2SA15	
Q102	0B10322A	TR	DTC11	
Q103 Q104	0B10324A 0B10330A	TR TR	DTC14 DTC14	
Q104 Q105	0B10330A	TR	DTC14	
Q106	0B10584A	TR	DTA12	
Q107,108	0B10324A	TR	DTC14	
Q402 Q404	0B10324A 0B10578A	TR TR	DTC14 2SB13	
Q404 Q405	0B10378A	TR	23D13 2SC40	
Q501	0B10398A	TR	2SC40	
Q502	0B10584A	TR	DTA12	
Q507 Q508	0B10585A 0B10322A	TR TR	2SA15 DTC11	
Q509	0B10322A	TR	2SC40	
Q801L,R	0B10583A	TR	DTC32	
ZD401	0B12154A	ZD	RD6.2	
ZD402 ZD501	0B10579A 0B12147A	ZD ZD	RD3.61 RD5.1.	
ZD502,503	0B12154A	ZD	RD6.2	
D101,102	0B06398A	SID	15517	
D103 104 D401 402	0B06398A 0B12693A	SIÐ SID	1SS17 S5688	
D401,402 D403	0B12693A	\$ID	S5688	
D404,405	0B06398A	SID	15517	
D409 D501,502	0B06398A 0B06398A	SID SID	1SS17 1SS17	
D801L,R	0B06398A	SID	15517	
L101,102	0B51300A		10uH	
L801,802 X501	0B51300A 0B92033A		10uH onator 4.	∩M⊔~
X801	0B92063A		16.9344	
VR101	0B32193A	Sem	i VR 10H	<
VR102	0B32194A 0B32186A		i VR 201 i VR 221	
VR103,104 VR105	0B30174A		i VR 221	`
RA501	0B20667A		ray 47K:	x9
RA502	0B20668A		ray 1001	
R101 R102	0B09629A 0B09677A	RK RK	10 1K	1/6W J 1/6W J
R103	0B09701A	RK	10K	1/6W J
R104	0B09699A	RK	8.2K	1/6W J
R105 R106	0B09685A 0B09699A	RK RK	2.2K 8.2K	1/6W J 1/6W J
R107	0B09725A	RK	100K	1/6W J
R108	0B09677A		1K	1/6W J
R109 R110,111	0B09709A 0B09701A	RK RK	22K 10K	1/6W J 1/6W J
R112	0B09731A	RK	180K	1/6W J
R113	0B09735A	RK	270K	1/6W J
R114 R115	0B09742A 0B09719A	RK RK	510K 56K	1/6W J 1/6W J
R116	0B09725A	RK	100K	1/6W J
R117	0B09713A	RK	33K	1/6W J
R118 R119	0B25291A 0B25666A	RM RM	10K 3.6K	1/4WF 1/4WF
R120	0B09734A	RK	240K	1/6W J
R121	0B09701A 0B25291A	RK RM	10K 10K	1/6W J 1/4WF
R122 R123	0B25291A 0B09721A	RK	68K	1/6W J
R124	0B09701A	RK	10K	1/6W J
R125,126 R127	0B09725A 0B09737A	rk RK	100K 330K	1/6W J 1/6W J
R127	0B09737A	RK	150K	1/6W J
R129	0B09720A	RK	62K	1/6W J
R130 R135	0B09704A 0B09677A	RK RK	13K 1K	1/6W J 1/6W J
R136,137	0B09653A	RK	100	1/6W J
R138,139	0B09653A	RK	100	1/6W J
R140	0B09749A	RK	1M	1/6W J

# MB-9 Electrical Parts list (1/2)

Schematic Ref. No.	Part No.	De	escriptio	n
_				
R141,142 R143	0B09705A 0B09701A	RK RK	15K 10K	1/6W J 1/6W J
R144	0B09701A	RK	33K	1/6W J
R145	0B09701A	RK	10K	1/6W J
R146,147	0B09713A	RK	33K	1/6W J
R148	0B09731A	RK	180K	1/6W J
R156	0B09701A	RK	10K	1/6W J
R157	0B09697A	RK	6.8K	1/6W J
R158	0B24235A 0B09701A	RF RK	1 10K	1W 1/6W J
R159,160 R402	0B09701A 0B09719A	RK	56K	1/6W J
R402	0B09677A	RK	1K	1/6W J
R404	0B09733A	RK	220K	1/6W J
R405	0B09701A	RK	10K	1/6W J
R406	0B09732A	RK	200K	1/6W J
R407,408	0B09725A	RK	100K	1/6W J
R409	0B09725A	RK	100K	1/6W J
R410	0B09653A	RK RK	100	1/6W J 1/6W J
R411 R412	0B09701A 0B09685A	RK	10K 2.2K	1/6W J
R412	0B09676A	RK	910	1/6W J
R501	0B09701A	RK	10K	1/6W J
R502	0B09713A	RK	33K	1/6W J
R503,504	0B09725A	RK	100K	1/6W J
R505,506	0B09725A	RK	100K	1/6W J
R507 R508,509	0B09725A	RK RK	100K 470	1/6W J 1/6W J
R510	0B09669A 0B09725A	RK	100K	1/6W J
R511	0B09703A		.12K	1/6W J
R512	0B09685A	RK	2.2K	1/6W J
R513	0B09725A	RK	100K	1/6W J
R514	0B09677A	RK	1K	1/6W J
R515	0B09725A	RK	100K	1/6W J
R518	0B24443A	RF RK	27 5 eV	1W 1/6W J
R519 R520,521	0B09695A 0B09725A	RK	5.6K 100K	1/6W J
R522	0B09725A	RK	100K	1/6W J
R523	0B09693A	RK	4.7K	1/6W J
R524	0B09646A	RK	51	1/6W J
R525,526	0B09725A	RK	100K	1/6W J
R527	0B09693A	RK	4.7K	1/6W J
R528	0B09749A	RK	1M	1/6W J
R529,530 R531	0B09693A 0B09749A	RK RK	4.7K 1M	1/6W J 1/6W J
R532	0B09693A	RK	4.7K	1/6W J
R533,534	0B09701A	RK	10K	1/6W J
R535,536	0B09701A	RK	10K	1/6W J
R537,538	0B09701A	RK	10K	1/6W J
R539,540	0B09701A	RK	10K	1/6W J
R541,542	0B09701A	RK	10K	1/6W J
R543	0B09693A 0B09661A	RK RK	4.7K 220	1/6W J 1/6W J
R801,802 R803,804	0B09661A	RK	220	1/6W J
R805L,R	0B25675A	RM	9.1K	1/4W F
R806L,R	0B25675A	RM	9.1K	1/4W F
R807L,R	0B25320A	RM	20K	1/4W F
R808L,R	0B25291A	RM	10K	1/4W F
R809L,R	0B25291A	RM	10K	1/4W F 1/4W F
R810L,R R811L,R	0B25291A 0B09671A	RM RK	10K 560	1/4W J
R812L,R	0B09725A	RK	100K	1/4W J
R813L,R	0B09653A	RK	100	1/4W J
R814L,R	0B25320A	RM	20K	1/4W F
R815L,R	0B25320A	RM	20K	1/4W F
R816L,R	0B25320A	RM	20K	1/4W F
R817L,R	0B25291A 0B48040A	RM CE	10K 100 10	1/4W F
C101 C102	0B48040A 0B41944A	CC	100 TO	
C102	0B42237A	CML	3300P	
C104	0B41708A	сc	22P 50	
C105	0B42095A	CML	0.047 5	
C106	0B40160A	. CE	33 10V	r

法的心理秘密的现象的思想意识

# MB-9 Electrical Parts list (2/2)

Schematic	Dort No.	Description
Ref. No.	Part No.	
C107	0B42095A 0B40268A	CML 0.047 50V J CE 0.47 50V
C108 C109	0B40200A	CML 4700P 50V J
C110	0B42089A	CML 0.015 50V J
C111	0B40160A	CE 33 10V
C112	0B41553A	CC 0.01 25V Z
C113	0B40271A	CE 3.3 25V
C114	0B42095A	CML 0.047 50V J
C115,116	0B42235A	CML 2200P 50V J CML 0.1 50V J
C117 C118	0B42099A 0B42095A	CML 0.047 50V J
C119	0B40170A	CE 4.7 35V
C120	0B42099A	CML 0.1 50V J
C121	0B42087A	CML 0.01 50V J
C122	0B42099A	CML 0.1 50V J
C123	0B42025A	CE 10 16V (BP) CML 0.1 50V J
C124 C125	0B42099A 0B40160A	CE 33 10V
C126	0B42099A	CML 0.1 50V J
C127	0B47122A	CC 100P 50V K
C129	0B48040A	CE 100 10V
C130	0B42231A	CML 1000P 50V J
C131	0B40268A	CE 0.47 50V CML 0.1 50V J
C132 C133	0B42099A 0B42087A	CML 0.1 50V J CML 0.01 50V J
C133	0B42240A	CML 5600P 50V J
C135	0B42223A	CML 220P 50V K
C136	0B42087A	CML 0.01 50V J
C137	0B42099A	CML 0.1 50V J
C139,140	0B41553A	CC 0.01 25V Z
C141	0B40160A 0B41553A	CE 33 10V CC 0.01 25V Z
C142 C143	0B40162A	CE 10 16V
C144	0B42090A	CML 0.018 50V J
C145	0B48040A	CE 100 10V
C146	0B42099A	CML 0.1 50V J
C147	0B40170A	CE 4.7 35V
C148	0B42089A	CML 0.015 50V J CE 220 10V
C150,151 C152	0B40789A 0B42091A	CE 220 10V CML 0.022 50V J
C153	0B47126A	CC 220P 50V K
C401	0B40082A	CE 1000 16V
C402	0B42099A	CML 0.1 50V J
C403	0B40162A	CE 10 16V
C404	0B42099A	CML 0.1 50V J
C405 C406,407	0B42145A 0B42099A	CE 470 6.3V (LN) CML 0.1 50V J
C400,407 C409	0B40698A	CE 100 16V
C410	0B42099A	CML 0.1 50V J
C411	0B42247A	CE 0.1F 5.5V
C412	0B42099A	CML 0.1 50V J
C413	0B42103A	CML 0.22 50V J CML 0.1 50V J
C414 C415	0B42099A 0B42231A	CML 0.1 50V J CML 1000P 50V J
C416	0B41555A	CC 0.047 25V Z
C417	0B40160A	CE 33 10V
C501	0B42099A	CML 0.1 50V J
C503	0B41553A	CC 0.01 25V Z
C504	0B42099A 0B42228A	CML 0.1 50V J CML 560P 50V J
C505,506 C507,508	0B42220A 0B41553A	CC 0.01 25V Z
C509	0B41553A	CC 0.01 25V Z
C510	0B42099A	CML 0.1 50V J
C801,802	0B41975A	CC 10P 50V D
C803,804	0B42099A	
C805 C806,807	0B42099A 0B42195A	
C806,807 C808L,R	0B42195A	
C809L,R	0B42227A	
C811L,R	0B42227A	CML 470P 50V J
C812L,R	0B42227A	
C813L,R	0B40162A	
C814	0B42099A	
CP101	0B81465A	

Schematic Ref. No. CP102 CP103 CP104 CP105 CP106 CP107 CP201 CP202 G101,102 JP1 JP2 JP3 JP4 JP5 JP6 JP7 PJ501 PJ501 PL501,502 S501,502	Part No. 0B81462A 0B81463A 0B81463A 0B81461A 0B81460A 0B84281A 0B80673A 0B80675C 0B80676A 0B80677C 0B80676B 0B80679C 0B80678B 0B80679C 0B80681B 0B80684A 0B80684A 0B90644A 0B70230A	Description 5P T-Post 6P T-Post 12P T-Post 4P T-Post 3P T-Post 6P T-Post Red 7P T-Post Red Farth Plate 11P Connector Ass'y JP1 4P Connector Ass'y JP2 4P Connector Ass'y JP3 2P Flat Cable JP4 Lead Wire JP5 Lead Wire JP5 Lead Wire JP6 Lead Wire JP7 DIN Jack 13P 2P Pin Jack (Gold) Lamp 115mA 5V Tact Switch
G101 102	0B80673A	Earth Plate
	0B80675C	11P Connector Ass'v JP1
	0B80677C	
JP4	0B80678B	2P Flat Cable JP4
JP5	0B80679C	Lead Wire JP5
JP6	0B80680A	Lead Wire JP6
JP7	0B80681B	Lead Wire JP7
PJ501	0B80668A	
PJ801	0B81630A	
PL501,502		
S501,502	0B70230A	
S503,504	0B70230A	Tact Switch
S505,506	0B70230A	Tact Switch
S507	0B70230A	Tact Switch
S508	0B70233A	Detect Switch
TP201	0B80674A	Check Terminal 1P
	0E00818A	M3x8 + Binding (Black Chromate) (3)
	0E03749A	PT3x8 + Binding (Black Chromate) (2)
	0H06769B	Reflector (1)
	0J06212B	Lamp Holder (2)
	0J07267A	Heat Sink (1)
	0J07284B	Light Shield (1)

## (2) For GER

#### Schematic Ref. No.

	Part No.	Description		
_	BA09193A	Main P.C.B. Ass'y (GER)		
	Note: Parts	which are different		

lote: Parts which are different from those for USA, CAN, EP & JPN will be informed by Service Information later on.

# 9. IC BLOCK DIAGRAMS

) .

# U501 µPD75517GF (Mechanism Controller)

Pin No.	Signal Name	I/O	Function
1	GND	-	GND
2	GND	-	GND
3 4	VDD	-	+5V
5	ST UP	0	Stocker motor drive signal. Stocker raises when "H".
6	ST DWN	0	Stocker motor drive signal. Stocker lowers when "H".
7	FRONT	0	Loading motor drive signal. Disc tray is ejected when "H".
8	REAR	0	Loading motor drive signal. Disc tray is loaded when "H".
9	GND	-	GND
10	DAT OUT	0	Serial data output to the remote controller.
11	CLK OUT	0	Clock output to the remote controller.
12	GND	-	GND
13	EMP	0	De-emphasis control signal. L: De-emphasis ON.
14	MUTG	0	Mute control signal. H: Mute ON.
15	SYS ON	0	System ON signal.
16	LAMP	0	Lamp ON signal.
17	SUBQ	1	Subcode Q data.
18	NC	-	-
19	SQCK	0	Clock for reading subcode Q data.
20	OPEN	I	Door open/close switch signal. L: Open
21	TRG	1	Trigger L pulse is generated when door is open.
22	DISC1	1	Disc 1 eject/load button input signal. Becomes L when button is pressed.
23	DISC2	I	Disc 2 eject/load button input signal. Becomes L when button is pressed.
24	DISC3	1	Disc 3 eject/load button input signal. Becomes L when button is pressed.
25	DISC4	1	Disc 4 eject/load button input signal. Becomes L when button is pressed.
26	DISC5	1	Disc 5 eject/load button input signal. Becomes L when button is pressed.
27	DISC6	1	Disc 6 eject/load button input signal. Becomes L when button is pressed.
28	DISC7		Disc 7 eject/load button input signal. Becomes L when button is pressed.
29 to 31	GND	-	GND
32	CD RST	0	Reset signal output. L: Reset
33	VSS	-	GND
34 to 37	GND	_	GND
38	LDON	0	Laser ON signal.

Pin No.	Signal Name	I/O	Function
39	XLT	0	Latch pulse for data at pin 41.
40	CLK	0	Clock for data at pin 41.
41	DATA	0	8-bit serial data to LSIs.
42	SENSE	I	Sense signal from LSIs.
43	FOK	I	Focus OK signal.
44	GFS	I	Frame sync lock signal.
45	CRCF	1	CRC (cyclic redundancy code) check result signal for subcode Q.
46	DSP SEL	1	DSPSEL signal input from the remote controller.
47	GND	—	GND
48	ACC CONT	1	Remote signal input from the remote controller.
49	SCOR	1	Subcode input trigger signal.
50	DAT IN	1	Signal input from the remote controller.
51	GND	-	GND
52	CLK IN	I	Clock for reading DAT IN at pin 50.
53	BSENS	I	Battery voltage sensing input.
54	VSS		GND
55	GND		GND
56	NC	-	
57	IC	-	Connected to GND.
58 59	X1 X2	-	4MHz crystal is connected.
60	RESET	1	System reset signal.
61	RAM CLR	1	RAM reset input for stocker operation check.
62	D. DET	1	Disc presence detecting input.
63	D. CNT	ł	Stocker position counting input.
64	CENTER	I	Disc tray center detecting input.
65	T. CLOSE	I	Disc tray close detecting input.
66 67 68	POS3 POS2 POS1	I	Pickup position detecting inputs.
69	INNER	I	Inner switch signal. Become "L" when the laser pickup reaches the innermost position.
70	H. POS	I	Stocker home position detecting input.
71	STORE	I	Disc tray stock position detecting input.
72	EJECT	l	Disc tray ejection detecting input.
73 to 76	GND	_	GND
77	FORM	I	Unit tilting detecting input. L: Unit is tilting over predetermined value.
78 to 80	GND	_	GND

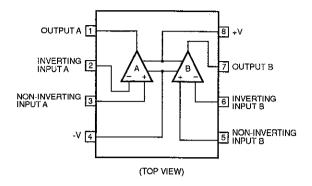
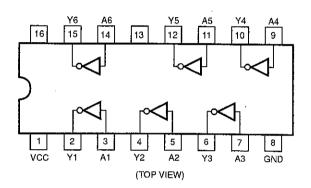


Fig. 9.1 Operational Amp. 2100D



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Fig. 9.2 Inverter TC4049BP

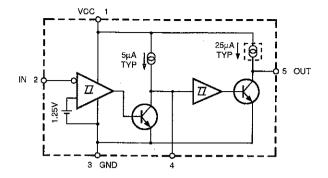
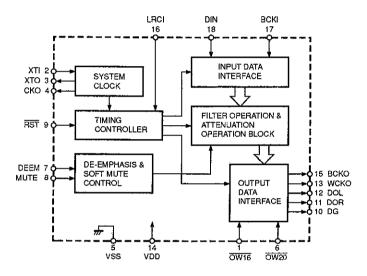
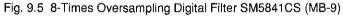


Fig. 9.4 Voltage Drop Detector M51957BF





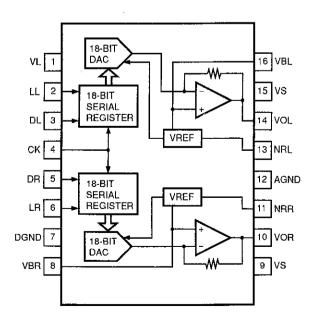


Fig. 9.6 Digital-to-Analog Converter AD1868R (MB-9)

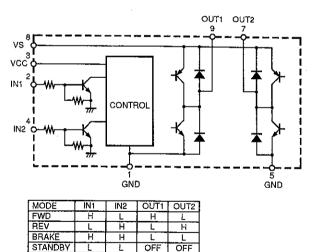
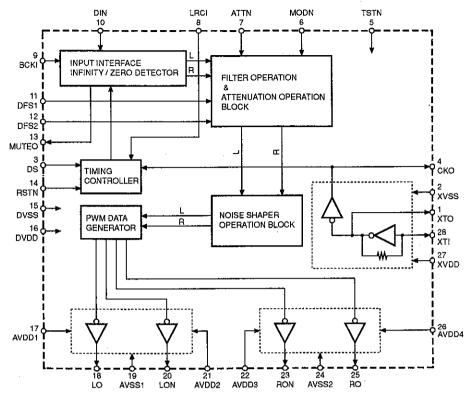
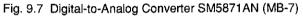


Fig. 9.3 Motor Driver LB1638M





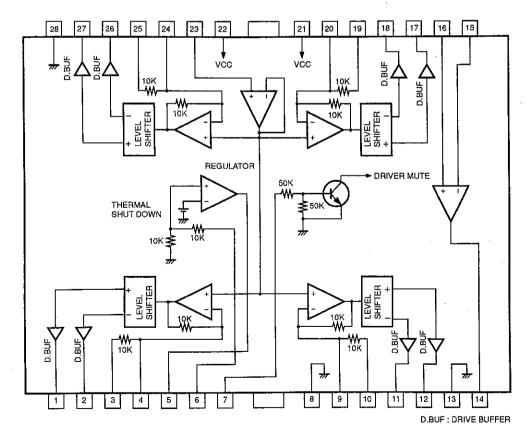
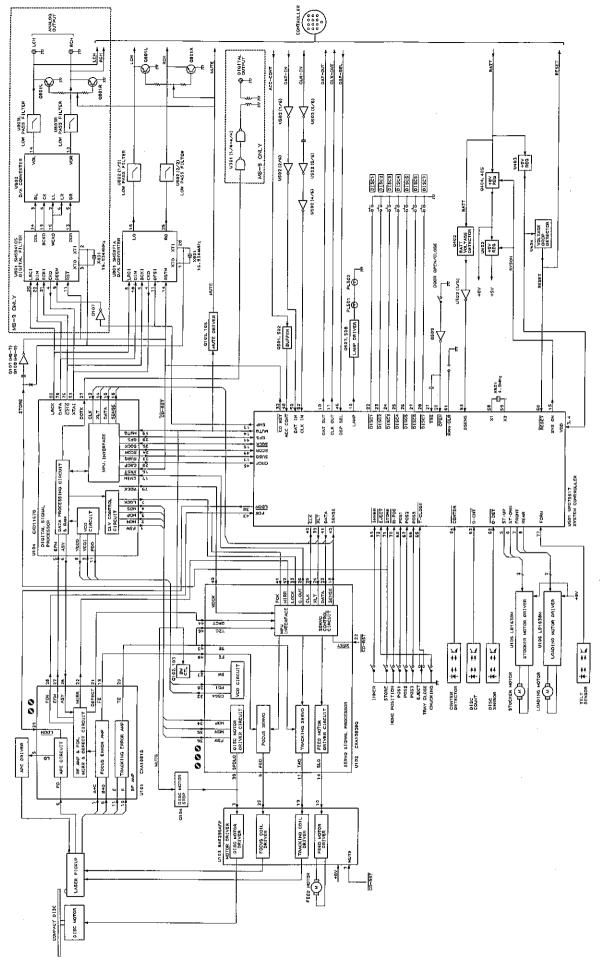


Fig. 9.8 Dirver BA6296FP



10. BLOCK DIAGRAM

Fig. 10

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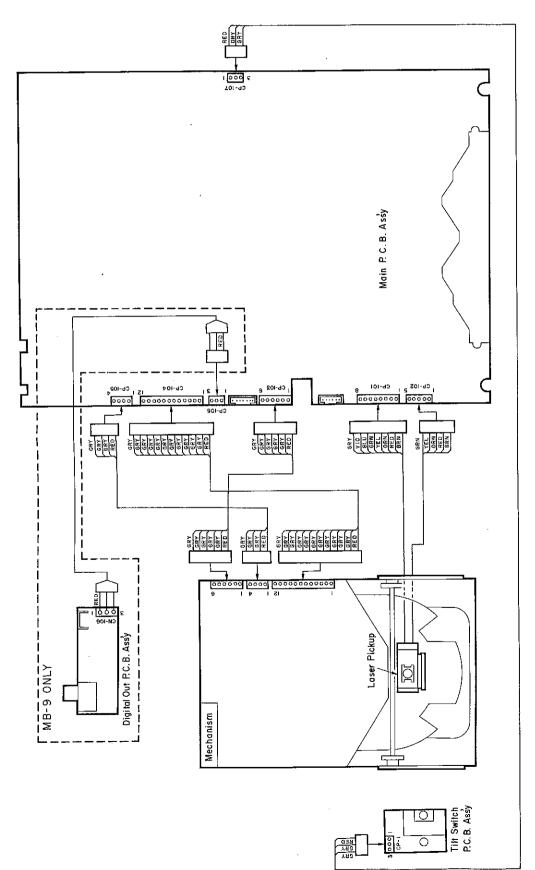




Fig. 11.1

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11. WIRING DIAGRAM

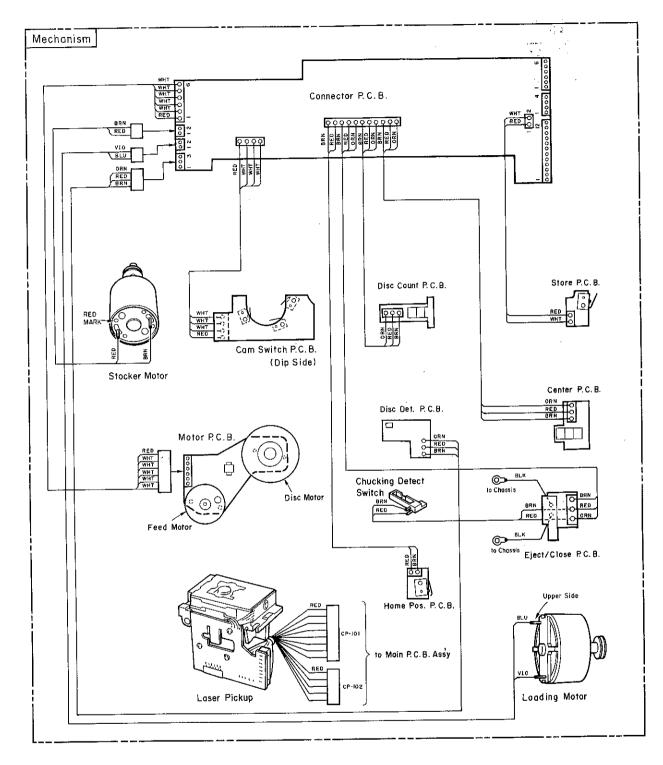


Fig. 11.2

## **SPECIFICATIONS**

System	Compact Disc digital audio
Signal Readout	Optical (semiconductor laser)
Error Correction	CIRC principle
Number of Channels	2 channels, stereo
D/A Converter Type	1-bit dual D/A converters with 3rd-order noise shaper and
	8-times oversampling digital filter [MB-7]
	18-bit dual D/A converters with 8-times oversampling digital filter [MB-9]
Sampling Frequency	44.1 kHz
Quantization	16-bit linear
Disc Rotational Velocity	Approx. 200 to 500 rpm (constant linear velocity)
Wow and Flutter	Below measurement limit
Frequency Response	10-20,000 Hz +0.5dB, –1.5 dB [ <b>MB-7</b> ]
	10-20,000 Hz +0.5dB, -0.5 dB [ <b>MB-9</b> ]
Signal to Noise Ratio	Better than 88 dB (IHF A-WTD) [MB-7]
	Better than 92 dB (IHF A-WTD) [MB-9]
Dynamic Range	Better than 86 dB [MB-7]
	Better than 90 dB [MB-9]
Total Harmonic Distortion	0.015% or less (1 kHz) <b>[MB-7]</b>
	0.008% or less (1 kHz) <b>[MB-9]</b>
Channel Separation	Better than 80 dB [MB-7]
	Better than 88 dB [MB-9]
Output Level/Impedance	1.2 V/600 ohms (1 kHz, 0 dB) <b>[MB-7]</b>
	1.5 V/600 ohms (1 kHz, 0 dB) <b>[MB-9]</b>
Power Source	14.4 VDC negative ground (10.8–15.6 V allowable)
Power Consumption	1 A max.
Dimensions*	196 (W) × 113 (H) × 298 (D) mm
	7-11/16 (W) × 4-7/16 (H) × 11-3/4 (D) inches
Approximate Weight	3.6 kg/7 lbs. 15 gz.

\* Dimensions do not include protruding parts. Height is the panel height.

• MusicBank is a trademark of Nakamichi Corporation.

· Specifications and design are subject to change for further improvement without notice.

Nakamichi Canada Nakamichi Australia Nakamichi GmbH

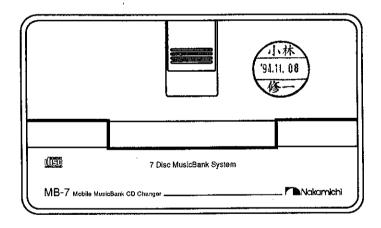
Nakamichi Corporation1-153 Suzukicho, Kodaira, Tokyo 187Phone: (0423) 42-1115Nakamichi America Corporation955 Francisco St., Torrance, CA90502Phone: (310) 538-8150 276 South West, Marine Drive, Vancouver, B.C. V5X 2R4 Phone: (604) 324-7535 Unit 12 620-632 Botany Road, Alexandria, N.S.W. 2015 Phone: (02) 667-0811 Praunheimer Landstraße 32 D-60488 Frankfurt/Main Phone: (069) 7682021 (Office), 7682025 (Service)



2.5

# MB-7 MB-9

# Mobile MusicBank CD Changer





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# 1. GENERAL

1.1. Product Codes N730 (MB-7) N731 (MB-9) 1.2. Destinations

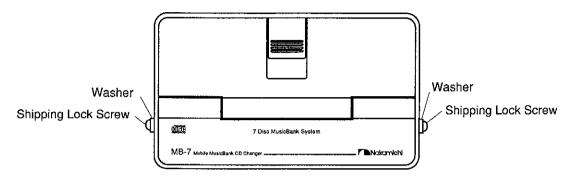
USA, CAN, EP, GER, JPN

Abbreviations					
USA	—	U.S.A.			
CAN	<u> </u>	Canada			
EP		Europe			
GER	—	Germany			
JPN	—	Japan			

#### 1.3. Cautions/Warnings

#### (1) Before Returning the Unit

Before returning the unit, eject all CDs and then secure the mechanism by fastening all four Shipping Lock Screws together with four Washers. See Fig. 1.1. For the Shipping Lock Screws and Washers, see Ref. Nos. 32 and 31 in Fig. 7.1.



.



#### (2) Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing, DO NOT LOOK AT THE LASER BEAM.

Laser Diode Pro	operties
Material:	GaAlAs
Laser output:	0.5mW Max.
Wavelength:	790 ± 25 nm
Emission duration	on: Continuous

# (3) Laser Caution CAUTION

Adjusting the knobs, switches, and controls, etc. or taking actions not specified herein may result in a harmful emission of laser beams. This Compact Disc Player must be adjusted and repaired only by qualified service personnel.

#### **OBSERVERA!**

Sådana inställningar av rattarna, omkopplarna eller övriga kontrollknappar som inte är beskriva i bruksanvisningen kan resultera i farlig laserutstrålning. Justering eller reparation av denna kompaktskivspelare skall endast utföras av kvalificerad servicepersonal.

#### OBS!

Indstilling af knapper, cmskiftere og øvrige kontrolknapper, som ikke følger den i brugsanvisningen beskrevne måde, kan resultere i farlig laserudstråling. Justering eller reparation af denno CD-afspiller må kun udføres af kvalificeret servicepersonale.

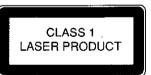
#### OBS!

Justering av ratt, brytere og kontroller andre enn de som er beskrevet her, kan resultere i farlig laserbestråling. Justering eller reparasjon av denne kompaktdiskspilleren ma bare utføres av kvalifiserte fagfolk.

#### HUOMAUTUS

Jos nuppeja, kytkimiä ja säätimiä ym, säädetään tai laitetta käytetään toisella tavalla kuin on selostettu, tuloksena saattaa olla vaarallista lasersäteiden vuotoa. CD-soittimen säätö ja korjaus on jätettävä aina asiantuntevan huoltoteknikon tehtäväksi.

ADVERSEL:	USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSAETTELSE FOR STRÅLING.
VAROI:	AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING —	OSYNLIG LASERSTRÅLNING NAR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.



THIS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS 1 LASER PRODUCT. THE CLASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

#### 1.4. Handling the Laser Pickup

In case of repair or replacement of the Laser Pickup, pay attention to the following handling instructions since the laser diode in the Laser Pickup is not resistant to static electricity.

#### (1) Grounding

When you repair a Laser Pickup, first ground the human body, as well as the measuring instruments and other tools (with particular caution to soldering iron). What's more, your workbench and floor should desirably be grounded using conductive sheet or copper plate. See Fig. 1.2.

NOTE: Be careful so as not to let your clothes touch the Laser Pickup, as static electricity on the clothes will not be released even if your body is grounded.

#### (2) Discharge of Electricity

Be sure to discharge electricity from objects brought into contact with the Laser Pickup (i.e., soldering iron, tweezers, probes, volt-ohm-meter probes, etc.) before starting work by contacting them with the body chassis. Besides, never touch the Laser Pickup while power is applied.

#### (3) Soldering Iron to be Used

The soldering iron for use in repair work should be: (1) a ceramic soldering iron, (2) a soldering iron with its metal part grounded, or (3) a soldering iron whose insulation resistance after five minutes of power application is 10 M-ohm or more at 500 VDC. Soldering should be completed promptly, at a soldering iron temperature of 320° max (39 W). A soldering iron heated above this temperature can break down the laser diode.

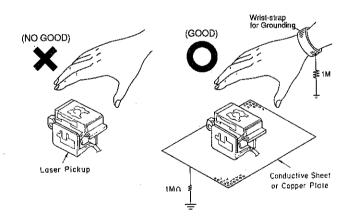


Fig. 1.2 Handling the Laser Pickup

#### 1.5. Stocker Operation Check Function

A series of stocker operation can be checked by shortcircuiting the RAM Reset lands on the Main P.C.B. Ass'y. This function is useful to check whether any CD is left in the stocker before returning the unit to the customer.

- (1) Remove the Bonnet (Upper).
- (2) Turn ON the power.
- (3) Short the RAM Reset lands. See Fig. 1.3.
- (4) The stocker raises to the uppermost position, and then starts a series of CD unload operation as follows:

Disc No.: 7 (uppermost)  $\rightarrow 6 \rightarrow 5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$ 

(5) After completion of the stocker operation, the unit returns to standby condition.

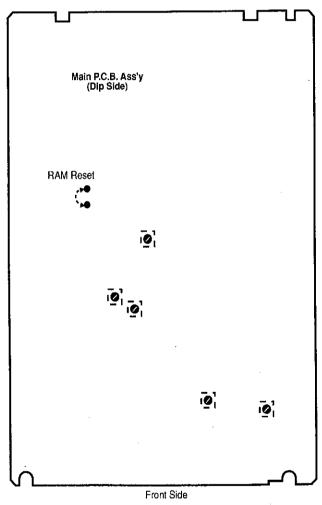


Fig. 1.3 Stocker Operation Check

## 1.6. Package Ass'y and Accessary Ass'y

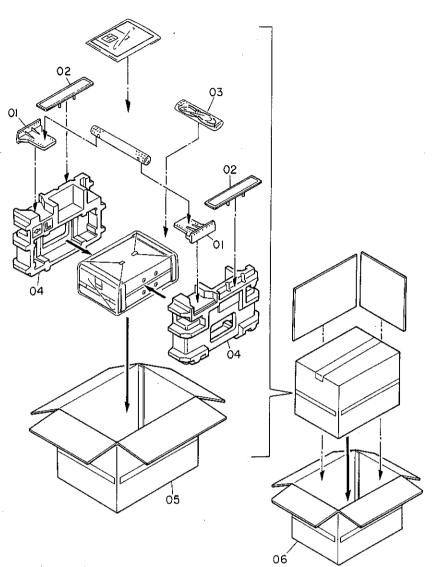


Fig. 1.4

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
		Package Ass'y			DA04803A	Accessory Ass'y (USA, CAN) [MB-7]	1
						Accessory Ass'y (EP) [MB-7]	1
01	0H06760C	Angle A	2		DA04802A	Accessory Ass'y (JPN) [MB-7]	1
02	HG06893A	Angle B Ass'v	2		DA04808A	Accessory Ass'y (USA, CAN) [MB-9]	1
03	0D06545A	DIN Wire	1		DA04809A	Accessory Ass'y (EP) [MB-9]	1
04	0F04834A	Packing L.R	1		DA04807A	Accessory Ass'y (JPN) [MB-9]	1
05	0F04875A	Inner Carton (USA, CAN, EP)	1			• • • • •	
		[MB-7]			0D06546C	Owner's Manual (English) [MB-7]	1
	0F04832A	Inner Carton (JPN) [MB-7]	1		0D06568B	Owner's Manual (English) [MB-9]	1
	0F04849A	Inner Carton [MB-9]	1		0D06549C	Owner's Manual (Japanese) [MB-7]	1
06	0F04876A	Outer Carton (USA, CAN, EP)	1		0D06571B	Owner's Manual (Japanese) [MB-9]	1
		[MB-7]			DA04806A	Screw Ass'y	1
	0F04833A	Outer Carton (JPN) [MB-7]	1			•	
	0F04850A	Outer Carton [MB-9]					
_	0F04874A	Sheet	1				

#### 2. REMOVAL PROCEDURES

#### 2.1. Bonnet (Upper) and Front Panel Ass'y

Refer to Figs. 2.1.1 and 2.1.2.

- (1) Remove F01 (Protector Front). See Fig. 2.1.1.
- (2) Pull out F02 (Push Rivet, 5 pcs.) and remove F03 (Protector Rear).
- (3) Remove screws F04 (2 pcs.) and F05 (2 pcs.).
- (4) Remove screws F06 (3 pcs.). See Fig. 2.1.2.
- (5) Remove screws F07 (5 pcs.) and F08 (Bonnet (Upper)).
- (6) Remove screws F09 (2 pcs.) and detach F10 (Front Panel Ass'y).
- **NOTE:** Installing direction of the Bonnet (Upper): install the Bonnet (Upper) so that the bent lower edge comes to the right side and the straight lower edge comes to the left side as shown in Fig. 2.1.2.

2.2. Rear Panel, Main P.C.B. Ass'y and Bonnet (Lower) Refer to Fig. 2.2.

- (1) Remove the Bonnet (Upper) and Frant Panel Ass'y. Refer to item 2.1.
- (2) Remove screws F01 (3 pcs.), F02 (1 pce., MB-9 only) and F03 (2 pcs.), disconnect a connector F04 (MB-9 only), and detach F05 (Rear Panel).
- (3) Remove screws F06 (2 pcs.) and detach F07 (Insulating Sheet).
- Remove screws F08 (2 pcs.) and pull out F09 (3P Connector).

**NOTE:** Do not pull out other connectors yet to avoid damage to the laser pickup.

- (5) Turn over F10 (Main P.C.B. Ass'y) in the direction of the arrow.
- (6) Remove screws F11 (2 pcs.) and detach F12 (Bonnet (Lower)) downward.
- **NOTES:** 1. Installing direction of the Bonnet (Lower) Install the Bonnet (Lower) so that the straight lower edge comes to the right side and the bent lower edge comes to the left side as shown in the figure.
  - Installing the Bonnet (Lower) Install the Bonnet (Lower) on the Mechanism Deck Ass'y so that the four screws "a" on both sides are fastened to the screwed hole "b" (not "c").

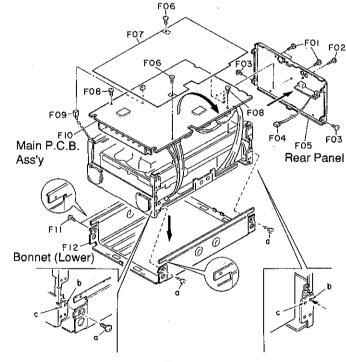
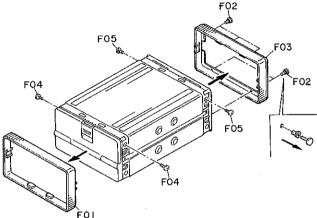


Fig. 2.2





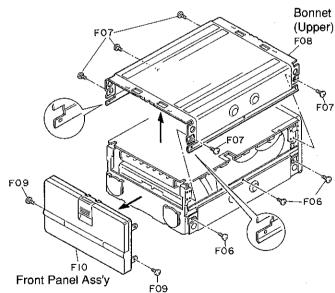
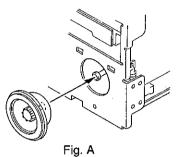


Fig. 2.1.2

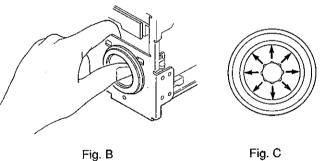
#### Mounting the Dampers

When mounting four Dampers which act to absorb mechanical shock or vibration, pay attention so that they are mounted correctly. Incorrect mounting causes the playback sound to be skipped.

- Mount the Dampers as follows:
- (1) Insert the Damper into the damper holding shaft.



- (2) Press the Damper so that it is securely inserted into the damper holding shaft. See Fig. B.
- Push the damper edge along with the circumference of the damper mounting hole to make a circle. See Fig. C.



(4) Slide the Damper Holder over the Damper as shown in Fig. D and insert two claws of the Damper Holder into the Chassis Ass'y. See Fig. E.

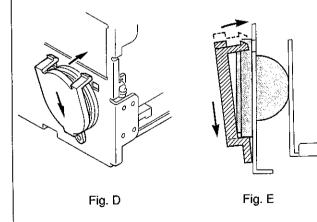
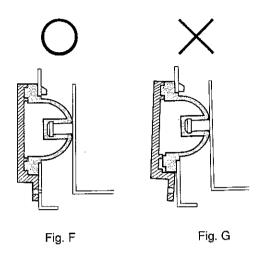


Fig. F shows the condition that the Damper is securely inserted into the Damper Holder. While, Fig. G shows the unsuccessful case.



(5) With pushing the Damper Holder with your finger tip as it is not fastened with a screw yet, move the Mechanism Deck Ass'y back and forth to securely engage the Damper with the Damper Holder.

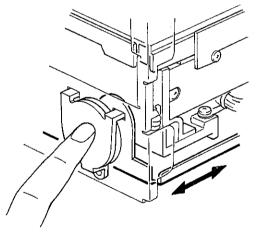
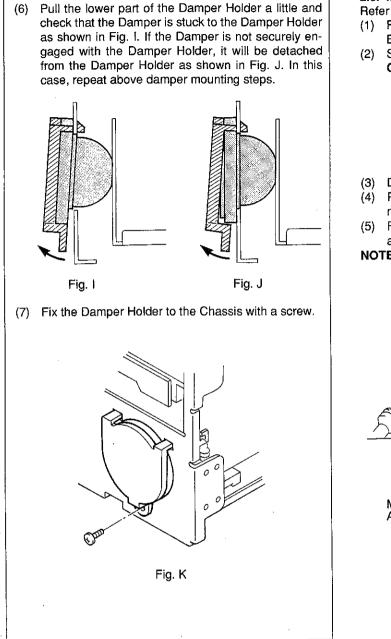


Fig. H

(to be continued.)

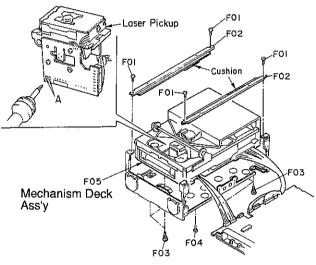


#### 2.3. Mechanism Deck Ass'y

#### Refer to Fig. 2.3.

- (1) Remove the Rear Panel Ass'y, Main P.C.B. Ass'y and Bonnet (Lower). Refer to item 2.2.
- (2) Shortcircuit the lands "A" of the Laser Pickup.
  - CAUTIONS: 1. Use a soldering iron whose metal part is grounded, or a ceramic soldering iron.
    - Do not forget shortcircuiting the lands "A" as the laser diode in the Laser Pickup will be damaged when the connectors of the Laser Pickup are removed from the Main P.C.B. Ass'y.

- (3) Disconnect all connectors on the Main P.C.B. Ass'y.
- (4) Remove screws F01 (4 pcs.) and detach F02 (Channels (R and L).
- (5) Remove screws F03 (6 pcs.) and F04 (1 pce.) and disassemble F05 (Mechanism Deck Ass'y)
- NOTE: Installing direction of F02 (Channels (R and L)): Install the Channel so that the cushion of the Channel comes to the rear as shown in the figure.



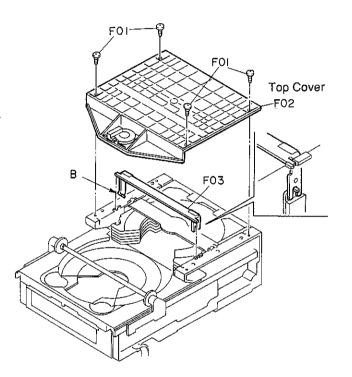


#### 2.4. Mechanism Top Cover

Refer to Figs. 2.4.1 and 2.4.2.

- (1) Remove the Mechanism Deck Ass'y. Refer to item 2.3.
- (2) Remove screws F01 (4 pcs.) and disassemble F02 (Top Cover).
- (3) Remove F03 (Assist Arm).
- **NOTE:** When assembling F03 (Assist Arm), make sure that F03 (Assist Arm ) is in place as shown in the figure.

Also, make sure that the lowest carriage is held by the angle "B" of F03 (Assist Arm) as shown in Fig. 2.4.2 so that the carriages are in horizontal position. (Refer to "Leveling the carriages at the left side" in item 2.9.3.)





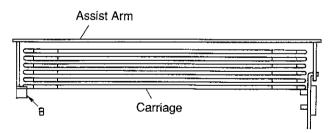


Fig. 2.4.2 Leveling the carriages at the left side

#### 2.5. Drawing the Tray Ass'y

- Refer to Fig. 2.5.
- (1) Remove the Mechanism Deck Ass'y. Refer to item 2.3.
- (2) Turn the pulley in the direction of the arrow to draw the Tray Ass'y. (You can only access to the bottom part of the pulley.)
- (3) After drawing the Tray Ass'y about 3cm or so, you can draw the rest of it by hand.

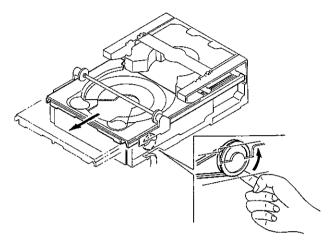


Fig. 2.5

#### 2.6. Laser Pickup

# 2.6.1. Removing the Laser Pickup

Refer to Fig. 2.6.1.

- (1) Draw the Tray Ass'y. Refer to item 2.5.
- (2) Remove screws F01 (2 pcs.) and disassemble F02 (Plate Rack).
- (3) Remove screws F03 (4 pcs.) and disassemble F04 (Laser Pickup with Guide Bars A and B).
- (4) Pull out the Guide Bars A and B from the Laser Pickup.

# F03 F03 F03 F04 Laser Pickup

#### 2.7. Tray Ass'y

### 2.7.1. Removing the Tray Ass'y

Refer to Fig. 2.7.1.

- (1) Draw the Tray Ass'y. Refer to item 2.5.
- (2) Remove screws F01 (4 pcs.) and disassemble F02 (Tray Holder L) and F03 (Tray Holder R).
- (3) Remove F04 (Timing Ass'y).
- (4) Remove F05 (Tray Ass'y).

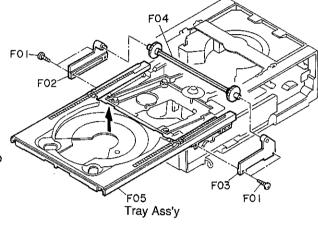


Fig. 2.7.1

Fig. 2.6.1

## 2.6.2. Installing a New Laser Pickup

Refer to Fig. 2.6.2.

- **NOTE:** As a Laser Pickup is packed in a conductive pack, do not take it out of the pack until you need it.
- (1) Install the Laser Pickup by reversing the above procedure.
- (2) Connect the connectors of the Laser Pickup to the Main P.C.B. Ass'y. Then, remove the soldering bridge on the lands "A" shown in the figure with a soldering iron whose metal part is grounded or with a ceramic iron.

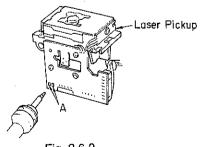


Fig. 2.6.2

#### 2.7.2. Installing the Tray Ass'y

S-F-Gear

When installing the Tray Ass'y, perform positioning as follows:

- (1) Turn the pulley in the direction of the arrow until it stops. Refer to Fig. 2.7.2.
- (2) Turn the pulley in the opposite direction a little so that the center of two marks (holes) "C" on the S-F-Gear is in the vertical position. Refer to Fig. 2.7.2.
- (3) Place the Tray Ass'y so that the protrusion "D" of the Tray Ass'y is positioned between the marks (holes) "C" on the S-F-Gear. Refer to Fig. 2.7.3.
- (4) Reverse the removal procedure in item 2.7.1.

#### 2.8. Drive Unit Section

Refer to Fig. 2.8.

- (1) Remove the Laser Pickup. Refer to item 2.6.
- (2) Remove the Tray Ass'y. Refer to item 2.7.
- (3) Remove screws F01 (2 pcs.) and disassemble F02 (Disc Det. P.C.B.).
- (4) Remove screws F03 (2 pcs.) and disassemble F04 (Mecha B Stopper).
- (5) Disconnect a connector and remove F05 (Drive Unit Section).
- **NOTE:** When installing F05 (Drive Unit Section), insert the pin "E" of the Drive Unit Section into the groove of the Mecha UD Cam as shown in the figure.

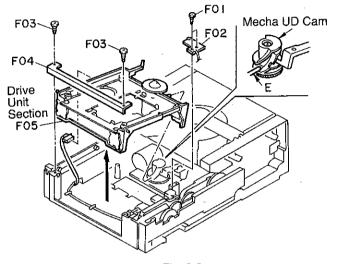
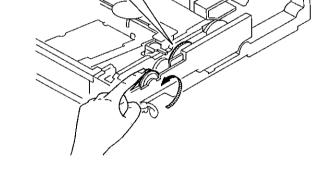
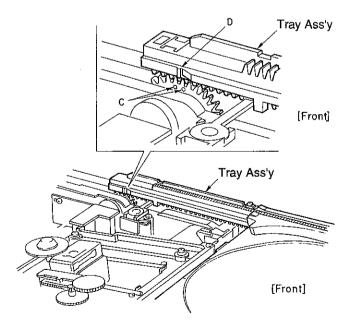


Fig. 2.8







#### 2.9. Side Chassis R Section

# **2.9.1.** Removing the Side Chassis R Section Refer to Fig. 2.9.1.

(1) Remove the Drive Unit Section. Refer to item 2.8.

- (2) Remove a screw F01 and F02 (Wire Clamper), and disassemble F03 (Eject/Close P.C.B.).
- (3) Remove a screw F04 and disassemble F05 (Store P.C.B.).
- (4) Disconnect 2P connector of the Loading Motor from the Connector P.C.B. at the back of the Mechanism Unit.
- (5) Remove screws F06 (2 pcs.) and F07 (3 pcs.), and disassemble F08 (Side Chassis R Section) in the direction of the arrow.



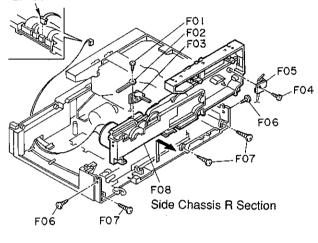


Fig. 2.9.1

# **2.9.2.** Accessing to the Gears and Loading Motor Belt Refer to Fig. 2.9.2.

- Remove screws F09 (3 pcs.), F10 (1 pce.) and F11 (2 pcs.), and disassemble F12 (Gear Holder). Then, you can access to the gears (S-F-Gear, S-I-Gear and S-M-Gear) and Loading Motor Belt F13 (Belt-C-S).
  - **NOTE:** When you replace one of gears, perform gear positioning according to 3.1 "Gear Position-ing".
- (2) Remove screws F14 (3 pcs.) and disassemble F15 (Change Plate Ass'y) and F16 (Carriage Opener). Then, you can access to the Change Gear.
  - NOTE: When you replace the Change Gear, perform gear positioning according to 3.1 "Gear Positioning".

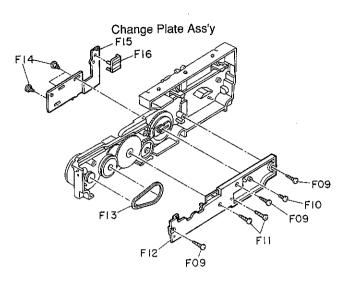


Fig. 2.9.2

#### 2.9.3. Installing the Side Chassis R Section

- NOTE: When you replace one of gears in the Side Chassis R Section, perform 3.1 "Gear Positioning" before installing the Side Chassis R Section.
- (1) Push the Change Arm against the D6-ST-Gear so that they are engaged each other. Refer to Fig. 2.9.3.
- (2) Place the Side Chassis R Section so that the pin "F" of the Side Chassis R Section is inserted into the hole in the Change Arm as shown in Fig. 2.9.3.

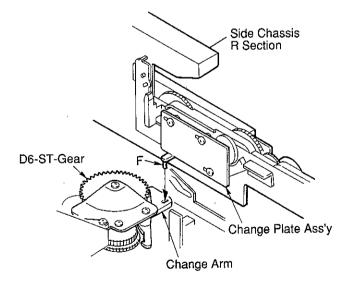


Fig. 2.9.3

#### (3) Leveling the carriages:

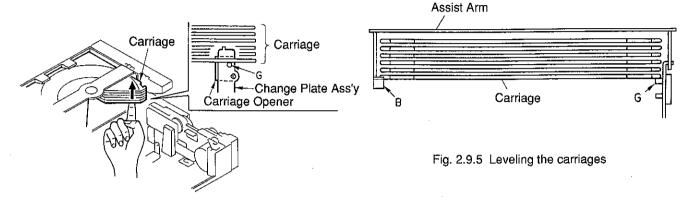
The carriages must be set in correct position where they are horizontal.

#### • Leveling carriages at the right side

Lift the right end of the carriages (6 pcs.) with your finger tip as shown in Fig. 2.9.4, and place the lowest carriage onto the pin "G" (white one).

#### Leveling the carriages at the left side

Lift the left end of the carriages (6 pcs.) with your finger tip and place the lowest carriage onto the angle "B" of the Assist Arm. Refer to Fig. 2.9.5.



#### Fig. 2.9.4 Leveling the carriages at the right side

#### 2.10. Side Chassis L

Refer to Fig. 2.10.

- (1) Remove the Drive Unit Section. Refer to item 2.8.
- (2) Remove screws F01 (3 pcs.) and F02 (2 pcs.), and disassemble F03 (Side Chassis L).

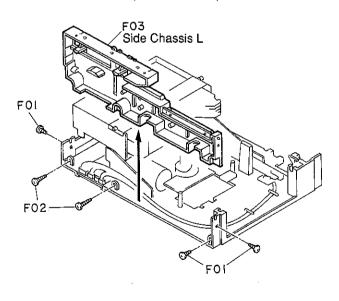


Fig. 2.10

# **2.11.** Stocker Ass'y and Main Chassis Section Refer to Fig. 2.11.

- (1) Remove the Side Chassis R Section and Side Chassis L. Refer to items 2.9 and 2.10.
- (2) Remove F01 (Stocker Ass'y including the carriages) from F02 (Main Chassis Section) as shown in the figure.

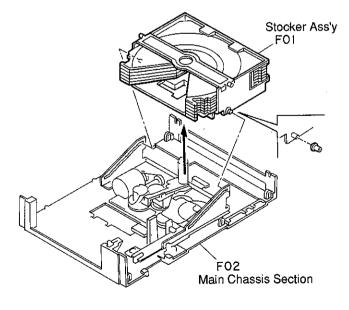


Fig. 2.11

#### 3. MECHANICAL ADJUSTMENTS

#### 3.1. Gear Positioning in the Side Chassis R Section

When one of the gears in the Side Chassis R section is replaced, perform the following gear positioning. (To access to the gears, refer to 2.9 "Side Chassis R Section".)

#### 3.1.1. Positioning Three Gears

Refer to Fig. 3.1.1.

- Align the marks (holes) of the S-I-Gear with the mark (hole) of the S-F-Gear and S-M-Gear as shown in the figure.
  - NOTE: The S-F-Gear and S-M-Gear have another mark (hole). Pay attention so as not to align with the wrong hole.
- (2) Insert the pin of the Tray Arm Ass'y into the groove of the S-M-Gear as shown in the figure.

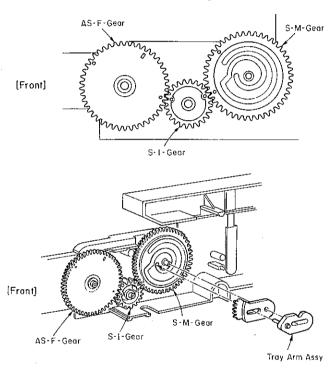
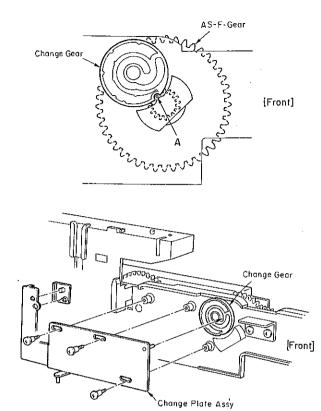


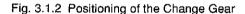
Fig. 3.1.1 Positioning of Three Gears

#### 3.1.2. Positioning the Change Gear

Refer to Fig. 3.1.2.

- (1) Position the Change Gear so that the notch of the Change Gear meets the mark "A" of the S-F-Gear.
- (2) Insert the pin of the Change Plate Ass'y into the groove of the Change Gear, and mount the Change Plate Ass'y with three screws.





#### 3.2. Positioning the Tray Ass'y

When installing the Tray Ass'y on the mechanism unit, perform the following positioning. (Refer to 2.7.2 "Installing the Tray Ass'y".)

 Install the Tray Ass'y so that the protrusion "B" of the Tray Ass'y is positioned between two marks (holes) "C" of the S-F-Gear. Refer to Fig. 3.2.

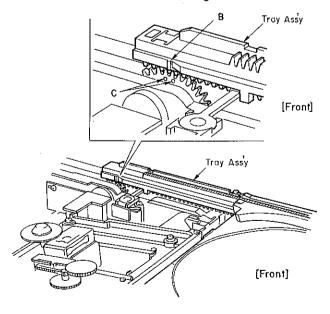


Fig. 3.2 Positioning of the Tray Ass'y

#### 3.3. Lubrication

1

Apply the specified lubricant (grease) to the following places when parts are replaced. (Refer to Figs. 7.2 to 7.5.)

Fig.	Ref. No.	Location	Lubricant
		Deck Ass'y)	- <u>-</u>
7.2	07	Stocker Ass'y	
		<ul> <li>Carriage contacting surface (both sides)</li> </ul>	FLOIL FL777
		<ul> <li>Boss (both sides)</li> </ul>	FLOIL G425
	09	Side Chassis L	FLOIL G425, FL777
	10	Side Chassis R Section	FLOIL G425, FL777
(Tray	y Ass'y)		
7.3	01	Tray Top	
	05	<ul> <li>Carriage contacting surface</li> <li>Tray R</li> </ul>	FLOIL FL777
	05	Carriage contacting surface	
	06	Tray L	FLOIL FL777
		<ul> <li>Carriage contacting surface</li> </ul>	FLOIL FL777
	07	TR Guide Shaft	
		Right Side	FLOIL G425
		Left Side	FLOIL FL777
(Side	e Chassis	R Section)	
7.4	01	Change Plate Ass'y (3 places)	FLOIL G425
	03	Change Gear (Groove)	FLOIL G425
	06	Side Chassis R Sub Ass'y (5 places)	FLOIL G425
	09	Side Idler	FLOIL G425
	12	S-M-Gear (Groove)	FLOIL G425
	13	Tray Stopper	FLOIL G425
	14	Tray Arm Ass'y	FLOIL G425
	15	Gear Holder (Groove)	FLOIL G425
(Mai	n Chassis	Section)	
7.5	04	Mecha UD Cam	FLOIL G425
	11	D5-ST-Gear	FLOIL G425
	12	Lock Idler	FLOIL G425
	13	D7-ST-Gear	FLOIL G425
	14	D6-ST-Gear	FLOIL G425
	16	Stocker Cam (5 places)	FLOIL G425
	18	ST-Worm-Gear	FLOIL FL777
	20	Worm Shaft (Shaft head and	FLOIL G425
	24	shaft end) Main Chassis Ass'y (7 płaces)	FLOIL G425
	- ·	· · · · · · · · · · · · · · · · · · ·	

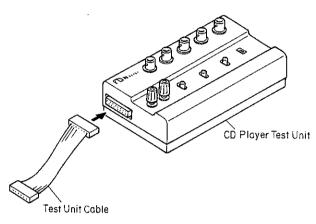
NOTE: We suggest that you use the above specified lubricant or equivalent type. The company dealing the above lubricant is as follows: Kanto Chemicals CO., Ltd., 2-7 Kanda Sakuma-cho,Chiyoda-Ku, Tokyo, Japan •Name of Lubricant: FLOIL G425/FLOIL FL777

#### MEASUREMENT INSTRUMENTS AND JIGS 4.

- Oscilloscope (15 MHz or more) (1)
- DC Voltmeter (2)
- Oscillator (3)
- (4) Frequency Counter
- (5) Philips Test Disc 5/5A or 444/444A
- (6) SONY Test Disc YEDS-7 (Type 3)
- (7) CD Player Test Unit Set (DA09157A) Consisting of the following items: CD Player Test Unit
  - 1 pce. MB-7/9Test Unit Cable (DA09186A) 1 pce.
  - Test Unit Cable for MB-1s/2s/3s/4s, 1000Mb, CD Player 1/2/3, Sound Space 7 (DA09158A)
  - 1 pce. CD Player 4 Test Unit Cable (DA09156A) 1 pce.
  - CD Cassette Player 1 Test Unit Cable 1 pce.
  - (DA09162A)

NOTE: The CD Player Test Unit (Test Unit Cable is excluded) for MB-7/9 can be used in the following Models:

- MB-1s/2s/3s/4s
- Sound Space 7
- 1000Mb/i, 1000Mb • CD Player 1/2/3
- CD Cassette Player 1
- CD Player 4





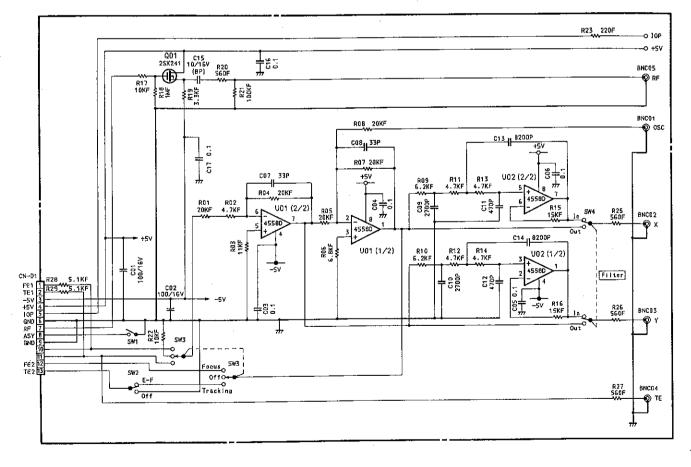
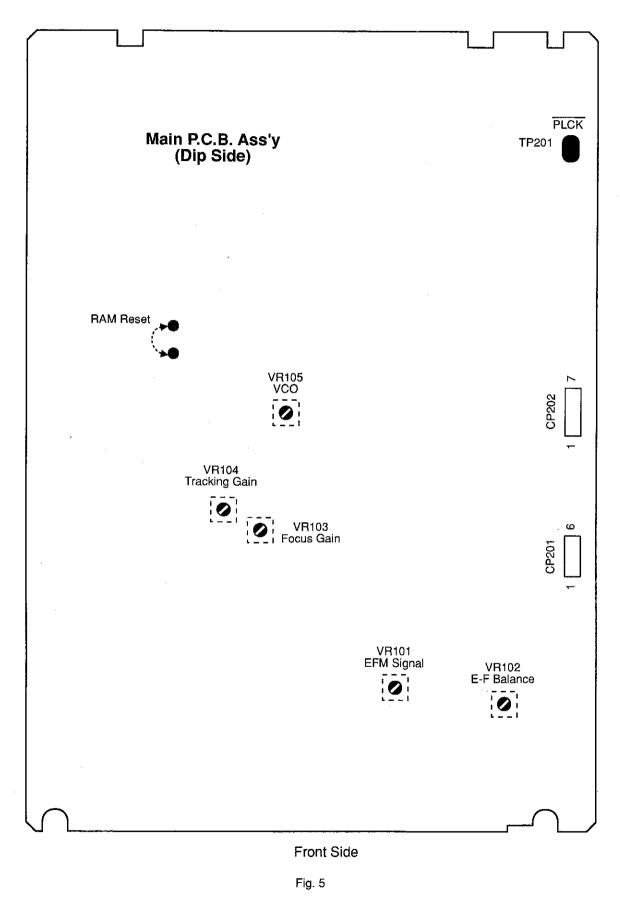


Fig. 4.2 Circuit of the Test Unit

# 5. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT



## 6. ELECTRICAL ADJUSTMENTS

#### NOTES:

1. Preset position of the semi-fixed volumes:

When the Main P.C.B. Ass'y or semi-fixed volume VR101, VR102, VR103, or VR104 is replaced with new one, preset the following semi-fixed volumes to their mechanical center positions before starting adjustment. VR101, VR102, VR103 and VR104

2. Connecting the Test Unit:

For adjusting the steps 4 through 6, the Test Unit is required. In steps 4 through 6 ONLY, connect the 7P cable of the Test Unit to the test connector CP202 on the Main P.C.B. Ass'y.

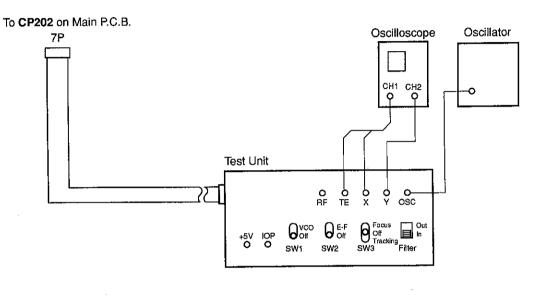
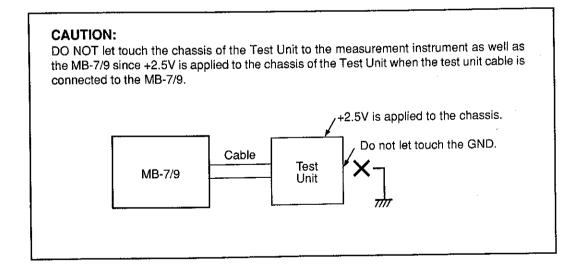


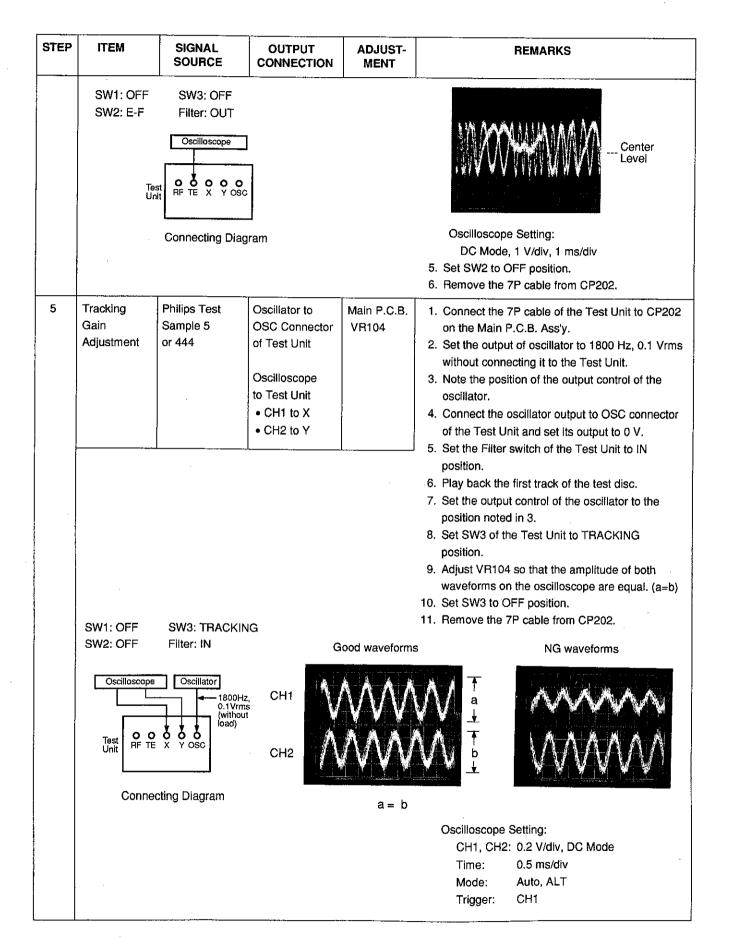
Fig. 6 Test Unit Connecting Diagram



STEP	ITEM	SIGNAL SOURCE		ADJUST- MENT	REMARKS
1	Laser Current Check	Philips Test Sample 5 or 444	DC Voltmeter between pins 1 (IOP) and 3 (+5V) of CP201 on Main P.C.B. DC Voltmeter Common: Pin 3 (+5V)		<ol> <li>Turn the power ON and load the test disc.</li> <li>Play back the test disc and calculate the current flowing into R101 on the Main P.C.B. Ass'y from the following formula.         <ul> <li>Voltmeter Value</li> <li>I =</li></ul></li></ol>
2	VCO Frequency Adjustment	None	Frequency Counter (10/1 probe) to TP201 (PLCK) and GND on Main P.C.B.	Main P.C.B. VR105	<ol> <li>Set the shorting pin between pins 5 (GND) and 6 (ASY) of CP201 on Main P.C.B.</li> <li>Adjust VR105 to obtain 4.322 ±0.005 MHz on the frequency counter.</li> <li>Remove the shorting pin.</li> </ol>
3	EFM Signal Adjustment	Philips Test Sample 5 or 444	Oscilloscope between pins 2 (RF) and 4 (VR) of CP201 on Main P.C.B. Oscilloscope Common: Pin 4 (VR)	Main P.C.B. VR101	<ol> <li>Play back the first track of the test disc.</li> <li>Adjust VR101 until waveform amplitude becomes maximum and the waveform becomes clear (not thick) as shown below:</li> </ol>
	Ą			NG OK NG	Oscilloscope Setting: AC Mode, 0.2 V/div, 0.5 μs/div
4	E-F Balance Adjustment (Supple- mentary Beam Balance Adjustment)	Philips Test Sample 5 or 444	Oscilloscope to TE Connector of Test Unit	Main P.C.B. VR102	<ol> <li>Connect the 7P cable of the Test Unit to CP202 on the Main P.C.B. Ass'y.</li> <li>Play back the first track of the test disc.</li> <li>Set SW2 of the Test Unit to E-F position.</li> <li>Adjust VR102 so that the center level of the waveform is within the range of 0 V ±0.1 V DC as shown below:</li> </ol>

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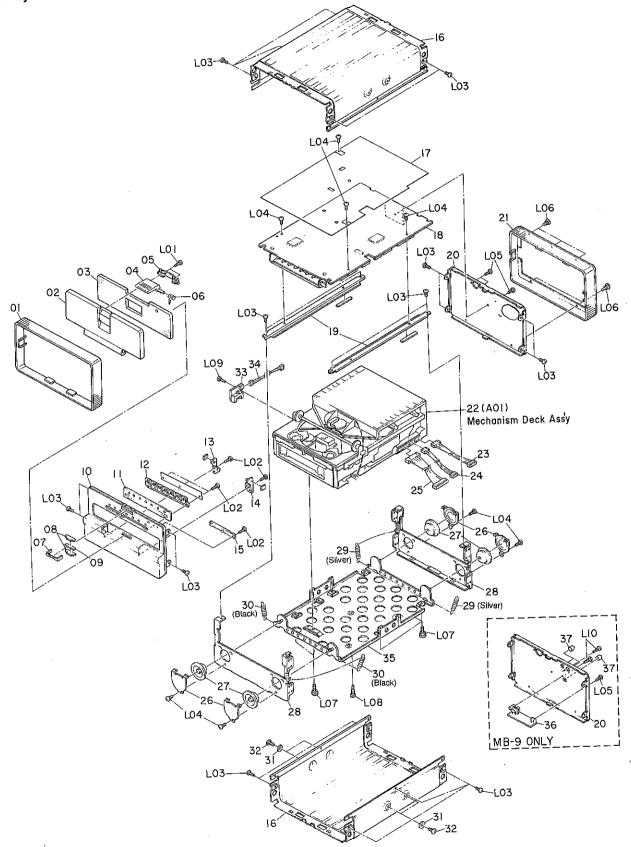
ALC: NO



STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST- MENT	REMARKS	
6	Focus Gain Adjustment	Philips Test Sample 5 or 444	Oscillator to OSC connector of Test Unit	Main P.C.B. VR103	<ol> <li>Connect the 7P cable of the Test Unit to CP202 on the Main P.C.B. Ass'y.</li> <li>Set the output of oscillator to 1200 Hz, 0.1 Vrms without connecting it to the Test Unit.</li> </ol>	
			Oscilloscope to Test Unit • CH1 to X • CH2 to Y	<ol> <li>3. Note the position of the output cor oscillator.</li> <li>4. Connect the oscillator output to Os</li> </ol>	3. Note the position of the output control of the	
	SW1: OFF SW2: OFF	SW3: FO	CUS	J	<ol> <li>Set the Filter switch of the Test Unit to IN position.</li> <li>Play back the first track of the test disc.</li> <li>Set the output control of the oscillator to the position noted in 3.</li> <li>Set SW3 of the Test Unit to FOCUS position.</li> <li>Adjust VR103 so that the amplitude of both waveforms on the oscilloscope are equal. (a=b 10. Set SW3 to OFF position.</li> <li>Set the Filter switch to OUT position.</li> <li>Remove the 7P cable from CP202.</li> <li>After adjustment, perform "EFM Signal Adjustment" in Step 3.</li> </ol>	
	CH2 Connecting Diagram			Good waveforms NG waveforms NG waveforms A = b		
				a = 0	Oscilloscope Setting: CH1, CH2: 0.2 V/div, DC Mode Time: 0.5 ms/div Mode: Auto, ALT Trigger: CH1	
7	Operation Check	Philips Test Sample 5A or 444A			<ul> <li>Play back the following test programs on the test dist (Philips Test Sample 5A or 444A) and make sure that there is no noise and track-jumping.</li> <li>Interruption 500 μm: 6th program</li> <li>Black Dot 800 μm: 17th program</li> <li>Simulated fingerprint: 19th program</li> </ul>	

# 7. MECHANISM ASS'Y AND PARTS LIST

#### 7.1. Synthesis



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Fig. 7.1

7.1. Synthesis

#### Schematic

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Schematic	_		
Ref. No.	Part No.	Description	Q'ty
		Synthesis	
01	0H06765D	Protector Front	
02	0H06763C		1
03	0H06774B		1
04	0H06771C		1
05	0J07270A		1
06	0J07276B		1
07	0J07275A	Magnet Holder	1
08	0J07274A		1
09	0J07269A		2
10	0H06764D		1
• •	0H06799A		1
11	HG06892A		1
12	0H06770C		1
13			1
14	0H06773C		1
15	0H06772C		1
	0H06801E	Button Door Switch	1
16	0H06767C	Bonnet	2
17	0J07271B	Insulating Sheet	1
18	BA09182A	Main P.C.B. Ass'y [MB-7]	i
		(USA, CAN, EP, JPN)	•
	BA09183A	Main P.C.B. Ass'v (MB-71 (GER)	1
	BA09192A	Main P.C.B. Ass'v [MB-9]	i
		(USA, CAN, FP, JPN)	
	BA09193A	Main P.C.B. Ass'y [MB-9] (GER)	1
19	0J07264C	Channel	2
20	0H06768B	Rear Panel [MB-7]	1
	0H06800A	Rear Panel [MB-9]	i
21	0H06766C	Protector Rear	i
22	CG09212B		i
23	0B80670B	6P Connector Ass'v CN103	í
24	0B80672A	4P Connector Ass'v CN105	÷
25	0B80671A	12P Connector Ass'y CN104	ŕ
26	0J07263B	Damper Holder	4
27	0J07261A	Damper	4
28	0J07258A	Chassis Sub	2
29	0J07260A	Spring Sus R (Silver)	2
30	0J07352A	Spring Sus F (Black)	2
31	0J04310A	Poly Washer	4
32	0J07268A	Shipping Lock Screw	4
33	0B80685A	3P Connector Ass'v CN107	1
34	BA09210A	Tilt Switch P.C.B. Ass'y	1
35	JG04890B	Chassis Ass'v	1
36	BA09194A	Digital Out P.C.B. Ass'y [MB-9]	1
		(USA, CAN, EP, JPN)	1
	BA09195A	Digital Out P.C.B. Ass'y [MB-9] (GER)	1
37	0B84524A	RCA Cap [MB-9]	
L01	0E03809A	PT2x4 + Binding (Black Chromate)	3
L02	0E03638A	PT2x6 + Binding	
L03	0E03816A	ST3x4 + Binding (Black Chromate)	
L04	0E00800A	ST3x6 + Binding	
L05	0E00985A	M3x6 / Binding (Block Ohmen )	
L06	0E03810A	M3x6 + Binding (Black Chromate)	
L00	0E03805A	Push Rivet	
L08	0E03805A	PT Special Screw 3x9.5	
L08		PT3x12 Flat Head	
L10	0E03769A	PT2.6x8 + Binding	
210	0E03749A	PT3x8 + Binding (Black Chromate) [MB	-9]
		,	-

#### 7.2. Mechanism Deck Ass'y (A01)

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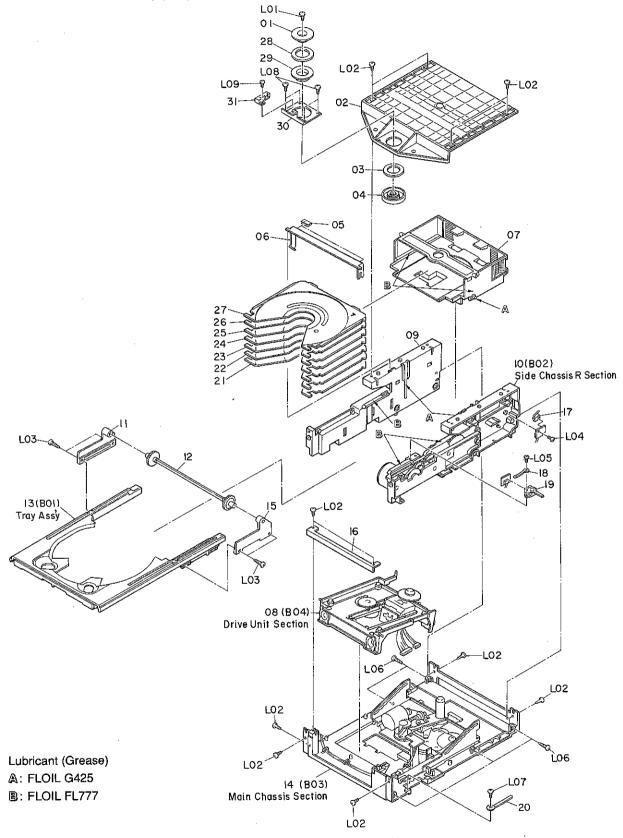


Fig. 7.2

### 7.2. Mechanism Deck Ass'y (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	CG09212B		1
01	2C00128A	Clamper Top MSS	1
02	2C00094A	Top Cover	1
03	2C00016A	Magnet 17x27x5	1
04	2C00015A	Clamper LO	1
05	2C00101A	A Arm Cushion	1
06	2C00116A	Assist Arm	1
07	CB00245A	Stocker Ass'y	
08	—	Drive Unit Section	1 1
09	2C00090A	Side Chassis L	1
10	—	Side Chassis R Section	1
11	2C00098A	Tray Holder L	1
12	CB00230A	Timing Ass'y	1
13	CB00246A	Tray Ass'y	1
14	—	Main Chassis Section	1
15	2C00097A	Tray Holder R	1
16	2C00086A	Mecha B Stopper	1
17	2B70009A	Store SW MSS-10L2-1	1
18	2C00107A	Wire Clamper 3B4	1
19	2B70007A	Eject/T-Close SW SSS13	1
20	2C00106A	Wire Clamper 3A6	1
21	0C09830A	Carriage-S-1	1
22	0C09831A	Carriage-S-2	1
23	0C09832A	Carriage-S-3	1
24	0C09833A	Carriage-S-4	-1
25	0C09834A	Carriage-S-5	1
26	0C09835A	Carriage-S-6	1
27 28	0C09836A	Carriage-S-7	1
29	2C00129A 2C00130A	Magnet 17x28.5x2	1
30	2C00130A	Clamper HI MSS Clamper Plate	1
31	2B70013A	Chacking Detecting Switch	1
L01	0E00976A	M2x5 + Binding	I
L02	0E00825A	BT2.6x8 + Binding (Black Chromate)	
L03	2E00005A	BT2.6x12 + Binding	
L04	0E00961A	BT2x5 + Binding	
L05	0E03442A	ST2.6x5 + Pan	
Lõõ	0E03612A	BT2.6x10 + Binding	
L07	0E00873A	BT2.6x5 + Binding	
L08	0E00859A	BT2.6x6 + Binding	
L09	0E00954A	BT2.6x8 + Binding	

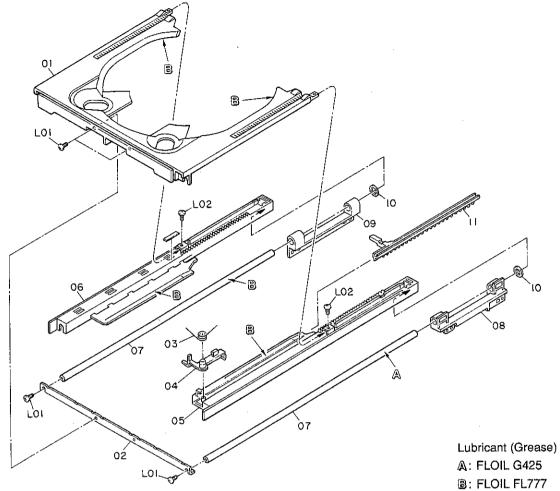
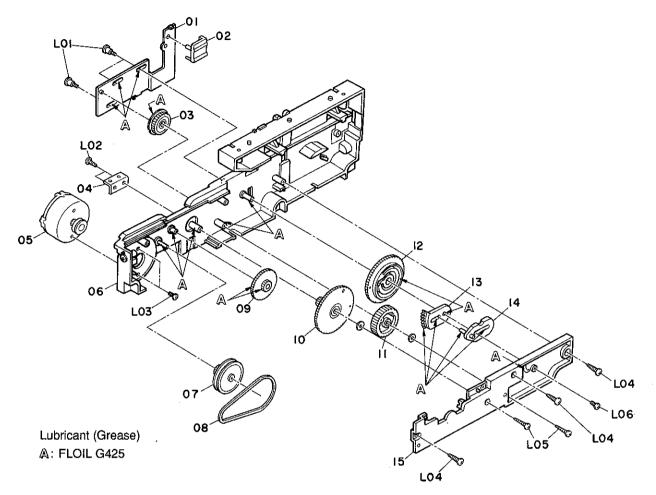


Fig. 7.3

# 7.3. Tray Ass'y (B01)

Schematic Ref. No.	Part No.	Description	<u>Q'ty</u>
B01	CB00246A	Tray Ass'y	1
01	2C00067A	Тгау Тор	1
02	2C00066A	Tray Plate	1
03	2C00068A	Shuttle Lock Spring	1
04	2C00061A	Shuttle Lock	1
05	2C00064A	Tray R	1
06	2C00065A	Tray L	1
07	2C00069A	Tray Guide shaft	2
08	2C00063A	Tray Guide R	1
09	2C00062A	Tray Guide L	1
10	2C00070A	Stopper Rubber	2
11	2C00060A	Shuttle	1
L01	0E00945A	M2.6x4 + Binding (Black Chromate)	
L02	0E03022A	BT2x4 + Binding (Black Chromate)	

7.4. Side Chassis R Section (B02)

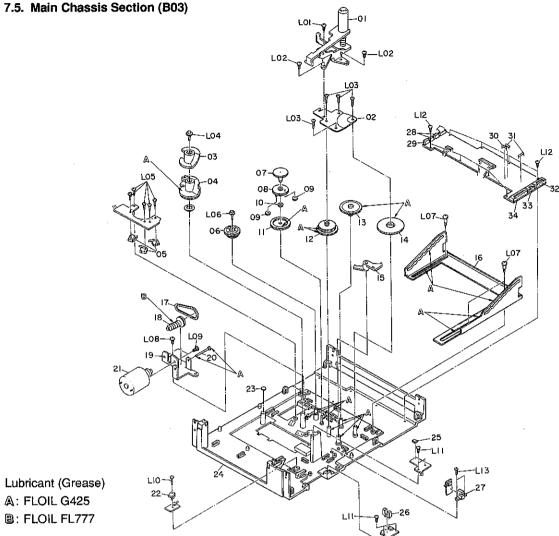




### 7.4. Side Chassis R Section (B02)

		,	
Schematic	<b>D.</b> (1).		•
Ref. No.	Part No.	Description	<u>Q'ty</u>
B02		Side Chassis R Section	1
01		Change Plate Ass'y	1
02	2C00072A	Carriage Opener	1
03	2C00039A	Change Gear	1
04	2C00093A	Switch-Bracket	1
05	CB00216A	Loading Motor Ass'y	1
06	CB00222A	Side Chassis R Sub Ass'y	1
07	2C00044A	S-P-Gear	1
08	2C00017A	Belt-C-S	1
09	2C00041A	Side Idler	1
10	2C00054A	S-F-Gear	1
11	2C00042A	S-I-Gear	1
12	2C00043A	S-M-Gear	1
13	2C00045A	Tray Stoper	1
14	CB00225A		1
15	2C00040A		1
L04	0E00825A		
L03	0E00945A	M2.6x4 + Binding (Black Chromate)	
L02	0E03610A		
L05	0E03756A		
L01	2E00002A		
LÖG	2E00013A	M2x4 Binding (Black Chromate)	
200	accourter(	max - Briding (Brack Officiality)	

7.5. Main Chassis Section (B03)



### 7.5. Main Chassis Section (B03)

Fig. 7.5

			•				
Schematic				Schematic			
Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
B03		Main Chassis Section	1	27	2B10020A	Photo Interrupter GP1S 51V	1
				28	0B81459A	B2B-PH-K-S	2
01	CB00224A	Disc Lock Arm Ass'y	1	29	0B81460A	B3B-PH-K-S	1
02	2C00081A	Gear Plate	1	30	0B09663A	RK 270 1/6W J	1
03	2C00117A	ME UD Cam Top	1	31	0B09665A		2
04	2C00118A	Mecha UD Cam	1	32	0B81470A		1
05	2B70008A	Cam Switch MSS-10R2-16	3	33	0B81468A		1
06	2C00082A	ID-ST-Gear	1	34	0B84475A		1
07	2C00074A	D1-ST-Gear	1 <sup>·</sup>	L01	0E03610A		
08	CB00226A	D2-ST-Gear Ass'y	1	L02	0E00945A		
09	2C00075A	D3-ST-Gear	2	L03	0E00969A		
10	2C00076A	D4-ST-Gear	1	L04	2E00010A		
11	2C00077A	D5-ST-Gear	1	L05	2E00008A		
12	2C00083A	Lock Idler	1	L06	2E00009A		
13	2C00079A	D7M-ST-Gear	1	L07	2E00001A		
14	2C00078A	D6P-ST-Gear	1	L08	0E00873A	BT2.6x5 + Binding	
15	2C00073A	Change Arm	1	L09	0E00501A		
16	2C00091A	Stocker Cam	1	L10	2E00007A		
17	2C00018A	Belt-T-C	1	L11	0E00961A		
18	2C00092A	ST-Worm-Gear	1	L12	2E00006A		
19	2C00088A	Motor Bracket	1	L13	0E00869A		
20	2C00100A	Worm Shaft	1		2B80006A		1
21	CB00213A		1		2B80007A		1
22	2B70012A	Home Position MSS-10R2-17	1	_	2B80008A		1
23	2C00099A	Mecha Cushion	2	_	2B80009A		]
24		Main Chassis Ass'y	1	_	2B80010A		1
25	2B10019A	Photo Refrector GP2S40	1	_	2B80011A	Wire CNW-W11P	1.
26	2B10021A	Photo Interrupter GP1S 52V	1		2B80012A	Wire CNW-3P	. 1

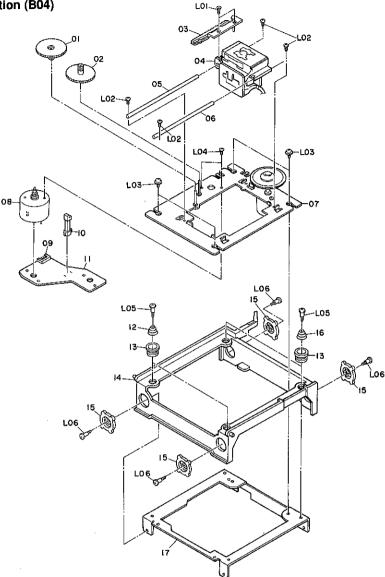


Fig. 7.6

### 7.6. Drive Unit Section (B04)

Sche	ematic
Ref.	No.

chematic lef. No.	Part No.	Description	Qʻty
B04		Drive Unit Section	1
01 02 03 04 05 06 07 08 09 10 11 12 13 14	2C00105A 2C00140A 2C00021A 2C00020A CB00217A CB00218A 0B81470A 2B70011A 2B70011A 2B60002A 2C00027A 2C00025A CB00227A	Gear Power Gear Middle Plate Rack Pick-Up SF91PQ Guide Bar B Guide Bar A Disc Motor Ass'y Feed Motor Ass'y 6P S-Post Leaf SW BSW-333A Motor P.C.B. 90V1-M Mecha SP B Mecha Limit Mecha Base Ass'y	1 1 1 1 1 1 1 1 1 2 4 1
15 16 17 L01	2C00024A 2C00026A 2C00087A 0E03648A	Mecha SP A Mecha Chassis	4 2 1

Schematic Ref. No.	Part No.	Description	Q'ty
L02 L03	2E00012A	ST2.6x6 + Binding ST2.6x6 Cup Screw	
L04 L05		M2x2.5 + Pan (Black Chromate) ST2.0x10x15	
L06		ST2.0x3.0x8.0	

# 8. MOUNTING DIAGRAMS AND PARTS LIST

- **NOTE:** 1. Component side is illustrated unless otherwise specified.
  - 2. Polarity of electrolytic capacitor.



8.1. Tilt Switch P.C.B. Ass'y Diagram is omitted.

### 8.2. Digital Out P.C.B. Ass'y (MB-9 only)

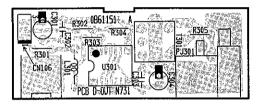
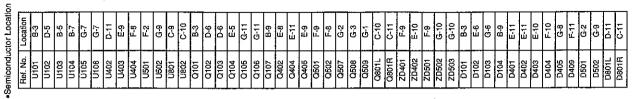
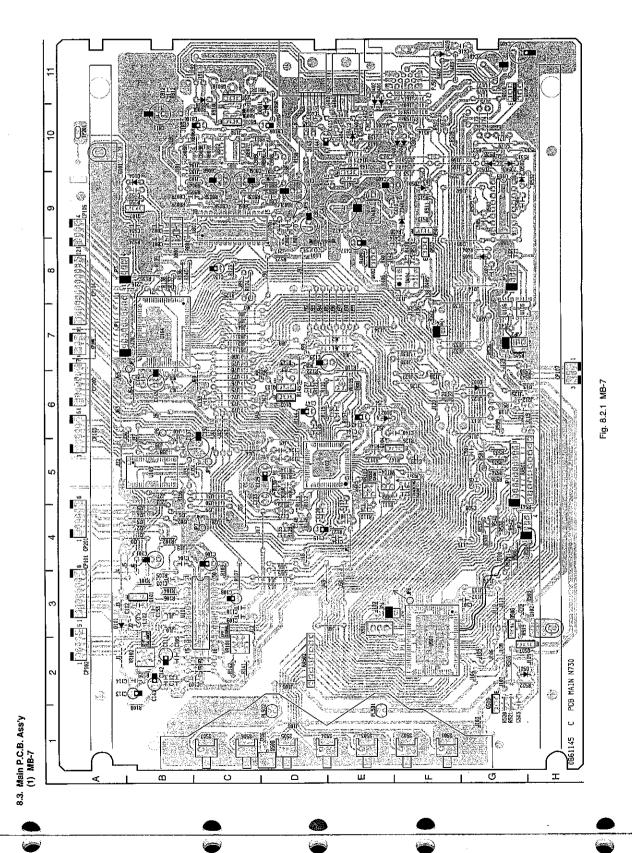
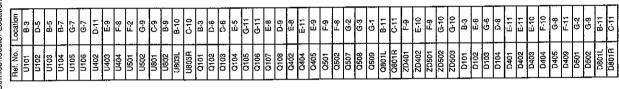
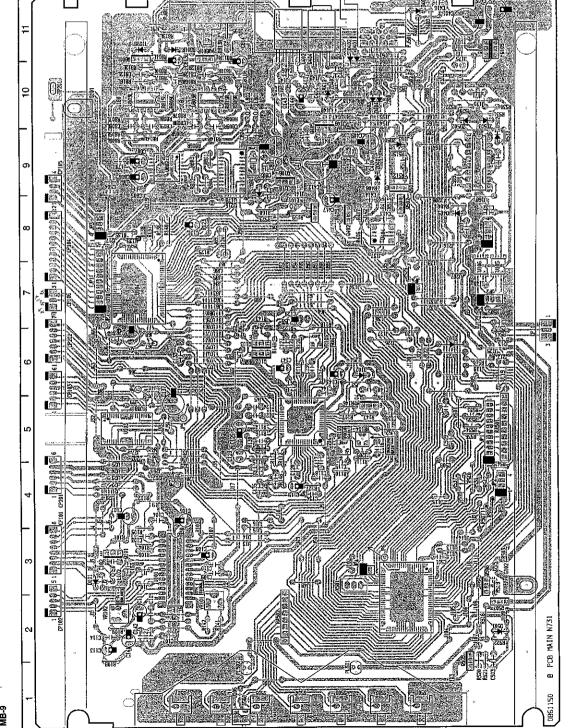


Fig. 8.1 (MB-9 only)









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Semiconductor Location

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Fig. 8.2.2 MB-9

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MB-7 Electrical Parts list (1/2)

### NOTES: 1. Abbreviations

TR - Transistor, SID - Silicon Diode, ZD - Zener Diode, Varicap - Variable Capacitance Diode

RK - Carbon Resistor, RM - Metal Film Resistor, RF - Fail Safe Type Resistor,

RC - Cement Resistor, CE - Electrolytic Capacitor, CML - Mylar Capacitor,

CC - Ceramic Capacitor, CPP - PP Capacitor, CMM - Metalized Mylar Capacitor,

CSP – Polystyrene Capacitor, C – Mica Capacitor, CT – Tantalum Capacitor

- 2. Description of capacitor:  $10 \ 16V = 10\mu \ 16V$
- 3. Parts marked with \* show chip parts.

#### 8.1. Tilt Switch P.C.B. Ass'y (MB-7)

BA09210A         Thi Switch P.C.B. Assy         Dest.I.P.         Dest.930A         File         Pat1         Dest.955A         Pat1         Dest.955A           13         B10605A         TR         P140         Dest.930A         Inductor 10uH         R412         Dest.955A           10         B10605A         TR         P140         Dest.930A         Inductor 10uH         R501         Dest.930A           10         B10605A         TR         P140         Dest.930A         Inductor 10uH         R501         Dest.930A           11         0B0371A         RK         100         N110         N110<	cription	Dee		Part No.	Schematic Ref. No.	tion	Descript		Part No.	Schematic Ref. No.	Description	I	Part No.	Schematic Ref. No.
L101,102 085130A Inductor 10ui H R413 0809876A RK 91 3810604A TR PT460 X501 089203A Resonator 4,0MHz R501 0809775A RK 101 101 3810604A TR PT460 X501 089203A Resonator 4,0MHz R502 080975A RK 33 11 0809701A RK 101 (HW J VR101 0832193A Semi VR 10K (B) R505,506 0809725A RK 100 040657B Switch Body N730 (1) VR105 0832194A Semi VR 20K (B) R505,506 0809725A RK 100 0405778J Switch Body N730 (1) VR105 0832194A Semi VR 12K (B) R505,506 0809725A RK 100 0405778J Switch Body N730 (1) R4501 082066A R HAray 100K (B) R505,506 0809725A RK 100 0405778J Switch Body N730 (1) R4501 082066A R HAray 100K (B) R505,506 0809725A RK 100 0405778J PT2-0000 Binding (2) R501 082066A R HAray 100K (B) R502,504 R 122,508 RK 122 11. 000773A R 100 0809725A RK 100 0405778J PT2-0000 Binding (2) R501 082066A R HAray 100K (B) R502,508 RK 122 11. 000773A R 100 0809725A RK 100 0405775A RT 12. 0809668A RK 22 11. 0009703A R 12. 0809703A RK 122 11. 0009703A R 12. 0809703A RK 122 11. 0009703A RK 124 11. 0009773A				******				- SID			Switch P.C.B. Ass'v	Tilt	BA09210A	
0B61154A         Till Switch P.C.B.         L801         0B51300A         Inductor 10uH         Pai3         0B09701A         RK         10           01         3B10605A         LED         GL40         X801         0B2203A         Paint IC         RK         10           10         0B09701A         RK         301         VR103         10         B09725A         RK         100           12         0B0965A         RK         301         VR103         100         B03215A         Semi VR 12K (B)         R503         0B09725A         RK         100           12         B14147A         3F 5-0sl         VR103         100         B03216A         Semi VR 12K (B)         R503         D809725A         RK         10           04005837B         Switch Rody N730 (1)         VR105         GB3077A         RK         1K         10         VRW J         R511         OB09725A         RK         10         1080777A         RK         1K         10         VRW J         R513         OB09725A         RK         12         1080775A         RK         12         1080775A         RK         10         1080775A         RK         12         1080775A         RK         12         1080775A						-								
21         3B10604A         TF         PT460         X501         083203A         Resonator 40MHz         PR601         0809713A         RK         100           20         080965A         RK         300         10832194A         Semi VF120K (B)         F502         0809725A         RK         300           20         080965A         RK         300         V1101         0832194A         Semi VF120K (B)         F502         0809725A         RK         100           0406657         RK         301 / KM         Semi VF120K (B)         F502         0809725A         RK         100           0407337A         Ball 3.0 (1)         RA551         0820666A         R-Array 100K/T         F511         0809725A         RK         100           0409725A         RK         101         0809697A         R-Array 10K/K         RK         110         0809725A         RK         110         0809725A         RK         110         0809725A         RK         110         0809725A         RK         100         0809725A         RK         100         0809725A         RK         100         10809725A         RK         100         1080774A         RK         100         1080774A         RK         100											Switch P C B	Tilt S	0B61154A	
D1         3B10605A         LED         GL460         X801         058205A         XTai 16 3344MHz         HE302         0500725A         KK         1000725A         KK														Q1
11         0B09701A         RK         10K (B)         PB055.56         0B09725A         RK         10K           2         0B0965A         RK         30176V         VR102         0B32194A         Semi VR 20K (B)         PB05.56         DB09725A         RK         10           0H06695A         RK         30174A         Semi VR 20K (B)         PB077         DB09725A         RK         10           0J07337A         Ball 3.0 (1)         RA501         0B2066A         RArmay 47K/s9         PB110         DB09725A         RK         10           0J07337A         Ball 3.0 (1)         RA502         DB09677A         RK         10         DB09725A         RK         10           0J07337A         BB09725A         RK         10         DB09677A         RK         10         DB09725A         RK         10           10         DB09677A         RK         1K         1/KW         J         R513         DB09725A         RK         10           110         DB09675A         RK         10         1/KW         J         R514         DB09725A         RK         10           110         DB170672A         MB17         R10         DB09695A         RK         2/K <td></td>														
12         0B09665A         RK 100         0B3255A         RK 100           0P1         3B81467A         3P S-Post         VP103         0B3174A         Semi VR 22K (B)         PS05         0B09725A         RK 100           0U0068378         Switch Body N730 (1)         VP105         0B30174A         Semi VR 22K (B)         PS05         0B09725A         RK 100           0U00737A         Ball 30 (1)         RA500         0B20667A         R-Array 47x-VS         PS11         0B09725A         RK 100         0B09725A         RK 100         0B09725A         RK 122														Rí
PH         3881467A         3P S-Post         VP103 104         0B32186A         Semi VR RV (B)         B327         00         0007257A         RK 100           0406371B         Switch Body M730 (I)         VR105         0830174A         R-Array 470x0         R506_503         0B30972A         RK 107           0407337A         Ball 3.0 (1)         RA501         0820656A         R-Array 100kX7         R511         0B3072A         RK 107           10         0500657A         R-Array 100kX7         R511         050372A         RK 102         176W J         R513         050372A         RK 102         176W J         R515         050372A         RK 102         176W J         R514         176W J         R514         176W J         R514         176W J         R514         176W												•		
0H068378 Switch Body N730 (1) VP1105 05205724 Semi VF1+(6) F1 F1 (6) F1 F1 (50) 1500 500 0500540 F1 (4 f0) 0E037637 A gall 30 (1) 0E03763 A gall 30 (1) 0E0376 A gall 30 (1) 0E0376 A gall 30 (1) 0E03	0K 1/6W								0B32194A					
0J07337A         Ball 3.0 (1)         FASO1         0E020657A         R-Array 470:07         FB10         0B00725A         RK         Tot           0E03769A         PT2.6x8 Binding (2)         RASO2         0B20658A         R-Array 470:07         R513         0B00725A         RK         1K           10         0B00677A         RK         1K         1/6WJ         R513         0B0077A         RK         1/6WJ         R513         0B0077A         RK         1/6WJ         R513         0B0077A         RK         1/6WJ         R513         0B00677A         RK         1/6WJ         R513         0B00677A         RK         1/6WJ         R513         0B00787A         RK         1/6WJ         R513         0B00787A         RK         1/6WJ         R513         0B00787A         RK         1/6WJ         R513         0B00787A         RK         1/6WJ         R513         0B0074A         RK </td <td>0K 1/6W</td> <td></td> <td>OFT</td>	0K 1/6W													OFT
0E03769A         PT2.6x8 Binding (2)         RA502         0E20668A         R.4702 (100K-7)         R511         0E00702A         RK         12           13. Main P.C.B. Ass'y (MB-7)         R101         0B00677A         RK         1/6WJ         R513         0B0077A         RK         1/2WJ         R513         0B0077A         RK         1/2WJ         R514         0B0077A         RK         1/2WJ         R515         0B0077A         RK         1/2WJ         R515         0B0077A         RK         1/2WJ         R515         0B0072A         RK         1/2WJ         R522         0B0072A         RK         1/2WJ         R522         0B0072A         RK         1/2WJ         R523         0B00863A         RK         1/2WJ         R523	'0 1/6W	4	RK	0B09669A		· ·								
Filo1         0050629.A         Filo1         0         1/6W J         RE12         0050635.A         RK         22           13. Mein P.C.B. Ass'y (MB-7)         R103         0050971.A         RK         1/6W J         RE15         0050972.A         RK         1/K           10. For USA, CAN, EP, JPN         R104         00509690.A         RK         2.2K         1/6W J         RE13         0050972.A         RK         1/K	0K 1/6W	i 10	RK	0B09725A										
Bit         PC.B. Ass'y (MB-7)         R102         OB06977A         RK         IX         I/6WJ         R513         OB89725A         RK         IX           1)         FOUSA, CAN, EP, JPN         R104         0509670A         RK         IX         I/6WJ         R515         0509725A         RK         IX           chematic         Part No.         Description         R106         0509676A         RK         IX         I/6WJ         R519         052443A         RF         22           B409182A         Main P, C.B. Ass'y         R106         0509677A         RK         IX         I/6WJ         R523         0509673A         RK         IX           0861145C         Main P, C.B. Ass'y         R108         050977A         RK         IX         I/6WJ         R523         0609673A         RK         IX         I/6WJ         R523         0609673A         RK         I/6WJ         R523         0609663A         RK         4.77           1/101         0611636A         IC         CXA1082EQ         R112         060973A         RK         1/6WJ         R523         0609693A         RK         4.77           1/102         0811636A         IC         CXA1082EQ         R114 <td< td=""><td>K 1/6W</td><td>12</td><td>RK</td><td>0B09703A</td><td>R511</td><td>Kx7</td><td>rray 100</td><td></td><td></td><td></td><td>.6x8 Binding (2)</td><td>P12</td><td>0E03769A</td><td></td></td<>	K 1/6W	12	RK	0B09703A	R511	Kx7	rray 100				.6x8 Binding (2)	P12	0E03769A	
Ja. Main P.C.B. Assy (MB-7)         F103         DE00571A         RK         10K         10K <th< td=""><td>2K 1/6W</td><td>2.</td><td>RK</td><td>0B09685A</td><td>R512</td><td>1/6W J</td><td>10</td><td>RK</td><td>0B09629A</td><td></td><td></td><td></td><td></td><td></td></th<>	2K 1/6W	2.	RK	0B09685A	R512	1/6W J	10	RK	0B09629A					
Bits         Main P.C.B. Assy (MB-7)         F103         B080701A         RK         10K         10K         1/KW J         R514         0080672A         RK         10K           0.         Fart No.         Description         R105         080969A         RK         8.K         1/KW J         R515         0809725A         RK         10K           0.0         Description         R107         0809725A         RK         100K         1/KW J         R520         0809672A         RK         100           0.0         Description         R107         080972A         RK         100K         1/KW J         R523         0809672A         RK         100           0.0         Description         R110,111         080977A         RK         1/K		10	RK	0B09725A	R513	1/6W J	1K	RK	0B09677A	R102				
Dif Di USA, CAN, EP, JPN         R104         0B00690A         RK         8.2K         1/6W J         R515         0B00725A         RK         10.0           chematic (ef. No.         Part No.         Description         R106         0B008695A         RK         8.2K         1/6W J         R518         0B24443A         RF         27           BA09182A         Main P.C.B. Assy (USA, CAN, EP, JPN)         R108         0B0977A         RK         1K         1/6W J         R522         0B09673A         RK         20.0           UB61145C         Main P.C.B.         R1112         0B0973A         RK         10K         1/6W J         R525         260 009693A         RK         4.7           1101         0B11946A         IC         CXA1082BQ         R1114         0B0973A         RK         1/6K         1/6W J         R527         0B09693A         RK         4.7           1102         0B10465A         IC         CX1082BQ         R1114         0B0973A         RK         1/6K         1/6W J         R527         0B0974A         RK         4/6X         1/6W J         R521         0B0974A         RK         4/6X         1/6W J         R521         0B0974A         RK         4/6X         1/6W J         R53					R514	1/6W J	10K	RK	0B09701A	R103	7)	(MB-7	P.C.B. Ass'y	8.3. Main F
Part No.         Part No.         Description         R105         OB09695A         RK         2.2K         /16W J         R519         OB9695A         RK         5.7           BA09182A         Main P.C.B. Ass'y         R107         OB09725A         RK         10K         1/K         1/K         WJ         R519         OB96972A         RK         1/K         1/K         WJ         R523         CB09725A         RK         1/K         1/K         WJ         R523         CB09725A         RK         1/K         1/K         WJ         R524         CB09725A         RK         1/K         1/K <t< td=""><td></td><td></td><td></td><td></td><td></td><td>1/6W J</td><td>8.2K</td><td>RK</td><td>0B09699A</td><td>R104</td><td></td><td>JPN</td><td>ia, can, ep,</td><td>(1) For US</td></t<>						1/6W J	8.2K	RK	0B09699A	R104		JPN	ia, can, ep,	(1) For US
Chematic         Part No.         Description         R106         OB06969A         RK         6.2K         I/6W J         RE20,521         DB09725A         RK         100           BA09182A         Main P.C.B. Ass'y (USA, CAN, EP, JPN)         R109         0B09775A         RK         100K         1/6W J         R522         0B09725A         RK         2/6K WJ         R522         0B09725A         RK         2/7K WJ         R522         0B09734A         RK         1/0K         1/6W J         R523         0B09734A         RK         1/0K         1/6W J         R523         0B09734A         RK         1/0K         1/6W J         R535,53         0B09734A         RK         1/0K										R105				<b>_</b>
Idel. No.         Description         R107         0E00725A         RK         100K         100K <td></td> <td>Schematic</td>														Schematic
BA09182A         Main P.C.B. Ass'y (USA, CAN, EP, JPN)         R108         0E09677A         RK         1/2         1/6WJ         RE23         0E0978A         RK         00           0B61145C         Main P.C.B.         R110,111         0B09701A         RK         1/6WJ         R523         0E0989A         RK         451           1/101         0B11818A         C         CXA1081S         R112         0E0973A         RK         1/6WJ         R522         0E0993A         RK         47.7           1/102         0B10550A         IC         CXA1082BQ         R114         0B0971A         RK         510K         1/6WJ         R522         0E09939A         RK         4.7           1/103         0B10558A         IC         DA6256FP         R116         0B0971A         RK         510K         1/6WJ         R523         0B09939A         RK         4.7           1/103         0B10465A         IC         PO05RG1         R118         0B25291A         RK         100K         1/4WF         R533,530         0B09701A         RK         100           1/042         0B10465A         IC         TA780505BP         R120         0E09273A         RK         240K         1/6WJ         R533,530	-										Description	_C	Part No.	Ref. No.
(USA, CAN, EP, JPN)         R109         0800709A         RK         22K         1/6W J         R523         080649A         RK         477           0B61145C         Main P C.B.         R112         080973A         RK         10K         1/6W J         R524         080649A         RK         51           0101         0B11818A         IC         CXA1081S         R113         080973A         RK         210K         1/6W J         R527         0809649A         RK         47.7           1102         0B10580A         IC         CXA1081C         R114         080973A         RK         510K         1/6W J         R527         0809693A         RK         4.7.7           1103         0B10465A         IC         CX10167Q         R116         0B0973A         RK         310K         1/6W J         R532         0809693A         RK         4.7.7           1104         0B10465A         IC         L730505BP         R119         0825686A         RM         316K         1/6W J         R532         0809701A         RK         100K           10404         0B10465A         IC         TA70D505BP         R120         0809701A         RK         100K         16831         0809701A											n P.C.B. Ass'v	Mair	BA09182A	
Bit 145C         Main P.C.B.         R110,111         0B09071A         RK         10K         1/6WJ         R524         0B09725A         RK         570           1/101         0B1181BA         IC         CXA1081S         R113         0B09735A         RK         270K         1/6WJ         R525,526         0B09725A         RK         100           1/102         0B1055BA         IC         CXA1081BQ         R114         0B09735A         RK         570K         1/6WJ         R528         0B09749A         RK         1/7K           1/103         0B1055BA         IC         CXA1081BQ         R116         0B09713A         RK         510K         1/6WJ         R523         530         0B09974A         RK         1/7K           1/104         0B10657A         IC         PC05RG1         R118         0B25291A         RM         10K         1/4W F         R533,534         0B09701A         RK         10K           1/103         0B10462A         IC         M1955BP         R120         0B09734A         RK         240K         1/6WJ         R533,536         0B09701A         RK         10K           1/103         0B10462A         IC         M1975BF7F         R120         0B09734A <td></td> <td>A. CAN. EP. (PN)</td> <td>(US</td> <td></td> <td></td>											A. CAN. EP. (PN)	(US		
0861145C         Main P.C.B.         F112         0809735A         RK         16K         16W         R527         0809725A         RK         100           0810580A         IC         CXA1082BQ         R113         0809735A         RK         270K         1/6WJ         R527         0809693A         RK         100           1103         0810558A         IC         BA6296FP         R115         0809719A         RK         51K         1/6WJ         R528         0809673A         RK         1/K           1104         0810455A         IC         CXA1082BQ         R117         0809713A         RK         33K         1/WJ         R532         08096974A         RK         1/K         1/K <td></td> <td>,,,,</td> <td>(+</td> <td></td> <td></td>											,,,,	(+		
J101         0B11618A         IC         CXA1081S         R113         0B09735A         RK         270K         1/6W         J         R523         0B09633A         RK         4.77           J102         0B10586A         IC         CXA1082BQ         R114         0B09735A         RK         270K         1/6WJ         R523         0B09633A         RK         4.77           J104         0B11946A         IC         CXD1167Q         R116         0B09733A         RK         58K         1/6WJ         R532         0B09693A         RK         4.77           J104         0B10455A         IC         LB1633BM         R117         0B09734A         RK         33K         1/6WJ         R532,534         0B09701A         RK         10K           J403         0B10462A         IC         TA780S05BP         R1120         0B09701A         RK         10K         1/4WF         R532,536         0B09701A         RK         10K           J501         0B10612A         IC         IV787BF         R122         0B25291A         RK         10K         1/4WF         R543         0B09693A         RK 4         10K           J502         0B06215A         IC         TA780S05BP         R122 <td></td> <td>PCR</td> <td>Mair</td> <td>0B61145C</td> <td></td>											PCR	Mair	0B61145C	
J102         0B10580A         C         CXA1082BO         R114         0B09742A         RK         510K         1/0W J         R522         0B09749A         RK         1M           J103         0B10580A         IC         BA6296FP         R115         0B09742A         RK         510K         1/0W J         R522,530         0B09693A         RK         1M           J104         0B10465A         IC         L21638M         R117         0B09713A         RK         331K         1/0W J         R532         0B09693A         RK         1/1K         1/1W J         R535,534         0B09701A         RK         1/1K         1/1W J         R535,534         0B09701A         RK         1/1K         1/1W J         R535,534         0B09701A         RK         1/1W J         R535,536         0B09701A         RK         1/1W J         R535,540         0B09701A         RK														U101
1103         0B10558A         C         DA6296FP         R115         0B09719A         RK         56K         1/6W J         R529,530         0B099693A         RK         4.77           1104         0B11946A         IC         CXD1167O         R116         0B09725A         RK         10K         1/6W J         R532         0B09693A         RK         4.77           1105,106         DB10457A         IC         PC005RG1         R117         0B09713A         RK         33K         1/6W J         R532,534         0B09693A         RK         4.77           1402         0B10462A         IC         TA75D505BP         R1120         0B09701A         RK         10K         1/6W J         R537,538         0B09701A         RK         10K           1501         0B10612A         IC         TA0498P         R         122         0B09721A         RK         10K         1/6W J         R537,538         0B09701A         RK         10K           1501         0B10612A         IC         TA0498P         R         122         0B02521A         RK         10K         1/6W J         R537,538         0B09749A         RK         10K           1601         0B10580A         IC         T														
JI04         OBI1946A         C         CXD1167C         R116         OB09725A         RK         10K         JI05         JI06         JI06         JI04         JI05         JI06         JI04         JI05         JI06         JI04         JI05         JI06														
Into5.106         OB10465A         IC         LBI638M         R117         OB09713A         RK         33K         1/6W J         R532         OB09743A         RK         47.7           I402         0B10567A         IC         PQ05RG1         R118         0B25291A         RM         10K         1/4W F         R533_534         0B09701A         RK         10K           I403         0B10462A         IC         TA78DS05BP         R110         0B09734A         RK         240K         1/6W J         R533_538         0B09701A         RK         10K           I404         0B10612A         IC         TA705517GF         R121         0B09701A         RK         10K         1/6W J         R539_540         0B09701A         RK         10K           I501         0B10583A         IC         TC4049BP         R122         0B25251A         RM         10K         1/6W J         R541_542         0B09701A         RK         4.77           I802         0B10583A         IC         NM30100D         R124         0B09723A         RK         10K         1/6W J         R802L,R         0B25661A         RM 224         2.72         0B0324A         RR         1/6W J         R802L,R         0B25679A <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td></t<>												-		
Id02         0B10567A         IC         PQ05RG1         R118         0B25014         RM         10K         1/4W F         R533,534         0B09901A         RK         10K           Id03         0B10466A         IC         MA78DS05BP         R119         0B2566A         RM         3.6K         1/4W F         R533,534         0B09701A         RK         10K           Id04         0B10466A         IC         MA78DS05BP         R120         0B09734A         RK         20K         1/6W J         R537,558         0B09701A         RK         10K           Id01         0B106215A         IC         TC4049BP         R122         0B25231A         RK         10K         1/6W J         R543         0B09701A         RK         10K           Id01         0B10588A         IC         NJM2100D         R124         0B09737A         RK         30K         1/6W J         R8011         0B09749A         RK         10K           Id01         0B10585A         IR         DTC114EL         R128         0B09720A         RK         10K         16W J         R8011         0B25661A         RM 22K           Id02         0B10322A         TR         DTC144EL         R128         0B09702A														
M403         OB10462A         IC         TA78DS05BP         R115         OB25666A         RM         3.6K         1/4W1         R535,536         OB09701A         RK         10K           M404         0B10466A         IC         M51957BF         R120         0B09734A         RK         20K         1/6WJ         R537,536         0B09701A         RK         10K           M501         0B10612A         IC         W57517GF         R121         0B09701A         RK         10K         1/6WJ         R543,536         0B09701A         RK         10K           M501         0B10589A         IC         SM5671AN         R122         0B25291A         RK         10K         1/KWJ         R543         0B09701A         RK         10K           M202         0B10588A         IC         SM571AN         R123         0B09720A         RK         10K         1/KWJ         R8031_R         0B25661A         RM 22K           M102         0B10324A         TR         DTC144EL         R127         0B09720A         RK         12K         1/KWJ         R8031_R         0B25679A         RM 22K           M104         0B10324A         TR         DTC144EL         R130         0B09653A         RK					R532									
Hudd         OB10466A         IC         M51957BF         R120         OB20373A         RK         JOK         I/W J         R537,538         OB30711A         RK         10K         10K         J/W J         R537,538         OB30711A         RK         10K         10K         J/W J         R537,538         OB30711A         RK         10K         1/W J         R537,538         OB30711A         RK         10K           J501         0B10581A         IC         TC40498P         R122         0B25291A         RM         10K         1/4W F         R541,542         0B30701A         RK         10K           J801         0B10585A         IC         TC40498P         R123         0B09721A         RK         680K         1/6W J         R633,         R030863A         RK         4.77           J802         0B10585A         TR         DTC114EL         R127         0B0973A         RK         10K         1/6W J         R633,         R032,         R032,         R032,         R033,         R032,         R033,         R022,         R033,         R033,         R032,         R033,         R032,         R033,         R033,         R033,         R033,         R033,         R033,         R033,         R033,														
J501         0B10612A         IC         uPD75517GF         F121         0B09701A         RK         Low         Instruction         0B09701A         RK         100K         J         R539,540         0B09701A         RK         100K           J502         0B06215A         IC         TC4049BP         F122         0B25291A         RK         100K         J/4W F         R543         0B09701A         RK         100K         J/4W F         R541         0B09701A         RK         100K         J/4W F         R543         0B09701A         RK         10K         J/4W F         R543         0B09701A         RK         10K         J/4W F         R543         0B09701A         RK         10K         J/4W F         R543         0B0971A         RK         10K         J/4W F         R543         0B0971A         RK         10K         J/4W F         R543         DB0971A         RK         10K         J/4W F         R543         R543         R543         R543         R543         R543         R543         R543 <td>K 1/6W</td> <td></td> <td></td> <td>0B09701A</td> <td>,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	K 1/6W			0B09701A	,									
J502         0B06215A         IC         TC4049BP         R122         0B25291A         RM         10K         174W F         R541,542         0B09701A         RK         10K           J801         0B10589A         IC         SM5871AN         R123         0B25291A         RK         10K         174W F         R541,542         0B09701A         RK         10K           J802         0B10586A         IC         JJM2100D         R124         0B09721A         RK         10K         174W F         R541,542         0B09739A         RK         176W J         R803L,R         0B25661A         RM 222           1010         0B10324A         TR         DTC144EL         R129         0B09720A         RK         12K         176W J         R805L,R         0B25679A         RM 222           1010         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         176W J         R805L,R         0B25679A         RM 222         1010         0B10324A         TR	K 1/6W	10	RK	0B09701A										
IB01         0B10589A         IC         SM5871AN         R123         0B09721A         RK         63K         1/6W J         R543         0B0963A         RK         4.7           J802         0B10588A         IC         NJM2100D         R124         0B09721A         RK         1/6W J         R801         0B0963A         RK         1/2           J101         0B10585A         TR         ZA1560         R125,126         0B09725A         RK         100K         1/6W J         R802L,R         0B25661A         RM 2.22           J102         0B10322A         TR         DTC114EL         R127         0B09720A         RK         150K         1/6W J         R805L,R         0B25679A         RM 22K           J103         0B10324A         TR         DTC144EL         R129         0B09704A         RK         13K         1/6W J         R805L,R         0B25679A         RM 22K           J105         0B10324A         TR         DTC144EL         R139         0B09653A         RK         100         1/6W J         R806L,R         0B25679A         RM 22K           J107         0B10324A         TR         DTC144EL         R138,137         0B09653A         RK         1/6W J         R806L,R	K 1/6W	10	RK	0B09701A	R539,540									
J802         0B10588A         IC         NJM2100D         R124         0B09701A         RK         10K         1/16W J         R801         0B097949A         RK         10M           2101         0B10585A         TR         2SA1560         R125,126         0B09725A         RK         10OK         1/6W J         R803L,R         0B25661A         RM         2.21           2102         0B10324A         TR         DTC114EL         R127         0B09725A         RK         150K         1/6W J         R803L,R         0B25661A         RM         2.21           2103         0B10324A         TR         DTC144EL         R129         0B09720A         RK         150K         1/6W J         R805L,R         0B25679A         RM         22K           2106         0B10584A         TR         DTC144EL         R136         139         0B09653A         RK         100         1/6W J         R805L,R         0B25679A         RM         22K           2106         0B10584A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R808L,R         0B09725A         RK         160         1/6W J         R8081,R         0B09725A         RK         160 <td>K 1/6W</td> <td>10</td> <td>RK</td> <td>0B09701A</td> <td>R541,542</td> <td>1/4W F</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	K 1/6W	10	RK	0B09701A	R541,542	1/4W F								
OH1         OB10585A         TR         2SA1560         R125,126         OB09725A         RK         100K         1/6W J         R803L,R         OB25661A         RM         2.21           0101         0B10322A         TR         DTC114EL         R127         0B09737A         RK         330K         1/6W J         R803L,R         0B25661A         RM         2.21           0103         0B10324A         TR         DTC1144EL         R128         0B09720A         RK         150K         1/6W J         R804L,R         0B25679A         RM         22K           0105         0B10324A         TR         DTC144EL         R130         0B09704A         RK         13K         1/6W J         R805L,R         0B25679A         RM         22K           0105         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R806L,R         0B25679A         RM         22K           0107         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R808L,R         0B0972A         RK         100           0404         0B10398A         TR         2SC4038         R141,14	′K 1/6W	4.	RK	0B09693A	R543	1/6W J	68K	RK	0B09721A					
D102         0B10322A         TR         DTC114EL         R127         0B09737A         RK         300K         1/6W J         R804L,R         0B25661A         RM         22K           D103         0B10324A         TR         DTC144EL         R128         0B09729A         RK         150K         1/6W J         R804L,R         0B256619A         RM         22K           D104         0B10330A         TR         DTC144EL         R130         0B09704A         RK         13K         1/6W J         R805L,R         0B25679A         RM         22K           D105         0B10584A         TR         DTC144EL         R135         0B09677A         RK         1X         1/6W J         R805L,R         0B25679A         RM         22K           D106         0B10324A         TR         DTC144EL         R135,03         0B09653A         RK         100         1/6W J         R808L,R         0B25679A         RM         22K           D402         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R808L,R         0B09725A         RK         100         1/6W J         R810L,R         0B25673A         RK         100         1/6W J <td>l 1/6W</td> <td>11</td> <td>RK</td> <td>0B09749A</td> <td>R801</td> <td>1/6W J</td> <td>10K</td> <td>RK</td> <td>0B09701A</td> <td></td> <td></td> <td></td> <td></td> <td></td>	l 1/6W	11	RK	0B09749A	R801	1/6W J	10K	RK	0B09701A					
D102         OB10322A         TH         DTC114EL         F127         OB09737A         RK         330K         1/6W J         R803L,R         OB25661A         RM         2.21           D103         0B10324A         TH         DTC144EL         F128         0B09720A         RK         150K         1/6W J         R803L,R         0B25679A         RM         22K           D104         0B10330A         TR         DTC144EL         R130         0B09720A         RK         62K         1/6W J         R805L,R         0B25679A         RM         22K           D105         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R806L,R         0B25679A         RM         22K           D107         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R809L,R         0B0972A         RK         100         1/6W J         R809L,R         0B0972A         RK         100         1/6W J         R801L,R         0B0972A         RK         100         1/6W J         R810L,R         0B0972A         RK         100         1/6W J         R803L,R         0B0972A         RK         100	2K 1/4W	2.:	RM	0B25661A	R802L,R	1/6W J	100K	RK	0B09725A	R125,126				Q101
2103         0B10324A         TR         DTC144EL         R128         0B09729A         RK         150K         1/6W J         R804L,R         0B25679A         RM         22K           2104         0B10330A         TR         DTC144TL         R129         0B09720A         RK         62K         1/6W J         R805L,R         0B25679A         RM         22K           2105         0B10324A         TR         DTC144EL         R130         0B09704A         RK         11K         1/6W J         R806L,R         0B25679A         RM         22K           2106         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R808L,R         0B09725A         RK         100           2402         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R808L,R         0B09725A         RK         100           2402         0B10398A         TR         2SC4038         R141,142         0B09705A         RK         15K         1/6W J         R811,812         0B09701A         RK         10K           2501         0B10398A         TR         2SA1560         R145	2K 1/4W	2.1	RM		R803L.R	1/6W J	330K	RK	0B09737A	R127				Q102
D104         0B10330A         TR         DTC144TL         R129         0B09720A         RK         62K         1/6W J         R805L,R         0B25679A         RM         22K           D105         0B10324A         TR         DTC144EL         R130         0B09704A         RK         13K         1/6W J         R805L,R         0B25679A         RM         22K           D106         0B10584A         TR         DTC144EL         R135         0B09677A         RK         1K         1/6W J         R807L,R         0B25679A         RM         22K           D402         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R809L,R         0B0972A         RK         100           A402         0B10324A         TR         DTC144EL         R138,139         0B0975A         RK         100         1/6W J         R810L,R         0B0972A         RK         100           A404         0B10578A         TR         2SC4038         R141         0B09713A         RK         10K         1/6W J         R811,812         0B09701A         RK         10K         1/6W J         C102         0B4194A         CC         100         10505A	K 1/4W	22	RM			1/6W J	150K	RK	0B09729A	R128	DTC144EL		0B10324A	Q103
D105         0B10324A         TR         DTC144EL         R130         0B09704A         RK         13K         1/6W J         R806L,R         0B25679A         RM         22K           D106         0B10584A         TR         DTA124EL         R135         0B09677A         RK         1K         1/6W J         R807L,R         0B25679A         RM         22K           D107         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R809L,R         0B09677A         RK         560           D402         0B10324A         TR         DTC144EL         R138,139         0B09749A         RK         100         1/6W J         R809L,R         0B0975A         RK         100           D405         0B10398A         TR         2SC4038         R141,142         0B09701A         RK         10K         1/6W J         R811,812         0B09701A         RK         10K           S502         0B10586A         TR         DTA124EL         R144         0B09713A         RK         33K         1/6W J         C101         0B42037A         CML 30         0B42237A         CML 30         0B42237A         CML 30         0B4233A         CML 30	K 1/4W	22	RM			1/6W J	62K	RK	0B09720A	R129		TR	0B10330A	Q104
D106         0B10584A         TR         DTA124EL         R135         0B09677A         RK         1K         1/6W J         R807L,R         0B25679A         RM         22K           D107         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R808L,R         0B09671A         RK         560           A402         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R809L,R         0B09725A         RK         100           A404         0B10578A         TR         2SE1342         R140         0B09705A         RK         11M         1/6W J         R810L,R         0B09701A         RK         10K         J/6W J         R811,B12         0B09701A         RK         10K         1/6W J         C101         0B48040A         CE         100           S01         0B10584A         TR         DTC114EL         R144         0B09713A         RK         33K         1/6W J         C101         0B42037A         CML         330           S02         0B10585A         TR         2SC4038         R145         0B0971A         RK         10K         1/6W J							13K	RK	0B09704A	R130	DTC144EL	TR	0B10324A	Q105
0107         0B10324A         TR         DTC144EL         R136,137         0B09653A         RK         100         1/6W J         R808L,R         0B09671A         RK         560           0402         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R808L,R         0B09671A         RK         560           0404         0B10578A         TR         2SB1342         R140         0B09749A         RK         1M         1/6W J         R810L,R         0B09653A         RK         100           0405         0B10398A         TR         2SC4038         R141,142         0B09701A         RK         15K         1/6W J         R811,812         0B09701A         RK         10K         1/6W J         C101         0B48040A         CE         100           0502         0B1038A         TR         2SA1560         R144         0B09701A         RK         10K         1/6W J         C102         0B41944A         CC         100           0508         0B10322A         TR         DTC114EL         R146,147         0B09701A         RK         130K         1/6W J         C104         0B42035A         CML         0.02									0B09677A	R135	DTA124EL	TR	0B10584A	Q106
2402         0B10324A         TR         DTC144EL         R138,139         0B09653A         RK         100         1/6W J         R809L,R         0B09725A         RK         100           2404         0B10578A         TR         2SB1342         R140         0B09749A         RK         1M         1/6W J         R809L,R         0B09653A         RK         100           2405         0B10398A         TR         2SC4038         R141,142         0B09701A         RK         15K         1/6W J         R811,812         0B09701A         RK         10K         J/6W J         C101         0B48040A         CE         100           2501         0B1038A         TR         2SC4038         R143         0B09701A         RK         10K         1/6W J         C101         0B48040A         CE         100           2502         0B1058A         TR         2SA1560         R145         0B09701A         RK         33K         1/6W J         C102         0B41944A         CC         100           2508         0B10322A         TR         DTC114EL         R146,147         0B09713A         RK         33K         1/6W J         C104         0B4205A         CML         0.02           2509											DTC144EL	TR	0B10324A	Q107
Advid         0B10578A         TR         2SB1342         R140         0B09749A         RK         1M         1/6W J         R810L,R         0B09765A         RK         100           Advid         0B10398A         TR         2SC4038         R141,142         0B09705A         RK         1/6W J         R810L,R         0B09701A         RK         100           Advid         0B10398A         TR         2SC4038         R143         0B09701A         RK         1/6W J         C101         0B48040A         CE         100           Advid         0B10584A         TR         DTA124EL         R144         0B09701A         RK         10K         1/6W J         C102         0B41944A         CC         100           Advid         DB10585A         TR         DTA124EL         R144         0B09713A         RK         33K         1/6W J         C102         0B41944A         CC         100           Advid         DB10585A         TR         DTC114EL         R146,147         0B09713A         RK         180K         1/6W J         C104         0B42237A         CML         0.02           Ab01L,R         0B10583A         TR         DTC323TL         R156         0B09701A         RK											DTC144EL	TR	0B10324A	Q402
0405         0B10398A         TR         2SC4038         R141,142         0B09705A         RK         15K         1/6W J         R811,812         0B09701A         RK         10K           0501         0B10398A         TR         2SC4038         R143         0B09701A         RK         10K         J         0B1050701A         RK         10K         J         0B09701A         RK         10K         J         0B0403         C102         0B41944A         CC         100         0B42037A         CML         0A0         220         10K         J         10K         J         0B09701A         RK         10K         J         C102												TR		Q404
2501         0B10398A         TR         2SC4038         R143         0B09701A         RK         10K		-			,									Q405
2502         0B10584A         TR         DTA124EL         R144         0B09713A         RK         33K         1/6W J         C102         0B4043A         CC         100           2507         0B10585A         TR         2SA1560         R145         0B09701A         RK         33K         1/6W J         C102         0B4194A         CC         100           2507         0B10585A         TR         2SA1560         R145         0B09701A         RK         1/6W J         C103         0B41237A         CML 330           2508         0B10322A         TR         DTC114EL         R146,147         0B09713A         RK         33K         1/6W J         C104         0B41708A         CC         22P           2509         0B10398A         TR         2SC4038         R148         0B09701A         RK         180K         1/6W J         C105         0B42095A         CML 0.02           2801L,R         0B10573A         TR         DTC323TL         R156         0B09701A         RK         16W J         C107         0B42095A         CML 0.02           D401         0B12154A         ZD         RD6.2V JS B3         R157         0B09701A         RK         16W J         C109         0B42239A														Q501
0507         0B10585A         TR         2SA1560         R145         0B09701A         RK         10W         0         0102         0B10324         R         2SA1560         R145         0B09701A         RK         10W         0         0103         0B42037A         CMI 330           0508         0B10322A         TR         DTC114EL         R146,147         0B09701A         RK         10K         1/6W J         C103         0B42237A         CMI 330           0509         0B10398A         TR         2SC4038         R148         0B09701A         RK         10K         1/6W J         C104         0B41708A         CC         22P           0509         0B10583A         TR         DTC323TL         R156         0B09701A         RK         10K         1/6W J         C105         0B42095A         CML         0.02           0B401         0B12154A         ZD         RD6.2V JS B3         R157         0B09697A         RK         6.8K         1/6W J         C107         0B42095A         CML         0.02           0D402         0B10579A         ZD         RD5.1V JS B2         R159         0B09701A         RK         10K         1/6W J         C108         0B4208A         CML 470														
0508         0B10322A         TR         DTC114EL         R146,147         0B09713A         RK         33K         1/6W J         C104         0B4207A         CC         2207           0509         0B10398A         TR         2SC4038         R148         0B09713A         RK         33K         1/6W J         C104         0B4108A         CC         22P           0509         0B10398A         TR         2SC4038         R148         0B09731A         RK         180K         1/6W J         C104         0B4108A         CC         22P           0801L,R         0B10583A         TR         DTC323TL         R156         0B09701A         RK         10K         1/6W J         C106         0B40160A         CE         33 t           D401         0B12154A         ZD         RD6.2V JS B3         R157         0B09697A         RK         6.8K         1/6W J         C107         0B42095A         CML 0.02           D501         0B12147A         ZD         RD5.1V JS B2         R159         0B09701A         RK         10K         1/6W J         C108         0B42239A         CML 470           D502,503         0B12154A         ZD         RD6.2V JS B3         R402         0B09719A	00P 50V K													
0509         0B10398A         TR         2SC4038         R148         0B09731A         RK         160K         010K														
0801L,R         0B10583A         TR         DTC323TL         R156         0B09701A         RK         10W         010W         010E	P 50V J													
D401         0B12154A         ZD         RD6.2V JS B3         R157         0B09697A         RK         6.8K         1/6W J         C107         0B42095A         CML         0.02           D402         0B10579A         ZD         RD3.6ESB1         R158         0B24235A         RF         1         1W         C108         0B40268A         CE         0.47           D501         0B12147A         ZD         RD5.1V JS B2         R159         0B09701A         RK         10K         1/6W J         C109         0B42239A         CML         470           D502,503         0B12154A         ZD         RD6.2V JS B3         R402         0B09719A         RK         56K         1/6W J         C110         0B42089A         CML         0.04           D101,102         0B06398A         SID         1SS176         R403         0B09737A         RK         1/6W J         C111         0B40160A         CE         33           D103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W J         C112         0B41553A         CC         0.01           V401,402         0B12693A         SID         S5688B         R405         0B09701A </td <td></td>														
D402         0B10579A         ZD         RD3.6ESB1         R158         0B24235A         RF         1         W         C108         0B40268A         CE         0.47           D501         0B12147A         ZD         RD5.1V JS B2         R159         0B09701A         RK         10K         1/6W J         C109         0B40268A         CE         0.47           D502,503         0B12154A         ZD         RD6.2V JS B3         R402         0B09719A         RK         56K         1/6W J         C110         0B42289A         CML         470           D101,102         0B06398A         SID         1SS176         R403         0B09677A         RK         1/K         1/6W J         C111         0B40160A         CE         33 1           D103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W J         C112         0B41553A         CC         0.01           V401,402         0B12693A         SID         S5688B         R405         0B09701A         RK         10K         1/6W J         C113         0B40271A         CE         3.3           V403         0B12693A         SID         S5688B         R406         <					C106	1/6W J								
D402         0B105/9A         ZD         HD3.6ESB1         R158         0B24235A         RF         1         1W         C108         0B40268A         CE         0.47           D501         0B12147A         ZD         RD5.1V         JS B2         R159         0B09701A         RK         10K         1/6W         J         C109         0B42239A         CML         470           D502,503         0B12147A         ZD         RD5.1V         JS B2         R159         0B09701A         RK         10K         1/6W         J         C109         0B42239A         CML         470           D502,503         0B12154A         ZD         RD6.2V         JS B3         R402         0B09719A         RK         56K         1/6W         J         C110         0B42089A         CML         0.01           D101,102         0B06398A         SID         1SS176         R403         0B09677A         RK         1/K         1/6W         C111         0B40160A         CE         33           D103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W         C112         0B40271A         CE         3.3           V401,402<	47 50V J	L 0.0	CML	0B42095A	C107	1/6W J	6.8K	RK			-			
D502,503         0B12154A         ZD         RD6.2V         JS         B3         R402         0B09719A         RK         56K         1/6W         J         C110         0B42089A         CML         0.01           0101,102         0B06398A         SID         1SS176         R403         0B09677A         RK         1K         1/6W         J         C110         0B42089A         CML         0.01           0103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W         J         C112         0B41553A         CC         0.01           0401,402         0B12693A         SID         S5688B         R405         0B09701A         RK         10K         1/6W         C113         0B40271A         CE         3.3           0403         0B12693A         SID         S5688B         R406         0B09732A         RK         200K         1/6W         C114         0B42095A         CML         0.04	7 50V				C108	1W	1	RF						
D502,503         0B12154A         ZD         RD6.2V         JS B3         R402         0B09719A         RK         56K         1/6W         J         C110         0B42089A         CML         0.01           0101,102         0B06398A         SID         1SS176         R403         0B09677A         RK         1K         1/6W         J         C111         0B40160A         CE         33 1           0103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W         C112         0B41553A         CC         0.01           0401,402         0B12693A         SID         S5688B         R405         0B09701A         RK         10K         1/6W         C113         0B40271A         CE         3.3           0403         0B12693A         SID         S5688B         R406         0B09732A         RK         200K         1/6W         C114         0B42095A         CML         0.04           0403         0B12693A         SID         S5688B         R406         0B09732A         RK         200K         1/6W         C114         0B42095A         CML         0.04	00P 50V J	L 47	CML	0B42239A	C109	1/6W J	10K	RK	0B09701A					
0101,102         0B06398A         SID         1SS176         R403         0B09677A         RK         1K         1/6W J         C111         0B40160A         CE         33 1           0103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W J         C112         0B41553A         CC         0.01           0401,402         0B12693A         SID         S5688B         R405         0B09701A         RK         10K         1/6W J         C113         0B40271A         CE         3.3           0403         0B12693A         SID         S5688B         R406         0B09732A         RK         200K         1/6W J         C114         0B42095A         CML 0.04							56K	RK			· · · · · ·			ZD502,503
0103,104         0B06398A         SID         1SS176         R404         0B09733A         RK         220K         1/6W J         C112         0B41553A         CC         0.01           0401,402         0B12693A         SID         S5688B         R405         0B09701A         RK         10K         1/6W J         C113         0B40271A         CE         3.3           0403         0B12693A         SID         S5688B         R406         0B09732A         RK         200K         1/6W J         C114         0B42095A         CML 0.04										R403		SID		D101,102
401,402 0B12693A SID S5688B R405 0B09701A RK 10K 1/6W J C113 0B40271A CE 3.3 403 0B12693A SID S5688B R406 0B09732A RK 200K 1/6W J C114 0B42095A CML 0.04	1 25V Z										1SS176	SID	0B06398A	D103,104
403 0B12693A SID S5688B R406 0B09732A RK 200K 1/6W J C114 0B42095A CML 0.04												SID		D401,402
1404 40E 0000000 CID 10042030A CME 0.04														D403
														D404,405
														D409
														D501,502
1501,502 0B06398A SID 1SS176 R410 0B09653A RK 100 1/6W J C118 0B42095A CML 0.04	4/ 50V J	L U.(	<b>UNIL</b>	0B42095A		1/044 0	100	пN	ACCOCOUNT			0.0		

# MB-7 Electrical Parts list (2/2)

Schematic	Part No.	Description
Ref. No.	Part No.	
C119 C120	0B40170A 0B42099A	CE 4.7 35V CML 0.1 50V J
C120	0B42087A	CML 0.01 50V J
C122	0B42099A	CML 0.1 50V J
C123	0B42025A	CE 10 16V (BP)
C124	0B42099A	CML 0.1 50V J
C125	0B40160A	CE 33 10V
C126 C127	0B42099A 0B47122A	CML 0.1 50V J CC 100P 50V K
C129	0B48040A	CE 100 10V
C130	0B42231A	CML 1000P 50V J
C131	0B40268A	CE 0.47 50V
C132	0B42099A	CML 0.1 50V J
C133	0B42087A	CML 0.01 50V J
C134 C135	0B42240A 0B42223A	CML 5600P 50V J CML 220P 50V J
C135	0B42087A	CML 0.01 50V J
C137	0B42099A	CML 0.1 50V J
C139,140	0B41553A	CC 0.01 25V Z
C141	0B40160A	CE 33 10V
C142	0B41553A	CC 0.01 25V Z
C143	0B40162A	CE 10 16V
C144 C145	0B42090A 0B48040A	CML 0.018 50V J CE 100 10V
C145 C146	0B48040A 0B42099A	CML 0.1 50V J
C147	0B40170A	CE 4.7 35V
C148	0B42089A	CML 0.015 50V J
C150,151	0B40789A	CE 220 10V
C152	0B42091A	CML 0.022 50V J
C153	0B47126A	CC 220P 50V K
C401 C402	0B40082R 0B42099A	CE 1000 16V CML 0.1 50V J
C402 C403	0B40162A	CE 10 16V
C404	0B42099A	CML 0.1 50V J
C405	0B40052A	CE 470 6.3V
C406,407	0B42099A	CML 0.1 50V J
C409 C410	0B40698A 0B42099A	CE 100 16V CML 0.1 50V J
C410 C411	0B42099A	CE 0.1F 5.5V
C412	0B42099A	CML 0.1 50V J
C413	0B42103A	CML 0.22 50V J
C414	0B42099A	CML 0.1 50V J
C415 C416	0B42231A 0B41555A	CML 1000P 50V J CC 0.047 25V Z
C418 C417	0B40160A	CE 33 10V
C501	0B42099A	CML 0.1 50V J
C503	0B41553A	CC 0.01 25V Z
C504	0B42099A	CML 0.1 50V J
C505,506	0B42228A	CML 560P 50V J
C507,508	0B41553A	CC 0.01 25V Z CC 0.01 25V Z
C509 C510	0B41553A 0B42099A	CML 0.1 50V J
C801	0B41872A	CC 18P 50V J
C802	0B41975A	CC 10P 50V C
C803	0B42099A	CML 0.1 50V J
C804	0B48040A	CE 100 10V
C805L	0B42099A 0B42099A	CML 0.1 50V J CML 0.1 50V J
C805R C806L,R	0B42099A 0B48040A	CE 100 10V
C807L,R	0B42228A	CML 560P 50V J
C808L,R	0B42219A	CML 100P 50V J
C809L,R	0B42219A	CML 100P 50V J
C810L,R	0B40162A	
C811	0B40837A	
C812 CP101	0B42219A 0B81465A	
CP101	0B81462A	
CP103	0B81463A	6P T-Post
CP104	0B84087A	
CP105	0B81461A	
CP107 CP201	0B81460A 0B84288A	
CP201 CP202	0B84291A	
G101,102	0B80673A	
-		

Schematic Ref. No.	Part No.	Description
JP1	0B80675C	11P Connector Ass'y JP1
	0B80676A	4P Connector Ass'y JP2
JP2		
JP3	0B80677C	11P Connector Ass'y JP3 2P Flat Cable JP4
JP4	0B80678B	
JP5	0B80679C	Lead Wire JP5
JP6	0B80680A	Lead Wire JP6
JP7	0B80681B	
PJ501	0B80668A	
PL501,502		Lamp 115mA 5V
S501,502	0B70230A	Tact Switch
S503,504	0B70230A	
S505,506	0B70230A	Tact Switch
S507	0B70230A	Tact Switch
S508	0B70233A	Detect Switch
TP201	0B80674A	Check Terminal 1P
	0E00818A	M3x8 + Binding
		(Black Chromate) (3)
	0E03749A	PT3x8 + Binding
•		(Black Chromate) (2)
	0H06769B	Reflector (1)
	0J06212B	Lamp Holder (2)
	0J07267A	Heat Sink (1)
		Light Shield (1)
	0J07284B	Light Sheid (1)

### (2) For GER

BA09183A	Main P.C.B.	
Schematic Ref. No.	Part No.	Description

The following parts are different from those for USA, CAN, EP, JPN

R524		None
C504		None
C416	0B50265A	EMI Coil
C803	0B41529A	CML 0.033 50V J
C805L,R	0B41529A	CML 0.033 50V J
JP8	0B80720A	Lead Wire (for Earth
		Plate G101)

#### 8.1. Tilt Switch P.C.B. Ass'y (MB-9)

		•. •	
Schematic Ref. No.	Part No. BA39210A	Description Tilt Switch P.C.B. Ass'y	So Re U
Q1 LD1 R1 R2 CP1	3B61154A 3B10604A 3B10605A 3B20933A 3B20897A 3B81467A 3E03769A 3H06837B 3J07337A	RK         12K         1/6W J         .           RK         470         1/6W J         .           3P S-Post         .         .         .           PT2.6x8 + Binding (2)         .         .         .           Switch Body (1)         .         .         .	2000000000000000
	Out P.C.B. A A, CAN, EP,		0 0 0 0
Schematic Ref. No.	Part No. BA09194A	Description Digital Out P.C.B. Ass'y (JPN, USA, EP)	Q Q Z Z Z Z
U301 L301 R301,302 R303 R304 R305 C301 C302 C303 C304 CN106 PJ301 T301	0B61151A 0B11613A 0B09661A 0B09701A 0B09650A 0B40063A 0B42087A 0B42087A 0B42087A 0B40160A 0B80684A 0B80692A 0B51351A 0B84388A	RK         220         1/6W J           RK         10K         1/6W J           RK         1K         1/6W J           RK         75         1/6W J           CE         100         10V           CML         0.1         50V J           CML         0.01         50V J           CONDECTOR         Ass'y           CN601         1P           1P         Nack           Pulse         Trans	
(2) For GE	R		R R R
Schematic Ref. No.	<u>Part No.</u> BA09195A	Description Digital Out P.C.B. Ass'y (GER)	
	those JPN	which are different from e for USA, CAN, EP & will be informed by ice Information later on.	RRR

#### 8.3. Main P.C.B. Ass'y (MB-9) (1) For USA, CAN, EP, JPN

)

Schematic Ref. No.	Part No. BA09192A	Main	escription P.C.B. Ass'y A, CAN, EP, JPN)
	0B61150B	Main	P.C.B.
U101	0B11818A	IC	CXA1081S
U102	0B10580A	IC	CXA1082BQ
U103	0B10558A	IC	BA6296FP
U104	0B11946A	IC	CXD1167Q
U105,106	0B10465A	IC	LB1638M
U402	0B10567A	1C	PQ05RG1
U403	0B10462A	IÇ	TA78DS05BP
U404	0B10466A	IÇ	M51957BF
U501	0B10612A	IC	uPD75517GF
U502	0B06215A	IC	TC4049BP
U801	0B10593A	IĊ	SM5841CS

Schematic Ref. No.	Part No.	D	escriptio	n
		_		<u> </u>
U802	0B17010A	IC	AD186	
U8031.,R	0B10588A		NJM21	
Q101 Q102	0B10585A 0B10322A	TR TR	2SA15 DTC11	
Q103	0B10324A	TR	DTC14	
Q104	0B10330A	Τ̈́R	DTC14	
Q105	0B10324A	TR	DTC14	
Q106	0B10584A	TR TR	DTA12 DTC14	
Q107,108 Q402	0B10324A 0B10324A	TR	DTC14	
Q404	0B10578A	TR	2SB13	
Q405	0B10398A	TR	2SC40	38
Q501	0B10398A	TR	2SC40	
Q502 Q507	0B10584A 0B10585A	TR TR	DTA12 2SA15	
Q508	0B10385A	TR	DTC11	
Q509	0B10398A	TR	2SC40	
Q801L,R	0B10583A	TR	DTC32	
ZD401	0B12154A	ZD	RD6.2	
ZD402 ZD501	0B10579A 0B12147A	ZD ZD	RD3.61 RD5.1	
ZD502,503	0B12154A	ZD	RD6.2	
D101,102	0B06398A	SID	1SS17	
D103,104	0B06398A	SID	15517	
D401,402 D403	0B12693A 0B12693A	SID SID	S56881 S56881	
D404,405	0B06398A	SID	15517	_
D409	0B06398A	SID	1SS17	
D501,502	0B06398A	SID	1\$\$17	
D801L,R L101,102	0B06398A 0B51300A	SID Coil 1	1SS17 10uH	0
L801,802	0B51300A		10uH	
X501	0B92033A		nator 4.	
X801	0B92063A		16.9344	
VR101 VR102	0B32193A 0B32194A		i VR 10k i VR 20k	
VR103,104	0B32186A		i VR 224	
VR105	0B30174A		i VR 1K	_
RA501	0B20667A		ray 47K	
RA502 R101	0B20668A 0B09629A	RK RK	ray 100ł 10	1/6W J
R102	0B09677A	RK	iĸ	1/6W J
R103	0B09701A	RK	10K	1/6W J
R104	0B09699A	RK	8.2K	1/6W J
R105 R106	0B09685A 0B09699A	RK RK	2.2K 8.2K	1/6W J 1/6W J
R107	0B09725A	RK	100K	1/6W J
R108	0B09677A	RK	1K	1/6W J
R109	0B09709A	RK	22K	1/6W J
R110,111 R112	0B09701A 0B09731A	RK RK	10K 180K	1/6W J 1/6W J
R113	0B09735A	RK	270K	1/6W J
R114	0B09742A	RK	510K	1/6W J
R115	0B09719A	RK	56K	1/6W J
R116 R117	0B09725A 0B09713A	RK	100K 33K	1/6W J 1/6W J
R118	0B25291A	RM	10K	1/4WF
R119	0B25666A	RM	3.6K	1/4WF
R120	0B09734A	RK	240K	1/6W J
R121 R122	0B09701A 0B25291A	RK RM	10K 10K	1/6W J 1/4WF
R123	0B09721A	RK	68K	1/6W J
R124	0B09701A	RK	10K	1/6W J
R125,126	0B09725A	RK	100K	1/6W J
R127 R128	0B09737A 0B09729A	RK RK	330K 150K	1/6W J 1/6W J
R129	0B09720A	RK	62K	1/6W J
R130	0B09704A	RK	13K	1/6W J
R135	0B09677A	RK	1K	1/6W J 1/6W J
R136,137 R138,139	0B09653A 0B09653A	RK RK	100 100	1/6W J 1/6W J
R140	0B09749A	RK	1M	1/6W J

Schematic				
Ref. No.	Part No.		escriptio	on
R141,142	0B09705A	RK	15K	1/6W J
R143 R144	0B09701A 0B09713A	RK RK	10K 33K	1/6W J 1/6W J
R144 R145	0B09701A	RK	10K	1/6W J
R146,147	0B09713A	RK	33K	1/6W J
R148	0B09731A	RK	180K	1/6W J
R156	0B09701A	RK RK	10K 6.8K	1/6W J 1/6W J
R157 R158	0B09697A 0B24235A	RF	1	1/0// J
R159,160	0B09701A	RK	10K	1/6W J
R402	0B09719A	RK	56K	1/6W J
R403	0B09677A 0B09733A	RK RK	1K 220K	1/6W J 1/6W J
R404 R405	0B09701A	RK	10K	1/6W J
R406	0B09732A	RK	200K	1/6W J
R407,408	0B09725A	RK	100K	1/6W J
R409 R410	0B09725A 0B09653A	RK RK	100K 100	1/6W J 1/6W J
R411	0B09701A	RK	10K	1/6W J
R412	0B09685A	RK	2.2K	1/6W J
R413	0B09676A	RK	910	1/6W J 1/6W J
R501 R502	0B09701A 0B09713A	RK · RK	10K 33K	1/6W J
R503,504	0B09725A	RK	100K	1/6W J
R505,506	0B09725A	RK	100K	1/6W J
R507 R508,509	0B09725A 0B09669A	rk Rk	100K 470	1/6W J 1/6W J
R510	0B09725A	RK	100K	1/6W J
R511	0B09703A	RK	12K	1/6W J
R512 R513	0B09685A 0B09725A	RK RK	2.2K 100K	1/6W J 1/6W J
R514	0B09725A 0B09677A	RK	100K	1/6W J
R515	0B09725A	RK	100K	1/6W J
R518	0B24443A	rf RK	27 5.6K	1W 1/6W J
R519 R520,521	0B09695A 0B09725A	RK	100K	1/6W J
R522	0B09725A	RK	100K	1/6W J
R523 R524	0B09693A 0B09646A	rk Rk	4.7K 51	1/6W J 1/6W J
R525,526	0B09725A	RK	100K	1/6W J
R527	0B09693A	RK	4.7K	1/6W J
R528	0B09749A	RK	1M	1/6W J 1/6W J
R529,530 R531	0B09693A 0B09749A	RK RK	4.7K 1M	1/6W J
R532	0B09693A	RK	4.7K	1/6W J
R533,534	0B09701A	RK	10K	1/6W J
R535,536 R537,538	0B09701A 0B09701A	rk Rk	10K 10K	1/6W J 1/6W J
R539,540	0B09701A	RK	10K	1/6W J
R541,542	0B09701A	RK	10K	1/6W J
R543	0B09693A 0B09661A	rk RK	4.7K 220	1/6W J 1/6W J
R801,802 R803,804	0B09661A	RK	220	1/6W J
R805L,R	0B25675A	RM	9.1K	1/4W F
R806L,R	0B25675A	RM	9.1K 20K	1/4W F 1/4W F
R807L,R R808L,R	0B25320A 0B25291A	RM ŘM	10K	1/4W F
R809L,R	0B25291A	RM	10K	1/4W F
R810L,R	0B25291A	RM RK	10K 560	1/4W F 1/4W J
R811L,R R812L,R	0B09671A 0B09725A	RK	100K	1/4W J
R813L,R	0B09653A	RK	100	1/4W J
R814L,R	0B25320A	RM	20K	1/4W F 1/4W F
R815L,R R816L,R	0B25320A 0B25320A	RM RM	20K 20K	1/4W F
R817L,R	0B25291A	RM	10K	1/4W F
C101	0B48040A	CE	100 10	
C102 C103	0B41944A 0B42237A	CC CML		9 50V K 9 50V J
C103	0B41708A	CC	22P 5	ov J
C105	0B42095A	CML		
C106	0B40160A	. CE	33 10	v

### MB-9 Electrical Parts list (1/2)

# MB-9 Electrical Parts list (2/2)

Schematic		Description
Ref. No.	Part No.	Description
C107	0B42095A 0B40268A	CML 0.047 50V J CE 0.47 50V
C108 C109	0B40200A	CML 4700P 50V J
C110	0B42089A	CML 0.015 50V J
C111	0B40160A	CE 33 10V
C112	0B41553A	CC 0.01 25V Z
C113	0B40271A	CE 3.3 25V
C114	0B42095A	CML 0.047 50V J
C115,116	0B42235A	CML 2200P 50V J CML 0.1 50V J
C117 C118	0B42099A 0B42095A	CML 0.047 50V J
C119	0B40170A	CE 4.7 35V
C120	0B42099A	CML 0.1 50V J
C121	0B42087A	CML 0.01 50V J
C122	0B42099A	CML 0.1 50V J
C123	0B42025A	CE 10 16V (BP) CML 0.1 50V J
C124 C125	0B42099A 0B40160A	CE 33 10V
C126	0B42099A	CML 0.1 50V J
C127	0B47122A	CC 100P 50V K
C129	0B48040A	CE 100 10V
C130	0B42231A	CML 1000P 50V J
C131	0B40268A	CE 0.47 50V CML 0.1 50V J
C132 C133	0B42099A 0B42087A	CML 0.1 50V J CML 0.01 50V J
C133	0B42240A	CML 5600P 50V J
C135	0B42223A	CML 220P 50V K
C136	0B42087A	CML 0.01 50V J
C137	0B42099A	CML 0.1 50V J
C139,140	0B41553A	CC 0.01 25V Z
C141	0B40160A 0B41553A	CE 33 10V CC 0.01 25V Z
C142 C143	0B41553A 0B40162A	CE 10 16V
C144	0B42090A	CML 0.018 50V J
C145	0B48040A	CE 100 10V
C146	0B42099A	CML 0.1 50V J
C147	0B40170A	CE 4.7 35V
C148	0B42089A	CML 0.015 50V J CE 220 10V
C150,151 C152	0B40789A 0B42091A	CE 220 10V CML 0.022 50V J
C152	0B47126A	CC 220P 50V K
C401	0B40082A	CE 1000 16V
C402	0B42099A	CML 0.1 50V J
C403	0B40162A	CE 10 16V
C404	0B42099A	CML 0.1 50V J
C405	0B42145A 0B42099A	CE 470 6.3V (LN) CML 0.1 50V J
C406,407 C409	0B42099A	CE 100 16V
C410	0B42099A	CML 0.1 50V J
C411	0B42247A	CE 0.1F 5.5V
C412	0B42099A	CML 0.1 50V J
C413	0B42103A	CML 0.22 50V J CML 0.1 50V J
C414 C <b>415</b>	0B42099A 0B42231A	CML 0.1 50V J CML 1000P 50V J
C415 C416	0B42251A	CC 0.047 25V Z
C417	0B40160A	CE 33 10V
C501	0B42099A	CML 0.1 50V J
C503	0B41553A	CC 0.01 25V Z
C504	0B42099A	CML 0.1 50V J CML 560P 50V J
C505,506	0B42228A 0B41553A	CML 560P 50V J CC 0.01 25V Z
C507,508 C509	0B41553A	CC 0.01 25V Z
C510	0B42099A	CML 0.1 50V J
C801,802	0B41975A	CC 10P 50V D
C803,804	0B42099A	
C805	0B42099A	
C806,807	0B42195A 0B42227A	
C808L,R C809L,R	0B42227A	
C811L,R	0B42227A	CML 470P 50V J
C812L,R	0B42227A	CML 470P 50V J
C813L,R	0B40162A	
C814	0B42099A	
CP101	0B81465A	

Schematic Ref. No.	Part No.	Description
	0B81462A	5P T-Post
CP102 CP103	0B81462A 0B81463A	6P T-Post
<b>.</b>	0B84087A	12P T-Post
CP104	0B81461A	4P T-Post
CP105	0B84281A	3P T-post
CP106	0B81460A	3P T-Post
CP107	0B84288A	6P T-Post Red
CP201	0B84291A	7P T-Post Red
CP202	0B84291A 0B80673A	Earth Plate
G101,102		11P Connector Ass'y JP1
JP1	0B80675C	4P Connector Ass'y JP2
JP2	0B80676A	4P Connector Ass'y JP3
JP3	0B80677C	-
JP4	0B80678B	2P Flat Cable JP4
JP5	0B80679C	Lead Wire JP5
JP6	0B80680A	Lead Wire JP6
JP7	0B80681B	Lead Wire JP7
PJ501	0B80668A	DIN Jack 13P
PJ801	0B81630A	2P Pin Jack (Gold)
PL501,502	0B90644A	
S501,502	0B70230A	
S503,504	0B70230A	
S505,506	0B70230A	Tact Switch Tact Switch
S507	0B70230A	
S508	0B70233A	Check Terminal 1P
TP201	0B80674A	+
	0E00818A	M3x8 + Binding (Black Chromate) (3)
	0E03749A	PT3x8 + Binding
		(Black Chromate) (2)
	0H06769B	Reflector (1)
	0J06212B	Lamp Holder (2)
	0J07267A	Heat Sink (1)
	0J07284B	Light Shield (1)

### (2) For GER

### Schematic Ref. No.

	Part No.	Description		
_	BA09193A	Main P.C.B. Ass (GER)		
	Note: Parts	which are different t		

Note: Parts which are different from those for USA, CAN, EP & JPN will be informed by Service Information later on.

# 9. IC BLOCK DIAGRAMS

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# U501 µPD75517GF (Mechanism Controller)

Pin No.	Signal Name	I/O	Function
1	GND	-	GND
2	GND	-	GND
3 4	VDD	_	+5V
5	ST UP	0	Stocker motor drive signal. Stocker raises when "H".
6	ST DWN	0	Stocker motor drive signal. Stocker lowers when "H".
7	FRONT	0	Loading motor drive signal. Disc tray is ejected when "H".
8	REAR	0	Loading motor drive signal. Disc tray is loaded when "H".
9	GND	-	GND
10	DAT OUT	0	Serial data output to the remote controller.
11	CLK OUT	0	Clock output to the remote controller.
12	GND		GND
13	EMP	0	De-emphasis control signal. L: De-emphasis ON.
14	MUTG	0	Mute control signal. H: Mute ON.
15	SYS ON	0	System ON signal.
16	LAMP	0	Lamp ON signal.
17	SUBQ	1	Subcode Q data.
18	NC	-	-
19	SQCK	0	Clock for reading subcode Q data.
20	OPEN	1	Door open/close switch signal. L: Open
21	TRG	1	Trigger L pulse is generated when door is open.
22	DISC1	1	Disc 1 eject/load button input signal. Becomes L when button is pressed.
23	DISC2	I	Disc 2 eject/load button input signal. Becomes L when button is pressed.
24	DISC3	1	Disc 3 eject/load button input signal. Becomes L when button is pressed.
25	DISC4	1	Disc 4 eject/load button input signal. Becomes L when button is pressed.
26	DISC5	1	Disc 5 eject/load button input signal. Becomes L when button is pressed.
27	DISC6	1	Disc 6 eject/load button input signal. Becomes L when button is pressed.
28	DISC7		Disc 7 eject/load button input signal. Becomes L when button is pressed.
29 to 31	GND	-	GND
32	CD RST	0	Reset signal output. L: Reset
33	VSS	-	GND
34 to 37	GND	-	GND
38	LDON	0	Laser ON signal.

Pin No.	Signal Name	I/O	Function
39	XLT	0	Latch pulse for data at pin 41.
40	CLK	0	Clock for data at pin 41.
41	DATA	0	8-bit serial data to LSIs.
42	SENSE	I	Sense signal from LSIs.
43	FOK	I	Focus OK signal.
44	GFS	I	Frame sync lock signal.
45	CRCF	1	CRC (cyclic redundancy code) check result signal for subcode Q.
46	DSP SEL		DSPSEL signal input from the remote controller.
47	GND	-	GND
48	ACC CONT	1	Remote signal input from the remote controller.
49	SCOR	1	Subcode input trigger signal.
50	DAT IN	1	Signal input from the remote controller.
51	GND	-	GND
52	CLK IN	1	Clock for reading DAT IN at pin 50.
53	BSENS	I	Battery voltage sensing input.
54	VSS		GND
55	GND		GND
56	NC	_	
57	IC		Connected to GND.
58 59	X1 X2	-	4MHz crystal is connected.
60	RESET	1	System reset signal.
61	RAM CLR	1	RAM reset input for stocker operation check.
62	D. DET	1	Disc presence detecting input.
63	D. CNT	ł	Stocker position counting input.
64	CENTER	I	Disc tray center detecting input.
65	T. CLOSE	I	Disc tray close detecting input.
66 67 68	POS3 POS2 POS1	I	Pickup position detecting inputs.
69	INNER	I	Inner switch signal. Become "L" when the laser pickup reaches the innermost position.
70	H. POS	I	Stocker home position detecting input.
71	STORE	I	Disc tray stock position detecting input.
72	EJECT	l	Disc tray ejection detecting input.
73 to 76	GND	_	GND
77	FORM	I	Unit tilting detecting input. L: Unit is tilting over predetermined value.
78 to 80	GND	_	GND

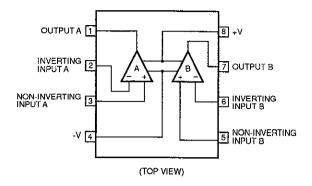
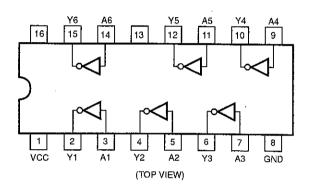


Fig. 9.1 Operational Amp. 2100D



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Fig. 9.2 Inverter TC4049BP

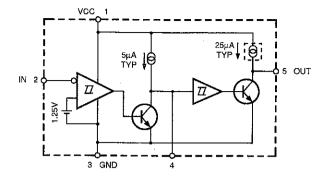
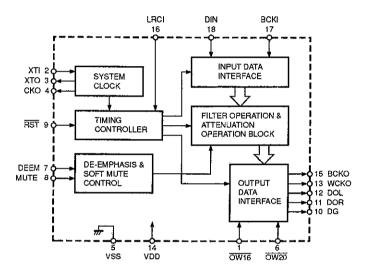
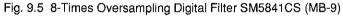


Fig. 9.4 Voltage Drop Detector M51957BF





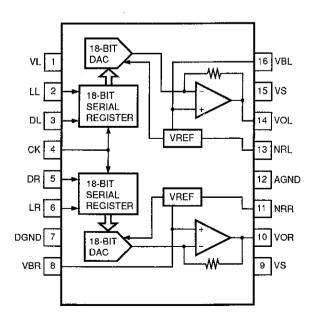


Fig. 9.6 Digital-to-Analog Converter AD1868R (MB-9)

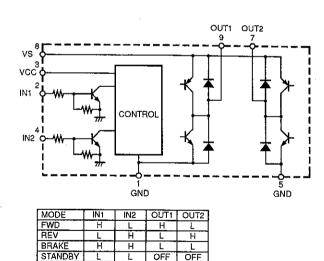
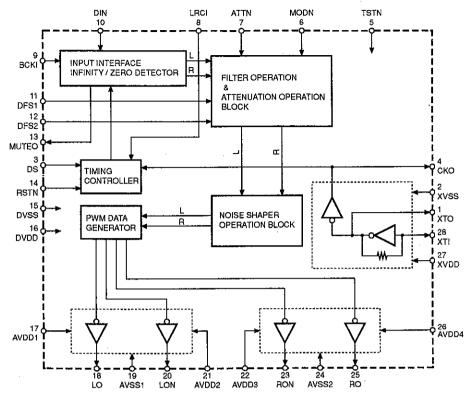
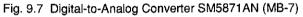


Fig. 9.3 Motor Driver LB1638M





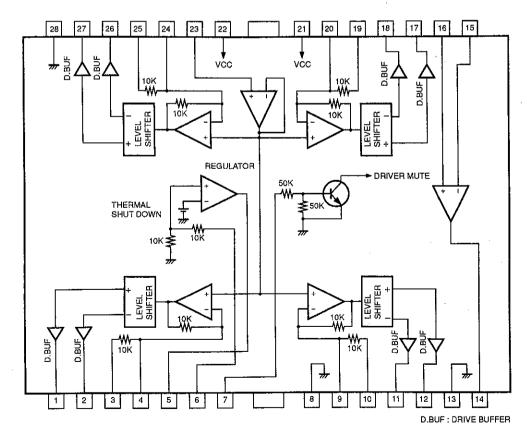


Fig. 9.8 Dirver BA6296FP

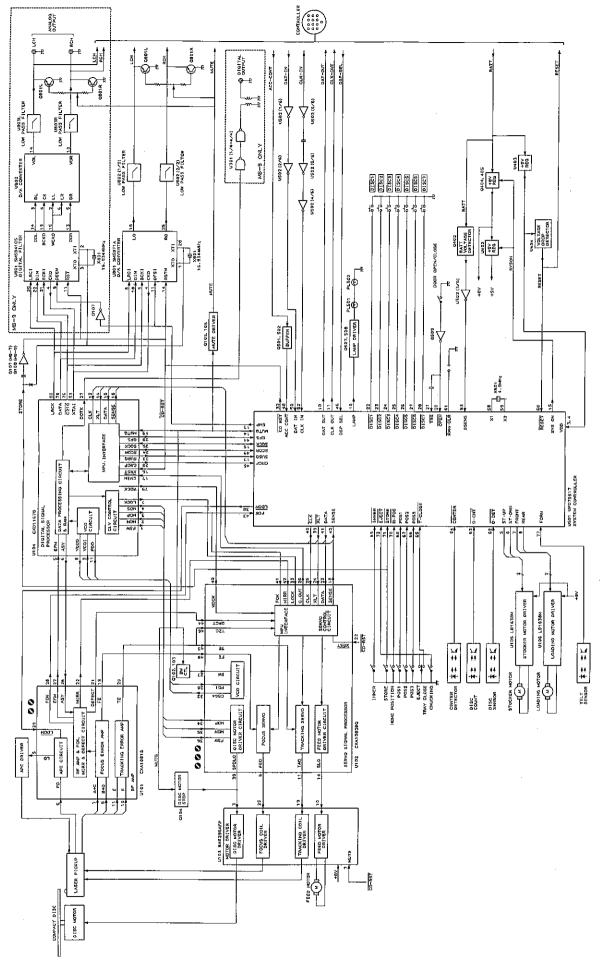
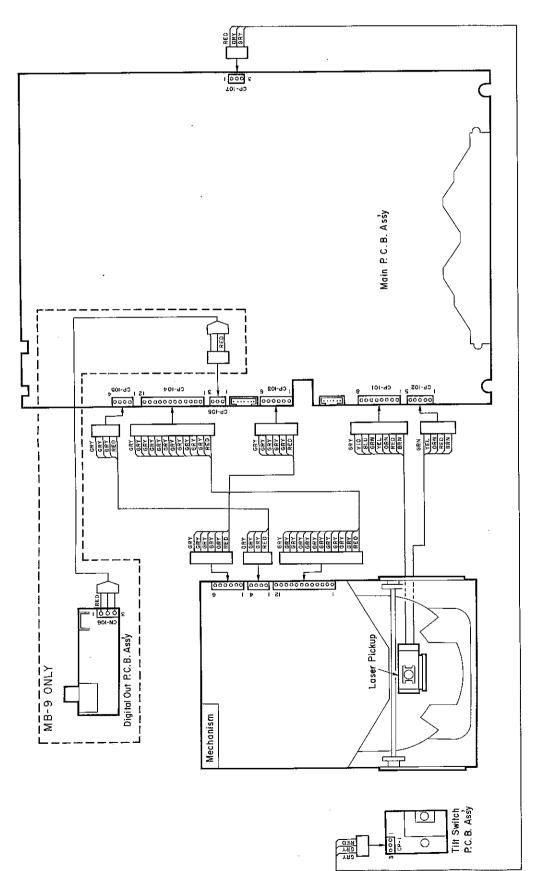


Fig. 10

<del>6</del>

10. BLOCK DIAGRAM





11. WIRING DIAGRAM

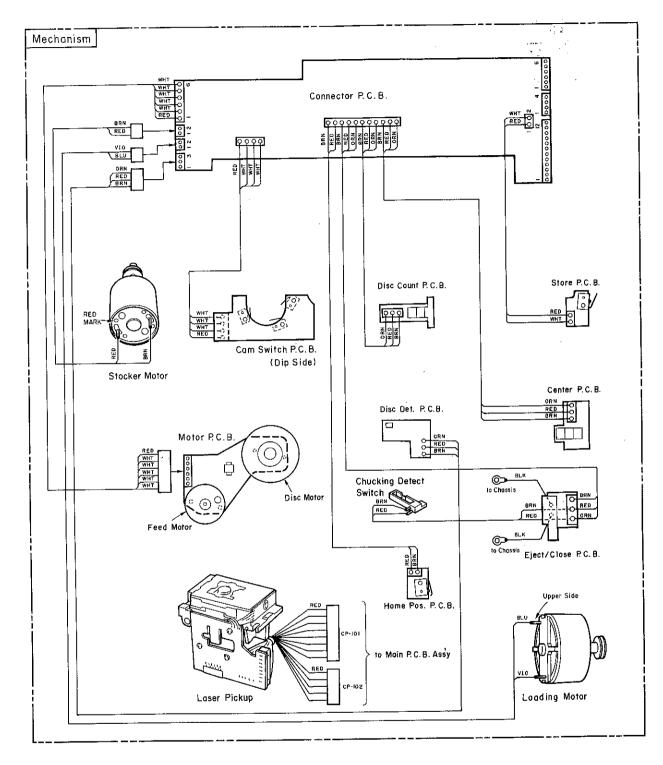


Fig. 11.2

## **SPECIFICATIONS**

System	Compact Disc digital audio
Signal Readout	Optical (semiconductor laser)
Error Correction	CIRC principle
Number of Channels	2 channels, stereo
D/A Converter Type	1-bit dual D/A converters with 3rd-order noise shaper and
	8-times oversampling digital filter [MB-7]
	18-bit dual D/A converters with 8-times oversampling digital filter [MB-9]
Sampling Frequency	44.1 kHz
Quantization	16-bit linear
Disc Rotational Velocity	Approx. 200 to 500 rpm (constant linear velocity)
Wow and Flutter	Below measurement limit
Frequency Response	10-20,000 Hz +0.5dB, –1.5 dB [ <b>MB-7</b> ]
	10-20,000 Hz +0.5dB, –0.5 dB [ <b>MB-9</b> ]
Signal to Noise Ratio	Better than 88 dB (IHF A-WTD) [MB-7]
	Better than 92 dB (IHF A-WTD) [MB-9]
Dynamic Range	Better than 86 dB [MB-7]
	Better than 90 dB [MB-9]
Total Harmonic Distortion	0.015% or less (1 kHz) <b>[MB-7]</b>
	0.008% or less (1 kHz) <b>[MB-9]</b>
Channel Separation	Better than 80 dB [MB-7]
	Better than 88 dB [MB-9]
Output Level/Impedance	1.2 V/600 ohms (1 kHz, 0 dB) <b>[MB-7]</b>
	1.5 V/600 ohms (1 kHz, 0 dB) <b>[MB-9]</b>
Power Source	14.4 VDC negative ground (10.8–15.6 V allowable)
Power Consumption	1 A max.
Dimensions*	196 (W) × 113 (H) × 298 (D) mm
	7-11/16 (W) × 4-7/16 (H) × 11-3/4 (D) inches
Approximate Weight	3.6 kg/7 lbs. 15 oz.

\* Dimensions do not include protruding parts. Height is the panel height.

• MusicBank is a trademark of Nakamichi Corporation.

· Specifications and design are subject to change for further improvement without notice.

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