ORDER NO. MD9305030C2

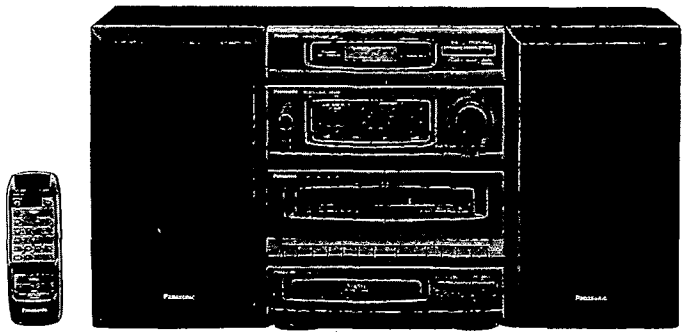
Service Manual

COMPACT disc DIGITAL AUDIO

MASH* multi-stage noise shaping

Compact Audio System

SA-DH30



SB-DH30 SA-DH30 SB-DH30

Colour

(K) . . . . . Black Type

Area

Suffix for Model No.	Area	Colour
(EB)	Great Britain	(K)

System Name	Unit	
SC-DH30 (EB)	SA-DH30 (EB)	Music Center
	SB-DH30 (E) (Made in PAES)	Speaker

TAPE DECK : MECHANISM SERIES (SG-20W)
TRAVERSE DECK : NEW MECHANISM SERIES (RAE0111Z)

■ SPECIFICATIONS

■ AMPLIFIER SECTION

Frequency response	
AUX	25 Hz ~ 15 kHz (-3dB)
Input sensivity and impedance	
AUX	250 mV/33.8 kΩ
Graphic equalizer	+10 dB (100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz)
Load impedance	4Ω

■ FM TUNER SECTION

Frequency range	87.50 ~ 108.00 MHz
Sensitivity	23.3 dBf (4.0 μV, IHF' 58)
Total harmonic distortion	
MONO	0.6 %
STEREO	0.7 %
S/N	
MONO	60 dB (65 dB, IHF)
Frequency response	50 Hz ~ 15 kHz, +0.5 dB, - 2 dB
Image rejection at 98 MHz	35 dB
Stereo separation at 1 kHz	35 dB
Antenna terminal(s)	75Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	
MW	522 ~ 1611 kHz
LW	144 ~ 288 kHz
Sensitivity (for 50 mW)	
MW (at 999 kHz)	141μV/m
LW (at 216 kHz)	178 μV/m

■ CASSETTE DECK SECTION

Track system	4 track, 2 channel
Heads	
Playback	Solid permalloy head
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias, 100 kHz
Erase system	AC erase, 100 kHz
Tape speed	4.8 cm /sec. (1 7/8 ips)
Frequency response	
NORMAL	50 Hz ~ 14 kHz, +1, - 6 dB
Wow and flutter	0.15 % (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ CD SECTION

Sampling frequency	44.1 kHz
Decoding	16 Bit linear
Beam source/ wavelength	Semiconductor laser/ 780 nm
Number of channels	2 CH, STEREO
Frequency response	20 Hz ~ 20 kHz (+1, - 2 dB)
S/N	90 dB (A curve filter)
Dynamic range	85dB
Wow and flutter	Unmeasurable
Digital filter	4 time over sampling
D/A converter	Multi-stage noise shaping

Notes :
1. Specifications are subject to change without notice
   Weights and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

* • Technics (or Panasonic) developed the world's first MASH type DAC and ADC. MASH technology was invented by NTT (LSI labs).
• MASH is a trademark of NTT.

Panasonic

■ SPEAKER SYSTEM

Type	2 way 2 speakers
Speaker(s)	
Woofer	12 cm cone type
Tweeter	Piezo type
Impedance	4 Ω
Input power	6 W (music)
	3 W (DIN)
Ouput sound pressure level	88 dB/W (1.0 m)
Cross over frequency	10 kHz
Frequency range	65 Hz ~ 20 kHz (-16 dB)
Dimensions (W x H x D)	200 x 345 x 196 mm
Weight	2.7 kg

■ GENERAL

Power consumption	40 W
Power supply	AC 230 ~240V, 50 Hz
Dimensions (W x H x D)	270 x 345 x 214 mm
Weight	4.5kg

■ CONTENTS

CAUTION:
THIS PRODUCT UTILIZES A LASER .
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCES OR PROCEDURES OTHER THAN THOSE SPECIFIED HERIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE .
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

■ PRECAUTION OF LASER DIODE

CAUTION:

This product utilizes a laser diode with the unit turned "ON" ,invisible laser radiation is emitted from the pick up lens .

Wave Length: 780 nm
Maximum output radiation power from pick up: 100 μW/VDE

Laser radiation from the pick up lens is within safety level ,but take precaution on the followings:

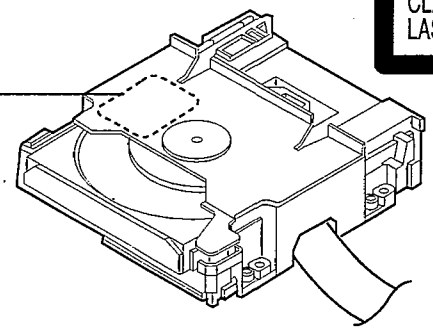
1. Do not disassemble the optical pick up unit ,since radiation from exposed laser diode is dangerous .
2. Do not adjust the variable resistor on the pickup unit .It has already been adjusted .
3. Do not look at the focus lens using optical instruments .
4. It is Not advisable to look at the pick up lens for a long period of time .

RQLS0021

ADVARSEL:USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING

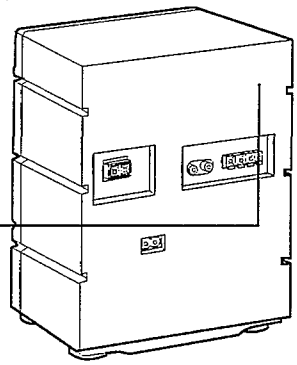
VORSICHT-Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet. Nicht dem Strahl aussetzen. RQLS0021

DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.



RQT4389ZAA

CLASS 1
LASER PRODUCT
RQT4389ZAA

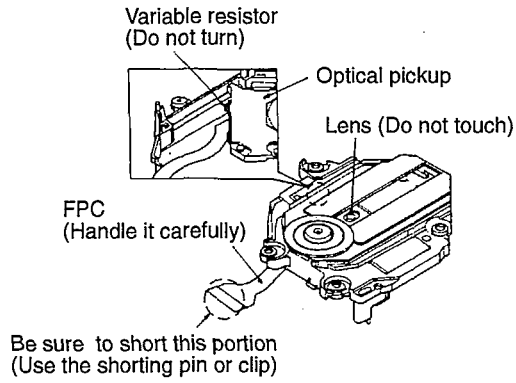


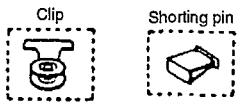
■ HANDLING PRECAUTIONS FOR TRAVERSE DECK

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

• Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it ie extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

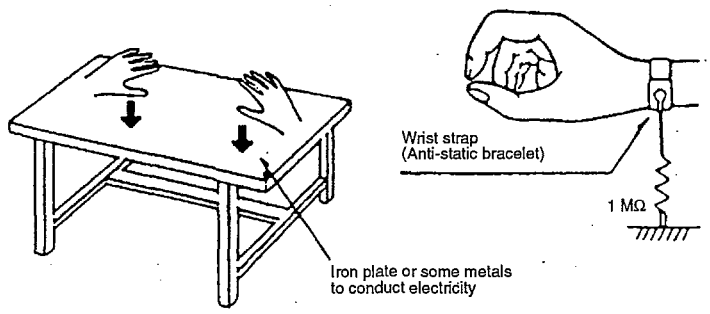




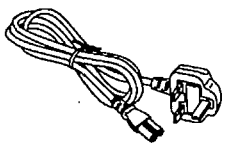
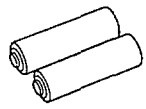
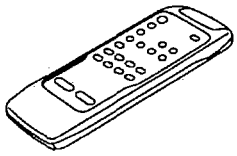
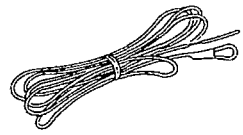
• Grounding for electrostatic breakdown prevention

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution :
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

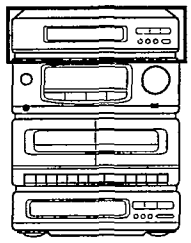


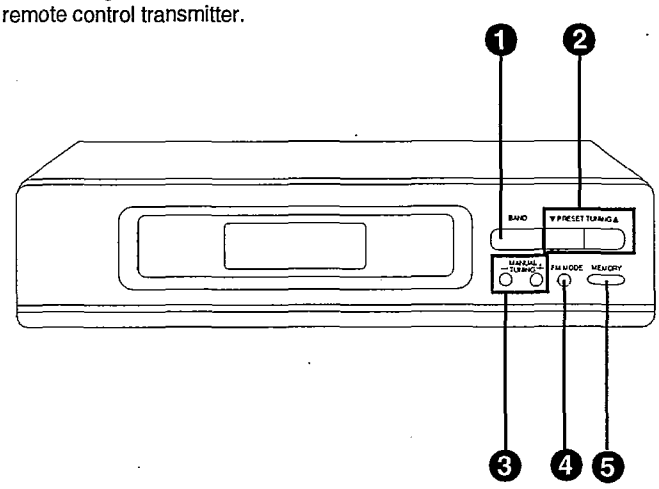
■ ACCESSORIES

 AC power supply cord.....1 pc	 Remote control batteries.....2 pcs
 Remote control transmitter.....1 pc	 FM indoor antenna.....1 pc

■ FRONT PANEL CONTROLS AND FUNCTIONS

The functions indicated by the numbers with black background (for example ❶) can also be activated from the remote control transmitter.
(See pages 7 & 8)





Tuner section

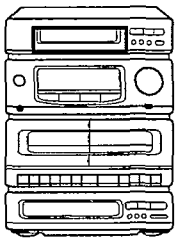
❶ Band select button (BAND)
Press to select the LW, MW or FM radio band.

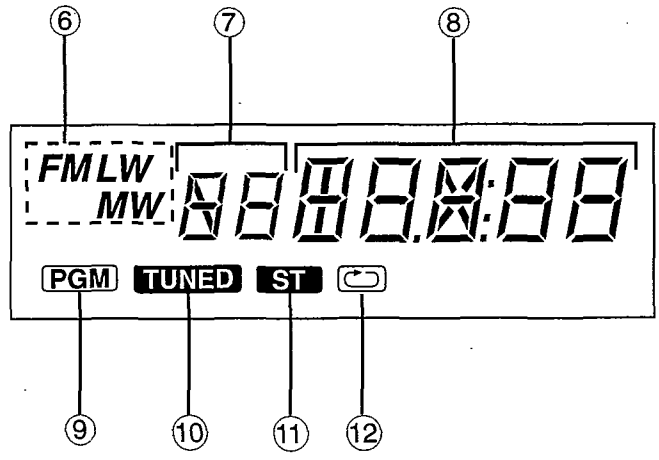
❷ Preset-tuning buttons (▼ PRESET TUNING ▲)
Press to program broadcast frequencies into the unit's memory, and also to recall the programmed stations.

❸ Tuning up and down buttons (– MANUAL TUNING +)
Press to tune to the desired station.

❹ FM mode button (FM MODE)
Press to select the FM listening mode (stereo or monaural) during FM broadcasts.

❺ Memory button (MEMORY)
Press to program a broadcasting station into the units' memory.





Display section

⑥ Band indicator (FM, LW, MW)
Lights to show which band was selected.

⑦ Multi display
Shows the track number, total number of tracks and preset channels, etc.

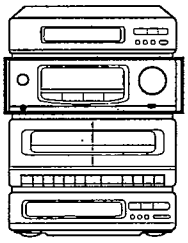
⑧ Alpha-numeric display
Shows the selected source, total playing time of compact discs and broadcast frequencies, etc.

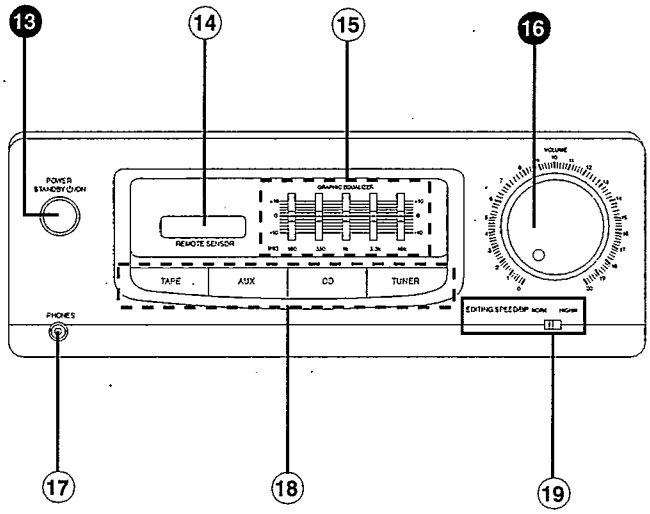
⑨ Program indicator (PGM)
Lights during the program play mode of compact discs and memory presetting of broadcast station.

⑩ Tuned indicator (TUNED)
Lights when a broadcast station is tuned in precisely.

⑪ FM stereo indicator (ST)
Lights when you receive an FM stereo broadcast. It will not light if you are using the FM mode button to select monaural mode.

⑫ Repeat play indicator ( )
Lights during the repeat play mode of compact discs.





Amplifier section

13 Power "STANDBY⏻/ON" switch

This switch switches On and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY ⏻position. Regardless of the switch setting , the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

14 Remote control signal sensor (REMOTE SENSOR)

Receives the signal from the remote control.

15 Equalizer controls (GRAPHIC EQUALIZER)

Use to adjust the equalization level.
These controls are for compensation of tonal quality. By sliding the controls at each of the indicated frequencies in the "+" direction , the tonal quality is increased, and by sliding them in the " - " direction, the tonal quality is decreased.

16 Volume level control (VOLUME)

Turn to adjust the volume level.
Note that "0" is the lowest volume setting and "20" is the highest.

17 Headphones jack (PHONES)

Plug headphones cord into this jack.

18 Input select buttons (TAPE, AUX, CD, TUNER)

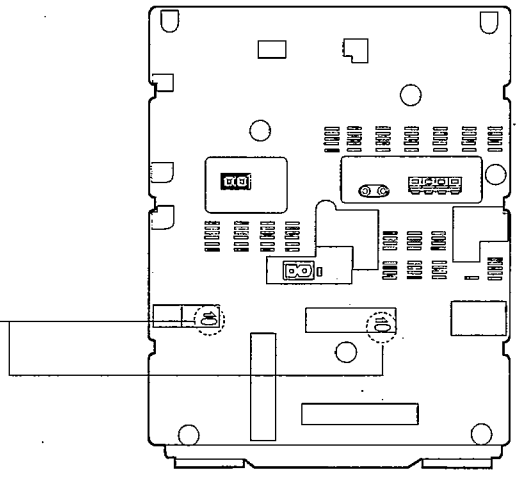
Press to select the sound source.

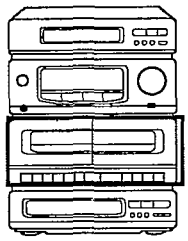
19 Tape-to-tape recording speed/beat proof selector (EDITING SPEED / BP)

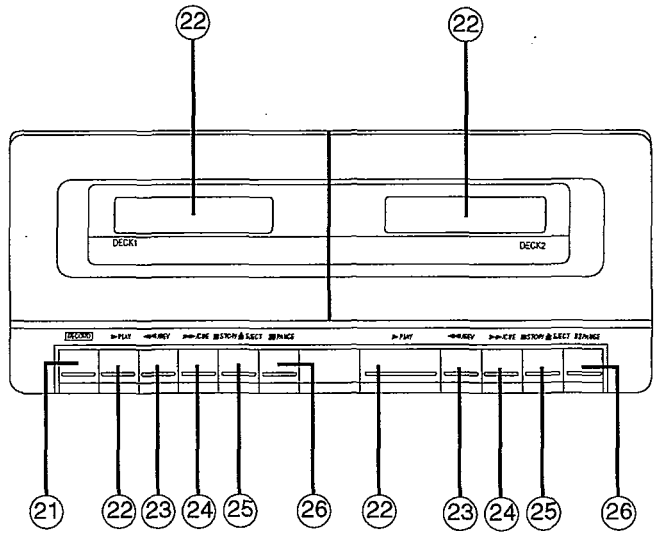
Use to select the recording speed when a tape-to-tape recording is made.
Use to reduce the unwanted beat signals (whistle) during recording of an LW/MW broadcast.

• What to do when the tape is entangled.

When the tape is caught in the pinch roller, etc. Release the tape by turning the flywheel on the motor with the screwdriver in the direction of the arrow.







Cassette deck section

(20) Cassette holders

(21) Record button (RECORD)
Press to make a recording (tape deck1 only).

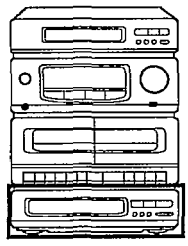
(22) Playback buttons (▶PLAY)
Press to play a tape.

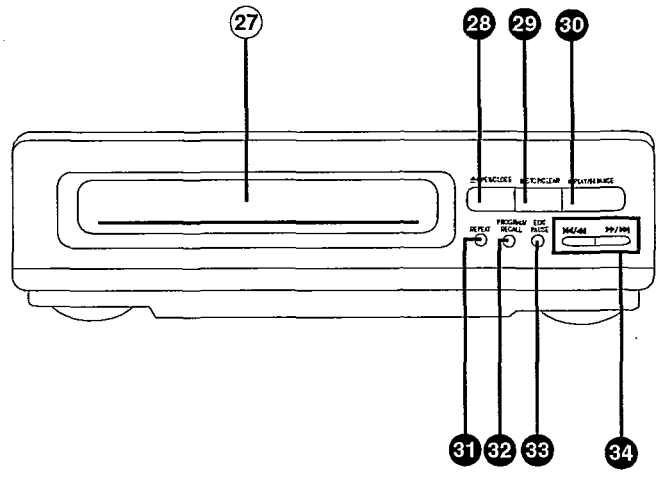
(23) Rewind / review buttons (◀◀ /REV)
Press to rewind the tape.
Press and hold during playback to review the contents at high speed.

(24) Fast forward/cue buttons (▶▶/CUE)
Press to advance the tape.
Press and hold during playback to cue the contents at high speed.

(25) Stop/eject buttons (■STOP/▲EJECT)
Press to make a recording (tape deck1 only).

(26) Pause buttons (❚❚ PAUSE)
Press to temporarily stop the tape playback or recording (deck 1 only).





Compact disc player section

(27) Disc tray

(28) Disc tray open/close button (▲OPEN/CLOSE)
Press to open or close the disc tray.

(29) Stop/clear button (■STOP/CLEAR)
Press to stop the disc tray and to clear the programmed tracks.

(30) Play/pause button (▶PLAY/❚❚PAUSE)
Press to start the disc play and to stop the disc play temporarily.

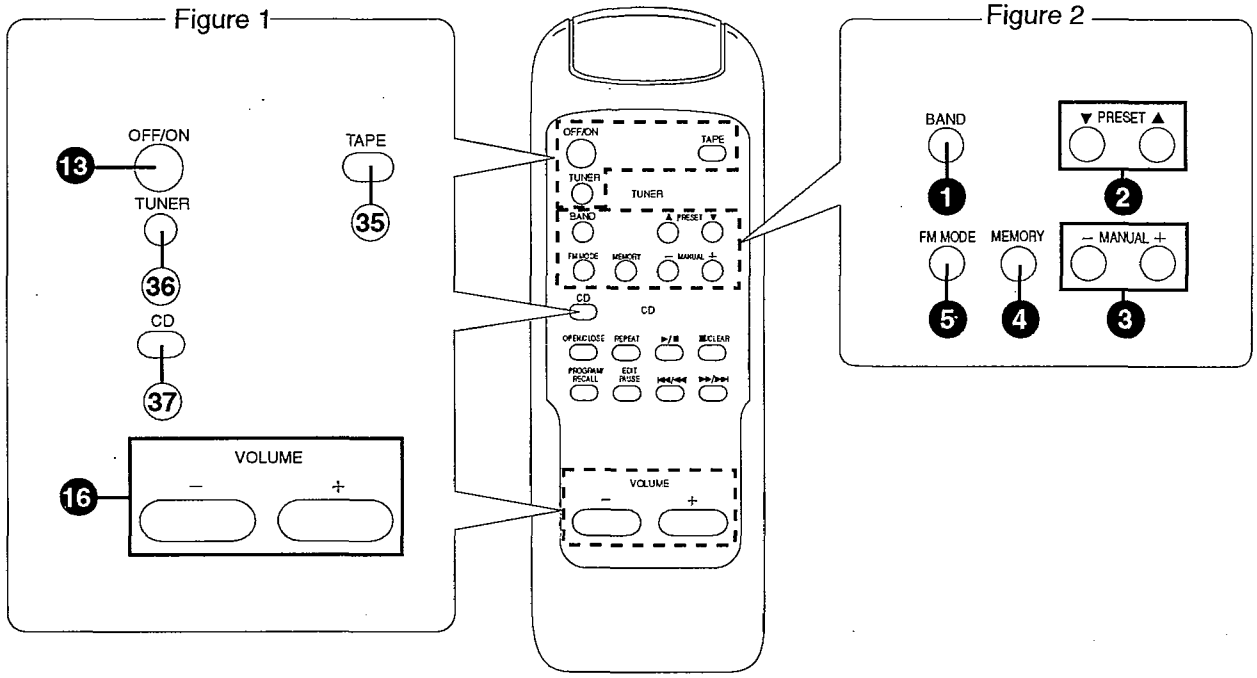
(31) Repeat button (REPEAT)
Press to activate the repeat mode.

(32) Program/recall button (PROGRAM/RECALL)
Press to activate the program play mode and to confirm the programmed sequence. You can enter specific tracks using the skip/search buttons.

(33) Edit pause button (EDIT PAUSE)
Press to activate the edit-recording from compact discs.

(34) Skip/search buttons (⏮/◀◀ · ▶▶/⏭)
Press either button to skip (backward or forward) the tracks, or to search (backward or forward) the desired portion of compact discs.

■ REMOTE CONTROL UNIT CONTROLS AND FUNCTIONS



Common operation controls (Figure 1)

The functions of button ⓭ and ⓰ are identical to those described under " Amplifier section" on page 5

㉟ Tape input select button (TAPE)

Press to enjoy listening to cassette tapes.

㊱ Tuner input select button (TUNER)

Press to enjoy listening to radio broadcasts.

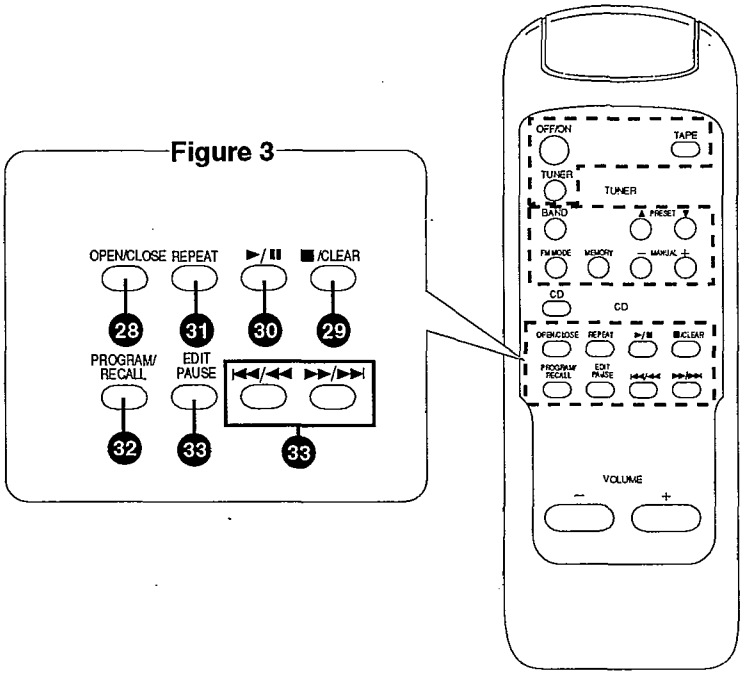
㊲ CD input select button (CD)

Press to rewind the tape.
Press and hold during playback to review the contents at high speed.

Tuner controls (Figure 2)

The functions of buttons ❶, ❷, ❸, ❹ and ❺ are identical to those described under "Tuner section" on page 4.

Figure 3



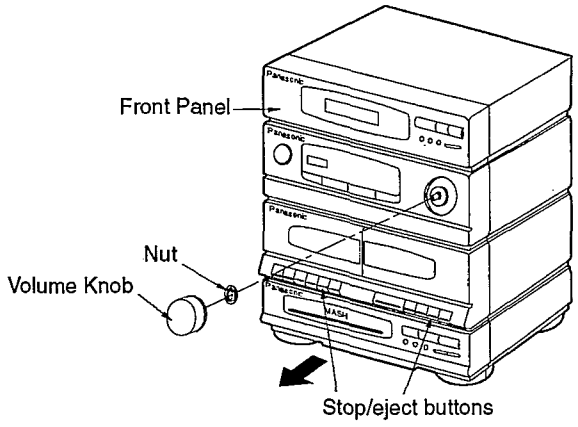
Compact disc controls (Figure 3)

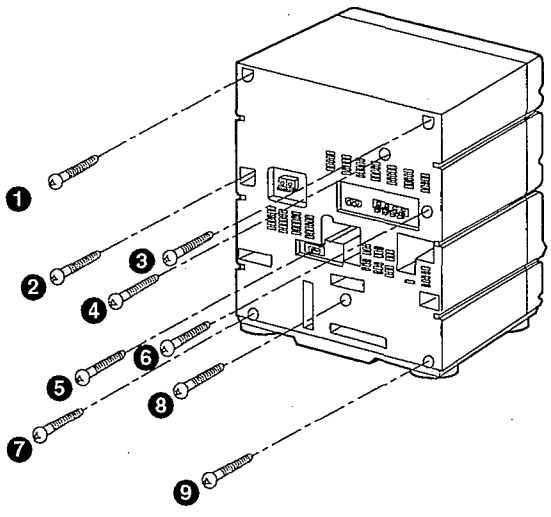
The functions of buttons ㉘ , ㉙ , ㉚ , ㉛ , ㉜ , ㉝ and ㉞ are identical to those described under "Compact disc player section" on page 6.

■ DISASSEMBLY INSTRUCTIONS

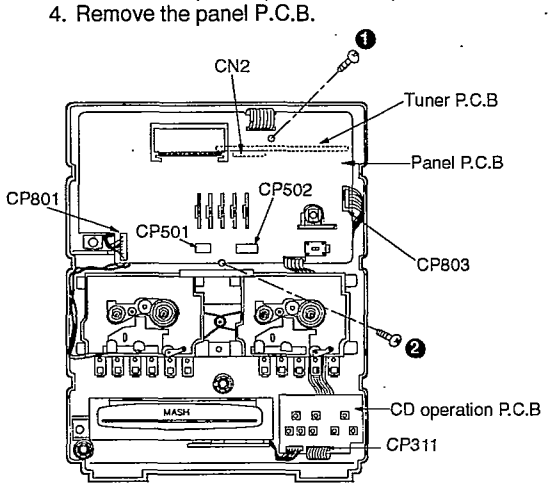
Warning : This product uses a laser diode. Refer to caution statements on page 2.

Ref. No. 1	**Removal of the Front Cabinet**
Procedure 1	1. Remove 9 screws (❶ ~ ❾). 2. Remove the volume knob and nut. 3. Press the stop/eject buttons on both deck 1 and 2. 4. Remove the front cabinet in the direction of arrow.

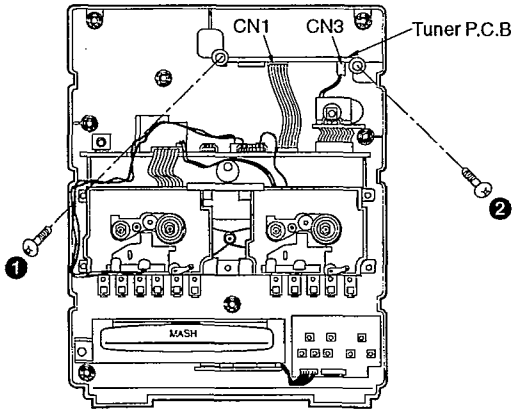




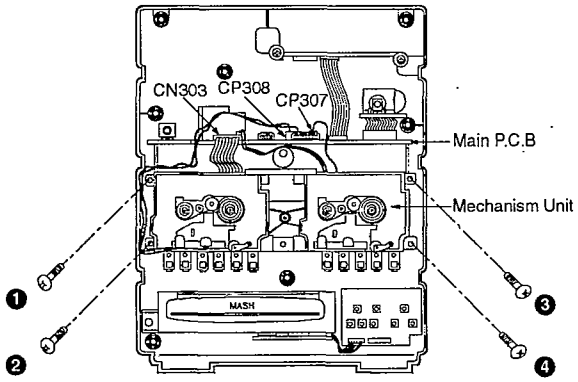
Ref. No. 2	Removal of the Panel P.C.B
Procedure 1 ➡ 2	1. Remove 2 screws. (❶ &❷) 2. Remove 4 connectors (CP501, CP502, CP801 & CP803) on the panel P.C.B. 3. Remove 1 connector (CN2) on the tuner P.C.B. and 1 connector (CP311) on the CD operation P.C.B. 4. Remove the panel P.C.B.

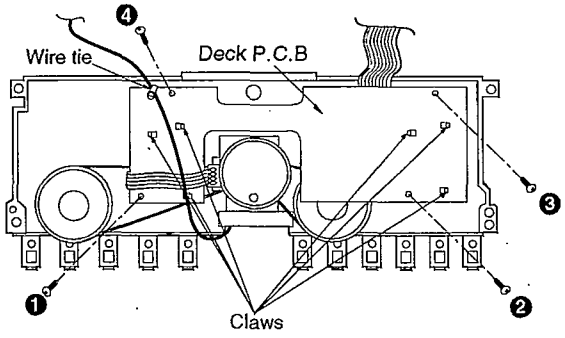


Ref. No. 3	Removal of the Tuner P.C.B
Procedure 1 ➡ 2 ➡ 3	1. Remove 2 screws (❶ &❷). 2. Remove 2 connectors (CN3 & CN1). 3. Pull out the tuner P.C.B.

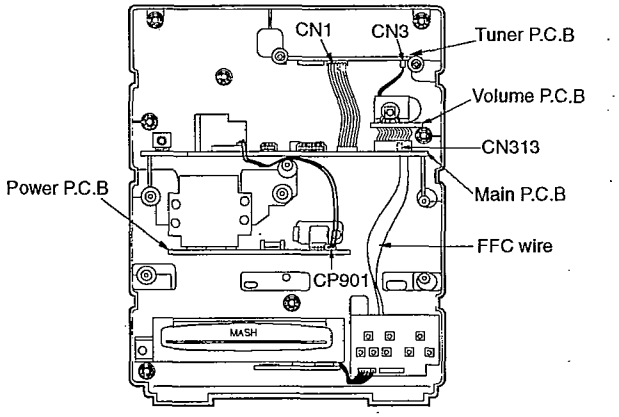


Ref. No. 4	Removal of the Mechanism Unit and Deck P.C.B
Procedure 1 ➡ 2 ➡ 4	1. Remove 4 screws (❶~❹). 2. Remove 3 connectors (CN303, CP307 & CP308) on the main P.C.B 3. Remove solder points on the motor terminal. 4. Remove 4 screws ❶~❹). 5. Cut wire tie. 4. Release 6 claws.

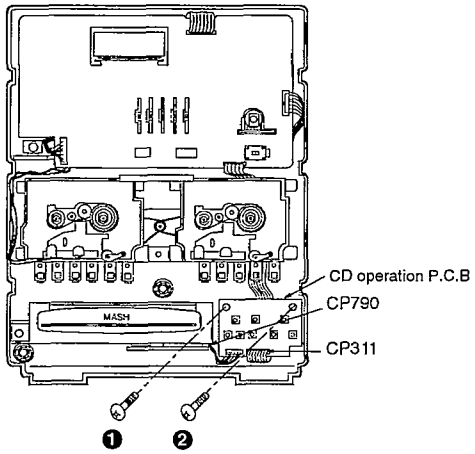




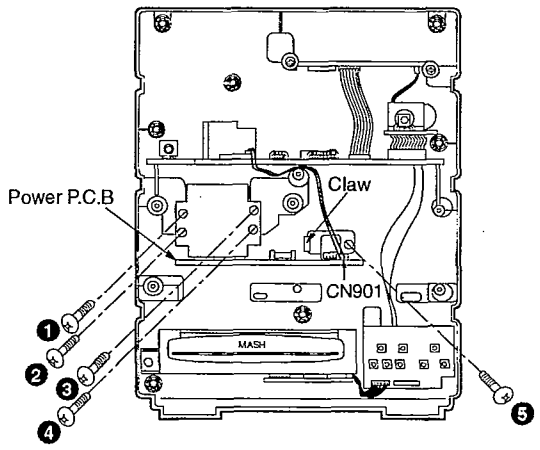
Ref. No. 5	Removal of the Main and Volume P.C.B
Procedure 1 ➡ 2 ➡ 4 ➡5	1. Remove the FFC wire from the connector (CN313). 2. Remove 2 connector (CN1 & CN3) on the tuner P.C.B. 3. Remove 1 connector (CP901) on the power P.C.B. 4. Pull out the main and volume P.C.B.



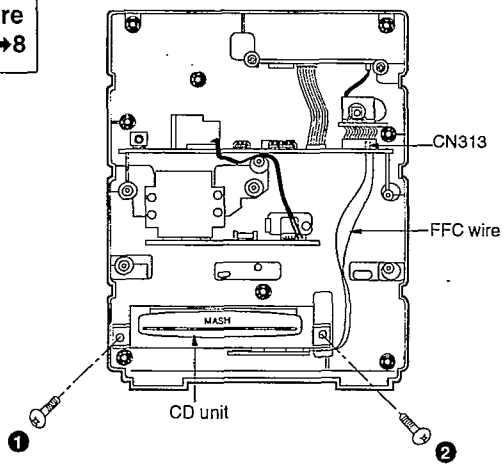
Ref. No. 6	Removal of the CD Operation P.C.B
Procedure 1 ➡ 6	1. Remove 2 screws (❶&❷). 2. Remove 2 connectors (CP311 & CP790).



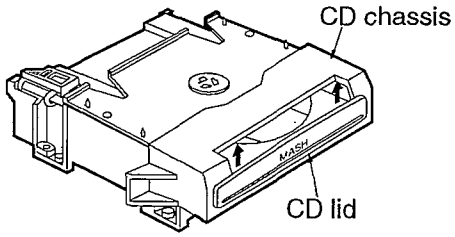
Ref. No. 7	Removal of the Power P.C.B
Procedure 1➡2➡4➡7	1. Release 1 connector (CN901). 2. Remove 5 screws (❶ ~ ❺). 3. Release 1 claw.



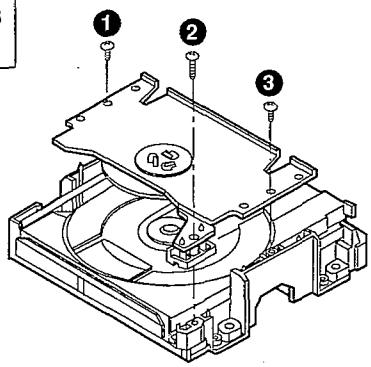
Ref. No. 8	Removal of the CD Unit
Procedure 1➡2➡6➡8	1. Remove 2 screws (❶&❷). 2. Remove FFC wire from connector (CN313). 3. Remove the CD unit.



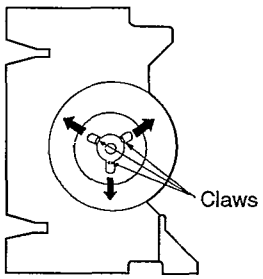
Ref. No. 9	Removal of the CD Lid & Chassis
Procedure 1➡2➡6➡8 ➡9	1. Remove the CD lid in the direction of arrow. 2. Remove the CD chassis.

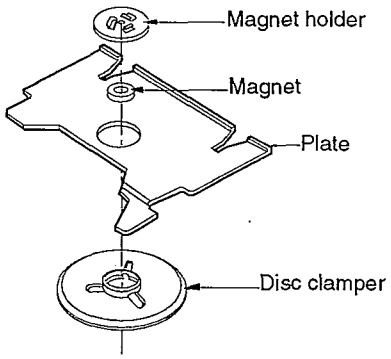


Ref. No. 10	Removal of the Disc Clamper
Procedure 1➡2➡6➡8 ➡9➡10	• Remove 3 screws (❶ ~ ❸)



• Disassembly of the disc clamper

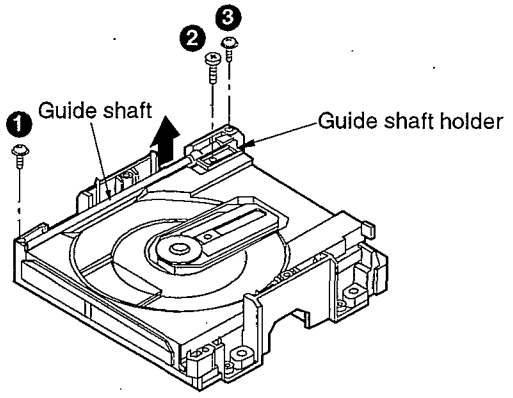




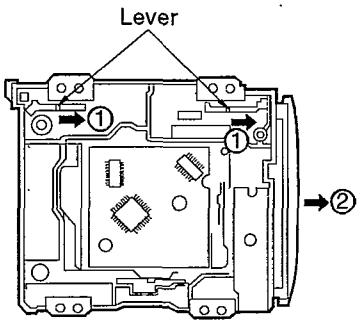
1. Release 3 claws in the direction of arrows.
2. Disassemble the disc clamper as shown above

Ref. No. 11	Removal of the Guide Shaft and Guide Shaft Holder
Procedure 1➡2➡6➡8 ➡9➡10➡11	

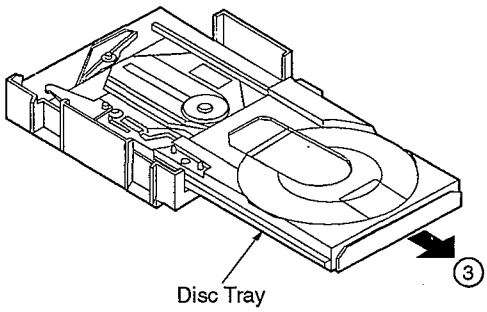
1. Remove 3 screws (❶ ~ ❸).
2. Remove the guide shaft and guide shaft holder in the direction of arrow.



Ref. No. 12	Removal of the Disc Tray
Procedure 1➡2➡6➡8 ➡9➡10➡11 ➡12	

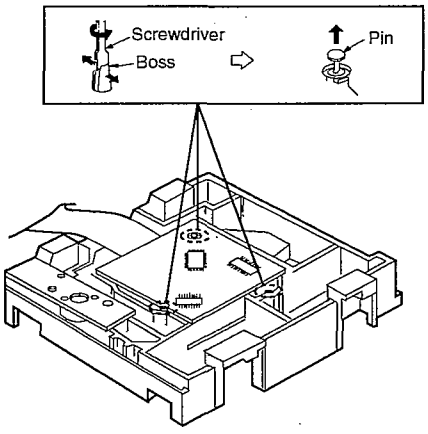


1. Push the 2 levers in the direction of arrow ① until the traverse unit goes down and the disc tray slightly in the direction of arrow ②.

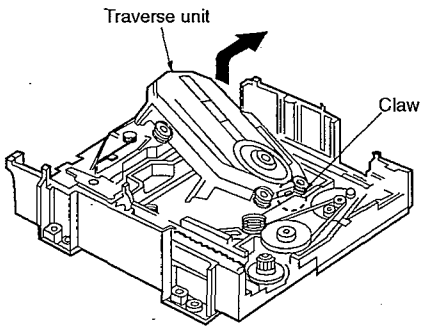


2. Remove the disc tray in the direction of arrow ③.

Ref. No. 13	Removal of the Traverse Deck Ass'y
Procedure 1➡2➡6➡8 ➡9➡10➡11 ➡12➡13	



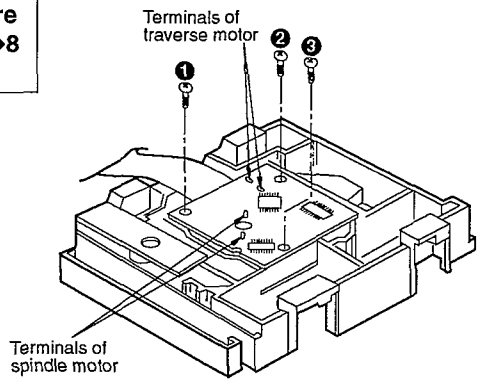
1. Widen 3 bosses by using a screwdriver and remove 3 pins.



2. Release the claw and then remove the traverse unit in the direction of arrow.

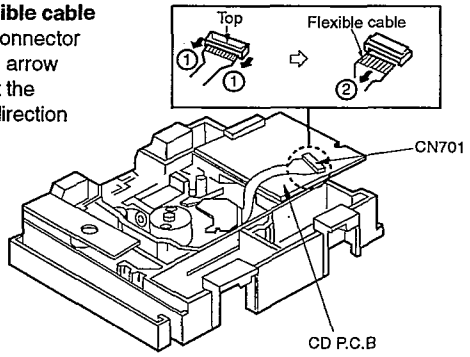
Ref. No. 14 — Removal of the CD P.C.B.

Procedure
1➡2➡6➡8
➡14

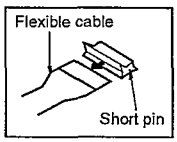


1. Remove 3 screws (❶~❸).
2. Desolder the 2 terminals of spindle motor.
3. Desolder the 2 terminals of traverse motor.

• **Removal of the flexible cable**
Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.

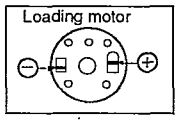


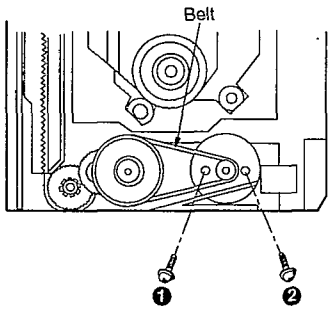
4. Remove the flexible cable (CN701).
Note :
Insert a short pin into the flexible cable for traverse unit.



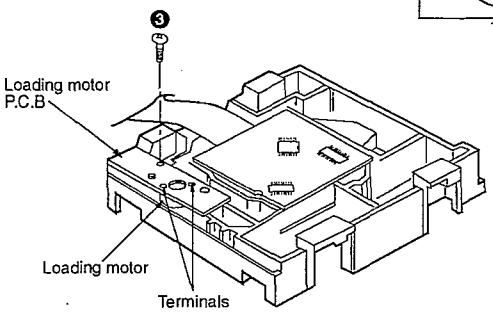
Ref. No. 15 — Removal of the Loading Motor P.C.B and Loading Motor

Procedure
1➡2➡6➡8
➡9➡10➡11
➡12➡15





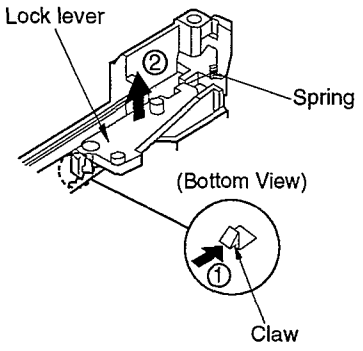
1. Remove the belt.
2. Remove 2 screws (❶ & ❷).



3. Remove 1 screw (❸).
4. Desolder the 2 terminals of loading motor.

Ref. No. 16 — Removal of the Lock Lever

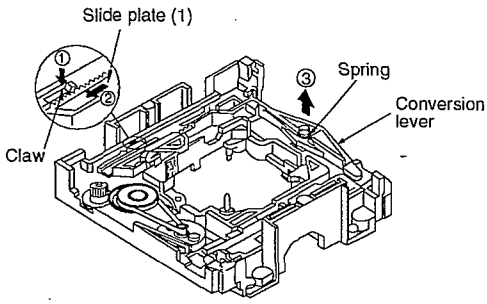
Procedure
1➡2➡6➡8
➡9➡10➡11
➡12➡16



1. Remove the spring.
2. Release the claw in the direction of arrow ①, and then remove the lock lever in the direction of arrow ②.

Ref. No. 17 — Removal of the Conversion Lever

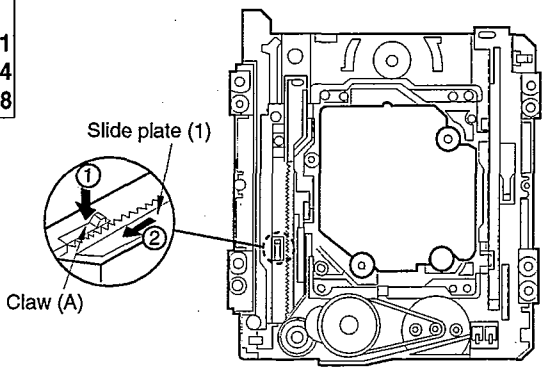
Procedure
1➡2➡6➡8
➡9➡10➡11
➡12➡13➡14
➡16➡17



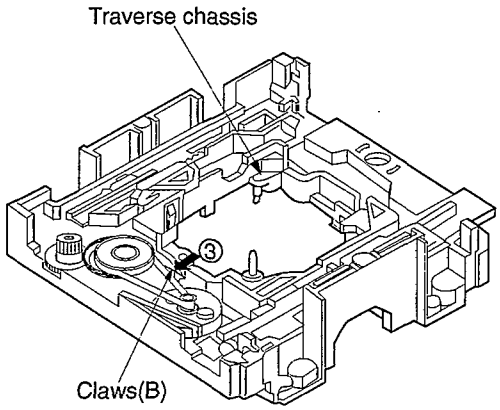
1. Remove the spring.
2. Push the claw(A) in the direction of arrow ①, and then move the slide plate (1) in the direction of arrow ②.
3. Remove the conversion lever in the direction of arrow ③.

Ref. No. 18	Removal of the Traverse Chassis Ass'y

Procedure
1➡2➡6➡8
➡9➡10➡11
➡12➡13➡14
➡16➡17➡18



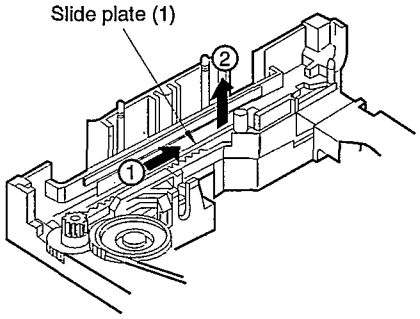
1. Push the claw(A) in the direction of arrow ①, and then move the slide plate(1) in the direction of arrow ②.



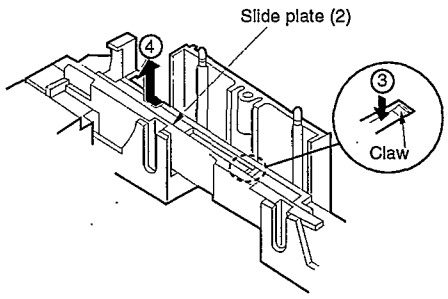
2. Push 1 claw(B) in the direction of arrow ③, and then remove the traverse chassis ass'y.

Ref. No. 19	Removal of the Slide Plate (1) and Slide Plate (2)

Procedure
1➡2➡6➡8
➡9➡10➡11
➡12➡13➡14
➡16➡17➡18
➡19



■ **Removal of the slide plate (1)**
- Move the slide plate(1) in the direction of arrow ①, and lift up the slide plate(1) in the direction of arrow ②.

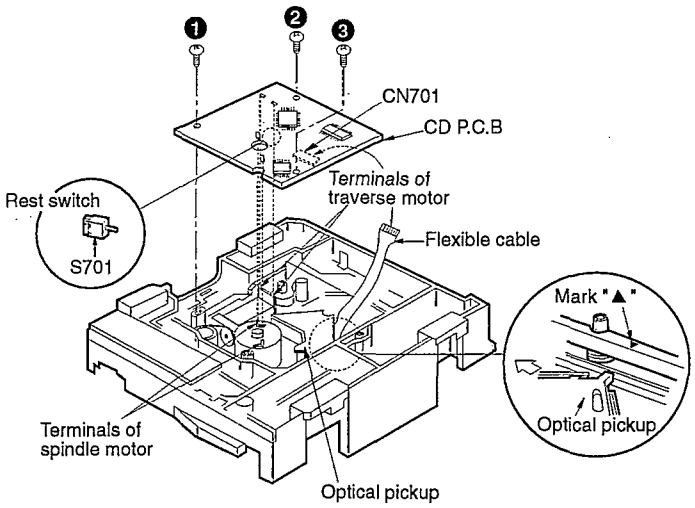


■ **Removal of the slide plate (2)**
- Push the claw in the direction of arrow ③, and remove the slide plate(2) in the direction of arrow ④.

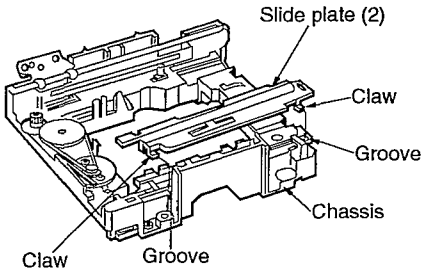
■ INSTALLING CD P.C.B.

1. Before installing the CD P.C.B., move the optical pickup toward the outer edge from the mark "▲". (Otherwise, the rest switch (S701) mounted on the CD P.C.B may be damaged.)
2. Connect the flexible cable to the connector (CN701).
3. Install the servo P.C.B. in the traverse deck ass'y with the 3 screws (❶~❸).
4. Solder the 2 terminals of the traverse motor and the 2 terminals of the spindle motor.

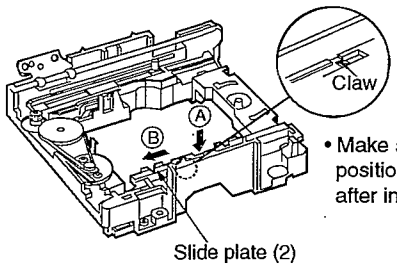
Note : Connect the flexible cable to the connector (CN701) firmly.
Tighten the screws before soldering the terminals.



■ CD UNIT ASSEMBLY

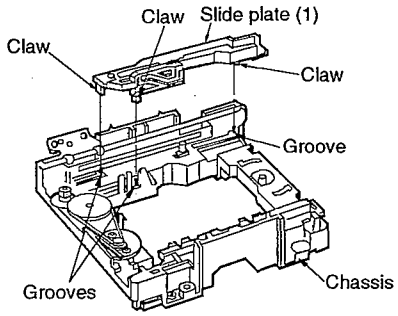


1. Install the slide plate (2) on the chassis by fitting 2 claws of slide plate (2) in the 2 grooves of the chassis.

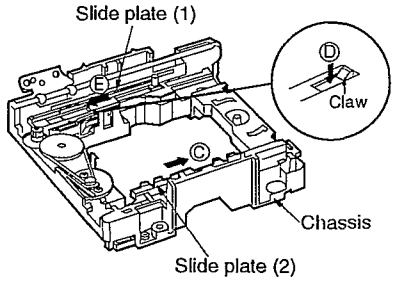


• Make sure that the claw is positioned as shown above after installing slide plate(2).

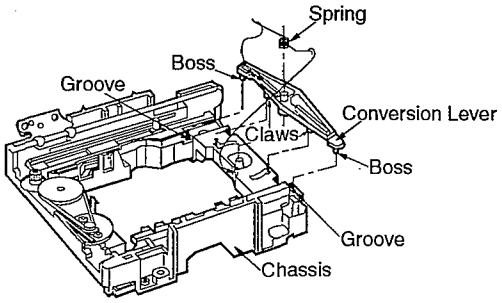
2. Slide the slide plate(2) in the direction of arrow Ⓑ while keeping it held down lightly in the direction of arrow Ⓐ .



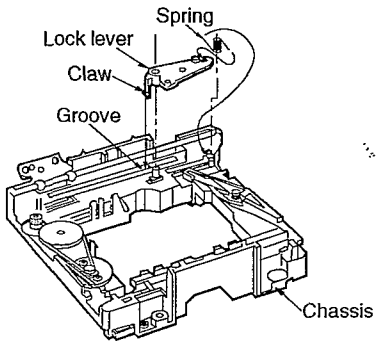
3. Install the slide plate (1) on the chassis by fitting 3 claws of slide plate (1) in the 3 grooves of the chassis as shown above.



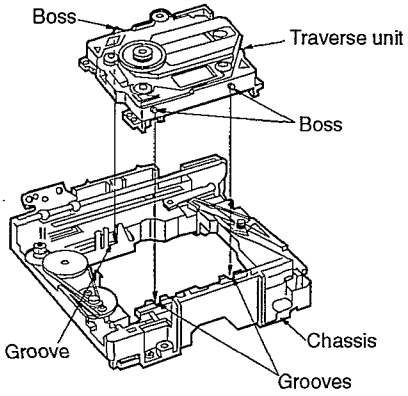
4. Slide the slide plate(2) fully in the direction of arrow Ⓒ .
5. Keep holding down the claw in the direction of arrow Ⓓ and slide the slide plate(1) fully in the direction of arrow Ⓔ (The slide plate(1) will not able to move)



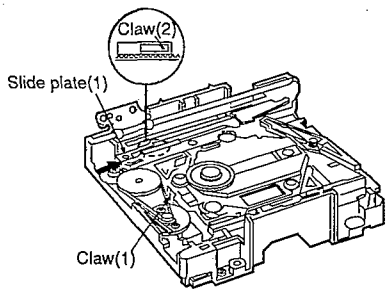
6. Install the conversion lever on the chassis by fitting 2 claws of the conversion lever in the 2 grooves of the chassis and then follow by 2 bosses in the 2 grooves as shown above.



7. Install the lock lever on the chassis by fitting the claw of the lock lever in the groove of the chassis.
8. Install the spring on the lock lever and the chassis.



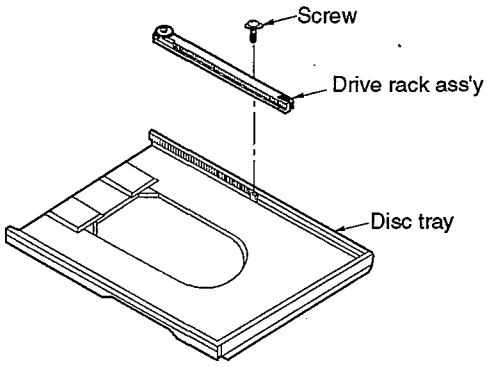
9. Install the traverse unit on the chassis by fitting the 3 bosses of the traverse unit in the 3 grooves of the chassis.



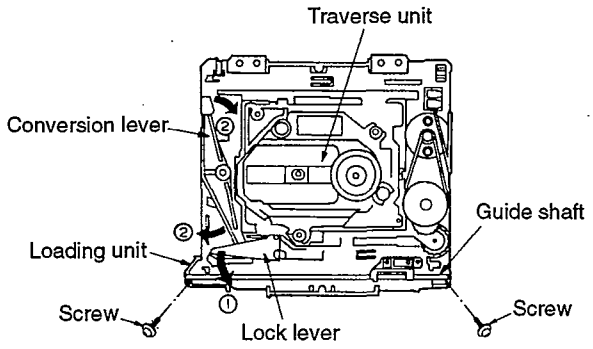
10. Make sure that the traverse unit is engaged with the claw(1).
11. Slide the slide plate(1) in the direction of the arrow. Be sure to check if claw(2) is set as shown above. (The slide plate(1) will not able to move.)

■ INSTALLING DISC TRAY UNIT

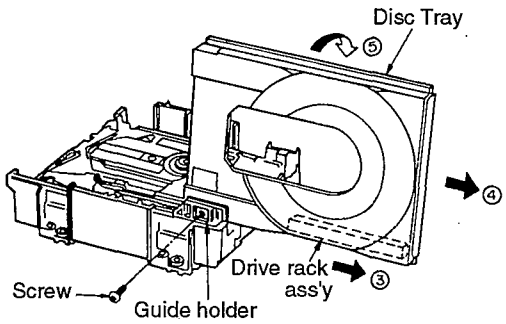
• Install the drive rack ass'y on the disc tray with a screw.



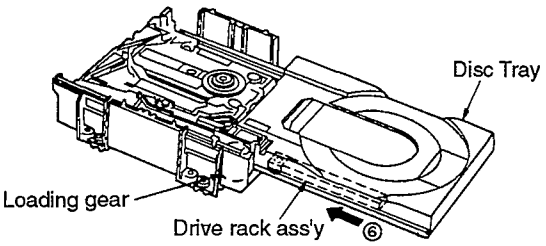
■ INSTALLING DISC TRAY



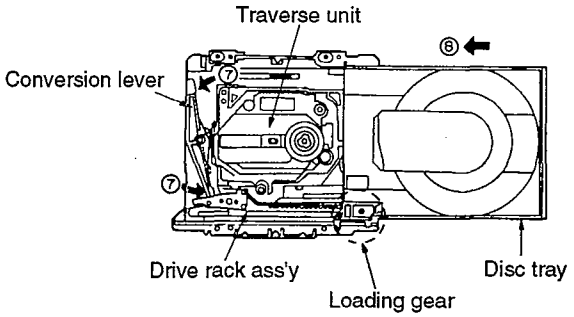
1. Move the lock lever in the direction of arrow ① and the conversion lever in the direction of arrow ② .
   (The traverse unit rises.)
2. Install the guide shaft on the loading unit with 2 screws.



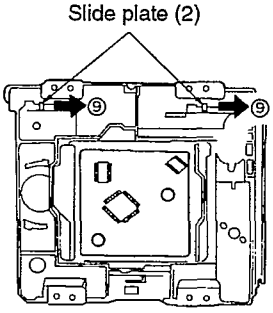
3. Install the disc tray on the guide holder with a screw as shown above.
4. Slide the drive rack ass'y fully in the direction of arrow ③ .
5. Slide the disc tray fully in the direction of arrow ④ .
6. Lay the disc tray down in the direction of arrow ⑤ .

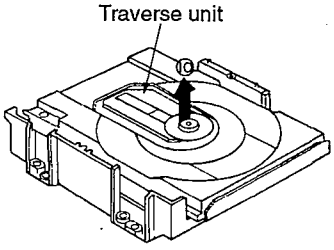


7. Slide the drive rack ass'y in the direction of arrow ⑥ .
8. Hold the disc tray and slide the drive rack ass'y fully in the direction of arrow ⑥ .
   (The drive rack ass'y will not able to move and the loading gear is engaged with the drive rack ass'y)



9. Rotate the conversion lever fully in the direction of arrow ⑦ , and the drive rack ass'y will engage with the loading gear (1). (The traverse unit is lowered.)
10. Slide the disc tray in the direction of arrow ⑧ .

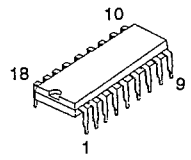




11. Slide the slide plate (2) in the direction of arrow 9 and check if the traverse unit rises in the direction of arrow ⑩ .

■ TERMINAL GUIDE OF ICs, TRANSISTORS & DIODES

AN7273A



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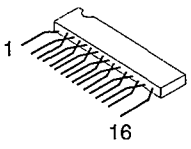

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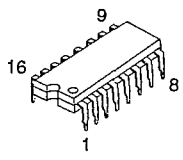

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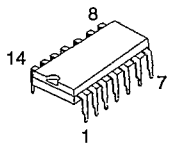

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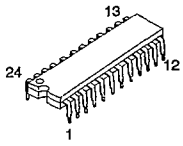

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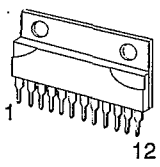

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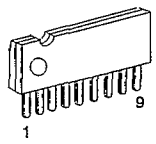

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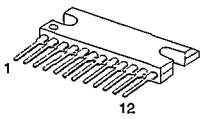

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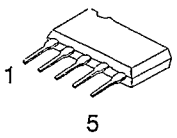

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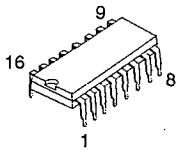

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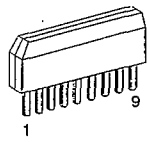

M37410M6H240
MN66271RA
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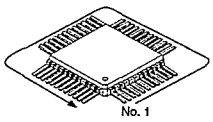
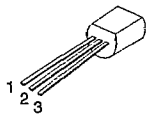


S8054HN-T



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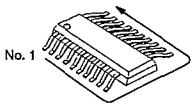

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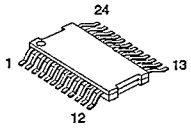

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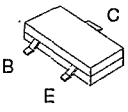

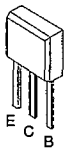

BA1A4MTA
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2SC2784FTA
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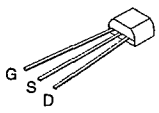
2SC2786MTA
BN1A4MTA

2SK544F-AC



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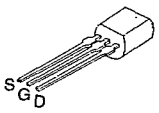
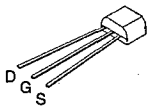
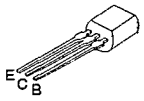


2SJ40CDTA





2SA564RTA
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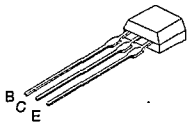
2SC2001K1TA
2SC829BTA
2SC1685RTA

2SC829CTA
2SA720STA
2SC1675KTA



RVTDTC113ZST
RVTDTC114EST
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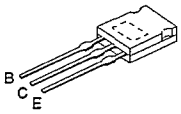
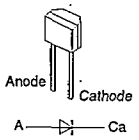
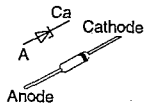
2SC1740SRTA
2SC1740SSTA
2SC1740SQSTA

2SD2037ETA



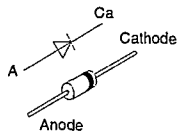
RVDSVC321





RVDMTZ4R7BTA
RVDMTZ5R1BTA
RVDMTZ5R6BTA
RVDMTZ6R8ATA
RVDMTZ8R2BTA
RVDMTZ18BTA
RVDMTZ6R2BTA

RL154M11



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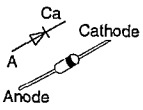
MA700TA



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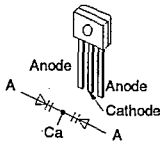
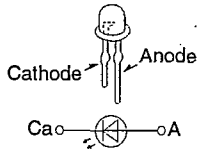
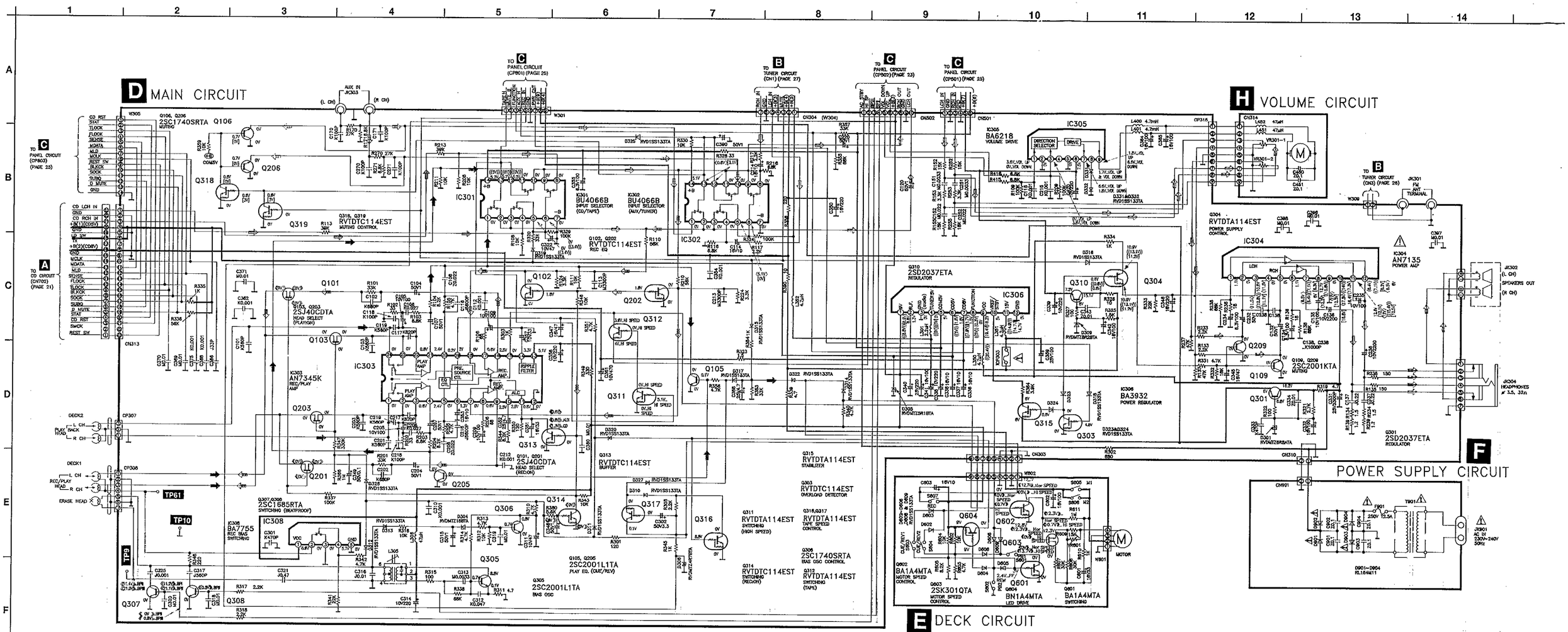


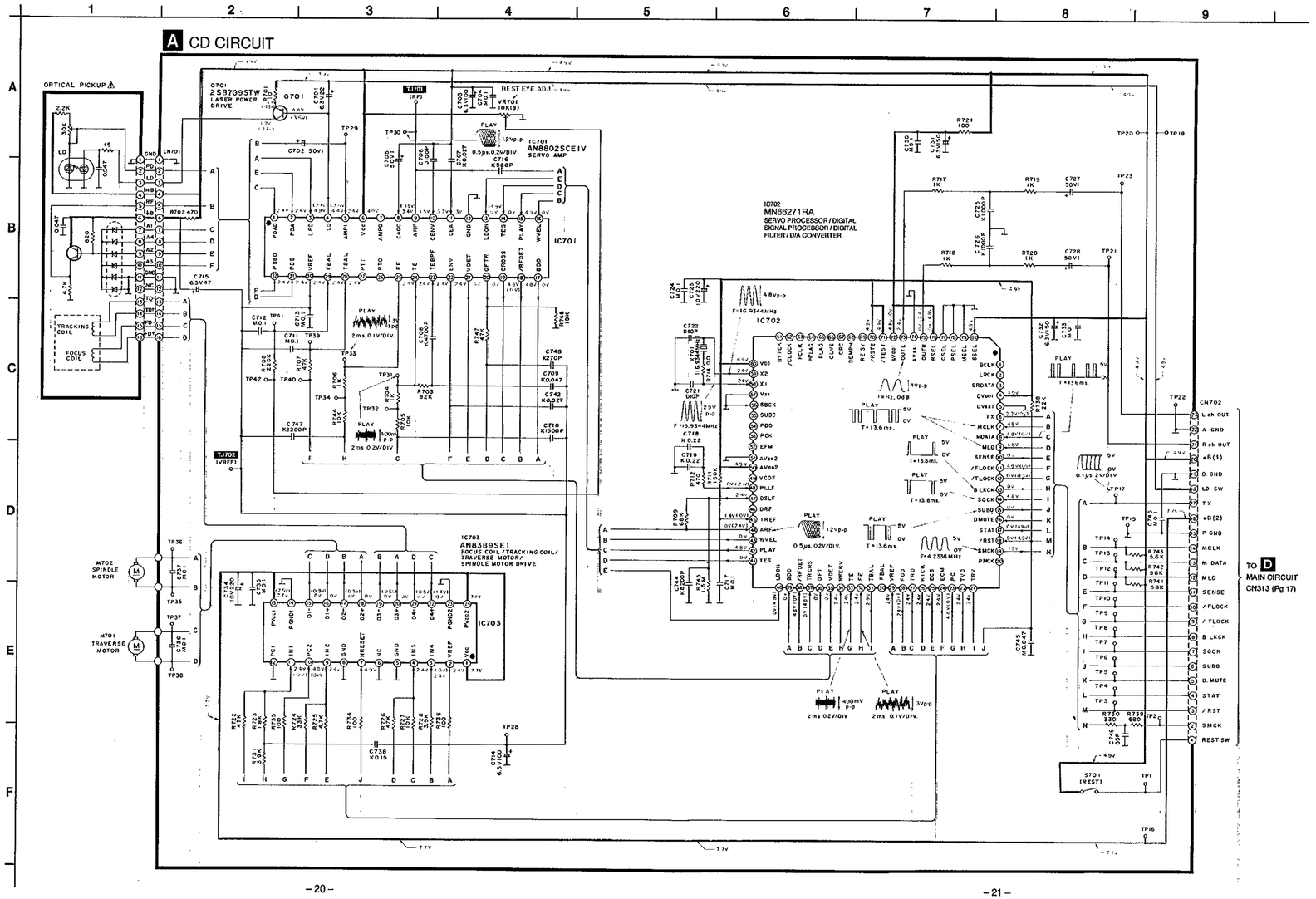
SLR33VC160



■ SCHEMATIC DIAGRAM



■ SCHEMATIC DIAGRAM



NOTES:

- S301 : CD program/recall select switch. (PROGRAM/RECALL)
- S302 : CD edit/pause select switch. (EDIT PAUSE)
- S303 : CD reverse skip switch. (⏮/◀◀)
- S304 : CD skip switch. (▶▶/⏭)
- S305 : CD repeat switch. (REPEAT)
- S306 : CD stop/cancel select switch. (■STOP/CLEAR)
- S307 : CD play/pause select switch. (▶PLAY/❚❚PAUSE)
- S308 : CD open/close switch. (⏏OPEN/CLOSE)
- S601 : Deck 1 tape playback switch.
- S602 : Deck 2 tape playback switch.
- S603 : Deck 1 fastwind select switch.
- S604 : Deck 2 fastwind select switch.
- S605 : Deck 1 motor switch.
- S606 : Deck 2 motor switch.
- S607 : Record switch.
- S701 : Rest switch.
- S790 : CD disc tray loading close detect switch.
- S791 : CD disc tray loading open detect switch.
- S801 : Power switch (POWER)
- S802 : Tape function select switch.
- S803 : Tuner function select switch.
- S804 : CD function select switch.
- S805 : Aux function select switch.
- S806 : Preset tuning up switch. (PRESET TUNING ▲)
- S807 : Preset tuning down switch. (PRESET TUNING▼)
- S808 : Tuning up switch. (TUNING +)
- S809 : Tuning down switch . (TUNING -)
- S810 : Memory switch. (MEMORY)
- S811 : FM mode select switch. (FM MODE)
- S812 : Band select switch. (BAND)
- SW801-1 : Editing speed select switch. (HS...HIGHSPEED, NS...NORMAL SPEED)
- SW801-2 : Beatproof select switch. (BPI...Beatproof 1, BPII...Beatproof 2, BPIII...Beatproof3)
- VR1 : FM VCO VR.
- VR301-1 ~ VR301-2 : Volume control VR.
- VR551-1 ~ VR551-2 : Graphic Equalizer VR. (100Hz)
- VR552-1 ~ VR552-2 : Graphic Equalizer VR. (330Hz)
- VR553-1 ~ VR553-2 : Graphic Equalizer VR. (1kHz)
- VR554-1 ~ VR554-2 : Graphic Equalizer VR. (3.3kHz)
- VR555-1 ~ VR555-2 : Graphic Equalizer VR. (10kHz)
- VR601-1 ~ VR601-2 : Tape speed adjustment VR.

- Current consumption:

Vol. min.....	61.3mA	(FM)
	61.3mA	(AM)
	68.8mA	(Tape, Playback)
Vol. max.....	105.1mA	(FM)
	114.2mA	(AM)
	156.8mA	(Tape, Playback)
	156.4mA	(Tape, Recording-Norm speed)
	150.0mA	(Tape, Recording-High speed)

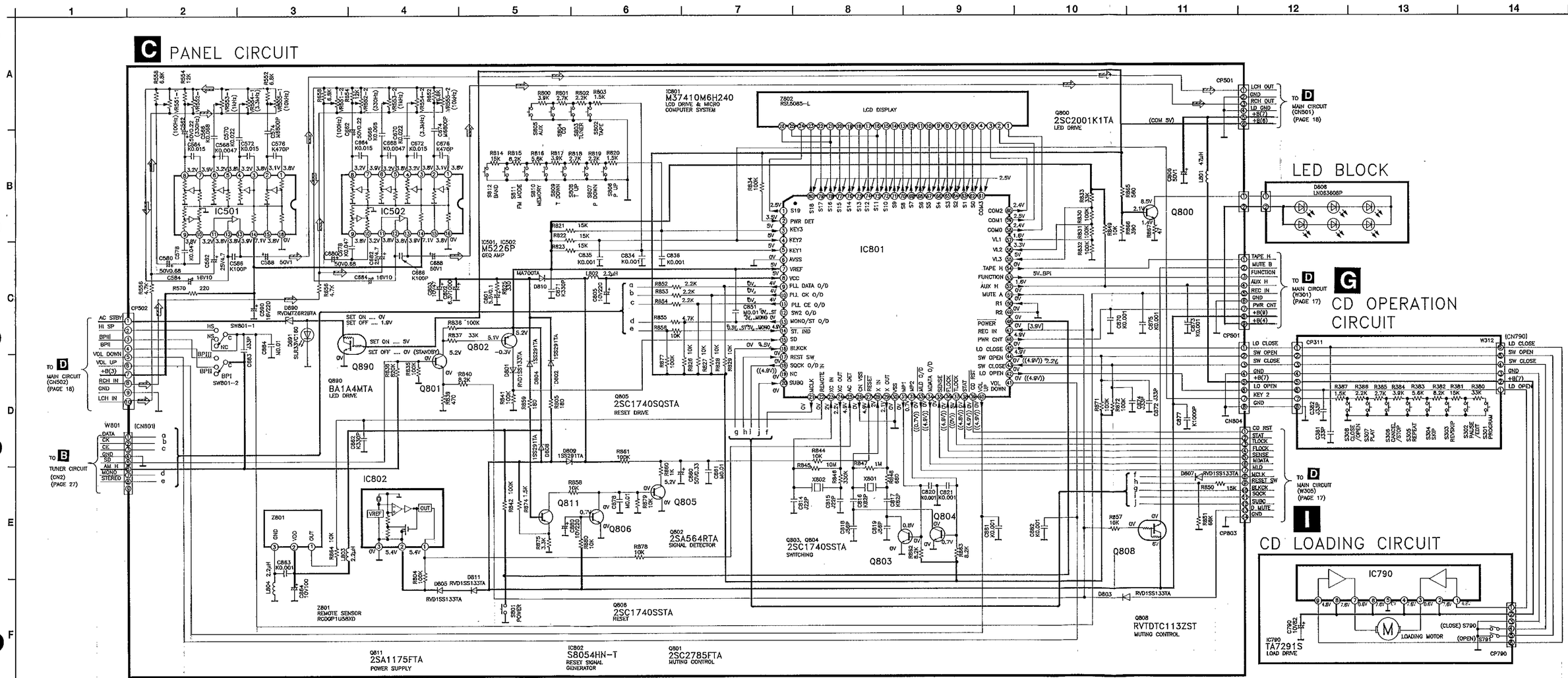
(Measurement condition:
Radio : FM 60 dB, 30%mod
AM 74 dB/m, 30%mod
Tape : 315 Hz, 0dB)

... MAIN SIGNAL LINE
... CD SIGNAL LINE
... TAPE PLAYBACK SIGNAL LINE
... RECORDING SIGNAL LINE
... FM SIGNAL LINE
... FM/LW/MW VCAP SIGNAL LINE
... FM OSC SIGNAL LINE
... LW/MW OSC SIGNAL LINE
... +B LINE
... AUX SIGNAL LINE

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
<Main/Panel/Tuner/Power supply/Cassette deck section>
No mark ... Tape Playback << >> ... Tape Recording
( ) ... AM (( )) ... CD
{ } ... AM/FM
< > ... FM
[ ] ... Aux
<Compact disc player section>
No mark ... STOP
( ) ... Playback (Test disc 1kHz, L+R 0 dB)
- Important Safety Notice:
Component identified by ⚠ have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

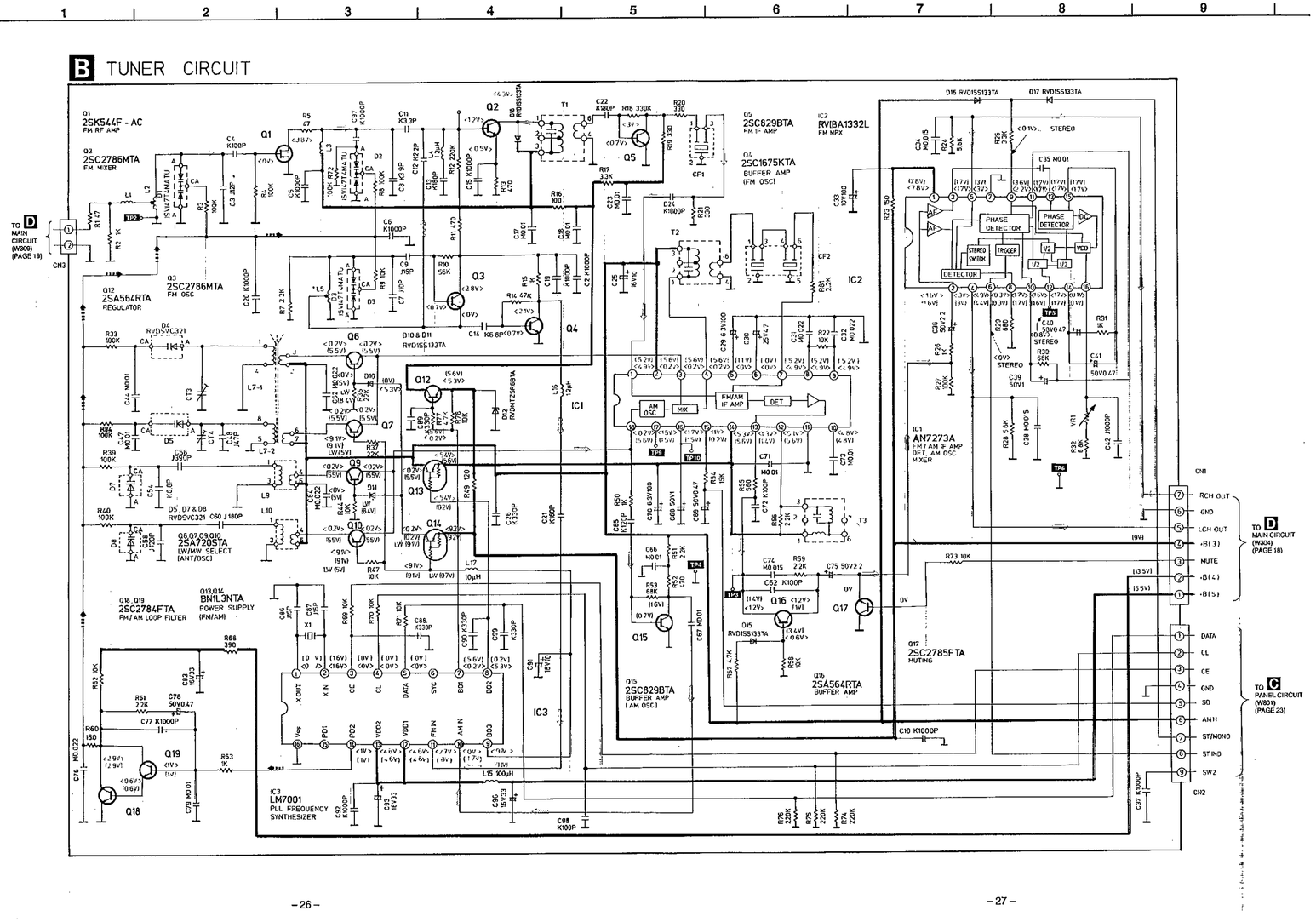
- **This schematic diagram may be modified at anytime with the development of new technology.**

■ SCHEMATIC DIAGRAM



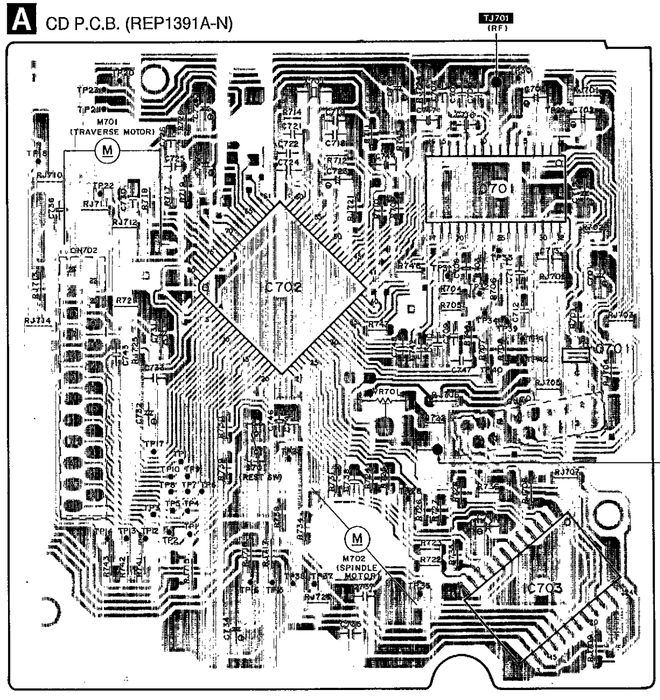
■ SCHEMATIC DIAGRAM

B TUNER CIRCUIT

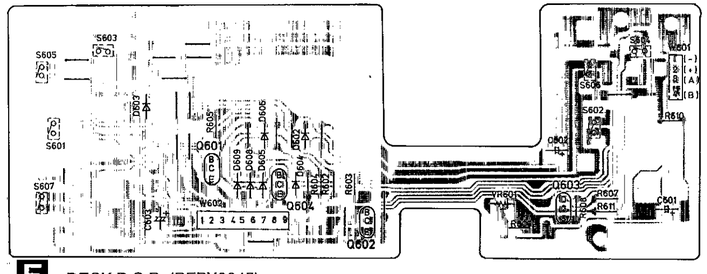


■ PRINTED CIRCUIT BOARD

A CD P.C.B. (REP1391A-N)

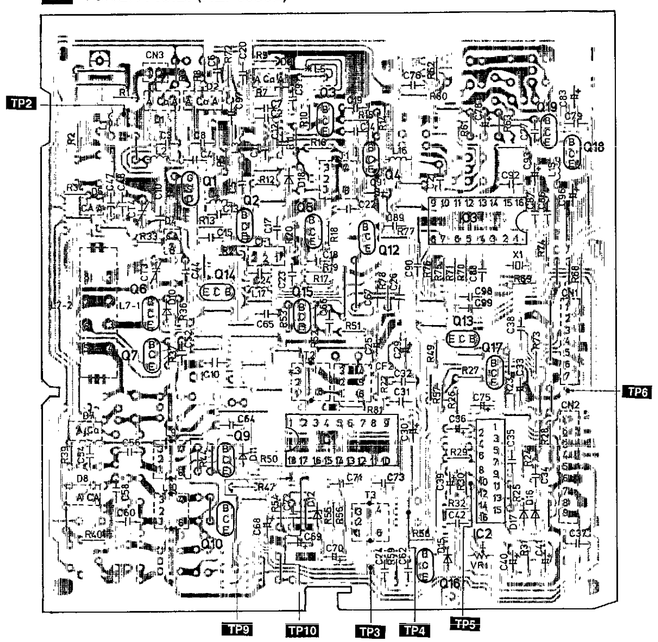


E DECK P.C.B. (REPX0045)

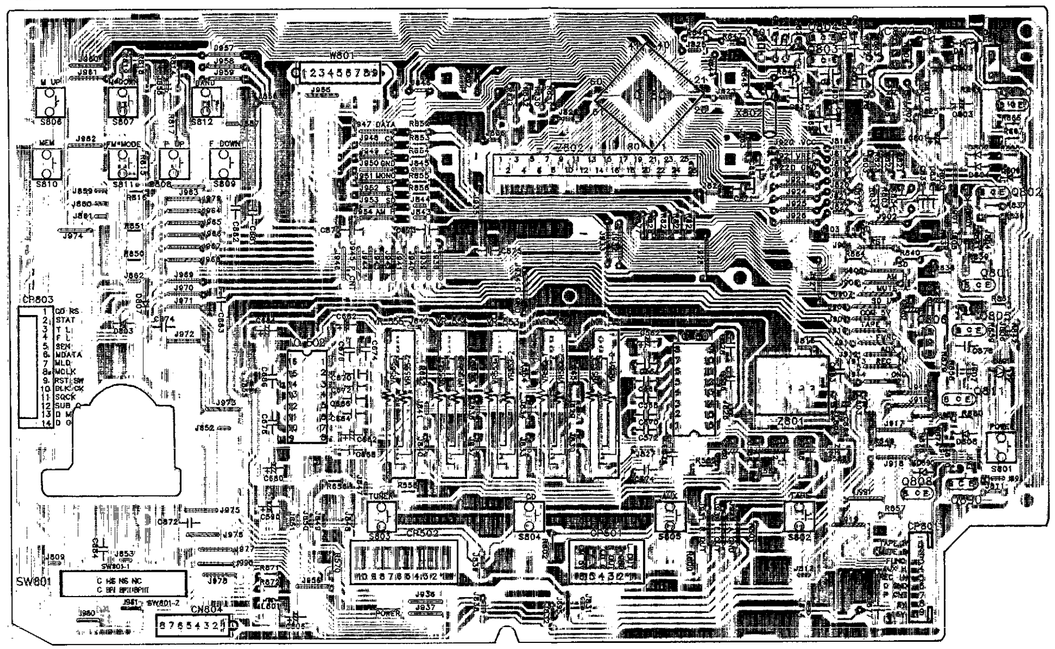


■ PRINTED CIRCUIT BOARD

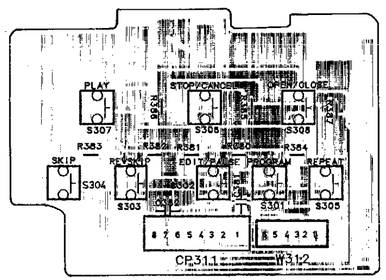
B TUNER P.C.B. (REP0930B)



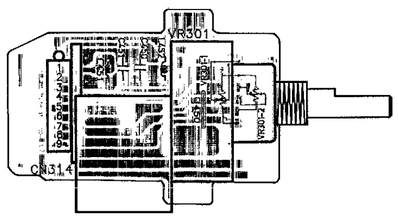
C PANEL P.C.B. (REPX0045C)



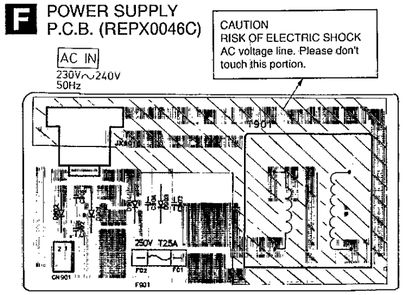
G CD OPERATION P.C.B. (REPX0044C)



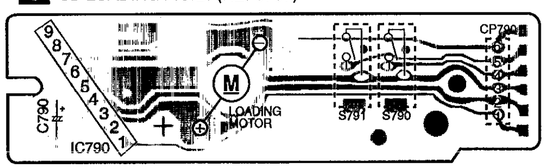
H VOLUME P.C.B. (REPX0044C)



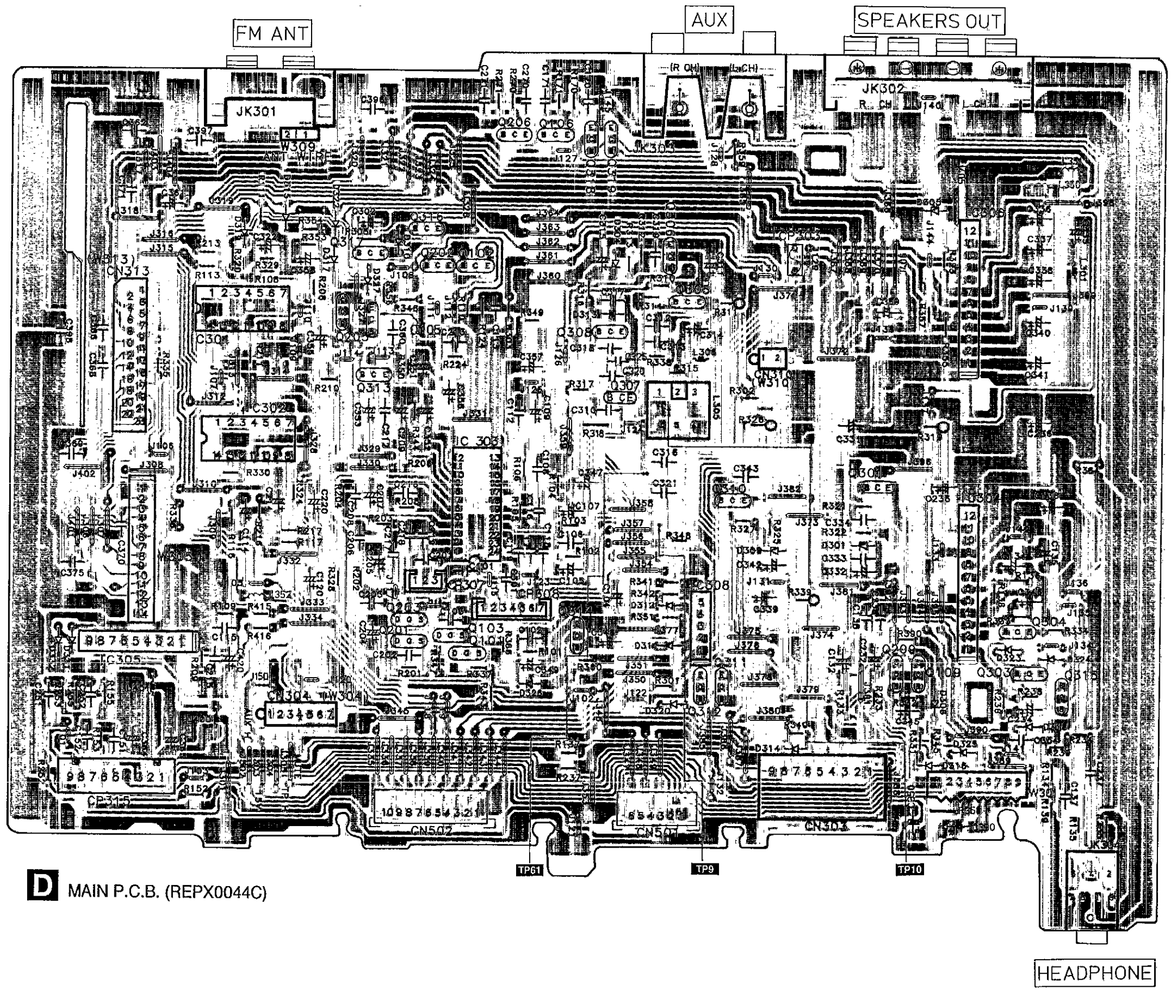
F POWER SUPPLY P.C.B. (REPX0046C)



I CD LOADING P.C.B. (REP0767)



■ PRINTED CIRCUIT BOARD



D MAIN P.C.B. (REPX0044C)

■ FUNCTION OF IC TERMINALS

• IC701 (AN8802SCE1V)

Pin No.	Terminal Name	I/O	Function
1	PDAD	I	PD A channel signal input with delay
2	PDA	I	PD A channel signal input without delay
3	LPD	I	Laser PD connection
4	LD	O	Power supply for LD driving
5	AMPI	I	RF amplifier input
6	Vcc	I	Power supply connection
7	AMPO	O	RF amplifier output (not used, open)
8	CAGC	I	AGC loop filter connection
9	ARF	O	RF AGC output
10	CENV	I	Capacitor connection for RF detection
11	CEA	I	Capacitor connection for HPF amplifier
12	GND	—	Ground connection
13	LDON	I	ON/OFF input of LD APC ("H": ON, "L": OFF)
14	TES	I	Tracking error shunt signal input ("H": shunt)
15	PLAY	I	Play signal input ("H": PLAY)
16	WVEL	I	WVEL control
17	BDO	O	BDO output
18	/RFDET	O	NRFDET output
19	CROSS	O	CROSS output
20	OFTR	O	OFTR output
21	VDET	O	VDET output
22	ENV	O	ENV output
23	TEBPF	I	Vibration detection input
24	TE	O	Tracking error output
25	FE	O	Focus error output
26	PTO	O	Potentioamplifier output (not used, open)
27	PTI	I	Potentioamplifier inversion input (not used, open)
28	TBAL	I	Tracking balance input
29	FBAL	I	Focus balance input
30	VREF	O	VREF output
31	PDB	I	PD B channel signal input without delay
32	PDBD	I	PD B channel signal input with delay

• IC702 (MN66271RA)

Pin No.	Terminal Name	I/O	Function
1	BCLK	O	Bit clock output for serial data (not used, open)
2	LRCK	O	L/R identification signal output (Not used, open)
3	SRDATA	O	Serial data output (Not used, open)
4	DVDD1	I	Power Supply Input (for digital circuit)
5	DVSS1	—	GND (for digital circuit)
6	TX	O	Digital audio interface signal output
7	MCLK	I	Microprocessor command clock signal input (Latches data at first transition)
8	MDATA	I	Microprocessor command data signal input
9	MLD	I	Microprocessor command load signal input
10	SENSE	O	Sense signal output (OFT, FESL, MAGEND, NAJEND, POSAD, SFG)
11	/FLOCK	O	Focus servo feeding signal output ("L": Feed)
12	/TLOCK	O	Tracking servo feeding signal output ("L": Feed)
13	BLKCK	O	Sub-code block clock signal output (fBLKCK=75 Hz during normal playback)
14	SQCK	I	External clock signal input for sub-code Q register
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H": Mute)
17	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided CLk signal of X'tal oscillating at MSEL="H" (fSMCK=8.4672MHz) 1/4-divided CLk signal of X'tal oscillating at MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided CLK signal of X'tal oscillating (fPMCK=88.2 KHz) (Not used, open)
21	TRV	O	Traverse forced feed output
22	TVD	O	Traverse drive output
23	PC	O	Spindle motor ON signal output ("L":ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (Servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output

Pin No.	Terminal Name	I/O	Function
29	VREF	I	D/A (Drive) output (TVD, ECS, TRD, FOD, FBAL, TBAL) Reference voltage input
30	FBAL	O	Focus balance adjustment output (Not used, open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (Analog input)
33	TE	I	Tracking error signal input (Analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H": Detection)
36	OFT	I	Off-track signal input ("H": Off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L": Detection)
39	BDO	I	Dropout signal input ("H": Dropout)
40	LDON	O	Laser on signal output ("H": ON)
41	TES	O	Tracking error shunt signal output ("H": shunt)
42	PLAY	O	Play signal out ("H": PLAY)
43	WVEL	O	Double speed status signal output ("H": Double speed)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction CLK output (fPCK=4.321 MHz during normal playback (Not used, open)
54	PDO	O	Phase comparison signal of EFM and PCK signal (Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	CLK input for sub-code serial data (Not used, open)
57	VSS	—	GND
58	X1	I	X'tal oscillating cct input (f=16.9344MHz)
59	X2	O	X'tal oscillating cct output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating cct)
61	BYTCK	O	Byte CLK output (Not used, open)

Pin No.	Terminal Name	I/O	Function
62	/CLDCK	O	Sub-code frame CLK signal output (fCLDCK=7.35kHz during normal playback
63	FCLK	O	X'tal frame CLK signal output (fFCLK=7.35kHz,double=14.7kHz)
64	PFLAG	O	Interpolation flag output ("H": Interpolation) (Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output ("H": CLV,"L": rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output ("H": OK,"L": NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output ("H":ON) (Not used)
69	RESY	O	Frame resynchronizing signal output (Not used, open)
70	/RST2	I	Reset input through MASH cct ("L":reset)
71	/TEST	I	Test input
72	AVDD1	I	Power supply input (for analog cct)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input (at "H" level, RSEL="H"; at "L" level, RSEL= "L";
77	CSEL	I	Crystal oscillating frequency designation input ("L": 16.9344MHz, "H": 33.8688MHz)
78	PSEL	I	Test input (normally, "L") (Not used, open)
79	MSEL	I	Output frequency switching for SMCK terminal "H": SMCK=8.4672MHz "L": SMCK=4.2336MHz (Not used, open)
80	SSEL	I	Output mode switching of SUBQ terminal ("H": Q code buffer mode)

● IC801 (M37410M6H240)

Pin No.	Mark	Function
1	S19	LCD segment signal ouput
2	PWR DET	Power detect signal input
3 ~ 5	KEY3 ~ KEY1	Key source input
6	AVSS	GND
7	VREF	A/D converter reference voltage (GND)
8	VCC	Power supply (+5V)
9	PLL DATA O/D	PLL tuner data signal output
10	PLL CK O/D	PLL tuner clock signal output
11	PLL CE O/D	PLL tuner strove signal output
12	SW2 O/D	Not used
13	MONO/ST O/D	Tuner stereo/mono select signal ouput
14	$\overline{\text{ST. IND}}$	Tuner stereo signal input
15	SD	Auto-stop signal detect input
16	BLKCK	CD subcode block clock signal input
17	REST SW	Reset switch (S701) signal input
18	SQCK O/D	CD subcode clock output
19	NC	————
20	SUBQ	CD subcode data input
21	MCLK	CD signal process IC control signal output
22	REMOTE	CD reset signal output
23	XC IN	Clock input (32.7KHz)
24	XC OUT	Clock output (32.7KHz)
25	AC DET	Main switch control signal input
26	CN VSS	GND
27	$\overline{\text{RESET}}$	Power on reset signal input
28	X IN	Clock input
29	X OUT	Clock output
30	VSS	GND
31	MP1	Microprocessor beat proof 1

Pin No.	Mark	Function
32	MP2	Microprocessor beat proof 2
33	$\overline{\text{MLD O/D}}$	CD signal process strove signal output
34	MDATA O/D	CD signal process IC data output
35	SENSE	CD sense signal input
36	$\overline{\text{FLOCK}}$	CD focus lock signal input
37	$\overline{\text{TLOCK}}$	CD tracking signal input
38	STAT	CD status signal input
39	$\overline{\text{CD RST}}$	CD reset output
40	VOL UP	Remote control volume up signal output
41	VOL DOWN	Remote control volume down signal output
42	LD OPEN	CD disc tray loading open output
43	SW CLOSE	CD close detection switch signal input
44	SW OPEN	CD open detection switch signal input
45	LD CLOSE	CD disc tray loading close output
46	PWR CNT	Power Control signal output
47	REC IN	REC detecting signal input
48	$\overline{\text{POWER}}$	Main Power signal input
49 ~ 50	R2 ~ R1	Region select signal input for Tuner Band select
51	MUTE A	AF muting signal output
52	AUX H	Auxillary mode select input (Not used)
53	FUNCTION	Power supply control signal output (Mode select)
54	TAPE H	Input selector control signal output (TAPE)
55	VL3	LCD bias reference voltage V3
56	VL2	LCD bias reference voltage V2
57	VL1	LCD bias reference voltage V1
58 ~ 61	COM0 ~ COM3	LCD common signal output
62 ~ 80	S0 ~ S18	LCD segment signal output

• IC703 (AN8389SE1)

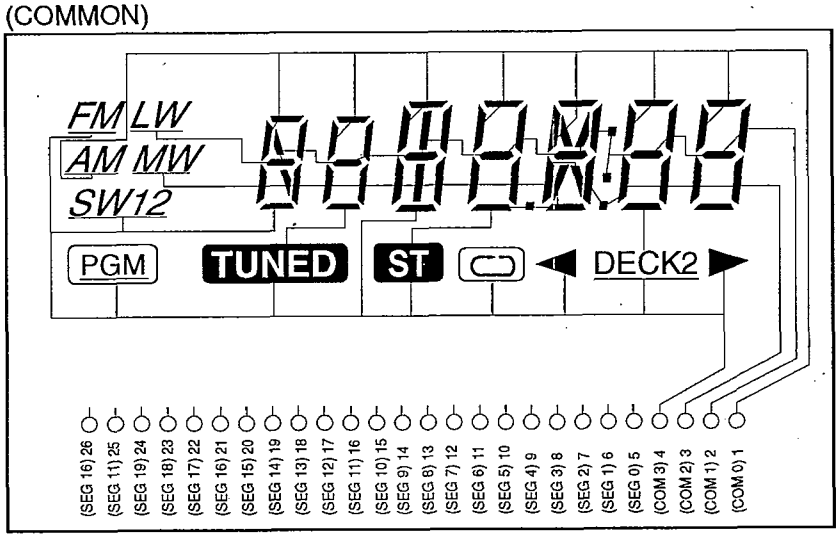
Pin No.	Terminal Name	I/O	Function
1	Vcc	I	Power Supply
2	VREF	I	VREF input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	No connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (not used, open)

Pin No.	Terminal Name	I/O	Function
13	PVcc1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1-	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2-	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3-	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4-	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVcc2	I	Power supply (2) for driver

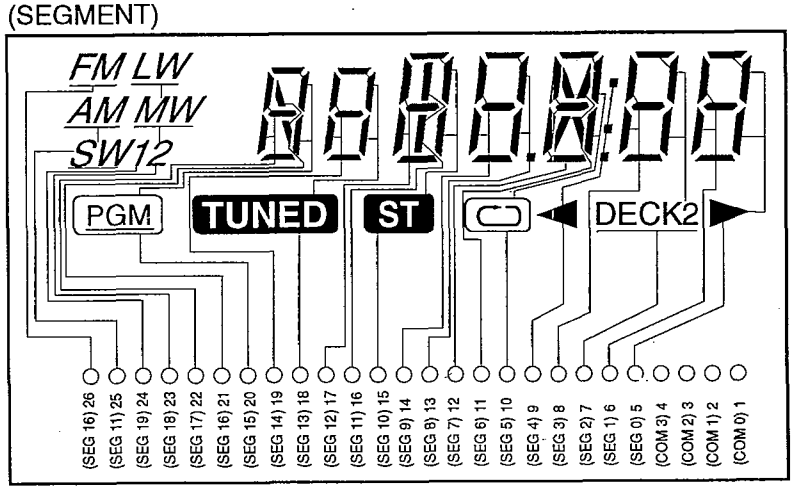
■ INTERNAL CONNECTIONS OF LCD (Liquid Crystal Display)

(Z802 : RSL5085-L)

(COMMON)



(SEGMENT)

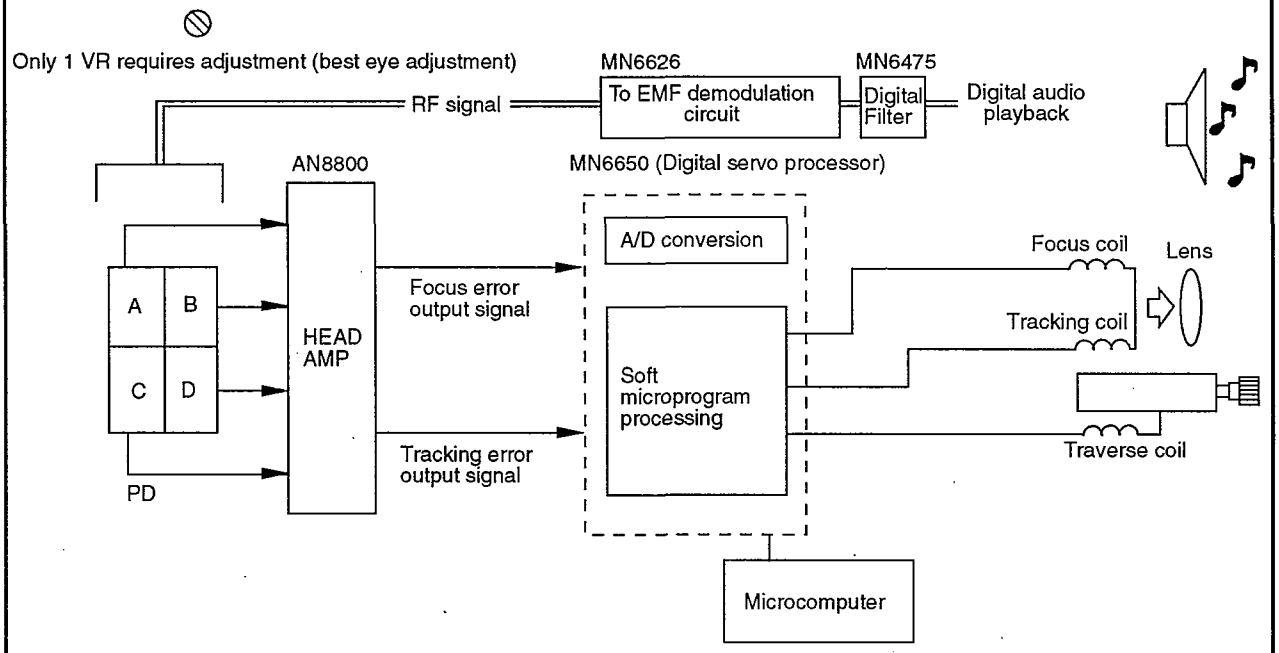


■NEW DIGITAL SERVO CIRCUIT

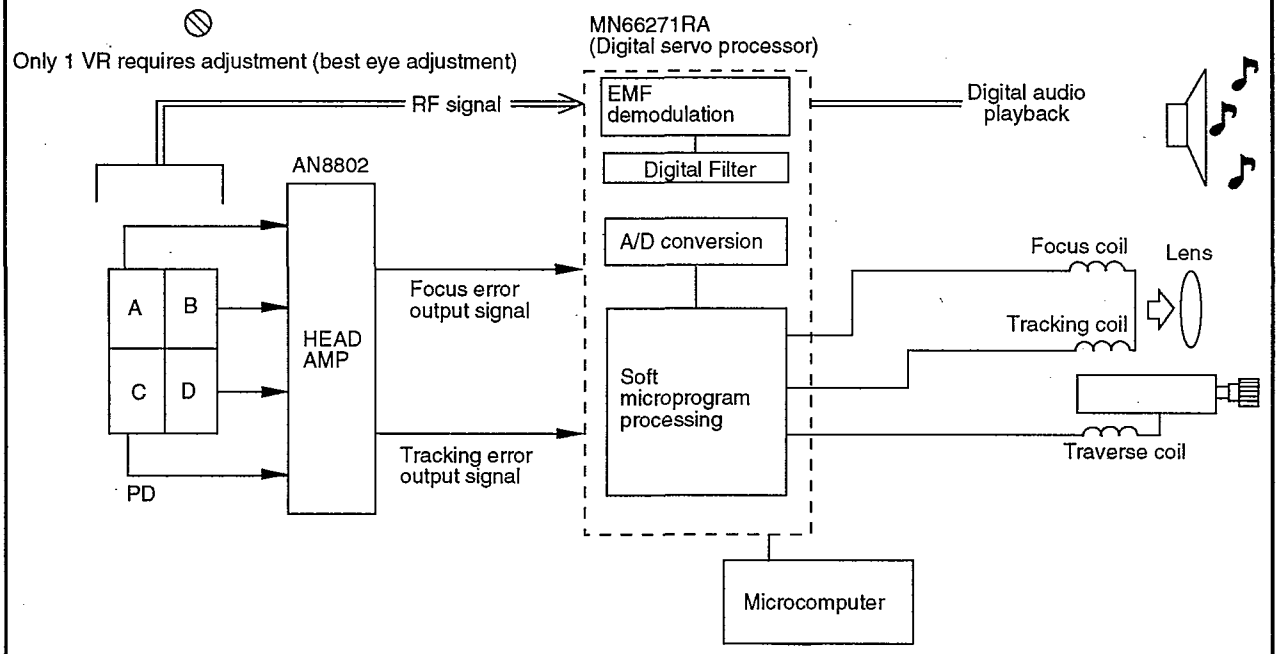
This model employs a new digital servo circuit. Compared to the old digital servo circuit, the following points have been improved.

1. Reduced operated noise
Loading mechanism 2-level speed reducer
2. Reduced access time
[(old) 2.9 seconds ➡(new) 1.9 seconds]
Change of traverse gear
3. Improved vibration resistance
Rubber and spring 2-level floating mechanism
[fo=50 Hz (old) ➡20 Hz (new)]
4. Reduced number of parts
Use of a single super IC chip
3 chips (MN6626, MN6650, MN6475) are reduced to a single chip (MN66271RA)

DIGITAL SERVO SYSTEM (OLD)



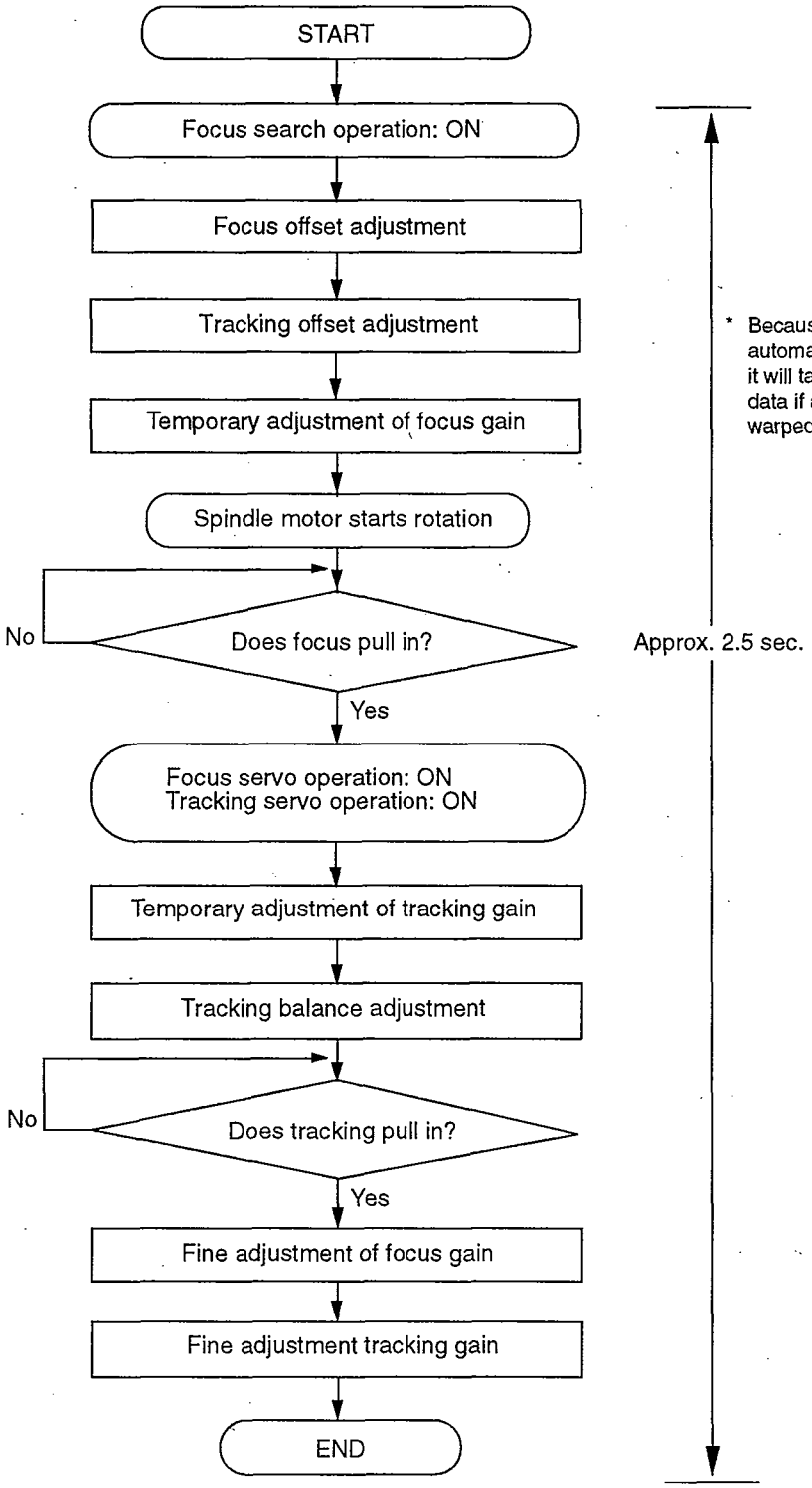
DIGITAL SERVO SYSTEM (NEW)



5. The servo processor IC (MN66271RA) of the newly-developed digital servo circuit automatically performs the following adjustments which were originally adjusted manually in the conventional analog servo circuit:
(1) Focus offset, (2) Tracking offset, (3) Focus gain, (4) Tracking gain, and (5) Tracking balance. Therefore, you do not have to perform the above-mentioned electrical adjustments. The unit optimizes the servo for each loaded disc.
[You must perform the best eye (PD balance) adjustment manually.]

The following flow chart shows the sequence of automatic adjustments.

• Flow chart on automatic adjustment sequence



* Because the microcomputer precisely performs automatic adjustments as shown in the flow chart, it will take approx. 5 seconds to finish reading TOC data if a used disc is eccentric one or its surface is warped.

■ MEASUREMENTS AND ADJUSTMENTS

■ Tuner section

• ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
• Set power source voltage to 230~240 V AC. • Set power switch to ON • Set function switch to TUNER • Set volume control to maximum	• Set editing speed /BP switch to NOR/I • Set graphic equalizer to centre • Output of signal generator should be no higher than necessary to obtain an output reading.

• AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown IN Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	459 kHz 30 % Mod. at 400 Hz	Point of non-interference.(on/ about 600kHz)	Headphone Jack (32Ω) (Fabicate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.)	T2(AM IFT)	Adjust for maximum output.

• MW-RF ALIGNMENT

"	522 kHz	Tuning capacitor fully closed	"	L9 (MW OSC Coil)	Adjust for maximum output.
"	603 kHz	Tune to signal	"	[*1] L7-2 (MW ANT Coil)	Adjust for maximum output. Adjust L7-2 by moving coil bobbin along ferrite core.
"	1404 kHz	"	"	CT3 (MW ANT Trimmer)	Adjust for maximum output.
[*1] Fix antenna coil with wax after completing alignment.					

• LW-RF ALIGNMENT

"	144 kHz	Tuning capacitor fully closed	"	L10 (LW OSC Coil)	Adjust for maximum output.
"	162 kHz	Tune to signal	"	[*2] L7-1 (LW ANT Coil)	Adjust for maximum output. Adjust L7-1 by moving coil bobbin along ferrite core.
"	270 kHz	"	"	CT4 (LW ANT Trimmer)	Adjust for maximum output.
[*2] Fix antenna coil with wax after completing alignment.					

• FM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown IN Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY				
Connect to transistor Q2-base pin through ceramic capacitor. Negative side to test point TP2.	10.7 MHz (Sweep)	Point of non-interference.(on/ about 90 MHz)	Connect vert. amp. of scope to test point TP3. Negative side to test point TP4.	T1(FM IFT)	Waveform is shown in Fig. 3

Control positions and equipment used

- FM signal generator (AM and FM-SG)
- Oscilloscope
- L.P.F (19 kHz)
- Coil (100 µH)
- Distortion analyzer
- Dummy antenna (75Ω unbalanced)
- AC and DC electronic voltmeter (EVM)
- Digital frequency counter
- Capacitor (50V 1 µF)
- Resistor (330 kΩ)

Measurement condition

- Volume control. . . . . maximum
- Equalizer control. . . . . .center

Please refer to Fig. 1 for the adjustment points.

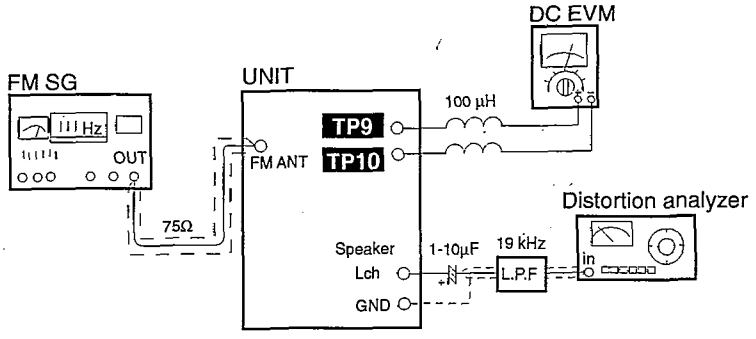
When doing Tuner section adjustment, please refer to Tuner circuit & P.C.B for testpoints.

• FM ZERO VOLTAGE ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "**FM MODE**".
3. Set the radio frequency display and signal generator to **100.10 MHz**.
4. Adjust the core of **T3** so that voltage measured in signal mode is **0 mV (0 ± 30 mV)** in **300 mV** range.

FM SIGNAL GENERATOR CONDITION
Modulation. 100%
Modulation frequency. 1kHz
Output level. 66dB

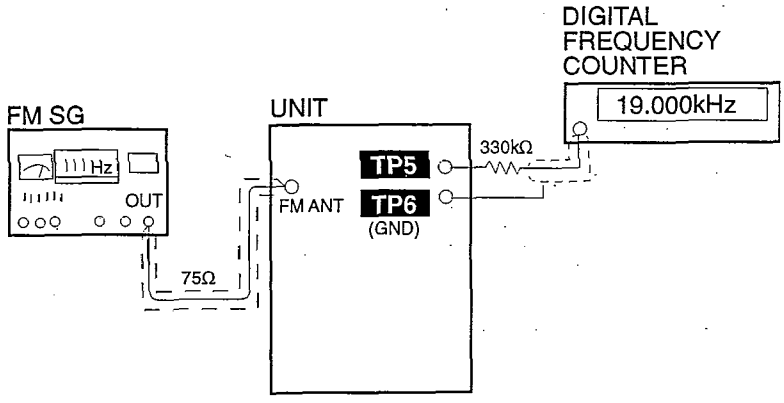
Note : The adjusting screwdriver used should be made of resin.



• FM STEREO ADJUSTMENT (FREE RUN)

1. Test equipment connection is shown in figure.
2. Set the unit to "**FM STEREO**" position.
3. Set the radio frequency display and signal generator to **98MHz**.
4. Adjust VR1 for **19 kHz ± 50 Hz** on frequency counter reading.
5. Tune a stereo broadcast and confirm the frequency stays at **19 kHz**.

FM SIGNAL GENERATOR CONDITION
Modulation. 30%
Modulation frequency. 400Hz
Output level. 66dB



■ Cassette Deck section

Measuring Instruments
- Electronic voltmeter (AC EVM)
- Oscilloscope
- Digital frequency counter
- Resistor (1 kΩ, 1MΩ)

Test tapes
- Head azimuth adjustment (8 kHz, - 20 dB) : QZZCFM
- Tape speed adjustment (3 kHz, - 10 dB) : QZZCWAT
- Normal reference blank tape : QZZCRA

Measurement condition
- Make sure the heads are clean.
- Make sure the capstan and pressure roller are clean.
- Tape-to-tape recording speed selector : NORMAL

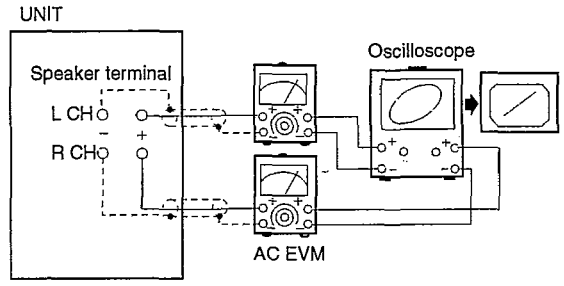
When doing Cassette deck section adjustment, please refer to Main circuit & P.C.B for testpoints.

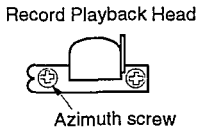
• HEAD AZIMUTH ADJUSTMENT (DECK 1, 2)

1. Playback the azimuth adjustment portion (8 kHz, -20 dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-ch and R-ch are maximized and lisajous waveform , as illustrated, approaches 0 degrees.

Note :
If L-ch and R-ch are not maximized at the same point, adjust to the point where the levels of each channels are maximized and equal.

2. Perform the same adjusment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.



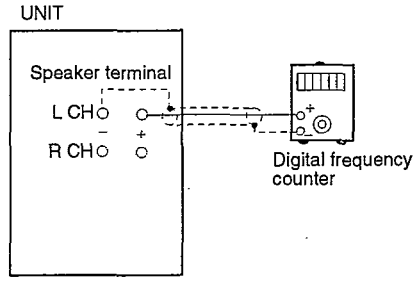


• TAPE SPEED ADJUSTMENT (DECK 1, 2)

Normal speed (Standard Value : ± 90 Hz ... Deck 2)
(Standard Value : Deck 2 ± 50 Hz ... Deck 1)
High speed (Standard Value : 5100 Hz ~)

1. Test equipment connection is shown in figure.
2. Set the unit to "TAPE" position.
3. Playback the middle part of the test tape (QZZCWAT) in deck 2.
4. Adjust VR601 for the output value shown below.
5. Playback the middle part of the test tape (QZZCWAT) in deck 1.
6. Repeat step 4.
5. Set the unit to "HIGH" speed position.
6. Place the cassette deck into the REC mode (DECK 1) and the PLAY mode (DECK 2).
7. Repeat step 4.

Note :
The normal speed adjustment must be done before the high speed adjustment.

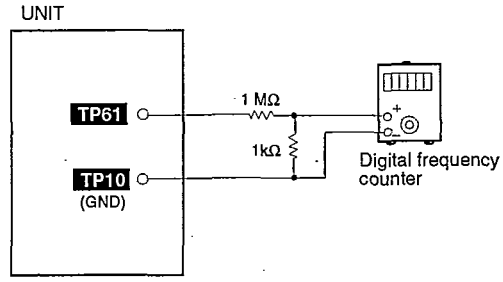


Adjusment Target : ± 90 Hz	... Normal speed (Deck 2)
Adjusment Target : Deck 2 ± 50 Hz	... Normal speed (Deck 1)
Adjusment Target : 5100 Hz ~	... High speed

• BIAS FREQUENCY ADJUSTMENT (DECK 1)

1. Test equipment connection is shown in figure.
2. Set the unit to "TAPE" position.
3. Place cassette deck into REC mode.
4. Make sure that the output is within the standard value.

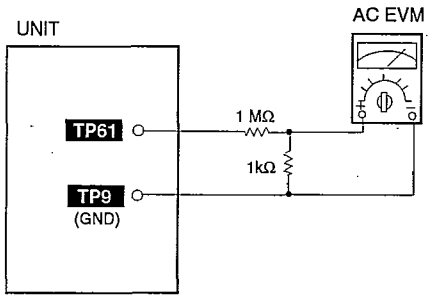
STANDARD VALUE : 100 ± 10 kHz



• BIAS AND ERASE VOLTAGE ADJUSTMENT (DECK 1)

1. Test equipment connection is shown in figure.
2. Set the unit to "TAPE" position.
3. Place cassette deck into REC mode.
4. Make sure that the output is within the standard value.

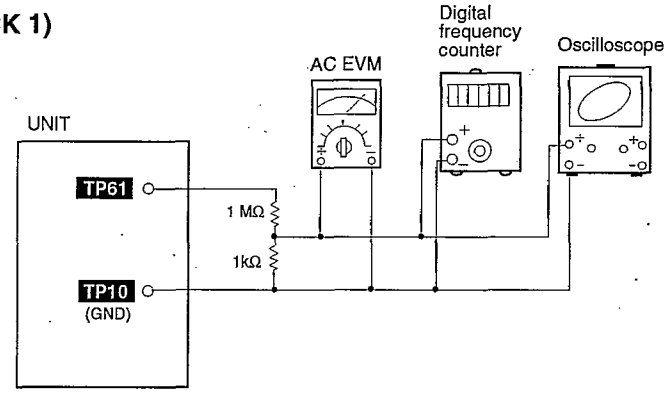
STANDARD VALUE : 16.0 ± 2 mV



• BEAT PROOF EFFECT ADJUSTMENT (DECK 1)

1. Test equipment connection is shown in figure.
2. Set the unit to "TUNER" position.
3. Set the edit switch to "BPII"
4. Place cassette deck into REC mode.
5. Make sure that the OSC-wave to be sinewave without distortion and abnormal oscillation.
5. Make sure that the output frequency change from BPII to BPI and from BPII to BPIII are within the standard value.

STANDARD VALUE : 2.5 ± 1 kHz...BPII to BPI
2.0 ± 1 kHz...BPII to BPIII



■ Adjustment points

<Tuner section>

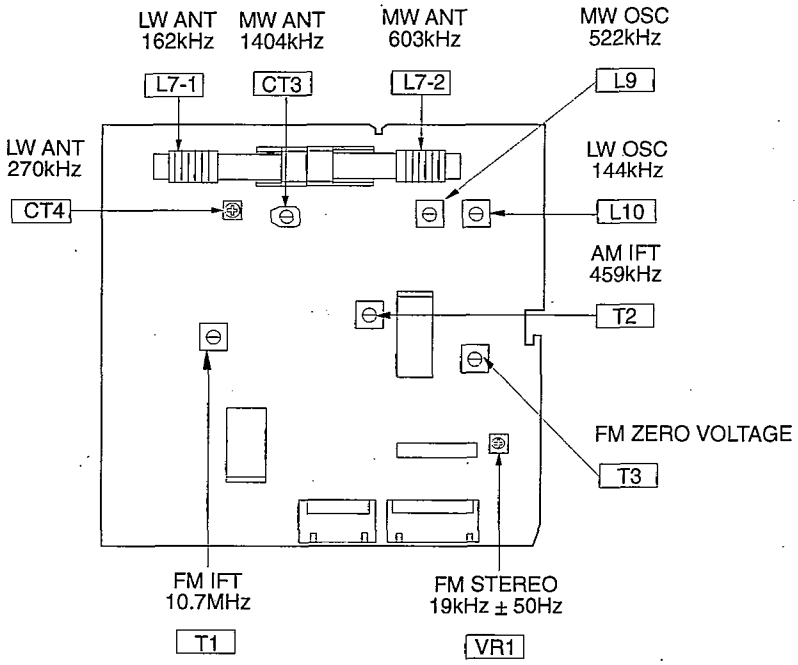


Fig. 1

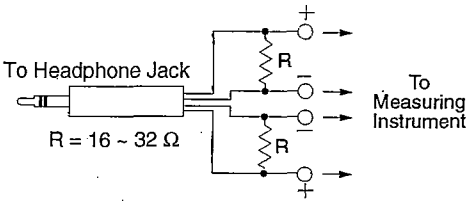


Fig.2

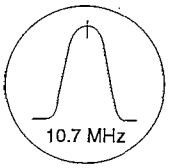


Fig. 3

■Compact disc player section

Warning : *This product uses a laser diode. Refer to caution statements on page 2.*

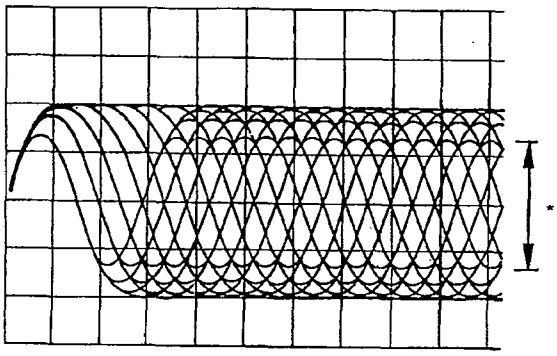
Measuring Instruments and Special Tools

* Test discs
  1. Playability test disc (SZZP1054C)
  2. Uneven test disc (SZZP1056C)
* Musical program disc (ordinary)
* Dual-beam oscilloscope with bandwidth of 30 MHz or better (with EXT. trigger and 1:1 probe).
* Allen wrench (M2.0) (SZZP1101C)
* Lock paint (RZZ0L01)

(1) MECHANICAL ADJUSTMENT

- When the traverse deck is replaced, making adjustments is not necessary. (The traverse deck ass'y is already adjusted.)
- Make adjustments to improve playability if the traverse deck has not been replaced.

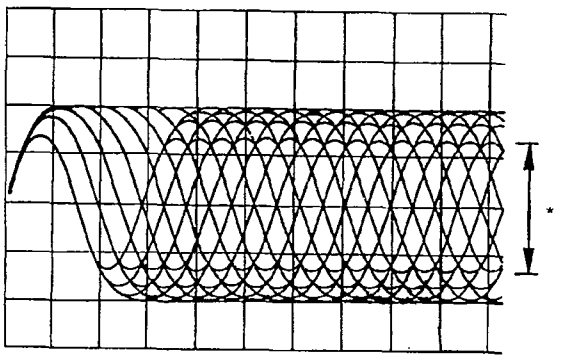
1. Connect the oscilloscope's CH. 1 probe across **TJ701** (RF) (+) and **TJ702** (VREF) (-) on the servo P.C.B.
   Oscilloscope setting : VOLT. 200mV
   SWEEP. . . . . .0.5ms.
   Input coupling. . . . . AC
2. Switch the player power **ON**, and play track **19** on the test disc (SZZP1056C).
   (Playing any other track will prevent the mechanical adjustment screws from being accessed.)
3. Leave the player in the play mode .
4. Alternately adjust the mechanical adjustment screws with the 2.0mm allen wrench (SZZP1101C) until the vertical fluctuation of RF signal is minimized and the eye pattern is most stretched.
   (Refer to Fig.2 on page)
5. After completing the adjustment, lock the mechanical adjustment screws with lock paint (RZZ0L01).



* Most stretched eye pattern

(2) BEST EYE (PD BALANCE) ADJUSTMENT

1. Connect the oscilloscope's CH. 1 probe across **TJ701** (RF) (+) and **TJ702** (VREF) (-) on the servo P.C.B.
   Oscilloscope setting : VOLT. 200mV
   SWEEP. . . . . .0.5µs.
   Input coupling. . . . . AC
2. Switch the player power **ON**, and play the 1 kHz (track1) on the test disc (SZZP1054C).
3. Adjust **VR701** until the vertical fluctuation of RF signal is minimized and the eye pattern is most stretched.
   (Refer to Fig.1 on page).



* Most stretched eye pattern

(3) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

*** Checking Skip Search**
1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

*** Checking Manual Search**
1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

*** Checking Playability**
1. Play the 0.7 mm black dot and the 0.7 mm wedge on the test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

■ Adjustment points

<Compact disc player section>

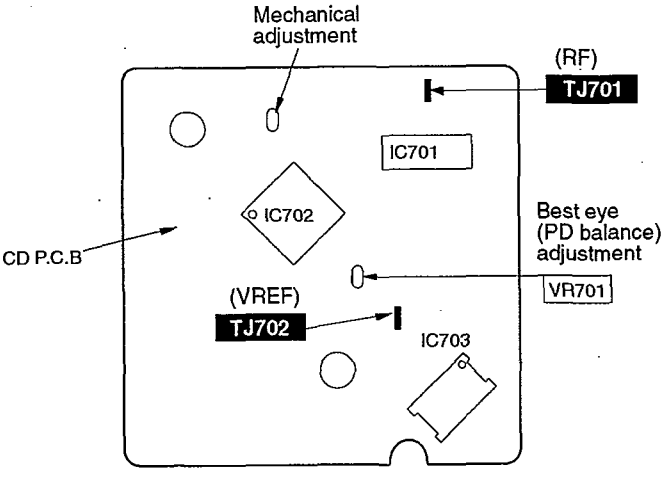


Fig. 1

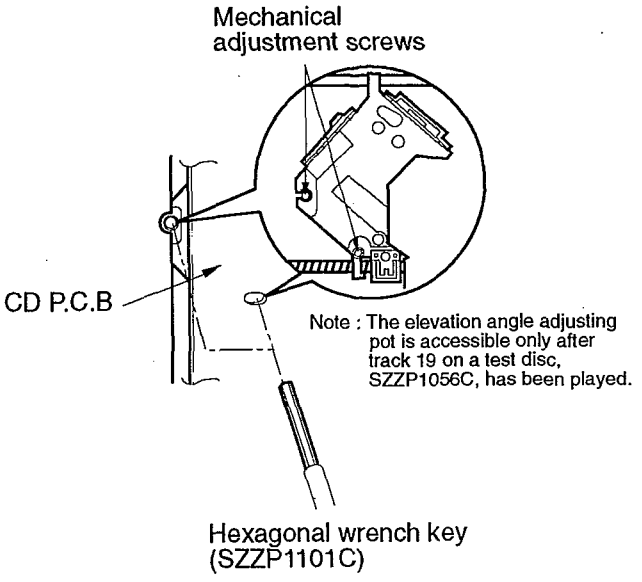


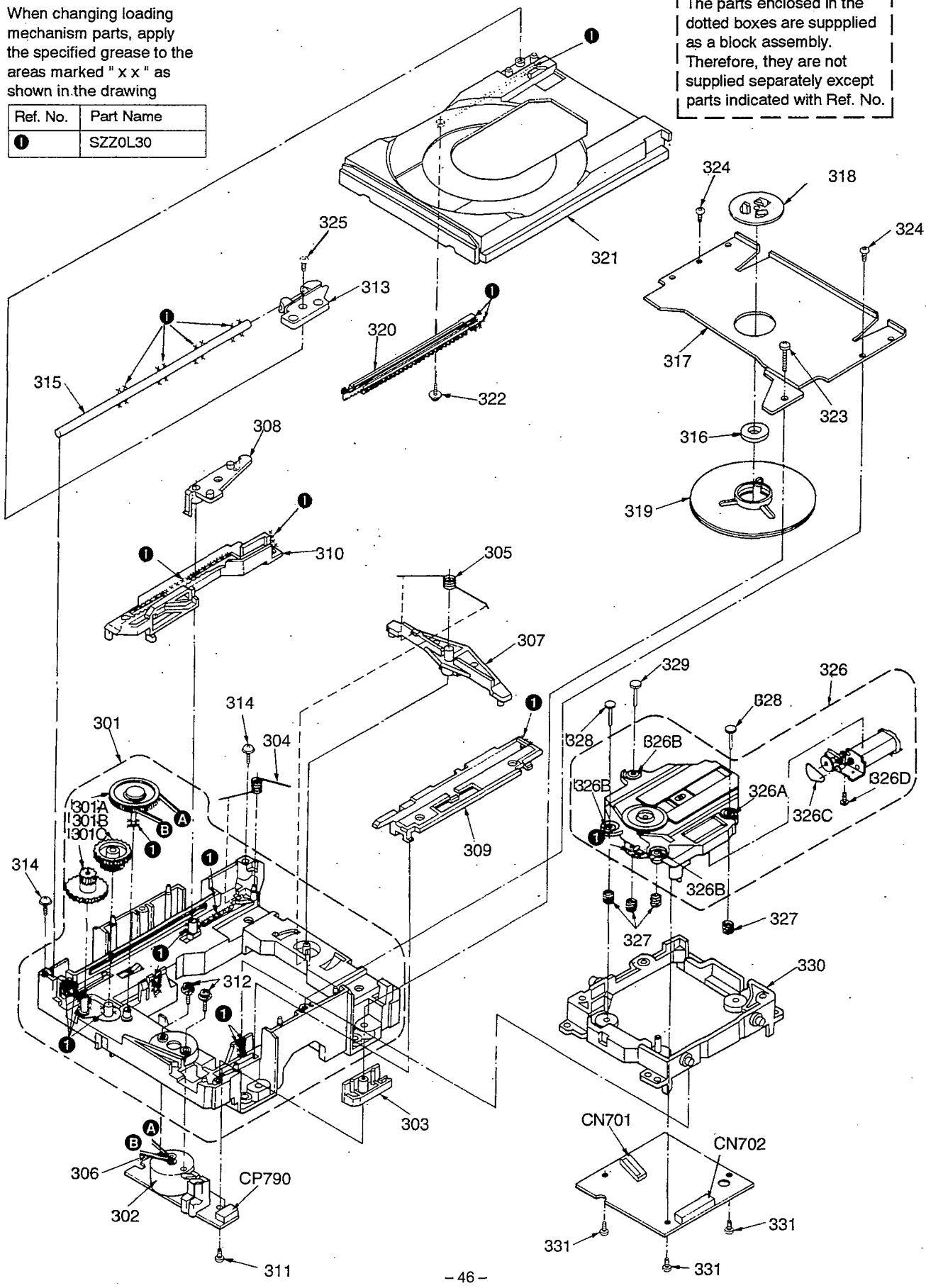
Fig. 2

■ CD LOADING UNIT PARTS LOCATION

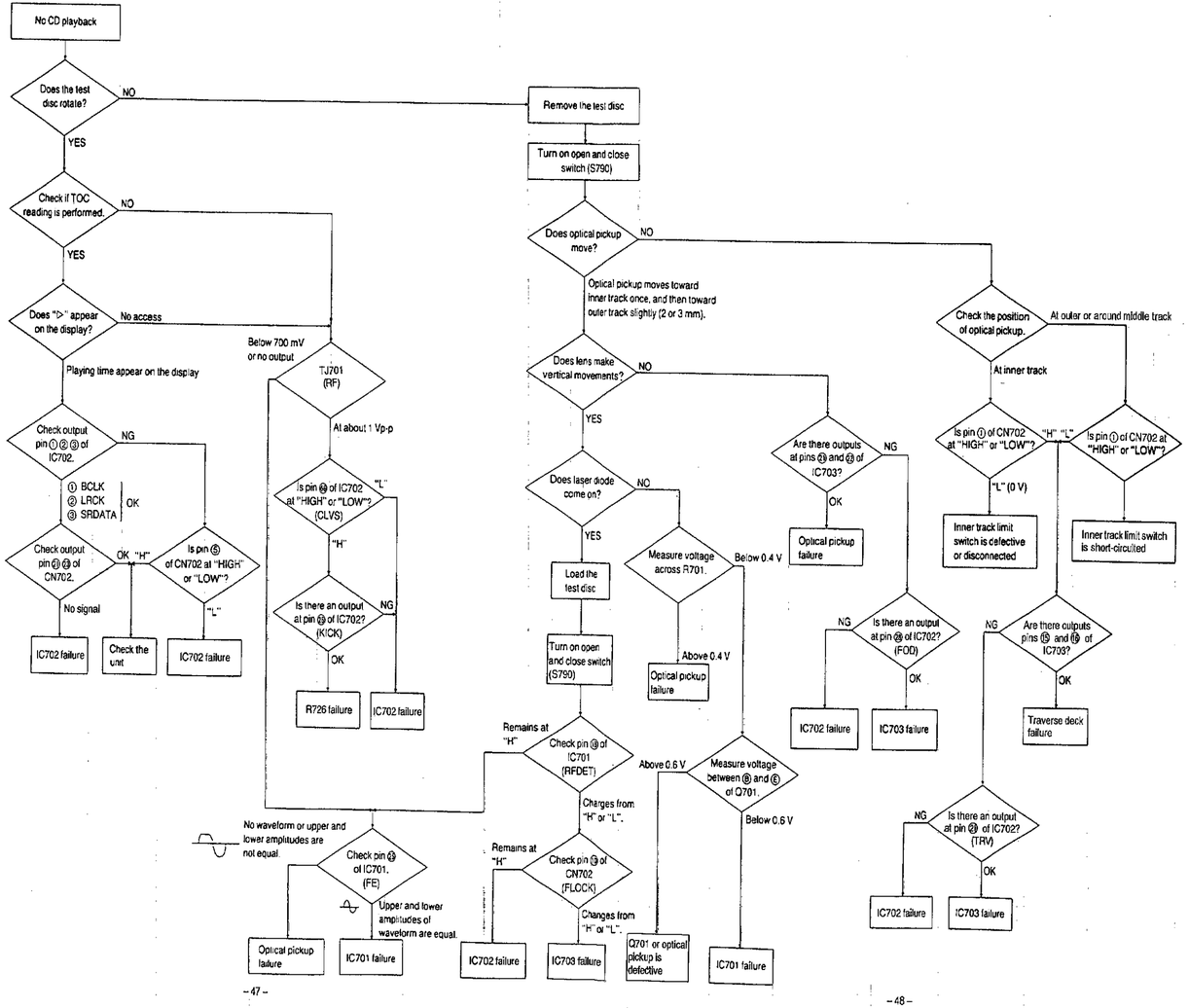
Note:
When changing loading mechanism parts, apply the specified grease to the areas marked " x x " as shown in the drawing

Ref. No.	Part Name
❶	SZZ0L30

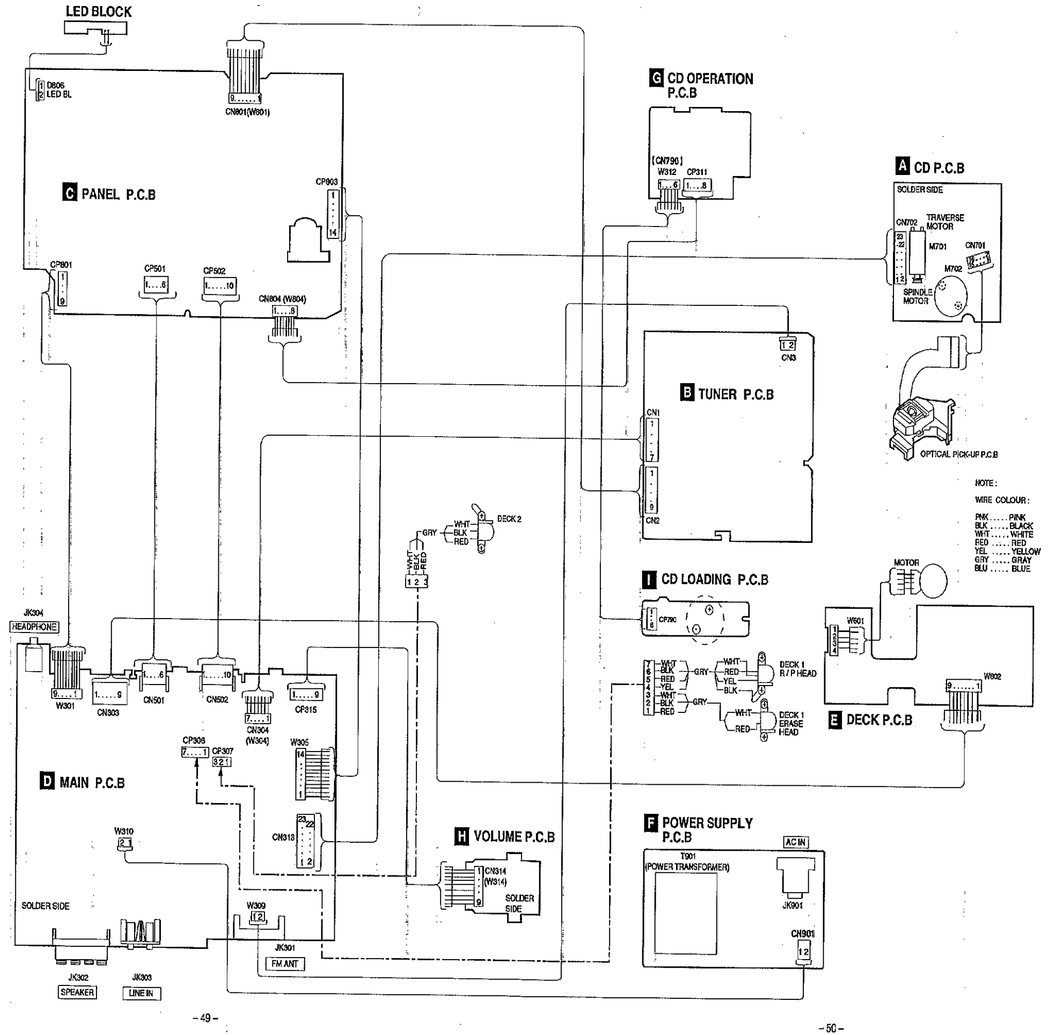
The parts enclosed in the dotted boxes are suppplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.



■ TROUBLESHOOTING GUIDE

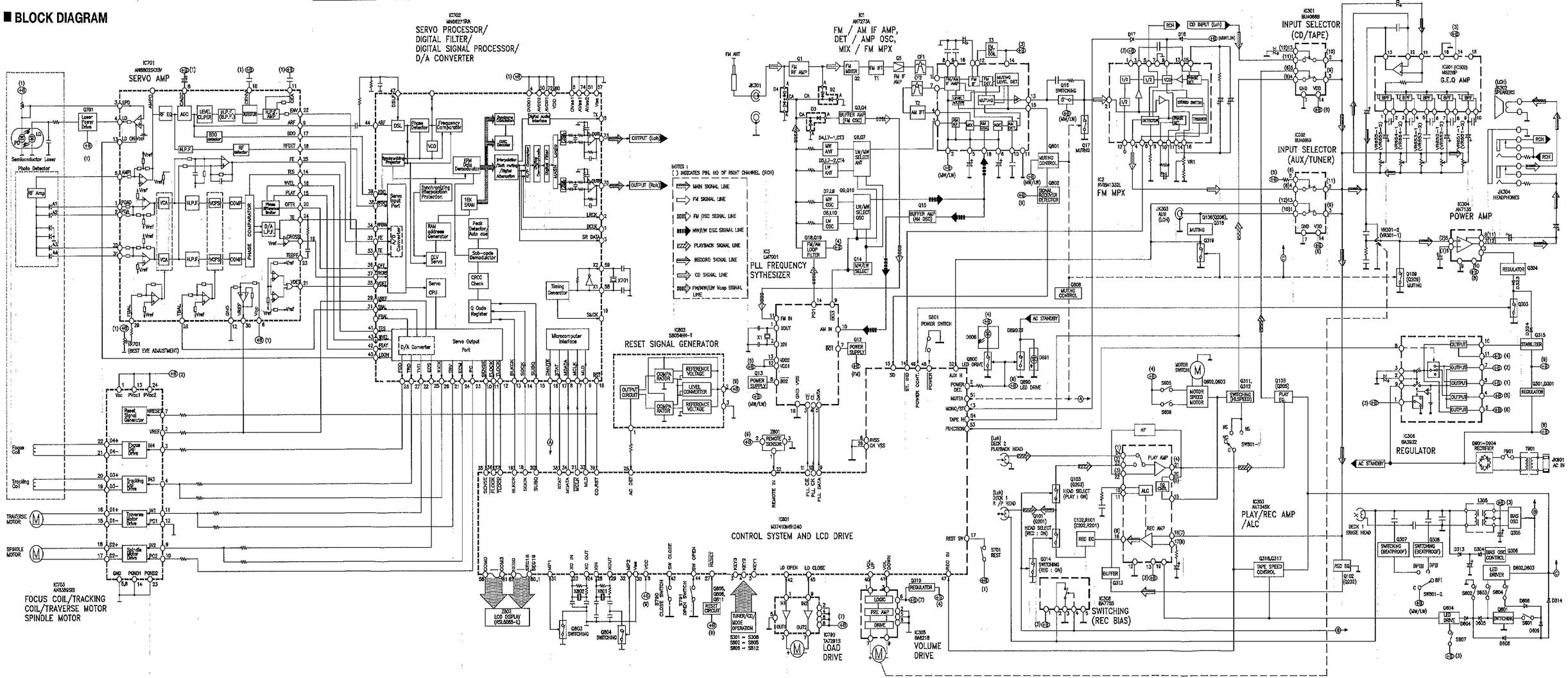


■ WIRING CONNECTION DIAGRAM



SA-DH30 SA-DH30

■ BLOCK DIAGRAM



■ CD LOADING UNIT PARTS LIST

Ref No.	Part No.	Part Name & Description	Remarks
		CD LOADING UNIT	
301	RFKJLPG440BK	CHASSIS ASS'Y	
301A	RDG0142	LOADING GEAR	
301B	RDG0193	LOADING GEAR	
301C	RDP0041	PULLEY	
302	REM0019	LOADING MOTOR ASS'Y	
303	RMA0339	HOLDER	
304	RME0063	LOCK LEVER SPRING	
305	RME0087	SPRING	
306	RMG0158	BELT	
307	RML0177	CONVERSION LEVER	
308	RML0178-1	LOCK LEVER	
309	RMM0059-1	SLIDE PLATE(2)	
310	RMM0079	SLIDE PLATE(1)	
311	XTN26+6G	SCREW	
312	XYN2+F6FZ	SCREW	
313	RDB0036	GUIDE HOLDER	
314	RHD20010	SCREW	
315	RMU0046	GUIDE SHAFT	
316	RHM245ZA	MAGNET	
317	RMA0327-1	DISK CLAMPER	
318	RMR0334	MAGNET HOLDER	
319	RXQ0123	DISK HOLDER	
320	RFKNLPG440-K	DRIVE RACK ASS'Y	
321	RGQ0088-K	DISC TRAY	
322	RHD20009-1	SCREW	
323	XTB3+25GFZ	SCREW	
324	XTN26+6G	SCREW	
325	XTN3+8JFZ	SCREW	
326	RAE0111Z	TRAVERSE UNIT ASS'Y	
326A	SHGD112	RUBBER(A)	
326B	SHGD113-1	RUBBER(B)	
326C	RDV0023	BELT	
326D	SNSD38	SCREW	
327	RME0109	SPRING	
328	RMS0123-1	PIN(A)	
329	RMS0350	PIN(B)	
330	RMR0533-K	TRAVERSE CHASSIS	
331	XTV2+6G	SCREW	

Ref No.	Part No.	Part Name & Description	Remarks

■ MECHANISM PARTS LIST

Notes : [M] indicates in Remarks column indicates parts supplied by MESA

Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE MECHANISM	
		(DECK 1)	
101	RDV0007	MAIN BELT	[M]
102	RJR0033	EARTH LUG	[M]
103	RMB0109-1	BRAKE SPRING	[M]
104	RML0116	BRAKE	
105	RBR2CG002-S	E HEAD	[M]
106	RDG0057	IDLER GEAR	[M]
107	RDG0059	FF RELAY GEAR	[M]
108	RDK0005	CAM GEAR	[M]
109	RDV0006-1	RF BELT	[M]
110	RHW16009	CAPSTAN WASHER	[M]
111	RMA0109	BACK PLATE	[M]
112	RMB0043-1	ROD OPERATION SPRING	[M]
113	RMB0045	AS SPRING	[M]
114	RMB0046-1	LOCK PLATE SPRING	[M]
115	RMB0165	HEAD PANEL SPRING	[M]
116	RMB0048	IDLER LEVER SPRING	[M]
117	RMB0053	PAUSE LEVER SPRING	[M]
118	RMB0125	BACK TENSION SPRING	[M]
119	RMC0061	SPRING	[M]
120	RFKRCT090P-K	CHASSIS ASS'Y	[M]
121	RML0071	SWAY LEVER	[M]
122	RML0072	AS RELEASE LEVER	[M]
123	RML0073-1	AS PROTECT LEVER	[M]
124	RML0074	IDLER LEVER	[M]
125	RML0076	EJECT SELECTION LEVER	[M]
126	RML0077	LOCK PLATE	[M]
127	RML0078	FUNCTION PLATE	[M]
128	XTN2+6J	BACK PLATE SCREW	
129	RML0081-1	LEVER	[M]
130	RML0082	PAUSE LEVER	[M]
131	RMM0023	PLAY ROD	[M]
132	RMM0024	REW ROD	[M]
133	RMM0025	FF ROD	[M]
134	RMM0026	STOP ROD	[M]
135	RMM0027	PAUSE ROD	[M]
136	RMM0028	REC ROD	[M]
137	RMM0029	EJECT SLIDE LEVER	[M]
138	RMR0211	PAUSE BUSH	[M]
139	RMR0227	IDLER GEAR BUSH	[M]
140	RMS0055	REEL SHAFT	[M]
141	RXF0012	FLYWHEEL ASS'Y	[M]
141-1	RHW21008	WASHER	[M]
142	RMB0044	TRIGGER SPRING	[M]
143	RML0075	TRIGGER LEVER	[M]
144	RXP0014	RF CLUTCH ASS'Y	[M]
145	RXP0015	PINCH ROLLER ASS'Y	[M]
145-1	RMB0049	PINCH ARM SPRING	[M]
146	RBR4CM001-M	R/P HEAD	[M]
147	RHD20003	SCREW	[M]
149	RFKRGHM09LEK	HEAD BASE ASS'Y	[M]
150	RMB0059	SPRING	[M]
151	RMR0159	HEAD BASE	[M]
152	XTN2+4F	EARTH LUG SCREW	
153	XTN2+8F	SCREW	
154	RXR0004	TAKE UP REEL ASS'Y	[M]
155	RXR0005	SUPPLY REEL ASS'Y	[M]
156	XTN2+6J	SCREW	
157	XTW26+6L	SCREW	
158	RME0098-2	SPRING	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		(DECK 2)	
201	RDV0009	MAIN BELT B	[M]
202	RJR0033	EARTH LUG	[M]
203	RMB0109-1	BRAKE SPRING	[M]
204	RML0116	BRAKE	
206	RDG0057	IDLER GEAR	[M]
207	RDG0059	FF RELAY GEAR	[M]
208	RDK0005	CAM GEAR	[M]
209	RDV0006-1	RF BELT	[M]
210	RHW16009	CAPSTAN WASHER	[M]
211	RMA0109	BACK PLATE	[M]
212	RMB0043-1	ROD OPERATION SPRING	[M]
213	RMB0045	AS SPRING	[M]
214	RMB0046-1	LOCK PLATE SPRING	[M]
215	RMB0165	HEAD PANEL SPRING	[M]
216	RMB0048	IDLER LEVER SPRING	[M]
217	RMB0053	PAUSE LEVER SPRING	[M]
218	RMB0125	BACK TENSION SPRING	[M]
219	RMC0061	SPRING	[M]
220	RFKRCT090P-K	CHASSIS ASS'Y	[M]
221	RML0071	SWAY LEVER	[M]
222	RML0072	AS RELEASE LEVER	[M]
223	RML0073-1	AS PROTECT LEVER	[M]
224	RML0074	IDLER LEVER	[M]
225	RML0076	EJECT SELECTION LEVE	[M]
226	RML0077	LOCK PLATE	[M]
227	RML0078	FUNCTION PLATE	[M]
230	RML0082	PAUSE LEVER	[M]
231	RMM0023	PLAY ROD	[M]
232	RMM0024	REW ROD	[M]
233	RMM0025	FF ROD	[M]
234	RMM0026	STOP ROD	[M]
235	RMM0027	PAUSE ROD	[M]
237	RMM0029	EJECT SLIDE LEVER	[M]
238	RMR0211	PAUSE BUSH	[M]
239	RMR0227	IDLER GEAR BUSH	[M]
240	RMS0055	REEL SHAFT	[M]
241	RXF0012	FLYWHEEL ASS'Y	[M]
241-1	RHW21608	WASHER	[M]
242	RMB0044	TRIGGER SPRING	[M]
243	RML0075	TRIGGER LEVER	[M]
244	RXP0014	RF CLUTCH ASSY	[M]
245	RXP0015	PINCH ROLLER ASSY	[M]
245-1	RMB0049	PINCH ARM SPRING	[M]
246	RBR4CM001-M	R/P HEAD	[M]
247	RHD20003	SCREW	[M]
249	RFKRGHM09LEK	HEAD BASE ASS'Y	[M]

Ref No.	Part No.	Part Name & Description	Remarks
250	RMB0059	SPRING	M]
251	RMR0159	HEAD BASE	[M]
252	XTN2+4F	EARTH LUG SCREW	
253	XTN2+8F	SCREW	
254	RXR0004	TAKE UP REEL ASS'Y	[M]
255	RXR0005	SUPPLY REEL ASS'Y	[M]
256	XTN2+6J	SCREW	
257	XTW26+6L	SCREW	
258	RME0098-2	SPRING	[M]
260	RFKPXDT610PK	DC MOTOR ASS'Y	[M]
261	RHD26002	SCREW	
262	RMA0122	ANGLE	[M]
263	RMG0102	RUBBER SPACE	[M]
264	RMG0131	RUBBER SPACE	[M]
265	RMA0121	ANGLE	[M]
266	RML0085	LEVER	[M]

■ MECHANISM PARTS LOCATION (RAA0910)

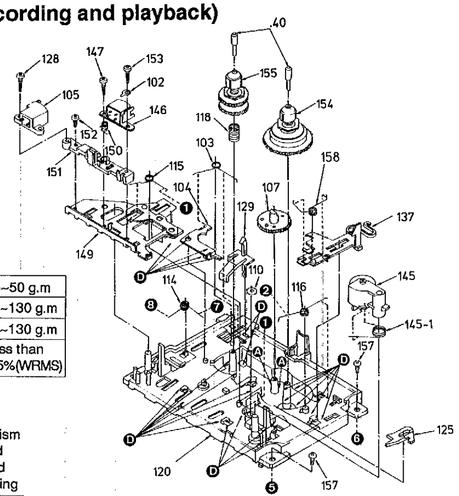
DECK 1 (For recording and playback)

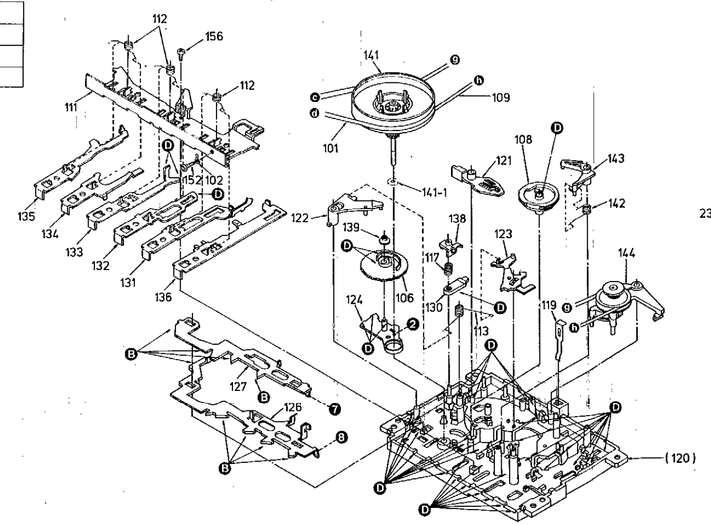
SPECIFICATION

Playback torque	25~50 g.m
Fast forward torque	65~130 g.m
Rewind torque	65~130 g.m
Wow and flutter	Less than 0.25%(WRMS)

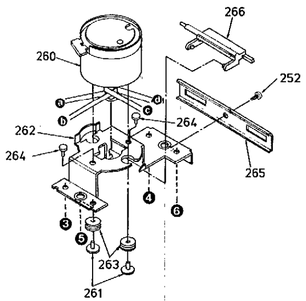
Note:
When changing mechanism parts, apply the specified grease to arrow indicated areas shown in the drawing

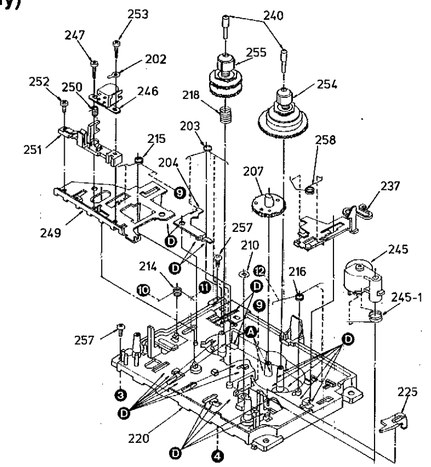
Ref No.	Part Name
Ⓐ	SZZ0L25
Ⓑ	SZZ0L06
Ⓓ	SZZ0L30

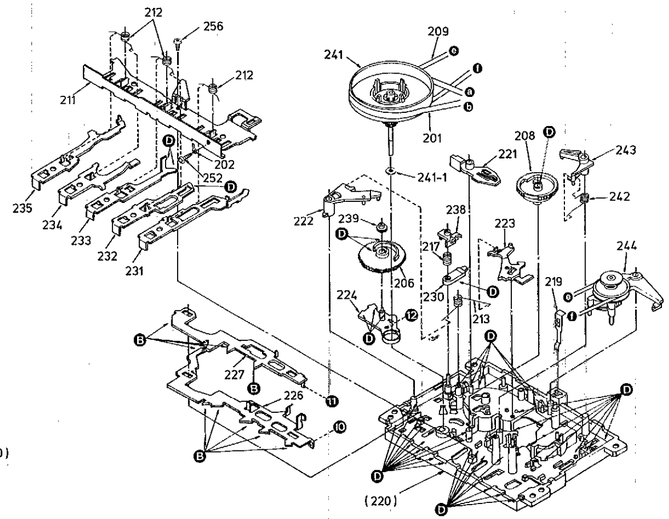




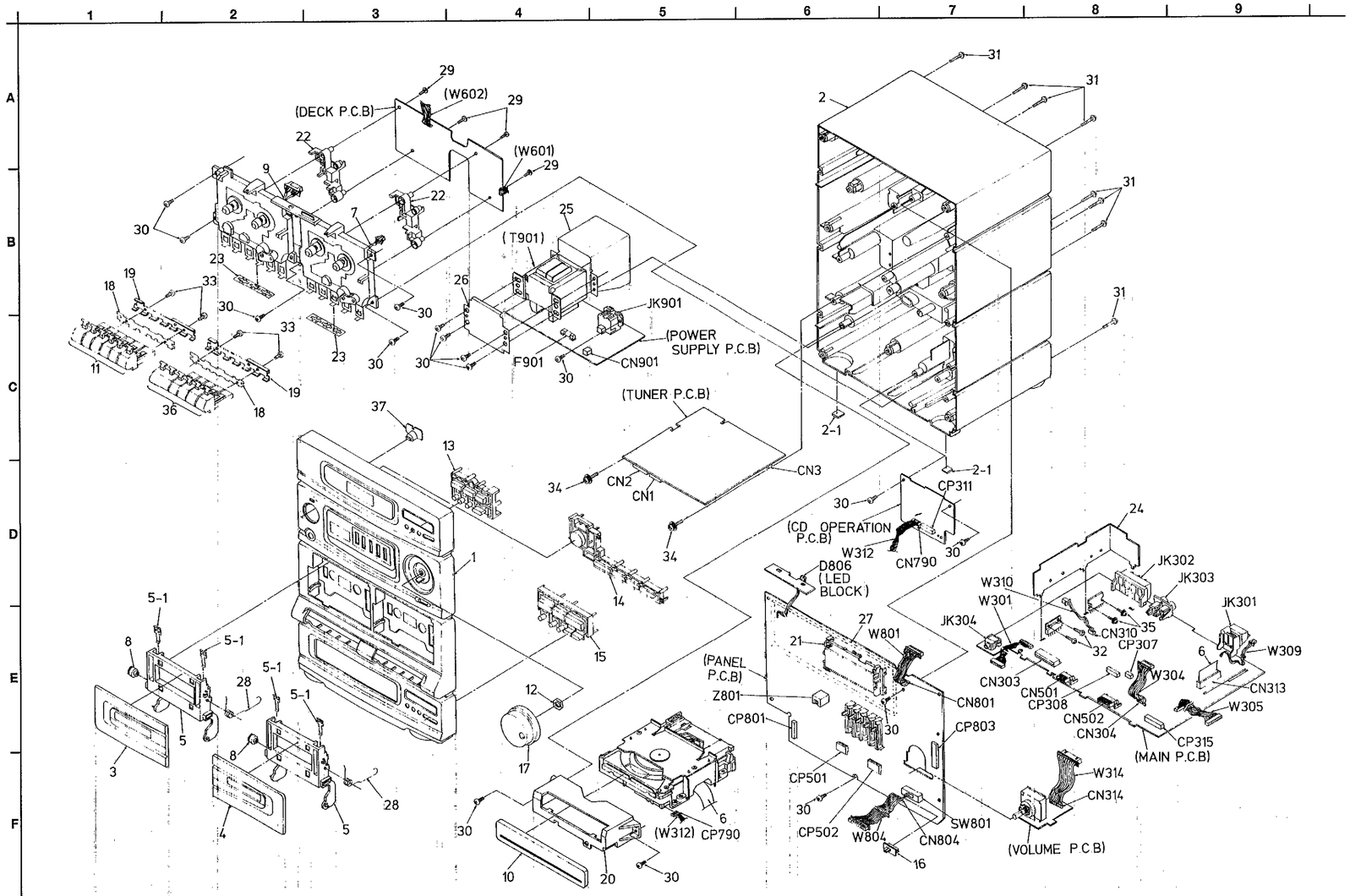
DECK 2 (For playback only)







■ CABINET PARTS LOCATION



SA-DH30

■ REPLACEMENT PARTS LIST

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area)
Parts without these indications can be used for all areas.
* Remote Control Unit :
Supply period for three years from terminal of production.
* Warning: This product uses a laser diode. Refer to caution statements on page 2.
* [M] Indicates in the Remarks columns indicates parts supplied by MESA.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RFKGADH30EBK	FRONT CABINET ASS'Y	[M]
2	RFKHADH30EBK	BACK CABINET ASS'Y	[M]
2-1	SHG1654-S	CUSHION RUBBER	[M]
3	RFKLSADH30P1	CASS. LID ASS'Y (L)	[M]
4	RFKLSADH30P2	CASS. LID ASS'Y (R)	[M]
5	RFKLXDT670P3	CASS. HOLDER ASS'Y	[M]
5-1	RUS757ZAA	CASS. HALF SPRING	[M]
6	REEX0010	FFC WIRE	[M]
7	REXX0029	WIRE ASS'Y, DK2 HEAD	[M]
8	RDG5874ZB	DAMPER GEAR	[M]
9	REXX0060	WIRE ASS'Y, DK1 HEAD	[M]
10	RGKX0005-H	CD LID	[M]
11	RGZX0007A-H	BUTTON ASS'Y, DK1	[M]
12	XNS8D	NUT	
13	RGUX0041-H	BUTTON, TUNING	[M]
14	RGUX0044-H	BUTTON, FUNCTION	[M]
15	RGUX0045-H	BUTTON, CD FUNCTION	[M]
16	RGVX0007-K	KNOB, EDIT	[M]
17	RGWX0013-H	KNOB, VOLUME	[M]
18	RHR3390YA	SPACER	[M]
19	RMAX0006	MECHA BRACKET	[M]
20	RMKX0003-K	CD CHASSIS	[M]
21	RMNX0003	LCD HOLDER	[M]
22	RMR0368	CHASSIS	[M]
23	RMXX0004	SPACER	[M]
24	RMYX0006	HEAT SINK	[M]
25	RSCX0014	SHIELD PLATE	[M]
26	RSCX0015	SHIELD PLATE	[M]
27	RSCX0016	SHIELD PLATE	[M]
28	RUS781ZA	CASS. SPRING	[M]
29	XTN2+14GF	SCREW (PCB)	[M]
30	XTV3+12G	SCREW (MOUNTING)	
31	XTV3+20G	SCREW (CASING)	
32	XTV3+8F	SCREW (PWR IC)	
33	XTV3+8G	SCREW (MECHA BUTTON)	
34	XTWS3+10Q	SCREW (TUNER)	
35	XTW3+10F	SCREW (REG IC)	
36	RGZX0007B-H	BUTTON ASS'Y, DK2	[M]
37	RGL0097-Q	LED PANEL	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC1	AN7273A	IC, FM/AM IF	
IC2	RVIBA1332L	IC, FM MPX	
IC3	LM7001	IC, PLL	
IC301	BU4066B	IC, ANALOG SW	
IC302	BU4066B	IC, ANALOG SW	
IC303	AN7345K	IC, REC/PLAY	[M]
IC304	AN7135	IC, POWER AMP	⚠
IC305	BA6218	IC, MOTOR DRIVER	
IC306	BA3932	IC, REGULATOR	
IC308	BA7755	IC, ANALOG SW	
IC501	M5226P	IC, GEQ	
IC502	M5226P	IC, GEQ	
IC790	TA7291S	IC, MOTOR DRIVE	
IC801	M37410M6H240	IC, MICOM	[M]
IC802	S8054HN-T	IC, RESET	
		IC PROTECTOR	
ICP303	SRUN10T	IC PROTECTOR	⚠
		TRANSISTORS	
Q1	2SK544F-AC	TRANSISTOR	
Q2	2SC2786MTA	TRANSISTOR	
Q3	2SC2786MTA	TRANSISTOR	
Q4	2SC1675KTA	TRANSISTOR	[M]
Q5	2SC829BTA	TRANSISTOR	
Q6	2SA720STA	TRANSISTOR	[M]
Q7	2SA720STA	TRANSISTOR	[M]
Q9	2SA720STA	TRANSISTOR	[M]
Q10	2SA720STA	TRANSISTOR	[M]
Q12	2SA564RTA	TRANSISTOR	
Q13	BN1L3NTA	TRANSISTOR	[M]
Q14	BN1L3NTA	TRANSISTOR	[M]
Q15	2SC829CTA	TRANSISTOR	
Q16	2SA564RTA	TRANSISTOR	
Q17	2SC2785FTA	TRANSISTOR	
Q18	2SC2784FTA	TRANSISTOR	[M]

Ref No.	Part No.	Part Name & Description	Remarks
Q19	2SC2784FTA	TRANSISTOR	[M]
Q101	2SJ40CDTA	TRANSISTOR	
Q102	RVTDTC114EST	TRANSISTOR	
Q103	2SJ40CDTA	TRANSISTOR	
Q105	2SC2001L1TA	TRANSISTOR	
Q106	2SC1740SRTA	TRANSISTOR	
Q109	2SC2001KTA	TRANSISTOR	
Q201	2SJ40CDTA	TRANSISTOR	
Q202	RVTDTC114EST	TRANSISTOR	
Q203	2SJ40CDTA	TRANSISTOR	
Q205	2SC2001L1TA	TRANSISTOR	
Q206	2SC1740SRTA	TRANSISTOR	
Q209	2SC2001KTA	TRANSISTOR	
Q301	2SD2037ETA	TRANSISTOR	[M]
Q303	RVTDTC114EST	TRANSISTOR	
Q304	RVTDTA114EST	TRANSISTOR	
Q305	2SC2001L1TA	TRANSISTOR	
Q306	2SC1740SRTA	TRANSISTOR	
Q307	2SC1685RTA	TRANSISTOR	[M]
Q308	2SC1685RTA	TRANSISTOR	[M]
Q310	2SD2037ETA	TRANSISTOR	[M]
Q311	RVTDTC114EST	TRANSISTOR	
Q312	RVTDTA114EST	TRANSISTOR	
Q313	RVTDTC114EST	TRANSISTOR	
Q314	RVTDTC114EST	TRANSISTOR	
Q315	RVTDTA114EST	TRANSISTOR	
Q316	RVTDTC114EST	TRANSISTOR	
Q317	RVTDTC114EST	TRANSISTOR	
Q318	RVTDTC114EST	TRANSISTOR	
Q319	RVTDTC114EST	TRANSISTOR	
Q601	BA1A4MTA	TRANSISTOR	[M]
Q602	BA1A4MTA	TRANSISTOR	[M]
Q603	2SK301QTA	TRANSISTOR	[M]
Q604	BN1A4MTA	TRANSISTOR	[M]
Q800	2SC2001K1TA	TRANSISTOR	
Q801	2SC2785FTA	TRANSISTOR	
Q802	2SA564RTA	TRANSISTOR	
Q803	2SC1740SSTA	TRANSISTOR	
Q804	2SC1740SSTA	TRANSISTOR	
Q805	2SC1740SQSTA	TRANSISTOR	
Q806	2SC1740SSTA	TRANSISTOR	
Q808	RVTDTC113ZST	TRANSISTOR	
Q811	2SA1175FTA	TRANSISTOR	[M]
Q890	BA1A4MTA	TRANSISTOR	[M]
		DIODES	
D1	1SV147T4MATU	DIODE	
D2	1SV147T4MATU	DIODE	

Ref No.	Part No.	Part Name & Description	Remarks
D3	1SV147T4MATU	DIODE	
D4	RVDSVC321	DIODE	
D5	RVDSVC321	DIODE	
D7	RVDSVC321	DIODE	
D8	RVDSVC321	DIODE	
D10	RVD1SS133TA	DIODE	
D11	RVD1SS133TA	DIODE	
D12	RVDMTZ5R6BTA	DIODE	
D15	RVD1SS133TA	DIODE	
D16	RVD1SS133TA	DIODE	
D17	RVD1SS133TA	DIODE	
D18	RVD1SS133TA	DIODE	
D301	RVDMTZ6R8ATA	DIODE	[M]
D304	RVDMTZ18BTA	DIODE	[M]
D305	RVDMTZ5R1BTA	DIODE	
D306	RVDMTZ4R7BTA	DIODE	
D309	RVDMTZ8R2BTA	DIODE	
D310	RVD1SS133TA	DIODE	
D311	RVD1SS133TA	DIODE	
D312	RVD1SS133TA	DIODE	
D313	RVD1SS133TA	DIODE	
D314	RVD1SS133TA	DIODE	
D315	RVD1SS133TA	DIODE	
D316	RVD1SS133TA	DIODE	
D317	RVD1SS133TA	DIODE	
D318	RVD1SS133TA	DIODE	
D319	RVD1SS133TA	DIODE	
D320	RVD1SS133TA	DIODE	
D322	RVD1SS133TA	DIODE	
D323	RVD1SS133TA	DIODE	
D324	RVD1SS133TA	DIODE	
D325	RVD1SS133TA	DIODE	
D326	RVD1SS133TA	DIODE	
D327	RVD1SS133TA	DIODE	
D331	RVD1SS133TA	DIODE	
D332	RVD1SS133TA	DIODE	
D602	RVD1SS133TA	DIODE	
D603	RVD1SS133TA	DIODE	
D604	RVD1SS133TA	DIODE	
D605	RVD1SS133TA	DIODE	
D606	RVD1SS133TA	DIODE	
D608	RVD1SS133TA	DIODE	
D609	RVD1SS133TA	DIODE	
D801	RVD1SS133TA	DIODE	
D802	1SS291TA	DIODE	
D803	RVD1SS133TA	DIODE	
D804	1SS291TA	DIODE	
D805	RVD1SS133TA	DIODE	
D806	LN063608P	DIODE	[M]

Ref No.	Part No.	Part Name & Description	Remarks
D807	RVD1SS133TA	DIODE	
D808	1SS291TA	DIODE	
D809	1SS291TA	DIODE	
D810	MA700TA	DIODE	
D811	RVD1SS133TA	DIODE	
D890	RVDMTZ6R2BTA	DIODE	
D891	SLR33VC160	DIODE	[M]
D901	RL154M11	DIODE	[M] ⚠
D902	RL154M11	DIODE	[M] ⚠
D903	RL154M11	DIODE	[M] ⚠
D904	RL154M11	DIODE	[M] ⚠
		VARIABLE RESISTORS	
VR1	EVNDXAA00B14	VR, VCO	
VR301	EUWMQ0F25B54	VR, MOTORISE VOL	[M]
VR551	EWAJQAW05G54	VR, GEQ (100Hz)	[M]
VR552	EWAJQAW05G54	VR, GEQ (330Hz)	[M]
VR553	EWAJQAW05G54	VR, GEQ (1kHz)	[M]
VR554	EWAJQAW05G54	VR, GEQ (3.3kHz)	[M]
VR555	EWAJQAW05G54	VR, GEQ (10kHz)	[M]
VR601	EVNDXAA00B24	VR, TRIMMER POT.	
		VARIABLE CAPACITORS	
CT3	RCV10AF1T-S	TRIMMER	
CT4	ECRLA030E53R	TRIMMER	
		SWITCHES	
S301	EVQ21405R	SW, CD PROGRAM	
S302	EVQ21405R	SW, CD EDIT/PAUSE	
S303	EVQ21405R	SW, CD REV SKIP	
S304	EVQ21405R	SW, CD SKIP	
S305	EVQ21405R	SW, CD REPEAT	
S306	EVQ21405R	SW, CD STOP/CANCEL	
S307	EVQ21405R	SW, CD PLAY	
S308	EVQ21405R	SW, CD OPEN/CLOSE	
S601	RSH1A004-1	SW, DECK 1 PB	[M]
S602	RSH1A004-1	SW, DECK 2 PB	[M]
S603	RSH1A004-1	SW, DECK 1 CUE/REV	[M]
S604	RSH1A004-1	SW, DECK 2 CUE/REV	[M]
S605	RSH1A013-J	SW, DECK 1 MOTOR	[M]
S606	RSH1A013-J	SW, DECK 2 MOTOR	[M]
S607	RSH1A004-1	SW, REC	[M]
S790	RSH1A005	SW, DISC TRAY CLOSE	
S791	RSH1A005	SW, DISC TRAY OPEN	
S801	EVQ21405R	SW, POWER	
S802	EVQ21405R	SW, TAPE	

Ref No.	Part No.	Part Name & Description	Remarks
S803	EVQ21405R	SW, TUNER	
S804	EVQ21405R	SW, CD	
S805	EVQ21405R	SW, AUX	
S806	EVQ21405R	SW, PRESET UP	
S807	EVQ21405R	SW, PRESET DOWN	
S808	EVQ21405R	SW, TUNING UP	
S809	EVQ21405R	SW, TUNING DOWN	
S810	EVQ21405R	SW, MEMORY	
S811	EVQ21405R	SW, FM MODE	
S812	EVQ21405R	SW, BAND	
SW801	RSS3B47ZA-H	SW, HI-SPD	
		CONNECTORS	
CN1	SJT3711	CONNECTOR (7P)	
CN2	SJT3909	CONNECTOR (9P)	
CN3	RJP2G18ZA	CONNECTOR (2P)	
CN303	RJS9T6ZA	CONNECTOR (9P)	
CN304	RHR194ZA	WIRE HOLDER (7P)	
CN310	RJS2A0402	WIRE HOLDER (2P)	[M]
CN313	RJS1A6823	FFC CONNECTOR (23P)	
CN314	RHR196ZA	WIRE HOLDER (9P)	
CN501	RJU003K006M1	CONNECTOR (6P)	
CN502	RJU003K010M1	CONNECTOR (10P)	
CN790	RJP6G17ZA	CONNECTOR (6P)	
CN801	RHR196ZA	WIRE HOLDER (9P)	
CN804	RHR195ZA	WIRE HOLDER (8P)	
CN901	RJP2G9YA	PLUG (2P)	
CP307	RJP3G18ZA	PLUG (3P)	
CP308	RJP7G18ZA	PLUG (7P)	
CP311	RJP8G4YA	PLUG (8P)	
CP315	RJP9G4YA	PLUG (9P)	
CP501	RJT003K006M1	CONNECTOR (6P)	
CP502	RJT003K010M1	CONNECTOR (10P)	
CP790	RJP6G17ZA	CONNECTOR (6P)	
CP801	RJP9G18ZA	PLUG (9P)	
CP803	RJP14G17ZA	PLUG (13P)	
		COILS & TRANSFORMERS	
L1	RLQY30S4W	COIL, FM RF CHOKE	[M]
L2	RLA4Y001-E	COIL, FM ANT	[M]
L3	RLA4Y002-E	COIL, FM ANT	[M]
L4	RLQZP1R2KT-Y	COIL	
L7	RLV6C004-0	COIL, F. ANT	[M]
L9	RL02B126-M	COIL, AM OSC	[M]
L10	RL01B15-M	COIL, LW OSC	[M]
L15	RLQZP101KT-Y	COIL	
L16	RLQZP1R2JT-Y	COIL	[M]

Ref No.	Part No.	Part Name & Description	Remarks
L17	RLQZP100KT-Y	COIL	
L301	RLQZP2R2KT-Y	COIL	
L305	RL08R001-T	COIL, AC BIAS	[M]
L306	RLQZB470KT-D	COIL	
L350	RLQZB4R7KT-D	COIL	[M]
L351	RLQZB4R7KT-D	COIL	[M]
L352	RLQZB4R7KT-D	COIL	[M]
L400	RLQV472K-Z	COIL	
L401	RLQV472K-Z	COIL	
L451	RLQZB470KT-D	COIL	
L452	RLQZB470KT-D	COIL	
L801	RLQZB470KT-D	COIL	
L802	RLQZP2R2KT-Y	COIL	
L803	RLQZP2R2KT-Y	COIL	
L804	RLQZP2R2KT-Y	COIL	
T1	RLI4B153-M	FM IFT	
T2	RLI2B153-M	AM IFT	
T3	SLI4B524-Z	FM DET COIL	
T901	RTP1U3B001-X	POWER TRANSFORMER	[M]⚠
		COMPONENT COMBINATION	
Z801	RCDGP1U58XD	REMOTE-CON SENSOR	
		DISPLAY	
Z802	RSL5085-L	LCD	[M]
		CERAMIC FILTERS	
CF1	RLFFETWNA01L	FM CF	
CF2	RVFSFZ459HL3	AM CF	[M]
		OSCILLATORS	
X1	SVQ49U722T-S	XTAL 7.2MHZ	
X801	RSXZ4M19M01T	CERAMIC RESONATOR	
X802	RSXD32K7S02	CRYSTAL	[M]
		FUSE	
F901	XBA2C25TB0	FUSE	⚠
		FUSE CLIPS	
FC1	EYF52BC	FUSE CLIP	
FC2	EYF52BC	FUSE CLIP	

Ref No.	Part No.	Part Name & Description	Remarks
		JACKS	
JK301	RJH5202	JACK, FM ANT	[M]
JK302	RJF1098ZA-H	JACK, SPEAKER	[M]
JK303	RJF1099ZA	JACK, LINE IN	
JK304	RJJD7S2YA-C	JACK, HEAD PHONE	
JK901	RJJ1SE01-H	JACK, AC IN	⚠
		WIRES	
W301	REXX0041	WIRE, MAIN TO PANEL	[M]
W304	REXX0043	WIRE, MAIN TO TUNER	[M]
W305	REXX0042	WIRE, MAIN TO PANEL	[M]
W309	REXX0059	WIRE, MAIN TO TUNER	[M]
W310	REXX0052	WIRE, MAIN TO POWER	[M]
W312	REXX0044	IRE ASS'Y, CD MECHA	[M]
W314	REXX0054	WIRE, MAIN TO VOL	[M]
W801	REXX0045	WIRE, PANEL TO TUNER	[M]
W804	REXX0053	WIRE, PANEL TO CD	[M]
		PACKING MATERIALS	
P1	RPF0084	BAG (SET)	[M]
P2	RPGX0097	GIFT BOX	[M]
P3	RPNX0018	POLYFOAM	[M]
P4	SPB1061	VINLY BAG	
P5	SPSD152	ACCESSORY CASE	
		ACCESSORIES	
A1	EUR642165	REMOTE CONTROL UNIT	[M]
A2	RQCB0169	SERVICE CENTRE LIST	
A3	RQT2065-1B	INSTRUCTION MANUAL	[M]
A4	RJA0038-U	AC CORD	[M] ⚠
A5	SSA272	FM ANT	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		< CD >	
		INTEGRATED CIRCUITS	
IC701	AN8802SCE1V	I.C, SERVO AMP	
IC702	MN66271RA	I.C, SERVO PROCESSOR	
IC703	AN8389SE1	I.C, MOTOR DRIVE	
		TRANSISTOR	
Q701	2SB709S	TRANSISTOR	
		VARIABLE RESISTOR	
VR701	EVNDXAA00B14	V.R, BEST EYE ADJ	
		SWITCH	
S701	RSM0006-P	SW, REST	
		CONNECTORS	
CN701	RJU035T016-1	SOCKET (16P)	
CN702	RJS1A6723-1Q	SOCKET (23P)	
		OSCILLATOR	
X701	RSXZ16M9M02T	CRYSTAL	
		CHIP JUMPERS	
RJ701	ERJ8GEY0R00A	1/10W 0	
RJ702	ERJ8GEY0R00A	1/10W 0	
RJ703	ERJ8GEY0R00A	1/10W 0	
RJ704	ERJ8GEY0R00A	1/10W 0	
RJ705	ERJ8GEY0R00A	1/10W 0	
RJ706	ERJ8GEY0R00A	1/10W 0	
RJ707	ERJ8GEY0R00A	1/10W 0	
RJ708	ERJ8GEY0R00A	1/10W 0	
RJ709	ERJ8GEY0R00A	1/10W 0	
RJ710	ERJ8GEY0R00A	1/10W 0	
RJ711	ERJ8GEY0R00A	1/10W 0	
RJ712	ERJ8GEY0R00A	1/10W 0	
RJ713	ERJ8GEY0R00A	1/10W 0	
RJ714	ERJ8GEY0R00A	1/10W 0	
RJ715	ERJ8GEY0R00A	1/10W 0	
RJ716	ERJ8GEY0R00A	1/10W 0	
RJ717	ERJ8GEY0R00A	1/10W 0	
RJ721	ERJ6GEY0R00A	1/10W 0	
RJ722	ERJ6GEY0R00A	1/10W 0	

Ref No.	Part No.	Part Name & Description	Remarks
RJ724	ERJ6GEY0R00A	1/10W 0	
RJ725	ERJ6GEY0R00A	1/10W 0	
RJ726	ERJ6GEY0R00A	1/10W 0	
		TEST JUMPERS	
TJ701	RRJ8GET001H	TEST JUMPER	
TJ702	RRJ8GET001H	TEST JUMPER	

■ RESISTORS & CAPACITORS

Notes :
* Capacitor values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads
* *Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).*
* Bracketed indications in Ref. No. columns specify the area (Refer to the first page for area). Parts without these indications can be used for all areas.
* [M] Indicates in the values & remarks column indicates parts supplied by **MESA**

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1	ERDS2TJ470T	47 1/4W
R2	ERDS2TJ102T	1K 1/4W
R3	ERDS2TJ104T	100K 1/4W
R4	ERDS2TJ104T	100K 1/4W
R5	ERDS2TJ470T	47 1/4W
R7	ERDS2TJ222T	2.2K 1/4W
R8	ERDS2TJ104T	100K 1/4W
R9	ERDS2TJ103T	10K 1/4W
R10	ERDS2TJ563T	56K 1/4W
R11	ERDS2TJ471T	470 1/4W
R12	ERDS2TJ224T	220K 1/4W
R13	ERDS2TJ471T	470 1/4W
R14	ERDS2TJ473T	47K 1/4W
R15	ERDS2TJ102T	1K 1/4W
R16	ERDS2TJ101T	100 1/4W
R17	ERDS2TJ332T	3.3K 1/4W
R18	ERDS2TJ334T	330K 1/4W
R19	ERDS2TJ331T	330 1/4W
R20	ERDS2TJ331T	330 1/4W
R21	ERDS2TJ331T	330 1/4W
R22	ERDS2TJ103T	10K 1/4W
R23	ERDS2TJ151T	150 1/4W
R24	ERDS2TJ562T	5.6K 1/4W
R25	ERDS2TJ332T	3.3K 1/4W
R26	ERDS2TJ102T	1K 1/4W
R27	ERDS2TJ104T	100K 1/4W
R28	ERDS2TJ562T	5.6K 1/4W
R29	ERDS2TJ681T	680 1/4W
R30	ERDS2TJ683T	68K 1/4W
R31	ERDS2TJ102T	1K 1/4W
R32	ERDS2TJ682T	6.8K 1/4W
R33	ERDS2TJ104T	100K 1/4W
R34	ERDS2TJ104T	100K 1/4W
R36	ERDS2TJ223T	22K 1/4W
R37	ERDS2TJ223T	22K 1/4W
R39	ERDS2TJ104T	100K 1/4W
R40	ERDS2TJ104T	100K 1/4W
R44	ERDS2TJ103T	10K 1/4W
R47	ERDS2TJ103T	10K 1/4W
R49	ERDS2TJ121T	120 1/4W
R50	ERDS2TJ102T	1K 1/4W
R51	ERDS2TJ222T	2.2K 1/4W
R52	ERDS2TJ471T	470 1/4W
R53	ERDS2TJ683T	68K 1/4W
R54	ERDS2TJ153T	15K 1/4W

Ref. No.	Part No.	Values & Remarks
R55	ERDS2TJ561T	560 1/4W
R56	ERDS2TJ272T	2.7K 1/4W
R57	ERDS2TJ472T	4.7K 1/4W
R58	ERDS2TJ103T	10K 1/4W
R59	ERDS2TJ222T	2.2K 1/4W
R60	ERDS2TJ151T	150 1/4W
R61	ERDS2TJ222T	2.2K 1/4W
R62	ERDS2TJ103T	10K 1/4W
R63	ERDS2TJ102T	1K 1/4W
R68	ERDS2TJ391T	390 1/4W
R69	ERDS2TJ103T	10K 1/4W
R70	ERDS2TJ103T	10K 1/4W
R71	ERDS2TJ103T	10K 1/4W
R72	ERDS2TJ104T	100K 1/4W
R73	ERDS2TJ103T	10K 1/4W
R74	ERDS2TJ224T	220K 1/4W
R75	ERDS2TJ224T	220K 1/4W
R76	ERDS2TJ224T	220K 1/4W
R77	ERDS2TJ472T	4.7K 1/4W
R78	ERDS2TJ103T	10K 1/4W
R81	ERDS2TJ222T	2.2K 1/4W
R101	ERDS2TJ333T	33K 1/4W
R102	ERDS2TJ330T	33 1/4W
R103	ERDS2TJ682T	6.8K 1/4W
R104	ERDS2TJ822T	8.2K 1/4W
R105	ERDS2TJ472T	4.7K 1/4W
R106	ERDS2TJ680T	68 1/4W
R108	ERDS2TJ103T	10K 1/4W
R109	ERDS2TJ104T	100K 1/4W
R110	ERDS2TJ563T	56K 1/4W
R111	ERDS2TJ103T	10K 1/4W
R113	ERDS2TJ393T	39K 1/4W
R116	ERDS2TJ682T	6.8K 1/4W
R117	ERDS2TJ222T	2.2K 1/4W
R124	ERDS2TJ332T	3.3K 1/4W
R133	ERDS2TJ222T	2.2K 1/4W
R134	ERDS2TJ1R5T	1.5 1/4W
R135	ERDS2TJ151T	150 1/4W
R136	ERDS2TJ180T	18 1/4W
R137	ERDS2TJ473T	47K 1/4W
R138	ERDS2TJ683T	68K 1/4W
R139	ERDS2TJ1R2T	1.2 1/4W
R152	ERDS2TJ153T	15K 1/4W
R153	ERDS2TJ332T	3.3K 1/4W
R155	ERDS2TJ183T	18K 1/4W
R170	ERDS2TJ273T	27K 1/4W
R171	ERDS2TJ682T	6.8K 1/4W

Ref. No.	Part No.	Values & Remarks
R201	ERDS2TJ333T	33K 1/4W
R202	ERDS2TJ330T	33 1/4W
R203	ERDS2TJ682T	6.8K 1/4W
R204	ERDS2TJ822T	8.2K 1/4W
R205	ERDS2TJ472T	4.7K 1/4W
R206	ERDS2TJ680T	68 1/4W
R208	ERDS2TJ103T	10K 1/4W
R209	ERDS2TJ104T	100K 1/4W
R210	ERDS2TJ563T	56K 1/4W
R211	ERDS2TJ103T	10K 1/4W
R213	ERDS2TJ393T	39K 1/4W
R216	ERDS2TJ682T	6.8K 1/4W
R217	ERDS2TJ222T	2.2K 1/4W
R224	ERDS2TJ332T	3.3K 1/4W
R233	ERDS2TJ222T	2.2K 1/4W
R234	ERDS2TJ1R5T	1.5 1/4W
R235	ERDS2TJ151T	150 1/4W
R236	ERDS2TJ180T	18 1/4W
R237	ERDS2TJ473T	47K 1/4W
R238	ERDS2TJ683T	68K 1/4W
R239	ERDS2TJ1R2T	1.2 1/4W
R252	ERDS2TJ153T	15K 1/4W
R253	ERDS2TJ332T	3.3K 1/4W
R255	ERDS2TJ183T	18K 1/4W
R270	ERDS2TJ273T	27K 1/4W
R271	ERDS2TJ682T	6.8K 1/4W
R301	ERDS2TJ121T	120 1/4W
R302	ERDS2TJ681T	680 1/4W
R303	ERDS2TJ102T	1K 1/4W
R305	ERDS2TJ222T	2.2K 1/4W
R310	ERDS2TJ472T	4.7K 1/4W
R311	ERD2FCVJ4R7T	4.7 1/4W
R312	ERDS2TJ103T	10K 1/4W
R313	ERDS2TJ472T	4.7K 1/4W
R314	ERDS2TJ472T	4.7K 1/4W
R315	ERDS2TJ101T	100 1/4W
R316	ERDS2TJ103T	10K 1/4W
R317	ERDS2TJ222T	2.2K 1/4W
R318	ERDS2TJ222T	2.2K 1/4W
R319	ERD2FCVJ4R7T	4.7 1/4W
R320	ERDS2TJ333T	33K 1/4W
R321	ERDS2TJ272T	2.7K 1/4W
R322	ERDS2TJ101T	100 1/4W
R323	ERDS2TJ1R5T	1.5 1/4W
R324	ERDS2TJ104T	100K 1/4W
R325	ERDS2TJ152T	1.5K 1/4W
R326	ERDS1FVJ100T	10 1/2W

Ref. No.	Part No.	Values & Remarks
R327	ERDS2TJ101T	100 1/4W
R328	ERDS2TJ330T	33 1/4W
R329	ERDS2TJ104T	100K 1/4W
R330	ERDS2TJ103T	10K 1/4W
R331	ERDS2TJ472T	4.7K 1/4W
R332	ERDS2TJ183T	18K 1/4W
R333	ERDS2TJ223T	22K 1/4W
R334	ERDS2TJ102T	1K 1/4W
R335	ERDS2TJ102T	1K 1/4W
R336	ERDS2TJ563T	56K 1/4W
R337	ERDS2TJ104T	100K 1/4W
R338	ERDS2TJ683T	68K 1/4W
R339	ERDS1FVJ4R7T	4.7 1/2W
R340	ERDS2TJ472T	4.7K 1/4W
R341	ERDS2TJ223T	22K 1/4W
R342	ERDS2TJ472T	4.7K 1/4W
R343	ERDS2TJ103T	10K 1/4W
R344	ERDS2TJ822T	8.2K 1/4W
R345	ERDS2TJ102T	1K 1/4W
R346	ERDS2TJ103T	10K 1/4W
R347	ERDS2TJ334T	330K 1/4W
R348	ERDS2TJ221T	220 1/4W
R349	ERDS2TJ331T	330 1/4W
R350	ERDS2TJ124T	120K 1/4W
R351	ERDS2TJ472T	4.7K 1/4W
R353	ERDS2TJ333T	33K 1/4W
R354	ERDS2TJ102T	1K 1/4W
R355	ERDS2TJ683T	68K 1/4W
R356	ERDS2TJ472T	4.7K 1/4W
R357	ERDS2TJ333T	33K 1/4W
R358	ERDS2TJ221T	220 1/4W
R359	ERDS2TJ103T	10K 1/4W
R360	ERDS2TJ562T	5.6K 1/4W
R364	ERDS2TJ392T	3.9K 1/4W
R366	ERDS2TJ105T	1M 1/4W
R380	ERDS2TJ333T	33K 1/4W
R381	ERDS2TJ153T	15K 1/4W
R382	ERDS2TJ822T	8.2K 1/4W
R383	ERDS2TJ562T	5.6K 1/4W
R384	ERDS2TJ392T	3.9K 1/4W
R385	ERDS2TJ272T	2.7K 1/4W
R386	ERDS2TJ222T	2.2K 1/4W
R387	ERDS2TJ152T	1.5K 1/4W
R390	ERDS2TJ100T	10 1/4W
R415	ERDS2TJ682T	6.8K 1/4W
R416	ERDS2TJ682T	6.8K 1/4W
R552	ERDS2TJ682T	6.8K 1/4W
R554	ERDS2TJ123T	12K 1/4W
R556	ERDS2TJ472T	4.7K 1/4W
R558	ERDS2TJ682T	6.8K 1/4W
R570	ERDS2TJ221T	220 1/4W
R602	ERDS2TJ103T	10K 1/4W
R603	ERDS2TJ472T	4.7K 1/4W
R604	ERDS2TJ103T	10K 1/4W

Ref. No.	Part No.	Values & Remarks
R605	ERDS2TJ822T	8.2K 1/4W
R607	ERDS2TJ303T	30K 1/4W [M]
R608	ERDS2TJ303T	30K 1/4W [M]
R609	ERDS2TJ153T	15K 1/4W
R610	ERDS2TJ102T	1K 1/4W
R611	ERDS2TJ105T	1M 1/4W
R652	ERDS2TJ682T	6.8K 1/4W
R654	ERDS2TJ123T	12K 1/4W
R656	ERDS2TJ472T	4.7K 1/4W
R658	ERDS2TJ682T	6.8K 1/4W
R800	ERDS2TJ392T	3.9K 1/4W
R801	ERDS2TJ272T	2.7K 1/4W
R802	ERDS2TJ222T	2.2K 1/4W
R803	ERDS2TJ152T	1.5K 1/4W
R804	ERDS2TJ104T	100K 1/4W
R805	ERDS2TJ181T	180 1/4W
R814	ERDS2TJ153T	15K 1/4W
R815	ERDS2TJ822T	8.2K 1/4W
R816	ERDS2TJ562T	5.6K 1/4W
R817	ERDS2TJ392T	3.9K 1/4W
R818	ERDS2TJ272T	2.7K 1/4W
R819	ERDS2TJ222T	2.2K 1/4W
R820	ERDS2TJ152T	1.5K 1/4W
R821	ERDS2TJ153T	15K 1/4W
R822	ERDS2TJ153T	15K 1/4W
R823	ERDS2TJ153T	15K 1/4W
R825	ERDS2TJ331T	330 1/4W
R826	ERDS2TJ103T	10K 1/4W
R827	ERDS2TJ103T	10K 1/4W
R828	ERDS2TJ103T	10K 1/4W
R829	ERDS2TJ103T	10K 1/4W
R830	ERDS2TJ104T	100K 1/4W
R831	ERDS2TJ104T	100K 1/4W
R832	ERDS2TJ104T	100K 1/4W
R833	ERDS2TJ333T	33K 1/4W
R834	ERDS2TJ104T	100K 1/4W
R835	ERDS2TJ104T	100K 1/4W
R836	ERDS2TJ104T	100K 1/4W
R837	ERDS2TJ333T	33K 1/4W
R838	ERDS2TJ824T	820K 1/4W
R839	ERDS2TJ471T	470 1/4W
R840	ERDS2TJ822T	8.2K 1/4W
R841	ERDS2TJ104T	100K 1/4W
R842	ERDS2TJ104T	100K 1/4W
R844	ERDS2TJ103T	10K 1/4W
R845	ERDS2TJ106T	10M 1/4W
R846	ERDS2TJ334T	330K 1/4W
R847	ERDS2TJ105T	1M 1/4W
R848	ERDS2TJ681T	680 1/4W
R849	ERDS2TJ103T	10K 1/4W
R850	ERDS2TJ153T	15K 1/4W
R851	ERDS2TJ683T	68K 1/4W
R852	ERDS2TJ222T	2.2K 1/4W
R853	ERDS2TJ222T	2.2K 1/4W

Ref. No.	Part No.	Values & Remarks
R854	ERDS2TJ222T	2.2K 1/4W
R855	ERDS2TJ472T	4.7K 1/4W
R856	ERDS2TJ103T	10K 1/4W
R857	ERDS2TJ103T	10K 1/4W
R858	ERDS2TJ103T	10K 1/4W
R859	ERDS2TJ181T	180 1/4W
R860	ERDS2TJ102T	1K 1/4W
R861	ERDS2TJ104T	100K 1/4W
R862	ERDS2TJ822T	8.2K 1/4W
R863	ERDS2TJ822T	8.2K 1/4W
R864	ERDS2TJ103T	10K 1/4W
R865	ERDS2TJ561T	560 1/4W
R866	ERDS2TJ391T	390 1/4W
R867	ERDS2TJ470T	47 1/4W
R871	ERDS2TJ104T	100K 1/4W
R872	ERDS2TJ104T	100K 1/4W
R874	ERDS2TJ152T	1.5K 1/4W
R875	ERDS2TJ332T	3.3K 1/4W
R877	ERDS2TJ104T	100K 1/4W
R878	ERDS2TJ103T	10K 1/4W
R879	ERDS2TJ103T	10K 1/4W
R880	ERDS2TJ103T	10K 1/4W
		CAPACITORS
C2	ECBT1H102KB5	1000P 50V
C3	ECCR1H120J5	12P 50V
C4	ECBT1H101KB5	100P 50V
C5	ECBT1H102KB5	1000P 50V
C6	ECBT1H102KB5	1000P 50V
C7	ECBT1H100JC5	10P 50V
C8	ECBT1H3R9KC5	3.9P 50V
C9	ECBT1H150JC5	15P 50V
C10	ECBT1H102KB5	1000P 50V
C11	ECBT1H3R3KC5	3.3P 50V
C12	ECBT1H2R2KC5	2.2P 50V
C13	ECBT1H181KB5	180P 50V
C14	ECBT1H6R8KC5	6.8P 50V
C15	ECBT1H102KB5	1000P 50V
C17	ECBT1C103MS5	0.01 16V
C18	ECBT1C103MS5	0.01 16V
C19	ECBT1H102KB5	1000P 50V
C20	ECBT1H102KB5	1000P 50V
C21	ECBT1H181KB5	180P 50V
C22	ECBT1H181KB5	180P 50V
C23	ECBT1C103MS5	0.01 16V
C24	ECBT1H102KB5	1000P 50V
C25	ECEA1CU100B	10 16V
C26	ECBT1H331KB5	330P 50V
C29	ECEA0JU101B	100 6.3V
C30	ECEA1EU4R7B	4.7 25V
C31	ECFR1C223MR	0.022 16V
C32	ECFR1C223MR	0.022 16V
C33	ECEA1AU101B	100 10V

Ref. No.	Part No.	Values & Remarks
C34	ECFR1C153MR	0.015 16V
C35	ECBT1C103MS5	0.01 16V
C36	ECEA1HU2R2B	2.2 50V
C37	ECBT1H102KB5	1000P 50V
C38	ECFR1C153MR	0.015 16V
C39	ECEA1HU010B	1 50V
C40	ECEA1HUR47B	0.47 50V
C41	ECEA1HUR47B	0.47 50V
C42	ECQP2A102JZT	1000P 100V
C44	ECBT1C103MS5	0.01 16V
C47	ECBT1C103MS5	0.01 16V
C48	ECBT1H470J5	47P 50V
C52	ECFR1C223MR	0.022 16V
C54	ECBT1H6R8KC5	6.8P 50V
C56	ECQP2A391JZT	390P 100V
C58	ECQP2A121JZT	120P 100V
C60	ECQP2A181JZT	180P 100V
C62	ECBT1H101KB5	100P 50V
C64	ECFR1C223MR	0.022 16V
C65	ECBT1H121KB5	120P 50V
C66	ECBT1C103MS5	0.01 16V
C67	ECBT1C103MS5	0.01 16V
C68	ECEA1HU010B	1 50V
C69	ECEA1HUR47B	0.47 50V
C70	ECEA0JU101B	100 6.3V
C71	ECKR1H103MD5	0.01 50V
C72	ECBT1H101KB5	100P 50V
C73	ECKR1H103MD5	0.01 50V
C74	ECBT0J153MS5	0.015 6.3V
C75	ECEA1HU2R2B	2.2 50V
C76	ECFW1C223MDY	0.022 16V
C77	ECBT1H102KB5	1000P 50V
C78	ECEA1HNR47SB	0.47 50V
C79	ECBT1C103MS5	0.01 16V
C83	ECEA1CU330B	33 16V
C86	ECBT1H150JC5	15P 50V
C87	ECBT1H150JC5	15P 50V
C88	ECBT1H331KB5	330P 50V
C89	ECBT1H331KB5	330P 50V
C90	ECBT1H331KB5	330P 50V
C91	ECEA1CU100B	10 16V
C92	ECBT1H102KB5	1000P 50V
C93	ECEA1CU330B	33 16V
C96	ECEA1CU330B	33 16V
C97	ECBT1H102KB5	1000P 50V
C98	ECBT1H101KB5	100P 50V
C99	ECBT1H331KB5	330P 50V
C101	ECBT1H561KB5	560P 50V
C102	ECBT1H681KB5	680P 50V
C103	ECBT1H561KB5	560P 50V
C104	ECEA1HU010B	1 50V
C105	ECEA1AU101B	100 10V
C106	ECFR1C273KR	0.027 16V
C107	ECEA1HU010B	1 50V

Ref. No.	Part No.	Values & Remarks
C108	ECBT1E223ZF5	0.022 25V
C109	ECEA1AU101B	100 10V
C112	ECBT1H102KB5	1000P 50V
C113	ECBT1C332MR5	3300P 16V
C114	ECEA1CU100B	10 16V
C115	ECBT1H102KB5	1000P 50V
C116	ECFR1C562JR	5600P 16V
C117	ECBT1H821KB5	820P 50V
C118	ECBT1H101KB5	100P 50V
C119	ECBT1H561KB5	560P 50V
C120	ECEA1HU010B	1 50V
C132	ECEA1HU010B	1 50V
C134	ECEA0JU101B	100 6.3V
C135	ECEA1AU101B	100 10V
C136	ECEA1AU222B	2200 10V
C137	ECQV1H224JZ3	0.22 50V
C138	ECBT1H102KB5	1000P 50V
C151	ECBT1C332MR5	3300P 16V
C152	ECFR1C223MR	0.022 16V
C170	ECBT1H101KB5	100P 50V
C171	ECBT1H101KB5	100P 50V
C201	ECBT1H561KB5	560P 50V
C202	ECBT1H681KB5	680P 50V
C203	ECBT1H561KB5	560P 50V
C204	ECEA1HU010B	1 50V
C205	ECEA1AU101B	100 10V
C206	ECFR1C273KR	0.027 16V
C207	ECEA1HU010B	1 50V
C208	ECBT1E223ZF5	0.022 25V
C209	ECEA1AU101B	100 10V
C212	ECBT1H102KB5	1000P 50V
C213	ECBT1C332MR5	3300P 16V
C214	ECEA1CU100B	10 16V
C215	ECBT1H102KB5	1000P 50V
C216	ECFR1C562JR	5600P 16V
C217	ECBT1H821KB5	820P 50V
C218	ECBT1H101KB5	100P 50V
C219	ECBT1H561KB5	560P 50V
C220	ECEA1HU010B	1 50V
C232	ECEA1HU010B	1 50V
C234	ECEA0JU101B	100 6.3V
C235	ECEA1AU101B	100 10V
C236	ECEA1AU222B	2200 10V
C237	ECQV1H224JZ3	0.22 50V
C238	ECBT1H102KB5	1000P 50V
C251	ECBT1C332MR5	3300P 16V
C252	ECFR1C223MR	0.022 16V
C270	ECBT1H101KB5	100P 50V
C271	ECBT1H101KB5	100P 50V
C301	ECBT1H471KB5	470P 50V
C302	ECEA1HU3R3B	3.3 50V
C310	ECBT1H102KB5	1000P 50V
C311	ECEA1AU470B	47 10V
C312	ECFR1C473KR	0.047 16V

Ref. No.	Part No.	Values & Remarks
C313	ECBT1C332MR5	3300P 16V
C314	ECEA1AU221B	220 10V
C315	ECEA1HU010B	1 50V
C316	ECQP1103JZ	0.01 100V
C317	ECQP1561JZ	560P 100V
C318	ECBT1C103MS5	0.01 16V
C319	ECBT1C103MS5	0.01 16V
C320	ECBT1C103MS5	0.01 16V
C321	ECQV1H474JZ3	0.47 50V
C322	ECEA1AU470B	47 10V
C325	ECQP2A102JZT	1000P 100V
C331	ECA1EM332EV	3300P 25V [M]
C332	ECEA1CU101B	100 16V
C333	ECBT1H471KB5	470P 50V
C334	ECBT1E103ZF5	0.01 25V
C335	ECEA1AU221B	220 10V
C336	ECEA1CU100B	10 16V
C337	ECEA1CU100B	10 16V
C338	ECEA1CU100B	10 16V
C339	ECEA1AU221B	220 10V
C340	ECEA1EU221B	220 25V
C341	ECEA1CU101B	100 16V
C342	ECEA1CU101B	100 16V
C343	ECKR1H103ZF5	0.01 50V
C345	ECEA1CU470B	47 16V
C346	ECEA1CU221B	220 16V
C347	ECEA1CU470B	47 16V
C348	ECEA1HU010B	1 50V
C349	ECEA1HU0R1B	0.1 50V
C350	ECEA1CU221B	220 16V
C351	ECEA1CU330B	33 16V
C352	ECEA1EU4R7B	4.7 25V
C353	ECEA1CU100B	10 16V
C354	ECBT1H102KB5	1000P 50V
C355	ECEA0JU101B	100 6.3V
C356	ECEA1AU221B	220 10V
C357	ECEA1AU330B	33 10V
C358	ECEA1EU4R7B	4.7 25V
C359	ECEA1EU101B	100 25V
C360	ECBT1C103MS5	0.01 16V
C361	ECEA1AU471B	470 10V
C362	ECBT1H102KB5	1000P 50V
C364	ECEA1CU101B	100 16V
C365	ECEA1CU101B	100 16V
C366	ECBT1H330J5	33P 50V
C368	ECBT1H102KB5	1000P 50V
C369	ECBT1C103MS5	0.01 16V
C370	ECBT1C103MS5	0.01 16V
C371	ECBT1C103MS5	0.01 16V
C375	ECBT1H102KB5	1000P 50V
C381	ECBT1H330J5	33P 50V
C382	ECBT1H330J5	33P 50V
C390	ECEA1HU010B	1 50V
C396	ECBT1C103MS5	0.01 16V

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Ref. No.	Part No.	Values & Remarks
C397	ECBT1C103MS5	0.01 16V
C398	ECBT1C103MS5	0.01 16V
C420	ECEA1AU221B	220 10V
C450	ECBT1H104ZF5	0.1 50V
C451	ECBT1H104ZF5	0.1 50V
C562	ECEA1HUR22B	0.22 50V
C564	ECFR1C153KR	0.015 16V
C566	ECFR1C683KR	0.068 16V
C568	ECBT1C472KR5	4700P 16V
C570	ECFR1C223KR	0.022 16V
C572	ECBT1C152KR5	1500P 16V
C574	ECBT1C682MR5	6800P 16V
C576	ECBT1H471KB5	470P 50V
C578	ECFR1C473KR	0.047 16V
C580	ECEA1HUR68	0.68 50V
C582	ECEA1EU4R7B	4.7 25V
C584	ECEA1CU100B	10 16V
C586	ECBT1H101KB5	100P 50V
C588	ECEA1HU010B	1 50V
C590	ECEA1CU221B	220 16V
C601	ECEA1CU330B	33 16V
C602	ECEA1CU101B	100 16V
C603	ECEA1CU100B	10 16V
C662	ECEA1HUR22B	0.22 50V
C664	ECFR1C153KR	0.015 16V
C666	ECFR1C683KR	0.068 16V
C668	ECBT1C472KR5	4700P 16V
C670	ECFR1C223KR	0.022 16V
C672	ECBT1C152KR5	1500P 16V
C674	ECBT1C682MR5	6800P 16V
C676	ECBT1H471KB5	470P 50V
C678	ECFR1C473KR	0.047 16V
C680	ECEA1HUR68	0.68 50V
C682	ECEA1EU4R7B	4.7 25V
C684	ECEA1CU100B	10 16V
C686	ECBT1H101KB5	100P 50V
C688	ECEA1HU010B	1 50V
C790	ECA1AKF820	82 10V
C801	EECS5R5T104	0.1 5.5V [M]
C802	ECEA0JU102B	1000 6.3V
C803	ECEA1AF470B	47 10V [M]
C805	ECEA1AU221B	220 10V
C806	ECEA1HU010B	1 50V
C814	ECBT1H220JC5	22P 50V
C815	ECBT1H220JC5	22P 50V
C816	ECBT1H820KB5	82P 50V
C817	ECBT1H820KB5	82P 50V
C818	ECBT1H560J5	56P 50V
C819	ECBT1H560J5	56P 50V
C820	ECBT1H102KB5	1000P 50V
C821	ECBT1H102KB5	1000P 50V
C834	ECBT1H102KB5	1000P 50V
C835	ECBT1H102KB5	1000P 50V
C836	ECBT1H102KB5	1000P 50V

Ref. No.	Part No.	Values & Remarks
C851	ECBT1C103MS5	0.01 16V
C860	ECEA1HUR33B	0.33 50V
C861	ECBT1C103MS5	0.01 16V
C862	ECBT1H331KB5	330P 50V
C863	ECBT1H102KB5	1000P 50V
C864	ECEA1AU101B	100 10V
C870	ECBT1H102KB5	1000P 50V
C871	ECBT1H331KB5	330P 50V
C872	ECBT1H330J5	33P 50V
C873	ECBT1H102KB5	1000P 50V
C874	ECBT1H330J5	33P 50V
C875	ECBT1H102KB5	1000P 50V
C877	ECBT1H102KB5	1000P 50V
C878	ECBT1C103MS5	0.01 16V
C880	ECEA1AU221B	220 10V
C881	ECBT1H102KB5	1000P 50V
C882	ECBT1H102KB5	1000P 50V
C883	ECBT1H330J5	33P 50V
C884	ECBT1C103MS5	0.01 16V
C901	ECQV1H104JZ3	0.1 50V
C902	ECQV1H104JZ3	0.1 50V
C903	ECQV1H104JZ3	0.1 50V
C904	ECQV1H104JZ3	0.1 50V
		< CD >
		RESISTORS
R701	ERJ6GEYJ100	1/10W 10
R702	ERJ6GEYJ471V	1/10W 470
R703	ERJ6GEYJ823	1/10W 82K
R704	ERJ6GEYJ102A	1/10W 1K
R705	ERJ6GEYJ103V	1/10W 10K
R706	ERJ6GEYJ102A	1/10W 1K
R707	ERJ6GEYJ473V	1/10W 47K
R708	ERJ6GEYJ224V	1/10W 220K
R709	ERJ6GEYJ683V	1/10W 68K
R711	ERJ6GEYJ154V	1/10W 150K
R712	ERJ6GEYJ471V	1/10W 470
R714	ERJ6GEY0R00A	1/10W 0.00
R717	ERJ6GEYJ102A	1/10W 1K
R718	ERJ6GEYJ102A	1/10W 1K
R719	ERJ6GEYJ102A	1/10W 1K
R720	ERJ6GEYJ102A	1/10W 1K
R721	ERJ8GEYJ101V	1/10W 100
R722	ERJ6GEYJ473V	1/10W 47K
R723	ERJ6GEYJ182V	1/10W 1.8K
R724	ERJ6GEYJ333V	1/10W 33K
R725	ERJ6GEYJ472V	1/10W 4.7K
R726	ERJ6GEYJ473V	1/10W 47K
R727	ERJ6GEYJ103V	1/10W 10K
R728	ERJ6GEYJ392V	1/10W 3.9K
R730	ERJ6GEYJ331V	1/10W 330K
R731	ERJ6GEYJ392V	1/10W 3.9K
R734	ERJ6GEYJ101V	1/10W 100
R735	ERJ6GEYJ101V	1/10W 100

Ref. No.	Part No.	Values & Remarks
R736	ERJ6GEYJ101V	1/10W 100
R738	ERJ6GEYJ223V	1/10W 22K
R739	ERJ6GEYJ681V	1/10W 680
R741	ERJ6GEYJ562V	1/10W 5.6K
R742	ERJ6GEYJ562V	1/10W 5.6K
R743	ERJ6GEYJ562V	1/10W 5.6K
R744	ERJ6GEYJ103V	1/10W 10K
R745	ERJ6GEYJ155V	1/10W 1.5M
R746	ERJ8GEYJ103V	1/8W 10K
R747	ERJ6GEYJ473V	1/10W 47K
		CAPACITORS
C701	ECEA0JKA220	6.3V 22
C702	ECEA1HKA010I	50V 1
C703	ECEA0JKA101I	6.3V 100
C704	ECUZ1E104MBN	25V 0.1
C705	ECEA1HKA010I	50V 1
C706	ECUE1H101JCN	50V 100P
C708	ECUE1H472KBN	50V 4700P
C709	ECUE1C473KBN	16V 0.047
C710	ECUE1H152KBN	50V 1500P
C711	ECUZ1E104MBN	25V 0.1
C712	ECUZ1E104MBN	25V 0.1
C713	ECUV1C104MBM	16V 0.1
C714	ECEA0JKA101I	6.3V 100
C715	ECEA0JKA470I	6.3V 47
C716	ECUE1H561KBN	50V 560P
C717	ECUZ1E104MBN	25V 0.1
C718	ECUV1C224KBM	16V 0.22
C719	ECUV1C224KBM	16V 0.22
C721	ECUE1H100DCN	50V 10P
C722	ECUE1H100DCN	50V 10P
C723	ECEA1AKA221I	10V 220
C724	ECUV1C104MBM	16V 0.1
C725	ECUE1H102KBN	50V 1000P
C726	ECUE1H102KBN	50V 1000P
C727	ECEA1HKA010I	50V 1
C728	ECEA1HKA010I	50V 1
C730	ECUZ1E104MBN	25V 0.1
C731	ECA05SD151I	6.3V 150
C732	ECA05SD151I	6.3V 150
C733	ECUZ1E104MBN	25V 0.1
C734	ECEA1AKA221I	10V 220
C735	ECUZNE104MBN	25V 0.1
C736	ECUZNE104MBN	25V 0.1
C737	ECUZNE104MBN	25V 0.1
C738	ECUV1C154KBN	16V 0.15
C742	ECUV1E273KBN	25V 0.027
C743	ECUZNE104MBN	25V 0.1
C744	ECUE1E822KBN	25V 8200P
C745	ECUE1C473MBN	16V 0.047
C746	ECUE1H050DCN	50V 5P
C747	ECUE1H222KBN	50V 2200P
C748	ECUV1H271KBM	50V 270P

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