ORDER NO. MD9404039C2

# Service Manual

Portable Stereo CD System

Radio Cassette

# RX-DS25

COMPACT disc DIGITAL AUDIO

MASH* multi-stage noise shaping

**Colour**

(K) . . . Black Type

**Area**

| Suffix for Model No. | Area | Colour |
|---|---|---|
| (EB) | Great Britain | (K) |
| (EG) | Europe, Germany and Italy | |

* MASH is a trademark of NTT.

**TAPE DECK : SG-20 MECHANISM SERIES**
**TRAVERSE DECK : RAE0113Z MECHANISM SERIES**

## ■ SPECIFICATIONS

### ■ Radio

| | |
|---|---|
| **Frequency range** | |
| **FM** | 87.50 – 108.00 MHz |
| **LW** | 144 – 288 kHz |
| **MW** | 522 – 1611 kHz |
| **Intermediate frequency** | |
| **FM** | 10.7 MHz |
| **AM** | 459 kHz |
| **Sensitivity** | |
| **FM** | 13 dB/50 mW (– 3 dB limit sens.) |
| **LW** | 55 dB/m/50mW |
| **MW** | 51 dB/m/50mW |

### ■ CD Player

| | |
|---|---|
| **Sampling frequency** | 44.1 kHz |
| **Decoding** | 16 bit linear |
| **Beam source** | Semiconductor laser (wavelength 780nm) |
| **No. of channels** | 2 channel, stereo |
| **Wow and flutter** | Less than possible measurement data |
| **D/A converter** | MASH (1 bit DAC) |

### ■ Tape Recorder

| | |
|---|---|
| **Track system** | 4 track, 2 channel, stereo |
| **Recording system** | AC bias |
| **Erasing system** | Multi pole magnet |
| **Monitor system** | Variable sound monitor |
| **Frequency range** | |
| **Normal** | 50 – 14000 Hz |

### ■ General

| | |
|---|---|
| **Power requirement** | |
| **AC** | 230 – 240V, 50Hz<br>Power consumption; 40W |
| **Battery** | 12V (8 UM-1, R20/LR20 batteries) |
| **Memory Back-up for Computer** | 6V (4 UM-3, R6/LR6 batteries) |
| **Speakers** | 10 cm x 2 |
| **Jacks** | |
| **Input** | MIC: 5 mV/(200 ~ 600Ω) |
| **Output** | Headphones: 32Ω |
| **Dimensions (W x H xD)** | 489 x 170 x 252mm |
| **Weight** | 3.8 kg without batteries |

**Note :**
Specifications are subject to change without notice
Weight and dimensions are approximate.

**Panasonic**

# ■ CONTENTS



# ■ PRECAUTION OF LASER DIODE

**CAUTION :** This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

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

Laser radiation from the pick up lens is safety level, but be sure 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 was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

**ACHTUNG:** Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge : 780nm
Maximale strahlungsleistung der lasereinheit :100μW/VDE

Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werksseitig justierten einstellregler der lasereinhit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.

## ■ USE OF CAUTION LABELS

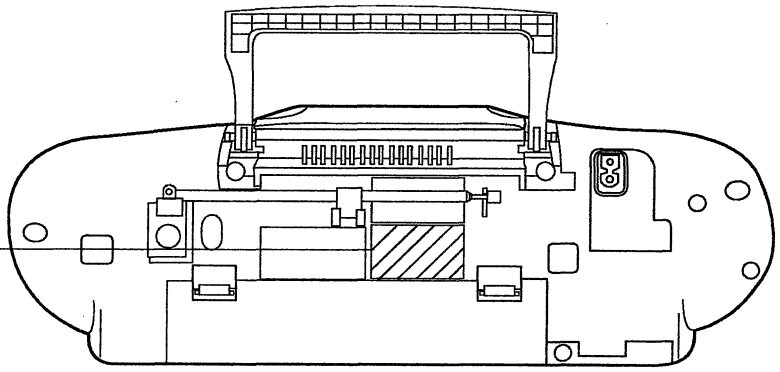
Note : O mark indicate that caution label is used in that area.
X mark indicate that caution label is not used in that area.

| Area | RQT4389ZAA | RQLS0078 | RQLS0025 |
|---|---|---|---|
| (EB) | O | X | O |
| (EG) | O | O | O |

**RQT4389ZAA**

CLASS1
LASER PRODUCT
RQT4389ZAA

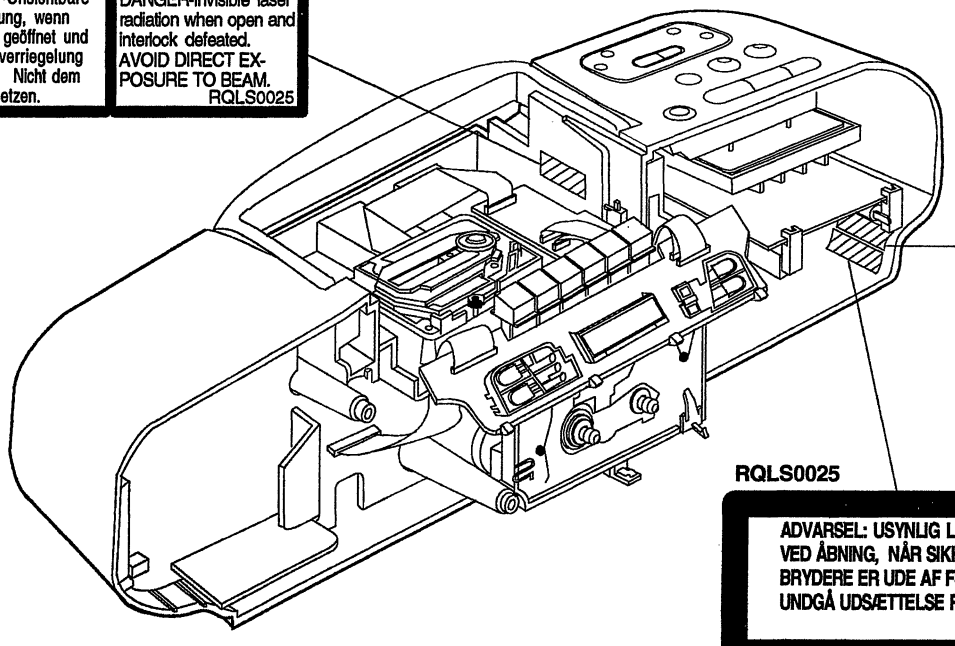
**LUOKAN 1 LASERLAITE**
**KLASS 1 LASER APPARAT**



**RQLS0025**

VORSICHT-Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet und Sicherheitsverriegelung überbrückt. Nicht dem Strahl aussetzen.

DANGER-Invisible laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.
RQLS0025



**RQLS0078**
(for EG area only)

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymätön lasersäteilylle. Älä katso säteesen.

VARNING! Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

ADVERSEL! Usynlig laserstråling når deksel åpnes og sikkerhedslås brytes. Unngå eksponering for strålen.
RQLS0078

**RQLS0025**

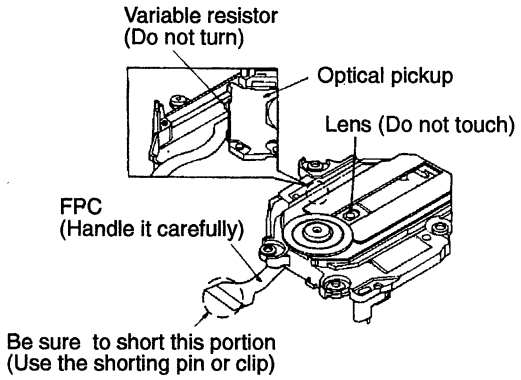
ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

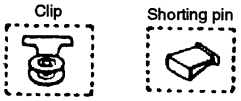
# ■ HANDLING PRECAUTIONS FOR TRAVERSE DECK

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.

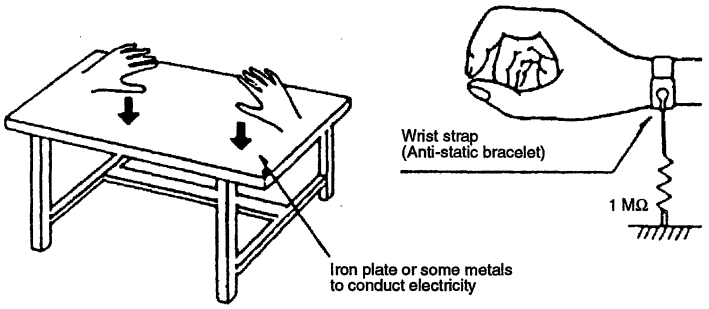



## • Grounding for electrostatic breakdown prevention

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).



# ■ CAUTION FOR AC MAINS LEAD

**[For [EB] area.]**
For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

**CAUTION !**
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

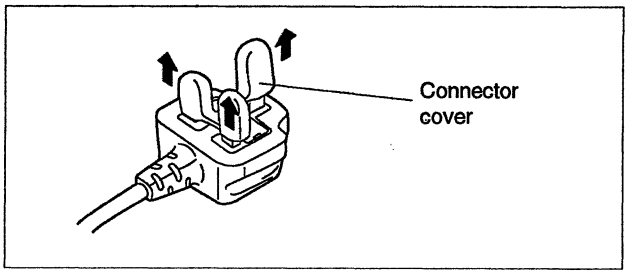
**IMPORTANT**
The wires in this lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

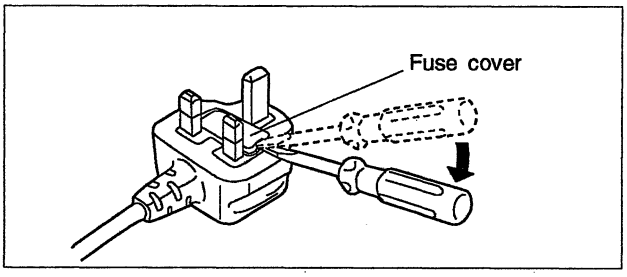
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either or these wires be connetced to the earth terminal of the three pin plug, marked with the letter E or the Earth symbol ⏚.

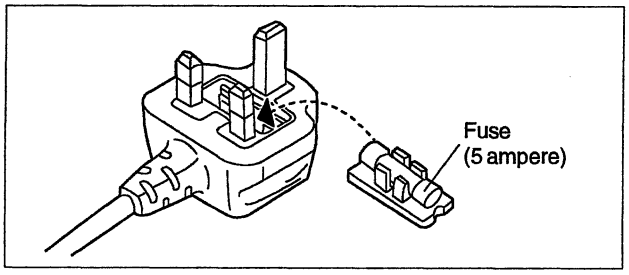
**Before use**
Remove the connector cover as follows.



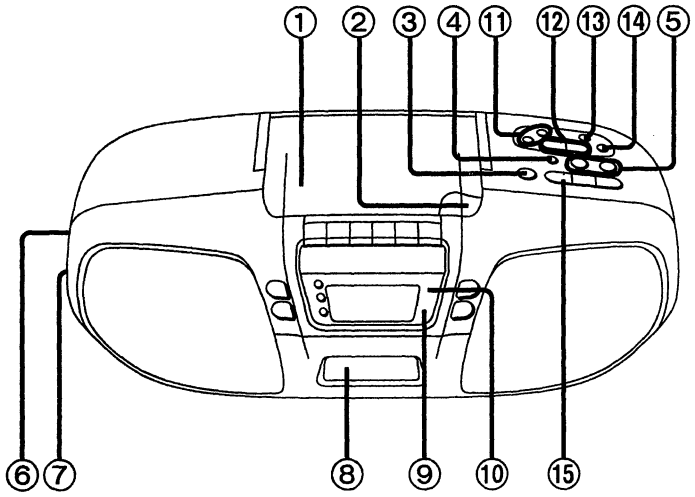

**How to replace the fuse**
1. Remove the fuse cover with a screwdriver.

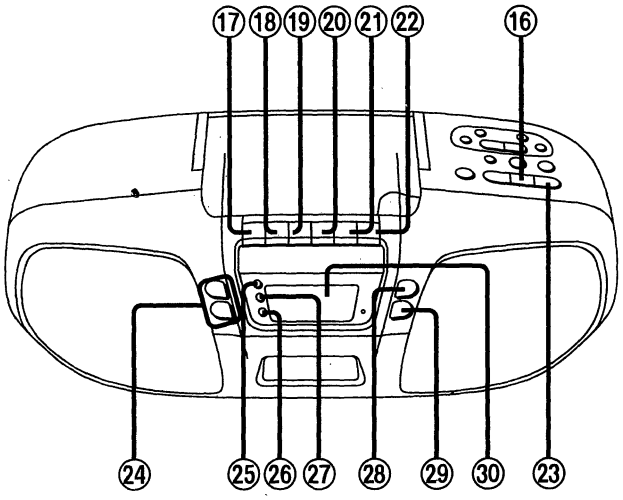



2. Replace the fuse and attach the fuse cover.



# ■ LOCATION OF CONTROLS




## *Basic Controls*

① **Disc lid**

② **Disc lid open button ( ▲ CD)**

③ **Power "STANDBY ⏻ (AC)/ON" switch**
**[POWER, STANDBY ⏻ (AC)/ON]**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

④ **XBS button (XBS)**

⑤ **Volume buttons (VOLUME)**

⑥ **Mixing microphone jack (MIX MIC)**

⑦ **Headphones jack (PHONES)**

⑧ **Tape lid**

⑨ **Power/battery, standby indicator**
**(POWER/BATT, STDBY ⏻ )**

⑩ **Remote control signal sensor ( SENSOR )**

## *Tuner Controls*

⑪ **Tuning buttons (TUNING)**

⑫ **Preset tuning buttons (PRESET TUNING)**

⑬ **FM mode/beat proof button**
**(FM MODE/BP)**

⑭ **Memory button (MEMORY)**

⑮ **Tuner/band button (TUNER/BAND)**

## *Cassette deck controls*

⑯ **Tape button (TAPE)**

⑰ **Pause button ( ▮▮ PAUSE)**

⑱ **Stop/eject button ( ■ / ▲ STOP/EJECT)**

⑲ **Fast forward/cue button ( ◀◀ FF/CUE)**

⑳ **Rewind/review button ( ▶▶ REW/REV)**

㉑ **Playback button ( ◀ PLAY)**

㉒ **Recording button ( ● REC)**

## *CD controls*

㉓ **CD button (CD)**

㉔ **Skip/search buttons ( ▶▶| , |◀◀ )**

㉕ **Memory button (MEMORY)**

㉖ **Repeat button (REPEAT)**

㉗ **Easy CD recording button**
**(EASY CD REC)**

㉘ **Play/pause button ( ▶ / ▮▮ )**

㉙ **Stop/clear button ( ■ /CLEAR)**

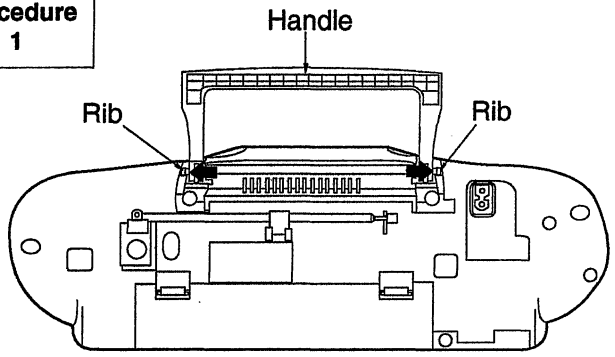
㉚ **Display panel**

# ■ DISASSEMBLY INSTRUCTIONS

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

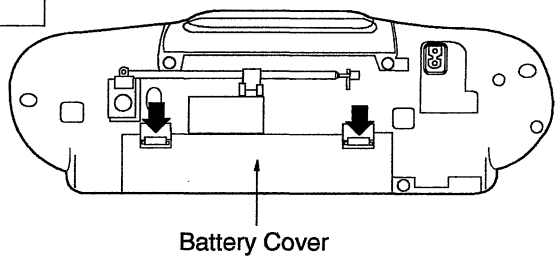
**ACHTUNG** : • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

| Ref. No. 1 | Removal of the Handle |
|---|---|
| Procedure 1 | |

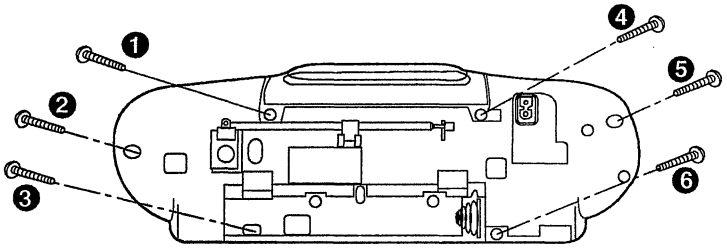



1. Release 2 ribs.
2. Pull out the handle.

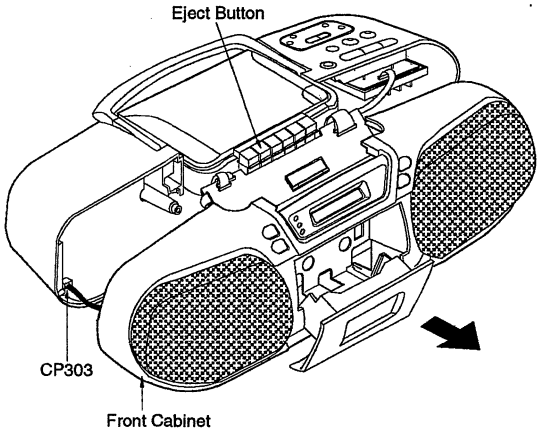
| Ref. No. 2 | Removal of the Front Cabinet |
|---|---|
| Procedure 2 | |




1. Remove the battery cover.

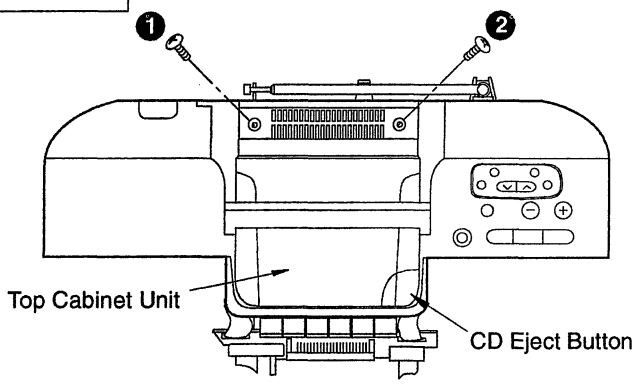



2. Remove 6 screws. ( ❶ ~ ❻ )

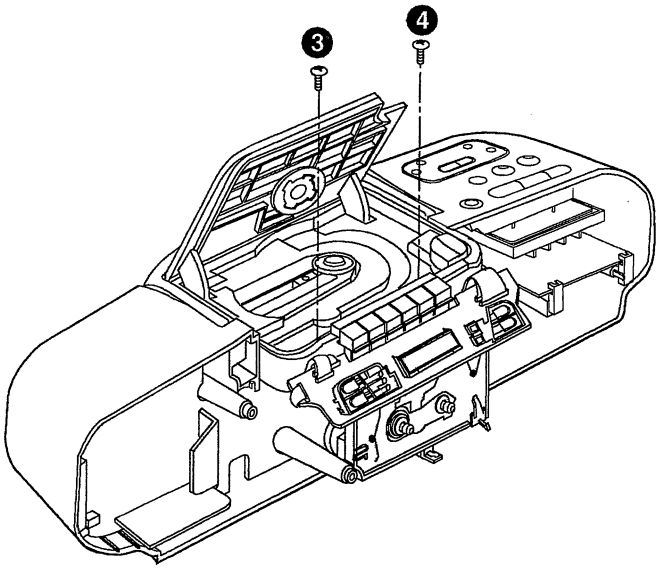



3. Press the eject button.
4. Remove the front cabinet in the direction of arrow.
5. Remove 1 connector. (CP303)

| Ref. No. 3 | Removal of the Top Cabinet Unit |
|---|---|
| Procedure 2 → 3 | |

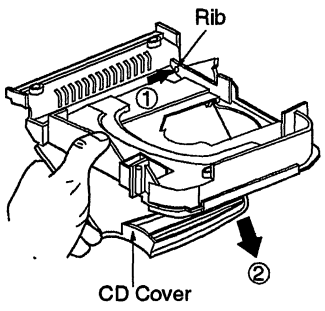


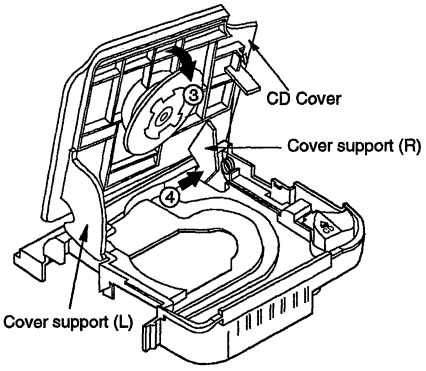

1. Remove 2 screws. ( ❶ & ❷ )
2. Press the CD eject button.
3. Remove 2 screws. ( ❸ & ❹ )
4. Remove the Top Cabinet Unit.



| Ref. No. 4 | Removal of the CD Cover |
|---|---|

**Procedure 2 → 3 → 4**

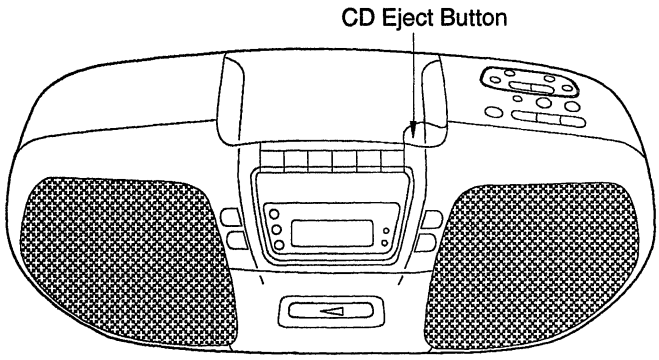


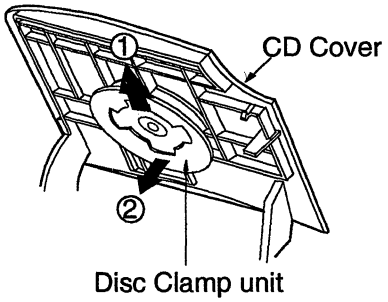




1. Hold the CD cover in half-open position.
2. Release the rib in direction of arrow ① .
3. Pull out cover support (L) in the direction of arrow ② .
4. Hold down the CD cover in the direction of arrow ③ .(Half-open)
5. Release the cover support (R) in the direction of arrow ④ .
6. Pull out the CD cover.

| Ref. No. 5 | Removal of the Disc Clamp Unit |
|---|---|

**Procedure 5**

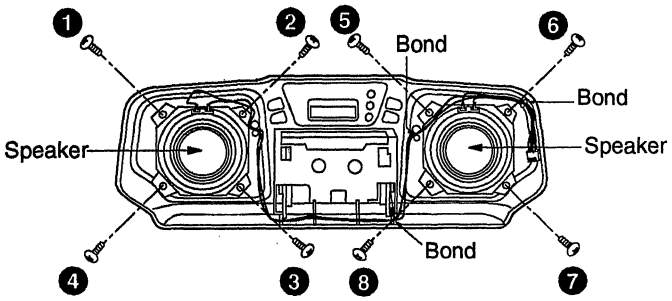



1. Press the CD eject button.
2. Remove the disc clamp unit in the direction of arrow ① follow by ② .

| Ref. No. 6 | Removal of the Speakers |
|---|---|

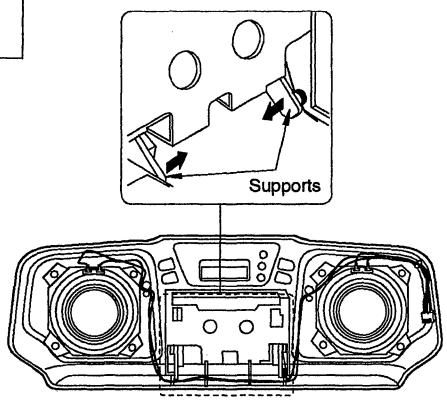
**Procedure 2 → 6**




1. Remove 8 screws. ( ❶ ~ ❽ )
2. Remove black bonds.

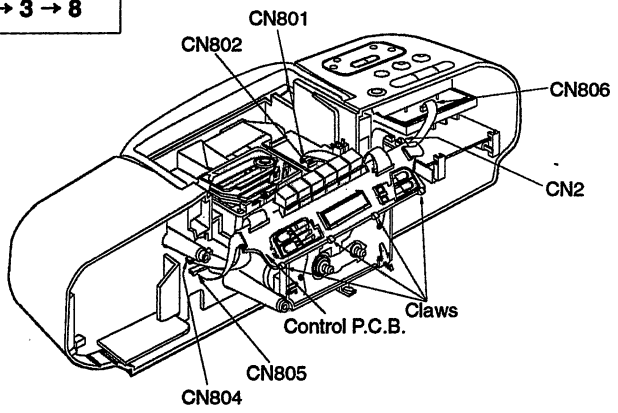
| Ref. No. 7 | Removal of the Cassette Compartment |
|---|---|

**Procedure 2 → 7**



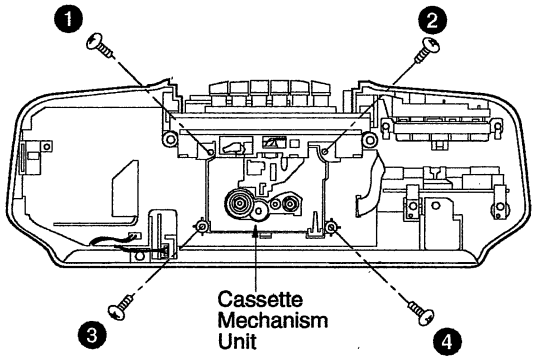

• Release the supports and pull out the compartment.

| Ref. No. 8 | Removal of the Control P.C.B. |
|---|---|
| Procedure 2 → 3 → 8 | |



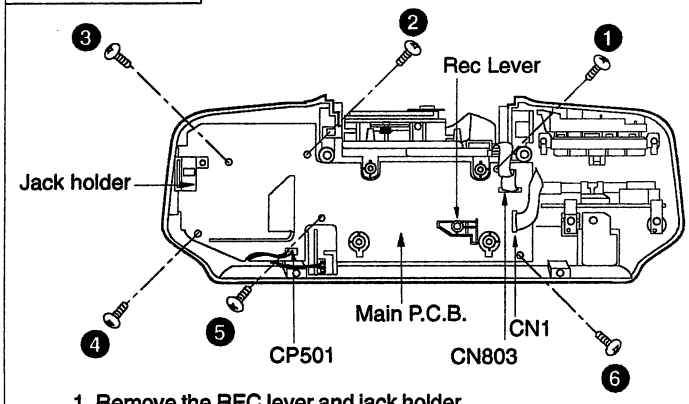

1. Remove 6 connectors. (CN2, CN801, CN802,CN804, CN805 & CN806)
2. Release 4 claws.

| Ref. No. 9 | Removal of the Mechanism Unit |
|---|---|
| Procedure 2 → 3 → 8 → 9 | |

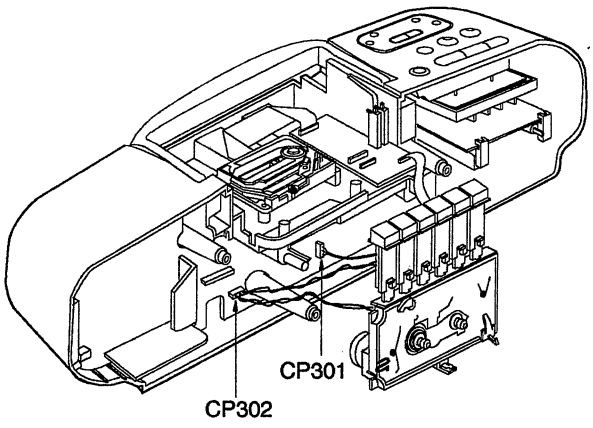



1. Remove 4 screws. ( ❶ ~ ❹ )

| Ref. No. 10 | Removal of the Main P.C.B. |
|---|---|
| Procedure 2 → 3 → 8 → 9 → 10 | |

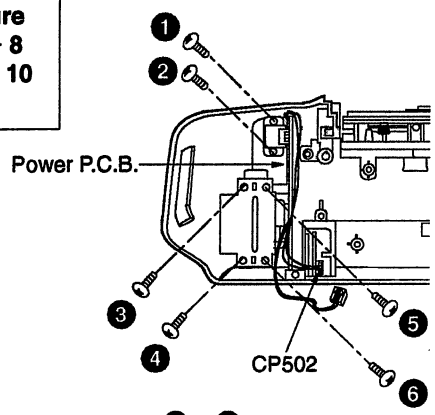



1. Remove the REC lever and jack holder.
2. Remove 6 screws. ( ❶ ~ ❻ )
3. Remove 3 connectors. (CP501, CN1 & CN803)



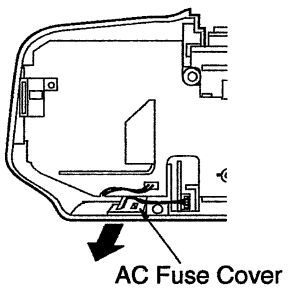

2. Remove 2 connectors. (CP301 & CP302)

| Ref. No. 11 | Removal of the Power Supply P.C.B. |
|---|---|
| Procedure 2 → 3 → 8 → 9 → 10 → 11 | |



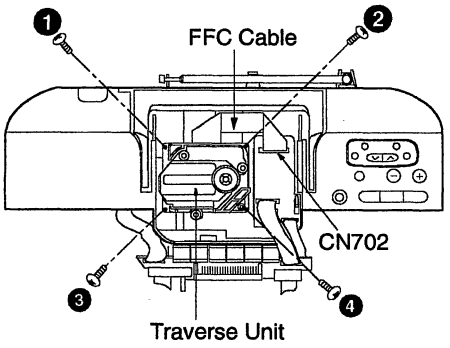

1. Remove 6 screws. ( ❶ ~ ❻ )
2. Remove 1 connector. (CP502)

| Ref. No. 12 | Removal of the AC Fuse Cover |
|---|---|
| Procedure 2 → 12 | |



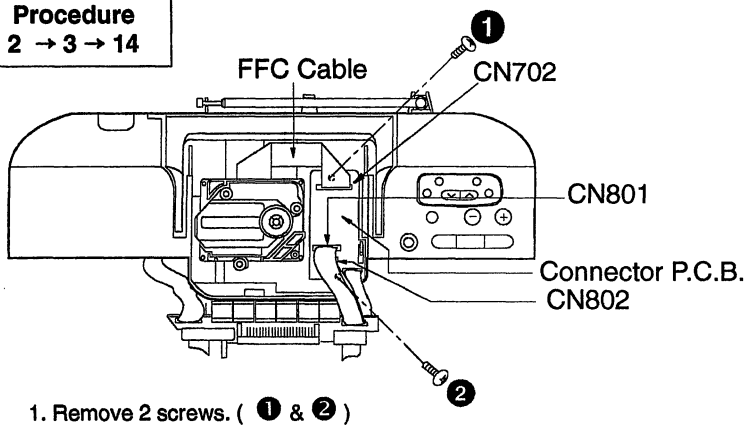

• Pull out the AC Fuse Cover in the direction of arrow.

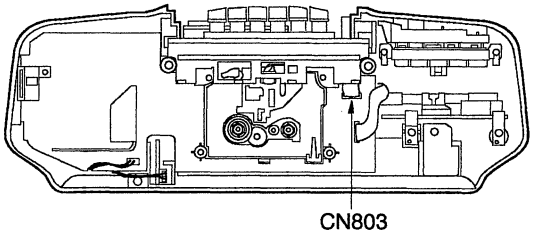
| Ref. No. 13 | Removal of the Traverse Unit |
|---|---|
| Procedure 2 → 3 → 13 | |




1. Remove 4 screws ( ❶ ~ ❹ ).
2. Remove FFC cable from the connector CN702 (Connector P.C.B.).

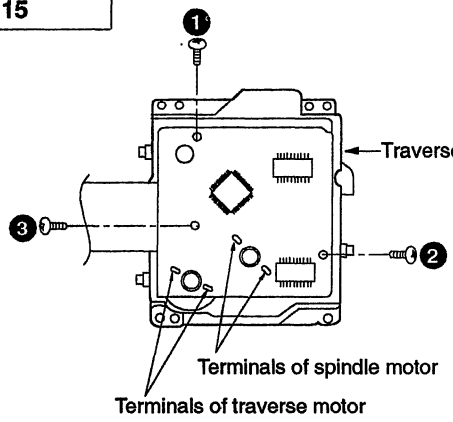
| Ref. No. 14 | Removal of the Connector P.C.B. |
|---|---|
| Procedure 2 → 3 → 14 | |




1. Remove 2 screws. ( ❶ & ❷ )
2. Remove FFC cable from the connector CN702 (Connector P.C.B.).
3. Remove 3 connectors. (CN801, CN802, CN803)

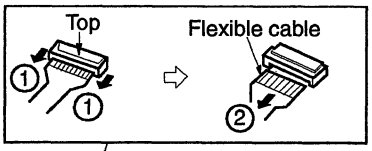
| Ref. No. 15 | Removal of the Servo P.C.B. |
|---|---|
| Procedure 2 → 3 → 13 → 15 | |

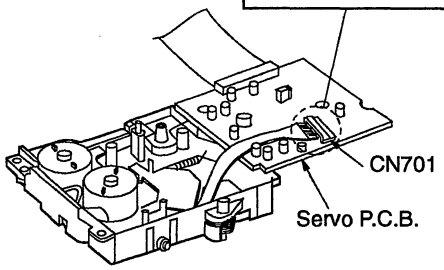



1. Remove 3 screws. ( ❶ ~ ❸ )
2. Desolder 2 terminals of spindle motor.
3. Desolder 2 terminals of traverse motor.
4. Remove the flexible cable from CN701.

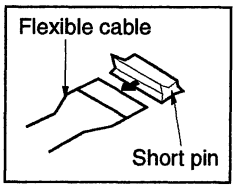
**• Removal of the flexible cable**

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 .

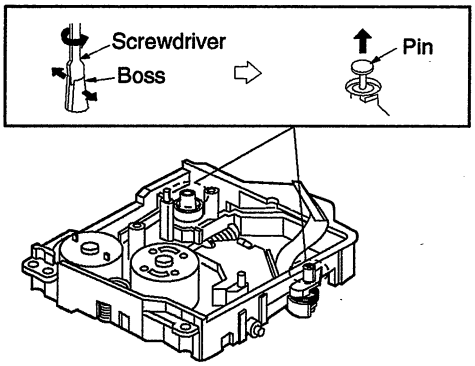


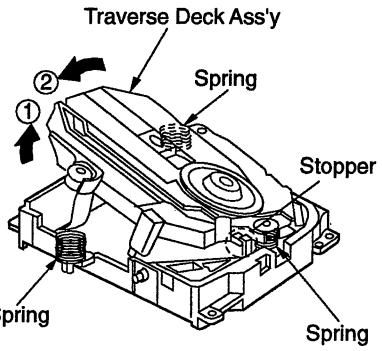




Note :
Insert a short pin into the flexible cable for traverse unit.



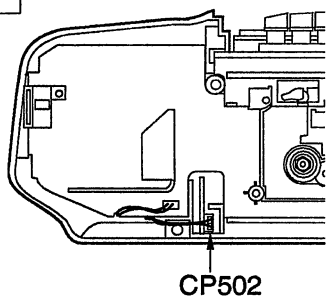
| Ref. No. 16 | Removal of the Traverse Deck Ass'y |
|---|---|
| Procedure 2 →3 →13 →15 →16 | |

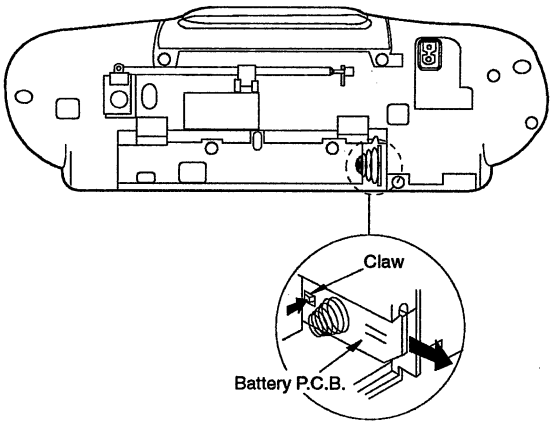



1. Widen 2 bosses by using a flat tip screwdriver and remove 2 pins
2. Remove the Traverse Deck Ass'y in direction of arrow ① follow by ② .

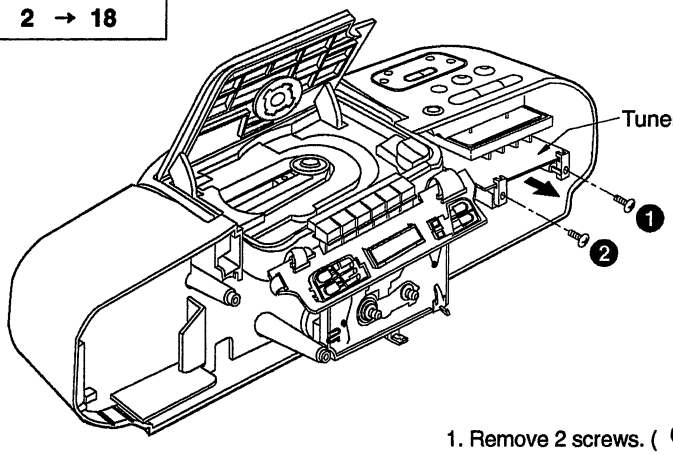
| Ref. No. 17 | Removal of the Battery P.C.B. |
|---|---|
| Procedure 2 → 17 | |

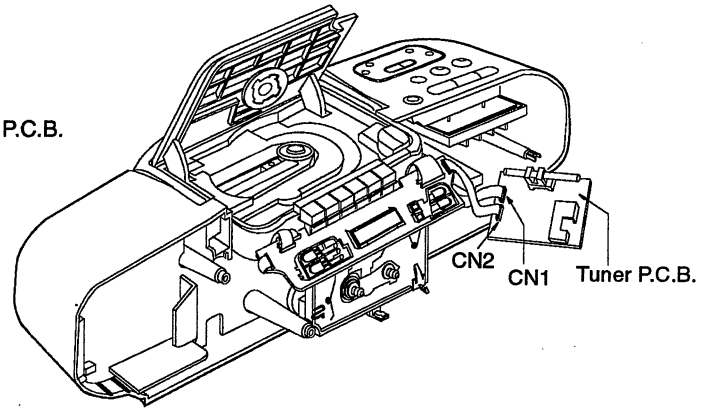



1. Remove 1 connector. (CP502)
2. Release 1 claw.
3. Pull out the battery P.C.B.

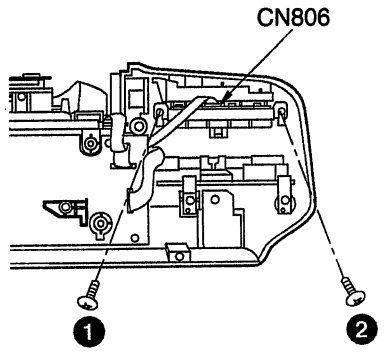
| Ref. No. 18 | Removal of the Tuner P.C.B. |
|---|---|
| Procedure 2 → 18 | |



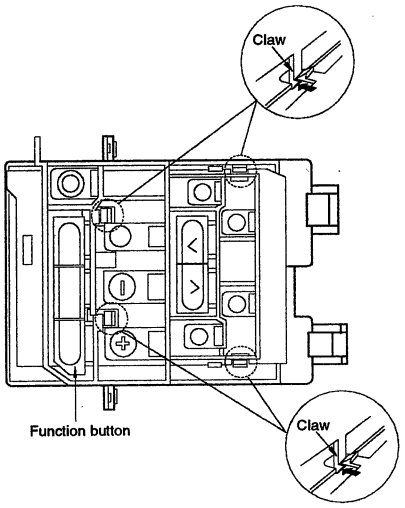




1. Remove 2 screws. ( ❶ & ❷ )
2. Pull out the Tuner P.C.B.
3. Remove 2 connectors (CN1 & CN2)

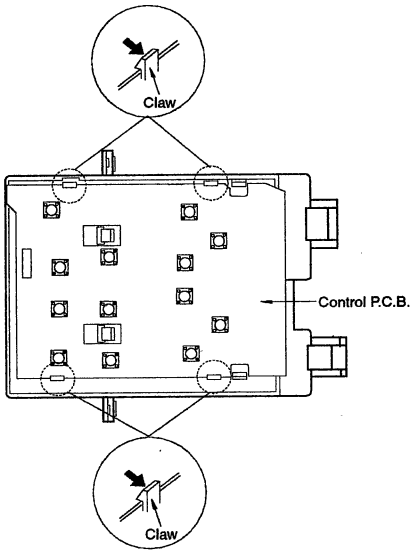
| Ref. No. 19 | Removal of the Operation P.C.B. |
|---|---|
| Procedure 2 → 19 | |




1. Remove 2 screws. ( ❶ & ❷ )
2. Remove 1 connector. (CN806)

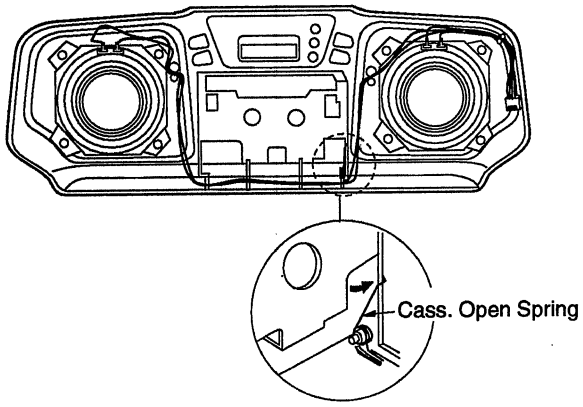



3. Release 4 claws and then remove the function button.

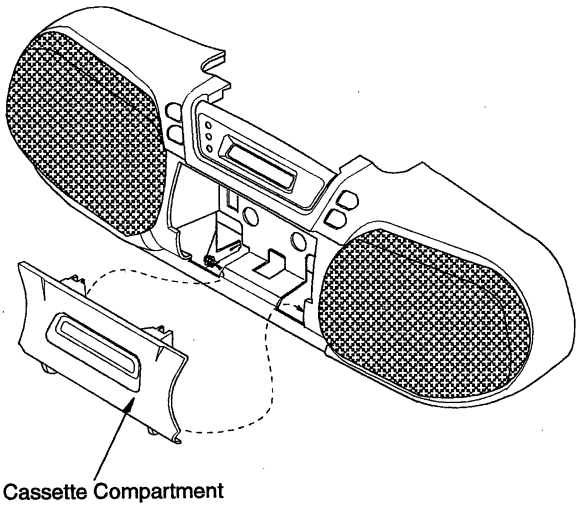



4. Release 4 claws and then remove the operation P.C.B.

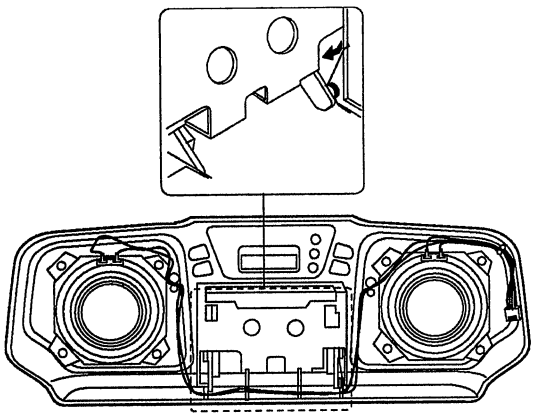
## ■ INSTALLING CASSETTE COMPARTMENT




1. Install the cass. open spring as shown in above diagram.

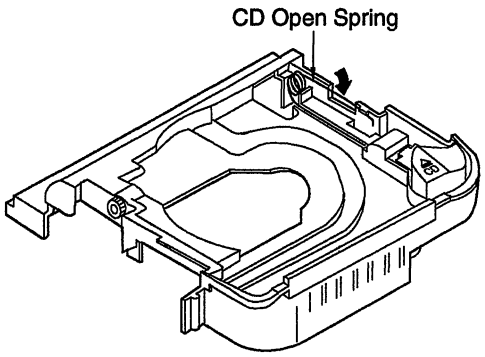



2. Fix the cassette compartment to front cabinet.

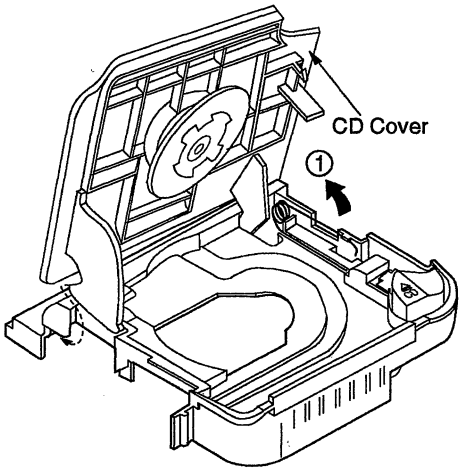


3. Release the spring.

## ■ INSTALLING CD COVER



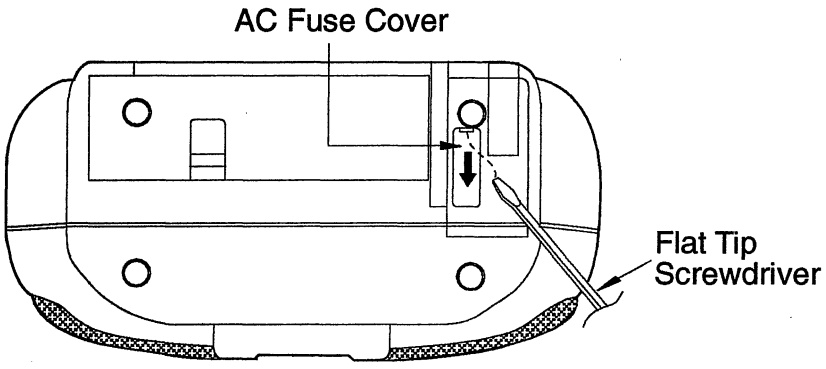

1. Install the CD open spring as shown in above diagram




2. Install the CD cover onto the top cabinet.
   Note : When installing the CD cover, make sure the CD cover is in half open position.
3. Release the spring in the direction of arrow ① .

## ■ FUSE REPLACEMENT

1. Open the AC fuse cover in the direction of arrow using a flat tip screwdriver.
2. Replace the fuse inside.



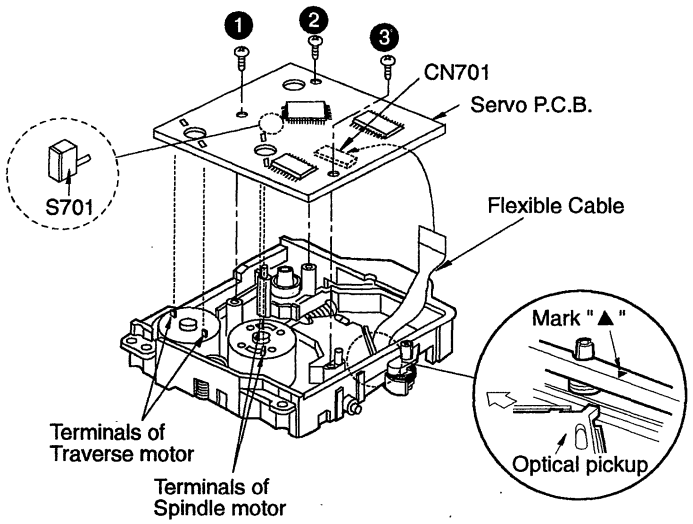

Bottom of the unit

***CAUTION***
*After fuse replacement, be sure to restore the fuse cover.*

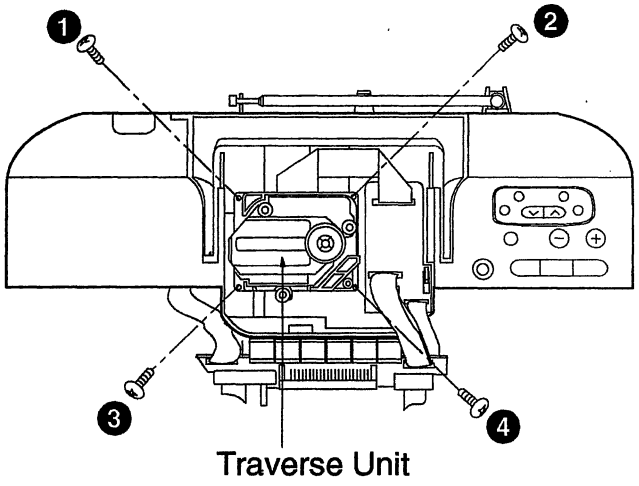
## ■ INSTALLING SERVO P.C.B.

1. Before installing the servo P.C.B., move the optical pickup toward the outer edge from the mark "▲". (Otherwise, the rest switch (S701) mounted on the servo 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.

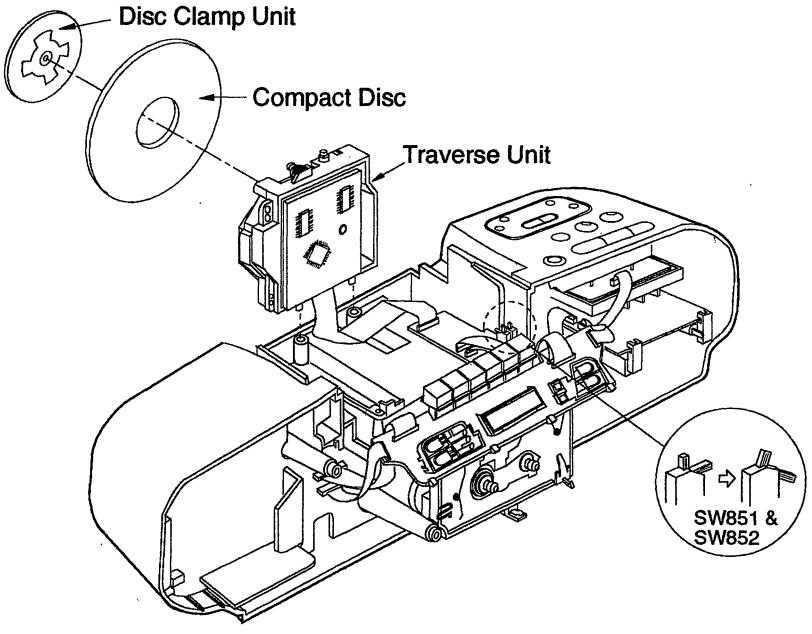
Note : Connect the flexible cable to the connector (CN701) firmly.
Tighten the screws before soldering the terminals.




## ■ HOW TO CHECK THE TRAVERSE UNIT



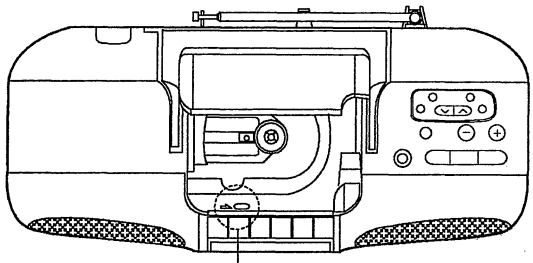

1. Remove the top cabinet unit. (Refer to disassembly instructions, Ref No. 3)
2. Remove 4 screws. ( ❶ ~ ❹ )




3. Set up the traverse unit as shown in diagram.
4. Install the compact disc and disc clamp unit.

Note : Before perform checking, make sure the switch SW851 and SW852 are switched to "ON" position (as shown in diagram).

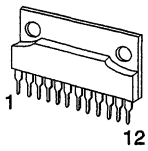
## ■ WHAT TO DO WHEN THE TAPE IS ENTANGLED



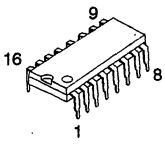
When the tape is caught in the pitch roller, etc. Release the tape by turning the flywheel on the motor with the screwdriver in the direction of arrow.

# ■ TERMINAL GUIDE OF ICs, TRANSISTORS & DIODES

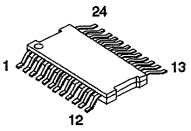
AN7135



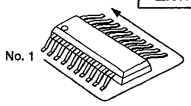

AN7317



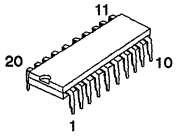

AN8389SE1



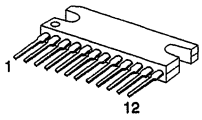

| | |
|---|---|
| AN8802SCE1V | 32 Pin |
| LA1831MSATEL | 24 Pin |
| LM7001M-TE-L | 20 Pin |



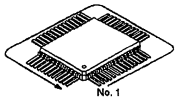

M62414SP



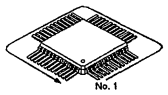

BA3936



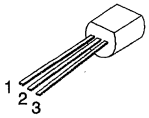

M38223M4052
80 Pin



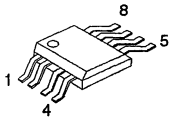

MN66271RA
80 Pin



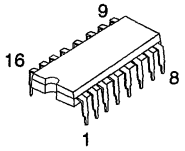

S81250PG-T
S-806D-Z



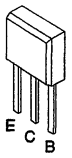

TA7358FMATEL



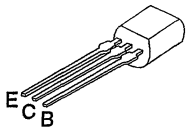

TC4052BP



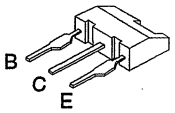

2SA1175FTA
BA1A4MTA
BA1L4ZTA
BN1A4MTA
BN1A4ZTA



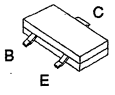

2SC1684QTA
2SC1684RTA
2SC1684STA



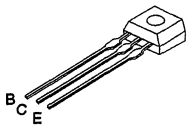

2SA1680TPE6



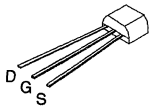

2SB709S



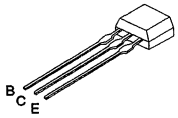

2SC2785FTA
2SC2787FL1TA
2SC2787LTA
2SD1020HTA
BN1L3NTA



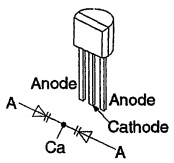

2SJ40CDTA



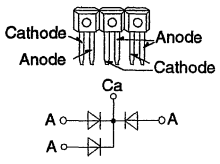

2SC1740SRTA



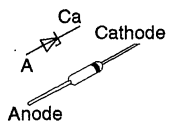

KV1360NT



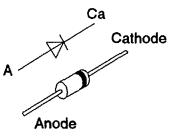

KV1581A3



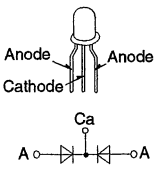

RVDMTZ16BTA
RVDMTZ5R1CTA
RVDMTZ5R6BTA
RVDMTZ6R8BTA
RVDMTZ7R5BTA



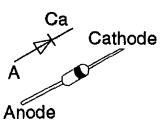

1N5402BM21




SPR54MVW229F




RVD1SS133TA



## NOTES:

**< For MAIN & POWER SUPPLY CIRCUIT >**

- SW301-1 ~ SW301-6 : Playback/Record Select Switch. (P...PLAYBACK, R...RECORD)
- SW501 : AC/Battery Select Switch.(JK501)
- SW601 : Cassette Mechanism Motor Switch.

**< For CONTROL CIRCUIT >**

- SW801 : Easy CD recording Switch. (EASY CD REC)
- SW802 : CD Memory Switch. (MEMORY)
- SW803 : CD Reverse Skip Switch. ( ⏮ )
- SW804 : CD Skip Switch. ( ⏭ )
- SW805 : CD Repeat Switch. (REPEAT)
- SW806 : CD Stop/Clear Switch. ( ■ / CLEAR )
- SW807 : CD Play/Pause Switch. ( ▶ / ⏸ )
- SW808 : Power Switch. [ POWER, STANDBY ⏻ (AC)/ON ]
- SW809 : Volume Tuning Down Switch. (VOLUME, — )
- SW810 : Volume Tuning Up Switch. (VOLUME, + )
- SW811 : Preset Tuning Down Switch. (PRESET TUNING , ﹀ )
- SW812 : Preset Tuning Up Switch. (PRESET TUNING, ﹀ )
- SW813 : Manual Tuning Down Switch. (TUNING, — )
- SW814 : Manual Tuning Up Switch. (TUNING, + )
- SW815 : Tape Switch. (TAPE)
- SW816 : Tuner/Band Switch. (TUNER/BAND)
- SW817 : CD Switch. (CD)
- SW818 : XBS Switch. (XBS)
- SW819 : Tuner Memory Switch. (MEMORY)
- SW820 : FM Mode/Beatproof Switch. (FM MODE/BP)
- SW851 : CD Open/Close Switch. ( ⏏ CD)
- SW852 : CD Loading Switch. ( ⏏ CD)

... MAIN SIGNAL LINE
... CD SIGNAL LINE
... FM OSC SIGNAL LINE
... FM SIGNAL LINE
... +B LINE
... MIC SIGNAL LINE
... RECORDING SIGNAL LINE
... AM(MW/LW) SIGNAL LINE
... TAPE PLAYBACK SIGNAL LINE

**< For SERVO CIRCUIT >**

- S701 : Rest Switch.

**< GENERAL >**

- Battery Current Consumption:

| | | | |
|---|---|---|---|
| Vol. min..... | 186mA (FM) | Vol. max..... | 820mA (FM) |
| | 181mA [AM(MW/LW)] | | 670mA [AM(MW/LW)] |
| | 220mA (TAPE PLAYBACK) | | 1230mA (TAPE PLAYBACK) |
| | 350mA (CD) | | 890mA (TAPE RECORDING) |
| | | | 1930mA (CD) |

( Measurement condition:
Radio : FM 60 dB, 30%mod
AM(MW/LW) 74 dB/m, 30%mod
Tape : 315 Hz, 0dB
CD : 1kHz, 0dB )

- 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.

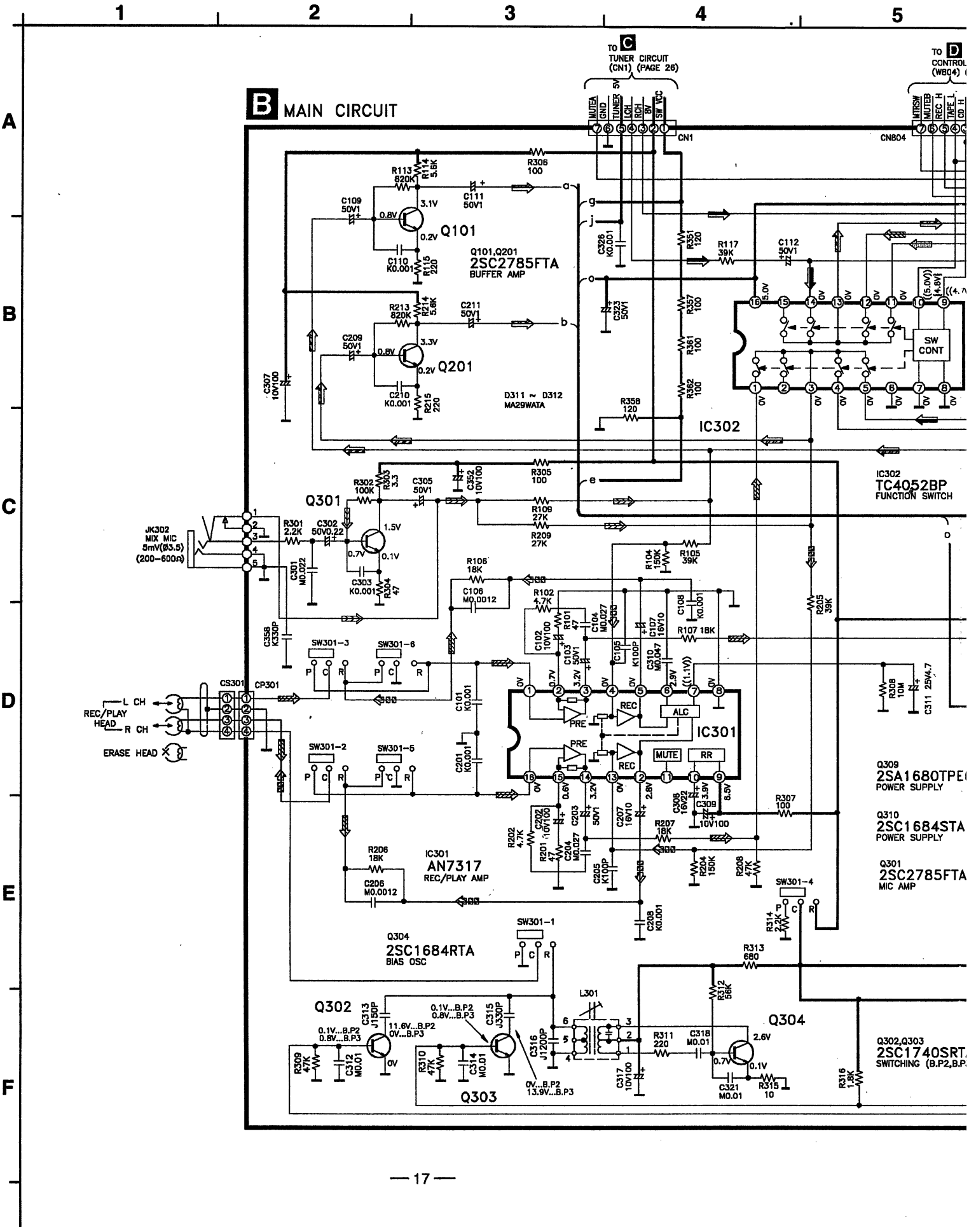
No mark... Tape Playback (( )) ... CD < > ... FM
( ) ... AM(MW/LW) << >> ... RECORD

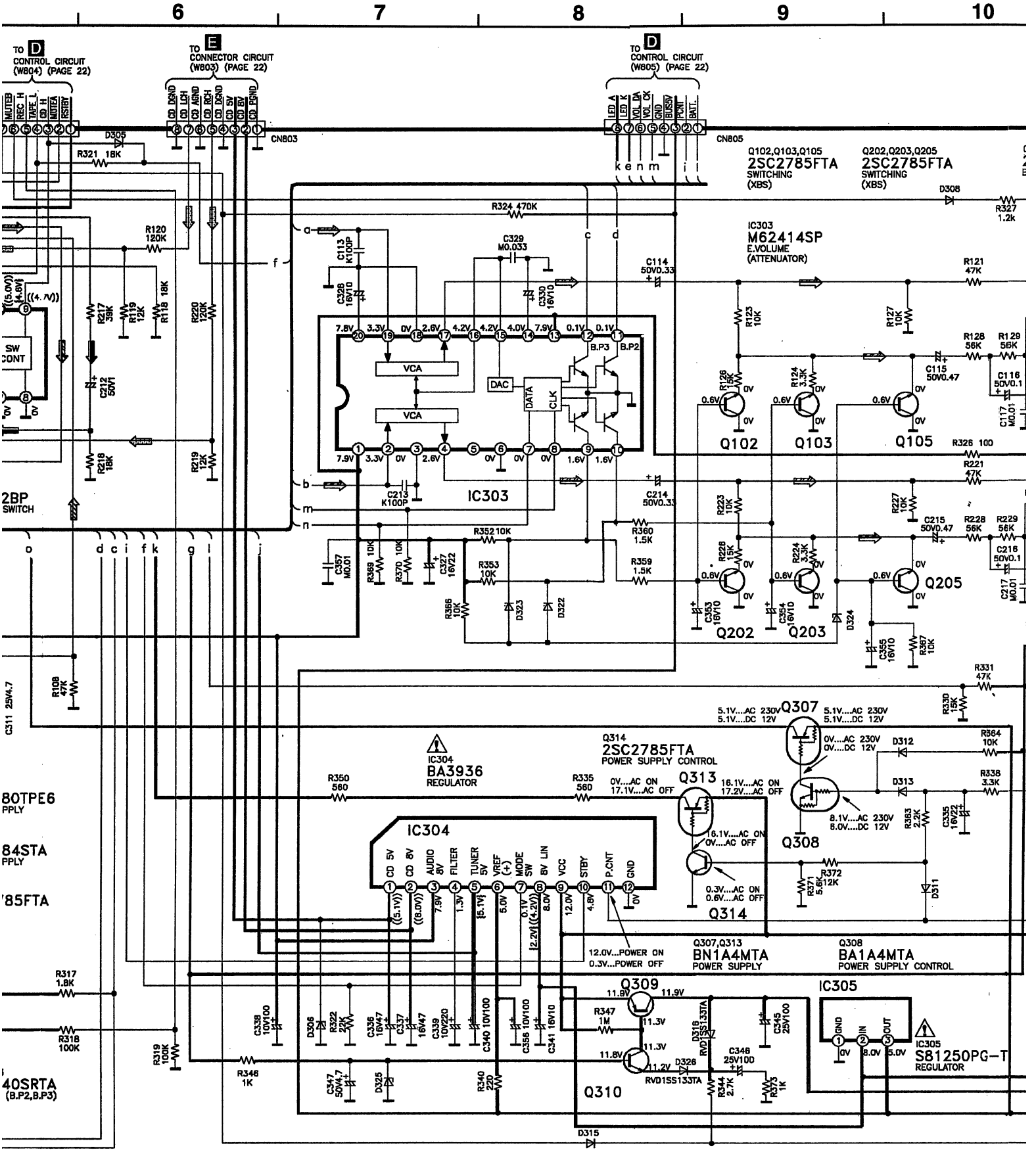
**CAUTION !**
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.

- Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety.
  When replacing any of these components, use only manufacturer's specified parts.

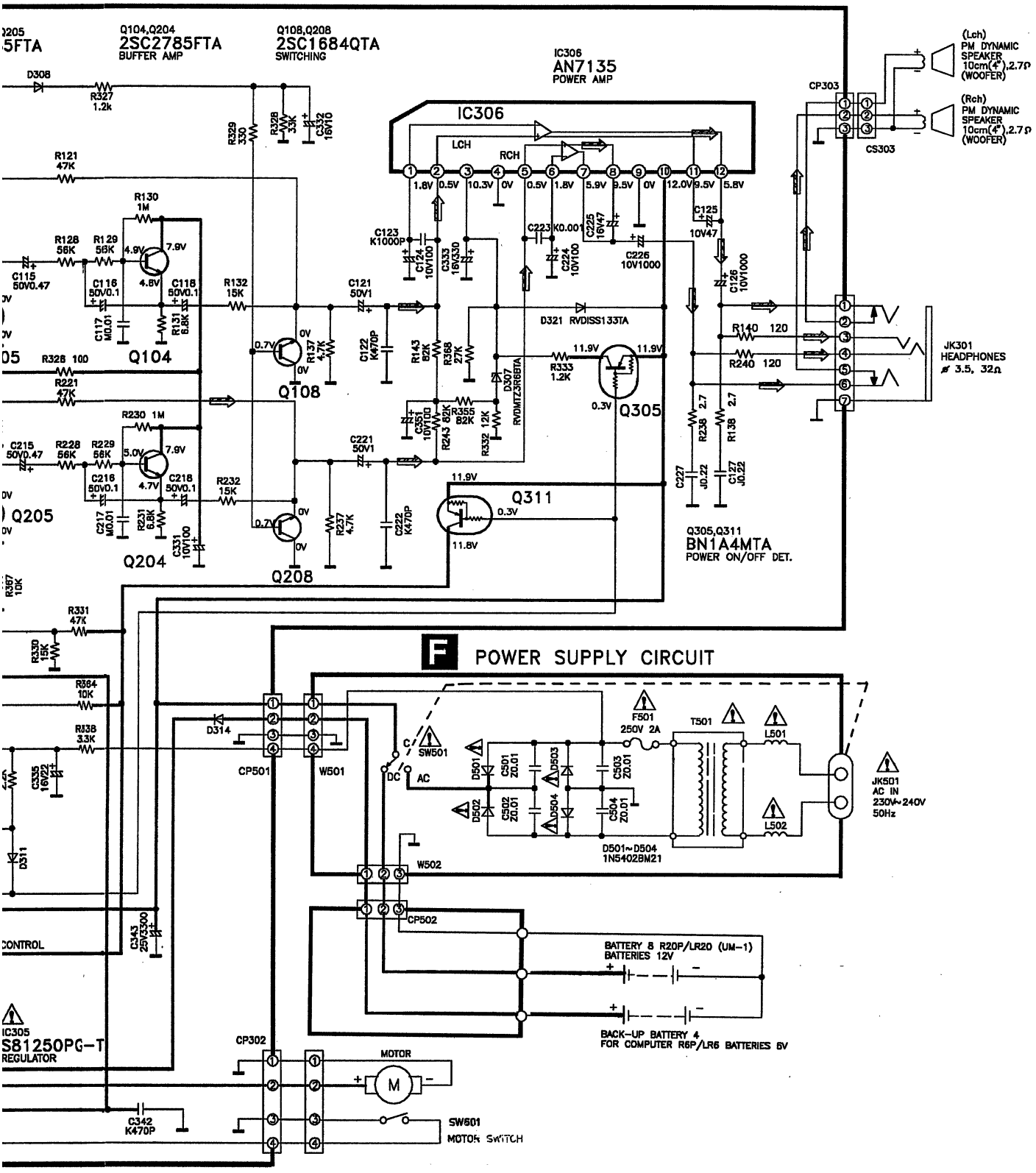
- **This schematic diagram may be modified at anytime with the development of new technology.**

# ■ SCHEMATIC DIAGRAM

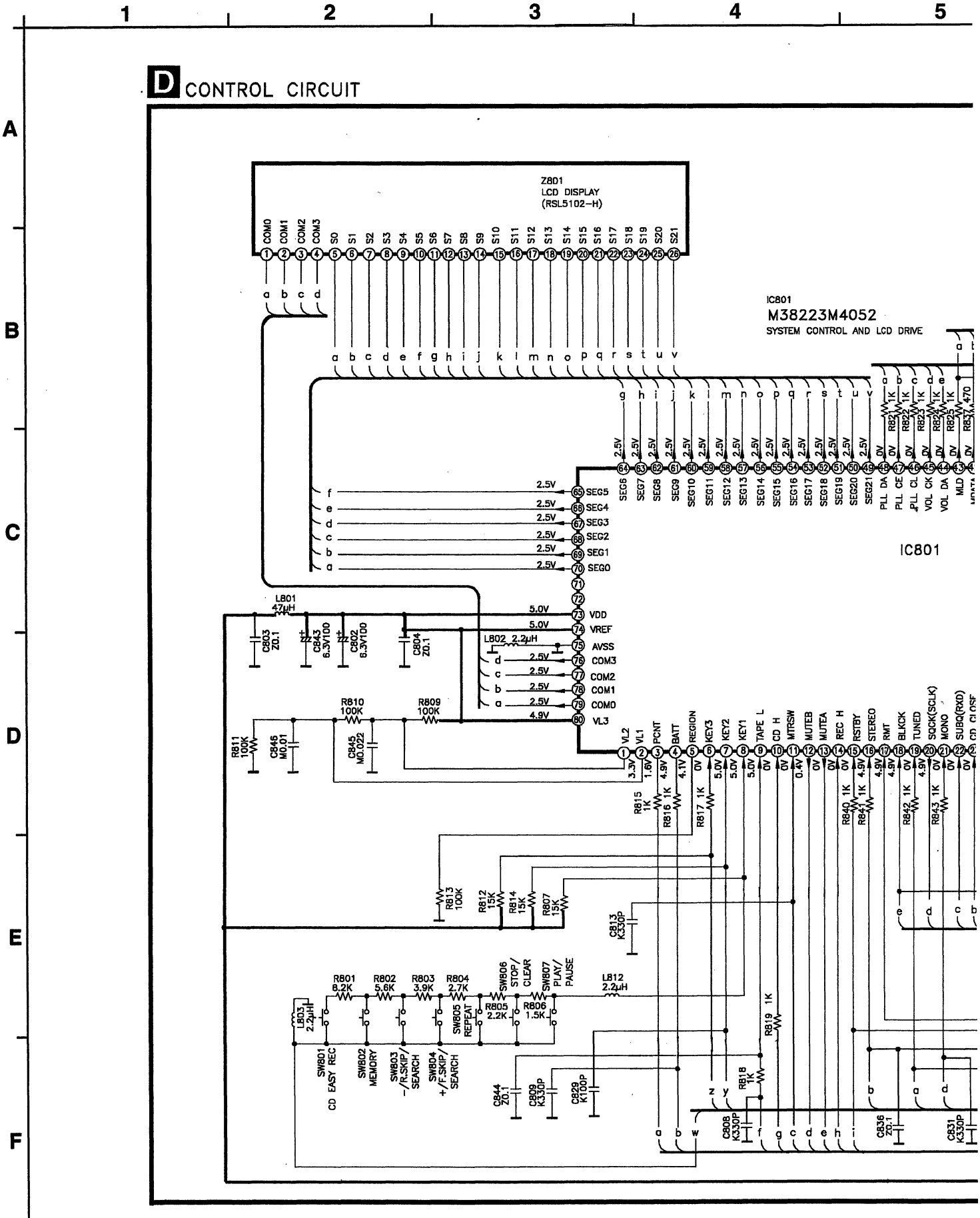


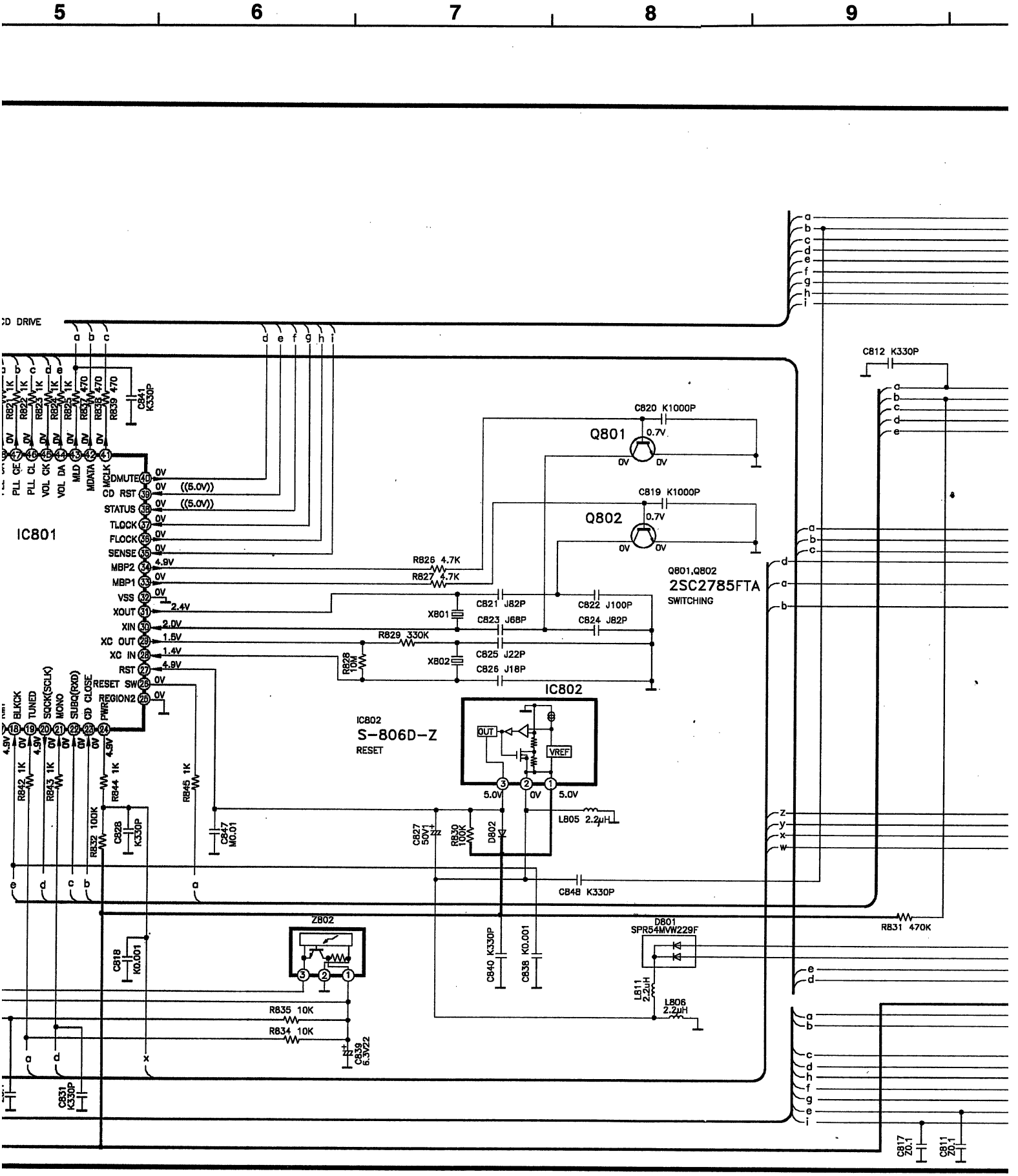

6
7
8
9
10
TO D CONTROL CIRCUIT (W804) (PAGE 22)
TO E CONNECTOR CIRCUIT (W803) (PAGE 22)
TO D CONTROL CIRCUIT (W805) (PAGE 22)
CN803
CN805
Q102,Q103,Q105
2SC2785FTA
SWITCHING
(XBS)
Q202,Q203,Q205
2SC2785FTA
SWITCHING
(XBS)
IC303
M62414SP
E.VOLUME
(ATTENUATOR)
VCA
VCA
DAC
DATA
CLK
B.P3
B.P2
Q102
Q103
Q105
Q202
Q203
Q205
IC304
BA3936
REGULATOR
Q314
2SC2785FTA
POWER SUPPLY CONTROL
Q313
Q307
Q308
Q314
Q307,Q313
BN1A4MTA
POWER SUPPLY
Q308
BA1A4MTA
POWER SUPPLY CONTROL
IC305
S81250PG-T
REGULATOR
Q309
Q310
12.0V...POWER ON
0.3V...POWER OFF

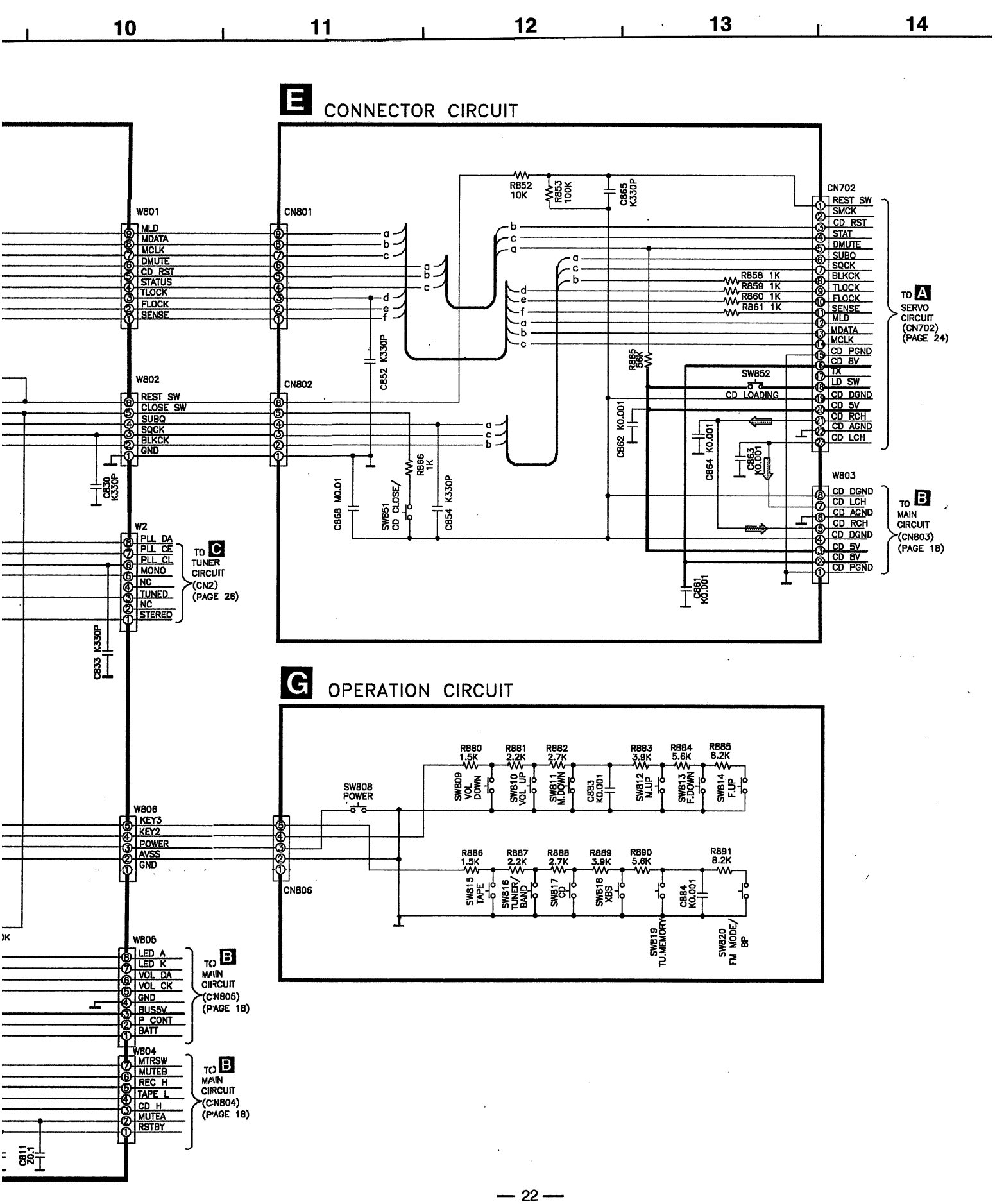
10 11 12 13 14


Q104,Q204
2SC2785FTA
BUFFER AMP
Q108,Q208
2SC1684QTA
SWITCHING
IC306
AN7135
POWER AMP
(Lch)
PM DYNAMIC SPEAKER
10cm(4"),2.7Ω
(WOOFER)
(Rch)
PM DYNAMIC SPEAKER
10cm(4"),2.7Ω
(WOOFER)
CP303
CS303
JK301
HEADPHONES
ø 3.5, 32Ω
D321 RVDISS133TA
D307 RVDMTZ3R6BTA
Q104
Q108
Q305
Q205
Q204
Q208
Q311
Q305,Q311
BN1A4MTA
POWER ON/OFF DET.
F POWER SUPPLY CIRCUIT
CP501
W501
D314
SW501
DC
AC
F501
250V 2A
T501
L501
L502
JK501
AC IN
230V~240V
50Hz
D501~D504
1N5402BM21
W502
CP502
BATTERY 8 R20P/LR20 (UM-1)
BATTERIES 12V
BACK-UP BATTERY 4
FOR COMPUTER R6P/LR6 BATTERIES 6V
CP302
MOTOR
SW601
MOTOR SWITCH
IC305
S81250PG-T
REGULATOR
CONTROL

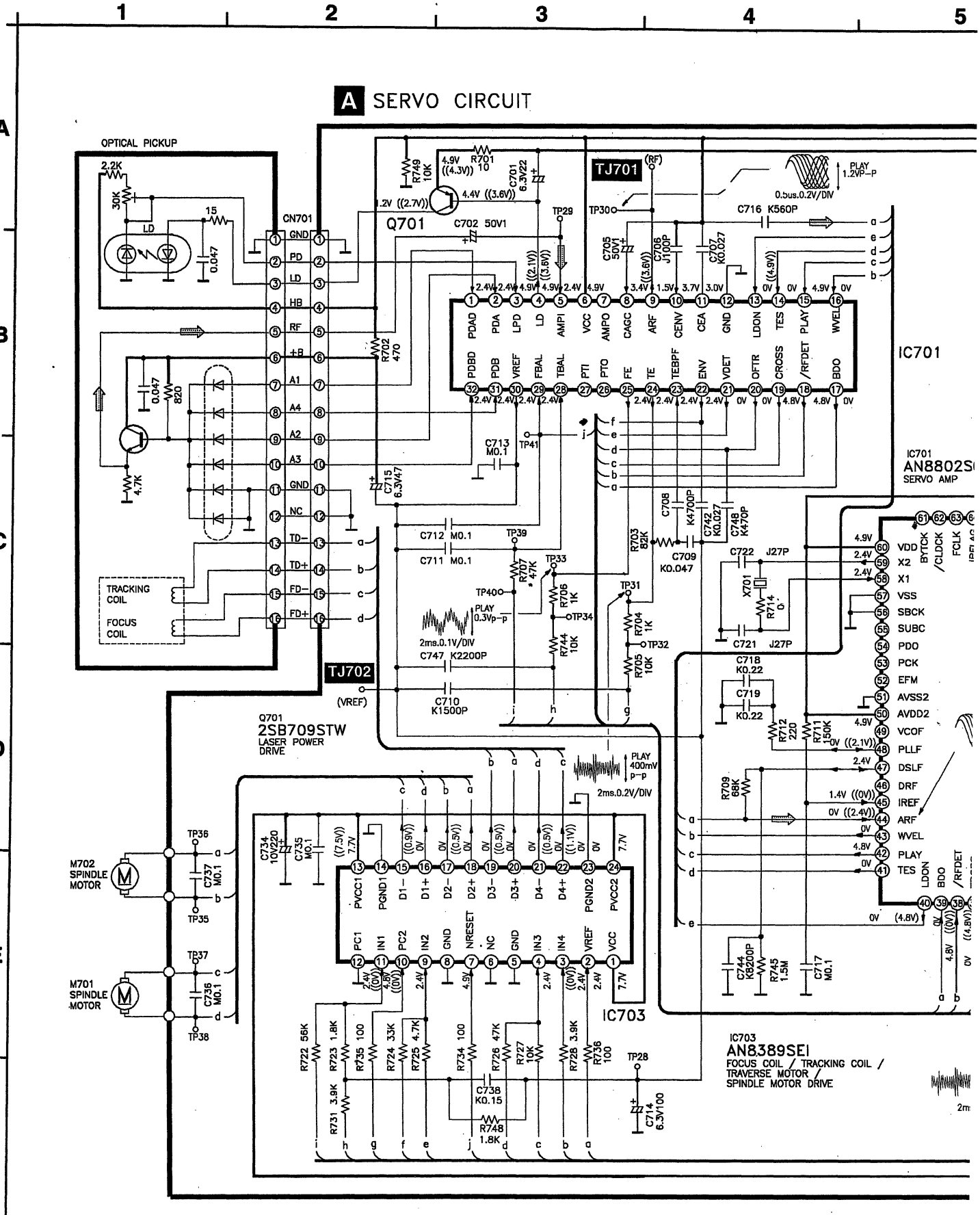
# ■ SCHEMATIC DIAGRAM



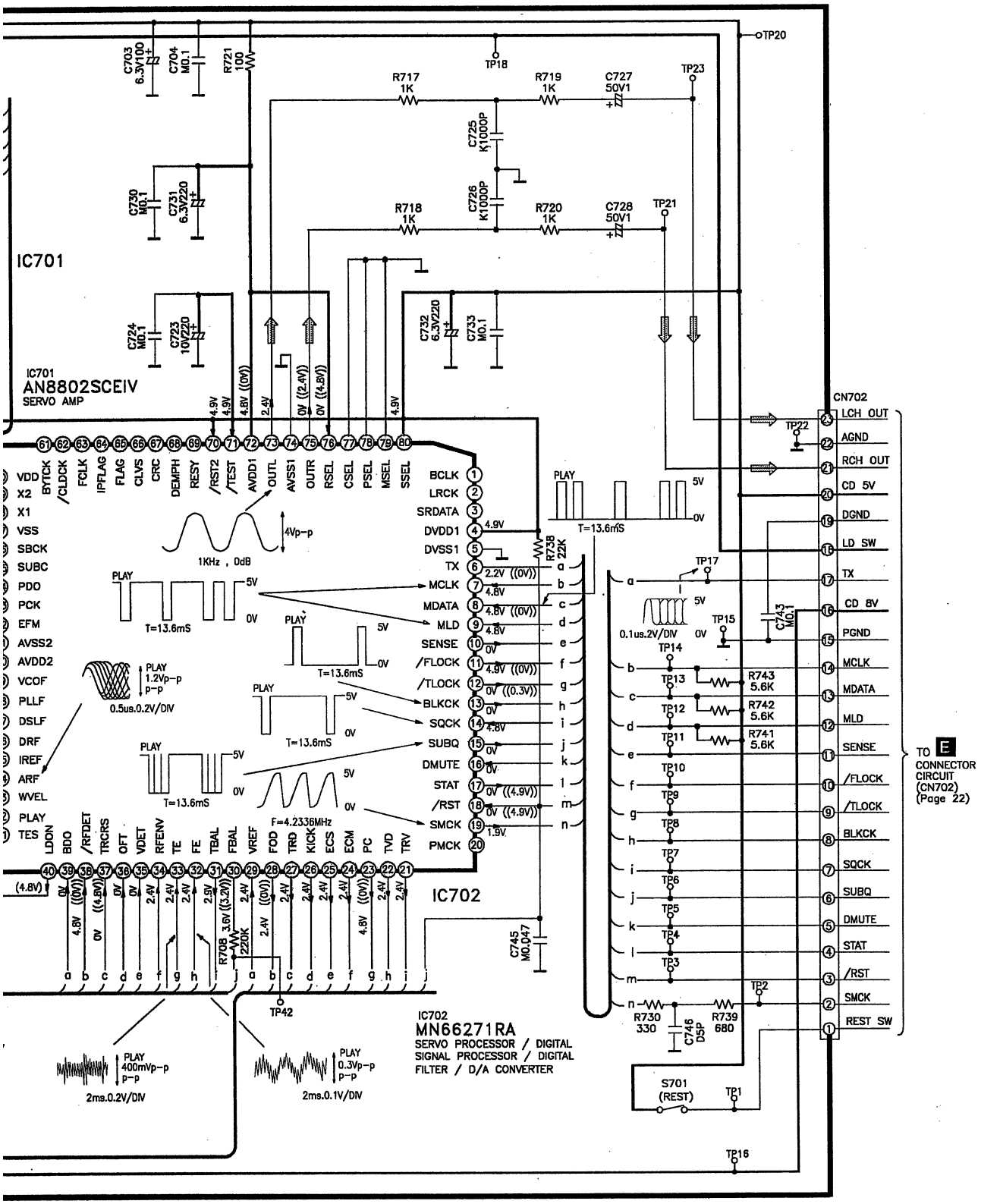

5
6
7
8
9
CD DRIVE
IC801
IC802
S-806D-Z
RESET
Q801
Q802
2SC2785FTA
SWITCHING
C820 K1000P
C819 K1000P
C812 K330P
C821 J82P
C822 J100P
C823 J68P
C824 J82P
C825 J22P
C826 J18P
X801
X802
R826 4.7K
R827 4.7K
R829 330K
R828 10M
L805 2.2µH
L806 2.2µH
L811 2.2µH
D801
SPR54MVW229F
D802
Z802
R831 470K
R835 10K
R834 10K
C839 6.3V22
C840 K330P
C838 K0.001
C818 K0.001
C831 K330P
C847 M0.01
C848 K330P
C827 50V1
C830 100K
C828 K330P
R832 100K
R842 1K
R843 1K
R844 1K
R845 1K
C817 Z0.1
C811 Z0.1
MDMUTE
CD RST
STATUS
TLOCK
FLOCK
SENSE
MBP2
MBP1
VSS
XOUT
XIN
XC OUT
XC IN
RST
RESET SW
REGION2
PWR
CLOSE
SUBQ(RXD)
MONO
SQCK(SCLK)
TUNED
BLKCK
MCLK
MDATA
MLD
VOL DA
VOL CK
PLL CL
PLL DE
OUT
VREF


10
11
12
13
14
E CONNECTOR CIRCUIT
W801
MLD
MDATA
MCLK
DMUTE
CD_RST
STATUS
TLOCK
FLOCK
SENSE
CN801
W802
REST_SW
CLOSE_SW
SUBQ
SQCK
BLKCK
GND
CN802
W2
PLL_DA
PLL_CE
PLL_CL
MONO
NC
TUNED
NC
STEREO
TO C TUNER CIRCUIT (CN2) (PAGE 26)
R852 10K
R853 100K
C865 K330P
CN702
REST_SW
SMCK
CD_RST
STAT
DMUTE
SUBQ
SQCK
BLKCK
TLOCK
FLOCK
SENSE
MLD
MDATA
MCLK
CD_PGND
CD_8V
TX
LD_SW
CD_DGND
CD_5V
CD_RCH
CD_AGND
CD_LCH
TO A SERVO CIRCUIT (CN702) (PAGE 24)
R858 1K
R859 1K
R860 1K
R861 1K
C852 K330P
R865 56K
SW852
CD LOADING
C862 K0.001
C864 K0.001
C863 K0.001
C830 K330P
C868 M0.01
SW851 CD CLOSE/
R866 1K
C854 K330P
W803
CD_DGND
CD_LCH
CD_AGND
CD_RCH
CD_DGND
CD_5V
CD_8V
CD_PGND
TO B MAIN CIRCUIT (CN803) (PAGE 18)
C861 K0.001
C833 K330P
G OPERATION CIRCUIT
SW808 POWER
R880 1.5K
R881 2.2K
R882 2.7K
R883 3.9K
R884 5.6K
R885 8.2K
SW809 VOL DOWN
SW810 VOL UP
SW811 M.DOWN
C883 K0.001
SW812 M.UP
SW813 F.DOWN
SW814 F.UP
W806
KEY3
KEY2
POWER
AVSS
GND
CN806
R886 1.5K
R887 2.2K
R888 2.7K
R889 3.9K
R890 5.6K
R891 8.2K
SW815 TAPE
SW816 TUNER/ BAND
SW817 CD
SW818 XBS
C884 K0.001
SW819 TU.MEMORY
SW820 FM MODE/ BP
W805
LED_A
LED_K
VOL_DA
VOL_CK
GND
BUS5V
P_CONT
BATT
TO B MAIN CIRCUIT (CN805) (PAGE 18)
W804
MTRSW
MUTEB
REC_H
TAPE_L
CD_H
MUTEA
RSTBY
TO B MAIN CIRCUIT (CN804) (PAGE 18)
C811 20.1

# ■ SCHEMATIC DIAGRAM

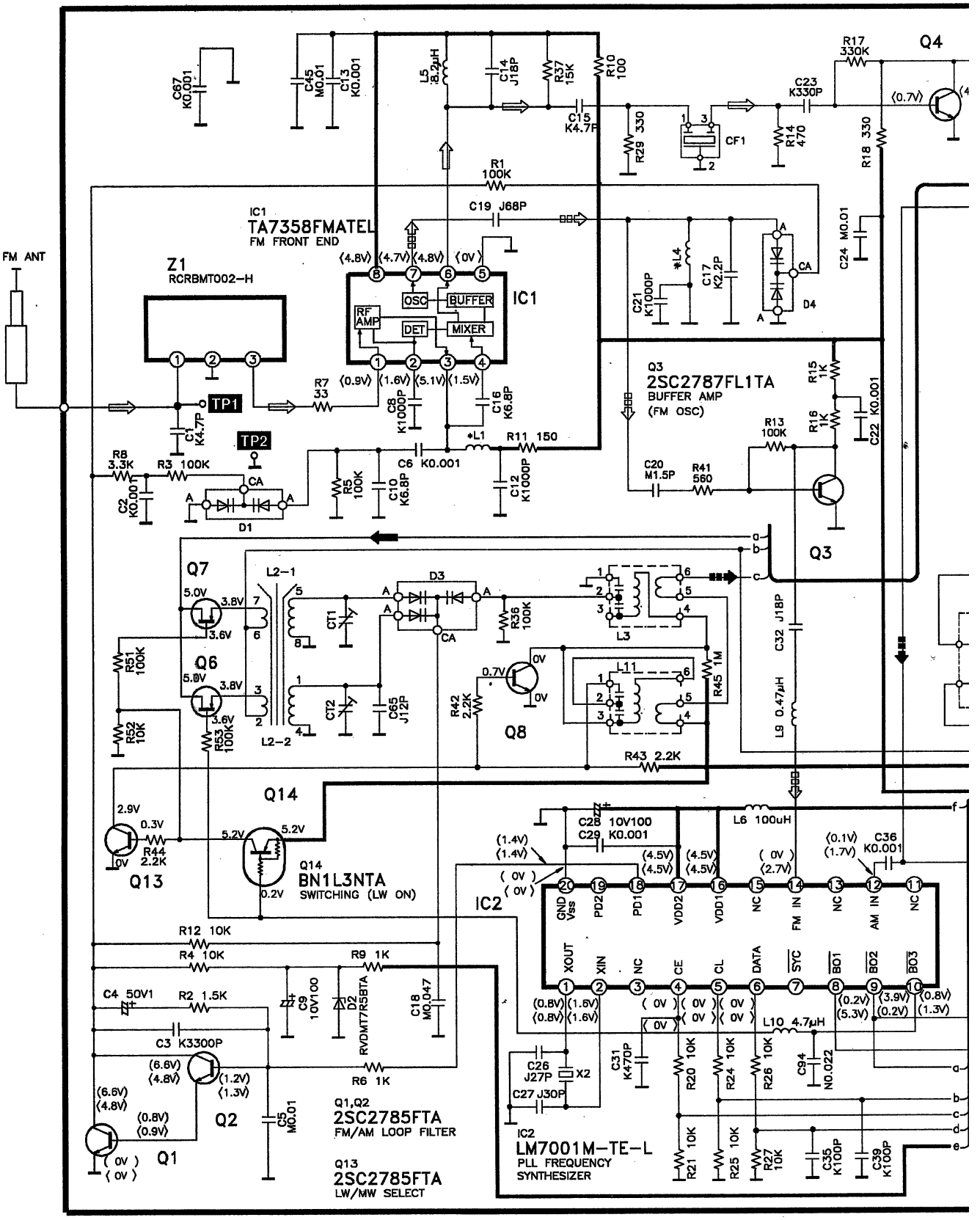


5 6 7 8 9

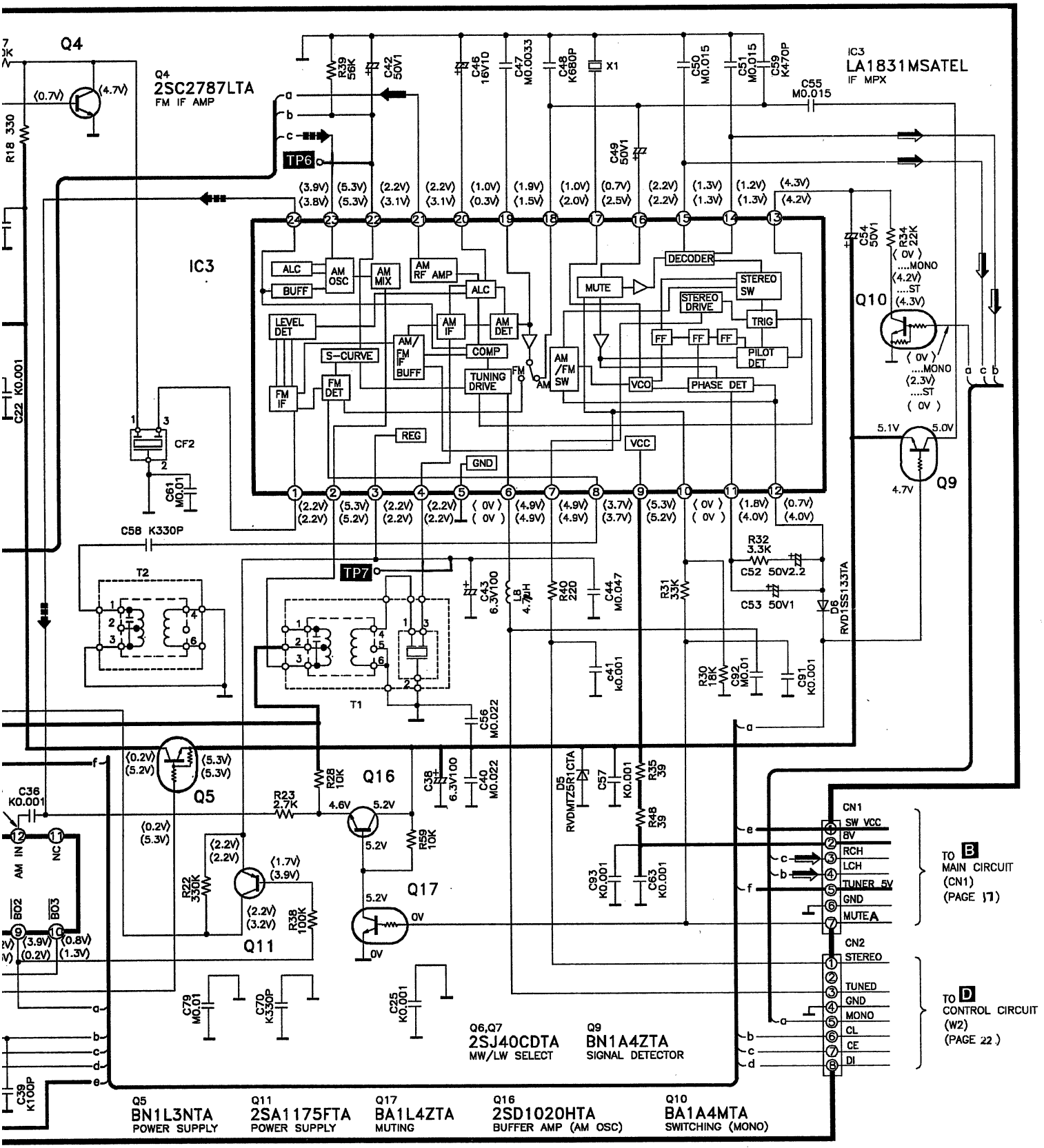

IC701
AN8802SCEIV
SERVO AMP
IC702
MN66271RA
SERVO PROCESSOR / DIGITAL
SIGNAL PROCESSOR / DIGITAL
FILTER / D/A CONVERTER
CN702
TO E CONNECTOR CIRCUIT (CN702) (Page 22)
S701 (REST)
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP20
TP21
TP22
TP23
TP42
R717 1K
R718 1K
R719 1K
R720 1K
R721 100
R730 330
R738 22K
R739 680
R741 5.6K
R742 5.6K
R743 5.6K
C703 6.3V100
C704 M0.1
C723 10V220
C724 M0.1
C725 K1000P
C726 K1000P
C727 50V1
C728 50V1
C730 M0.1
C731 6.3V220
C732 6.3V220
C733 M0.1
C743 M0.1
C745 M0.047
C746 D5P
BCLK
LRCK
SRDATA
DVDD1
DVSS1
TX
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
PMCK
LCH OUT
AGND
RCH OUT
CD 5V
DGND
LD SW
TX
CD 8V
PGND
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
REST SW
PLAY
1KHz , 0dB
4Vp-p
T=13.6mS
0.5us.0.2V/DIV
1.2Vp-p
F=4.2336MHz
0.1us.2V/DIV
2ms.0.2V/DIV
400mVp-p
2ms.0.1V/DIV
0.3Vp-p

10 11 12 13 14

## C TUNER CIRCUIT

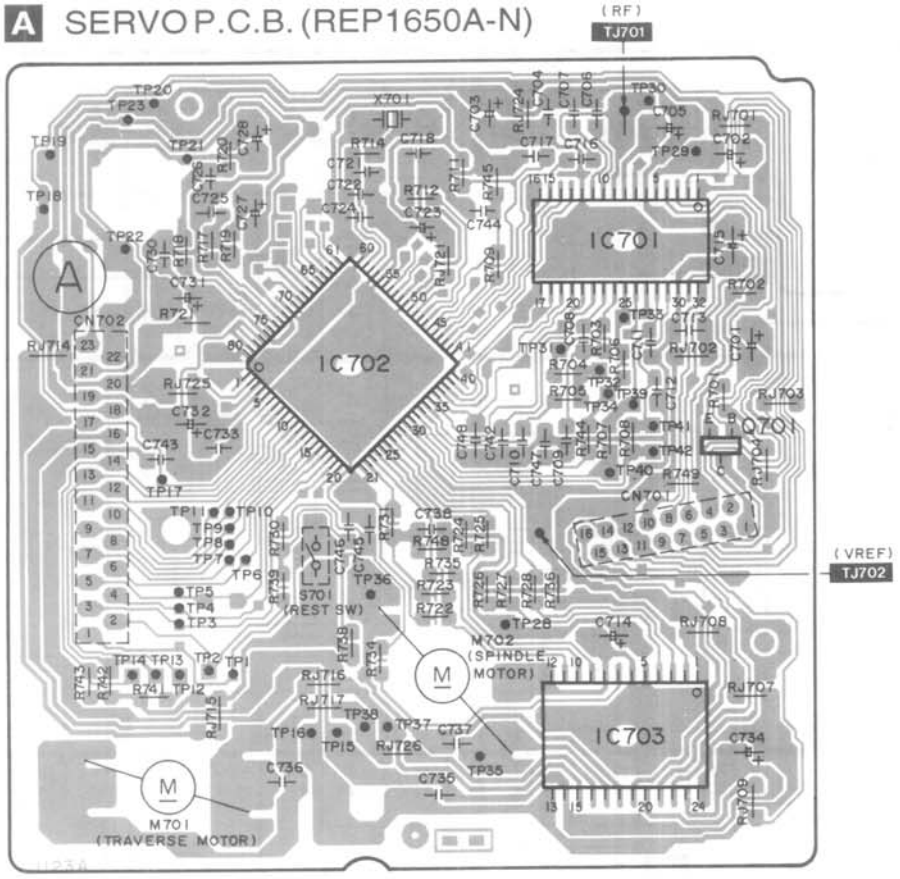


4 15 16 17 18

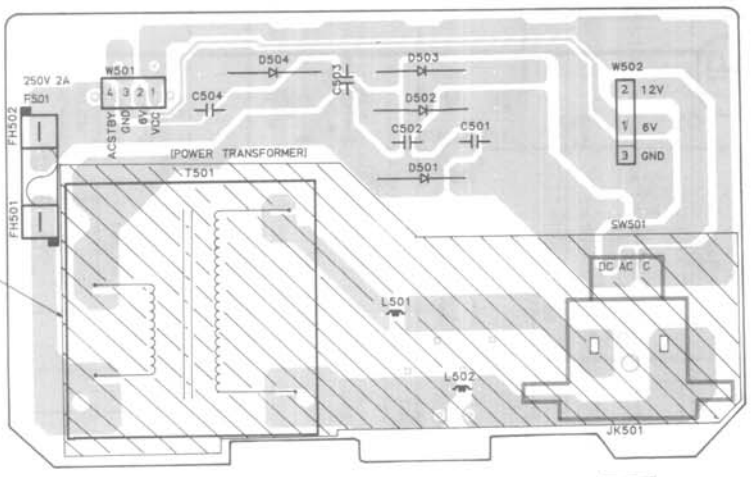

Q4
2SC2787LTA
FM IF AMP
IC3
LA1831MSATEL
IF MPX
TP6
TP7
ALC
AM OSC
AM MIX
AM RF AMP
BUFF
LEVEL DET
S-CURVE
FM IF
FM DET
AM/FM IF BUFF
AM IF
AM DET
COMP
TUNING DRIVE
AM/FM SW
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
PILOT DET
VCO
PHASE DET
REG
VCC
GND
CF2
T1
T2
Q5
Q16
Q17
Q11
Q10
Q9
Q6,Q7
2SJ40CDTA
MW/LW SELECT
BN1A4ZTA
SIGNAL DETECTOR
CN1
SW VCC
8V
RCH
LCH
TUNER 5V
GND
MUTE
CN2
STEREO
TUNED
GND
MONO
CL
CE
DI
TO B MAIN CIRCUIT (CN1) (PAGE 17)
TO D CONTROL CIRCUIT (W2) (PAGE 22)
Q5 BN1L3NTA POWER SUPPLY
Q11 2SA1175FTA POWER SUPPLY
Q17 BA1L4ZTA MUTING
Q16 2SD1020HTA BUFFER AMP (AM OSC)
Q10 BA1A4MTA SWITCHING (MONO)

# ■ PRINTED CIRCUIT BOARD

## A SERVO P.C.B. (REP1650A-N)



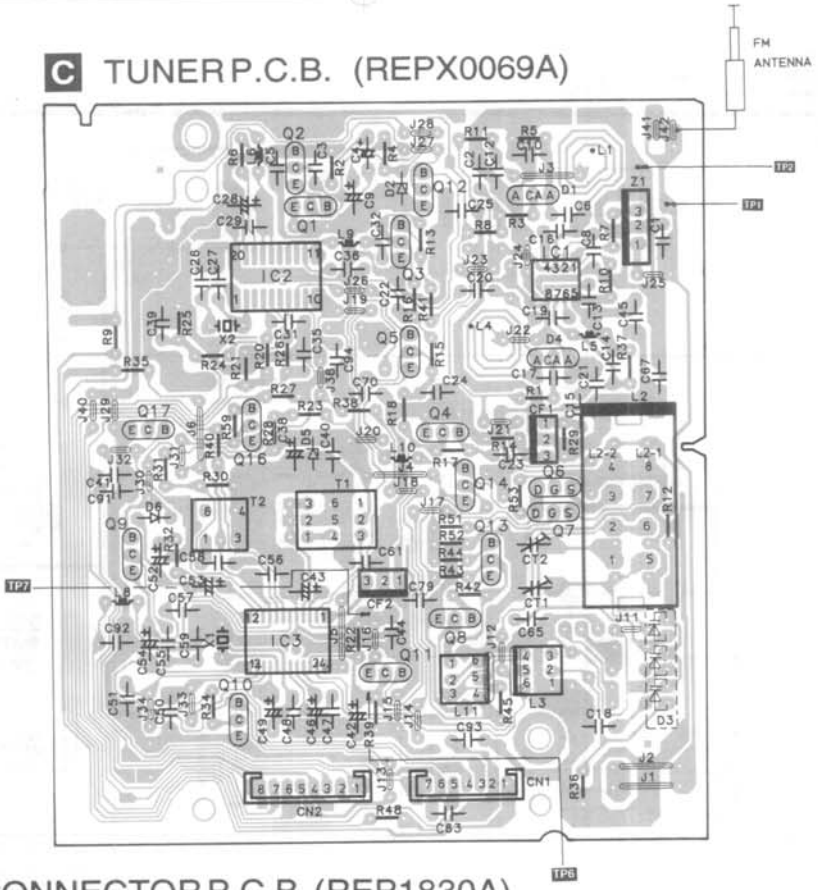

## F POWER P.C.B. (REP1790G)



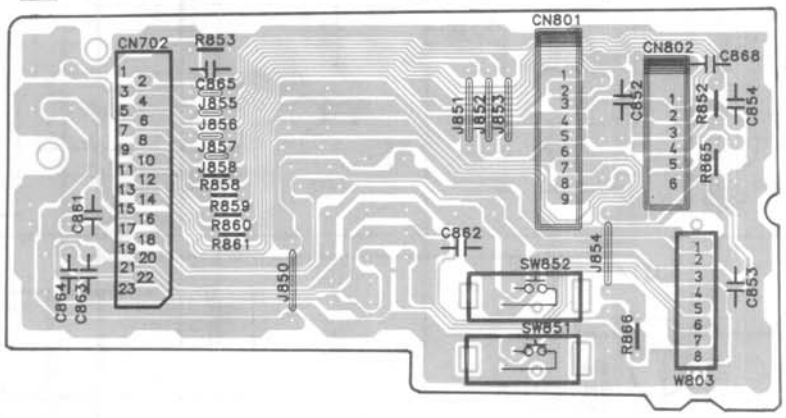

CAUTION
RISK OF ELECTRIC SHOCK
AC voltage line. Please do not touch this portion.

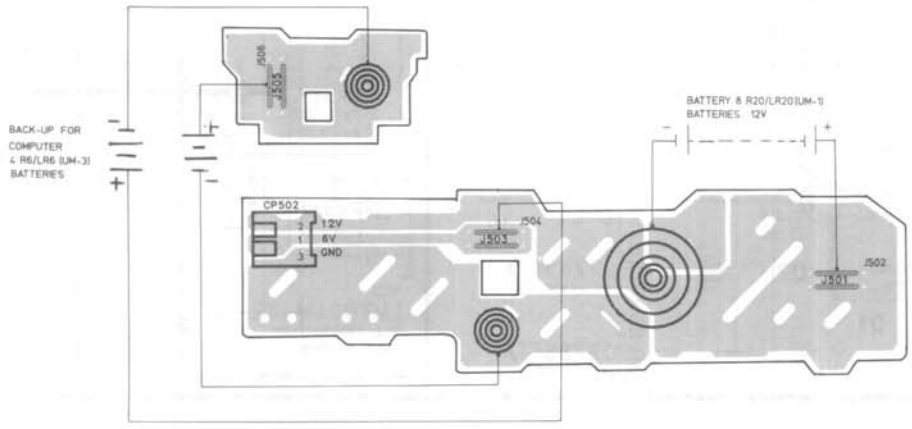
5 6 7 8 9

## C TUNER P.C.B. (REPX0069A)



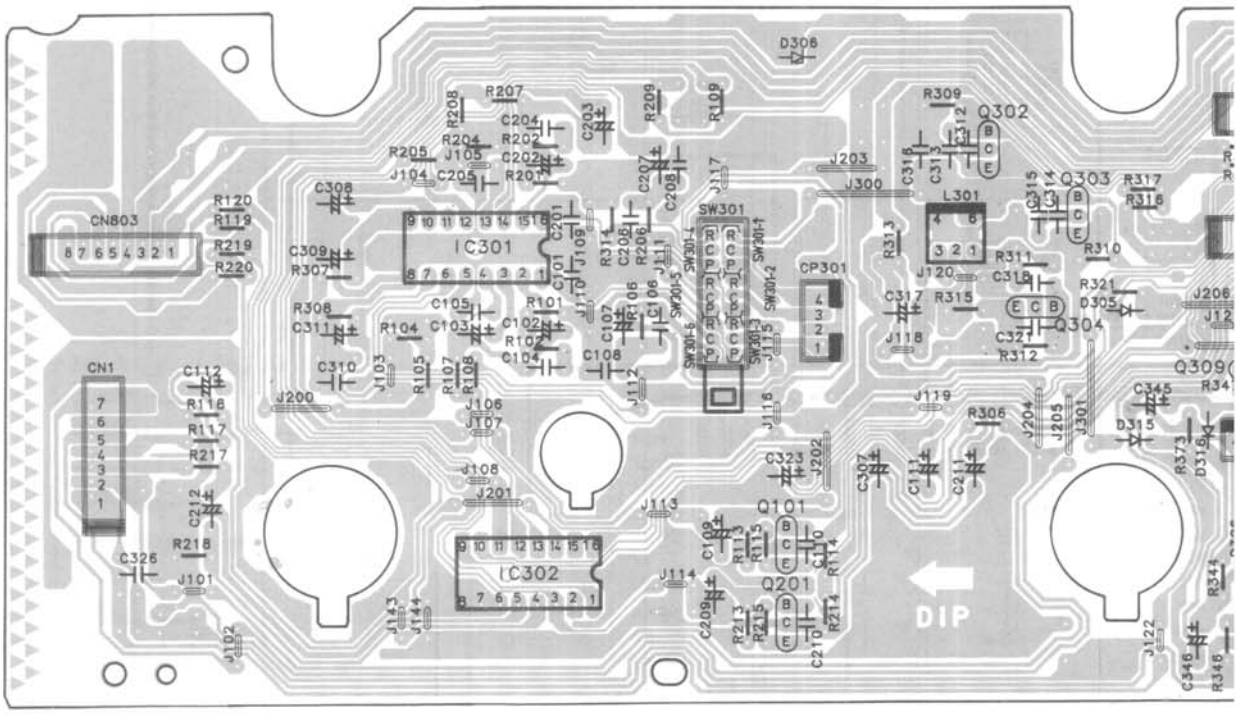

## E CONNECTOR P.C.B. (REP1830A)



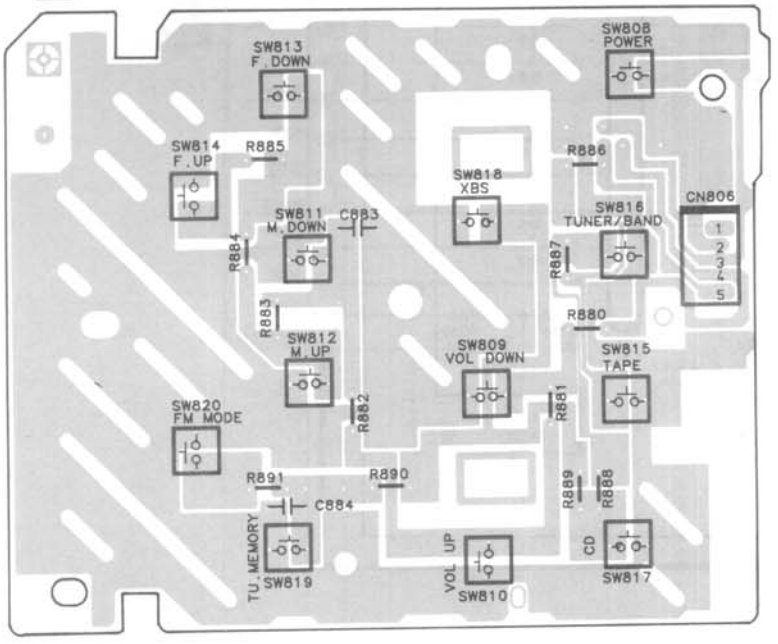



10 11 12 13 14

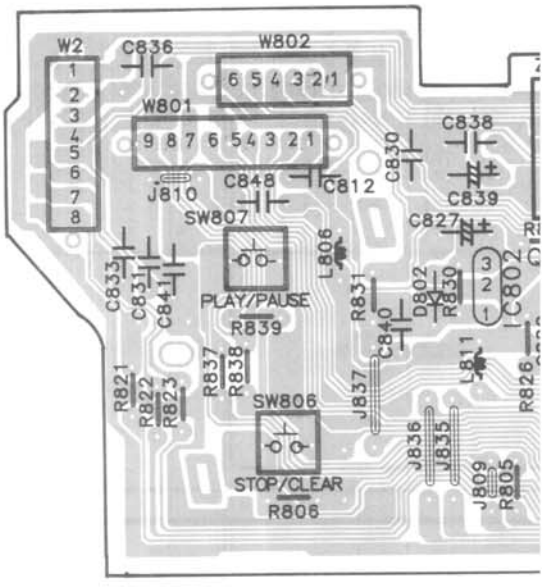
## B MAIN P.C.B. (REP1829A)

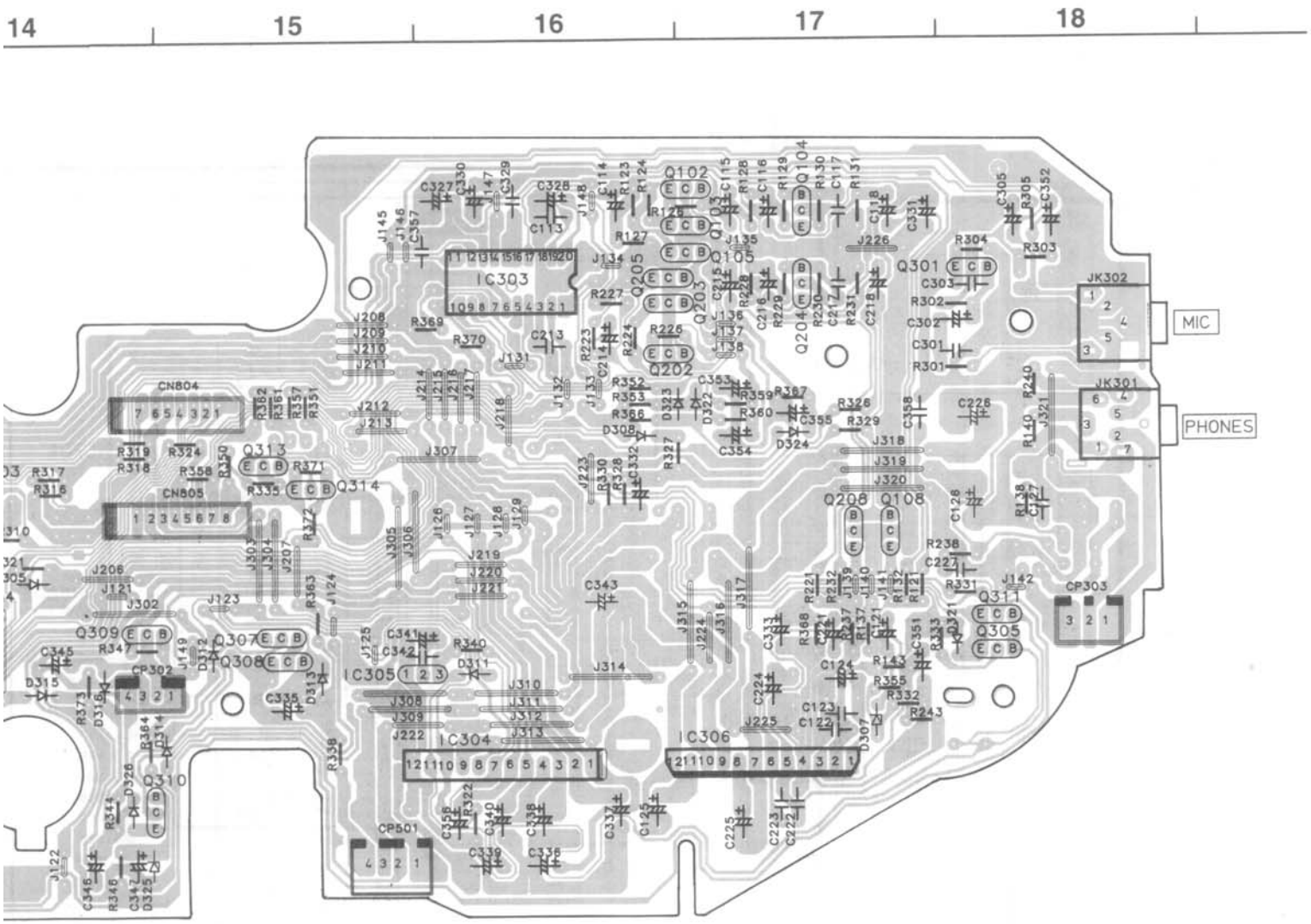



## G OPERATION P.C.B. (REP1830A)

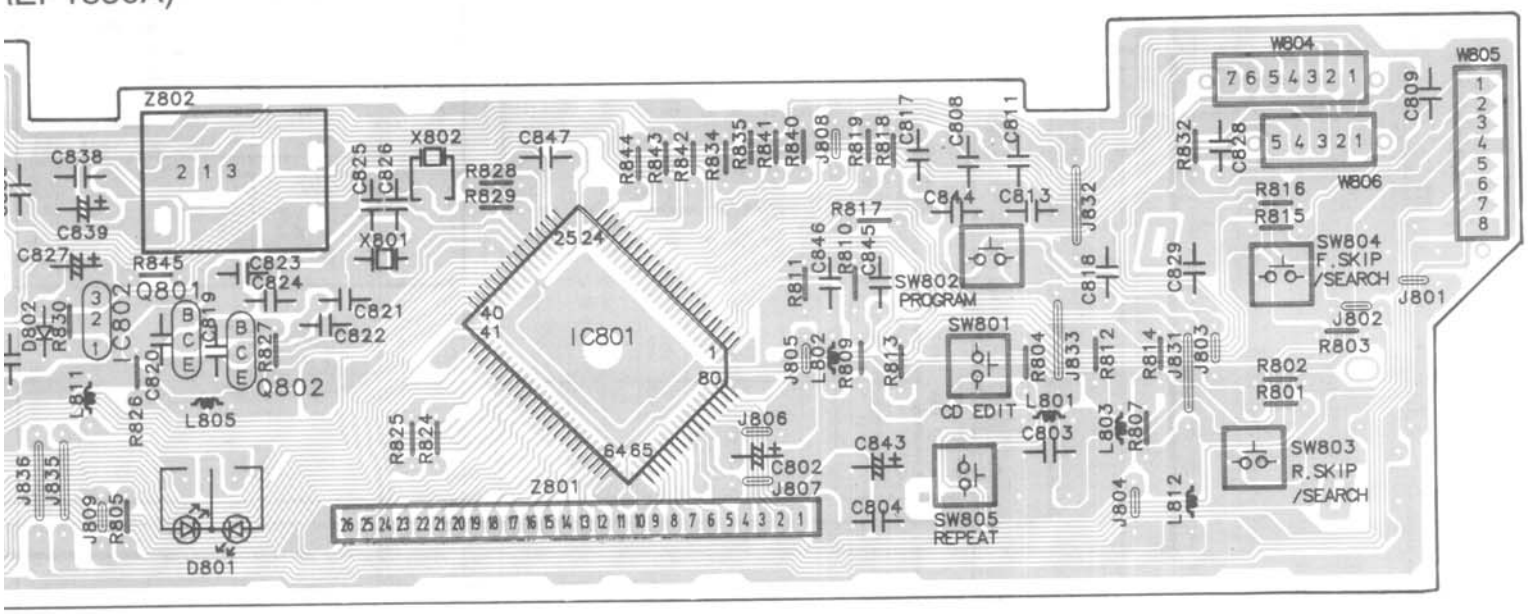



## D CONTROL P.C.B. (REP1830A




14
15
16
17
18
MIC
PHONES
IC303
IC304
IC305
IC306
CN804
CN805
JK301
JK302
CP302
CP303
CP501
Q102
Q104
Q105
Q202
Q203
Q204
Q205
Q208
Q301
Q303
Q305
Q306
Q307
Q308
Q309
Q310
Q313
Q314

REP1830A)


Z802
X802
X801
IC801
IC802
Q801
Q802
Z801
D801
L805
L801
W804
W805
W806
SW801
CD EDIT
SW802
PROGRAM
SW803
R.SKIP
/SEARCH
SW804
F.SKIP
/SEARCH
SW805
REPEAT

# ■ TERMINAL FUNCTION OF IC'S

## • IC702 (MN66271RA)

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 1 | BCLK | O | Serial bit clock terminal (Not used, open) |
| 2 | LRCK | O | L/R discriminating signal (Not used, open) |
| 3 | SRDATA | O | Serial data (Not used, open) |
| 4 | DVDD1 | I | Power supply (digital circuit) terminal |
| 5 | DVSS1 | — | GND (digital circuit) terminal |
| 6 | TX | O | Digital audio interface signal |
| 7 | MCLK | I | Microprocessor command clock signal |
| 8 | MDATA | I | Microprocessor command data signal |
| 9 | MLD | I | Microprocessor command load signal |
| 10 | SENSE | O | Sense signal output (OFT,FESL,MAGEND,NAJEND,POSAD,SFG) |
| 11 | /FLOCK | O | Optical servo condition(focus)("L" : lead-in) |
| 12 | /TLOCK | O | Optical servo condition(tracking)("L" : lead-in) |
| 13 | BLKCK | O | Sub-code block clock (f=75Hz) |
| 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 clock signal of crystal oscillating at MSEL = "H" (fSMCK=8.4672MHz) 1/4-divided clock signal of crystal oscillating at MSEL="L" (fSMCK=4.2336MHz) |
| 20 | PMCK | O | 1/192-divided clock signal of crystal oscillating (fPMCK=88.2kHz) (Not used, open) |
| 21 | TRV | O | Traverse servo control output |
| 22 | TVD | O | Traverse drive signal 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 |
| 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) |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 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" : DS) |
| 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 clock ouput (Not used, open) (fPCK=4.321 MHz during normal playback) |
| 54 | PDO | O | Phase comparison signal of EFM and PCK signals (Not used, open) |
| 55 | SUBC | O | Sub-code serial data output (Not used, open) |
| 56 | SBCK | I | Clock input for sub-code serial data (Not used, open) |
| 57 | VSS | — | GND |
| 58 | X1 | I | Crystal oscillating circuit input (f=16.9344MHz) |
| 59 | X2 | O | Crystal oscillating circuit output (f=16.9344MHz) |
| 60 | VDD | I | Power supply input (for oscillating circuit) |
| 61 | BYTCK | O | Byte clock output (Not used, open) |
| 62 | /CLDCK | O | Sub-code frame clock signal output (fCLDCK=7.35kHz during normal playback) |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 63 | FCLK | O | Crystal frame clock signal output (fCLK=7.35kHz, double=14.7kHz) |
| 64 | IPFLAG | 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, open) |
| 69 | RESY | O | Frame resynchronizing signal output (Not used, open) |
| 70 | /RST2 | I | Reset input through MASH circuit ("L" : Reset) |
| 71 | /TEST | I | Test input |
| 72 | AVDD1 | I | Power supply input (for analog circuit) |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 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, RESL="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) |

## • IC701 (AN8802SCE1V)

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 1 | PDAD | I | PDA channel signal input with delay |
| 2 | PDA | I | PDA 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 |
| 15 | PLAY | I | Play signal input ("H" : PLAY) |
| 16 | WVEL | I | Double speed ("H" : double, "L" : single) |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 17 | BDO | O | Dropout detection control |
| 18 | /RFDET | O | RF detection signal ("L" : detection) |
| 19 | CROSS | O | Tracking error zero cross output |
| 20 | OFTR | O | Off-track detection ("H" : detection) |
| 21 | VDET | O | Vibration detection signal output("H" : detection) |
| 22 | ENV | O | Envelope output terminal |
| 23 | TEBPF | I | Vibration detection signal input |
| 24 | TE | O | Tracking error signal output |
| 25 | FE | O | Focus error signal output |
| 26 | PTO | O | Potentioamplifier inversion input (Not used, open) |
| 27 | PTI | I | Potentioamplifier inversion output (Not used, open) |
| 28 | TBAL | I | Tracking balance signal input |
| 29 | FBAL | I | Focus balance signal input |
| 30 | VREF | O | Reference voltage output |
| 31 | PDB | I | Photo detection Bch input without delay |
| 32 | PDBD | I | Photo detection Bch input with delay |

## • IC801 (M38223M4052)

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | VL2 | I | LCD bias reference voltage input V2 |
| 2 | VL1 | I | LCD bias reference voltage input V1 |
| 3 | PCNT | O | Power supply circuit control signal output |
| 4 | BATT | I | Battery state signal input |
| 5 | REGION | — | GND |
| 6 | KEY3 | I | Key source input |
| 7 | KEY2 | | |
| 8 | KEY1 | | |
| 9 | TAPE L | O | Tape detect signal output |
| 10 | CD H | O | CD detect signal output |
| 11 | MTRSW | I | Motor switch |
| 12 | MUTE B | O | Muting control signal output |
| 13 | MUTE A | O | AF muting control signal output |
| 14 | REC H | O | REC detect signal output |
| 15 | RSTBY | I | Remote control sensor power control signal input |
| 16 | STEREO | I | PLL stereo signal input |
| 17 | RMT | I | Remote control pulse signal input |
| 18 | BLKCK | I | CD subcode block clock input |
| 19 | TUNED | I | PLL tuner signal input |
| 20 | SQCK | O | CD subcode clock output |
| 21 | MONO | O | PLL mono signal output |
| 22 | SUBQ | I | CD subcode data input |
| 23 | CD CLOSE | I | CD cover close detection switch signal input |
| 24 | PWR | I | Main switch control signal input |
| 25 | REGION 2 | — | GND |
| 26 | RESET SW | I | Reset switch (S701) signal input |
| 27 | RST | I | System reset signal input |
| 28 | XC IN | I | Crystal oscillator input (32.768kHz) |
| 29 | XC OUT | O | Crystal oscillator output (32.768kHz) |
| 30 | XIN | I | Clock input (4.19MHz) |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 31 | XOUT | O | Clock input (4.19MHz) |
| 32 | VSS | — | GND |
| 33 | MBP1 | O | Beatproof control signal output |
| 34 | MBP2 | O | Beatproof control signal output |
| 35 | SENSE | I | CD sense signal input |
| 36 | FLOCK | I | CD focus signal input |
| 37 | TLOCK | I | CD tracking signal input |
| 38 | STATUS | I | CD status signal input |
| 39 | CD RST | I | CD reset signal input |
| 40 | DMUTE | O | CD muting control signal output |
| 41 | MCLK | O | CD clock control signal output |
| 42 | MDATA | O | CD data control signal output |
| 43 | MLD | O | CD loading control signal output |
| 44 | VOL DA | O | PMW data signal output for electric volume circuit (IC303) |
| 45 | VOL CK | O | PMW clock signal output for electric volume circuit (IC303) |
| 46 | PLL CL | O | PLL tuner clock signal output |
| 47 | PLL CE | O | PLL tuner strove signal output |
| 48 | PLL DA | O | PLL tuner data signal output |
| 49 | SEG21 | O | LCD segment signal output |
| ≀ | ≀ | | |
| 70 | SEG0 | | |
| 71 | — | — | Not used, open. |
| 72 | — | — | Not used, open. |
| 73 | VDD | I | Power supply (+5V) |
| 74 | VREF | I | A/D converter reference voltage |
| 75 | AVSS | — | GND |
| 76 | COM3 | O | LCD common signal output |
| ≀ | ≀ | | |
| 79 | COM0 | | |
| 80 | VL3 | I | LCD bias reference voltage input V3 |

## • IC703 (AN8389SE1)

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 1 | VCC | I | Power supply terminal |
| 2 | VREF | I | Reference voltage input |
| 3 | IN4 | I | Motor driver (4) input |
| 4 | IN3 | I | Motor driver (3) input |
| 5 | GND | — | Ground connection |
| 6 | NC | — | Ground 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. | Mark | I/O | Function |
|---|---|---|---|
| 17 | PVCC1 | I | Power supply (1) for driver |
| 18 | PGND1 | — | Ground connection (1) for driver |
| 19 | D1– | O | Motor driver (1) reverse-action output |
| 20 | D1+ | O | Motor driver (1) forward-action output |
| 21 | D2– | O | Motor driver (2) reverse-action output |
| 22 | D2+ | O | Motor driver (2) forward-action output |
| 23 | D3– | O | Motor driver (3) reverse-action output |
| 24 | D3+ | O | Motor driver (3) forward-action output |
| 25 | D4– | O | Motor driver (4) reverse-action output |
| 26 | D4+ | O | Motor driver (4) forward-action output |
| 27 | PGND2 | — | Ground connection (2) for driver |
| 28 | PVCC2 | I | Power supply (2) for driver |

## ■ ALIGNMENT POINTS

< TUNER SECTION >

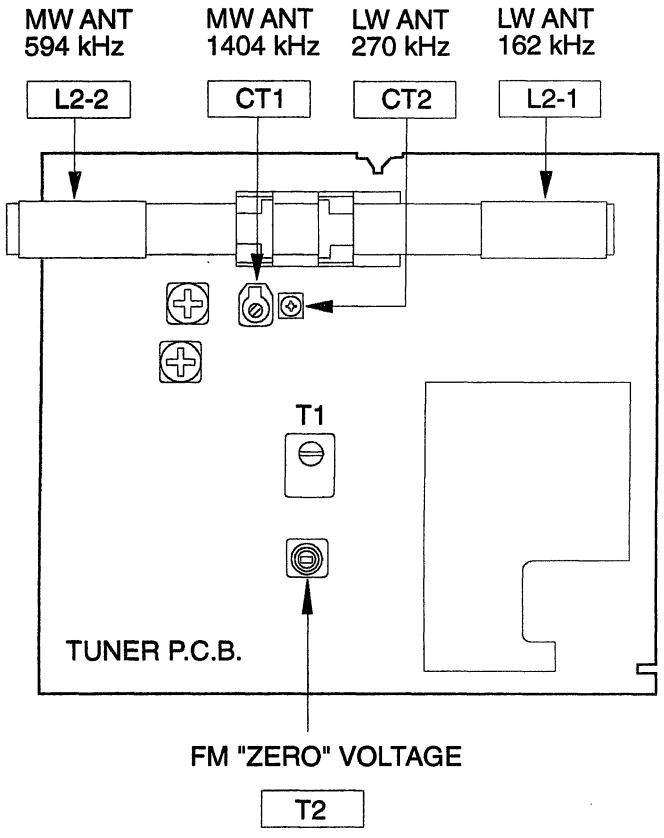



Fig. 1

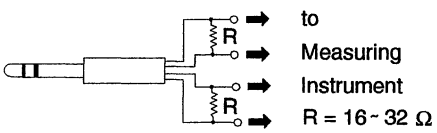



Fig. 2

# ■ MEASUREMENTS AND ADJUSTMENTS

## ■ TUNER SECTION

### • ALIGNMENT INSTRUCTION

| READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT | |
|---|---|
| • Set power source voltage to 230 – 240 V AC.<br>• Set volume control to maximum.<br>• Set function switch to TUNER/BAND. | • Set XBS switch to OFF.<br>• Output of signal generator should be no higher than necessary to obtain an output reading. |
| **Note :** No AM IF, FM IF, FM RF and FM STEREO alignment are required. | |

### • MW-RF 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. | 594 kHz | Tune to signal | Headphone Jack (32Ω)<br>(Fabicate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.) | [*1] L2-2 (MW ANT Coil) | Adjust for maximum output. Adjust L2-2 by moving coil bobbin along ferrite core. |
| " | 1404 kHz | " | " | CT1 (MW ANT Trimmer) | Adjust for maximum output. |
| [*1] Fix antenna coil with wax after completing alignment. | | | | | |

### • LW-RF ALIGNMENT

| SIGNAL GENERATOR or SWEEP GENERATOR | | RADIO DIAL SETTING | INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE) | ADJUSTMENT (Shown in Fig. 1) | REMARKS |
|---|---|---|---|---|---|
| CONNECTIONS | FREQUENCY | | | | |
| " | 162 kHz | " | " | [*1] L2-1 (LW ANT Coil) | Adjust for maximum output. Adjust L2-1 by moving coil bobbin along ferrite core. |
| " | 270 kHz | " | " | CT2 (LW ANT Trimmer) | Adjust for maximum output. |
| [*1] Fix antenna coil with wax after completing alignment. | | | | | |

### • FM "ZERO" VOLTAGE ALIGNMENT

| FM SIGNAL SOURCE CONNECTION | EQUIPMENT CONNECTION ELECTRONIC VOLTMETER | ADJUSTMENT (Shown in Fig. 1) | SPECIFICATION | REMARKS |
|---|---|---|---|---|
| Input FM signal 98 MHz, 60 dB to test point TP1 . Negative side to test point TP2 . | TP6 ....(+)<br>TP7 ....(–) | T2 | – 0.1V ± 50mV | 1. Tune frequency to 98 MHz.<br>2. Adjust the coil T2 to be within the range of specification. |

## ■ CASSETTE DECK SECTION

### • ALIGNMENT INSTRUCTION

| READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT |
|---|
| Note : No Azimuth Head Alignment is required due to Aztec Head is used in the cassette mechanism. |

## ■ CD PLAYER SECTION

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

**Caution:** It is very dangerous to look or touch the laser beam. (laser radiation is invisible)
With the unit turned "on", laser radiation is emitted from the pickup lens.
Avoid exposure to the laser beam, especially when performing adjustments.

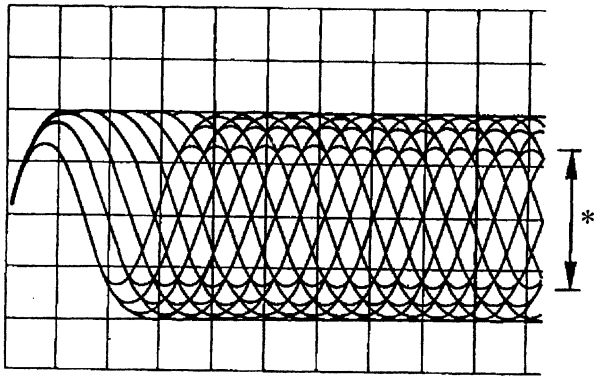
### Measuring Instruments and Special Tools

* 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 (V-Ref.) (–) on the servo P.C.B.
   **Oscilloscope setting :** VOLT .....200mV.
   SWEEP.....0.5µs.
   Input coupling .....AC.
2. Switch the player power **ON**, and play track **19** on the test disc (SZZ1056C).
   (Playing any other track will prevent the HEX screws from being accessed.)
3. Leave the player in play mode.
4. Alternately adjust the HEX 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 37)
5. After completing the adjustment, lock the HEX screws with lock paint (RZZ0L01).




* 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 0.7mm black dot and the 0.7mm 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.

## ■ ALIGNMENT POINTS

< CD PLAYER SECTION >

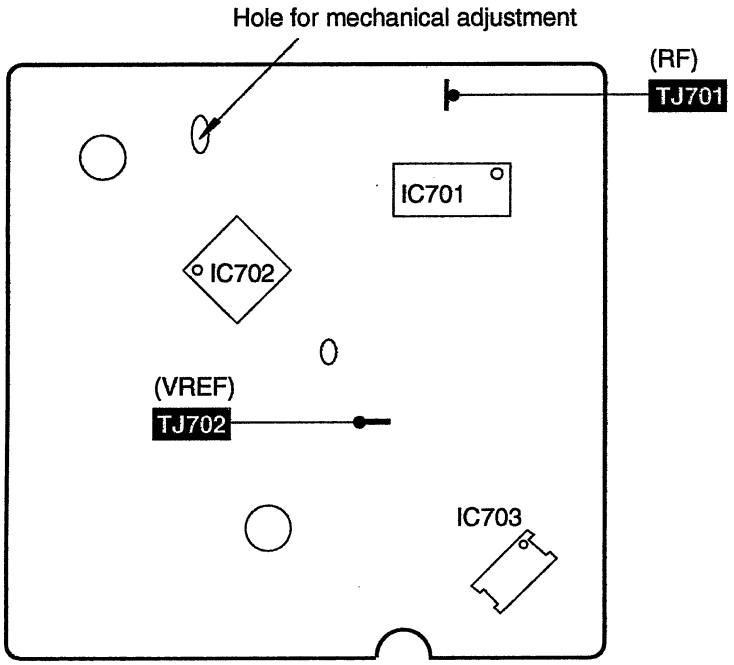



Fig.1

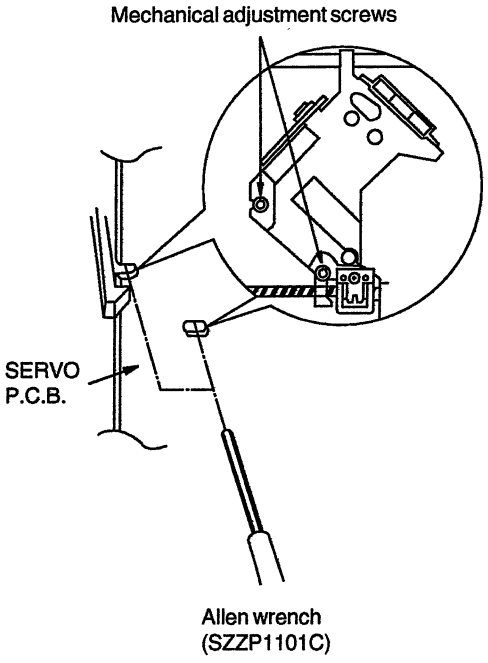
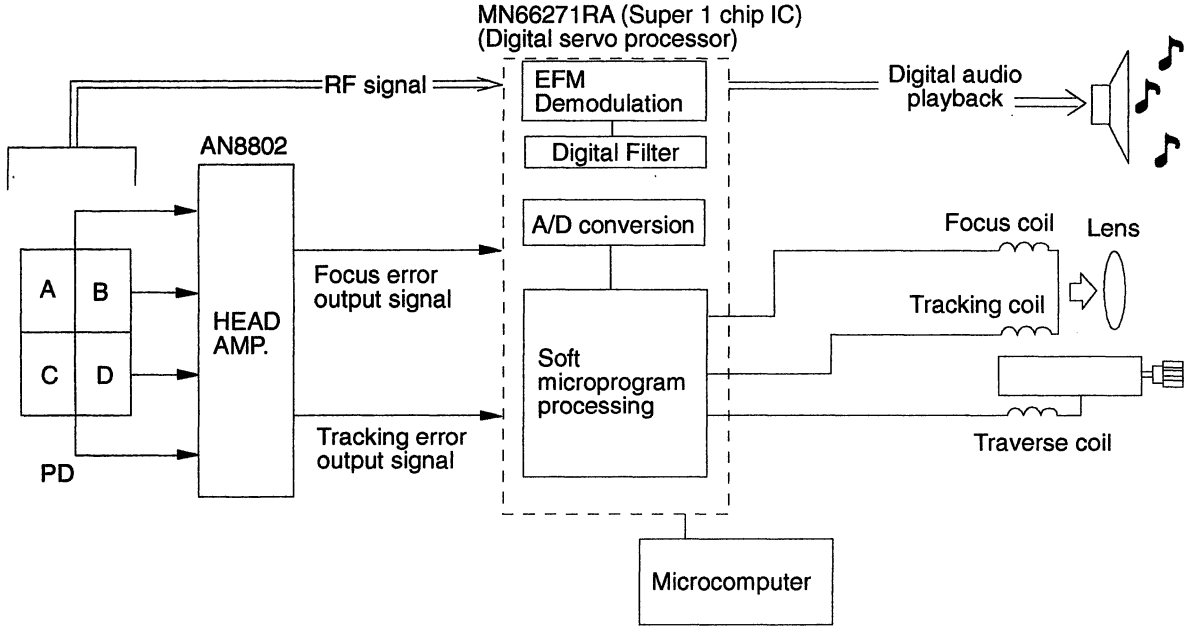



Fig.2

# ■ DIGITAL SERVO SYSTEM

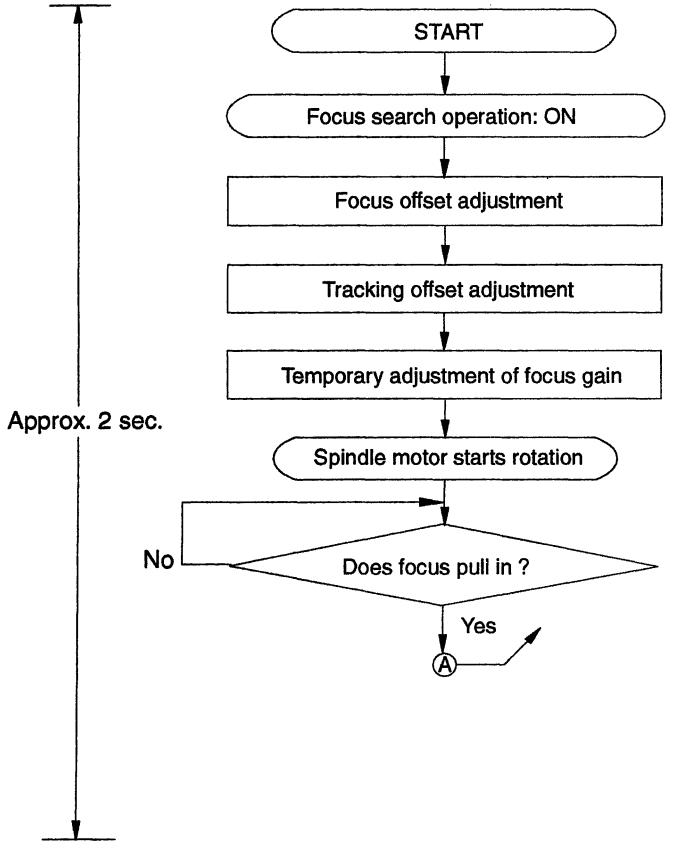
## DIGITAL SERVO SYSTEM

**This servo system has no adjustment VRs.**

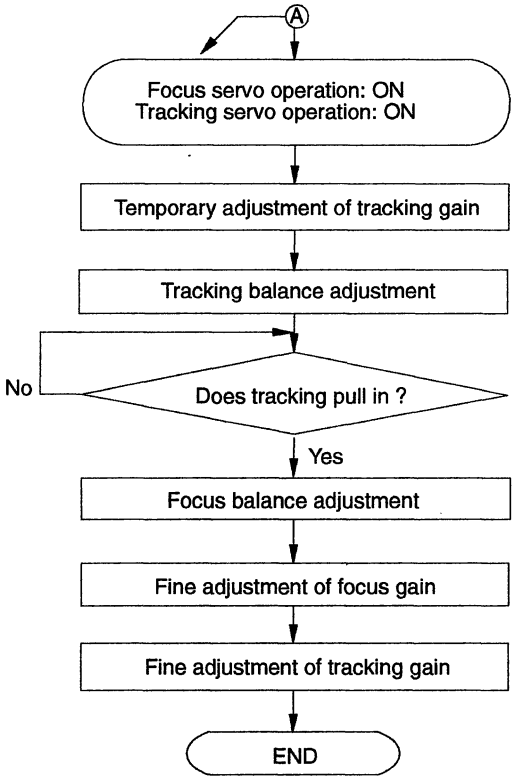


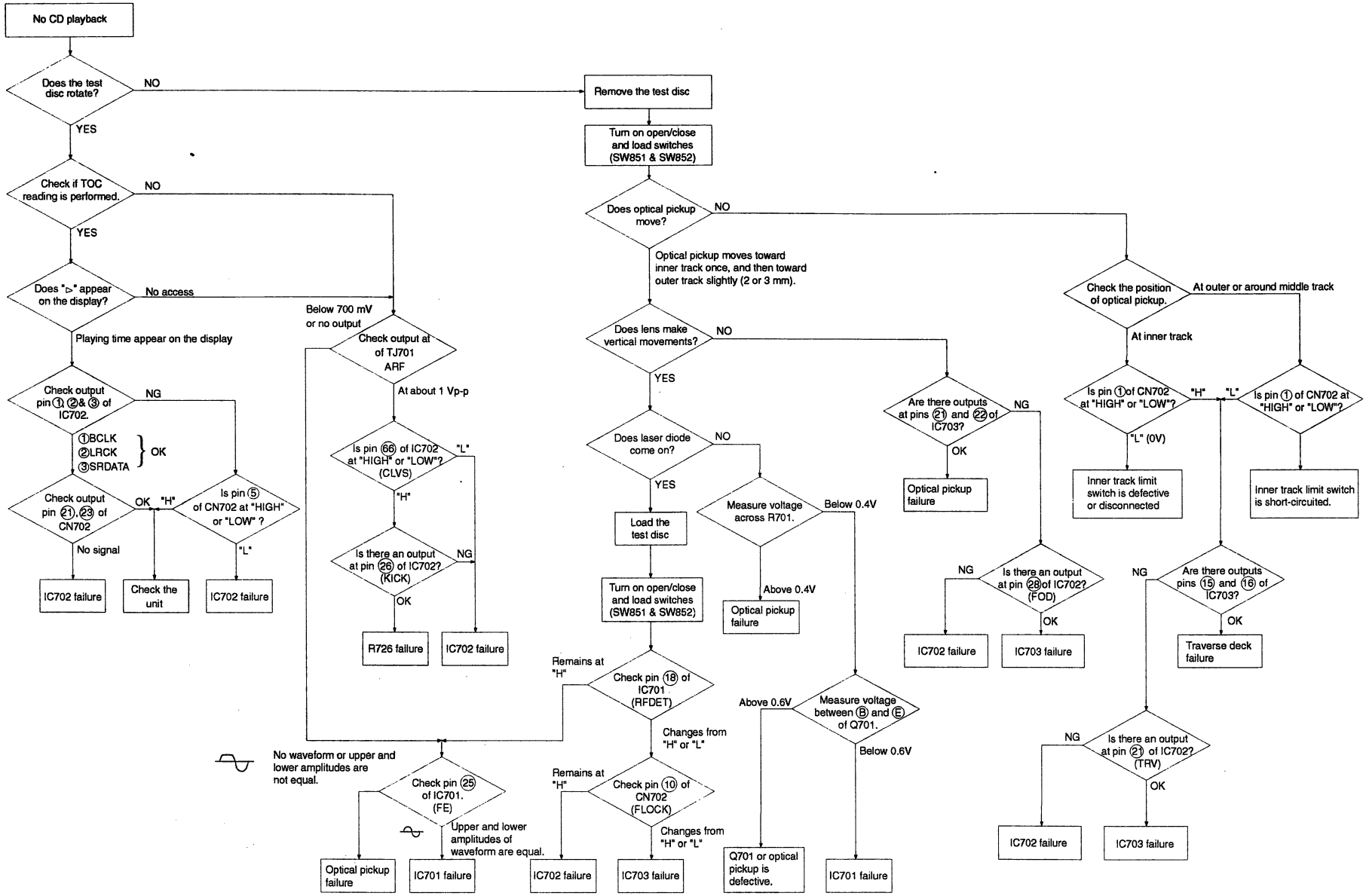

The following flow chart shows the sequence of automatic adjustments.

- **Flow chart on automatic adjustment sequence**

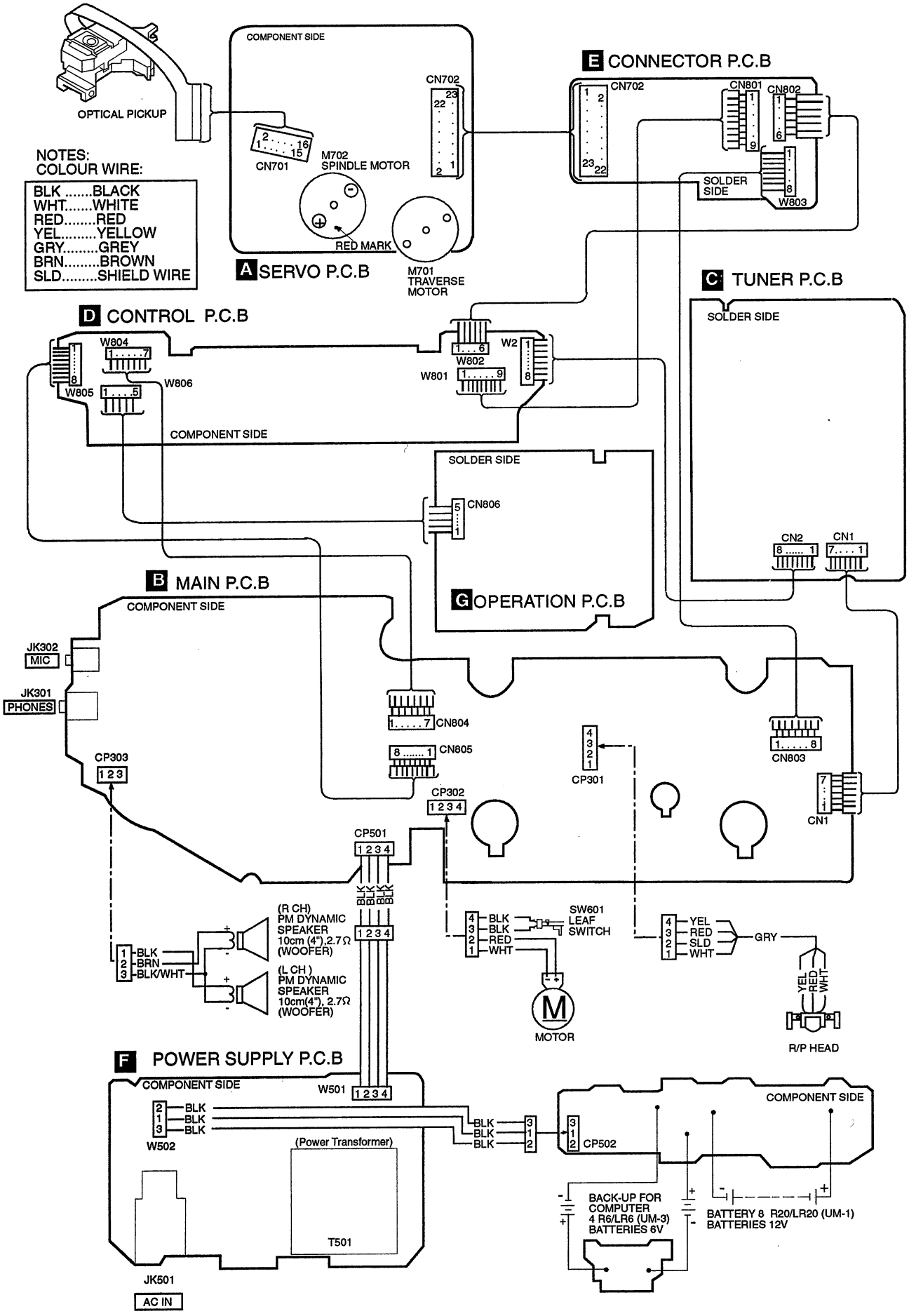



* Because the microcomputer precisely performs the automatic adjustments as shown in the flow chart, it will take approx. 5 seconds to finish reading TOC data if a used disc is ecentric or the surface is warped.




No CD playback
Does the test disc rotate?
NO
YES
Remove the test disc
Turn on open/close and load switches (SW851 & SW852)
Check if TOC reading is performed.
NO
YES
Does optical pickup move?
NO
Optical pickup moves toward inner track once, and then toward outer track slightly (2 or 3 mm).
Does "▷" appear on the display?
No access
Playing time appear on the display
Below 700 mV or no output
Check output at of TJ701 ARF
At about 1 Vp-p
Does lens make vertical movements?
NO
YES
Check the position of optical pickup.
At outer or around middle track
At inner track
Check output pin ①, ②& ③ of IC702.
NG
①BCLK
②LRCK
③SRDATA
OK
Is pin (66) of IC702 at "HIGH" or "LOW"? (CLVS)
"L"
"H"
Does laser diode come on?
NO
YES
Are there outputs at pins (21) and (22) of IC703?
NG
OK
Is pin ① of CN702 at "HIGH" or "LOW"?
"H"
"L"
"L" (0V)
Is pin ① of CN702 at "HIGH" or "LOW"?
Check output pin (21), (23) of CN702
OK
"H"
Is pin (5) of CN702 at "HIGH" or "LOW" ?
No signal
"L"
Is there an output at pin (26) of IC702? (KICK)
NG
OK
Load the test disc
Measure voltage across R701.
Below 0.4V
Above 0.4V
Turn on open/close and load switches (SW851 & SW852)
Is there an output at pin (28) of IC702? (FOD)
NG
OK
Are there outputs pins (15) and (16) of IC703?
NG
OK
Remains at "H"
Check pin (18) of IC701 (RFDET)
Changes from "H" or "L"
Above 0.6V
Measure voltage between (B) and (E) of Q701.
Below 0.6V
No waveform or upper and lower amplitudes are not equal.
Check pin (25) of IC701. (FE)
Upper and lower amplitudes of waveform are equal.
Remains at "H"
Check pin (10) of CN702 (FLOCK)
Changes from "H" or "L"
Is there an output at pin (21) of IC702? (TRV)
NG
OK
Check the unit
R726 failure
Optical pickup failure
Inner track limit switch is defective or disconnected
Inner track limit switch is short-circuited.
Traverse deck failure
IC702 failure
IC703 failure
IC701 failure
Q701 or optical pickup is defective.

# ■WIRE CONNECTION DIAGRAM



# ■ MECHANISM PARTS LIST

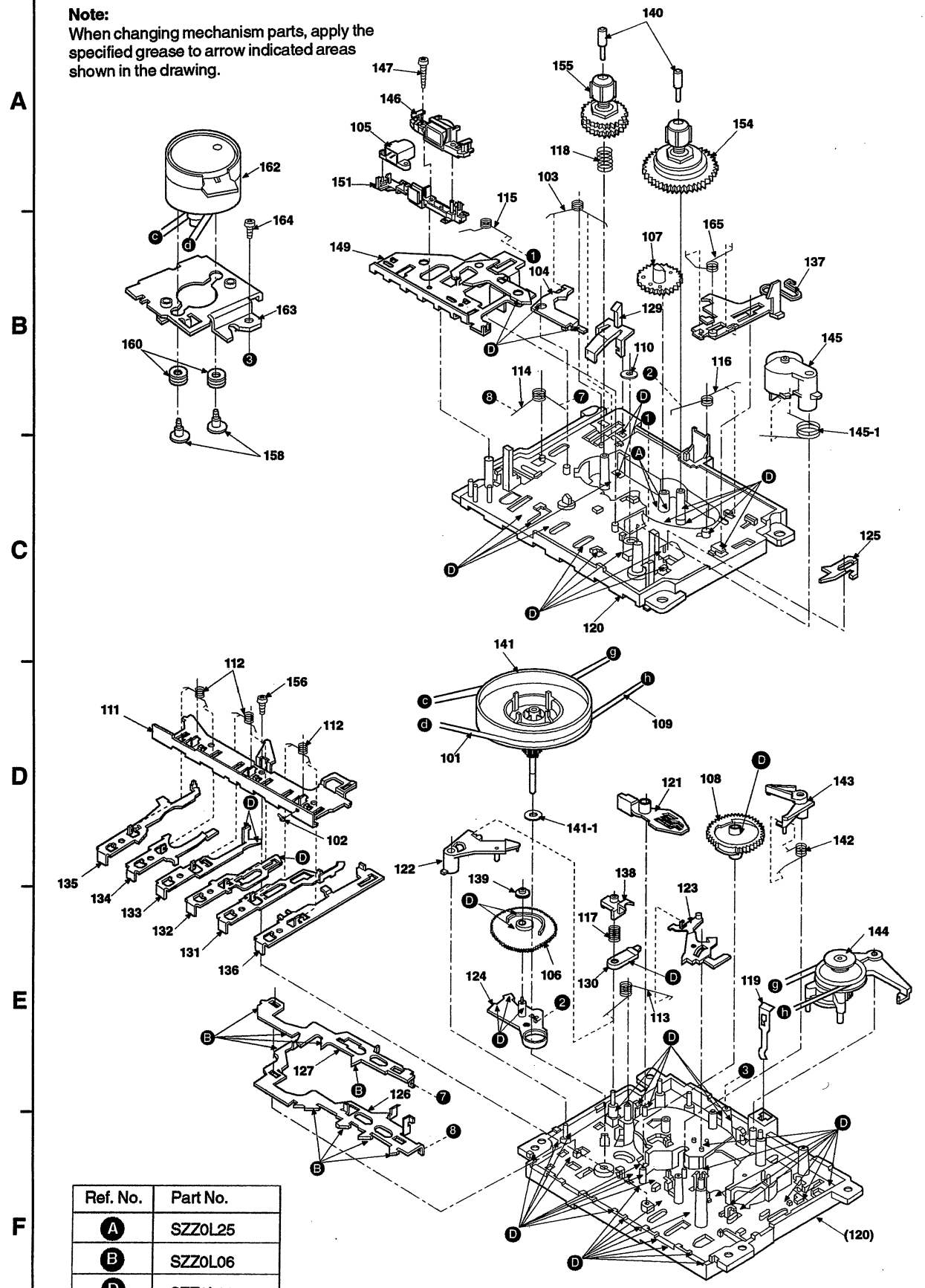
NOTES: [M] Indicates in the Remarks columns indicates parts supplied by MESA.

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | CASSETTE MECHANISM | |
| | | | |
| 101 | RDV0007 | MAIN BELT | [M] |
| 102 | RJR0033 | EARTH LUG | [M] |
| 103 | RMB0109-1 | BRAKE SPRING | [M] |
| 104 | RML0116 | BRAKE | [M] |
| 105 | RBR2CY009 | ERASE 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 | RMB0047 | HEAD PANEL SPRING | [M] |
| 116 | RMB0048 | IDLER LEVER SPRING | [M] |
| 117 | RMB0053 | PAUSE LEVER SPRING | [M] |
| 118 | RMB0125 | BACK TENSION SPRING | [M] |
| 119 | RMC0061 | PACK SPRING | [M] |
| 120 | RFKRCT090P-K | CHASSIS ASS'Y | [M] |
| 121 | RML0071 | SWING LEVER | [M] |
| 122 | RML0072 | AS RELEASE LEVER | [M] |
| 123 | RML0073-1 | AS PROTECT LEVER | [M] |
| 124 | RML0074 | IDLER LEVER | [M] |
| 125 | RML0076 | EJECT SELECTION LEVE | [M] |
| 126 | RML0077 | LOCK PLATE | [M] |
| 127 | RML0078 | FUNCTION PLATE | [M] |
| 129 | RML0081-1 | RECORD SAFETY 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 ASSY | [M] |
| 141-1 | RHW21008 | FLYWHEEL WASHER | [M] |
| 142 | RMB0044 | TRIGGER SPRING | [M] |
| 143 | RML0075 | TRIGGER LEVER | [M] |
| 144 | RXP0014 | RF CLUTCH ASSY | [M] |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 145 | RXP0015 | PINCH ROLLER ASSY | [M] |
| 145-1 | RMB0049 | PINCH ARM SPRING | [M] |
| 146 | RBR4CY016-M | STEREO ASTEC HEAD | [M] |
| 147 | XTN2+12F | R/P HEAD SCREW | [M] |
| 149 | RMA0696 | HEAD BASE | [M] |
| 151 | RMQ0384 | HEAD BASE | [M] |
| 154 | RXR0004 | TAKE UP REEL ASSY | [M] |
| 155 | RXR0005 | SUPPLY REEL ASSY | [M] |
| 156 | XTN2+6J | BACK PLATE SCREW | |
| 158 | RHD26002 | MOTOR SCREW | |
| 160 | RMG0102 | MOTOR RUB. CUSH. | [M] |
| 162 | RFKPXDS101PK | DC MOTOR ASS'Y | [M] |
| 163 | RMA0108 | MOTOR BK | [M] |
| 164 | XTN26+8J | MOTOR BK SCREW | |
| 165 | RME0098-2 | EJECT SLIDE LEVER SP | [M] |

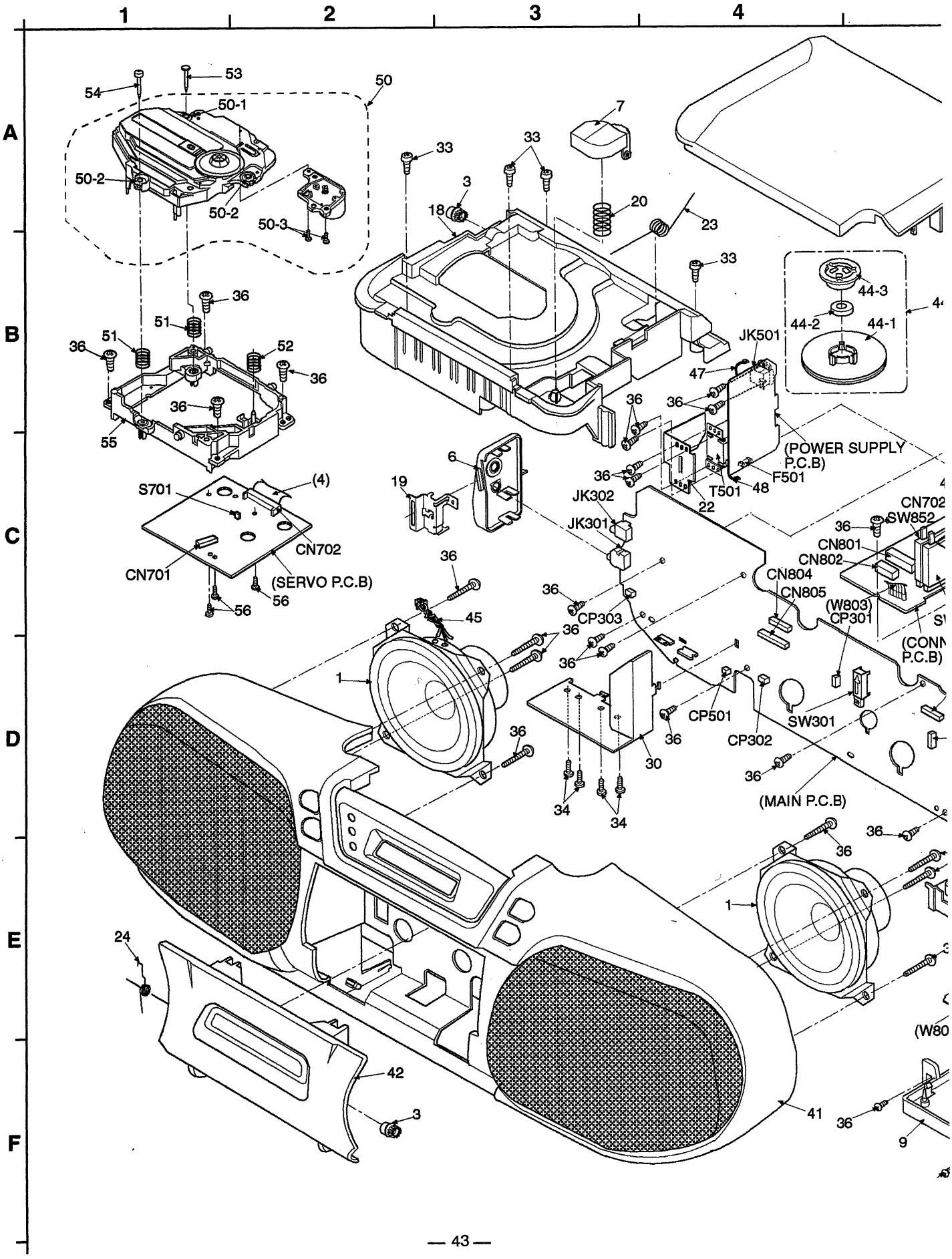
# ■ MECHANISM PARTS LOCATION (RAA0919)

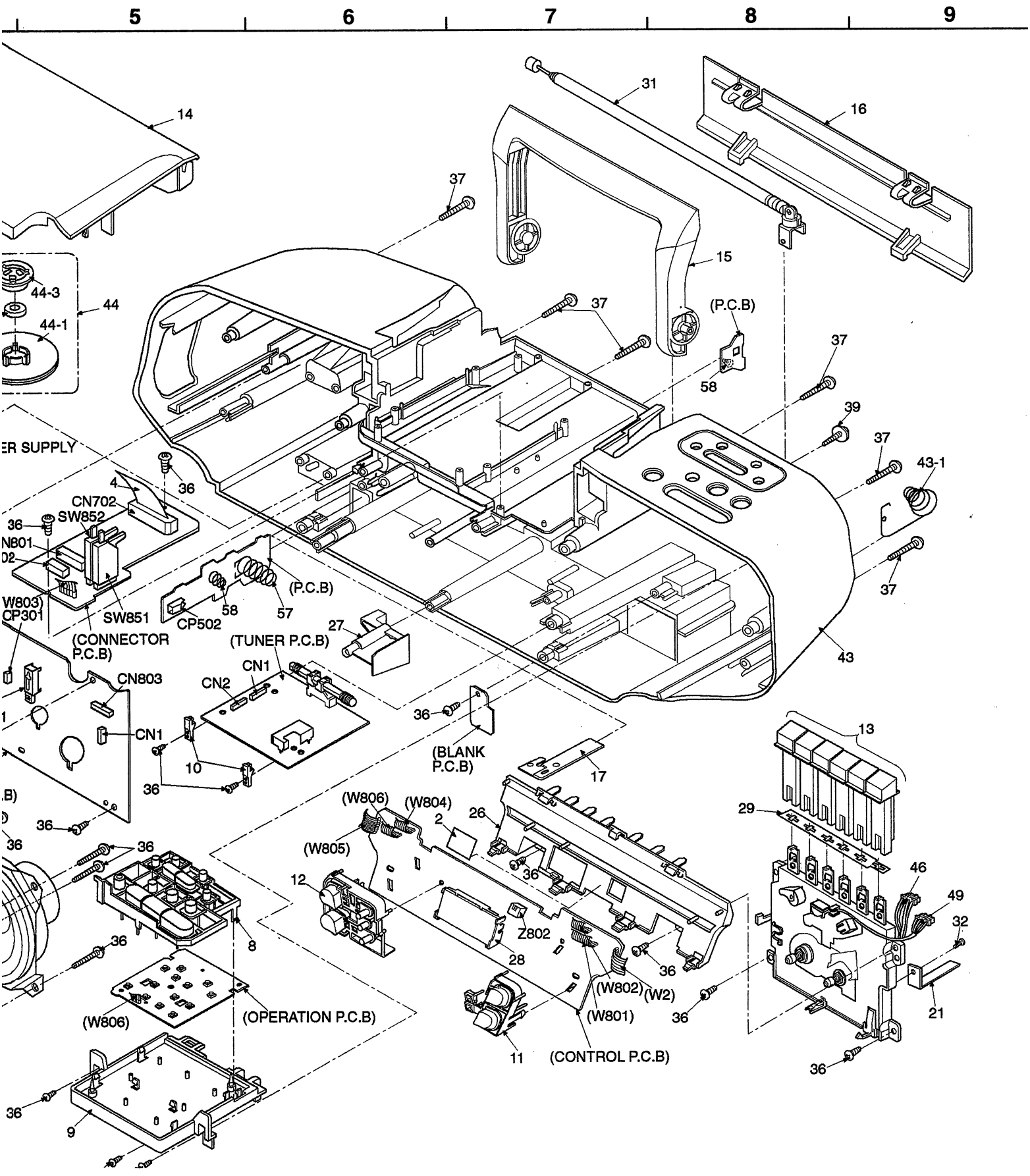
**Note:**
When changing mechanism parts, apply the specified grease to arrow indicated areas shown in the drawing.




| Ref. No. | Part No. |
|---|---|
| Ⓐ | SZZ0L25 |
| Ⓑ | SZZ0L06 |
| Ⓓ | SZZ0L30 |

# ■ CABINET PARTS LOCATION




5
6
7
8
9
14
31
16
37
15
44-3
44
44-1
(P.C.B)
58
39
43-1
43
ER SUPPLY
4
CN702
SW852
36
N801
02
W803)
CP301
SW851
CP502
57
27
(CONNECTOR P.C.B)
(TUNER P.C.B)
CN1
CN2
CN803
10
(BLANK P.C.B)
17
13
29
(W806)
(W804)
2
26
(W805)
12
Z802
28
(W802)
(W2)
(W801)
11
(CONTROL P.C.B)
46
49
32
21
8
(W806)
(OPERATION P.C.B)
9

# ■ 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 or colour. (Refer to the cover page for area or colour)
Parts without these indications can be used for all areas.
* Warning : This product uses a laser diode. Refer to caution statements on page 2.
ACHTUNG: Die lasereinheit nicht zerlegen.
Die lasereinheit darf nur gegen einc vom herstellar spezifizierte einheit ausgetauscht werden.
* [M] Indicates in the Remarks columns indicates parts supplied by **MESA.**

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **CABINET AND CHASSIS** | |
| | | | |
| 1 | EASG10P553B2 | SPEAKER | [M] |
| 2 | RSC0381 | HEAD SHIELD PLATE | [M] |
| 3 | RDG0183-L | DAMPER GEAR | [M] |
| 4 | REE0530 | FFC WIRE | [M] |
| 6 | RGQ0126C-K | JACK COVER | [M] |
| 7 | RGU0977-K | CD EJECT BUTTON | [M] |
| 8 | RGU1020-K | FUNCTION BUTTON | [M] |
| 9 | RMK0239 | BUTTON CHASSIS | [M] |
| 10 | RMR0631-K | PCB HOLDER | [M] |
| 11 | RGZ0019A-K | OP. CD BUTTON (A) | [M] |
| 12 | RGZ0020-K | OP. CD BUTTON (B) | [M] |
| 13 | RGZ0021-K | MECHA BUTTON | [M] |
| 14 | RKF0347-K | CD LID | [M] |
| 15 | RKH0021-K | HANDLE | [M] |
| 16 | RKK347ZB-0 | BATTERY COVER | [M] |
| 17 | RKQ0157-K | AC FUSE COVER | [M] |
| 18 | RKQ0156-K | TOP CAB. | [M] |
| 19 | RMA0749 | JACK HOLDER | [M] |
| 20 | RMB0244 | CD BUTTON SPRING | [M] |
| 21 | RMC0076 | R/P SPRING | [M] |
| 22 | RMC0233 | SHIELD PLATE | [M] |
| 23 | RME0147 | CD OPEN SPRING | [M] |
| 24 | RME0148 | CASS. OPEN SPRING | [M] |
| 26 | RMK0226 | PCB HOLD CHASSIS | [M] |
| 27 | RML0322 | REC LEVER | [M] |
| 28 | RMN0256 | LCD HOLDER | [M] |
| 29 | RMX0045 | SPACER | [M] |
| 30 | RMY0128 | HEAT SINK | [M] |
| 31 | XEARR175ED-Y | R. ANT | |
| 32 | XTN2+3F | SCREW | |
| 33 | XTN3+10CFZ | SCREWS | |
| 34 | XTV3+10F | HEAT SINK SCREW | |
| 36 | XTV3+12G | CASING SCREW | |
| 37 | XTV3+20G | TOP SCREWS | |
| 39 | XYN3+F8FY | R. ANT SCREW | |
| 41 | RFKGXDS25EBK | FRONT CAB. ASS'Y | [M] |
| 42 | RFKLRXDS15PK | CASS. HOLDER ASS'Y | [M] |
| 43 | RFKHXDS25EBK | BACK CAB. ASS'Y | [M] |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 43-1 | RJC931YA | BATT. TERMINAL | [M] |
| 44 | RFKNRXDS15PA | DISC HOLDER ASS'Y | [M] |
| 44-1 | RFKNXDS55N-K | HOLDER ASS'Y | |
| 44-2 | RHM245ZA | MAGNET | |
| 44-3 | RMQ0152-E | MAGNET HOLDER | [M] |
| 45 | REX0569 | SP CONNECT WIRE | [M] |
| 46 | REX0570 | MECHA MOTOR WIRE | [M] |
| 47 | REX0593 | BATT. WIRE | [M] |
| 48 | REX0594-1 | POWER SUPPLY WIRE | [M] |
| 49 | REX0596 | MECHA HEAD WIRE | [M] |
| 50 | RAE0113Z | TRAVERSE UNIT | |
| 50-1 | SHGD112 | FLOATING RUBBER (A) | |
| 50-2 | SHGD113-1 | FLOATING RUBBER (B) | |
| 50-3 | XQS2+A35FZ | SCREW | |
| 51 | RME0109 | FLOATING SPRING A | |
| 52 | RME0142 | FLOATING SPRING B | |
| 53 | RMS0123-1 | FIXED PIN A | |
| 54 | RMS0350 | FIXED PIN B | |
| 55 | RMR0698-K | TRAVERSE CHASSIS | |
| 56 | XTV2+6G | SCREW | |
| 57 | RJC511YA | BATTERY TERMINAL | [M] |
| 58 | RJC751ZAA | BATTERY TERMINAL | [M] |
| | | | |
| | | **INTEGRATED CIRCUITS** | |
| | | | |
| IC1 | TA7358FMATEL | IC. FM RF | |
| IC2 | LM7001M-TE-L | IC. PLL | |
| IC3 | LA1831MSATEL | IC. IF MPX | |
| IC301 | AN7317 | IC. REC/PLAY AMP | [M] |
| IC302 | TC4052BP | IC. FUNCTION SWITCH | [M] |
| IC303 | M62414SP | IC. E. VOLUME | [M] |
| IC304 | BA3936 | IC. REGULATOR | ⚠ |
| IC305 | S81250PG-T | IC. 5V REGULATOR | [M] |
| IC306 | AN7135 | IC. POWER | |
| IC801 | M38223M4052 | IC. MICROPROCCESSOR | [M] |
| IC802 | S-806G-Z | IC. RESET | [M] |
| | | | |
| | | **TRANSISTORS** | |
| | | | |
| Q1 | 2SC2785FTA | TRANSISTOR | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| Q2 | 2SC2785FTA | TRANSISTOR | |
| Q3 | 2SC2787FL1TA | TRANSISTOR | |
| Q4 | 2SC2787LTA | TRANSISTOR | |
| Q5 | BN1L3NTA | TRANSISTOR | [M] |
| Q6 | 2SJ40CDTA | TRANSISTOR | |
| Q7 | 2SJ40CDTA | TRANSISTOR | |
| Q8 | 2SD1020HTA | TRANSISTOR | [M] |
| Q9 | BN1A4ZTA | TRANSISTOR | [M] |
| Q10 | BA1A4MTA | TRANSISTOR | [M] |
| Q11 | 2SA1175FTA | TRANSISTOR | [M] |
| Q13 | 2SC2785FTA | TRANSISTOR | |
| Q14 | BN1L3NTA | TRANSISTOR | [M] |
| Q16 | 2SD1020HTA | TRANSISTOR | [M] |
| Q17 | BA1L4ZTA | TRANSISTOR | [M] |
| Q101 | 2SC2785FTA | TRANSISTOR | |
| Q102 | 2SC2785FTA | TRANSISTOR | |
| Q103 | 2SC2785FTA | TRANSISTOR | |
| Q104 | 2SC2785FTA | TRANSISTOR | |
| Q105 | 2SC2785FTA | TRANSISTOR | |
| Q108 | 2SC1684QTA | TRANSISTOR | |
| Q201 | 2SC2785FTA | TRANSISTOR | |
| Q202 | 2SC2785FTA | TRANSISTOR | |
| Q203 | 2SC2785FTA | TRANSISTOR | |
| Q204 | 2SC2785FTA | TRANSISTOR | |
| Q205 | 2SC2785FTA | TRANSISTOR | |
| Q208 | 2SC1684QTA | TRANSISTOR | |
| Q301 | 2SC2785FTA | TRANSISTOR | |
| Q302 | 2SC1740SRTA | TRANSISTOR | |
| Q303 | 2SC1740SRTA | TRANSISTOR | |
| Q304 | 2SC1684RTA | TRANSISTOR | |
| Q305 | BN1A4MTA | TRANSISTOR | [M] |
| Q307 | BN1A4MTA | TRANSISTOR | [M] |
| Q308 | BA1A4MTA | TRANSISTOR | [M] |
| Q309 | 2SA1680TPE6 | TRANSISTOR | [M] |
| Q310 | 2SC1684STA | TRANSISTOR | |
| Q311 | BN1A4MTA | TRANSISTOR | [M] |
| Q313 | BN1A4MTA | TRANSISTOR | [M] |
| Q314 | 2SC2785FTA | TRANSISTOR | |
| Q801 | 2SC2785FTA | TRANSISTOR | |
| Q802 | 2SC2785FTA | TRANSISTOR | |
| | | | |
| | | **DIODES** | |
| | | | |
| D1 | KV1360NT | DIODE | |
| D2 | RVDMTZ7R5BTA | DIODE | |
| D3 | KV1581A3 | DIODE | |
| D4 | KV1360NT | DIODE | |
| D5 | RVDMTZ5R1CTA | DIODE | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| D6 | RVD1SS133TA | DIODE | |
| D305 | RVD1SS133TA | DIODE | |
| D306 | RVDMTZ6R8BTA | DIODE | |
| D307 | RVDMTZ5R6BTA | DIODE | |
| D308 | RVD1SS133TA | DIODE | |
| D311 | RVD1SS133TA | DIODE | |
| D312 | RVD1SS133TA | DIODE | |
| D313 | RVD1SS133TA | DIODE | |
| D314 | RVD1SS133TA | DIODE | |
| D315 | RVD1SS133TA | DIODE | |
| D316 | RVD1SS133TA | DIODE | |
| D321 | RVD1SS133TA | DIODE | |
| D322 | RVD1SS133TA | DIODE | |
| D323 | RVD1SS133TA | DIODE | |
| D324 | RVD1SS133TA | DIODE | |
| D325 | RVDMTZ16BTA | DIODE | [M] |
| D326 | RVD1SS133TA | DIODE | |
| D501 | 1N5402BM21 | DIODE | ⚠ |
| D502 | 1N5402BM21 | DIODE | ⚠ |
| D503 | 1N5402BM21 | DIODE | ⚠ |
| D504 | 1N5402BM21 | DIODE | ⚠ |
| D801 | SPR54MVW229F | DIODE | [M] |
| D802 | RVD1SS133TA | DIODE | |
| | | | |
| | | **VARIABLE CAPACITORS** | |
| | | | |
| CT1 | RCV10AF1T-S | TRIMMER CAPACITOR | |
| CT2 | ECRLA020E53R | TRIMMER CAP | |
| | | | |
| | | **SWITCHES** | |
| | | | |
| SW301 | RSP2F001-1A | SW, REC | [M] |
| SW501 | RJJ1SE01-H | SW, AC IN (JK501) | ⚠ |
| SW601 | RSH1A006-U | SW, MOTOR | [M] |
| SW801 | EVQ21405R | SW, CD EDIT | |
| SW802 | EVQ21405R | SW, PROGRAM | |
| SW803 | EVQ21405R | SW, REVERSE SKIP | |
| SW804 | EVQ21405R | SW, FORWARD SKIP | |
| SW805 | EVQ21405R | SW, REPEAT | |
| SW806 | EVQ21405R | SW, STOP/CLEAR | |
| SW807 | EVQ21405R | SW, PLAY/PAUSE | |
| SW808 | EVQ21405R | SW, POWER | |
| SW809 | EVQ21405R | SW, VOLUME DOWN | |
| SW810 | EVQ21405R | SW, VOLUME UP | |
| SW811 | EVQ21405R | SW, PRE. TUNE DOWN | |
| SW812 | EVQ21405R | SW, PRE. TUNE UP | |
| SW813 | EVQ21405R | SW, TUNING DOWN | |
| SW814 | EVQ21405R | SW, TUNING UP | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| SW815 | EVQ21405R | SW, TAPE | |
| SW816 | EVQ21405R | SW, TUNER/BAND | |
| SW817 | EVQ21405R | SW, CD | |
| SW818 | EVQ21405R | SW, XBS | |
| SW819 | EVQ21405R | SW, MEMORY | |
| SW820 | EVQ21405R | SW, FM MODE/BP | |
| SW851 | RSH1A012-U | SW, CD OPEN/CLOSE | |
| SW852 | RSH1A012-U | SW, CD LOADING | |
| | | | |
| | | **CONNECTORS** | |
| | | | |
| CN1 | RJP7G18ZA | CONNECTOR (7P) | |
| CN2 | RJP8G18ZA | CONNECTOR (8P) | |
| CN101 | RJS1A5207 | CONNECTOR (7P) | |
| CN801 | RJS1A5209 | CONNECTOR (9P) | [M] |
| CN802 | RJS1A5206 | CONNECTOR (6P) | [M] |
| CN803 | RJS1A5208 | CONNECTOR (8P) | [M] |
| CN804 | RJS1A5207 | CONNECTOR (7P) | |
| CN805 | RJS1A5208 | CONNECTOR (8P) | [M] |
| CN806 | RJS1A5205 | CONNECTOR (5P) | [M] |
| CP301 | RJP4G18ZA | CONNECTOR (4P) | |
| CP302 | RJP4G18ZA | CONNECTOR (4P) | |
| CP303 | RJP3G4YA | CONNECTOR (3P) | |
| CP501 | RJP4G4YA | CONNECTOR (4P) | |
| CP502 | RJP3G9YA | CONNECTOR (3P) | |
| | | | |
| | | **COILS & TRANSFORMERS** | |
| | | | |
| L2 | RLV6C006-0Z | AM F ANT | [M] |
| L3 | RL02B007-T | MW OSC COIL | |
| L5 | RLQZP8R2JT-Y | AXIAL COIL | |
| L6 | RLQA101JT-D | AXIAL COIL | [M] |
| L8 | RLQZP4R7KT-Y | AXIAL COIL | |
| L9 | RLQZPR47KT-Y | AXIAL COIL | |
| L10 | RLQZP4R7KT-Y | AXIAL COIL | |
| L11 | RL01B003-T | LW OSC COIL | |
| L301 | RL09B17-T | BIAS OSC COIL | |
| L501 | RLL500050T-Y | RF CHOKE COIL | ⚠ |
| L502 | RLL500050T-Y | RF CHOKE COIL | ⚠ |
| L801 | RLQZN470KL-D | COIL | [M] |
| L802 | RLQZP2R2KT-Y | COIL | |
| L803 | RLQZP2R2KT-Y | COIL | |
| L805 | RLQZP2R2KT-Y | COIL | |
| L806 | RLQZP2R2KT-Y | COIL | |
| L811 | RLQZP2R2KT-Y | COIL | |
| L812 | RLQZP2R2KT-Y | COIL | |
| T1 | RLI2Z012-T | AM IFT | |
| T2 | RLI4B018-T | FM DET COIL | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| T501 | RTP1U1B002-X | POWER TRANSFORMER | [M] ⚠ |
| | | | |
| | | **COMPONENT COMBINATIONS** | |
| | | | |
| Z1 | RCRBMT002-H | BPF | |
| Z801 | RSL5102-H | LCD | [M] |
| Z802 | RCDHC-278N | INFRARED SENSOR | |
| | | | |
| | | **CERAMIC FILTERS** | |
| | | | |
| CF1 | RLFFETWLA02D | FM IF CF | |
| CF2 | RLFFETWLA02D | FM IF CF | |
| | | | |
| | | **OSCILLATORS** | |
| | | | |
| X1 | RSXZ456KM01 | CERAROCK | |
| X2 | RSXC7M20S04T | XTAL 7.2MHZ | |
| X801 | RSXZ4M19M01T | CERAROCK | |
| X802 | RSXD32K7S02 | CRYSTAL (32 KHZ) | [M] |
| | | | |
| | | **FUSE** | |
| | | | |
| F501 | XBA2C20TB0 | FUSE | ⚠ |
| | | | |
| | | **FUSE HOLDERS** | |
| | | | |
| FH501 | EYF52BC | FUSE HOLDER | |
| FH502 | EYF52BC | FUSE HOLDER | |
| | | | |
| | | **JACKS** | |
| | | | |
| JK301 | RJJ37TK01-C | JK, HEADPHONE | [M] |
| JK302 | RJJ1D25ZA-C | JK, MIX MIC | |
| JK501 | RJJ1SE01-H | JK, AC | ⚠ |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | < SERVO > | |
| | | INTEGRATED CIRCUITS | |
| | | | |
| IC701 | AN8802SCE1V | IC, HEAD AMP | |
| IC702 | MN66271RA | IC, DIGITAL LSI | |
| IC703 | AN8389SE1 | IC, 4-CH DRIVER | |
| | | | |
| | | TRANSISTOR | |
| | | | |
| Q701 | 2SB709S | TRANSISTOR | |
| | | | |
| | | SWITCH | |
| | | | |
| S701 | RSM0006-P | SW, RESET | |
| | | | |
| | | CONNECTORS | |
| | | | |
| CN701 | RJU035T016-1 | CONNECTOR (16P) | |
| CN702 | RJS1A6723-1Q | CONNECTOR (23P) | |
| | | | |
| | | OSCILLATOR | |
| | | | |
| X701 | RSXZ16M9M02T | CERAMIC OSC | |
| | | | |
| | | CHIP JUMPERS | |
| | | | |
| RJ701 | ERJ8GEY0R00A | 0 1/10W | |
| RJ702 | ERJ8GEY0R00A | 0 1/10W | |
| RJ703 | ERJ8GEY0R00A | 0 1/10W | |
| RJ704 | ERJ8GEY0R00A | 0 1/10W | |
| RJ707 | ERJ8GEY0R00A | 0 1/10W | |
| RJ708 | ERJ8GEY0R00A | 0 1/10W | |
| RJ709 | ERJ8GEY0R00A | 0 1/10W | |
| RJ714 | ERJ8GEY0R00A | 0 1/10W | |
| RJ715 | ERJ8GEY0R00A | 0 1/10W | |
| RJ716 | ERJ8GEY0R00A | 0 1/10W | |
| RJ717 | ERJ8GEY0R00A | 0 1/10W | |
| RJ721 | ERJ6GEY0R00A | 0 1/10W | |
| RJ724 | ERJ6GEY0R00A | 0 1/10W | |
| RJ725 | ERJ6GEY0R00A | 0 1/10W | |
| RJ726 | ERJ6GEY0R00A | 0 1/10W | |
| RJ799 | ERJ6GEY0R00A | 0 1/10W | |
| | | | |
| | | TEST JUMPERS | |
| | | | |
| TJ701 | EYF8CU | TEST JUMPER | |
| TJ702 | EYF8CU | TEST JUMPER | |
| | | | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | | |

# ■ 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 | ERDS2TJ104T | 100K 1/4W |
| R2 | ERDS2TJ152T | 1.5K 1/4W |
| R3 | ERDS2TJ104T | 100K 1/4W |
| R4 | ERDS2TJ103T | 10K 1/4W |
| R5 | ERDS2TJ104T | 100K 1/4W |
| R6 | ERDS2TJ102T | 1K 1/4W |
| R7 | ERDS2TJ330T | 33 1/4W |
| R8 | ERDS2TJ332T | 3.3K 1/4W |
| R9 | ERDS2TJ102T | 1K 1/4W |
| R10 | ERDS2TJ101T | 100 1/4W |
| R11 | ERDS2TJ151T | 150 1/4W |
| R12 | ERDS2TJ103T | 10K 1/4W |
| R13 | ERDS2TJ104T | 100K 1/4W |
| R14 | ERDS2TJ471T | 470 1/4W |
| R15 | ERDS2TJ102T | 1K 1/4W |
| R16 | ERDS2TJ102T | 1K 1/4W |
| R17 | ERDS2TJ334T | 330K 1/4W |
| R18 | ERDS2TJ331T | 330 1/4W |
| R20 | ERDS2TJ103T | 10K 1/4W |
| R21 | ERDS2TJ103T | 10K 1/4W |
| R22 | ERDS2TJ334T | 330K 1/4W |
| R23 | ERDS2TJ272T | 2.7K 1/4W |
| R24 | ERDS2TJ103T | 10K 1/4W |
| R25 | ERDS2TJ103T | 10K 1/4W |
| R26 | ERDS2TJ103T | 10K 1/4W |
| R27 | ERDS2TJ103T | 10K 1/4W |
| R28 | ERDS2TJ103T | 10K 1/4W |
| R29 | ERDS2TJ331T | 330 1/4W |
| R30 | ERDS2TJ183T | 18K 1/4W |
| R31 | ERDS2TJ333T | 33K 1/4W |
| R32 | ERDS2TJ332T | 3.3K 1/4W |
| R34 | ERDS2TJ223T | 22K 1/4W |
| R35 | ERDS2TJ390T | 39 1/4W |
| R36 | ERDS2TJ104T | 100K 1/4W |
| R37 | ERDS2TJ153T | 15K 1/4W |
| R38 | ERDS2TJ104T | 100K 1/4W |
| R39 | ERDS2TJ563T | 56K 1/4W |
| R40 | ERDS2TJ221T | 220 1/4W |
| R41 | ERDS2TJ561T | 560 1/4W |
| R42 | ERDS2TJ222T | 2.2K 1/4W |
| R43 | ERDS2TJ222T | 2.2K 1/4W |
| R44 | ERDS2TJ222T | 2.2K 1/4W |
| R45 | ERDS2TJ105T | 1M 1/4W |
| R48 | ERDS2TJ390T | 39 1/4W |
| R51 | ERDS2TJ104T | 100K 1/4W |
| R52 | ERDS2TJ103T | 10K 1/4W |
| R53 | ERDS2TJ104T | 100K 1/4W |
| R59 | ERDS2TJ103T | 10K 1/4W |
| R101 | ERDS2TJ470T | 47 1/4W |
| R102 | ERDS2TJ472T | 4.7K 1/4W |
| R104 | ERDS2TJ154T | 150K 1/4W |
| R105 | ERDS2TJ393T | 39K 1/4W |
| R106 | ERDS2TJ183T | 18K 1/4W |
| R107 | ERDS2TJ183T | 18K 1/4W |
| R108 | ERDS2TJ473T | 47K 1/4W |
| R109 | ERDS2TJ273T | 27K 1/4W |
| R113 | ERDS2TJ824T | 820K 1/4W |
| R114 | ERDS2TJ562T | 5.6K 1/4W |
| R115 | ERDS2TJ221T | 220 1/4W |
| R117 | ERDS2TJ393T | 39K 1/4W |
| R118 | ERDS2TJ183T | 18K 1/4W |
| R119 | ERDS2TJ123T | 12K 1/4W |
| R120 | ERDS2TJ124T | 120K 1/4W |
| R121 | ERDS2TJ473T | 47K 1/4W |
| R123 | ERDS2TJ103T | 10K 1/4W |
| R124 | ERDS2TJ332T | 3.3K 1/4W |
| R126 | ERDS2TJ153T | 15K 1/4W |
| R127 | ERDS2TJ103T | 10K 1/4W |
| R128 | ERDS2TJ563T | 56K 1/4W |
| R129 | ERDS2TJ563T | 56K 1/4W |
| R130 | ERDS2TJ105T | 1M 1/4W |
| R131 | ERDS2TJ682T | 6.8K 1/4W |
| R132 | ERDS2TJ153T | 15K 1/4W |
| R137 | ERDS2TJ472T | 4.7K 1/4W |
| R138 | ERDS2TJ2R7T | 2.7 1/4W |
| R140 | ERDS2TJ121T | 120 1/4W |
| R143 | ERDS2TJ823T | 82K 1/4W |
| R201 | ERDS2TJ470T | 47 1/4W |
| R202 | ERDS2TJ472T | 4.7K 1/4W |
| R204 | ERDS2TJ154T | 150K 1/4W |
| R205 | ERDS2TJ393T | 39K 1/4W |
| R206 | ERDS2TJ183T | 18K 1/4W |
| R207 | ERDS2TJ183T | 18K 1/4W |
| R208 | ERDS2TJ473T | 47K 1/4W |
| R209 | ERDS2TJ273T | 27K 1/4W |
| R213 | ERDS2TJ824T | 820K 1/4W |
| R214 | ERDS2TJ562T | 5.6K 1/4W |
| R215 | ERDS2TJ221T | 220 1/4W |
| R217 | ERDS2TJ393T | 39K 1/4W |
| R218 | ERDS2TJ183T | 18K 1/4W |
| R219 | ERDS2TJ123T | 12K 1/4W |
| R220 | ERDS2TJ124T | 120K 1/4W |
| R221 | ERDS2TJ473T | 47K 1/4W |
| R223 | ERDS2TJ103T | 10K 1/4W |
| R224 | ERDS2TJ332T | 3.3K 1/4W |
| R226 | ERDS2TJ153T | 15K 1/4W |
| R227 | ERDS2TJ103T | 10K 1/4W |
| R228 | ERDS2TJ563T | 56K 1/4W |
| R229 | ERDS2TJ563T | 56K 1/4W |
| R230 | ERDS2TJ105T | 1M 1/4W |
| R231 | ERDS2TJ682T | 6.8K 1/4W |
| R232 | ERDS2TJ153T | 15K 1/4W |
| R237 | ERDS2TJ472T | 4.7K 1/4W |
| R238 | ERDS2TJ2R7T | 2.7 1/4W |
| R240 | ERDS2TJ121T | 120 1/4W |
| R243 | ERDS2TJ823T | 82K 1/4W |
| R301 | ERDS2TJ222T | 2.2K 1/4W |
| R302 | ERDS2TJ104T | 100K 1/4W |
| R303 | ERDS2TJ332T | 3.3K 1/4W |
| R304 | ERDS2TJ470T | 47 1/4W |
| R305 | ERDS2TJ101T | 100 1/4W |
| R306 | ERDS2TJ101T | 100 1/4W |
| R307 | ERDS2TJ101T | 100 1/4W |
| R308 | ERDS2TJ106T | 10M 1/4W |
| R309 | ERDS2TJ473T | 47K 1/4W |
| R310 | ERDS2TJ473T | 47K 1/4W |
| R311 | ERDS2TJ221T | 220 1/4W |
| R312 | ERDS2TJ563T | 56K 1/4W |
| R313 | ERDS2TJ681T | 680 1/4W |
| R314 | ERDS2TJ222T | 2.2K 1/4W |
| R315 | ERDS2TJ100T | 10 1/4W |
| R316 | ERDS2TJ182T | 1.8K 1/4W |
| R317 | ERDS2TJ182T | 1.8K 1/4W |
| R318 | ERDS2TJ104T | 100K 1/4W |
| R319 | ERDS2TJ104T | 100K 1/4W |
| R321 | ERDS2TJ183T | 18K 1/4W |
| R322 | ERDS2TJ223T | 22K 1/4W |
| R324 | ERDS2TJ474T | 470K 1/4W |
| R326 | ERDS2TJ101T | 100 1/4W |
| R327 | ERDS2TJ122T | 1.2K 1/4W |
| R328 | ERDS2TJ333T | 33K 1/4W |
| R329 | ERDS2TJ331T | 330 1/4W |
| R330 | ERDS2TJ153T | 15K 1/4W |
| R331 | ERDS2TJ473T | 47K 1/4W |
| R332 | ERDS2TJ123T | 12K 1/4W |
| R333 | ERDS2TJ122T | 1.2K 1/4W |
| R335 | ERDS2TJ561T | 560 1/4W |
| R338 | ERDS2TJ332T | 3.3K 1/4W |
| R340 | ERDS2TJ221T | 220 1/4W |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R344 | ERDS2TJ272T | 2.7K 1/4W |
| R346 | ERDS2TJ102T | 1K 1/4W |
| R347 | ERDS2TJ105T | 1M 1/4W |
| R350 | ERDS2TJ561T | 560 1/4W |
| R351 | ERDS2TJ121T | 120 1/4W |
| R352 | ERDS2TJ103T | 10K 1/4W |
| R353 | ERDS2TJ103T | 10K 1/4W |
| R355 | ERDS2TJ823T | 82K 1/4W |
| R357 | ERDS2TJ101T | 100 1/4W |
| R358 | ERDS2TJ121T | 120 1/4W |
| R359 | ERDS2TJ152T | 1.5K 1/4W |
| R360 | ERDS2TJ152T | 1.5K 1/4W |
| R361 | ERDS2TJ101T | 100 1/4W |
| R362 | ERDS2TJ101T | 100 1/4W |
| R363 | ERDS2TJ222T | 2.2K 1/4W |
| R364 | ERDS2TJ103T | 10K 1/4W |
| R366 | ERDS2TJ103T | 10K 1/4W |
| R367 | ERDS2TJ103T | 10K 1/4W |
| R368 | ERDS2TJ273T | 27K 1/4W |
| R369 | ERDS2TJ103T | 10K 1/4W |
| R370 | ERDS2TJ103T | 10K 1/4W |
| R371 | ERDS2TJ562T | 5.6K 1/4W |
| R372 | ERDS2TJ123T | 12K 1/4W |
| R373 | ERDS2TJ102T | 1K 1/4W |
| R801 | ERDS2TJ822T | 8.2K 1/4W |
| R802 | ERDS2TJ562T | 5.6K 1/4W |
| R803 | ERDS2TJ392T | 3.9K 1/4W |
| R804 | ERDS2TJ272T | 2.7K 1/4W |
| R805 | ERDS2TJ222T | 2.2K 1/4W |
| R806 | ERDS2TJ152T | 1.5K 1/4W |
| R807 | ERDS2TJ153T | 15K 1/4W |
| R809 | ERDS2TJ104T | 100K 1/4W |
| R810 | ERDS2TJ104T | 100K 1/4W |
| R811 | ERDS2TJ104T | 100K 1/4W |
| R812 | ERDS2TJ153T | 15K 1/4W |
| R813 | ERDS2TJ104T | 100K 1/4W |
| R814 | ERDS2TJ153T | 15K 1/4W |
| R815 | ERDS2TJ102T | 1K 1/4W |
| R816 | ERDS2TJ102T | 1K 1/4W |
| R817 | ERDS2TJ102T | 1K 1/4W |
| R818 | ERDS2TJ102T | 1K 1/4W |
| R819 | ERDS2TJ102T | 1K 1/4W |
| R821 | ERDS2TJ102T | 1K 1/4W |
| R822 | ERDS2TJ102T | 1K 1/4W |
| R823 | ERDS2TJ102T | 1K 1/4W |
| R824 | ERDS2TJ102T | 1K 1/4W |
| R825 | ERDS2TJ102T | 1K 1/4W |
| R826 | ERDS2TJ472T | 4.7K 1/4W |
| R827 | ERDS2TJ472T | 4.7K 1/4W |
| R828 | ERDS2TJ106T | 10M 1/4W |
| R829 | ERDS2TJ334T | 330K 1/4W |
| R830 | ERDS2TJ104T | 100K 1/4W |
| R831 | ERDS2TJ474T | 470K 1/4W |
| R832 | ERDS2TJ104T | 100K 1/4W |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R834 | ERDS2TJ103T | 10K 1/4W |
| R835 | ERDS2TJ103T | 10K 1/4W |
| R837 | ERDS2TJ471T | 470 1/4W |
| R838 | ERDS2TJ471T | 470 1/4W |
| R839 | ERDS2TJ471T | 470 1/4W |
| R840 | ERDS2TJ102T | 1K 1/4W |
| R841 | ERDS2TJ102T | 1K 1/4W |
| R842 | ERDS2TJ102T | 1K 1/4W |
| R843 | ERDS2TJ102T | 1K 1/4W |
| R844 | ERDS2TJ102T | 1K 1/4W |
| R845 | ERDS2TJ102T | 1K 1/4W |
| R852 | ERDS2TJ103T | 10K 1/4W |
| R853 | ERDS2TJ104T | 100K 1/4W |
| R858 | ERDS2TJ102T | 1K 1/4W |
| R859 | ERDS2TJ102T | 1K 1/4W |
| R860 | ERDS2TJ102T | 1K 1/4W |
| R861 | ERDS2TJ102T | 1K 1/4W |
| R865 | ERDS2TJ563T | 56K 1/4W |
| R866 | ERDS2TJ102T | 1K 1/4W |
| R880 | ERDS2TJ152T | 1.5K 1/4W |
| R881 | ERDS2TJ222T | 2.2K 1/4W |
| R882 | ERDS2TJ272T | 2.7K 1/4W |
| R883 | ERDS2TJ392T | 3.9K 1/4W |
| R884 | ERDS2TJ562T | 5.6K 1/4W |
| R885 | ERDS2TJ822T | 8.2K 1/4W |
| R886 | ERDS2TJ152T | 1.5K 1/4W |
| R887 | ERDS2TJ222T | 2.2K 1/4W |
| R888 | ERDS2TJ272T | 2.7K 1/4W |
| R889 | ERDS2TJ392T | 3.9K 1/4W |
| R890 | ERDS2TJ562T | 5.6K 1/4W |
| R891 | ERDS2TJ822T | 8.2K 1/4W |
| | | |
| | | **CAPACITORS** |
| | | |
| C1 | ECBT1H4R7KC5 | 4.7P 50V |
| C2 | ECBT1H102KB5 | 1000P 50V |
| C3 | ECBT1C332MR5 | 3300P 16V |
| C4 | ECEA1HN010SB | 1 50V |
| C5 | ECBT1C103MS5 | 0.01 16V |
| C6 | ECBT1H102KB5 | 1000P 50V |
| C8 | ECBT1H102KB5 | 1000P 50V |
| C9 | ECEA1AU101B | 100 10V |
| C10 | ECBT1H6R8KC5 | 6.8P 50V |
| C12 | ECBT1H102KB5 | 1000P 50V |
| C13 | ECBT1H102KB5 | 1000P 50V |
| C14 | ECBT1H180JC5 | 18P 50V |
| C15 | ECBT1H4R7KC5 | 4.7P 50V |
| C16 | ECBT1H6R8KC5 | 6.8P 50V |
| C17 | ECBT1H2R2KC5 | 2.2P 50V |
| C18 | ECFR1C473MR | 0.047 16V |
| C19 | ECBT1H680J5 | 68P 50V |
| C20 | ECBT1H1R5MC5 | 1.5P 50V |
| C21 | ECBT1H102KB5 | 1000P 50V |
| C22 | ECBT1H102KB5 | 1000P 50V |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C23 | ECBT1H331KB5 | 330P 50V |
| C24 | ECBT1C103MS5 | 0.01 16V |
| C25 | ECBT1H102KB5 | 1000P 50V |
| C26 | ECBT1H270J5 | 27P 50V |
| C27 | ECBT1H300J5 | 30P 50V |
| C28 | ECEA1AU101B | 100 10V |
| C29 | ECBT1H102KB5 | 1000P 50V |
| C31 | ECBT1H471KB5 | 470P 50V |
| C32 | ECBT1H180JC5 | 18P 50V |
| C35 | ECBT1H101KB5 | 100P 50V |
| C36 | ECBT1H102KB5 | 1000P 50V |
| C38 | ECEA0JU101B | 100 6.3V |
| C39 | ECBT1H101KB5 | 100P 50V |
| C40 | ECFR1C223MR | 0.022 16V |
| C41 | ECBT1H102KB5 | 1000P 50V |
| C42 | ECEA1HKA010B | 1 50V |
| C43 | ECEA0JU101B | 100 6.3V |
| C44 | ECFR1C473MR | 0.047 16V |
| C45 | ECFR1C103MR | 0.01 16V |
| C46 | ECEA1CKA100B | 10 16V |
| C47 | ECBT1C332MR5 | 3300P 16V |
| C48 | ECBT1H681KB5 | 680P 50V |
| C49 | ECEA1HKA010B | 1 50V |
| C50 | ECFR1C153MR | 0.015 16V |
| C51 | ECFR1C153MR | 0.015 16V |
| C52 | ECEA1HKA2R2B | 2.2 50V |
| C53 | ECEA1HKA010B | 1 50V |
| C54 | ECEA1HKA010B | 1 50V |
| C55 | ECBT0J153MS5 | 0.015 6.3V |
| C56 | ECFR1C223MR | 0.022 16V |
| C57 | ECBT1H102KB5 | 1000P 50V |
| C58 | ECBT1H331KB5 | 330P 50V |
| C59 | ECBT1H471KB5 | 470P 50V |
| C61 | ECBT1C103MS5 | 0.01 16V |
| C63 | ECBT1H102KB5 | 1000P 50V |
| C65 | ECBT1H120JC5 | 12P 50V |
| C67 | ECBT1H102KB5 | 1000P 50V |
| C70 | ECBT1H331KB5 | 330P 50V |
| C79 | ECBT1C103MS5 | 0.01 16V |
| C91 | ECBT1H102KB5 | 1000P 50V |
| C92 | ECBT1C103MS5 | 0.01 16V |
| C93 | ECBT1H102KB5 | 1000P 50V |
| C101 | ECBT1H102KB5 | 1000P 50V |
| C102 | ECEA1AU101B | 100 10V |
| C103 | ECEA1HU010B | 1 50V |
| C104 | ECFR1C273MR | 0.027 16V |
| C105 | ECBT1H101KB5 | 100P 50V |
| C106 | ECBT1C122MR5 | 1200P 16V |
| C107 | ECEA1CU100B | 10 16V |
| C108 | ECBT1H102KB5 | 1000P 50V |
| C109 | ECEA1HU010B | 1 50V |
| C110 | ECBT1H102KB5 | 1000P 50V |
| C111 | ECEA1HU010B | 1 50V |
| C112 | ECEA1HU010B | 1 50V |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C113 | ECBT1H101KB5 | 100P 50V |
| C114 | ECEA1HUR33B | 0.33 50V |
| C115 | ECEA1HUR47B | 0.47 50V |
| C116 | ECEA1HU0R1B | 0.1 50V |
| C117 | ECFR1C103MR | 0.01 16V |
| C118 | ECEA1HU0R1B | 0.1 50V |
| C121 | ECEA1HU010B | 1 50V |
| C122 | ECBT1H471KB5 | 470P 50V |
| C123 | ECBT1H102KB5 | 1000P 50V |
| C124 | ECEA1AKA101B | 100 10V |
| C125 | ECEA1CU470B | 47 16V |
| C126 | ECEA1AU102B | 1000 10V |
| C127 | ECQV1H224JZ3 | 0.22 50V |
| C201 | ECBT1H102KB5 | 1000P 50V |
| C202 | ECEA1AU101B | 100 10V |
| C203 | ECEA1HU010B | 1 50V |
| C204 | ECFR1C273MR | 0.027 16V |
| C205 | ECBT1H101KB5 | 100P 50V |
| C206 | ECBT1C122MR5 | 1200P 16V |
| C207 | ECEA1CU100B | 10 16V |
| C208 | ECBT1H102KB5 | 1000P 50V |
| C209 | ECEA1HU010B | 1 50V |
| C210 | ECBT1H102KB5 | 1000P 50V |
| C211 | ECEA1HU010B | 1 50V |
| C212 | ECEA1HU010B | 1 50V |
| C213 | ECBT1H101KB5 | 100P 50V |
| C214 | ECEA1HUR33B | 0.33 50V |
| C215 | ECEA1HUR47B | 0.47 50V |
| C216 | ECEA1HU0R1B | 0.1 50V |
| C217 | ECFR1C103MR | 0.01 16V |
| C218 | ECEA1HU0R1B | 0.1 50V |
| C221 | ECEA1HU010B | 1 50V |
| C222 | ECBT1H471KB5 | 470P 50V |
| C223 | ECBT1H102KB5 | 1000P 50V |
| C224 | ECEA1AKA101B | 100 10V |
| C225 | ECEA1CU470B | 47 16V |
| C226 | ECEA1AU102B | 1000 10V |
| C227 | ECQV1H224JZ3 | 0.22 50V |
| C301 | ECFR1C223MR | 0.022 16V |
| C302 | ECEA1HUR22B | 0.22 50V |
| C303 | ECBT1H102KB5 | 1000P 50V |
| C305 | ECEA1HU010B | 1 50V |
| C307 | ECEA1AU101B | 100 10V |
| C308 | ECEA1CU220B | 22 16V |
| C309 | ECEA1AU101B | 100 10V |
| C310 | ECFR1C473MR | 0.047 16V |
| C311 | ECEA1EU4R7B | 4.7 25V |
| C312 | ECBT1C103MS5 | 0.01 16V |
| C313 | ECQP2A151JZT | 150P 100V |
| C314 | ECBT1C103MS5 | 0.01 16V |
| C315 | ECQP2A331JZT | 330P 100V |
| C316 | ECQB1H122JF3 | 1200P 50V |
| C317 | ECEA1AU101B | 100 10V |
| C318 | ECBT1C103MS5 | 0.01 16V |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C321 | ECBT1C103MS5 | 0.01 16V |
| C323 | ECEA1HU010B | 1 50V |
| C326 | ECBT1H102KB5 | 1000P 50V |
| C327 | ECEA1CU220B | 22 16V |
| C328 | ECEA1CU100B | 10 16V |
| C329 | ECFR1C333MR | 0.033 16V |
| C330 | ECEA1CU100B | 10 16V |
| C331 | ECEA1AU101B | 100 10V |
| C332 | ECEA1CU100B | 10 16V |
| C333 | ECEA1CU331B | 330 16V |
| C335 | ECEA1CU220B | 22 16V |
| C336 | ECEA1CU470B | 47 16V |
| C337 | ECEA1CU470B | 47 16V |
| C338 | ECEA1AU101B | 100 10V |
| C339 | ECEA1AU221B | 220 10V |
| C340 | ECEA1AU101B | 100 10V |
| C341 | ECEA1CU100B | 10 16V |
| C342 | ECBT1H471KB5 | 470P 50V |
| C343 | ECA1EM332BV | 3300P 25V [M] |
| C345 | ECEA1HU101B | 100 25V |
| C346 | ECEA1EU101B | 100 25V |
| C347 | ECEA1HU4R7B | 4.7 50V |
| C351 | ECEA1AU101B | 100 10V |
| C352 | ECEA1AU101B | 100 10V |
| C353 | ECEA1CU100B | 10 16V |
| C354 | ECEA1CU100B | 10 16V |
| C355 | ECEA1CU100B | 10 16V |
| C356 | ECEA1AU101B | 100 10V |
| C357 | ECBT1C103MS5 | 0.01 16V |
| C358 | ECBT1H331KB5 | 330P 50V |
| C501 | ECQV1H104JZ3 | 0.1 50V |
| C502 | ECQV1H104JZ3 | 0.1 50V |
| C503 | ECQV1H104JZ3 | 0.1 50V |
| C504 | ECQV1H104JZ3 | 0.1 50V |
| C802 | ECEA0JKS101B | 100 6.3V |
| C803 | ECBT1H104ZF5 | 0.1 50V |
| C804 | ECBT1H104ZF5 | 0.1 50V |
| C808 | ECBT1H331KB5 | 330P 50V |
| C809 | ECBT1H331KB5 | 330P 50V |
| C811 | ECBT1H104ZF5 | 0.1 50V |
| C812 | ECBT1H331KB5 | 330P 50V |
| C813 | ECBT1H331KB5 | 330P 50V |
| C817 | ECBT1H104ZF5 | 0.1 50V |
| C818 | ECBT1H102KB5 | 1000P 50V |
| C819 | ECBT1H102KB5 | 1000P 50V |
| C820 | ECBT1H102KB5 | 1000P 50V |
| C821 | ECBT1H820KB5 | 82P 50V |
| C822 | ECBT1H101KB5 | 100P 50V |
| C823 | ECBT1H680J5 | 68P 50V |
| C824 | ECBT1H820KB5 | 82P 50V |
| C825 | ECBT1H220JC5 | 22P 50V |
| C826 | ECBT1H180JC5 | 18P 50V |
| C827 | ECEA1HKA010B | 1 50V |
| C828 | ECBT1H331KB5 | 330P 50V |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C829 | ECBT1H101KB5 | 100P 50V |
| C830 | ECBT1H331KB5 | 330P 50V |
| C831 | ECBT1H331KB5 | 330P 50V |
| C833 | ECBT1H331KB5 | 330P 50V |
| C836 | ECBT1H104ZF5 | 0.1 50V |
| C838 | ECBT1H102KB5 | 1000P 50V |
| C839 | ECEA0JKS220B | 22 6.3V |
| C840 | ECBT1H331KB5 | 330P 50V |
| C841 | ECBT1H331KB5 | 330P 50V |
| C843 | ECEA0JKS101B | 100 6.3V |
| C844 | ECBT1H104ZF5 | 0.1 50V |
| C845 | ECBT0J223MS5 | 0.022 6.3V |
| C846 | ECBT1C103MS5 | 0.01 16V |
| C847 | ECBT1C103MS5 | 0.01 16V |
| C848 | ECBT1H331KB5 | 330P 50V |
| C852 | ECBT1H331KB5 | 330P 50V |
| C854 | ECBT1H331KB5 | 330P 50V |
| C861 | ECBT1H102KB5 | 1000P 50V |
| C862 | ECBT1H102KB5 | 1000P 50V |
| C863 | ECBT1H102KB5 | 1000P 50V |
| C864 | ECBT1H102KB5 | 1000P 50V |
| C865 | ECBT1H331KB5 | 330P 50V |
| C868 | ECBT1C103MS5 | 0.01 16V |
| C883 | ECBT1H102KB5 | 1000P 50V |
| C884 | ECBT1H102KB5 | 1000P 50V |
| | | |
| | | < SERVO > |
| | | RESISTORS |
| | | |
| R701 | ERJ6GEYJ100 | 10 1/10W |
| R702 | ERJ6GEYJ471V | 470 1/10W |
| R703 | ERJ6GEYJ823 | 82K 1/10W |
| R704 | ERJ6GEYJ102A | 1K 1/10W |
| R705 | ERJ6GEYJ103V | 10K 1/10W |
| R706 | ERJ6GEYJ102A | 1K 1/10W |
| R707 | ERJ6GEYJ473V | 47K 1/10W |
| R708 | ERJ6GEYJ104V | 100K 1/10W |
| R709 | ERJ6GEYJ683V | 68K 1/10W |
| R711 | ERJ6GEYJ154V | 150K 1/10W |
| R712 | ERJ6GEYJ221V | 220 1/10W |
| R714 | ERJ6GEY0R00A | 0 1/10W |
| R717 | ERJ6GEYJ102A | 1K 1/10W |
| R718 | ERJ6GEYJ102A | 1K 1/10W |
| R719 | ERJ6GEYJ102A | 1K 1/10W |
| R720 | ERJ6GEYJ102A | 1K 1/10W |
| R721 | ERJ6GEYJ101V | 100 1/10W |
| R722 | ERJ6GEYJ563V | 56K 1/10W |
| R723 | ERJ6GEYJ182V | 1.8K 1/10W |
| R724 | ERJ6GEYJ333V | 33K 1/10W |
| R725 | ERJ6GEYJ472V | 4.7K 1/10W |
| R726 | ERJ6GEYJ473V | 47K 1/10W |
| R727 | ERJ6GEYJ103V | 10K 1/10W |
| R728 | ERJ6GEYJ392V | 3.9K 1/10W |
| R730 | ERJ6GEYJ331V | 330 1/10W |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R731 | ERJ6GEYJ392V | 3.9K 1/10W |
| R734 | ERJ6GEYJ101V | 100 1/10W |
| R735 | ERJ6GEYJ101V | 100 1/10W |
| R736 | ERJ6GEYJ101V | 100 1/10W |
| R738 | ERJ6GEYJ223V | 22K 1/10W |
| R739 | ERJ6GEYJ681V | 680 1/10W |
| R741 | ERJ6GEYJ562V | 5.6K 1/10W |
| R742 | ERJ6GEYJ562V | 5.6K 1/10W |
| R743 | ERJ6GEYJ562V | 5.6K 1/10W |
| R744 | ERJ6GEYJ103V | 10K 1/10W |
| R745 | ERJ6GEYJ155V | 1.5M 1/10W |
| R748 | ERJ6GEYJ182V | 1.8K 1/10W |
| R749 | ERJ8GEYJ103V | 10K 1/8W |
| | | |
| | | **CAPACITORS** |
| | | |
| C701 | ECEA0JKA220 | 22 6.3V |
| C702 | ECEA1HKA010I | 1 50V |
| C703 | ECEA0JKA101I | 100 6.3V |
| C704 | ECUZ1E104MBN | 0.1 25V |
| C705 | ECEA1HKA010I | 1 50V |
| C706 | ECUE1H101JCN | 100P 50V |
| C707 | ECUV1E273KBN | 0.027 25V |
| C708 | ECUE1H472KBN | 4700P 50V |
| C709 | ECUE1C473KBN | 0.047 16V |
| C710 | ECUE1H152KBN | 1500P 50V |
| C711 | ECUZ1E104MBN | 0.1 25V |
| C712 | ECUZ1E104MBN | 0.1 25V |
| C713 | ECUV1C104MBM | 0.1 16V |
| C714 | ECEA0JKA101I | 100 6.3V |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C715 | ECEA0JKA470I | 47 6.3V |
| C716 | ECUE1H561KBN | 560P 50V |
| C717 | ECUZ1E104MBN | 0.1 25V |
| C718 | ECUV1C224KBM | 0.22 16V |
| C721 | ECUE1H270JCN | 27P 50V |
| C722 | ECUE1H270JCN | 27P 50V |
| C723 | ECEA1AKA221I | 220 10V |
| C724 | ECUV1C104MBM | 0.1 16V |
| C725 | ECUE1H102KBN | 1000P 50V |
| C726 | ECUE1H102KBN | 1000P 50V |
| C727 | ECEA1HPK010I | 1 50V |
| C728 | ECEA1HPK010I | 1 50V |
| C730 | ECUZ1E104MBN | 0.1 25V |
| C731 | ECEA0JK221I | 220 6.3V |
| C732 | ECEA0JK221I | 220 6.3V |
| C733 | ECUZ1E104MBN | 0.1 25V |
| C734 | ECEA1AKA221I | 220 10V |
| C735 | ECUZNE104MBN | 0.1 25V |
| C736 | ECUZNE104MBN | 0.1 25V |
| C737 | ECUZNE104MBN | 0.1 25V |
| C738 | ECUV1C154KBN | 0.15 16V |
| C742 | ECUV1E273KBN | 0.027 25V |
| C743 | ECUZNE104MBN | 0.1 25V |
| C744 | ECUE1E822KBN | 8200P 25V |
| C745 | ECUE1C473MBN | 0.047 16V |
| C746 | ECUE1H050DCN | 5P 50V |
| C747 | ECUE1H222KBN | 2200P 50V |
| C748 | ECUV1H471KBM | 470P 50V |
| | | |
| | | |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# ■ PACKING MATERIALS & ACCESSORIES

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.
* The "(SF)" mark denotes the standard part.
* Remote Control Unit:
Supply period for three years from terminal of production.
* [M] Indicates in the Remarks columns indicates parts supplied by **MESA.**

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **PACKING MATERIALS** | |
| | | | |
| P1 | RPF0118 | MIRAMAT BAG | [M] |
| P2 | RPG1979 | GIFT BOX | [M] (EB) |
| P2 | RPG1980 | GIFT BOX | [M] (EG) |
| P3 | RPN0757 | POLYFOAM (SET) | [M] |
| | | | |
| | | | |
| | | | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **ACCESSORIES** | |
| | | | |
| A1 | RJA0019-2K | AC CORD | (SF) ⚠ |
| A1 | VJA0733 | AC CORD | (SF) ⚠ |
| A2 | RFKSXDS25EGK | INSTR MNL ASS'Y | [M] (EG) |
| A2 | RQT2315-B | INSTRUCTION MANUAL | [M] (EB) |
| A3 | EUR642162 | REMOTE CONTROLLER | [M] |
| | | | |
| | | | |

MESA Printed in Singapore
P940412000 P/A/J/S