ORDER NO. MD9605032C1
A6

# Service Manual

Portable Stereo CD System

Radio Cassette

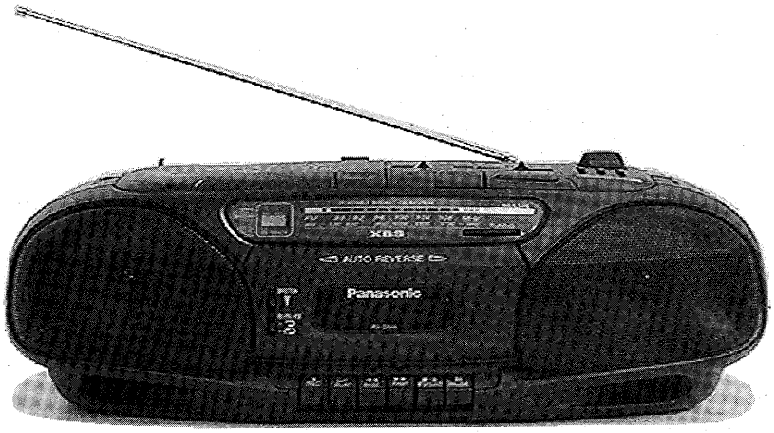
# RX-DS14

COMPACT disc DIGITAL AUDIO

MASH* multi-stage noise shaping

**Colour**

(K) . . . Black Type



**Area**

| Suffix for Model No. | Area | Colour |
|---|---|---|
| (P) | U.S.A. | (K) |
| (PC) | Canada | |

* MASH is a trademark of NTT.

**TAPE DECK : SG-20 MECHANISM SERIES**
**TRAVERSE DECK : RAE0150Z MECHANISM SERIES**

## ■ Specifications

### ■ Radio

| | |
|---|---|
| **Frequency range** | |
| **FM** | 88 – 108 MHz |
| **AM** | 525 – 1705 kHz |
| **Intermediate frequency** | |
| **FM** | 10.7 MHz |
| **AM** | 455 kHz |
| **Sensitivity** | |
| **FM** | 14.5 dB/50 mW (– 3 dB limit sens.) |
| **AM** | 54.5 dB/m/50mW |

### ■ Tape Recorder

| | |
|---|---|
| **Track system** | 4 track, 2 channel, stereo |
| **Recording system** | AC bias |
| **Erasing system** | Magnet |
| **Monitor system** | Variable sound monitor |
| **Frequency range** | |
| **Normal** | 50 – 12,000 Hz |

### ■ 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) |

### ■ General

| | |
|---|---|
| **Power requirement** | |
| **AC** | 120V, 60 Hz<br>Power consumption; 14W |
| **Battery** | 9V (Six "D" size R20/LR20 batteries) |
| **Speakers** | 2 Woofer; 10 cm (4") |
| **Jacks** | |
| **Output** | Headphones: 2mV, 32Ω |
| **Dimensions (W x H xD)** | 470 x 181 x 263 mm ($18^1/_2$" x $7^1/_8$" x $10^1/_2$") |
| **Weight** | 3.6kg (7 lb 15oz) without batteries |

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

Panasonic®



Contents

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# ■ Contents



# ■ Safety Precaution

( This "Safety Precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock .
2. When replacing parts ,use only manufacturer's recommended components for safety .
3. Check the condition of the power cord .Replace if wear or damage is evident .
4. After servicing ,be sure to restore the lead dress, insulation barriers ,insulation papers ,shields ,etc .
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard .

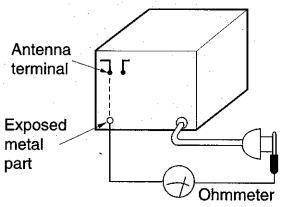



Fig. 1
Resistance = 3MΩ – 5.2MΩ

## . INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire .
2. Turn on the power switch .
3. Measure the resistance value with ohmmeter between the jumper AC plug and each exposed metal cabinet part ,such as screwheads, antenna ,control shafts ,handle brackets , etc . Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts* .(Fig. 1 ) Equipment without antenna terminals should read approximately infinity to all exposed parts . (Fig. 2 )
   *Note :Some exposed parts may be isolated from the chassis by design. These will read infinity .
4. If the measurement is outside the specified limits ,there is a possibility of a shock hazard .The equipment should be repaired and rechecked before it is returned to the customer .

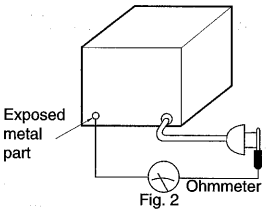



Fig. 2
Resistance = Approx

# ■ Precaution of Laser Diode

**CAUTION :** This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pick up lens When the unit is turned on:

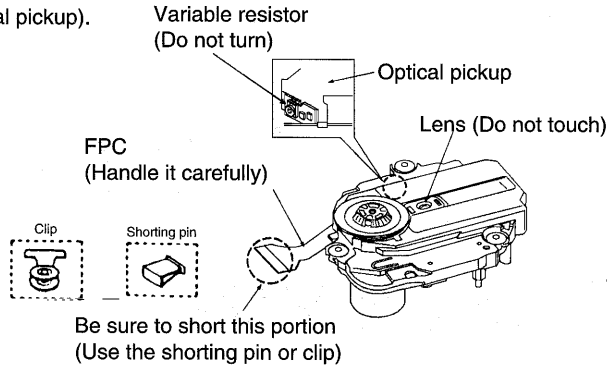
1. Do not look directly into the pick up lens.
2. Do not use optical instruments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pickup unit .
4. Do not disassemble the optical pick up unit .
5. If the optical pick up is replaced, use the manufactures specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

# ■ 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)

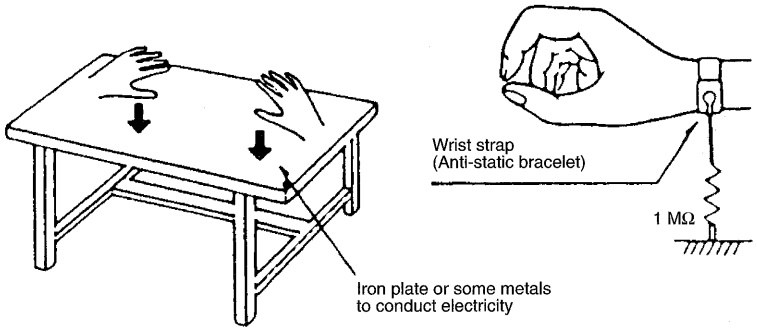
1. Do not subject the traverse deck (optical pickup) to static electricity as it ie extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the 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).




**BATTERY SERVICE LIFE**

UM-1 (D-size) Batteries
Approx. 7 hours of CD Playback (EIAJ).
Approx. 21 hours of Tape Recording (EIAJ).
Approx. 15 hours of Tape Playback (EIAJ).

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

# ■ Operation Checks and Main Component Replacement Procedures

**1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
**2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
**3. Select items from the following index when checks or replacement are required.**

## • Contents

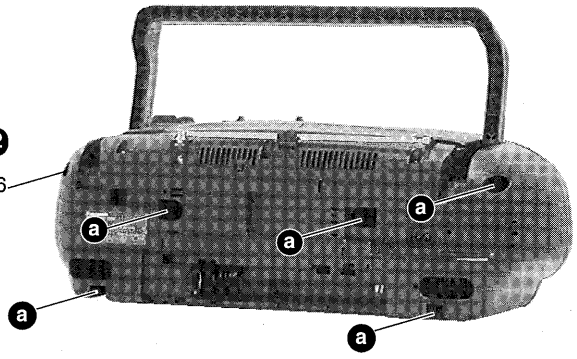


**Warning** : This product uses a laser diode. Refer to caution statement on page 2.

## ■ Disassembly of the Front Cabinet and Top Cabinet

**Step 1**
**Remove the battery cover.**

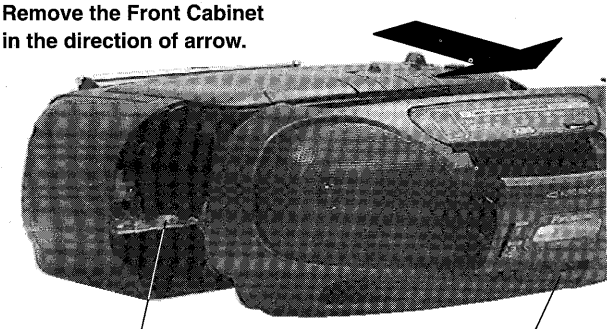
**Step 2**
ⓐ X 6




ⓐ SCREW Ø 3 X 20mm

ⓑ (Black) SCREW Ø 3 X 12mm

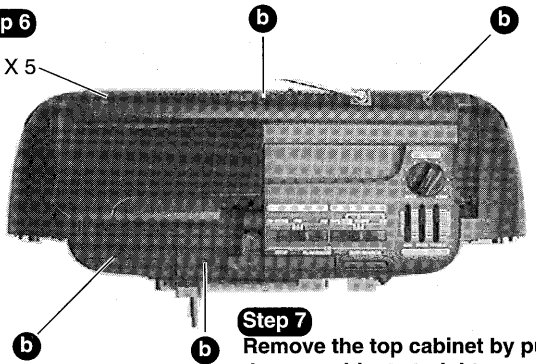
**Step 4**
**Remove the Front Cabinet in the direction of arrow.**



**Step 5**
**Remove the connector CP303.**

**Step 3**
**Press the Eject button.**

**Step 6**
ⓑ X 5



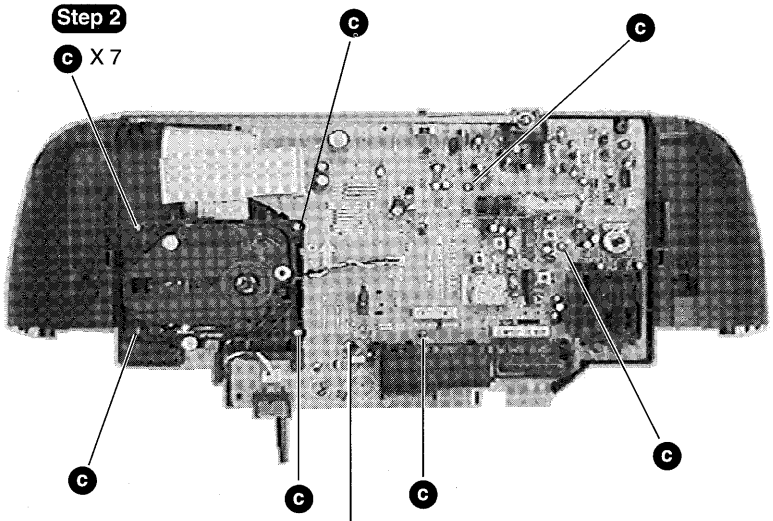

**Step 7**
**Remove the top cabinet by pulling the top cabinet straight upward.**

## ■ Checking Procedure For Each Major P.C.B.

### 1. Checking of the Main P.C.B.

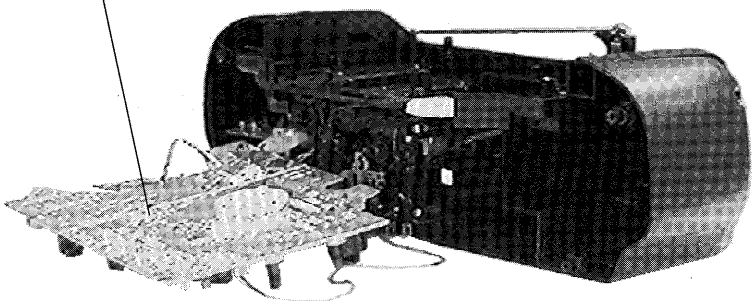
**Step 1**
**Disassemble the Front Cabinet and Top Cabinet.**

**Step 2**
ⓒ X 7



**Step 3**
**Place the Main P.C.B. as shown below.**

Main P.C.B.(solder side)



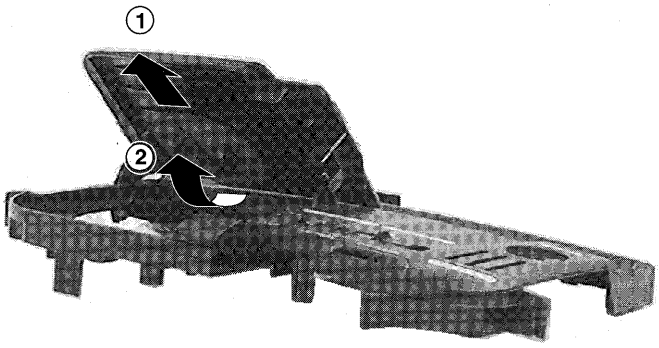
Main P.C.B.

ⓒ SCREW Ø 3 X 12mm

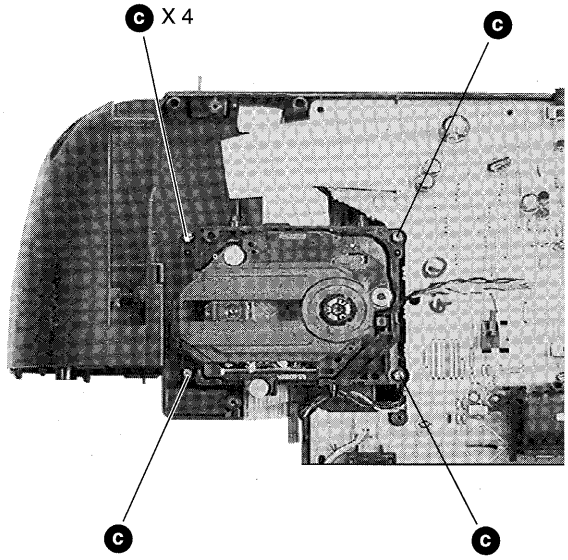
### 2. Checking of the Servo P.C.B.

**Step 1**
**Disassemble the Front Cabinet and Top Cabinet.**

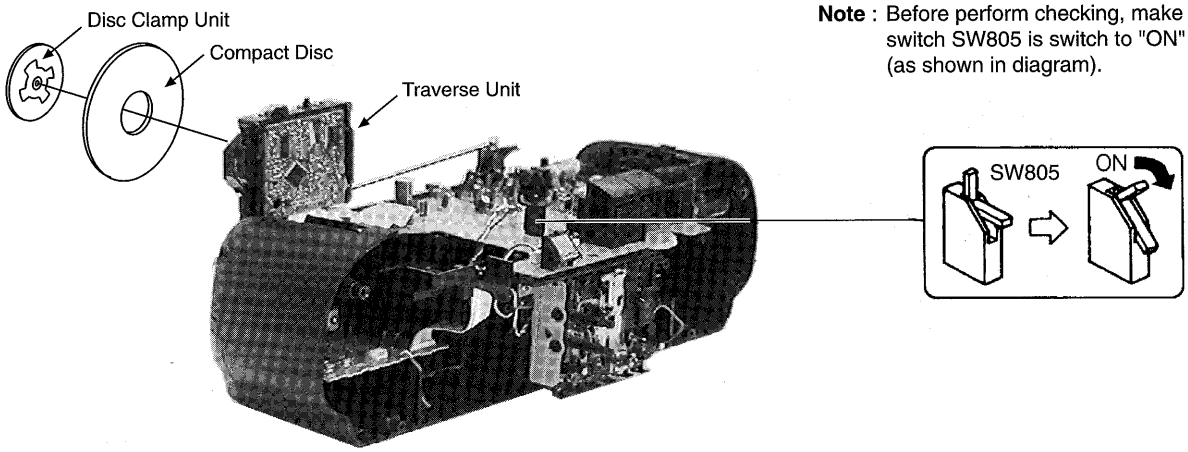
**Step 2**
**Remove the disk clamp unit in the direction of arrow ① follow by ② .**



**Step 3**
ⓒ X 4



**Step 4**
**Place the Traverse Unit as shown below and install the compact disk and disk clamp unit.**

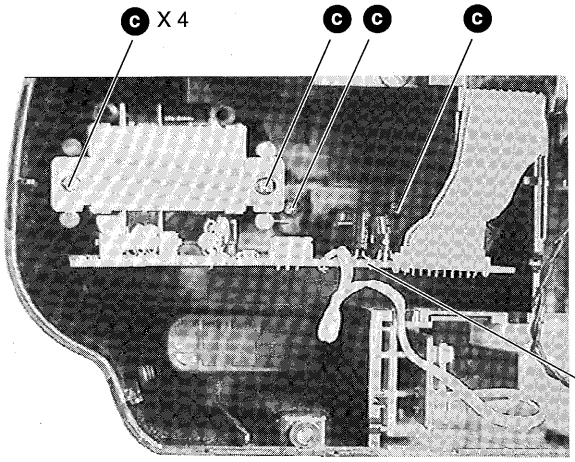



**Note :** Before perform checking, make sure the switch SW805 is switch to "ON" position (as shown in diagram).

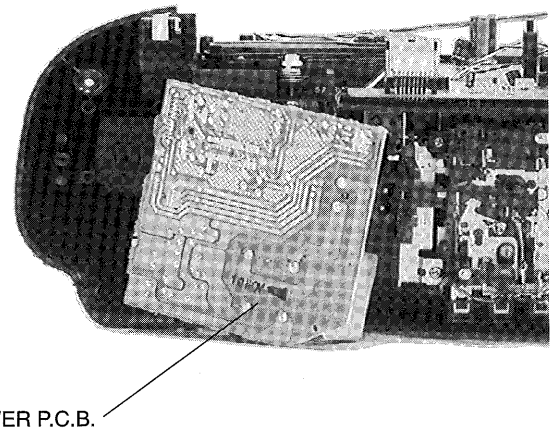
## 3. Checking of the Power P.C.B.

**Step 1**
**Disassemble the Front Cabinet.**

**Step 2**
ⓒ X 4




**Step 3**
**Pull out the Power P.C.B.**
**Place the Power P.C.B. as shown below.**




# ■ Main Component Replacement Procedures

## 1. Replacement of the Traverse Deck.

**Step 3**
**Desolder 2 terminals of spindle motor.**

**Step 4**
**Desolder 2 terminals of traverse motor.**

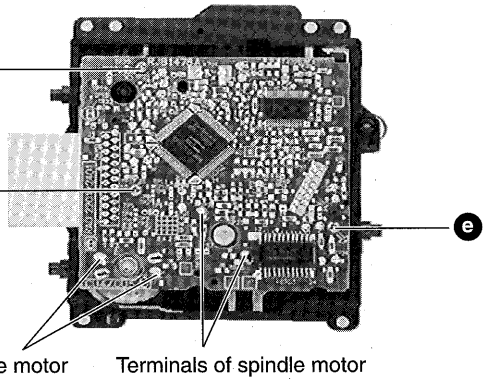
ⓓ

ⓔ

SCREW Ø 2 X 6mm

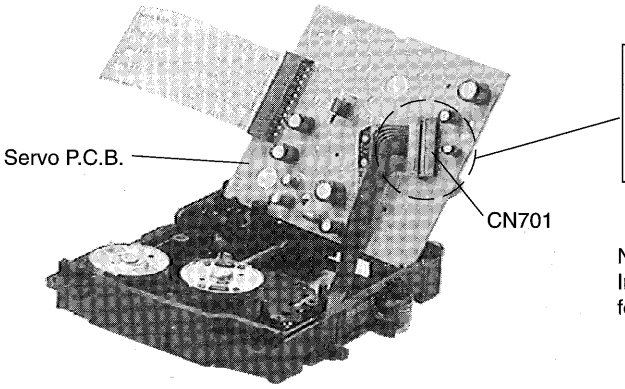
**Step 1**
ⓓ X 1

**Step 2**
ⓔ X 2

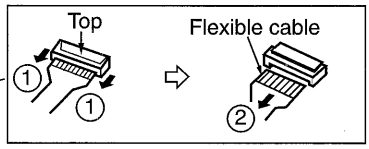


**Step 5**

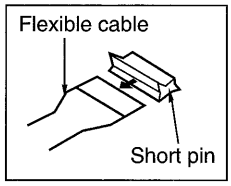
**Remove the flexible cable from CN701.**

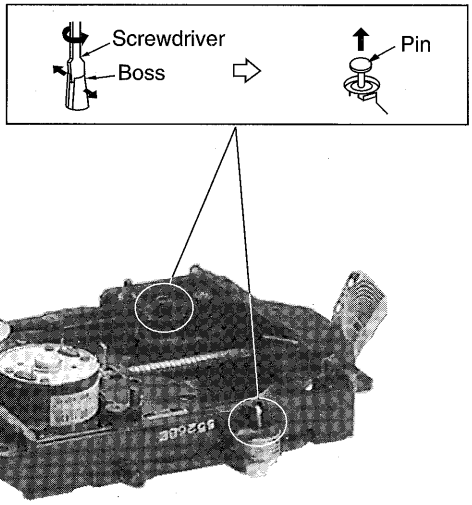



• Removal of the flexible cable.
Push the top of the connector in the direction of arrow ① and pull out the flexible cable in the direction of arrow ②.



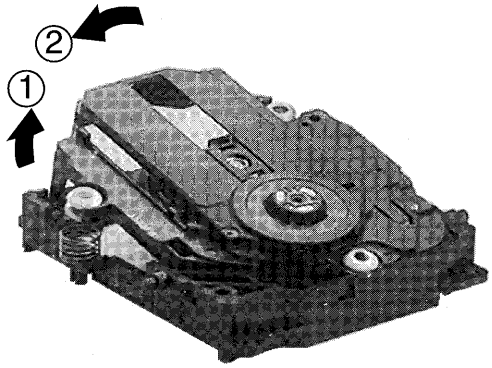

Note:
Insert a short pin into the flexible cable for traverse unit.




**Step 6**

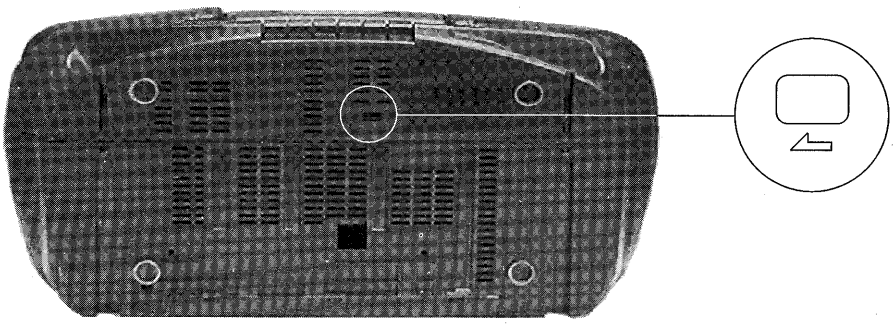
**Widen 2 bosses by using a flat tip screwdriver and remove 2 pins.**




**Step 7**

**Remove the Traverse Deck Ass'y in the direction of arrow ① follow by ② .**

## ■ What To Do When The Tape Is Entangled



When the tape is caught in the pinch roller,etc., release the tape by turning the pulley on the motor with a screw-driver in the direction of arrow.

# ■ Schematic Diagram

## NOTES:

- SW1-1 ~ SW1-2 : Band Select Switch. (FM ST...FM STEREO, FM...FM, AM...AM)
- SW301 : Beatproof Switch. ( I...BEATPROOF I, II...BEATPROOF II)
- SW302-1 ~ SW302-4 : Function Select Switch. (CD...CD, R...RADIO, T...TAPE/OFF)
- SW303 : Record Switch.
- SW801 : CD Play/Pause Switch.
- SW802 : CD Forward Skip/Search Switch.
- SW803 : CD Reverse Skip/Search Switch.
- SW804 : CD Stop Switch.
- SW805 : CD Open/Close Switch.
- VR302-1 ~ VR302-2 : Volume Control VR.
- VR371-1 ~ VR371-2 : XBS level control VR.
- VR372-1 ~ VR372-2 : BASS level control VR.
- VR373-1 ~ VR373-2 : TREBLE level control VR.
- S6 : Motor Switch.
- S701 : Rest Switch.
- S501 : AC/Battery Select Switch.(JK501)

... CD SIGNAL LINE
... MAIN SIGNAL LINE
... TAPE PLAYBACK SIGNAL LINE
... RECORDING SIGNAL LINE
... FM SIGNAL LINE
... +B LINE

- Battery Current consumption:

| | | | |
|---|---|---|---|
| Vol. min..... | 85mA (FM) | Vol. max..... | 250mA (FM) |
| | 79mA (AM) | | 180mA (AM) |
| | 175mA (TAPE) | | 350mA (TAPE) |
| | 270mA (CD) | | 700mA (CD) |

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

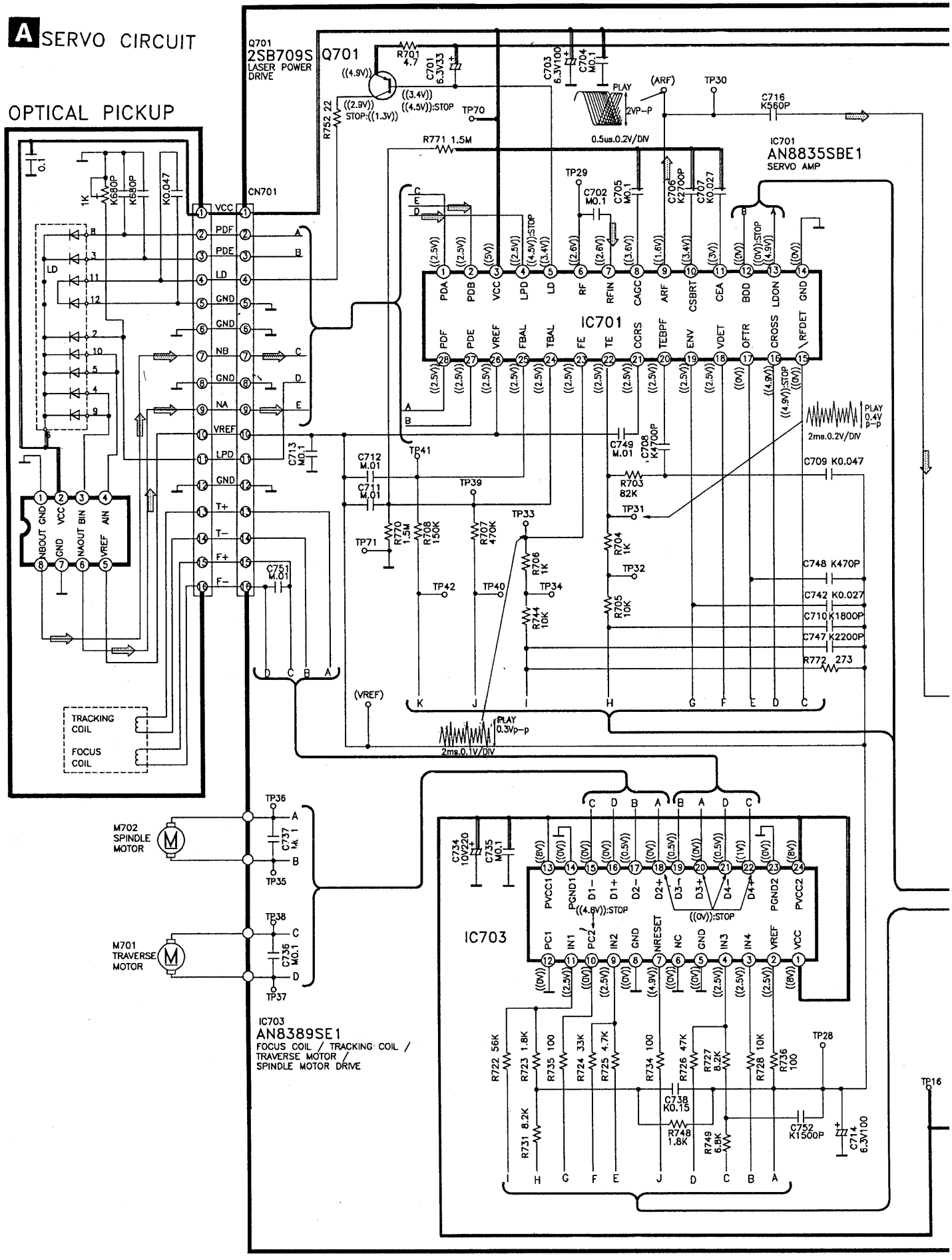
**CAUTION :** FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 2.5 A 125V FUSE.

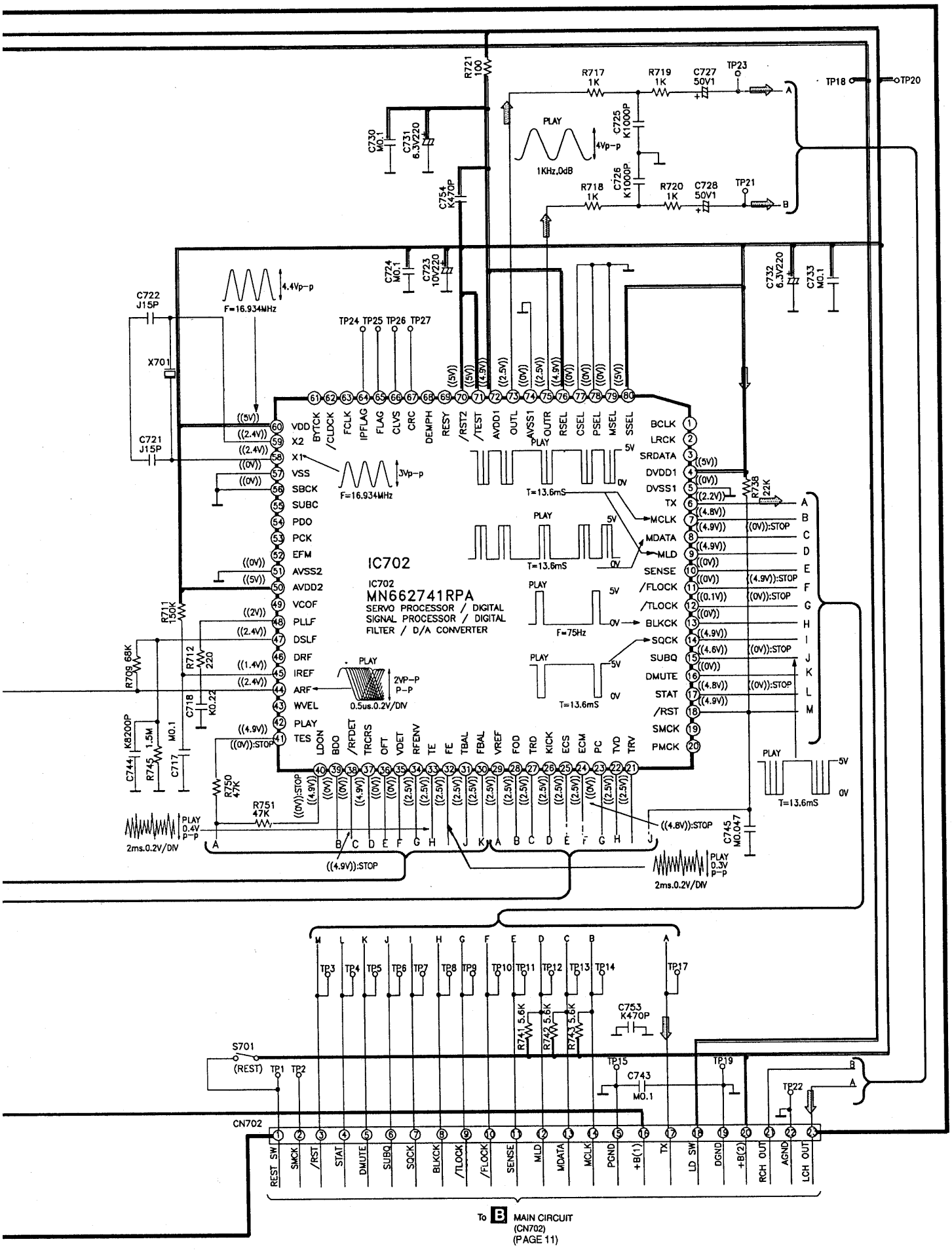
RISK OF FIRE-REPLACE FUSE AS MARKED.

**FUSE CAUTION**

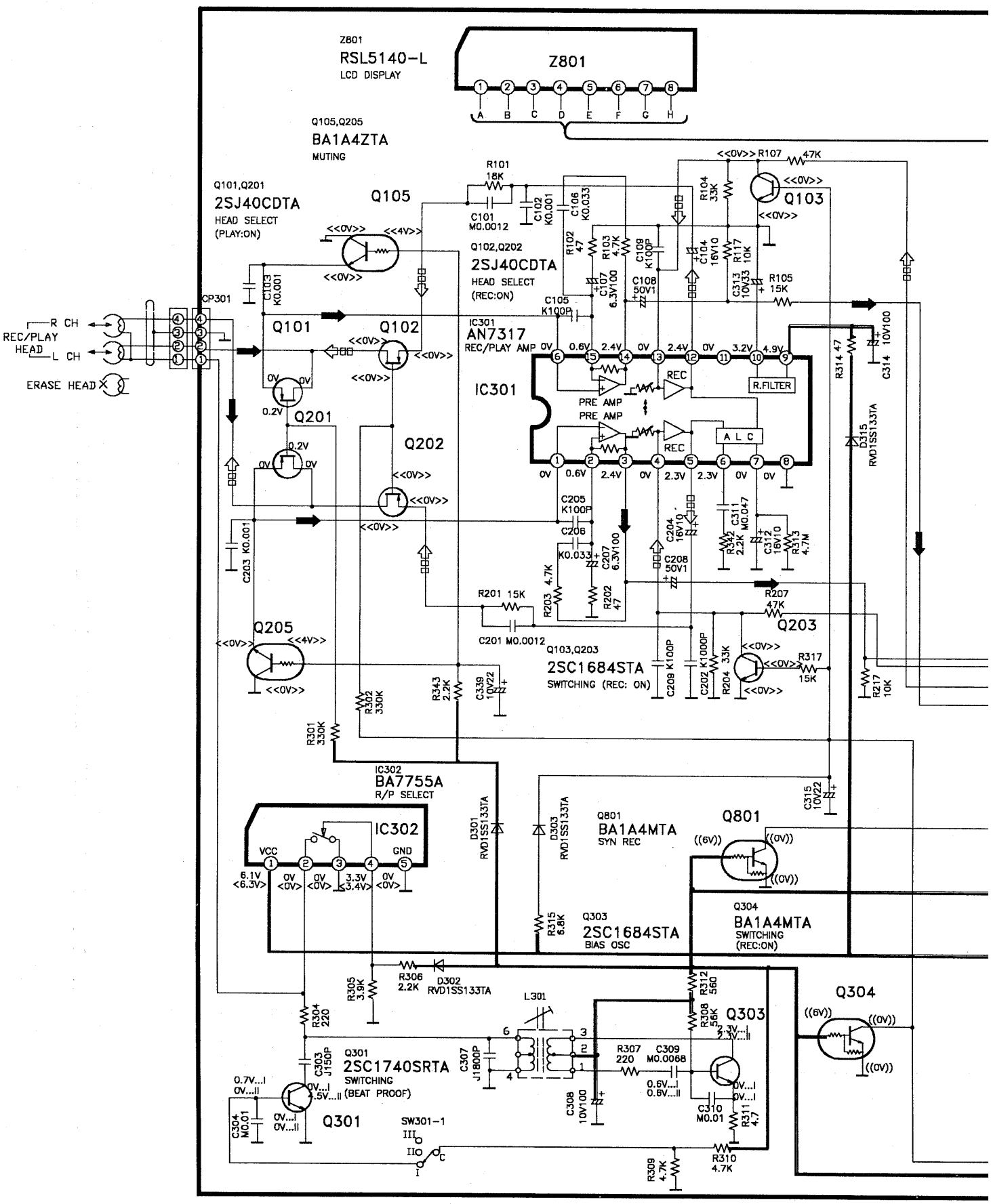
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

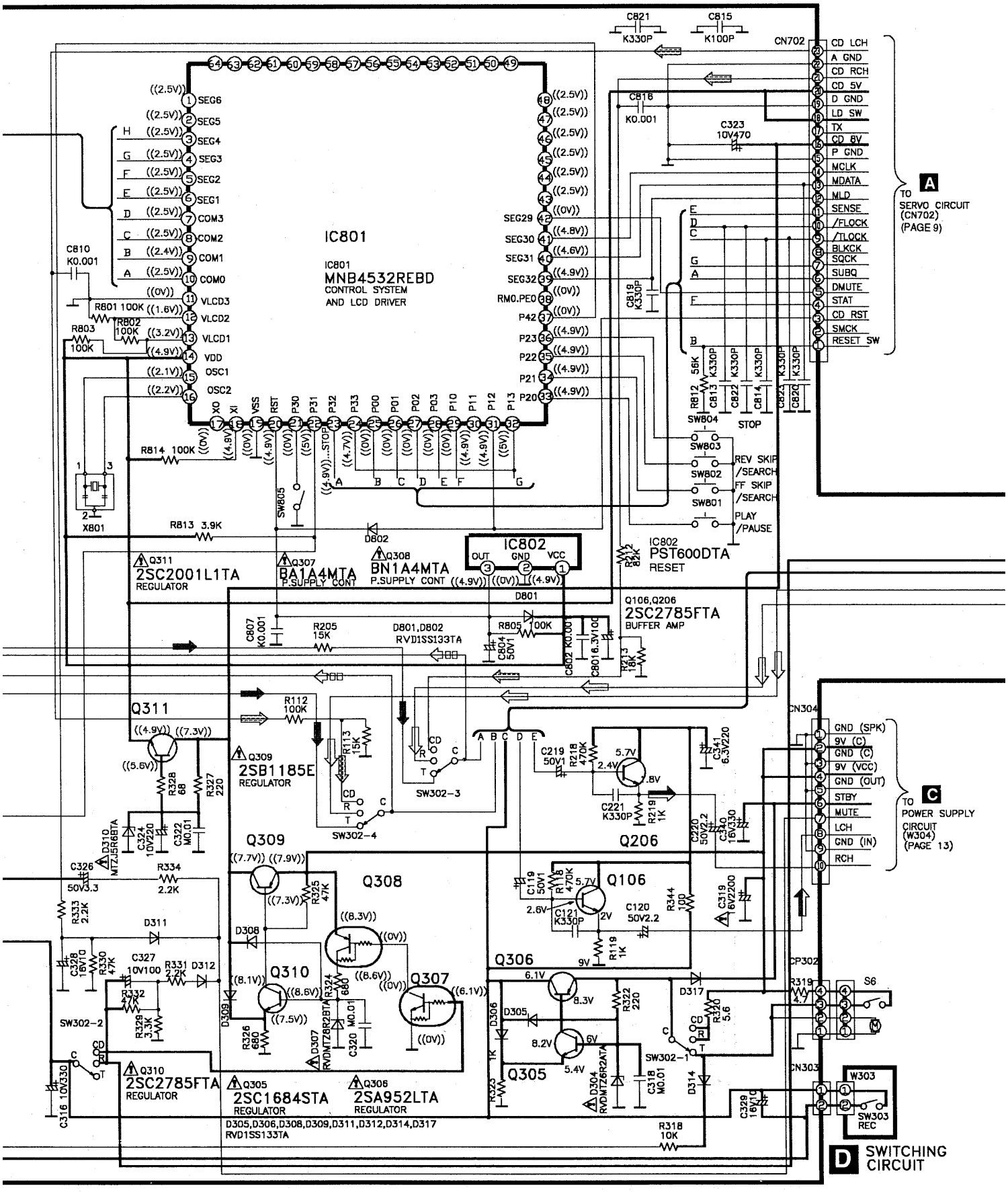
Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

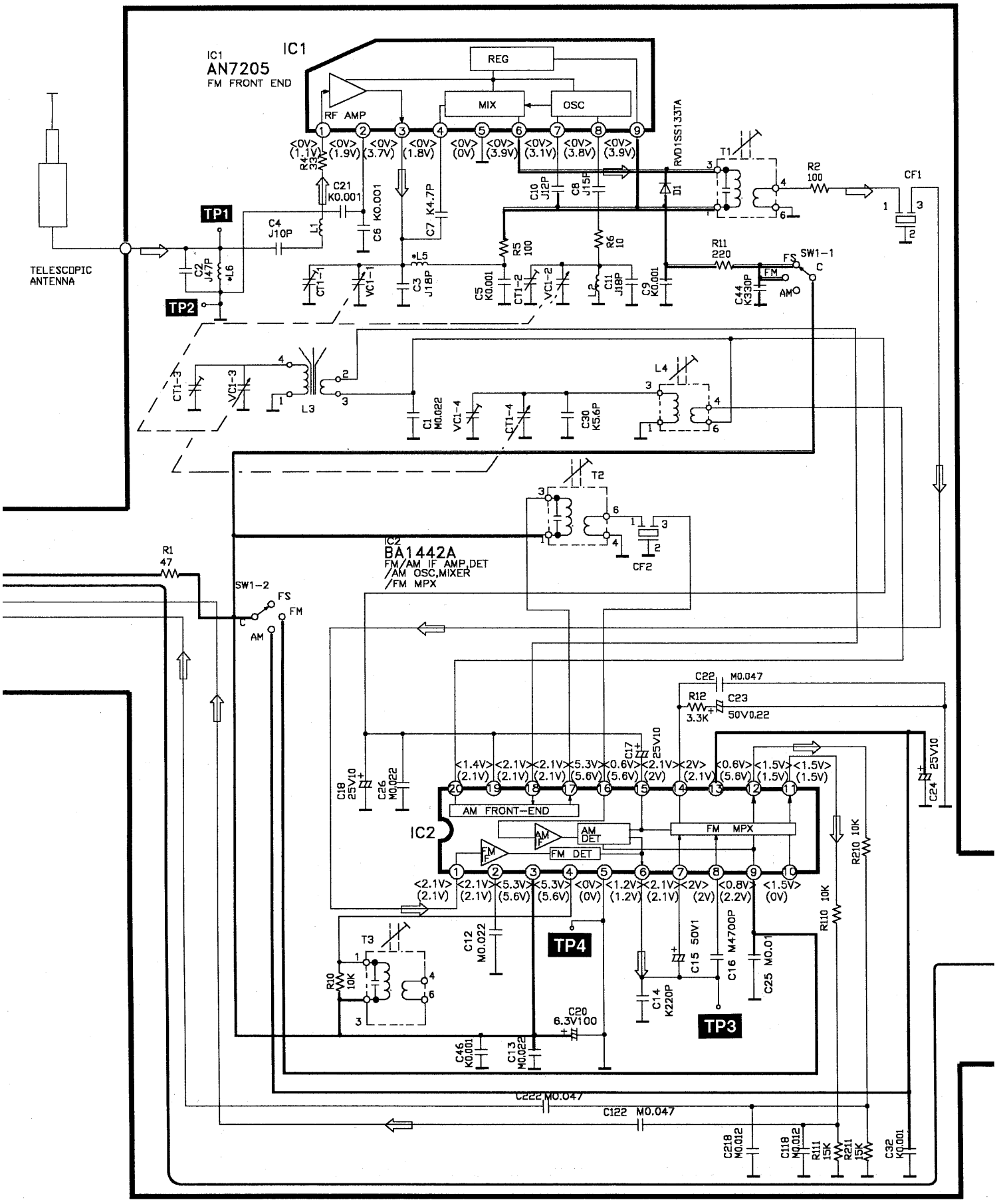

A SERVO CIRCUIT
OPTICAL PICKUP
Q701
2SB709S
LASER POWER DRIVE
Q701
R701 4.7
C701 6.3V33
C703 6.3V100
C704 M0.1
R752 22
((4.9V))
((3.4V))
((4.5V)):STOP
((2.9V))
STOP:((1.3V))
TP70
PLAY
2VP-P
0.5us.0.2V/DIV
(ARF)
TP30
C716 K560P
R771 1.5M
IC701
AN8835SBE1
SERVO AMP
CN701
TP29
C702 M0.1
C705 M0.1
C706 K2700P
C707 K0.027
IC701
PDA PDB VCC LPD LD RF RFIN CAGC ARF CSBRT CEA BDD LDON GND
PDF PDE VREF FBAL TBAL FE TE CCRS TEBPF ENV VDET OFTR CROSS RFDET
PLAY 0.4V P-P
2ms.0.2V/DIV
C708 K4700P
C749 M.01
C709 K0.047
R703 82K
TP31
TP41
TP39
TP33
C712 M.01
C711 M.01
R770 1.5M
R708 150K
R707 470K
R706 1K
R704 1K
TP71
TP32
TP42
TP40
TP34
R744 10K
R705 10K
C748 K470P
C742 K0.027
C710 K1800P
C747 K2200P
R772 273
C713 M0.1
C751 M.01
K0.047
K680P
1K
LD
TRACKING COIL
FOCUS COIL
(VREF)
PLAY 0.3Vp-p
2ms.0.1V/DIV
TP36
M702 SPINDLE MOTOR
C737 M.1
TP35
TP38
M701 TRAVERSE MOTOR
C736 M0.1
TP37
C734 10V220
C735 M0.1
IC703
PVCC1 PGND1 D1- D1+ D2- D2+ D3- D3+ D4- D4+ PGND2 PVCC2
((4.8V)):STOP
((0V)):STOP
PC1 IN1 PC2 IN2 GND NRESET NC GND IN3 IN4 VREF VCC
IC703
AN8389SE1
FOCUS COIL / TRACKING COIL /
TRAVERSE MOTOR /
SPINDLE MOTOR DRIVE
R722 56K
R723 1.8K
R735 100
R724 33K
R725 4.7K
R734 100
R726 47K
R727 8.2K
R728 10K
R736 100
TP28
C738 K0.15
R748 1.8K
R749 6.8K
C752 K1500P
C714 6.3V100
R731 8.2K
TP16


IC702
IC702
MN662741RPA
SERVO PROCESSOR / DIGITAL
SIGNAL PROCESSOR / DIGITAL
FILTER / D/A CONVERTER
VDD
X2
X1
VSS
SBCK
SUBC
PDO
PCK
EFM
AVSS2
AVDD2
VCOF
PLLF
DSLF
DRF
IREF
ARF
WVEL
PLAY
TES
BYTCK
/CLOCK
FCLK
IPFLAG
FLAG
CLVS
CRC
DEMPH
RESY
/RST2
/TEST
AVDD1
OUTL
AVSS1
OUTR
RSEL
CSEL
PSEL
MSEL
SSEL
BCLK
LRCK
SRDATA
DVDD1
DVSS1
TX
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
PMCK
LDON
BDO
/RFDET
TRCRS
OFT
VDET
RFENV
TE
FE
TBAL
FBAL
VREF
FOD
TRD
KICK
ECS
ECM
PC
TVD
TRV
X701
F=16.934MHz
4.4Vp-p
3Vp-p
C722 J15P
C721 J15P
C730 M0.1
C731 6.3V220
C724 M0.1
C723 10V220
C732 6.3V220
C733 M0.1
C754 K470P
C725 K1000P
C726 K1000P
C727 50V1
C728 50V1
C753 K470P
C743 M0.1
C745 M0.047
C744 K8200P
C717 M0.1
C718 K0.22
R721 100
R717 1K
R719 1K
R718 1K
R720 1K
R738 22K
R711 150K
R712 220
R708 68K
R745 1.5M
R750 47K
R751 47K
R741 5.6K
R742 5.6K
R743 5.6K
PLAY
1KHz,0dB
T=13.6mS
F=75Hz
2VP-P
P-P
0.5us.0.2V/DIV
2ms.0.2V/DIV
0.4V P-P
0.3V P-P
((4.9V)):STOP
((0V)):STOP
((4.8V)):STOP
TP18
TP20
TP23
TP21
TP22
TP24 TP25 TP26 TP27
TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP17
TP15
TP19
S701
(REST)
TP1 TP2
CN702
REST SW
SMCK
/RST
STAT
DMUTE
SUBQ
SQCK
BLKCK
/TLOCK
/FLOCK
SENSE
MLD
MDATA
MCLK
PGND
+B(1)
TX
LD SW
DGND
+B(2)
RCH OUT
AGND
LCH OUT
To B MAIN CIRCUIT
(CN702)
(PAGE 11)

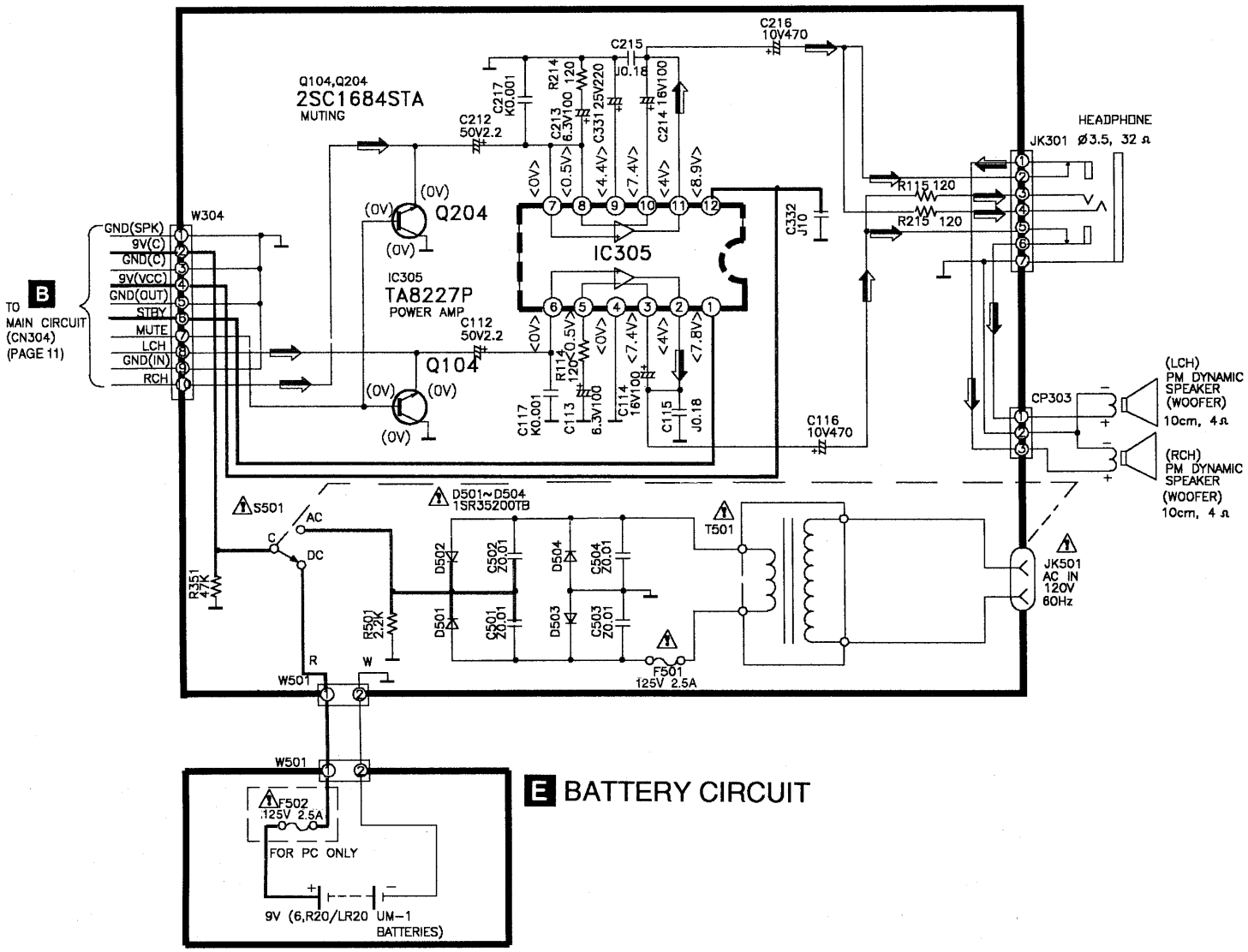
## B MAIN CIRCUIT




IC801
IC801
MNB4532REBD
CONTROL SYSTEM
AND LCD DRIVER
IC802
PST600DTA
RESET
Q311
2SC2001L1TA
REGULATOR
Q307
BA1A4MTA
P.SUPPLY CONT
Q308
BN1A4MTA
P.SUPPLY CONT
Q106,Q206
2SC2785FTA
BUFFER AMP
Q309
2SB1185E
REGULATOR
Q310
2SC2785FTA
REGULATOR
Q305
2SC1684STA
REGULATOR
Q306
2SA952LTA
REGULATOR
D305,D306,D308,D309,D311,D312,D314,D317
RVD1SS133TA
CN702
CD LCH
A GND
CD RCH
CD 5V
D GND
LD SW
TX
CD 8V
P GND
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
CD RST
SMCK
RESET SW
TO SERVO CIRCUIT (CN702) (PAGE 9)
CN304
GND (SPK)
9V (C)
GND (C)
9V (VCC)
GND (OUT)
STBY
MUTE
LCH
GND (IN)
RCH
TO POWER SUPPLY CIRCUIT (W304) (PAGE 13)
SW804
STOP
SW803
SW802
REV SKIP /SEARCH
SW801
FF SKIP /SEARCH
PLAY /PAUSE
SW302-1
SW302-2
SW302-3
SW302-4
CP302
S6
CN303
W303
SW303
REC
D SWITCHING CIRCUIT

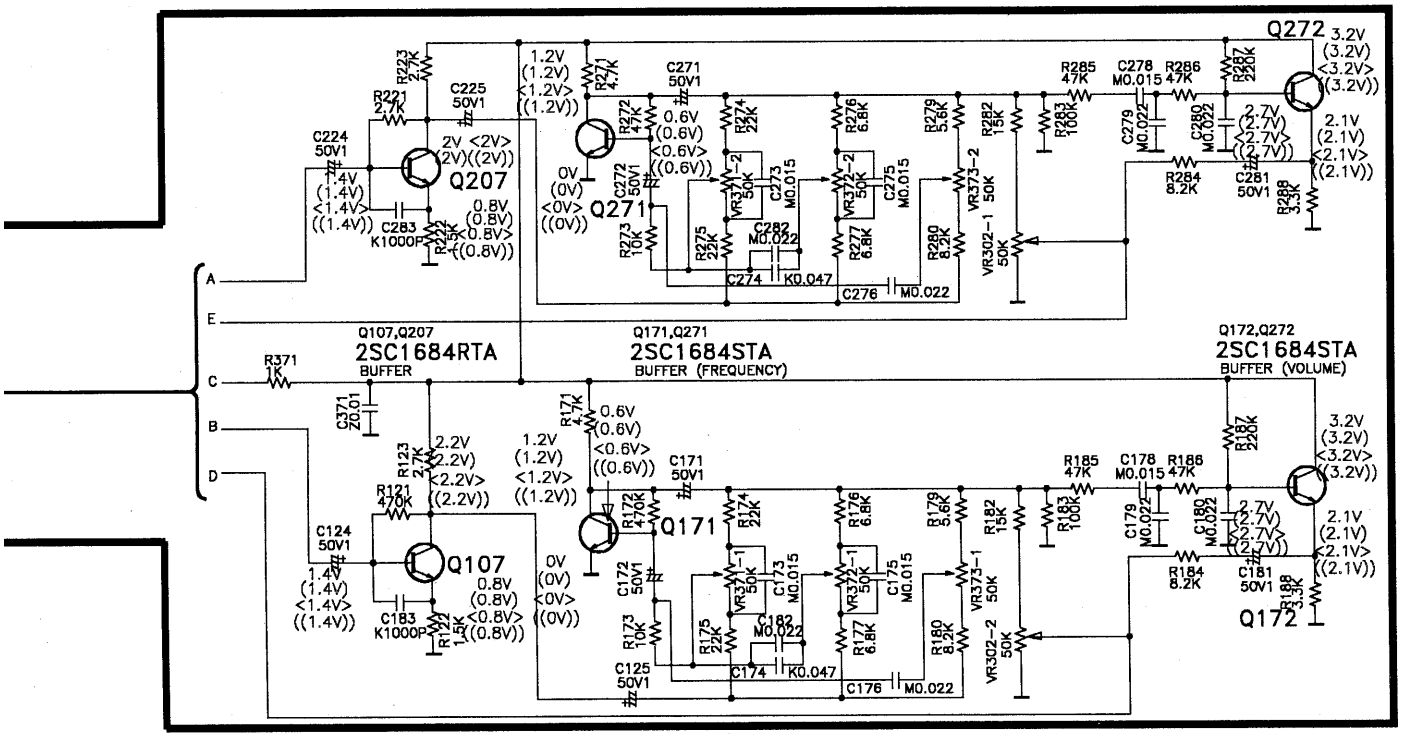

IC1
AN7205
FM FRONT END
REG
MIX
OSC
RF AMP
TELESCOPIC ANTENNA
TP1
TP2
TP3
TP4
IC2
BA1442A
FM/AM IF AMP,DET
/AM OSC,MIXER
/FM MPX
AM FRONT-END
FM MPX
FM DET
SW1-1
SW1-2
FS
FM
AM
T1
T2
T3
L1
L2
L3
L4
L5
L6
CF1
CF2
D1
RVD1SS133TA

## C POWER SUPPLY CIRCUIT

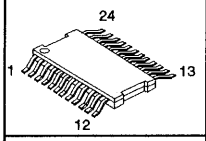
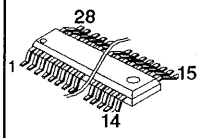
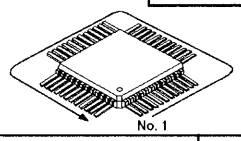
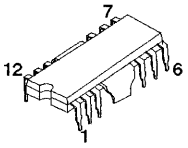
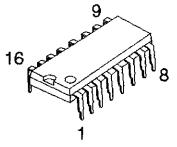
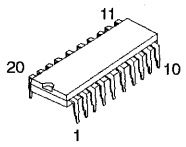
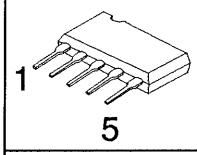
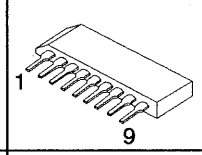
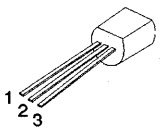
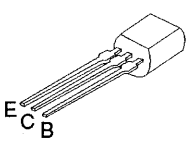
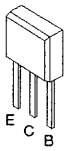
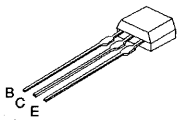
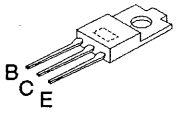
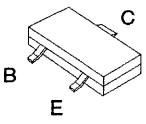
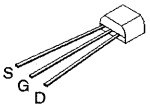
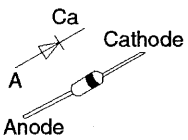
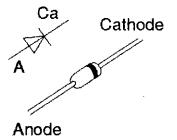
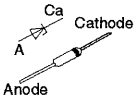



## E BATTERY CIRCUIT



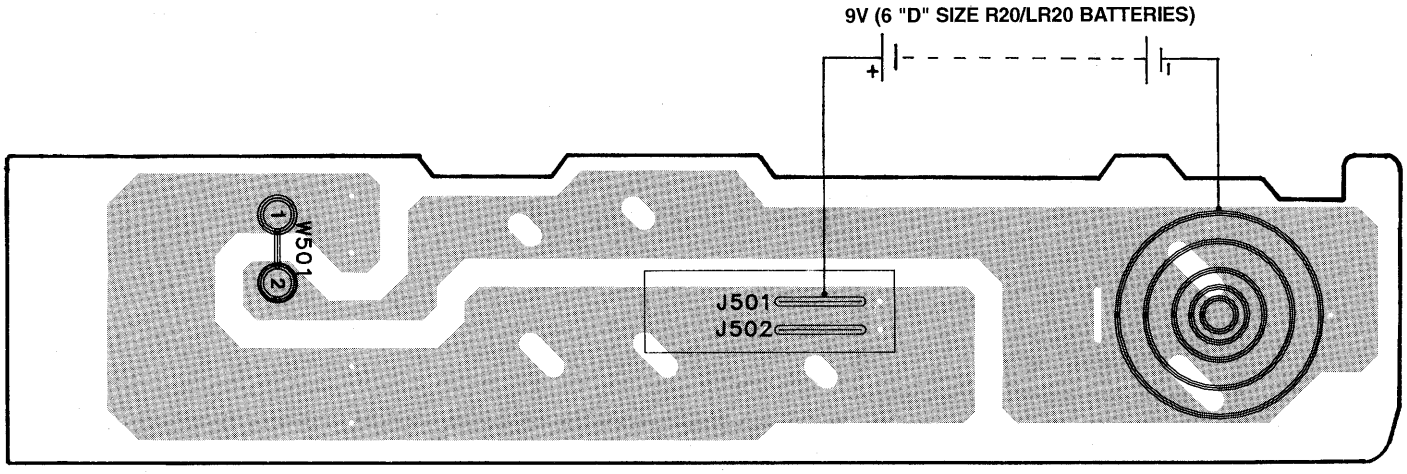



## ■ Terminal Guide of ICs, Transistors & Diodes

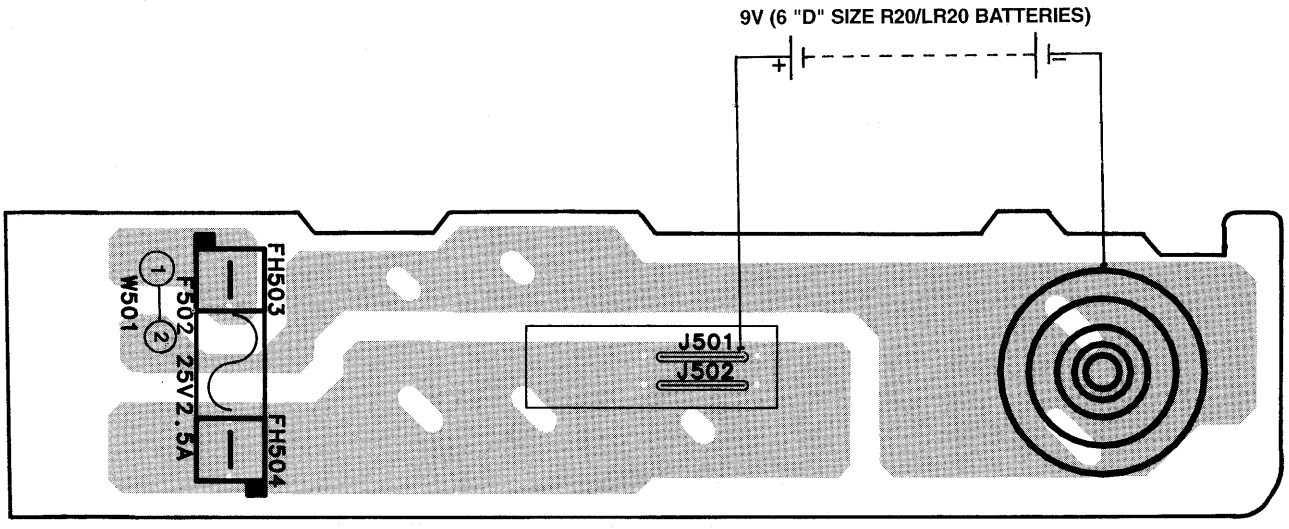
| | | | | | | |
|---|---|---|---|---|---|---|
| AN8389SE1  | AN8835SBE1  | MNB4532REBD 64 Pin<br>MN662741RPA 80 Pin  | | TA8227P  | AN7317  | BA1442A  |
| BA7755A  | AN7205  | PST600DTA  |  | 2SA952LTA<br>2SC1684STA<br>2SC1684RTA<br>2SC2001L1TA |  | 2SC2785FTA<br>BA1A4MTA<br>BA1A4ZTA<br>BN1A4MTA |
| 2SC1740SRTA  | 2SB1185E  | 2SB709S  | 2SJ40CDTA  | RVD1SS133TA  | 1SR35200TB  | MTZJ5R6BTA<br>RVDMTZ6R2ATA<br>RVDMTZ8R2BTA  |

## ■ Printed Circuit Board

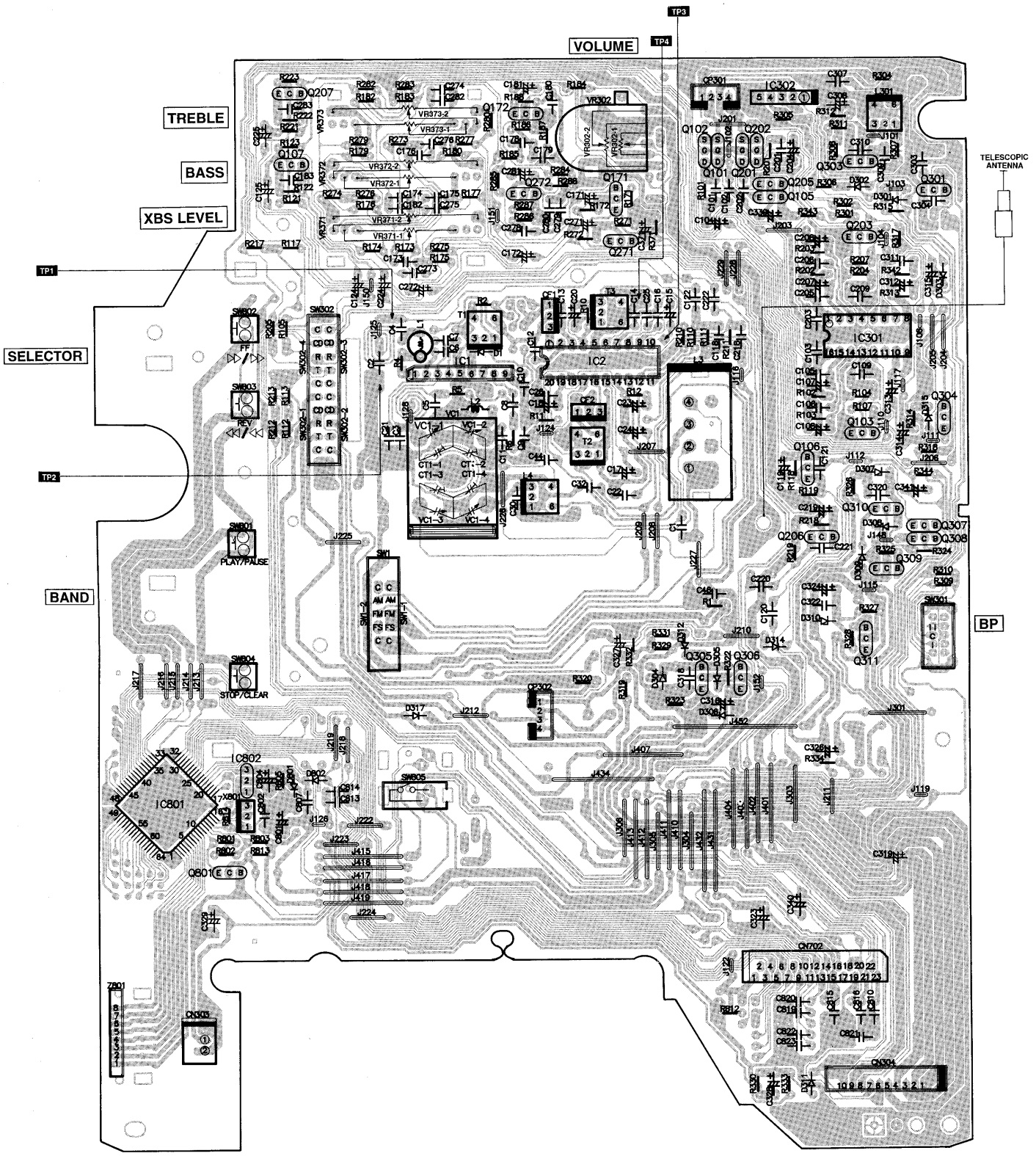
## E BATTERY P.C.B. (REP2177G) ...P



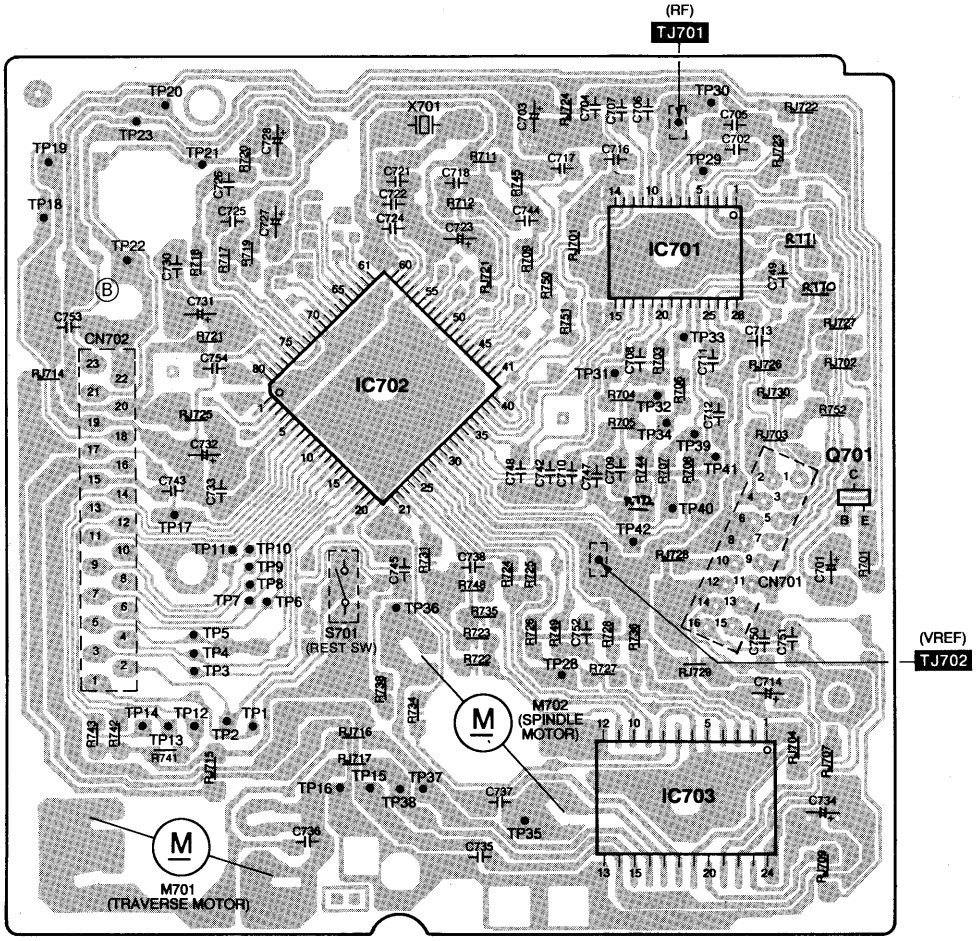

## E BATTERY P.C.B. (REP2177H) ...PC



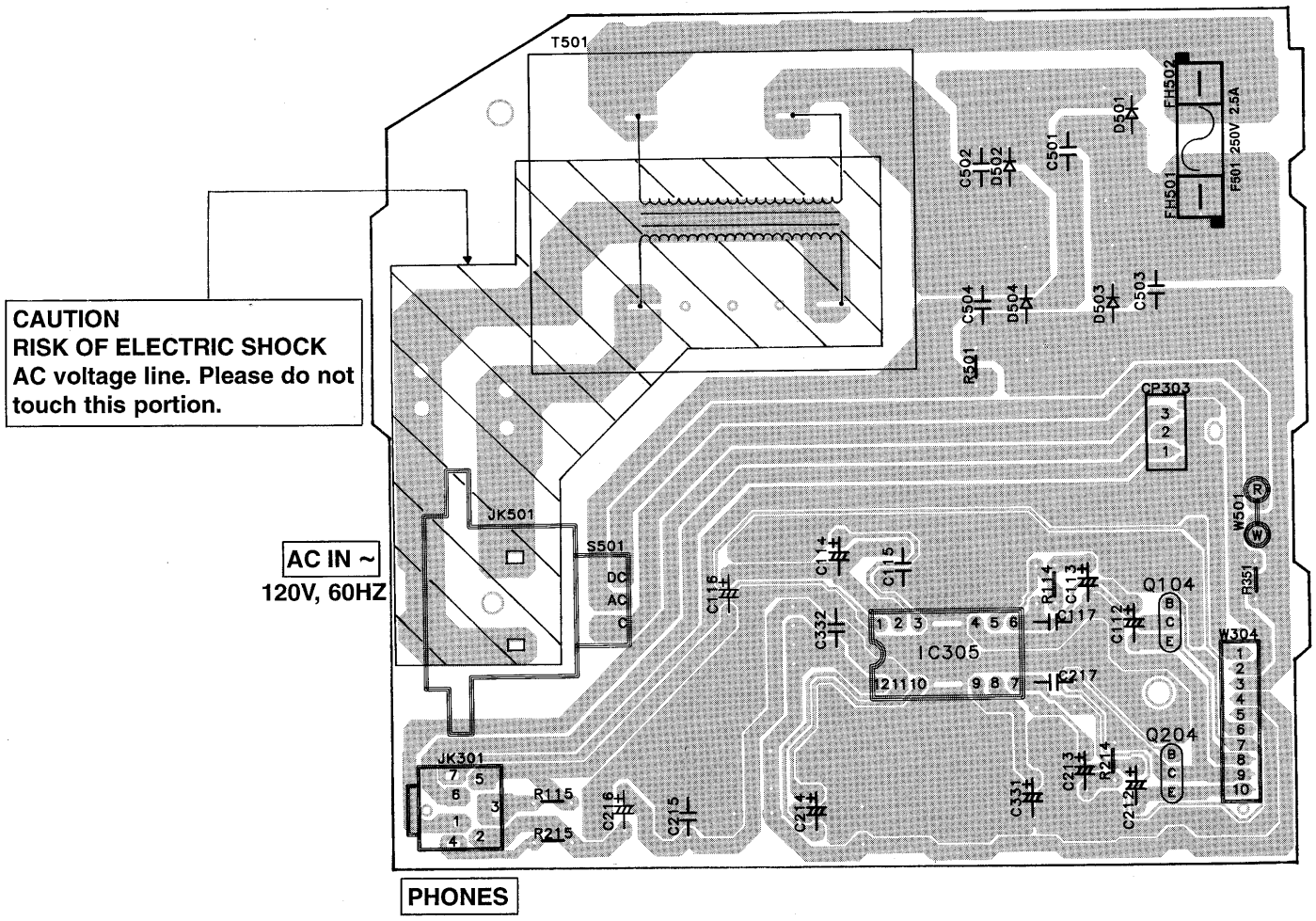
# B MAIN P.C.B. (REP2178G)



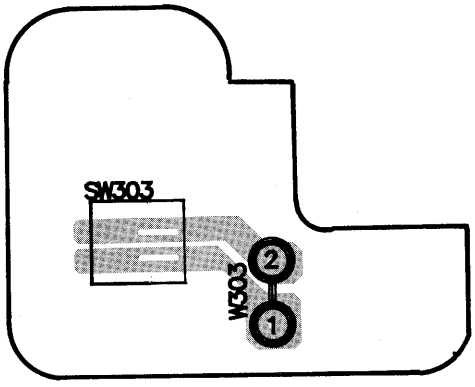
# A SERVO P.C.B. (REPX0109)



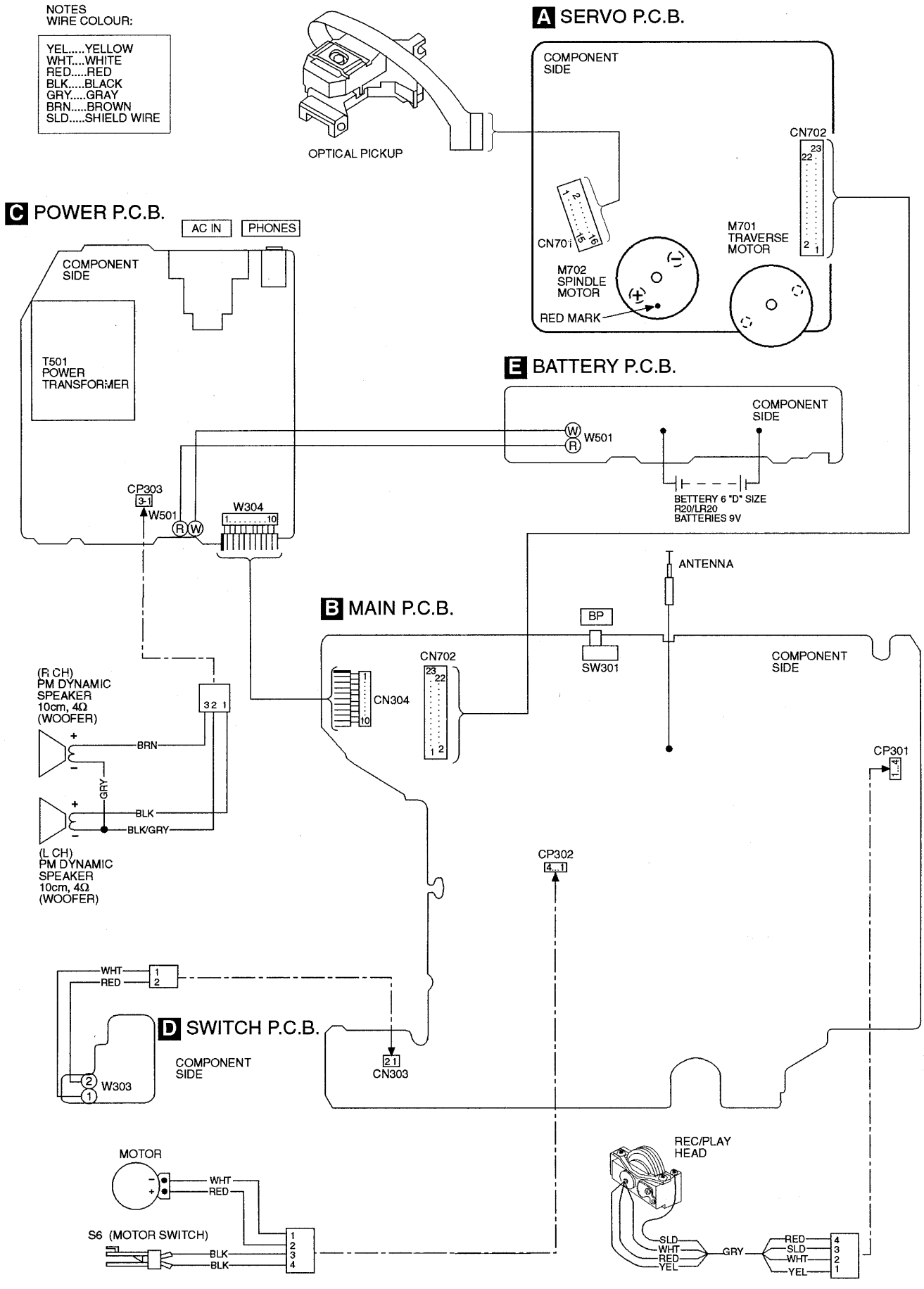
## C POWER P.C.B. (REP2177G) ...P
## POWER P.C.B. (REP2177H) ...PC




## D SWITCH P.C.B. (REP2178G)



# ■ Wire Connection Diagram



# ■ Measurements And Adjustments

## ■ TUNER SECTION

### • ALIGNMENT INSTRUCTION

| READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT | |
|---|---|
| • Set power source voltage to 9 V DC.<br>• Set volume control to maximum<br>• Set band switch to AM or FM<br>• Set selector switch to RADIO | • Set XBS control to minimum<br>• Output of signal generator should be no higher than necessary to obtain an output reading. |

**Note :** No FM STEREO alignment is required due to Tuner IC (BA1442A) is used.

### • AM-IF ALIGNMENT

| SIGNAL GENERATOR or SWEEP GENERATOR | | RADIO DIAL SETTING | INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE) | ADJUSTMENT (Shown IN Fig. 1) | REMARKS |
|---|---|---|---|---|---|
| CONNECTIONS | FREQUENCY | | | | |
| Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver. | 455 kHz<br>30 % Mod.<br>at 400 Hz | Point of non-interference.(on/ about 600kHz) | Headphone Jack (32Ω)<br>(Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.) | T2(AM IFT) | Adjust for maximum output. |

### • AM-RF ALIGNMENT

| SIGNAL GENERATOR or SWEEP GENERATOR | | RADIO DIAL SETTING | INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE) | ADJUSTMENT (Shown in Fig. 1) | REMARKS |
|---|---|---|---|---|---|
| CONNECTIONS | FREQUENCY | | | | |
| " | 511 kHz | Tuning capacitor fully closed. | " | L4 (AM OSC Coil) | Adjust for maximum output. |
| " | 1753 kHz | Tuning capacitor fully opened. | " | CT1-4 (AM OSC Trimmer) | Adjust for maximum output. |
| " | 600 kHz | Tune to signal | " | [*1] L3 (AM ANT Coil) | Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core. |
| " | 1500 kHz | " | " | CT1-3 (AM ANT Trimmer) | Adjust for maximum output. |
| [*1] Fix antenna coil with wax after completing alignment. | | | | | |

### • FM-IF ALIGNMENT

| | | | | | |
|---|---|---|---|---|---|
| Connect to test point TP1 through ceramic capacitor. Negative side to test point TP2 . | 10.7 MHz (Sweep) | Point of non-interference.(on/ about 90 MHz) | Connect vert. amp. of scope to test point TP3 . Negative side to test point TP4 . | T1(FM 1st) | Waveform is shown in Fig. 3 |
| " | " | " | " | T3(FM 2nd) | Waveform is shown in Fig. 4 |

### • FM-RF ALIGNMENT

| | | | | | |
|---|---|---|---|---|---|
| Connect to test point TP1 through FM dummy antenna. Negative side to test point TP2 . | 86.2MHz | Variable capacitor fully closed. | Headphone Jack (32Ω)<br>(Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.) | L2 (FM OSC Coil) | [*2] Adjust for maximum output. |
| | 109.2MHz | Variable capacitor fully opened. | " | CT1-2 (FM OSC Trimmer) | " |
| | 106MHz | Tune to signal | " | CT1-1 (FM ANT Trimmer) | " |
| [*2] Three output response will be present; proper tuning is the center frequency. | | | | | |

## ■ CASSETTE DECK SECTION

### • HEAD AZIMUTH ALIGNMENT

| TEST TAPE | EQUIPMENT CONNECTION ELECTRONIC COUNTER | ADJUSTMENT | SPECIFICATION | REMARKS |
|---|---|---|---|---|
| QZZCAB (8 kHz, -20dB) | Headphone Jack (32Ω) (Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.) | Azimuth screw (As shown in Fig 6) | Maximum output | Playback mode |

### • TAPE SPEED ALIGNMENT

| TEST TAPE | EQUIPMENT CONNECTION ELECTRONIC COUNTER | ADJUSTMENT | SPECIFICATION | REMARKS |
|---|---|---|---|---|
| QZZCWAT (3kHz) | Headphone Jack (32Ω) (Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.) | Motor VR. (show in Fig.5) | 3000 ± 90Hz | 1. Set the unit to 'TAPE' position.<br>2. Playback the middle part of the test tape (QZZCWAT).<br>3. Adjust motor VR for output value of 3000 ± 90Hz shown on frequency counter. |

## ■ ALIGNMENT POINTS

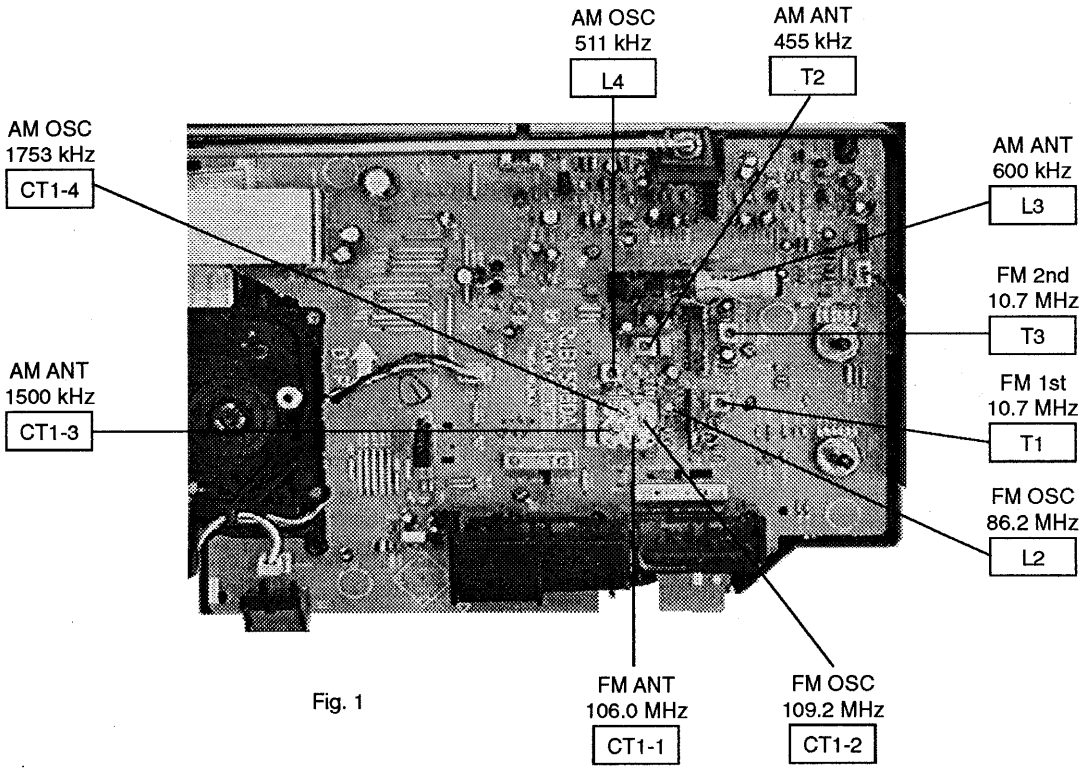



Fig. 1

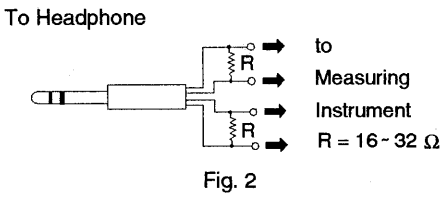



Fig. 2

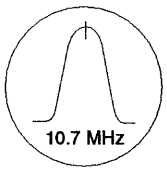



Fig. 3

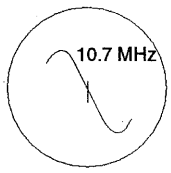



Fig. 4

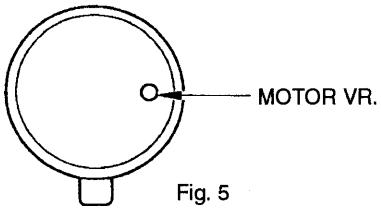



Fig. 5

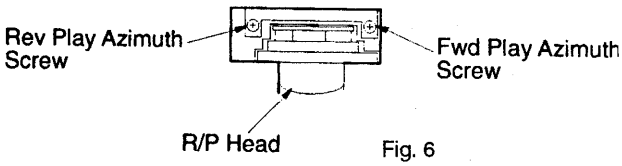
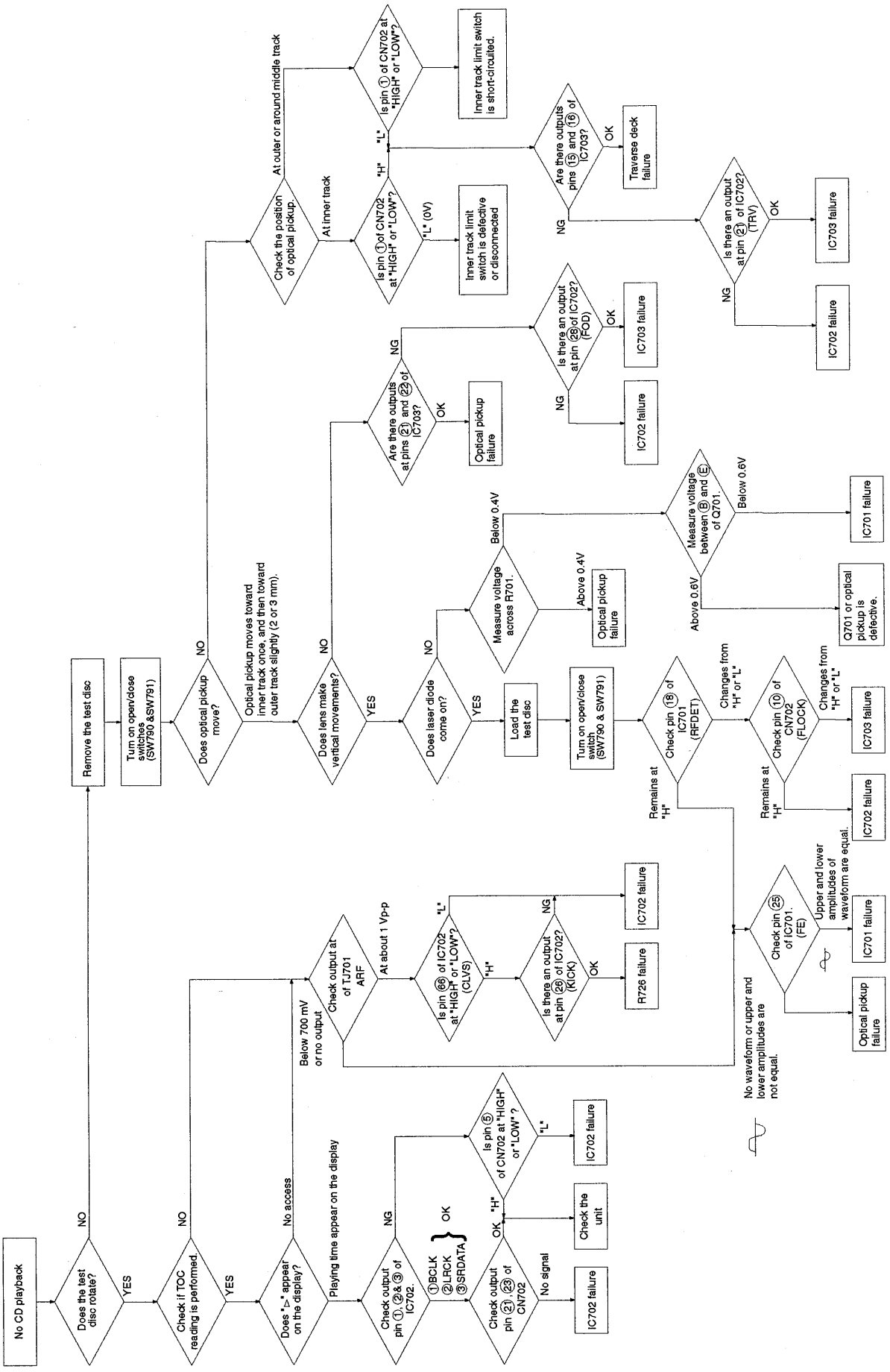



Fig. 6

# ■ Troubleshooting Guide



# ■ Terminal Functions Of ICs

## • IC701 (AN8835SBE1) Servo Amplifier

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 1 | PDA | I | PD signal input |
| 2 | PDB | I | PD signal input |
| 3 | VCC | I | Power supply connection |
| 4 | LPD | I | Laser PD connection |
| 5 | LD | O | Power out for LD driving |
| 6 | RF | O | RF signal output |
| 7 | RFIN | I | RF signal input |
| 8 | CAGC | I | AGC loop filter connection |
| 9 | ARF | O | RF-AGC output |
| 10 | CSBRT | I | Capacitor for detection connection |
| 11 | CEA | I | Capacitor connection for HPF amplifier |
| 12 | BDO | O | BDO output ("H" : drop out) |
| 13 | LDON | I | LD APC input ("H" : ON, "L" : OFF) |
| 14 | GND | — | Ground connection |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 15 | /RFDET | O | NRFDET output ("L" : detection) |
| 16 | CROSS | O | CROSS output (Track cross signal output) |
| 17 | OFTR | O | Off-track output("L" : ON track, "H" : OFF track) |
| 18 | VDET | O | VDET output("H" : Vibration detected) |
| 19 | ENV | O | RF envelope detection |
| 20 | TEBPF | I | Vibration detection signal input |
| 21 | CCRS | I | Capacitor for LPF connection |
| 22 | TE | O | Tracking error signal output |
| 23 | FE | O | Focus error signal output |
| 24 | TBAL | I | Tracking balance signal input |
| 25 | FBAL | I | Focus balance signal input |
| 26 | VREF | O | Reference voltage output |
| 27 | PDE | I | PD signal input |
| 28 | PDF | I | PD signal input |

## • IC703 (AN8389SE1) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

| 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 |
|---|---|---|---|
| 13 | PVCC1 | I | Power supply (1) for driver |
| 14 | PGND1 | — | Ground connection (1) for driver |
| 15 | D1– | O | Motor driver (1) reverse-action output |
| 16 | D1+ | O | Motor driver (1) forward-action output |
| 17 | D2– | O | Motor driver (2) reverse-action output |
| 18 | D2+ | O | Motor driver (2) forward-action output |
| 19 | D3– | O | Motor driver (3) reverse-action output |
| 20 | D3+ | O | Motor driver (3) forward-action output |
| 21 | D4– | O | Motor driver (4) reverse-action output |
| 22 | D4+ | O | Motor driver (4) forward-action output |
| 23 | PGND2 | — | Ground connection (2) for driver |
| 24 | PVCC2 | I | Power supply (2) for driver |

## • IC702 (MN662741RPA) Servo processor / Digital signal processor / Digital filter / D/A converter

| 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) |
| 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) |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 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 | Sub-code frame clock signal output |
| | | | (fCLDCK=7.35kHz during normal playback) |
| 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 | Clock input for sub-code serial data |
| | | | (Not used, open) |
| 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 |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 72 | AVDD1 | I | Power supply input (for analog circuit) |
| 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 |

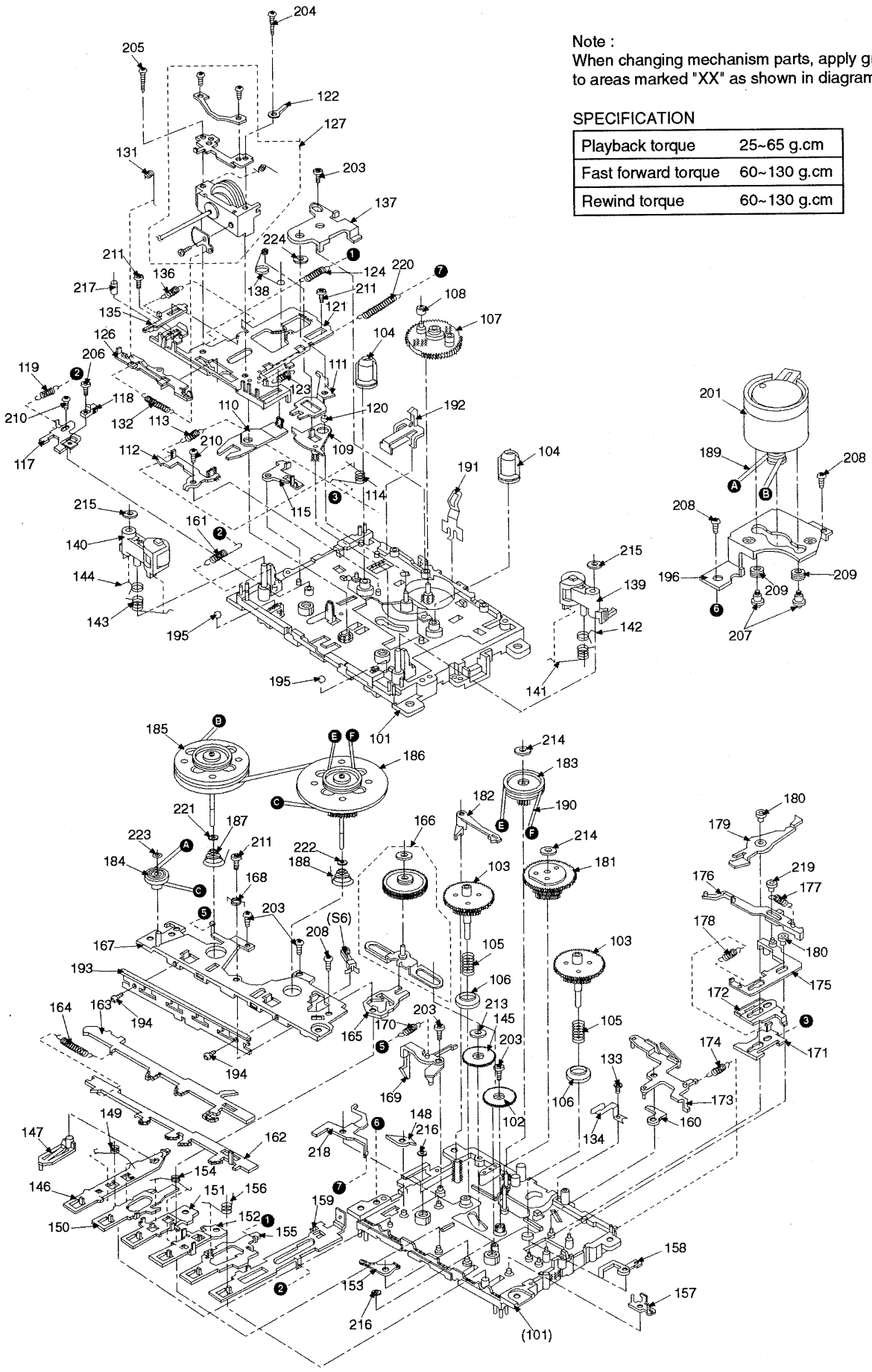
| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| | | | "L" : 16.9344MHz "H" : 33.8688MHz |
| 78 | PSEL | I | Test input (normally "L") (Not used, open) |
| 79 | MSEL | I | Output mode switching of SUBQ terminal |
| | | | ("H" : Q code buffer mode) |
| 80 | SSEL | I | Output frequency switching for SMCK terminal |
| | | | "H" : SMCK=8.4672MHz |
| | | | "L" : MCK=4.2336MHz (Not used, open) |

## • IC801 (MNB4532REBD) System Microprocessor

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 1 | SEG6 | O | Not used |
| 2 | SEG5 | O | |
| 3-6 | SEG4~SEG1 | O | LCD segment output |
| 7-10 | COM3~COM0 | O | LCD common output |
| 11-13 | VLCD3~VLCD1 | I | LCD bias voltage |
| 14 | VDD | I | VDD (+5.0V) |
| 15 | OSC1 | I | System clock OSC |
| 16 | OSC2 | O | |
| 17 | X0 | I | Not used |
| 18 | X1 | O | Not used, connect to VDD through resistor |
| 19 | VSS | I | GND |
| 20 | RST | I | System reset signal input |
| 21 | P30 | I | CD close detect switch signal input |
| 22 | P31 | I | REC detect signal input |
| 23 | P32 | I | CD subcode data input |
| 24 | P33 | I | CD subcode clock input |
| 25 | P00 | I | Reset SW (S701) signal input |
| 26 | P01 | I | CD tracking signal input |

| Pin No. | Mark | I/O | Function |
|---|---|---|---|
| 27 | P02 | I | CD focus lock signal input |
| 28 | P03 | I | CD sense signal input |
| 29 | P10 | I | CD status signal input |
| 30 | P11 | I/O | Not used |
| 31 | P12 | O | CD reset signal input |
| 32 | P13 | O | CD subcode clock output |
| 33 | P20 | I | CD play/pause switch input |
| 34 | P21 | I | CD F.Skip/F.Search switch input |
| 35 | P22 | I | CD R.Skip/R.Search switch input |
| 36 | P23 | I | CD stop switch input |
| 37 | P42 | O | AF muting control signal output |
| 38 | RMO.PEO | I/O | Not used |
| 39 | SEG32 | O | CD signal process IC strove signal output |
| 40 | SEG31 | O | CD signal process IC data output |
| 41 | SEG30 | O | CD signal process IC control signal output |
| 42 | SEG29 | O | CD muting control signal output |
| 43-64 | — | O | Not used |

# ■ Mechanism Parts Location (RAA1607)

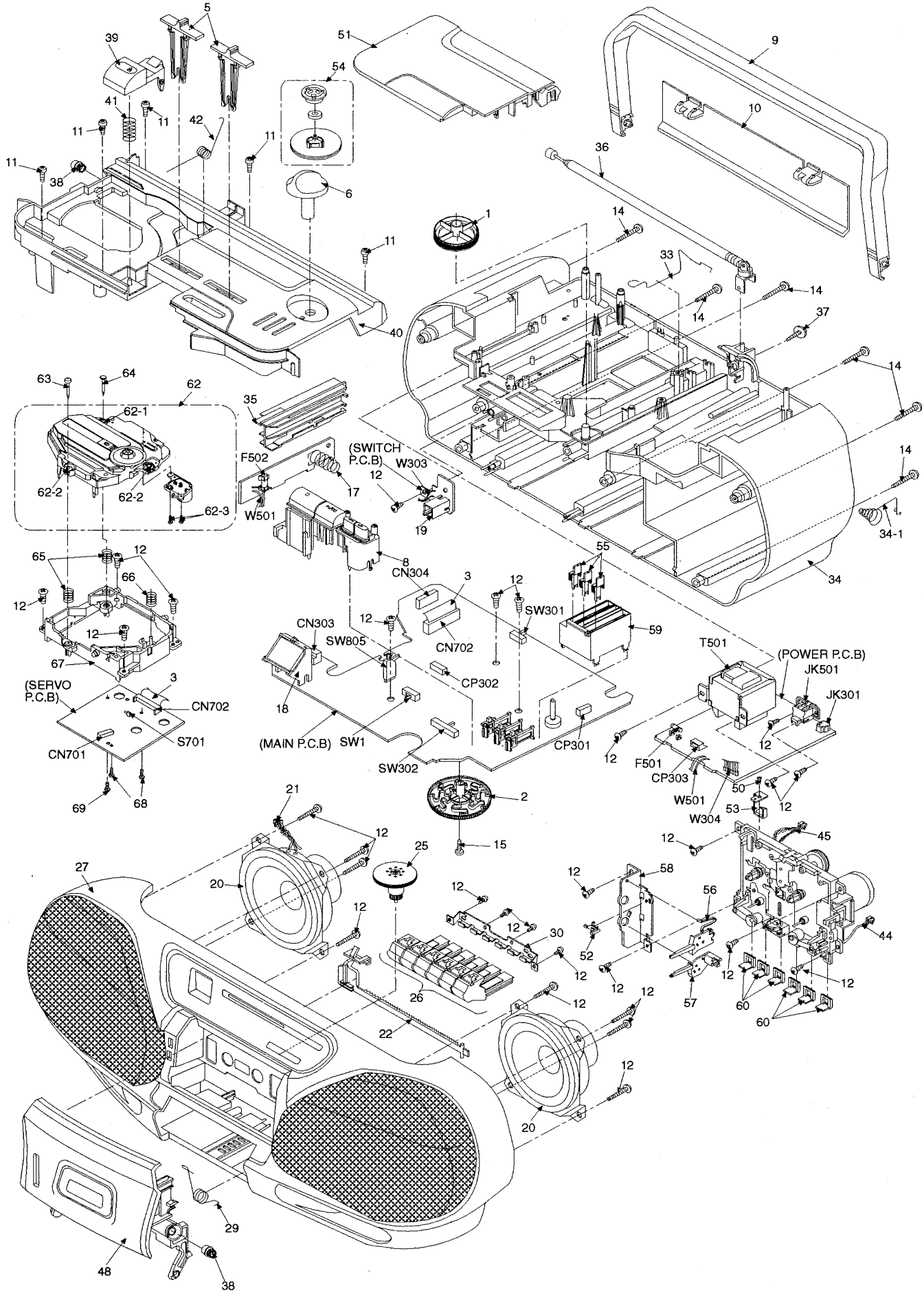


Note :
When changing mechanism parts, apply grease to areas marked "XX" as shown in diagram.

SPECIFICATION

| | |
|---|---|
| Playback torque | 25~65 g.cm |
| Fast forward torque | 60~130 g.cm |
| Rewind torque | 60~130 g.cm |

# ■ Cabinet Parts Location



# ■ Mechanism Parts List

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

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **CASSETTE DECK** | |
| | | | |
| 101 | RFU197ZA | MECHA CHASSIS ASS'Y | [M] |
| 102 | RFG144ZA | FWD GEAR | [M] |
| 103 | RFG154ZA | REEL GEAR | [M] |
| 104 | RFJ94ZA | REEL CAP | [M] |
| 105 | RFS864ZA | SPRING | [M] |
| 106 | RFX176ZA | BUSH-D REEL | [M] |
| 107 | RFG146ZA | REVERSE GEAR-C ASS'Y | [M] |
| 108 | RFX141ZA | COLLER B | [M] |
| 109 | RFD410ZA | IDLER PLATE ASS'Y | [M] |
| 110 | RFD411ZA | REVERSE-C PLATE | [M] |
| 111 | RFD412ZA | REVERSE-D PLATE | [M] |
| 112 | RFD413ZA | MO JOINT PLATE | [M] |
| 113 | RFS865ZA | SPRING | [M] |
| 114 | RFS866ZA | SPRING | [M] |
| 115 | RFD414ZA | PROTECTION REC PLATE | [M] |
| 117 | RFY931ZA | ERASE LEVER | [M] |
| 118 | RJH2C14XZBG | E HEAD | |
| 119 | RFS949ZA | SPRING | [M] |
| 120 | RFX180ZA | COLLER | [M] |
| 121 | RFU180ZA | HEAD CHASSIS ASS'Y | [M] |
| 122 | RFE546ZA | LUG PLATE | [M] |
| 123 | RFS869ZA | SPRING | [M] |
| 124 | RFS870ZA | SPRING | [M] |
| 126 | RFY1036ZA | SLIDE PLATE-C ASS'Y | [M] |
| 127 | RFKQXDS14-K | HEAD BLOCK ASS'Y | [M] |
| 131 | RFS872ZA | SPRING | [M] |
| 132 | RFS873ZA | SPRING | [M] |
| 133 | RFE540ZA | SCREW | [M] |
| 134 | RFD419ZA | SPRING DR PLATE | [M] |
| 135 | RFY980ZA | GEAR STOP LEVER | [M] |
| 136 | RFS917ZA | SPRING | [M] |
| 137 | RFG157ZA | GEAR HOLDER | [M] |
| 138 | RFS874ZA | SPRING | [M] |
| 139 | RFR69ZA | PINCH ROLLER(R)ASS'Y | [M] |
| 140 | RFR70ZA | PINCH ROLLER(L)ASS'Y | [M] |
| 141 | RFS875ZA | SPRING | [M] |
| 142 | RFS876ZA | SPRING | [M] |
| 143 | RFS877ZA | SPRING | [M] |
| 144 | RFS878ZA | SPRING | [M] |
| 145 | RFG149ZA | IDLER GEAR | [M] |
| 146 | RFY934ZA | PAUSE LEVER | [M] |
| 147 | RFY935ZA | PAUSE STOP ARM | [M] |
| 148 | RFY936ZA | PAUSE ARM | [M] |
| 149 | RFS1013ZA | SPRING | [M] |
| 150 | RFY937ZA | STOP LEVER | [M] |
| 151 | RFY983ZA | FF LEVER | [M] |
| 152 | RFY984ZA | REW LEVER | [M] |
| 153 | RFY940ZA | CUE STOP ARM | [M] |
| 154 | RFS879ZA | SPRING | [M] |
| 155 | RFY941ZA | PLAY LEVER | [M] |
| 156 | RFS880ZA | SPRING | [M] |
| 157 | RFD421ZA | SWITCH-A PLATE | [M] |
| 158 | RFD422ZA | SWITCH-C PLATE | [M] |
| 159 | RFY942ZA | REC LEVER | [M] |
| 160 | RFY943ZA | REC ARM | [M] |
| 161 | RFS1014ZA | SPRING | [M] |
| 162 | RFY986ZA | FUNCTION-A PLATE | [M] |
| 163 | RFY999ZA | FUNCTION-D PLATE | [M] |
| 164 | RFS883ZA | SPRING | [M] |
| 165 | RFD423ZA | FF IDLER LEVER | [M] |
| 166 | RFK32ZA | IDLER ASS'Y | [M] |
| 167 | RFY988ZA | LEVER HOLDER ASS'Y | [M] |
| 168 | RFS884ZA | SPRING | [M] |
| 169 | RFY1002ZA | EJECT LEVER | [M] |
| 170 | RFS885ZA | SPRING | [M] |
| 171 | RFD424ZA | MO PLATE | [M] |
| 172 | RFY946ZA | MO LEVER | [M] |
| 173 | RFY947ZA | OR LEVER | [M] |
| 174 | RFS915ZA | SPRING | [M] |
| 175 | RFY948ZA | SENSOR LEVER | [M] |
| 176 | RFY949ZA | SENSOR-B LEVER | [M] |
| 177 | RFS887ZA | SPRING | [M] |
| 178 | RFS888ZA | SPRING | [M] |
| 179 | RFY950ZA | CANCEL LEVER | [M] |
| 180 | RFE260ZA | BUSH | |
| 181 | RFJ95ZA | TENSION ASS'Y | [M] |
| 182 | RFY951ZA | SENSOR STOP ARM | [M] |
| 183 | RFQ66ZA | DRIVE PULLEY | [M] |
| 184 | RFQ70ZA | PULLEY | [M] |
| 185 | RFF85ZA | FLYWHEEL ASS'Y | [M] |
| 186 | RFF83ZA | FLYWHEEL ASS'Y | [M] |
| 187 | RFS889ZA | SPRING | [M] |
| 188 | RFS891ZA | SPRING | [M] |
| 189 | RFB111ZA | BELT | [M] |
| 190 | RFB112ZA | BELT | [M] |
| 191 | RFS890ZA | SPRING PLATE | [M] |
| 192 | RFKRXFS470PK | PLATE ASS'Y | [M] |
| 193 | RFD425ZA | HOLDER | [M] |
| 194 | RFE414ZA | SCREW | |
| 195 | RFW3ZA | STEEL BALL | [M] |
| 196 | RFD449ZA | MOTOR HOLDER | [M] |
| 201 | RFM181ZA | MOTOR ASS'Y | [M] |
| 203 | RFE602ZA | BUSH SCREW | [M] |
| 204 | RFE528ZA | SCREW | [M] |
| 205 | RFE363ZA | SCREW | |
| 206 | RFE626ZA | SCREW | [M] |
| 207 | RFE305ZA | SCREW | |
| 208 | RFE306ZA | SCREW | |
| 209 | RFI24ZA | RUBBER CUSHION | |
| 210 | RFE531ZA | SCREW | [M] |
| 211 | RFE532ZA | SCREW | [M] |
| 213 | RFN162ZA | WASHER | |
| 214 | RFN233ZA | WASHER | [M] |
| 215 | RFN236ZA | WASHER | [M] |
| 216 | RFN234ZA | WASHER | [M] |
| 217 | RFE570ZA | TUBE | [M] |
| 218 | RFY1039ZA | SENSOR STOP PLATE | [M] |
| 219 | RFE539ZA | BUSH | [M] |
| 220 | RFS918ZA | SPRING | [M] |
| 221 | RFN250ZA | WASHER | [M] |
| 222 | RFN114ZA | WASHER | |
| 223 | RFN254ZA | WASHER | [M] |
| 224 | RFN255ZA | WASHER | [M] |
| | | | |
| | | | |

# ■ Repalcement 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.
* [M] Indicates in the Remarks columns indicates parts supplied by **MESA.**
* Warning : This product uses a laser diode. Refer to caution statements on page 2.

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **CABINET AND CHASSIS** | |
| | | | |
| 1 | RDG0315 | MIDDLE GEAR | [M] |
| 2 | RDG5845ZAB | VARICON GEAR | [M] |
| 3 | REE0654 | FFC WIRE | [M] |
| 5 | RGV0159-K | FUNCTION KNOB | [M] |
| 6 | RGW0232-K | VOL. KNOB | [M] |
| 8 | RGZ0028-K | CD OPE. BUTTON | [M] |
| 9 | RKH0031-K | HANDLE | [M] |
| 10 | RKK347ZB-0 | BATTERY COVER | [M] |
| 11 | XTV3+12GFZ | TOP CAB. SCREW | |
| 12 | XTV3+12G | SCREW | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 14 | XTV3+20G | REAR CAB SCREW | |
| 15 | XYN26+C6 | VARICON GEAR SCREW | |
| 17 | RJC511YA | UM-1 BATT SPRING | [M] |
| 18 | RMN0342 | LCD HOLDER | [M] |
| 19 | RMR0897-K | LEAF SW. COVER | [M] |
| 20 | RAS10P06-H | SPEAKER | [M] |
| 21 | REX0751 | SP. CONNECT WIRE | [M] |
| 22 | RGJ0019-W | POINTER | [M] |
| 25 | RGW0231-K | TUNING KNOB | [M] |
| 26 | RGZ0027C-K | MECHA BUTTON | [M] |
| 27 | RFKGXDS14PK | FRONT CAB. ASS'Y | [M] |
| 29 | RME0206 | CASS. OPEN SPRING | [M] |
| 30 | RMY0165 | MECHA BUTTON HOLDER | [M] |
| 33 | RJR0151 | R. ANT TERMINAL | [M] |
| 34 | RFKHXDS14PK | BACK CAB. ASS'Y | [M](P) |
| 34 | RFKHXDS14PCK | BACK CAB. ASS'Y | [M](PC) |
| 34-1 | RJC91006 | BATT. TERMINAL | [M] |
| 35 | RMQ0544 | VO COVER | [M] |
| 36 | XEARR210C-Y | R.ANTENNA | [M] |
| 37 | XYN3+F8FY | R.ANTENNA SCREW | |
| 38 | RDG0183-L | DAMPER GEAR | [M] |
| 39 | RGU1272-K | CD EJECT BUTTON | [M] |
| 40 | RKQ0181F-K | TOP CAB | [M] |
| 41 | RMB0244 | CD EJECT BUTTON SPRI | [M] |
| 42 | RME0147 | CD OPEN SPRING | [M] |
| 44 | REX0750 | MECHA HEAD WIRE | [M] |
| 45 | REX0752 | MECHA MOTOR WIRE | [M] |
| 48 | RFKLXDS14PK | CASS HOLDER ASS'Y | [M] |
| 50 | XTN2+3F | REC LEVER SCREW | |
| 51 | RKF0446-K | CD LID | [M] |
| 52 | RUB567ZB | REVERSE LEVER | [M] |
| 53 | RMA0871 | AUTO REV. MECHA ANGL | [M] |
| 54 | RFKNRXDS15PA | CLAMPER ASS'Y | [M] |
| 55 | RGV0160-K | EQ LEVER | [M] |
| 56 | RGV0161-K | DIRCTION KNOB | [M] |
| 57 | RGV0162-K | REV MODE KNOB | [M] |
| 58 | RMA0870 | REV KNOB ANGLE | [M] |
| 59 | RMK0295 | EQ CHASSIS | [M] |
| 60 | RMQX0001 | MECHANISM BUTT | [M] |
| 62 | RAE0150Z | TRAVERSE UNIT | |
| 62-1 | SHGD112 | FLOATING RUBBER (A) | |
| 62-2 | SHGD113-1 | FLOATING RUBBER (B) | |
| 62-3 | SNSD38 | SCREW | |
| 63 | RMS0350 | FIXED PIN B | |
| 64 | RMS0123-1 | FIXED PIN A | |
| 65 | RME0109 | FLOATING SPRING A | |
| 66 | RME0142 | FLOATING SPRING B | |
| 67 | RMR0698-K | TRAVERSE CHASSIS | |
| 68 | XTV2+6G | SCREW | |
| 69 | XTN2+6G | SCREW | |
| | | | |
| | | **INTEGRATED CIRCUITS** | |
| | | | |
| IC1 | AN7205 | IC, AMP | |
| IC2 | BA1442A | IC, MPX / IF | [M] |
| IC301 | AN7317 | IC, PLAYBACK/REC AMP | [M] |
| IC302 | BA7755A | IC, SW | |
| IC305 | TA8227P | IC, POWER | [M] |
| IC801 | MNB4532REBD | IC, CD CONTROL MCON | [M] |
| IC802 | PST600DTA | IC, RESET | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **TRANSISTORS** | |
| | | | |
| Q101 | 2SJ40CDTA | TRANSISTOR | |
| Q102 | 2SJ40CDTA | TRANSISTOR | |
| Q103 | 2SC1684STA | TRANSISTOR | |
| Q104 | 2SC1684STA | TRANSISTOR | |
| Q105 | BA1A4ZTA | TRANSISTOR | [M] |
| Q106 | 2SC2785FTA | TRANSISTOR | |
| Q107 | 2SC1684RTA | TRANSISTOR | |
| Q171 | 2SC1684STA | TRANSISTOR | |
| Q172 | 2SC1684STA | TRANSISTOR | |
| Q201 | 2SJ40CDTA | TRANSISTOR | |
| Q202 | 2SJ40CDTA | TRANSISTOR | |
| Q203 | 2SC1684STA | TRANSISTOR | |
| Q204 | 2SC1684STA | TRANSISTOR | |
| Q205 | BA1A4ZTA | TRANSISTOR | [M] |
| Q206 | 2SC2785FTA | TRANSISTOR | |
| Q207 | 2SC1684RTA | TRANSISTOR | |
| Q271 | 2SC1684STA | TRANSISTOR | |
| Q272 | 2SC1684STA | TRANSISTOR | |
| Q301 | 2SC1740SRTA | TRANSISTOR | |
| Q303 | 2SC1684STA | TRANSISTOR | |
| Q304 | BA1A4MTA | TRANSISTOR | [M] |
| Q305 | 2SC1684STA | TRANSISTOR | ⚠ |
| Q306 | 2SA952LTA | TRANSISTOR | [M]⚠ |
| Q307 | BA1A4MTA | TRANSISTOR | [M]⚠ |
| Q308 | BN1A4MTA | TRANSISTOR | [M]⚠ |
| Q309 | 2SB1185E | TRANSISTOR | ⚠ |
| Q310 | 2SC2785FTA | TRANSISTOR | ⚠ |
| Q311 | 2SC2001L1TA | TRANSISTOR | ⚠ |
| Q801 | BA1A4MTA | TRANSISTOR | [M] |
| | | | |
| | | **DIODES** | |
| | | | |
| D1 | RVD1SS133TA | DIODE | |
| D301 | RVD1SS133TA | DIODE | |
| D302 | RVD1SS133TA | DIODE | |
| D303 | RVD1SS133TA | DIODE | |
| D304 | RVDMTZ6R2ATA | DIODE | [M]⚠ |
| D305 | RVD1SS133TA | DIODE | |
| D306 | RVD1SS133TA | DIODE | |
| D307 | RVDMTZ8R2BTA | DIODE | ⚠ |
| D308 | RVD1SS133TA | DIODE | |
| D309 | RVD1SS133TA | DIODE | |
| D310 | MTZJ5R6BTA | DIODE | ⚠ |
| D311 | RVD1SS133TA | DIODE | |
| D312 | RVD1SS133TA | DIODE | |
| D314 | RVD1SS133TA | DIODE | |
| D315 | RVD1SS133TA | DIODE | |
| D317 | RVD1SS133TA | DIODE | |
| D501 | 1SR35200TB | DIODE | ⚠ |
| D502 | 1SR35200TB | DIODE | ⚠ |
| D503 | 1SR35200TB | DIODE | ⚠ |
| D504 | 1SR35200TB | DIODE | ⚠ |
| D801 | RVD1SS133TA | DIODE | |
| D802 | RVD1SS133TA | DIODE | |
| | | | |
| | | **VARIABLE RESISTORS** | |
| | | | |
| VR302 | EWC4UAF20B54 | VR, VOLUME | [M] |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| VR371 | RRV20T02G54A | VR, XBS | [M] |
| VR372 | RRV20T02G54A | VR, BASS | [M] |
| VR373 | RRV20T02G54A | VR, TREBLE | [M] |
| | | | |
| | | **VARIABLE CAPACITOR** | |
| | | | |
| VC1 | RCV4PCT0V1-A | VARICON | [M] |
| | | | |
| | | **SWITCHES** | |
| | | | |
| S6 | RFA107ZA | SW, MOTOR | [M] |
| S501 | RJJ1SM02-H | SW, AC IN(JK501) | ⚠ |
| SW1 | RSS3B45XA-H | SW, BAND | [M] |
| SW171 | ESB6484 | NIL | |
| SW301 | RSS2A56ZA-H | SW, B.P. | [M] |
| SW302 | RSS3D001-H | SW, SELECTOR | [M] |
| SW303 | RSH1A64ZA-U | SW, REC | |
| SW801 | EVQ21405R | SW, PLAY/PAUSE | |
| SW802 | EVQ21405R | SW, FF SKIP/SEARCH | |
| SW803 | EVQ21405R | SW, REV SKIP/SEARCH | |
| SW804 | EVQ21405R | SW, STOP | |
| SW805 | RSH1A012-U | SW, CD OPEN | |
| | | | |
| | | **CONNECTORS** | |
| | | | |
| CN303 | RJS2T5ZA | 2 PIN CONNECTOR | |
| CN304 | RJS1A5210 | 10 PINS WIRE HOLDER | [M] |
| CN702 | RJS1A6823 | 23P FPC CONNECTOR | |
| CP301 | RJP4G18ZA | SOCKET | |
| CP302 | RJP4G18ZA | SOCKET | |
| CP303 | RJP3G9YA | SP PLUG (3P) | |
| | | | |
| | | **COILS & TRANSFORMERS** | |
| | | | |
| L1 | RLQY30S1W | COIL | [M] |
| L2 | RL04P002-E | COIL | [M] |
| L3 | RLV2C018-0 | AM FERRITE ANT | [M] |
| L4 | RL02B105-M | AM OSC COIL | |
| L301 | RL09B17-T | BIAS OSC COIL | |
| T1 | RLI4B153-M | FM IFT | |
| T2 | RLI2B458-M | AM IFT | |
| T3 | RLI4B153-M | FM IFT | |
| T501 | RTP1K1C007-X | POWER TRANSFORMER | [M]⚠ |
| | | | |
| | | **COMPONENT COMBINATION** | |
| | | | |
| Z801 | RSL5140-L | LCD | [M] |
| | | | |
| | | **CERAMIC FILTERS** | |
| | | | |
| CF1 | RVF107WDZT | CERAMIC FILTER | |
| CF2 | RVFSFU455B | CERAMIC FILTER | |
| | | | |
| | | **OSCILLATORS** | |
| | | | |
| X801 | EF0EC4194T4 | 4.19MHZ RESONATOR | |
| | | | |
| | | **FUSES** | |
| | | | |
| F501 | XBA1C25NBAL | FUSE | [M]⚠ |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| F502 | XBA1C25NBAL | FUSE | [M](PC)⚠ |
| | | | |
| | | **FUSE HOLDERS** | |
| | | | |
| FH501 | EYF52BC | FUSE HOLDER | |
| FH502 | EYF52BC | FUSE HOLDER | |
| FH503 | EYF52BC | FUSE HOLDER | (PC) |
| FH504 | EYF52BC | FUSE HOLDER | (PC) |
| | | | |
| | | **JACKS** | |
| | | | |
| JK301 | RJJ37TK01-C | JK, H.P | |
| JK501 | RJJ1SM02-H | JK, AC IN | ⚠ |
| | | | |
| | | **<SERVO>** | |
| | | | |
| | | **INTEGRATED CIRCUITS** | |
| | | | |
| IC701 | AN8835SBE1 | IC, SERVO AMP. | |
| IC702 | MN662741RPA | IC, DIGITAL LSI | |
| IC703 | AN8389SE1 | IC, COIL/MOTOR DRIVE | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **TRANSISTOR** | |
| | | | |
| Q701 | 2SB709S | TRANSISTOR | |
| | | | |
| | | **SWITCH** | |
| | | | |
| S701 | RSM0006-P | SW, RESET | |
| | | | |
| | | **CONNECTORS** | |
| | | | |
| CN701 | RJU035T016-1 | 16 PIN FFC CONNECTOR | |
| CN702 | RJS1A6723-1Q | 23 PIN FFC CONNECTOR | |
| | | | |
| | | **OSCILLATOR** | |
| | | | |
| X701 | RSXZ16M9M01T | CERAMIC OSC | |
| | | | |
| | | **CHIP JUMPERS** | |
| | | | |
| RJ701 | ERJ8GEY0R00A | 0 1/8W | |
| RJ702 | ERJ8GEY0R00A | 0 1/8W | |
| RJ703 | ERJ8GEY0R00A | 0 1/8W | |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| RJ704 | ERJ8GEY0R00A | 0 1/8W | |
| RJ707 | ERJ8GEY0R00A | 0 1/8W | |
| RJ709 | ERJ8GEY0R00A | 0 1/8W | |
| RJ714 | ERJ8GEY0R00A | 0 1/8W | |
| RJ715 | ERJ8GEY0R00A | 0 1/8W | |
| RJ716 | ERJ8GEY0R00A | 0 1/8W | |
| RJ717 | ERJ8GEY0R00A | 0 1/8W | |
| RJ721 | ERJ8GEY0R00A | 0 1/8W | |
| RJ722 | ERJ8GEY0R00A | 0 1/8W | |
| RJ723 | ERJ8GEY0R00A | 0 1/8W | |
| RJ724 | ERJ8GEY0R00A | 0 1/8W | |
| RJ725 | ERJ8GEY0R00A | 0 1/8W | |
| RJ726 | ERJ8GEY0R00A | 0 1/8W | |
| RJ727 | ERJ8GEY0R00A | 0 1/8W | |
| RJ728 | ERJ8GEY0R00A | 0 1/8W | |
| RJ729 | ERJ8GEY0R00A | 0 1/8W | |
| RJ730 | ERJ8GEY0R00A | 0 1/8W | |
| | | | |
| | | **TEST JUMPERS** | |
| | | | |
| TJ701 | EYF8CU | TEST JUMPER | |
| TJ702 | EYF8CU | TEST JUMPER | |

# ■ Resistors & Capacitors

**Notes :**
* Capacitor values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads.
* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
* Bracketed indications in Values & Remarks columns specify the area (Refer to the first page for area). Parts without these indications can be used for all areas.
* [M] Indicates in the values & remarks column indicates parts supplied by **MESA**

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| | | **RESISTORS** |
| | | |
| R1 | ERDS2TJ470T | 47 1/4W |
| R2 | ERDS2TJ101T | 100 1/4W |
| R4 | ERDS2TJ330T | 33 1/4W |
| R5 | ERDS2TJ101T | 100 1/4W |
| R6 | ERDS2TJ100T | 10 1/4W |
| R10 | ERDS2TJ103T | 10K 1/4W |
| R11 | ERDS2TJ221T | 220 1/4W |
| R12 | ERDS2TJ332T | 3.3K 1/4W |
| R101 | ERDS2TJ153T | 15K 1/4W |
| R102 | ERDS2TJ470T | 47 1/4W |
| R103 | ERDS2TJ472T | 4.7K 1/4W |
| R104 | ERDS2TJ333T | 33K 1/4W |
| R105 | ERDS2TJ153T | 15K 1/4W |
| R107 | ERDS2TJ473T | 47K 1/4W |
| R110 | ERDS2TJ103T | 10K 1/4W |
| R111 | ERDS2TJ153T | 15K 1/4W |
| R112 | ERDS2TJ104T | 100K 1/4W |
| R113 | ERDS2TJ153T | 15K 1/4W |
| R114 | ERDS2TJ121T | 120 1/4W |
| R115 | ERDS2TJ121T | 120 1/4W |
| R117 | ERDS2TJ103T | 10K 1/4W |
| R118 | ERDS2TJ474T | 470K 1/4W |
| R119 | ERDS2TJ102T | 1K 1/4W |
| R121 | ERDS2TJ474T | 470K 1/4W |
| R122 | ERDS2TJ152T | 1.5K 1/4W |
| R123 | ERDS2TJ272T | 2.7K 1/4W |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R171 | ERDS2TJ472T | 4.7K 1/4W |
| R172 | ERDS2TJ474T | 470K 1/4W |
| R173 | ERDS2TJ103T | 10K 1/4W |
| R174 | ERDS2TJ223T | 22K 1/4W |
| R175 | ERDS2TJ223T | 22K 1/4W |
| R176 | ERDS2TJ682T | 6.8K 1/4W |
| R177 | ERDS2TJ682T | 6.8K 1/4W |
| R179 | ERDS2TJ562T | 5.6K 1/4W |
| R180 | ERDS2TJ822T | 8.2K 1/4W |
| R182 | ERDS2TJ153T | 15K 1/4W |
| R183 | ERDS2TJ104T | 100K 1/4W |
| R184 | ERDS2TJ822T | 8.2K 1/4W |
| R185 | ERDS2TJ473T | 47K 1/4W |
| R186 | ERDS2TJ473T | 47K 1/4W |
| R187 | ERDS2TJ224T | 220K 1/4W |
| R188 | ERDS2TJ332T | 3.3K 1/4W |
| R201 | ERDS2TJ153T | 15K 1/4W |
| R202 | ERDS2TJ470T | 47 1/4W |
| R203 | ERDS2TJ472T | 4.7K 1/4W |
| R204 | ERDS2TJ333T | 33K 1/4W |
| R205 | ERDS2TJ153T | 15K 1/4W |
| R207 | ERDS2TJ473T | 47K 1/4W |
| R210 | ERDS2TJ103T | 10K 1/4W |
| R211 | ERDS2TJ153T | 15K 1/4W |
| R212 | ERDS2TJ104T | 100K 1/4W |
| R213 | ERDS2TJ153T | 15K 1/4W |
| R214 | ERDS2TJ121T | 120 1/4W |
| R215 | ERDS2TJ121T | 120 1/4W |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R217 | ERDS2TJ103T | 10K 1/4W |
| R218 | ERDS2TJ474T | 470K 1/4W |
| R219 | ERDS2TJ102T | 1K 1/4W |
| R221 | ERDS2TJ474T | 470K 1/4W |
| R222 | ERDS2TJ152T | 1.5K 1/4W |
| R223 | ERDS2TJ272T | 2.7K 1/4W |
| R271 | ERDS2TJ472T | 4.7K 1/4W |
| R272 | ERDS2TJ474T | 470K 1/4W |
| R273 | ERDS2TJ103T | 10K 1/4W |
| R274 | ERDS2TJ223T | 22K 1/4W |
| R275 | ERDS2TJ223T | 22K 1/4W |
| R276 | ERDS2TJ682T | 6.8K 1/4W |
| R277 | ERDS2TJ682T | 6.8K 1/4W |
| R279 | ERDS2TJ562T | 5.6K 1/4W |
| R280 | ERDS2TJ822T | 8.2K 1/4W |
| R282 | ERDS2TJ153T | 15K 1/4W |
| R283 | ERDS2TJ104T | 100K 1/4W |
| R284 | ERDS2TJ822T | 8.2K 1/4W |
| R285 | ERDS2TJ473T | 47K 1/4W |
| R286 | ERDS2TJ473T | 47K 1/4W |
| R287 | ERDS2TJ224T | 220K 1/4W |
| R288 | ERDS2TJ332T | 3.3K 1/4W |
| R301 | ERDS2TJ334T | 330K 1/4W |
| R302 | ERDS2TJ334T | 330K 1/4W |
| R304 | ERDS2TJ221T | 220 1/4W |
| R305 | ERDS2TJ392T | 3.9K 1/4W |
| R306 | ERDS2TJ222T | 2.2K 1/4W |
| R307 | ERDS2TJ221T | 220 1/4W |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R308 | ERDS2TJ563T | 56K 1/4W |
| R309 | ERDS2TJ472T | 4.7K 1/4W |
| R310 | ERDS2TJ473T | 47K 1/4W |
| R311 | ERDS2TJ4R7T | 4.7 1/4W |
| R312 | ERDS2TJ391T | 390 1/4W |
| R313 | ERDS2TJ475T | 4.7M 1/4W |
| R314 | ERDS2TJ470T | 47 1/4W |
| R315 | ERDS2TJ682T | 6.8K 1/4W |
| R317 | ERDS2TJ153T | 15K 1/4W |
| R318 | ERDS2TJ103T | 10K 1/4W |
| R319 | ERX12SJ4R7E | 4.7 1/2W [M] |
| R320 | ERDS2TJ5R6T | 5.6 1/4W |
| R322 | ERDS2TJ221T | 220 1/4W |
| R323 | ERDS2TJ102T | 1K 1/4W |
| R324 | ERDS2TJ681T | 680 1/4W |
| R325 | ERDS2TJ473T | 47K 1/4W |
| R326 | ERDS2TJ681T | 680 1/4W |
| R327 | ERDS2TJ221T | 220 1/4W |
| R328 | ERDS2TJ680T | 68 1/4W |
| R329 | ERDS2TJ332T | 3.3K 1/4W |
| R330 | ERDS2TJ473T | 47K 1/4W |
| R331 | ERDS2TJ222T | 2.2K 1/4W |
| R332 | ERDS2TJ473T | 47K 1/4W |
| R333 | ERDS2TJ222T | 2.2K 1/4W |
| R334 | ERDS2TJ222T | 2.2K 1/4W |
| R342 | ERDS2TJ222T | 2.2K 1/4W |
| R343 | ERDS2TJ222T | 2.2K 1/4W |
| R344 | ERDS2TJ101T | 100 1/4W |

| Ref. No. | Part No. | Values & Remarks | |
|---|---|---|---|
| R351 | ERDS2TJ473T | 47K | 1/4W |
| R501 | ERDS2TJ222T | 2.2K | 1/4W |
| R701 | ERJ6GEYJ4R7V | 4.7 | 1/10W |
| R703 | ERJ6GEYJ823 | 82K | 1/10W |
| R704 | ERJ6GEYJ102V | 1K | 1/10W |
| R705 | ERJ6GEYJ103V | 10K | 1/10W |
| R706 | ERJ6GEYJ102V | 1K | 1/10W |
| R707 | ERJ6GEYJ474V | 470K | 1/10W |
| R708 | ERJ6GEYJ154V | 150K | 1/10W |
| R709 | ERJ6GEYJ683V | 68K | 1/10W |
| R711 | ERJ6GEYJ154V | 150K | 1/10W |
| R712 | ERJ6GEYJ221V | 220 | 1/10W |
| R717 | ERJ6GEYJ102V | 1K | 1/10W |
| R718 | ERJ6GEYJ102V | 1K | 1/10W |
| R719 | ERJ6GEYJ102V | 1K | 1/10W |
| R720 | ERJ6GEYJ102V | 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 | ERJ6GEYJ822V | 8.2K | 1/10W |
| R728 | ERJ6GEYJ103V | 10K | 1/10W |
| R731 | ERJ6GEYJ822V | 8.2K | 1/10W |
| R734 | ERJ6GEYJ101V | 100 | 1/10W |
| R735 | ERJ6GEYJ101V | 100 | 1/10W |
| R736 | ERJ6GEYJ101V | 100 | 1/10W |
| R738 | ERJ6GEYJ223V | 22K | 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 | ERJ6GEYJ682V | 6.8K | 1/10W |
| R750 | ERJ6GEYJ473V | 47K | 1/10W |
| R751 | ERJ6GEYJ473V | 47K | 1/10W |
| R752 | ERJ8GEYJ220V | 22 | 1/8W |
| R770 | ERJ6GEYJ155V | 1.5M | 1/10W |
| R771 | ERJ6GEYJ155V | 1.5M | 1/10W |
| R772 | ERJ6GEYJ273V | 27K | 1/10W |
| R801 | ERDS2TJ104T | 100K | 1/4W |
| R802 | ERDS2TJ104T | 100K | 1/4W |
| R803 | ERDS2TJ104T | 100K | 1/4W |
| R805 | ERDS2TJ104T | 100K | 1/4W |
| R812 | ERDS2TJ563T | 56K | 1/4W |
| R813 | ERDS2TJ392T | 3.9K | 1/4W |
| R814 | ERDS2TJ104T | 100K | 1/4W |
| | | | |
| | | **CAPACITORS** | |
| | | | |
| C1 | ECFR1C223MR | 0.022 | 16V |
| C2 | ECBT1H470J5 | 47P | 50V |
| C3 | ECBT1H200JC5 | 20P | 50V |
| C4 | ECBT1H100JC5 | 10P | 50V |
| C5 | ECBT1H102KB5 | 1000P | 50V |
| C6 | ECBT1H102KB5 | 1000P | 50V |
| C7 | ECBT1H4R7KC5 | 4.7P | 50V |
| C8 | ECBT1H150JC5 | 15P | 50V |

| Ref. No. | Part No. | Values & Remarks | |
|---|---|---|---|
| C9 | ECBT1H102KB5 | 1000P | 50V |
| C10 | ECBT1H120JC5 | 12P | 50V |
| C11 | ECBT1H200JC5 | 20P | 50V |
| C12 | ECBT0J223MS5 | 0.022 | 6.3V |
| C13 | ECBT0J223MS5 | 0.022 | 6.3V |
| C14 | ECBT1H221KB5 | 220P | 50V |
| C15 | ECEA1HKA010B | 1 | 50V |
| C16 | ECBT1C472MR5 | 4700P | 16V |
| C17 | ECEA1EU100B | 10 | 25V |
| C18 | ECEA1EU100B | 10 | 25V |
| C20 | ECEA0JKA101B | 100 | 6.3V |
| C21 | ECBT1H102KB5 | 1000P | 50V |
| C22 | ECFR1C473MR | 0.047 | 16V |
| C23 | ECEA1HUR22B | 0.22 | 50V |
| C24 | ECEA1EU100B | 10 | 25V |
| C25 | ECBT1C103MS5 | 0.01 | 16V |
| C26 | ECBT0J223MS5 | 0.022 | 6.3V |
| C30 | ECBT1H5R6KC5 | 5.6P | 50V |
| C32 | ECBT1H102KB5 | 1000P | 50V |
| C44 | ECBT1H331KB5 | 330P | 50V |
| C46 | ECBT1H102KB5 | 1000P | 50V |
| C101 | ECBT1C122MR5 | 1200P | 16V |
| C102 | ECBT1H102KB5 | 1000P | 50V |
| C103 | ECBT1H102KB5 | 1000P | 50V |
| C104 | ECEA1CKA100B | 10 | 16V |
| C105 | ECBT1H101KB5 | 100P | 50V |
| C106 | ECFR1C273KR | 0.027 | 16V |
| C107 | ECEA0JU101B | 100 | 6.3V |
| C108 | ECEA1HU010B | 1 | 50V |
| C109 | ECBT1H101KB5 | 100P | 50V |
| C112 | ECEA1HU2R2B | 2.2 | 50V |
| C113 | ECEA0JU101B | 100 | 6.3V |
| C114 | ECEA1CU101B | 100 | 16V |
| C115 | ECQV1H184JZ3 | 0.18 | 50V |
| C116 | ECEA1AU471B | 470 | 10V |
| C117 | ECBT1H102KB5 | 1000P | 50V |
| C118 | ECFR1C123MR | 0.012 | 16V |
| C119 | ECEA1HU010B | 1 | 50V |
| C120 | ECEA1HU2R2B | 2.2 | 50V |
| C121 | ECBT1H331KB5 | 330P | 50V |
| C122 | ECFR1C473MR | 0.047 | 16V |
| C124 | ECEA1HU010B | 1 | 50V |
| C125 | ECEA1HU010B | 1 | 50V |
| C171 | ECEA1HU010B | 1 | 50V |
| C172 | ECEA1HU010B | 1 | 50V |
| C173 | ECBT0J153MS5 | 0.015 | 6.3V |
| C174 | ECFR1C473KR | 0.047 | 16V |
| C175 | ECBT0J153MS5 | 0.015 | 6.3V |
| C176 | ECBT1C222MR5 | 2200P | 16V |
| C178 | ECBT0J153MS5 | 0.015 | 6.3V |
| C179 | ECBT0J223MS5 | 0.022 | 6.3V |
| C180 | ECBT0J223MS5 | 0.022 | 6.3V |
| C181 | ECEA1HU010B | 1 | 50V |
| C201 | ECBT1C122MR5 | 1200P | 16V |
| C202 | ECBT1H102KB5 | 1000P | 50V |
| C203 | ECBT1H102KB5 | 1000P | 50V |
| C204 | ECEA1CKA100B | 10 | 16V |
| C205 | ECBT1H101KB5 | 100P | 50V |
| C206 | ECFR1C273KR | 0.027 | 16V |
| C207 | ECEA0JU101B | 100 | 6.3V |

| Ref. No. | Part No. | Values & Remarks | |
|---|---|---|---|
| C208 | ECEA1HU010B | 1 | 50V |
| C209 | ECBT1H101KB5 | 100P | 50V |
| C212 | ECEA1HU2R2B | 2.2 | 50V |
| C213 | ECEA0JU101B | 100 | 6.3V |
| C214 | ECEA1CU101B | 100 | 16V |
| C215 | ECQV1H184JZ3 | 0.18 | 50V |
| C216 | ECEA1AU471B | 470 | 10V |
| C217 | ECBT1H102KB5 | 1000P | 50V |
| C218 | ECFR1C123MR | 0.012 | 16V |
| C219 | ECEA1HU010B | 1 | 50V |
| C220 | ECEA1HU2R2B | 2.2 | 50V |
| C221 | ECBT1H331KB5 | 330P | 50V |
| C222 | ECFR1C473MR | 0.047 | 16V |
| C224 | ECEA1HU010B | 1 | 50V |
| C225 | ECEA1HU010B | 1 | 50V |
| C271 | ECEA1HU010B | 1 | 50V |
| C272 | ECEA1HU010B | 1 | 50V |
| C273 | ECBT0J153MS5 | 0.015 | 6.3V |
| C274 | ECFR1C473KR | 0.047 | 16V |
| C275 | ECBT0J153MS5 | 0.015 | 6.3V |
| C276 | ECBT1C222MR5 | 2200P | 16V |
| C278 | ECBT0J153MS5 | 0.015 | 6.3V |
| C279 | ECBT0J223MS5 | 0.022 | 6.3V |
| C280 | ECBT0J223MS5 | 0.022 | 6.3V |
| C281 | ECEA1HU010B | 1 | 50V |
| C303 | ECQP2A151JZT | 150P | 100V |
| C304 | ECBT1C103MS5 | 0.01 | 16V |
| C307 | ECQP1182JZ | 1800P | 100V |
| C308 | ECEA1AU101B | 100 | 10V |
| C309 | ECBT1C682MR5 | 6800P | 16V |
| C310 | ECBT1C103MS5 | 0.01 | 16V |
| C311 | ECFR1C473MR | 0.047 | 16V |
| C312 | ECEA1CU100B | 10 | 16V |
| C313 | ECEA1AU330B | 33 | 10V |
| C314 | ECEA1AU101B | 100 | 10V |
| C315 | ECEA1AU220B | 22 | 10V |
| C316 | ECEA1AU331B | 330 | 10V |
| C318 | ECBT1C103MS5 | 0.01 | 16V |
| C319 | ECEA1CU222B | 2200 | 16V ⚠ |
| C320 | ECBT1C103MS5 | 0.01 | 16V |
| C322 | ECBT1C103MS5 | 0.01 | 16V |
| C323 | ECEA1AU471B | 470 | 10V |
| C324 | ECEA1AU221B | 220 | 10V |
| C326 | ECEA1HU3R3B | 3.3 | 50V |
| C327 | ECEA1AU101B | 100 | 10V |
| C328 | ECEA1CKA100B | 10 | 16V |
| C329 | ECEA1CKA100B | 10 | 16V |
| C331 | ECEA1EU221B | 220 | 25V |
| C332 | ECQV1H105JZ3 | 10 | 50V |
| C339 | ECEA1AKA220B | 22 | 10V |
| C340 | ECEA1CU331B | 330 | 16V |
| C341 | ECEA0JKA221B | 220 | 6.3V |
| C371 | ECEA1AU101B | 100 | 10V |
| C501 | ECKR1H103ZF5 | 0.01 | 50V |
| C502 | ECKR1H103ZF5 | 0.01 | 50V |
| C503 | ECKR1H103ZF5 | 0.01 | 50V |
| C504 | ECKR1H103ZF5 | 0.01 | 50V |
| C701 | ECEA0JKA330I | 33 | 6.3V |
| C702 | ECUZNE104MBN | 0.1 | 25V |
| C703 | ECEA0JKA101I | 100 | 6.3V |

| Ref. No. | Part No. | Values & Remarks | |
|---|---|---|---|
| C704 | ECUZNE104MBN | 0.1 | 25V |
| C705 | ECUZNE104MBN | 0.1 | 25V |
| C706 | ECUV1H272KBN | 2700P | 50V |
| C707 | ECUV1E273KBN | 0.027 | 25V |
| C708 | ECUV1H472KBN | 4700P | 50V |
| C709 | ECUV1C473KBN | 0.047 | 16V |
| C710 | ECUV1H182KBN | 1800P | 50V |
| C711 | ECUZNE104MBN | 0.1 | 25V |
| C712 | ECUZNE104MBN | 0.1 | 25V |
| C713 | ECUV1C104MBM | 0.1 | 16V |
| C714 | ECEA0JKA101I | 100 | 6.3V |
| C716 | ECUV1H561KBN | 560P | 50V |
| C717 | ECUZNE104MBN | 0.1 | 25V |
| C718 | ECUV1C224KBN | 0.22 | 16V |
| C721 | ECUV1H150JCN | 15P | 50V |
| C722 | ECUV1H150JCN | 15P | 50V |
| C723 | ECEA1AKA221I | 220 | 10V |
| C724 | ECUV1C104MBM | 0.1 | 16V |
| C725 | ECUV1H102KBN | 1000P | 50V |
| C726 | ECUV1H102KBN | 1000P | 50V |
| C727 | ECEA1HPK010I | 1 | 50V |
| C728 | ECEA1HPK010I | 1 | 50V |
| C730 | ECUZNE104MBN | 0.1 | 25V |
| C731 | ECEA0JKA221I | 220 | 6.3V |
| C732 | ECEA0JKA221I | 220 | 6.3V |
| C733 | ECUZNE104MBN | 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 | ECUV1E822KBN | 8200P | 25V |
| C745 | ECUV1C473MBN | 0.047 | 16V |
| C747 | ECUV1H222KBN | 2200P | 50V |
| C748 | ECUV1H471KBM | 470P | 50V |
| C749 | ECUZNE104MBN | 0.1 | 25V |
| C751 | ECUZNE104MBN | 0.1 | 25V |
| C752 | ECUV1H152KBN | 1500P | 50V |
| C753 | ECUV1H471KBM | 470P | 50V |
| C754 | ECUV1H471KBN | 470P | 50V |
| C801 | ECEA0JKA101B | 100 | 6.3V |
| C802 | ECBT1H102KB5 | 1000P | 50V |
| C804 | ECEA1HKA010B | 1 | 50V |
| C807 | ECBT1H102KB5 | 1000P | 50V |
| C810 | ECBT1H102KB5 | 1000P | 50V |
| C813 | ECBT1H331KB5 | 330P | 50V |
| C814 | ECBT1H331KB5 | 330P | 50V |
| C815 | ECBT1H101KB5 | 100P | 50V |
| C816 | ECBT1H102KB5 | 1000P | 50V |
| C819 | ECBT1H331KB5 | 330P | 50V |
| C820 | ECBT1H331KB5 | 330P | 50V |
| C821 | ECBT1H331KB5 | 330P | 50V |
| C822 | ECBT1H331KB5 | 330P | 50V |
| C823 | ECBT1H331KB5 | 330P | 50V |

# ■ Packing Materials & Accessories

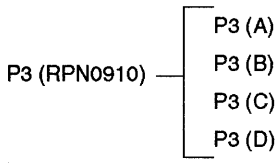
Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
When replacing any of these components, 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.
* [M] Indicates in the Remarks columns indicates parts supplied by **MESA.**

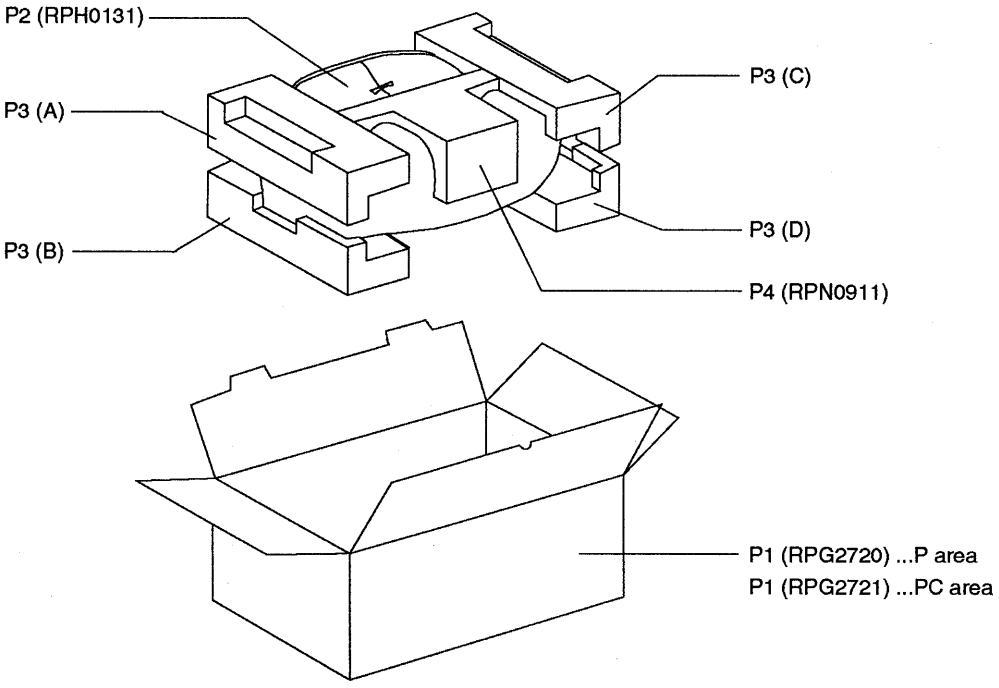
| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **PACKING MATERIALS** | |
| | | | |
| P1 | RPG2720 | GIFT BOX | [M](P) |
| P1 | RPG2721 | GIFT BOX | [M](PC) |
| P2 | RPH0131 | MIRAMAT SHEET | [M] |
| P3 | RPN0910 | POLYFOAM | [M] |
| P4 | RPN0911 | POLYFOAM | [M] |

| Ref No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | **ACCESSORIES** | |
| | | | |
| A1 | RQT3218-P | INSTR. MANUAL | [M](P) |
| A1 | RFKSXDS14PCK | INSTR. MANUAL | [M](PC) |
| A2 | SJA172 | AC CORD | (SF)⚠ |

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

# ■ Packaging

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