

Service Manual

Portable Stereo CD System

Radio Cassette

COMPACT
disc
 DIGITAL AUDIO

***MASH**
 multi-stage noise shaping

RX-DS28

Colour

(K) Black Type



Area

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

* MASH is a trademark of NTT.

TAPE DECK : SG20 MECHANISM SERIES
CD SECTION : RAE0152Z-M TRAVERSE DECK SERIES

■ Specifications

■ Radio

Frequency Range

FM 87.5 - 108 MHz(50 kHz steps)
 AM 522 - 1629 kHz(9 kHz steps)

Intermediate Frequency

FM 10.7 MHz
 AM 459 kHz

Sensitivity

FM 20 dB/50 mW
 AM 48 dB/m/50 mW

■ TAPE RECORDER

Track system 4 track, 2 channel, stereo

Recording System AC bias

Tape Speed 4.8 cm/s

Erasing System Magnet (Multi pole)

Monitor System Variable sound monitor

Frequency range (Normal position) 60 - 14000 Hz

Notes :

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

■ CD PLAYER

Sampling frequency

44.1 kHz

Decoding

16 - bit linear

Beam source

Semiconductor laser (wavelength; 780 nm)

No. of channels

2 channel; stereo

Wow and flutter

less than possible measured data

Digital filter

4fs

D/A converter

MASH (1 bit DAC)

■ General

Power requirement

AC

230-240V, 50 Hz

Power consumption: 48W

Battery

12 V (Eight R20/LR20, D, UM-1 batteries)

• Do not use rechargeable type batteries

Memory back-up for computer

6V (Four "AA" size, UM-3, R6/LR6 batteries)

• Do not use rechargeable type batteries

Speakers

Jacks

10 cm 5.4 Ω x 2

Output

Phones: 3.5 mm stereo (16 - 32 Ω)

Dimensions (W x H x D)

500 x 146 x 263 mm

Weight

4.0 kg without batteries

⚠ WARNING

This service information is designed for experience 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.

Panasonic®

© 1998 Matsushita Electronics (S) Pte. Ltd.
 All rights reserved. Unauthorized copying and
 distribution is a violation of law.

Contents

	PAGE		PAGE
HANDLING PRECAUTIONS FOR TRAVERSE DECK	2	PRINTED CIRCUIT BOARD	25 ~ 29
ACCESSORIES	2	TROUBLESHOOTING GUIDE	30
PRECAUTION OF LASER DIODE	3	MECHANISM PARTS LOCATION (RAA0919)	31
CAUTION FOR AC MAIN LEAD	4	MECHANISM PARTS LIST	32
LOCATION OF CONTROLS	5	LOADING MECHANISM PART LIST	32
LISTENING TO CDs	6	LOADING MECHANISM PARTS LOCATION	33
OPERATION CHECKS	7 ~ 10	CABINET PARTS LOCATION	34
MEASUREMENTS AND ADJUSTMENTS	11	REPLACEMENT PARTS LIST	35 ~ 36
TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES	12	RESISTORS & CAPACITORS	37 ~ 39
TERMINAL FUNCTION OF IC's	12 ~ 14	PACKING MATERIALS & ACCESSORIES	40
WIRING CONNECTION DIAGRAM	15	PACKAGING	40
SCHEMATIC DIAGRAM	16 ~ 24		

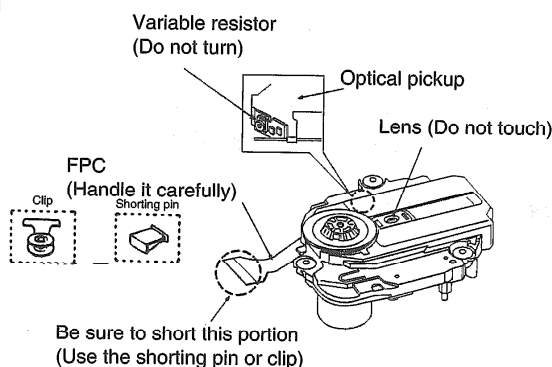
Handling Precautions For Traverse Deck

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

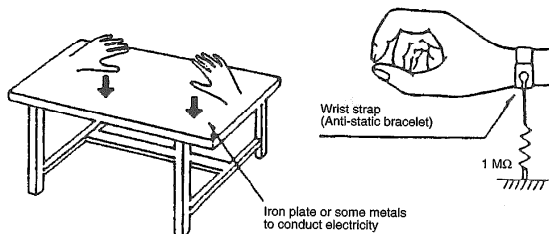


• Grounding for electrostatic breakdown prevention

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

Caution :

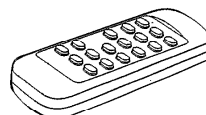
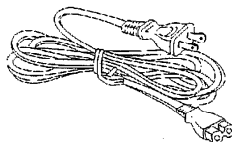
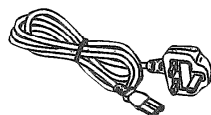
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).



Accessories

☐ AC power cord 1 pc.
(For United Kingdom: VJA0733) (For others)

☐ Remote control transmitter 1 pc.
(EUR646552)



■ Precaution of Laser Diode

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

Wavelength: 780 nm

Maximum output radiation power from pick up: 100 μ W/VDE

Laser radiation from pick up unit 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 pick up 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 laserdioden. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge : 780nm

Maximale strahlungsleistung der lasereinheit : 100 μ W/VDE

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

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

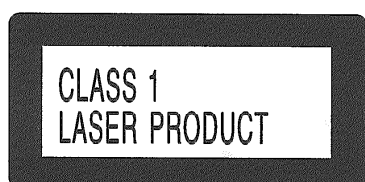
ADVASEL: I dette a apparat anvendes laser.

CAUTION!

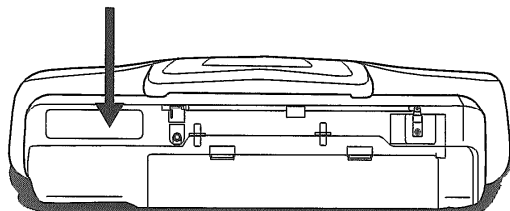
THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

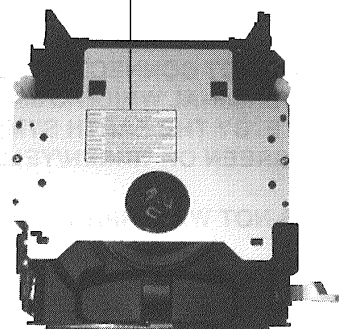
■ Use of Caution Labels



LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVASEL	USYNLIG LASERSTRÅLING VED ÅBNING. HÅR SIKKERHEDSFAFØYDERE
VARO!	ER UDE AF FUNKTION. UNDGA UDSÆTTELSE FOR STRÅLING.
VARNING	ÅVATTAESSA JA SUOJALUKUTUS OHITETTAESSA OLET ALTUUNA.
ADVASEL	NÄKYMÄTÖNTÄ LASERSÄTELYLLÄ. ÄLÄ KATSO SÄTEESSEEN.



■ Caution for AC Mains Lead



(For "EB" area code model only.)

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 mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As these colours 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 which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL \perp OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

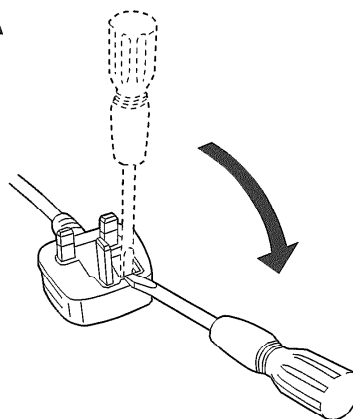
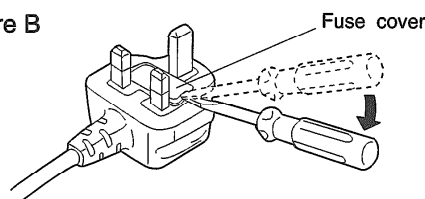


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

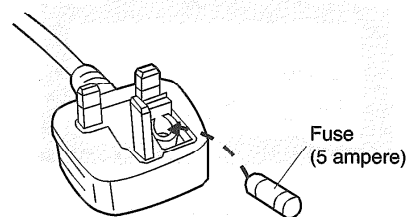
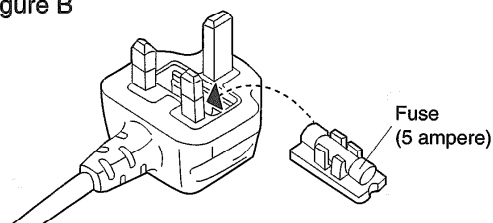
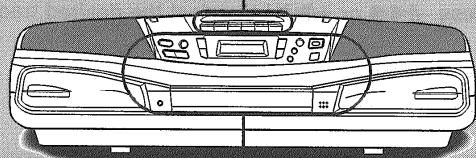
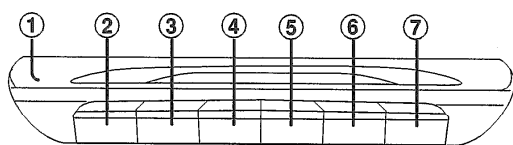
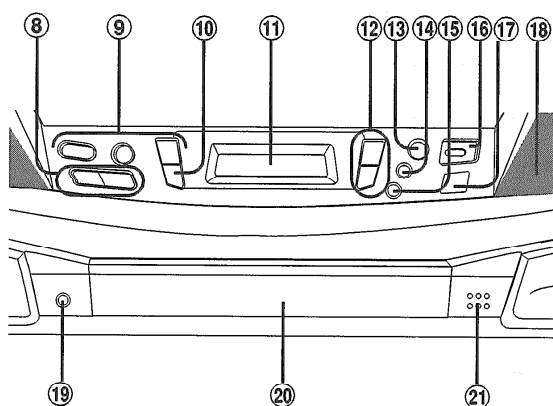
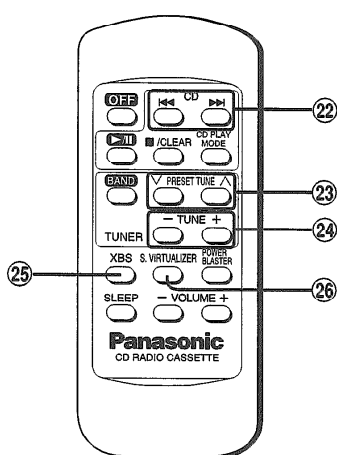


Figure B



A**B****C**

Location of controls

Main unit

A

Number	Designation
1	Deck (Recording/playback)
2	Recording button (● REC)
3	Playback button (▶ PLAY)
4	Rewind/review button (◀◀ REW/REV)
5	Fast forward/cue button (▶▶ FF/CUE)
6	Stop/eject button (■/▲ STOP/EJECT)
7	Pause button (PAUSE)

B

- | Number | Designation |
|--------|---|
| 8 | Tuning/CD skip, search buttons (TUNE/SKIP/SEARCH -/◀◀, +/▶▶) |
| 9 | Function select buttons <ul style="list-style-type: none"> • Tape/power standby button (TAPES/OFF) <p>Press to switch the unit from on to standby mode or vice versa.</p> <p>In standby mode (refer to 19), the unit is still consuming a small amount of power.</p> • Tuner/band button (BAND) • CD play/pause button (▶/) |
| 10 | CD stop/program clear, tuning mode select button (■ CLEAR/TUNE MODE) |
| 11 | Display panel |
| 12 | Volume control buttons (VOLUME +, -) |
| 13 | Sleep timer button (SLEEP) |
| 14 | CD program, tuner preset button (MEMORY) |
| 15 | Stereo/monaural, beat proof button (FM MODE/BP) |
| 16 | CD play mode select button (CD PLAY MODE) |
| 17 | Power blaster button (POWER BLASTER) |
| 18 | Remote control signal sensor (SENSOR) |
| 19 | Speaker |
| 20 | Power/standby/battery indicator (PWR/BATT ◐/◑) |
| 21 | CD tray |
| 22 | CD skip, search buttons (◀◀, ▶▶) |
| 23 | Preset tuning buttons (4 PRESET TUNE 3) |
| 24 | Tuning buttons (- TUNE +) |
| 25 | XBS button (XBS) |
| 26 | Sound virtualizer button (S.VIRTUALIZER) |

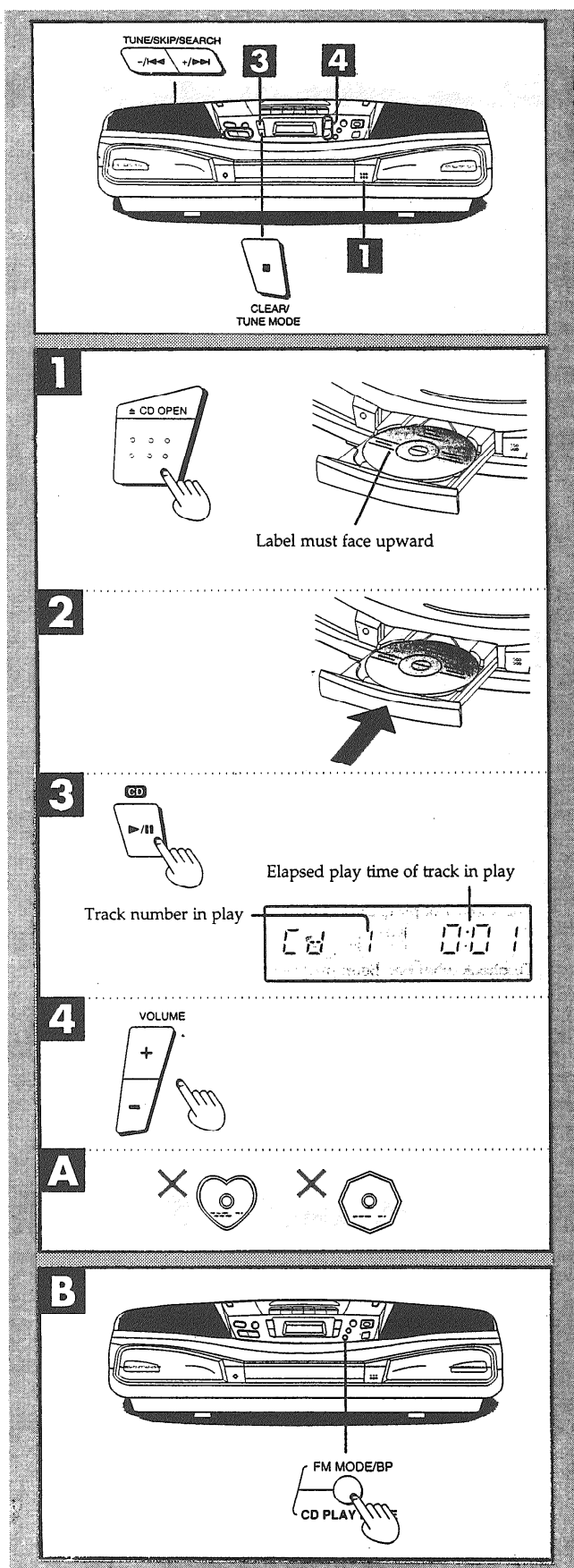
Remote control

The functions of the buttons without numbers are same as on the main unit.

C

Number	Designation
22	CD skip, search buttons (◀◀, ▶▶)
23	Preset tuning buttons (4 PRESET TUNE 3)
24	Tuning buttons (- TUNE +)
25	XBS button (XBS)
26	Sound virtualizer button (S.VIRTUALIZER)

- Press to select the preset channel when presetting radio broadcasts and in preset tuning.
- Press to tune in the station when presetting radio broadcasts and in manual tuning.
- Press to select the preset channel when presetting radio broadcasts and in preset tuning.
- Press to tune in the station when presetting radio broadcasts and in manual tuning.
- Press to select the preset channel when presetting radio broadcasts and in preset tuning.
- Press to tune in the station when presetting radio broadcasts and in manual tuning.



Listening to CDs

Program play

You can program up to 24 tracks.

Before operation:

Program play cannot be used in combination with random play. When "RANDOM" is displayed, press CD PLAY MODE to clear the display.

1 Press **CD**, then press **CLEAR** after the track number has been displayed.

The total number of tracks and total play time of the CD are displayed.

2 Press **←/→** or **+/→** to select the desired track.

3 Press **MEMORY**. "PGM" is displayed.

4 Repeat steps 2 through 3 until you have programmed all the tracks you want.

5 Press **▶/||**. Play will start in the programmed sequence.

When all programmed tracks have been played, "Cd-P" and the total play time will be displayed. **A**

To cancel program play:

Press **CLEAR** in the stop mode to display "CLR".

Pressing **CD OPEN** will cancel program play.

When "----" appears: **B**

This means that the total play time of the programmed tracks has exceeded 120 minutes. Tracks can still be programmed and played.

When "FULL" appears: **C**

The number of programmed tracks is limited to 24. No further tracks can be programmed.

To check what has been programmed:

Press **←/→** or **+/→** when "Cd-P" is displayed at the end of the program. The display will show the track number and programmed sequence.

Memory retention of programmed tracks:

The memory retains the program even if play is stopped or the unit is turned off.

Notes

- During program play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.

■ Operation Checks

" ATTENTION SERVICER " Some chassis component may have shape edges. Be careful when disassembling and servicing.

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.
4. Refer the Parts No. on the page of "Main Component Replacement Procedures", if necessary.

• Contents

	page
• Checking Procedure for each major P.C.B.	
1. Checking for the Servo, Main, CD Leaf SW, LED and Panel P.C.B.....	7 ~ 8
2. Checking for the Battery and Power P.C.B.	8
3. Replacement for the Traverse Deck	9 ~ 10

Warning : This product uses a laser diode. Refer to caution statement on page 3.

ACHTUNG : • Die lasereinheit nicht zerlegen.

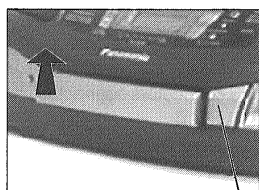
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

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

1. Checking for the Servo, Main, CD Leaf SW, Led and Panel P.C.B.

Step 1

Press the CD OPEN button and pull out the CD Lid in the direction of arrow.



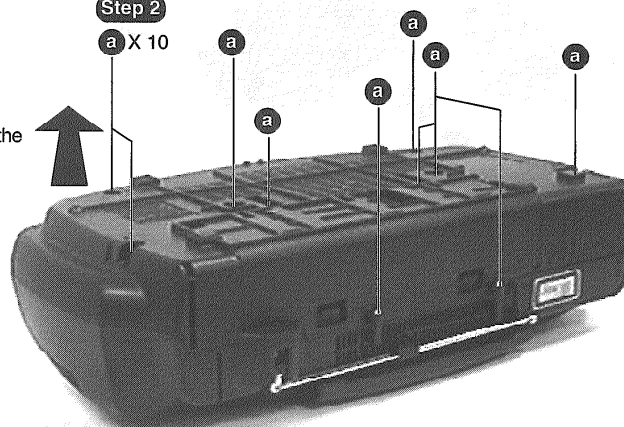
CD OPEN button

Step 3

Lift up the bottom cabinet to open the set in the direction of arrow.

Step 2

a X 10

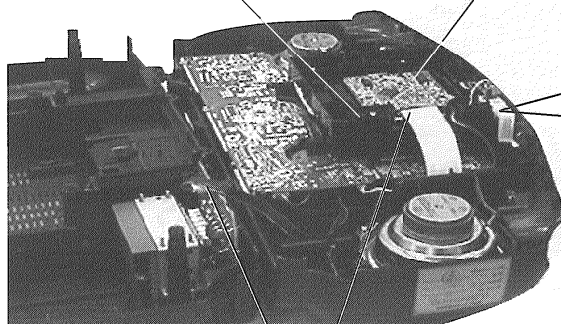


[XTV3+20G-M]

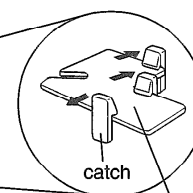
(Brass)

CD LOADING MECHANISM

SERVO P.C.B.



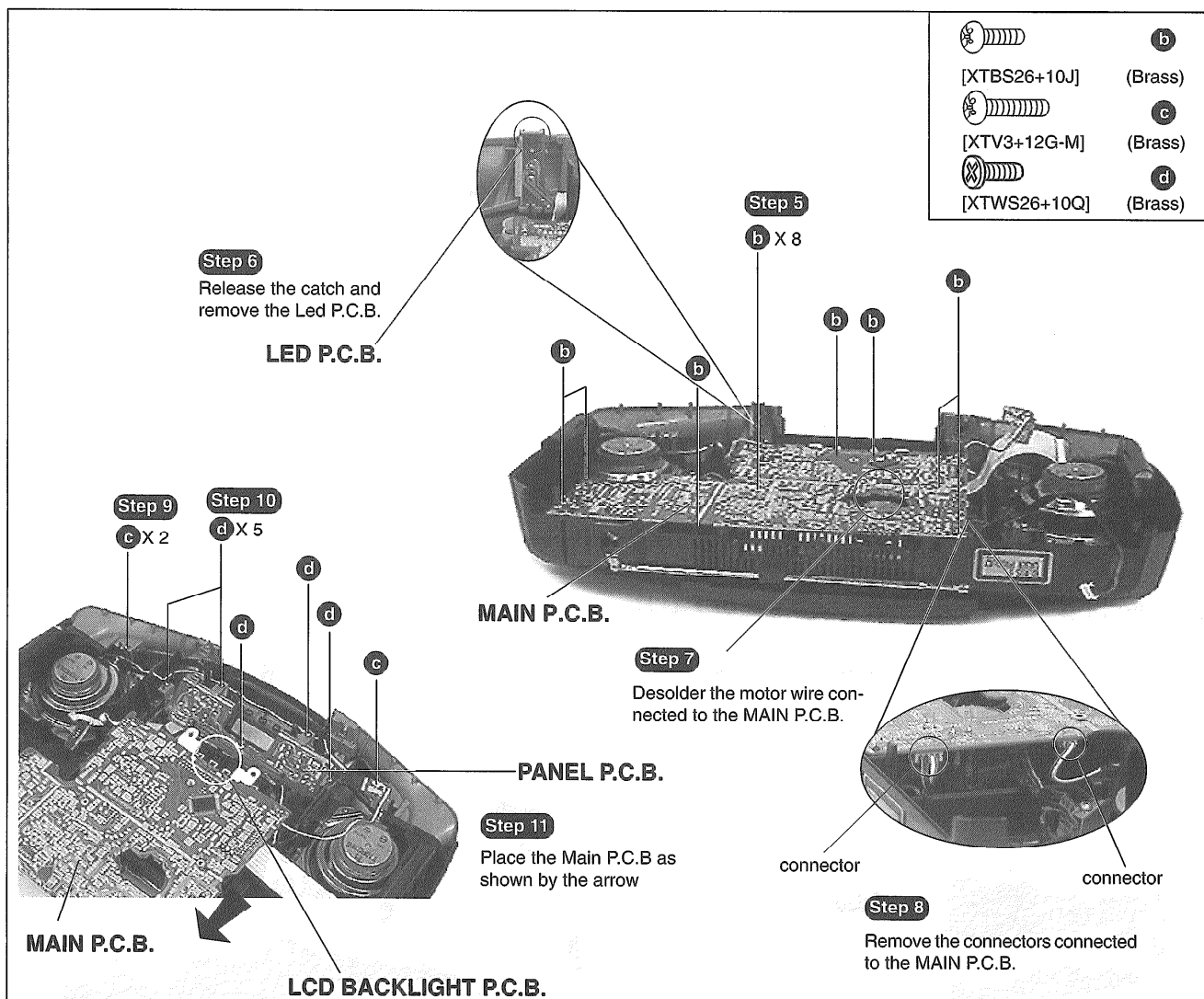
connectors



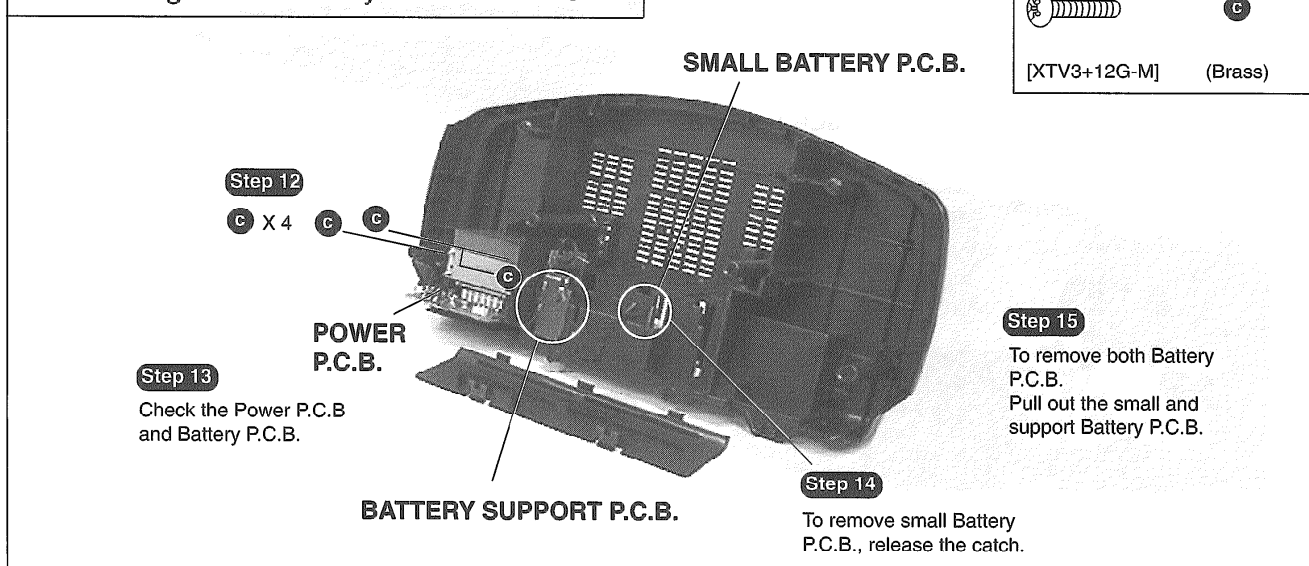
CD LEAF SW P.C.B.

Step 4

Release the two connectors as shown .
Release both catches and remove the CD Leaf SW P.C.B.
Remove the CD loading mechanism.



2. Checking for the Battery and Power P.C.B.



3. Replacement for the traverse deck.



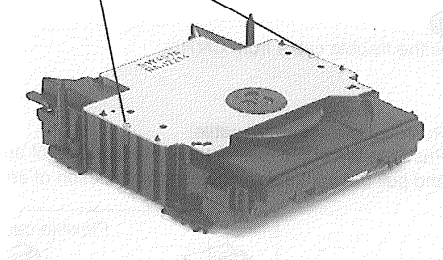
[XTV26+6G]



(Brass)

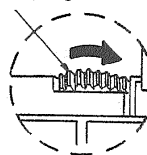
Step 1

e X 2



Step 2

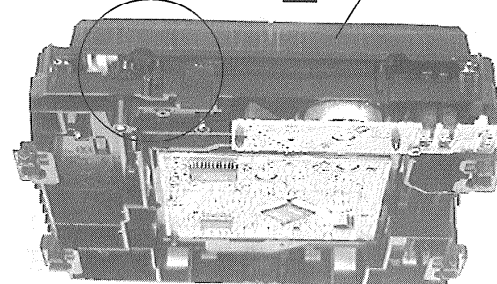
Rotate the gear.



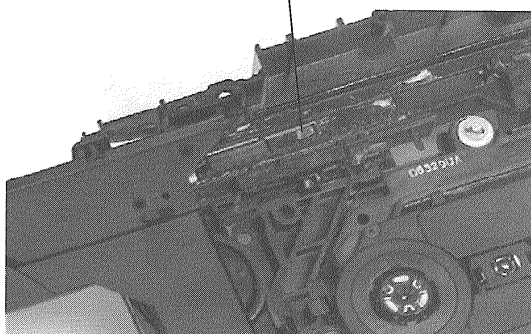
Step 3



CD TRAY



CLAW

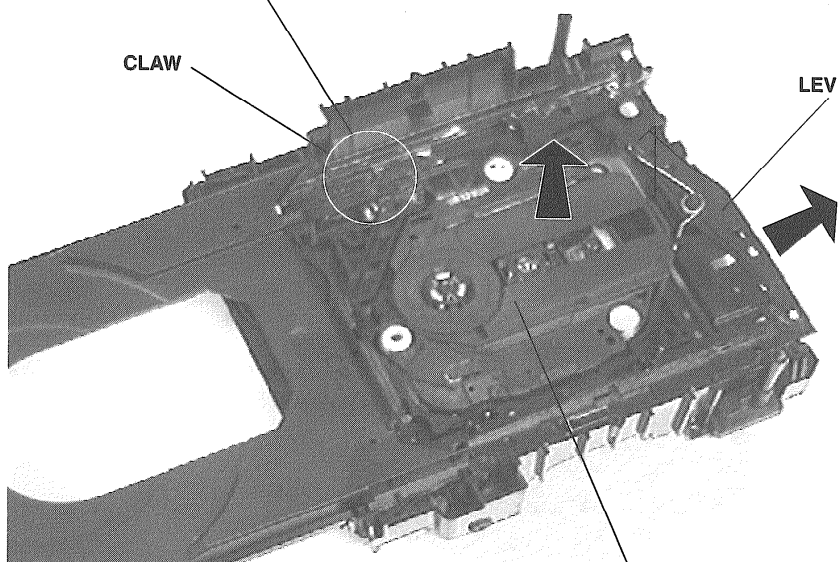


Step 4

Release the claw and pull the lever.

CLAW

LEVER



CD TRAVERSE UNIT

Step 5

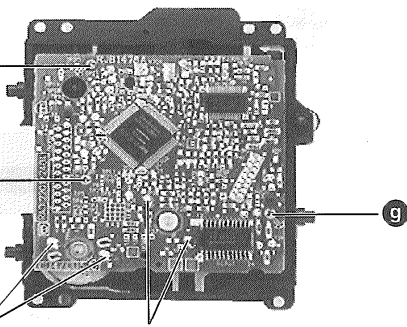
Take out the CD traverse unit.

Step 6

f X 1

Step 7

g X 2



Terminals of traverse motor Terminals of spindle motor

Step 8

Desolder 2 terminals of spindle motor.

Step 9

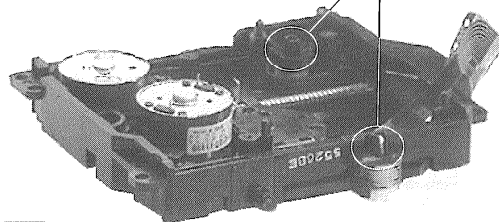
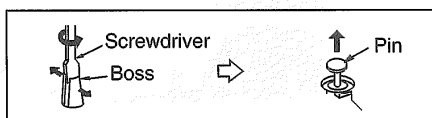
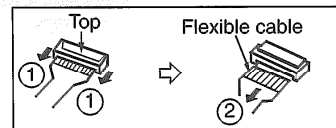
Desolder 2 terminals of traverse motor.

Step 10

Remove the flexible cable from CN701.

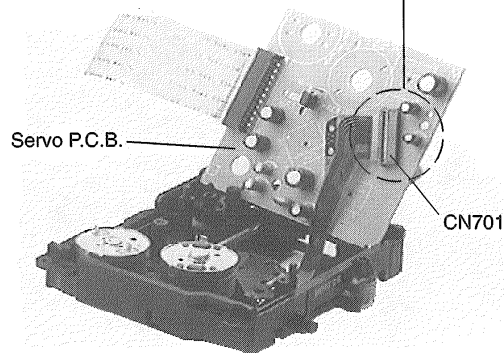
• Removal of the flexible cable.

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

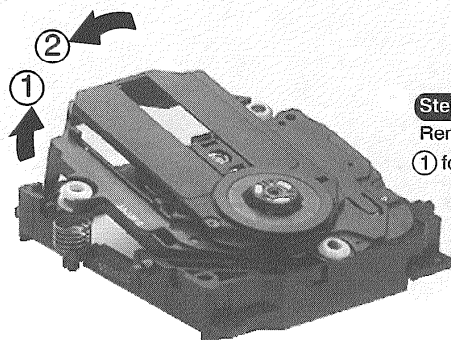
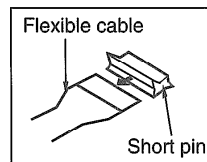


Step 11

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

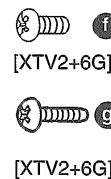


Note:
Insert a short pin into the flexible cable for traverse unit.



Step 12

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



■ Measurements and Adjustments

● Tuner Section

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Measuring Condition

1. Set volume control to maximum.
2. Set power source voltage to 12V DC.
3. Output of signal generator should be no higher than necessary to obtain an output reading.

Note: No AM IF and FM STEREO alignment is necessary as Tuner IC is used.

■ AM - 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 signal into the loop ant. of receiver.	522 kHz	Tune to signal	Headphone Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	L6 (AM OSC Coil)	Adjust for maximum output.
"	1,503 kHz	"	"	CT1 (AM ANT Trimmer)	Adjust for maximum output.

● Cassette Deck Section

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Measuring Instruments

- Digital frequency counter

Test Tape

- Tape speed adjustment (3kHz, -10 dB) : QZZCWAT

Note: No Azimuth Head Alignments is required due to Aztec Head is used in the cassette mechanism.

Measuring condition

- Make sure the heads are clean.
- Make sure the capstan and pressure roller are clean.

● Tape Speed Alignment

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3 kHz, -10dB)	Headphone Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	—	3000 ± 90 Hz	Playback mode

● ALIGNMENT POINTS

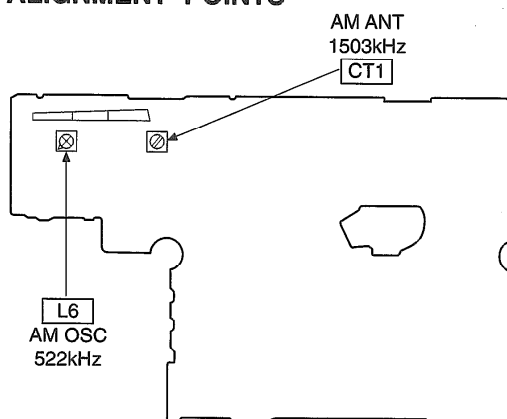


Fig. 1

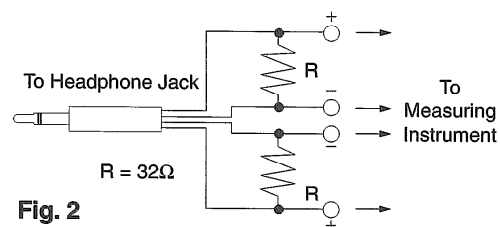


Fig. 2

Terminal Guide of IC's , Transistors and Doides

M62429P 	BU4066BC 	LC72131D 	TA2008AN 	AN8780NSBE2 	2SA1037AKSTX DTC114YKA146
LA4663 	BA3313L 	AN8837SBE1 	M38224M6M059 MN662746RPK1 	BMR0301G RVTDTA114EST 2SC1740SRTA 	S81250SGY-Z
2SB1566E 	2SJ40CTA 	2SA952LTA 2SC2001KTA 	KV1360NTM SVC346T-AA 	SLR332DCTB7 	SPR325MVWT31
1N5402BM21 	RVD1SS133TA 		MTZJ10BTA MTZJ15BTA MTZJ5R1BTA MTZJ5R6CTA MTZJ7R5CTA		

Terminal Function Of IC's

• IC703 (AN8780NSBE2) Focus coil / tracking coil / traverse motor / spindle motor drive

Pin No.	Mark	I/O	Function
1	RESET OUT	O	Reset output
2	NC	-	-
3	IN2	I	Motor driver 2 input
4	PC2	I	Power out 2 input
5	NC	-	-
6	IN1	I	Motor driver 1 input
7	PVCC1	I	Power supply for Driver 1
8	PGND1	-	Ground for Driver 1
9	NC	-	-
10	D1-	O	Motor driver 1(-) output
11	D1+	O	Motor driver 1(+) output
12	D2-	O	Motor driver 2(-) output
13	D2+	O	Motor driver 2(+) output
14	D3-	O	Motor driver 3(-) output
15	D3+	O	Motor driver 3(+) output

Pin No.	Mark	I/O	Function
16	D4-	O	Motor driver 4(-) output
17	D4+	O	Motor driver 4(+) output
18	NC	-	-
19	PGND2	-	Ground for Driver 2
20	PVCC2	I	Power supply for Driver 2
21	VCC	I	Power supply
22	VREF	I	Reference voltage
23	IN4	I	Motor driver 4 input
24	IN3	I	Motor driver 3 input
25	RESET IN	I	Reset input
26	NC	-	-
-	FIN	-	Ground

• IC701 (AN8837SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input 1
2	PDF	I	Tracking signal input 2
3	VCC	I	Power supply
4	PDA	I	Focus signal input 1
5	PDB	I	Focus signal input 2
6	LPD	I	APC Amp. Input
7	LD	O	APC Amp. Output
8	RF	O	RF addition output
9	RFIN	I	RF signal input
10	CSBRT	-	Capacitor for OFTR connection terminal
11	CEA	-	HPF Amp.
12	BDO	O	BDO output
13	LDON	-	APC control
14	GND	-	Ground

Pin No.	Mark	I/O	Function
15	RFDET	O	NRFDET output
16	CROSS	O	CROSS output
17	OFTR	O	OFTR output
18	VDET	O	VDET output
19	ENV	O	3 TENV output
20	ENVOFF	-	ENV control
21	TEBPF	I	VDET input
22	TEIN	I	TE Amp. input
23	TEOUT	O	TE Amp. output
24	FEOUT	O	FE Amp. output
25	FEIN	I	FE Amp. input
26	VREF	O	Reference voltage output
27	TBAL	-	TBAL control
28	FBAL	-	FBAL control

• IC702 (MN662746RPK1) Servo processor / digital signal processor / digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Bit clock for SRDATA
2	LRCK	O	L,R discriminatory signal "H": Lch audio data, "L": Rch audio data
3	SRDATA	O	Serial data output
4	DVDDI	I	Power supply for digital circuit
5	DVSSI	I	Ground for digital circuit
6	TX	O	Digital/ Audio/ Interface signal output
7	MCLK	I	Microcomputer/ Command/ Clock signal
8	MDATA	I	Microcomputer/ Command/ Data signal input
9	MLD	I	Microcomputer/ Command/ Load signal input "L": Load
10	SENSE	O	Sense signal output (OFT, FESL, NACEND, NWTEND, DATA)
11	/FLOCK	O	Focus/ Servo drawback signal "L": drawback
12	/TLOCK	O	Switching command, Tracking/ Servo drawback,
	/VDET		Vibration detect signal "L": drawback "H": detection
13	BLKCK	O	Subcode/Block/Clock signal (fBLKCK=75Hz)
14	SQCK	I	Clock signal for Subcode Q register
15	SUBQ	O	Subcode Q data output
16	DMUTE	I	Muting input "H": mute
17	STAT	O	Status signal (CRC, RESY, CLVS, TTSTOP, SQOK, FLAG6, SENSE/FLOCK/TLOCK)
18	/RST	I	Reset input "L": reset
19	SMCK	O	MSEL=at "H" clock signal 8.4672MHz output MSEL=at "L" clock signal 4.2336MHz output
20	PMCK	O	Clock signal 88.2KHz output
21	TRV	O	Test terminal (this terminal should be opened)
22	TVD	O	Drive and forced drive for Traverse output
23	PC	O	Spindle motor ON output "L": ON
24	ECM	O	Spindle motor driving signal (forced mode)
25	ECS	O	Spindle motor driving signal (servo error signal)

Pin No.	Mark	I/O	Function
26	KICK	O	Test terminal (Hi-z fixed)
27	TRD	O	Tracking drive and Kick pulse output
28	FOD	O	Focus drive output (TVD, ECS, TRD, FOD, FBAL, TBAL, DSLF2)
29	VREF	I	Reference voltage (TVD, ECS, TRD, FOD, FBAL, TBAL, DSLF2)
30	FBAL	O	Focus balance adjustment output
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 (analog input)
35	VDET	I	Test terminal (fixed to VDD or VSS)
36	OFT	I	Off track signal input "H": off track
37	TRCRS	I	Test terminal (fixed to VDD or VSS)
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 output "H": play
43	WVEL	O	Double speed status signal output "H": double speed
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	Bias for DSL
47	DSL2	I/O	Loop filter for DSL
48	PLL2	I/O	Loop filter for PLL
49	DSL2	O	DSL unbalance current correction
50	AVDD2	I	Power supply for analog circuit (DSL, PLL, DA output, AD)
51	AVSS2	I	Ground for analog circuit (DSL, PLL, DA output, AD)
52	EFM/CK384	O	Switching command signal • EFM signal output • 16.9344 MHz clock output
53	PCK	O	PLL sampling clock output fPCK=4.3218MHz

Pin No.	Mark	I/O	Function
54	CK176	O	176.4KHz clock output
55	SUBC	O	Subcode serial output
56	SBCK	I	Clock for subcode serial output
57	VSS	I	Ground for oscillation circuit
58	X1	O	Crystal oscillation circuit input f=16.9344MHz
59	X2	O	Crystal oscillation circuit output f=16.9344MHz
60	VDD	I	Power supply for oscillation circuit
61	TRVSTP	O	Traverse STOP signal "H": STOP mode
62	/CLDCK	O	Subcode frame clock signal fCLDCK=7.35KHz
63	FCLK	O	Crystal frame clock signal fCLK=7.35KHz
64	IPFLAG	O	Compensation flag signal "H": compensation
65	FLAG	O	Flag signal output
66	CLVS	O	Spindle servo phase synchronizing signal output "H": CLV "L": rough servo
67	CRC	O	Sub-code CRC checked output "H": OK "L": NG
68	RESY	O	Frame resynchronizing signal output "H": synchronized "L": out of synchronizing
69	FLAG6	O	Flag6 output "L": address reset
70	ARST	I	Test terminal usually "H"
71	/TEST	I	Test terminal normally "H"

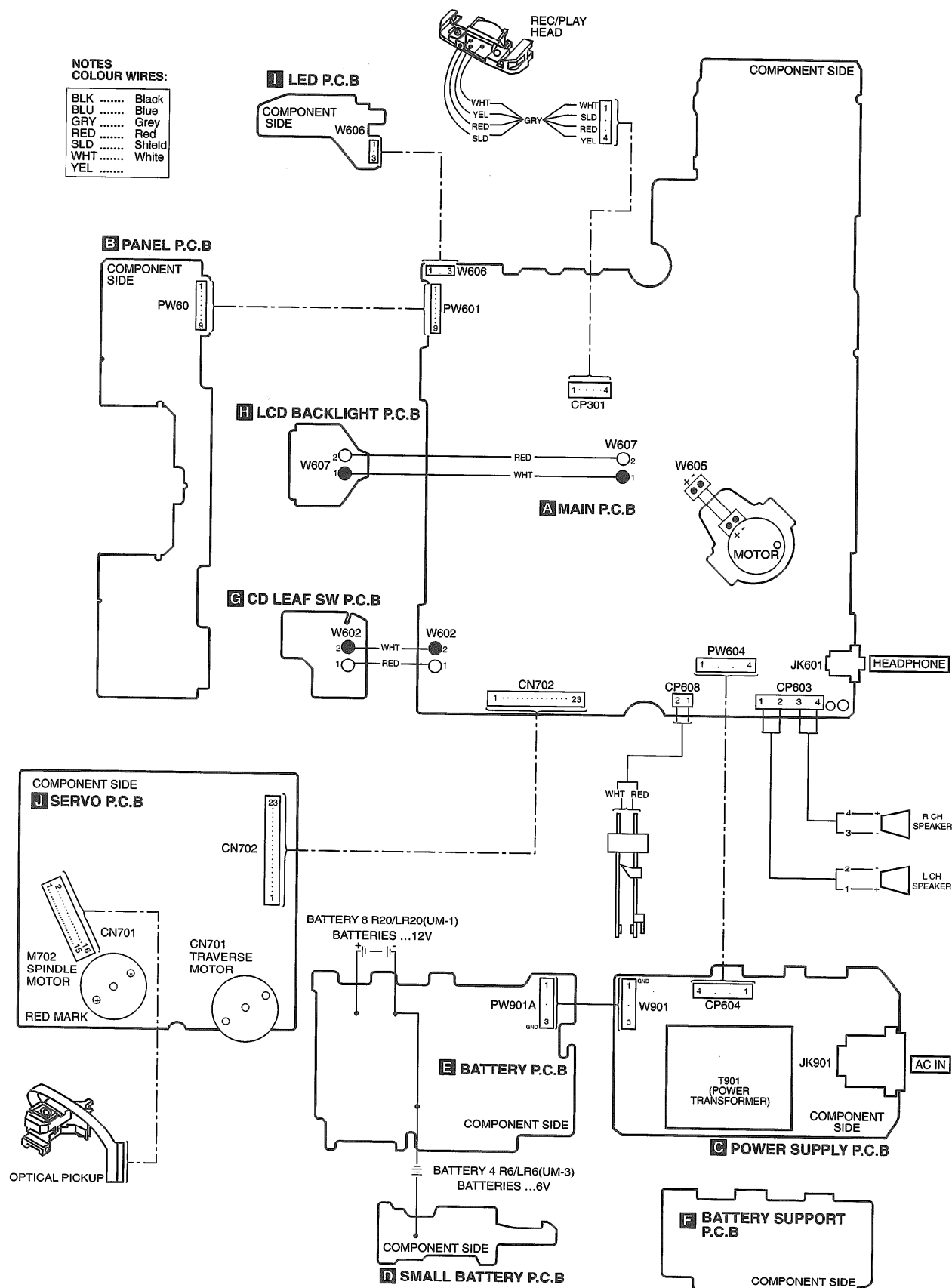
Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply for analog circuit
73	OUTL	O	Lch audio output
74	AVSS1	I	Ground for analog circuit
75	OUTR	I	Rch audio output
76	RSEL	I	RF signal polarity assignment input at "H" level RSEL="H", at "L" level RSEL="L"
77	FSEL	I	Noise filter on/off switching input "H": filter off "L": filter on
78	PSEL	I	Switching command input • Test terminal (normally: "L") • SRDATA input
79	MSEL	I	Switching command input • Switching frequency of SMCK output "H": SMCK=8.4672MHz "L": SMCK=4.2336MHz • LRCK input (SMCK=4.2336MHz fixed) "H": Lch data "L": Rch data
80	SSEL	I	Switching command input • Switching mode of SUBQ terminal "H": Q code buffer mode "L": CLDCK synchronized mode • BCLK input (Q code buffer mode fixed)

• IC601 (M38224M6M059) System microprocessor

Pin No.	Mark	I/O	Function
1	VLCD2	I	LCD bias reference voltage input V2
2	VLCD1	I	LCD bias reference voltage input V1
3	KEY1	I	KEY input 1
4	TUNER/BAND	I	TUNER/BAND Key input
5	REG2	I	Area setting input 2
6	REG1	I	Area setting input 1
7	R.CTL	O	Remote control power control signal output
8	P.DET	I	SW VCC voltage detection input
9	T.MUTE	O	TUNER FUNCTION & MUTE output
10	PLL DO	I	PLL IC DATA input
11	PLL DATA	O	PLL IC DATA output
12	PLL CLK	O	PLL IC CLK output
13	PLL CE	O	PLL IC CE output
14	REC H	O	REC detect signal output
15	B.P1	O	AM Rec. beat proof output 1
16	DECK MUTE	O	DECK MUTE output
17	D PLAY/PAUS	I	CD PLAY/PAUSE key input
18	REM IN	I	Remote control signal input
19	AC DET	I	AC Power detection input
20	SQCK	O	CD subcode clock output
21	P.CNT	O	Power control output
22	SUBQ	I	CD subcode data input
23	MTRL	I	Deck motor detection input
24	BLK CK	I	CD subcode block clock input
25	MEGA	-	Not used
26	Vcc DET	I	Vcc detection input (main power detection)
27	RESET	I	System reset signal input
28	X OSC IN	I	Crystal oscillator input (32.768kHz)
29	X OSC OUT	O	Crystal oscillator output (32.768kHz)
30	OSC IN	I	Clock input (4.19kHz)

Pin No.	Mark	I/O	Function
31	OSC OUT	I	Clock output (4.19kHz)
32	VSS	-	GND
33	MBP1	O	Beatproof control signal output 1
34	MBP2	O	Beatproof control signal output 2
35	MUTE A	O	Audio Mute output A
36	CD L	O	CD power control output
37	CLOSE SW	I	CD close detection switch input
38	STAT	I	CD status signal input
39	CD RESET	I	CD reset signal output
40	REST SW	I	CD limit switch input
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 DATA	O	PMW data signal output for electric volume circuit (IC604)
45	VOL CLK	O	PMW clock signal output for electric volume circuit (IC604)
46	TONE1	O	Tone control output 1
47	TONE2	O	Tone control output 2
48	S.V	O	Sound Virtualizer control output
49	NC	-	Not used
51			
52	SEG0	O	LCD segment signal output
72	SEG20		
73	Vcc	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	VLCD3	I	LCD bias reference voltage input V3

Wiring Connection Diagram



Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

• S601	:	TAPE-DECK motor switch	• SW806	:	VOLUME (decrease) switch
• S701	:	CD Rest switch	• SW807	:	VOLUME (increase) switch
• SW301	:	R/P switch	• SW808	:	MEMORY switch
• SW602	:	CD LEAF switch	• SW809	:	FM MODE/ BP switch
• SW801	:	TAPE/OFF switch	• SW810	:	POWER BLASTER switch
• SW802	:	TUNE/SKIP/SEARCH (decrease)	• SW811	:	BAND SELECT switch
• SW803	:	TUNE/SKIP/SEARCH (increase)	• SW812	:	PLAY/PAUSE switch
• SW804	:	CLEAR/TUNE MODE switch	• SW901	:	AC INLET switch (JK901)
• SW805	:	SLEEP switch			

Battery current :

Vol. min. 400 mA (FM)
390 mA (AM)
440 mA (TAPE)
600 mA (CD)

Vol. max. 950 mA (FM)
1200 mA (AM)
1700 mA (TAPE)
2300 mA (CD)

Measurement Instruction

(AM : 74 dB/m , 30% Mod.
FM : 60 dB/m , 30% Mod.
TAPE : 315 Hz , 0 dB
CD : 1 kHz , 0 dB)

Signal line

— : +B line

→ : Main signal line

▨ : Record signal line

→ : AM signal line

→ : AM OSC signal line

→ : FM/AM signal line

→ : FM signal line

→ : FM OSC signal line

▨ : Playback signal line

→ : CD signal line

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

() AM

< > FM

No mark Playback

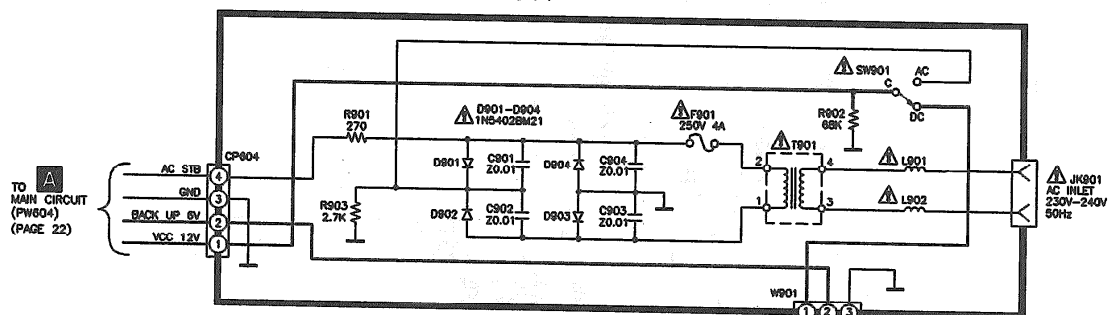
Importance safety notice:

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 components, be sure to use only manufacturer's specified parts shown in the parts list.

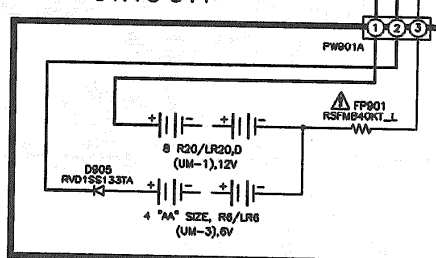
Caution I

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

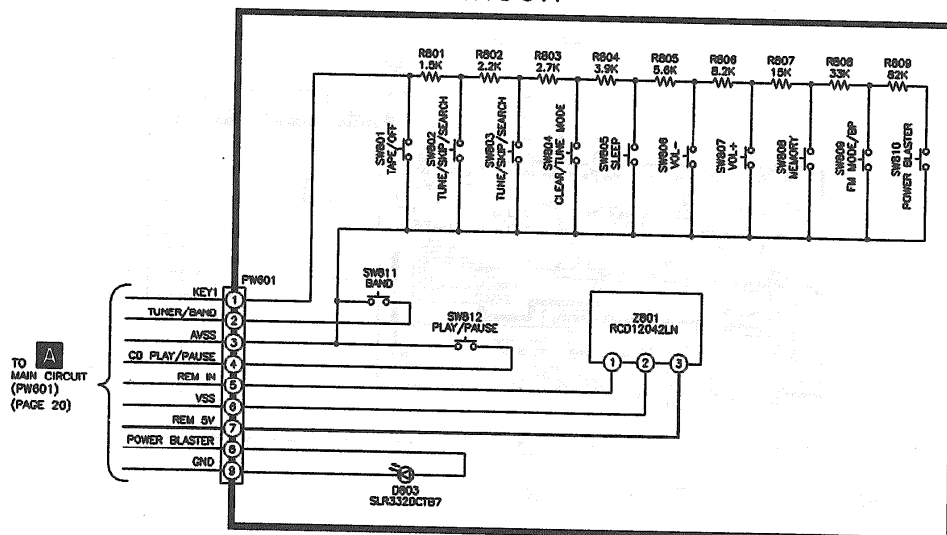
C POWER CIRCUIT

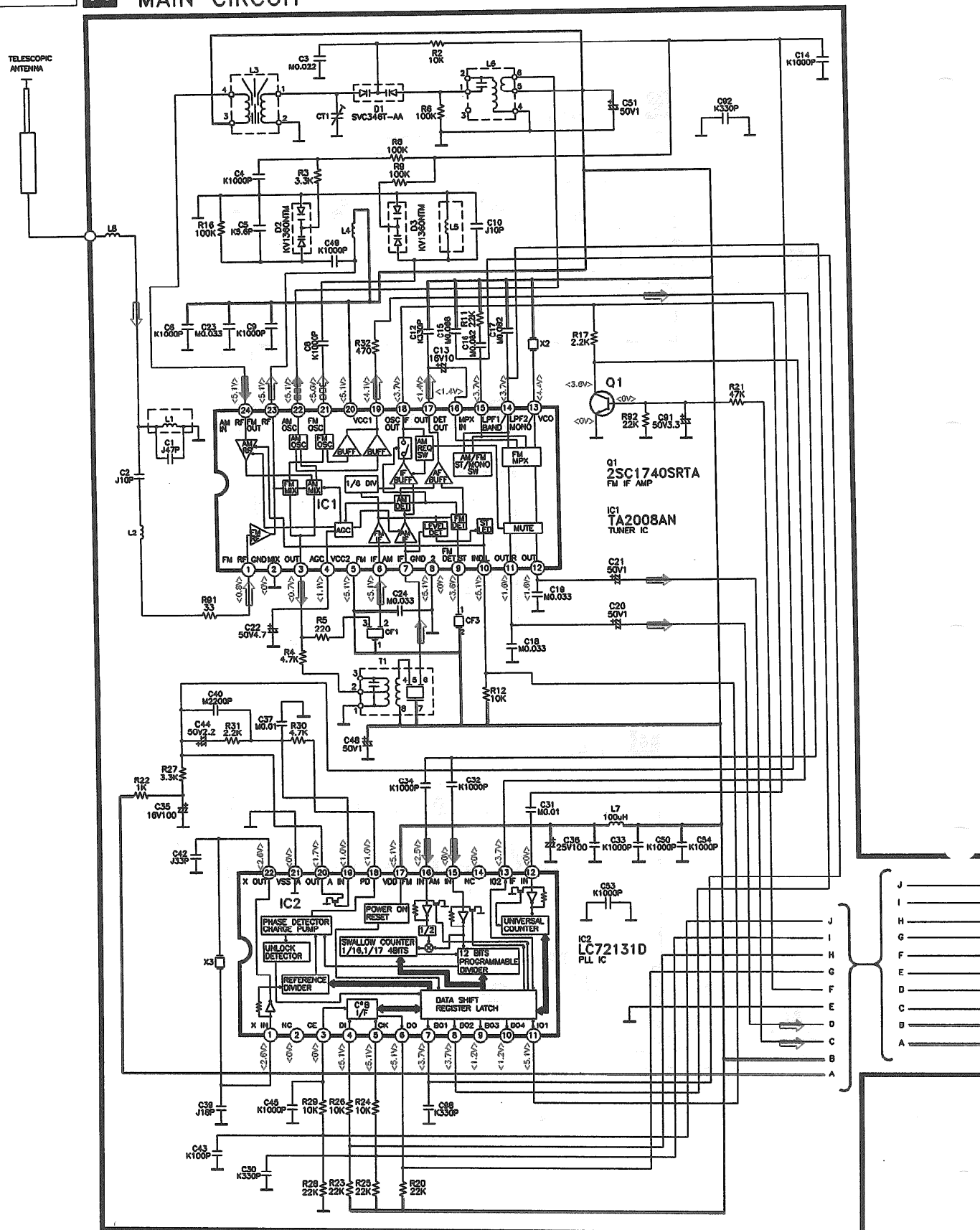


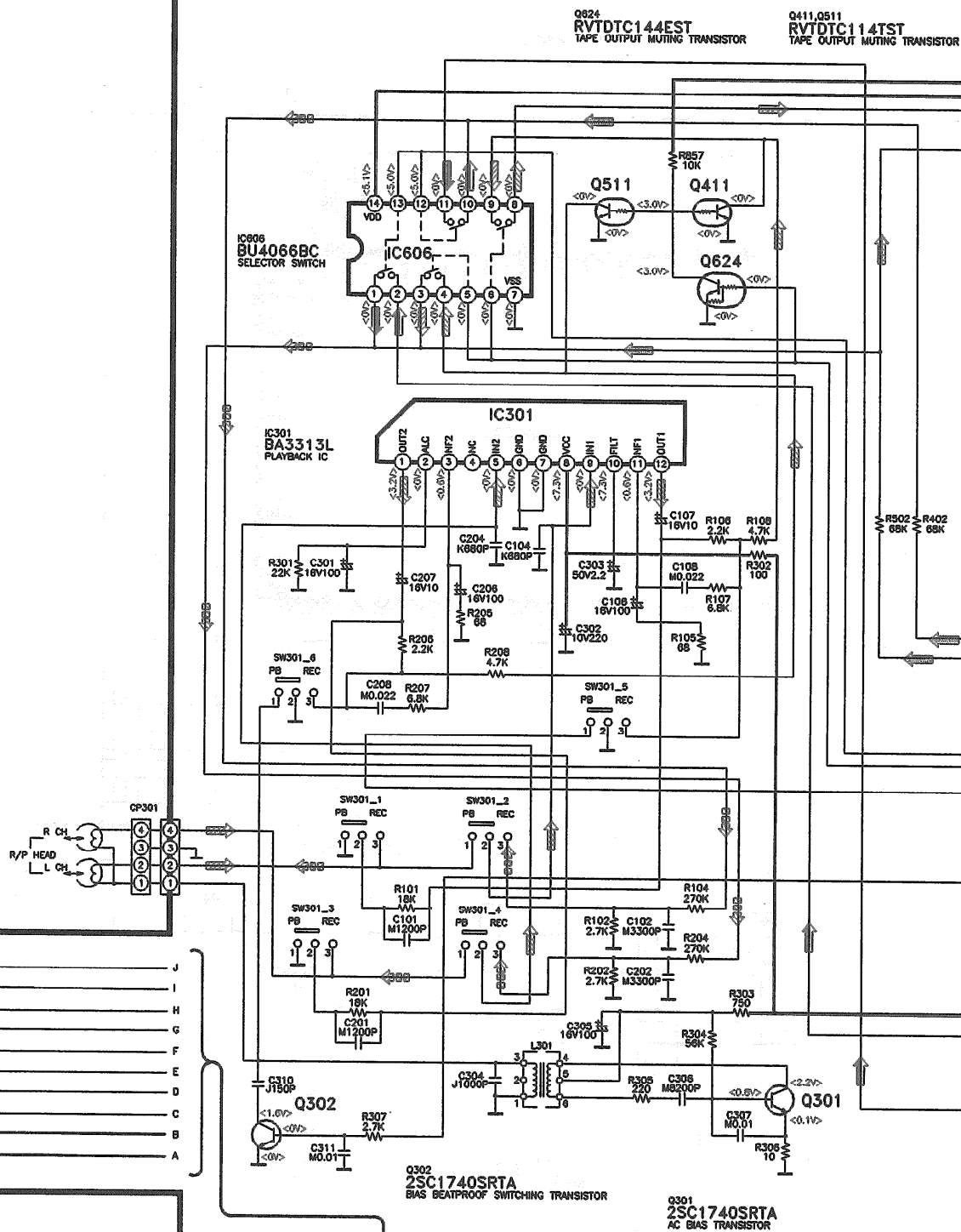
D BATTERY CIRCUIT

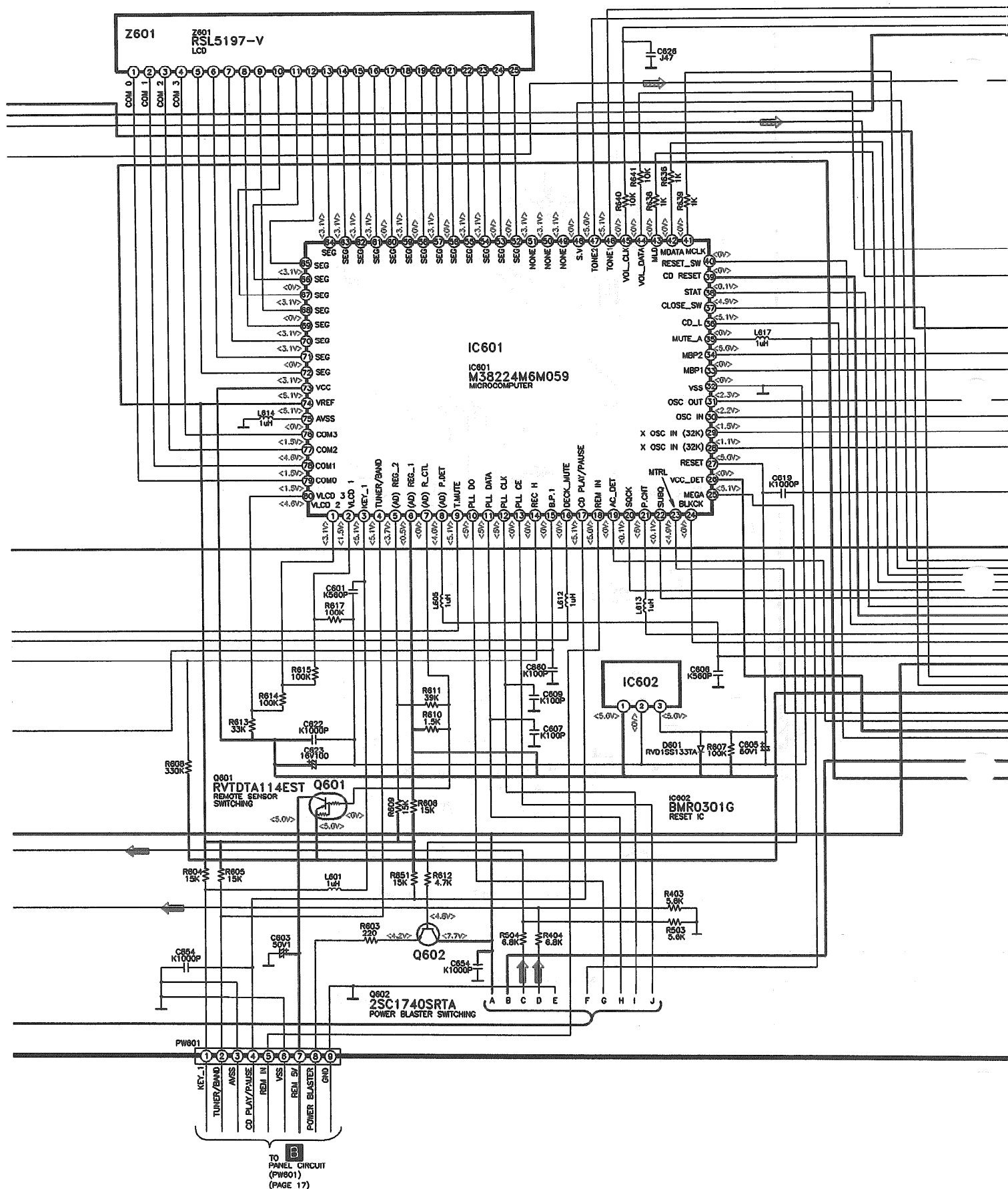


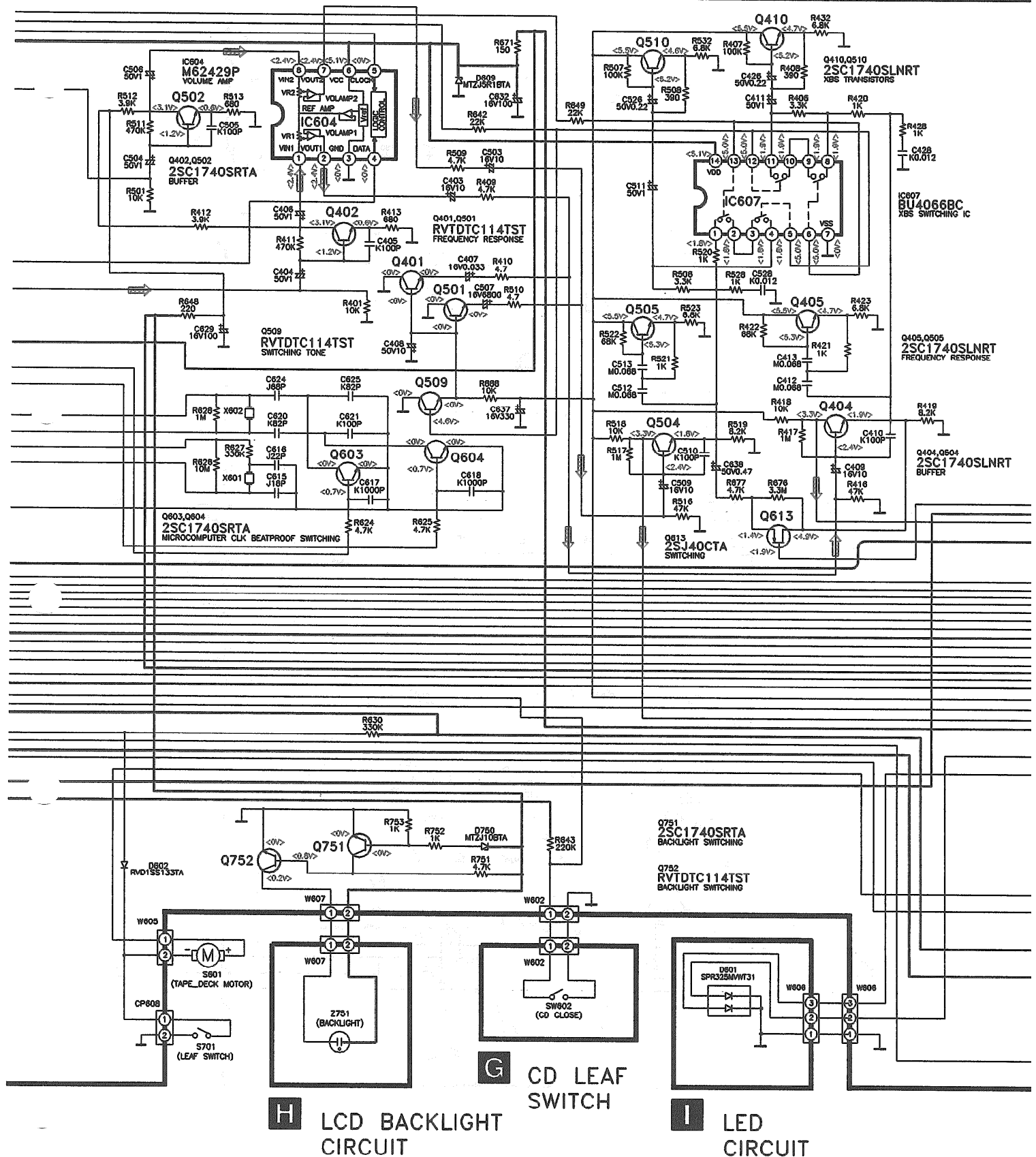
B PANEL CIRCUIT

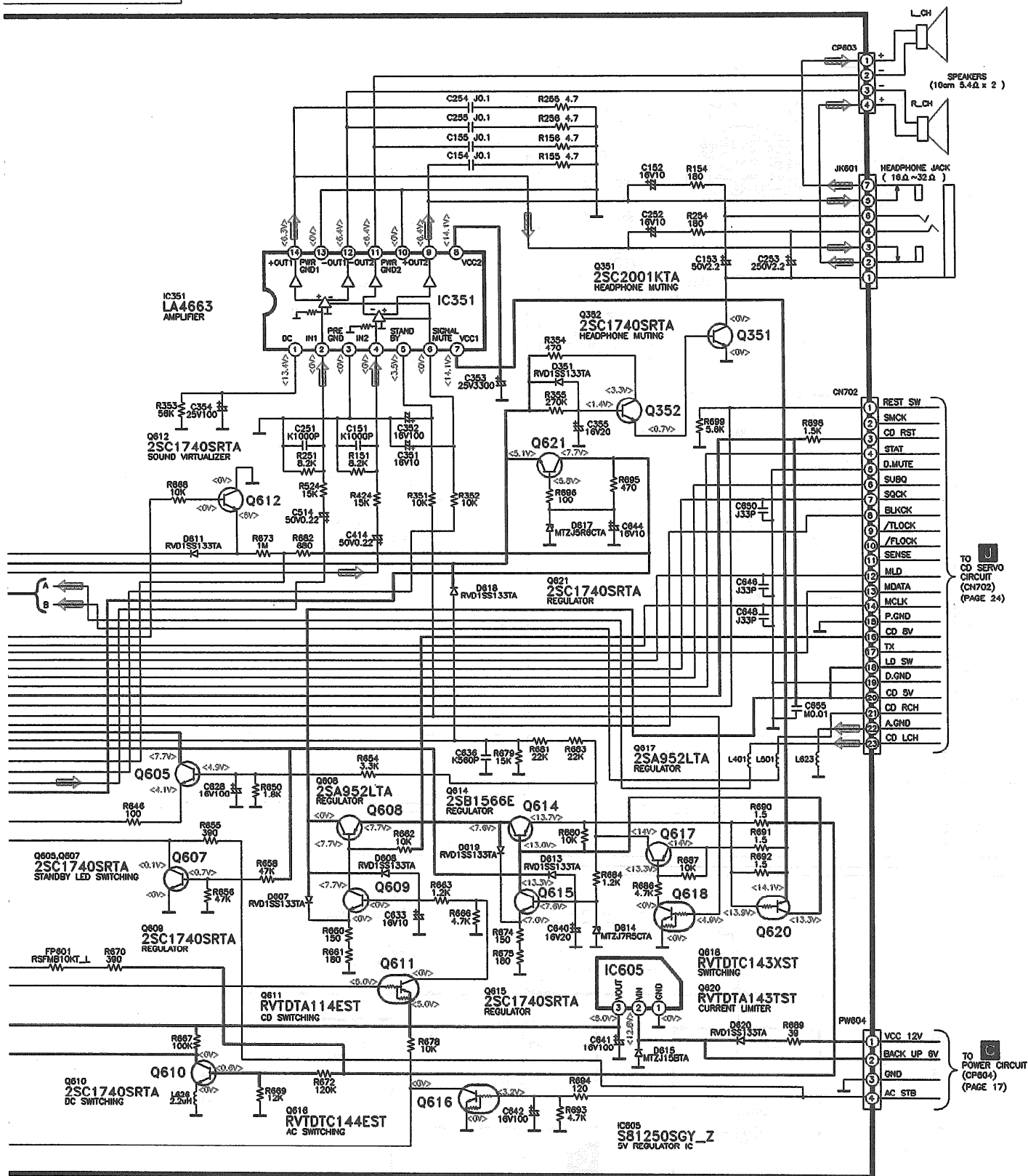


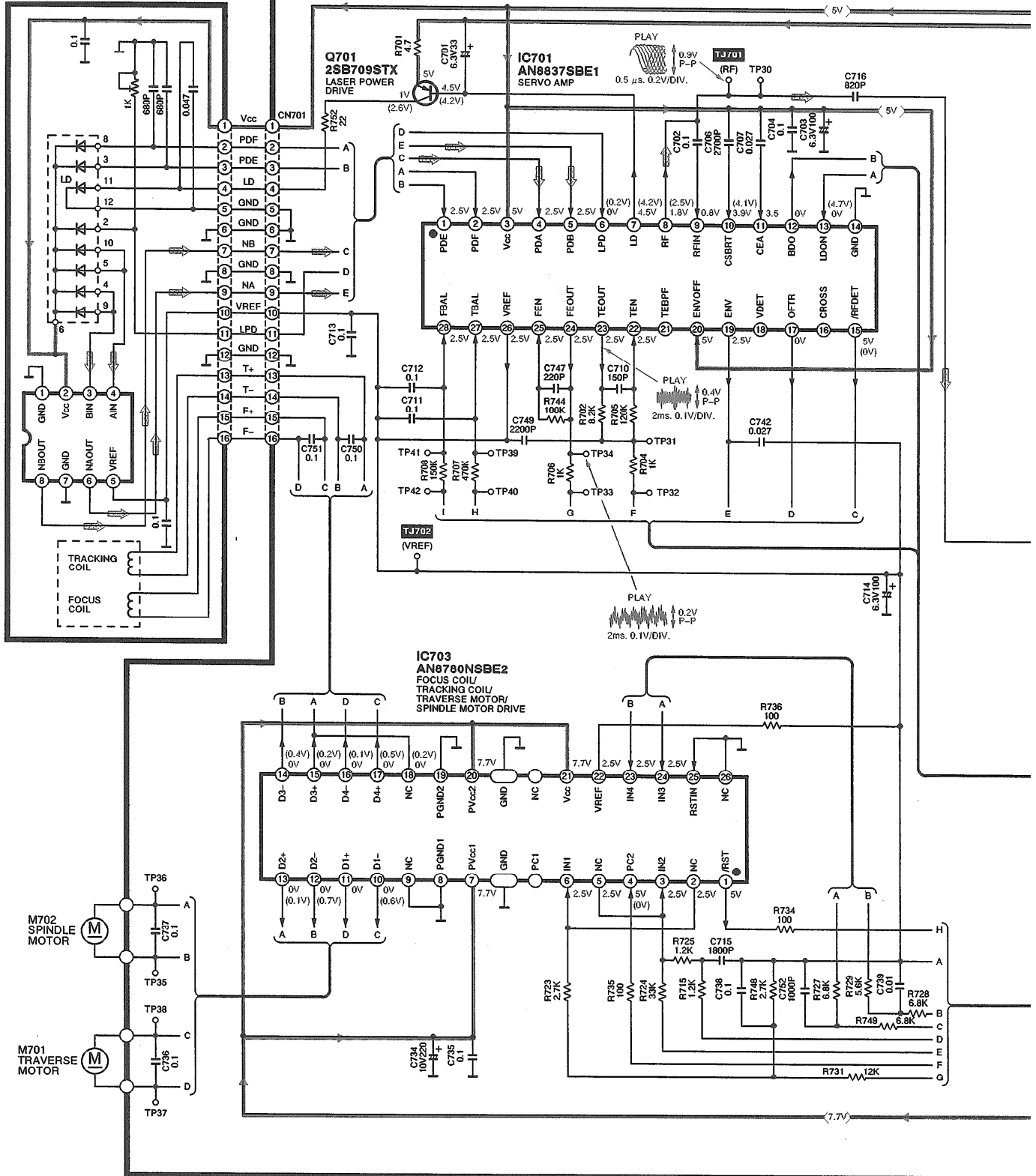


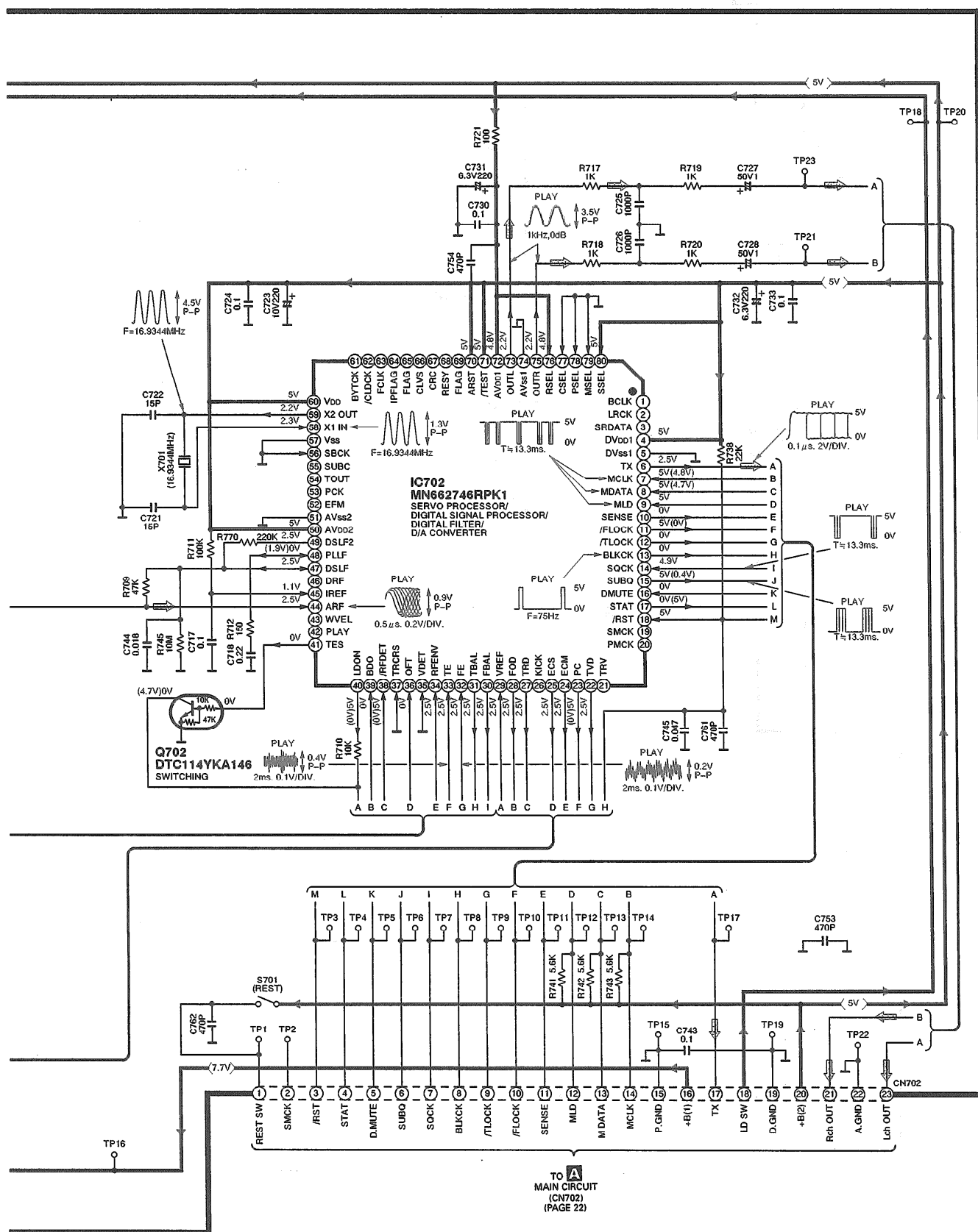






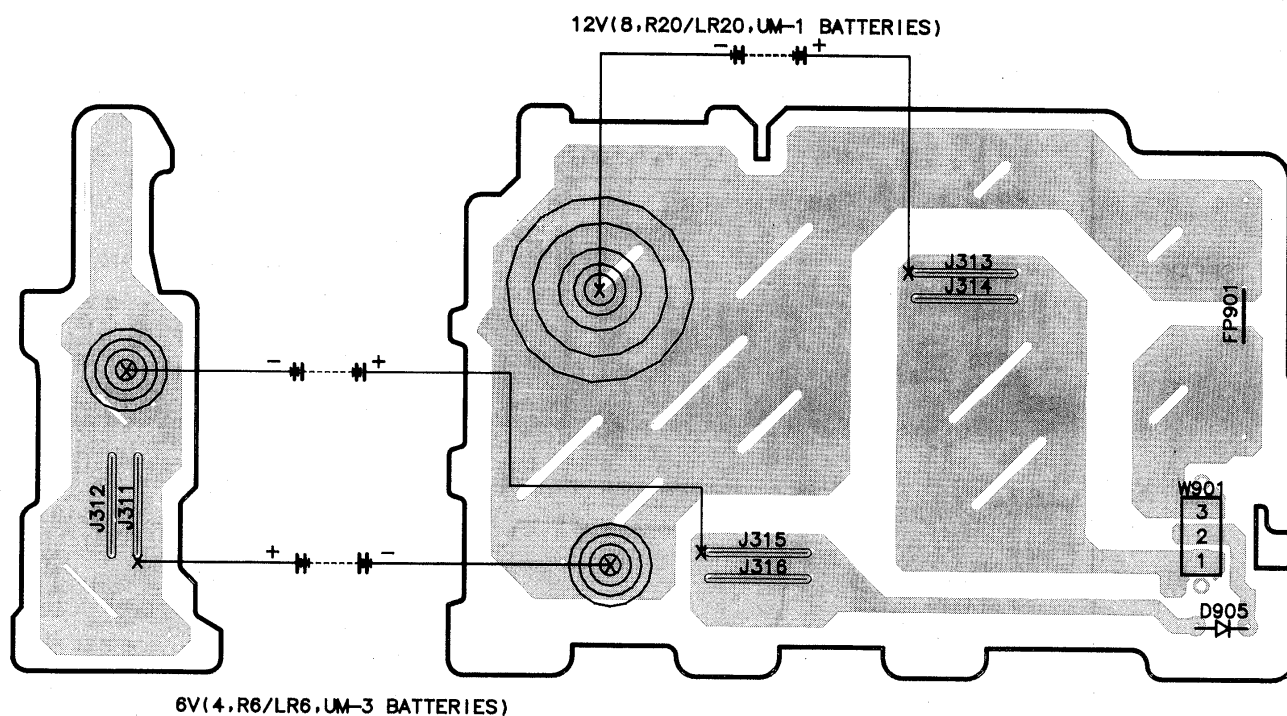




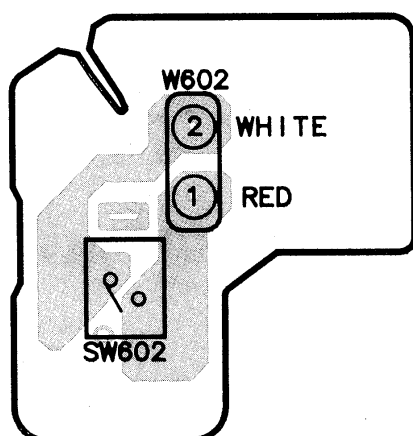


Printed Circuit Board

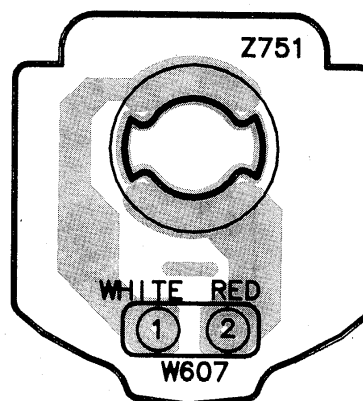
D SMALL BATTERY P.C.B (REPX0152) **E** BATTERY P.C.B (REPX0152)



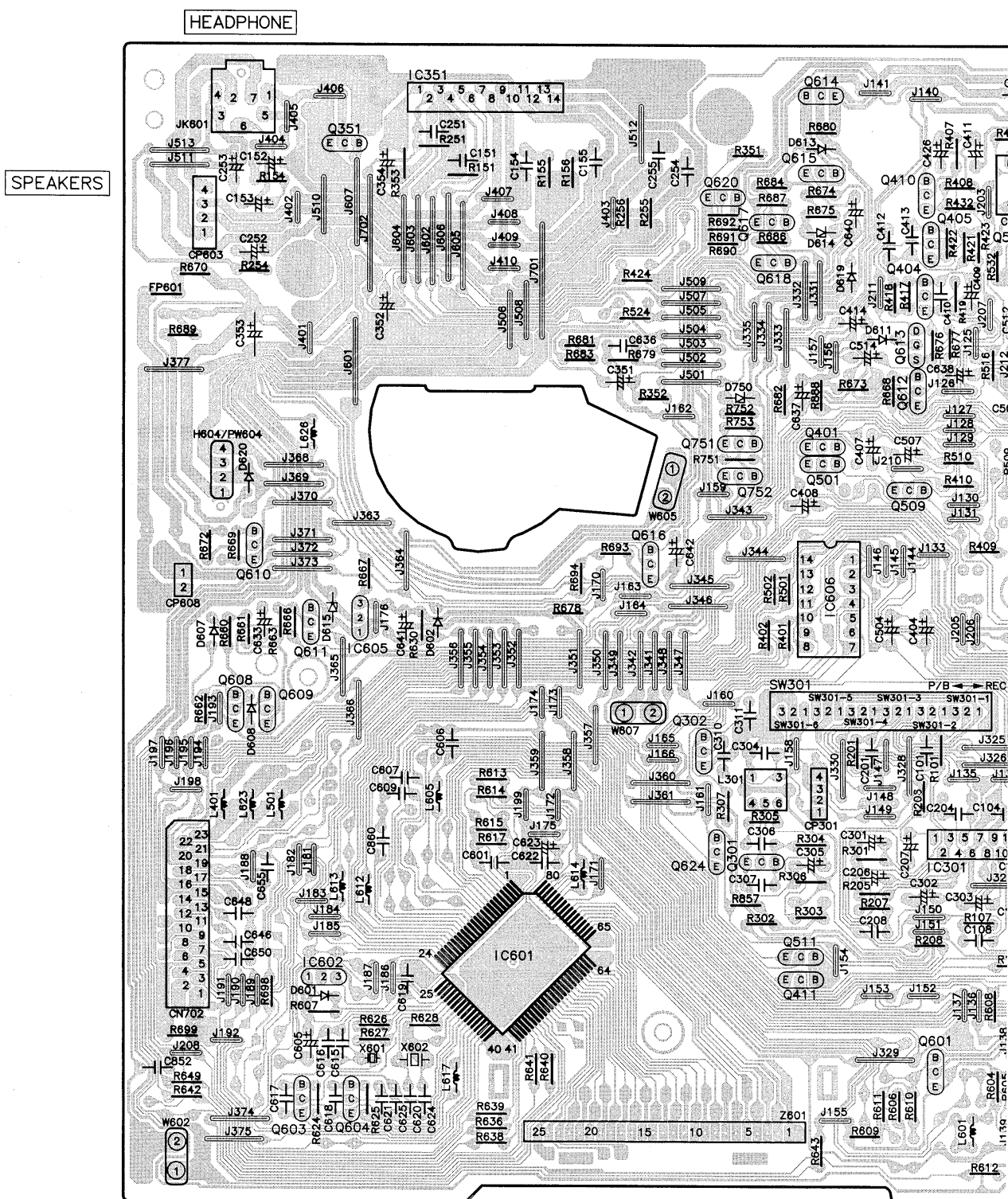
G CD LEAF SW P.C.B (REPX0152)



H LCD BACKLIGHT P.C.B (REPX0152)

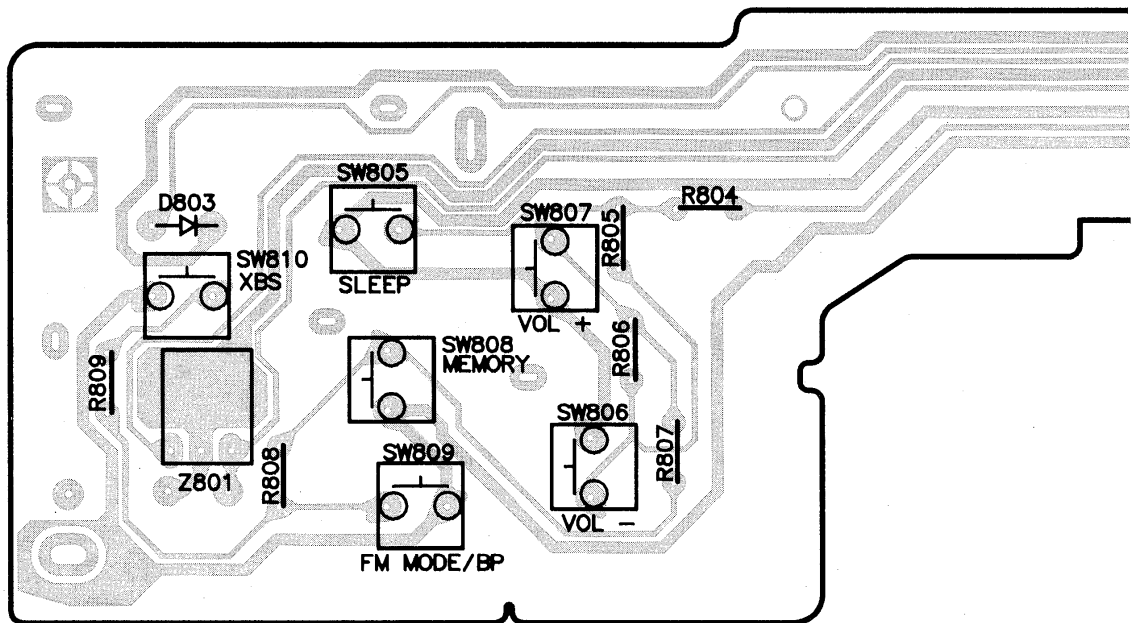
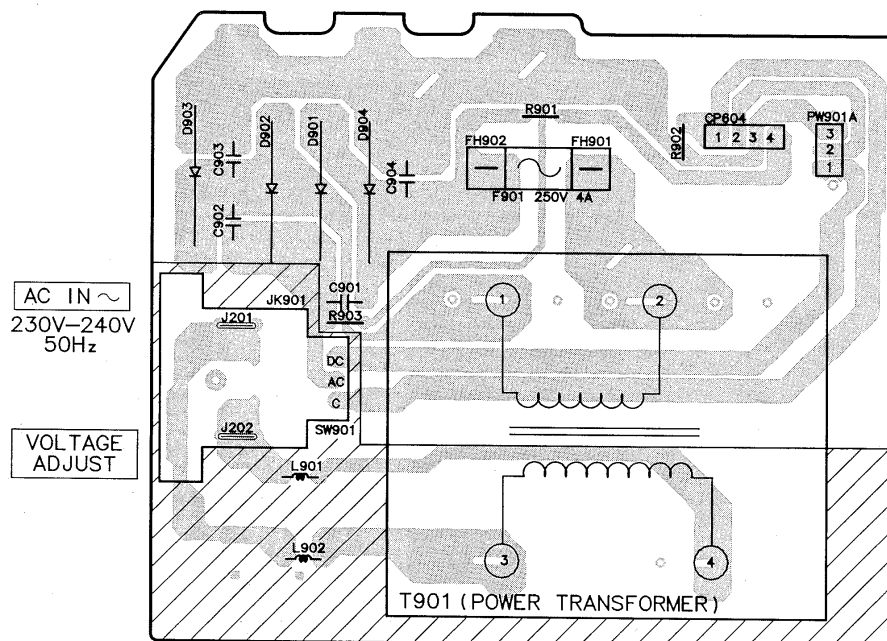


A MAIN P.C.B (REPX0152)

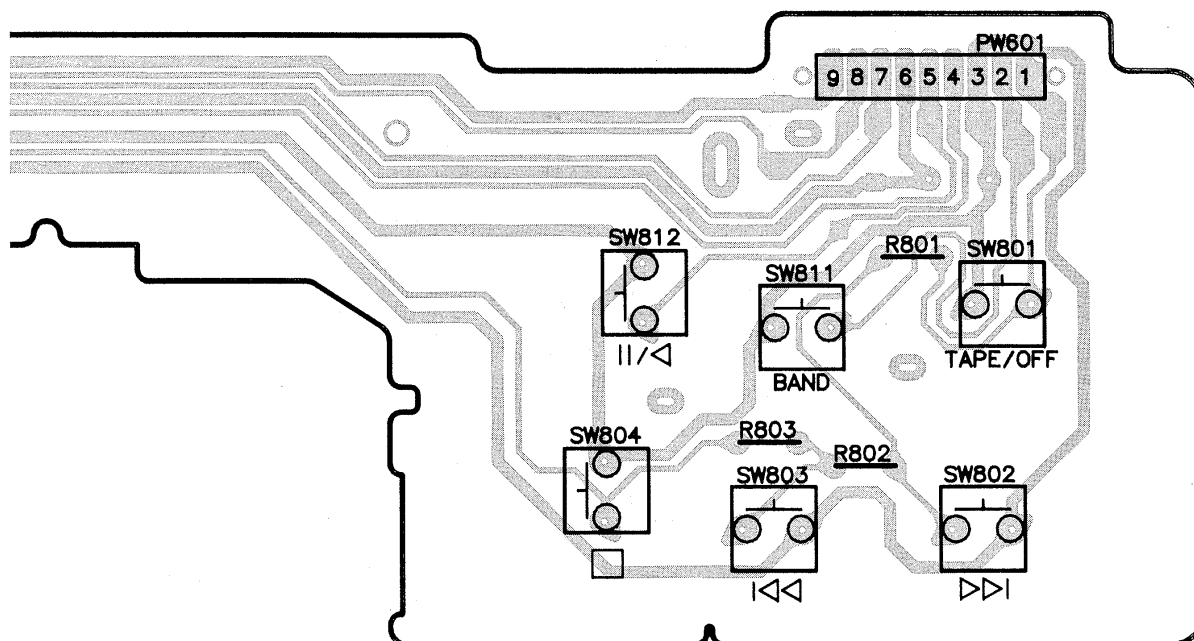




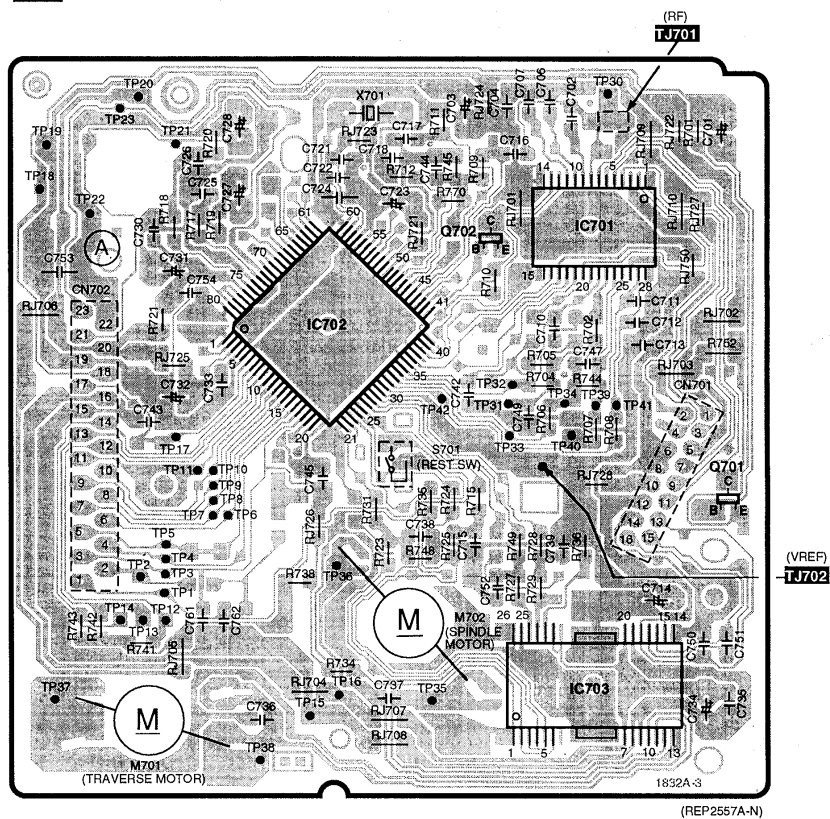
Ref. No	Loc. No	Ref. No	Loc. No	Ref. No	Loc. No	Ref. No	Loc. No
CF1	M4	IC351	D2	Q302	F6	Q613	G4
CF3	M4	IC601	D8	Q351	C2	Q614	F2
CN702	B8	IC602	C8	Q352	I3	Q615	F2
CP301	F7	IC604	H4	Q401	F4	Q616	E5
CP603	B3	IC605	C5	Q402	H5	Q617	F3
CP608	B5	IC606	F5	Q404	G3	Q618	F3
CT1	J2	IC607	H2	Q405	G3	Q620	F3
D1	K3	JK601	B2	Q410	G3	Q621	I4
D2	L2	L2	M3	Q411	F8	Q624	F7
D3	L3	L3	K2	Q501	F4	Q751	F4
D351	J2	L4	L3	Q502	I5	Q752	F4
D601	C8	L301	F7	Q504	H4	SW301	F6
D602	D5	L401	B7	Q505	H3	T1	M4
D607	B6	L501	C7	Q509	G5	X2	L4
D608	B6	L6	L3	Q510	H3	X3	J4
D609	H4	L601	G9	Q511	F8	X602	D9
D611	G4	L605	D7	Q601	G9	Z601	E9
D613	F2	L612	C7	Q602	H9		
D614	F3	L613	C7	Q603	C9		
D615	C5	L614	E7	Q604	C9		
D617	I3	L617	D9	Q605	I8		
D618	I4	L623	B7	Q607	H8		
D619	G3	L626	K4	Q608	B6		
D620	B4	L7	C4	Q609	C6		
D750	F4	L8	M2	Q610	B5		
IC1	L4	Q1	K5	Q611	C5		
IC2	J4	Q301	F7	Q612	G4		

B PANEL P.C.B (REPX0152)**C** POWER P.C.B (REPX0144)

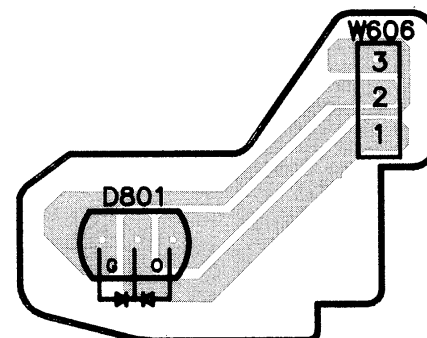
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PORTION.



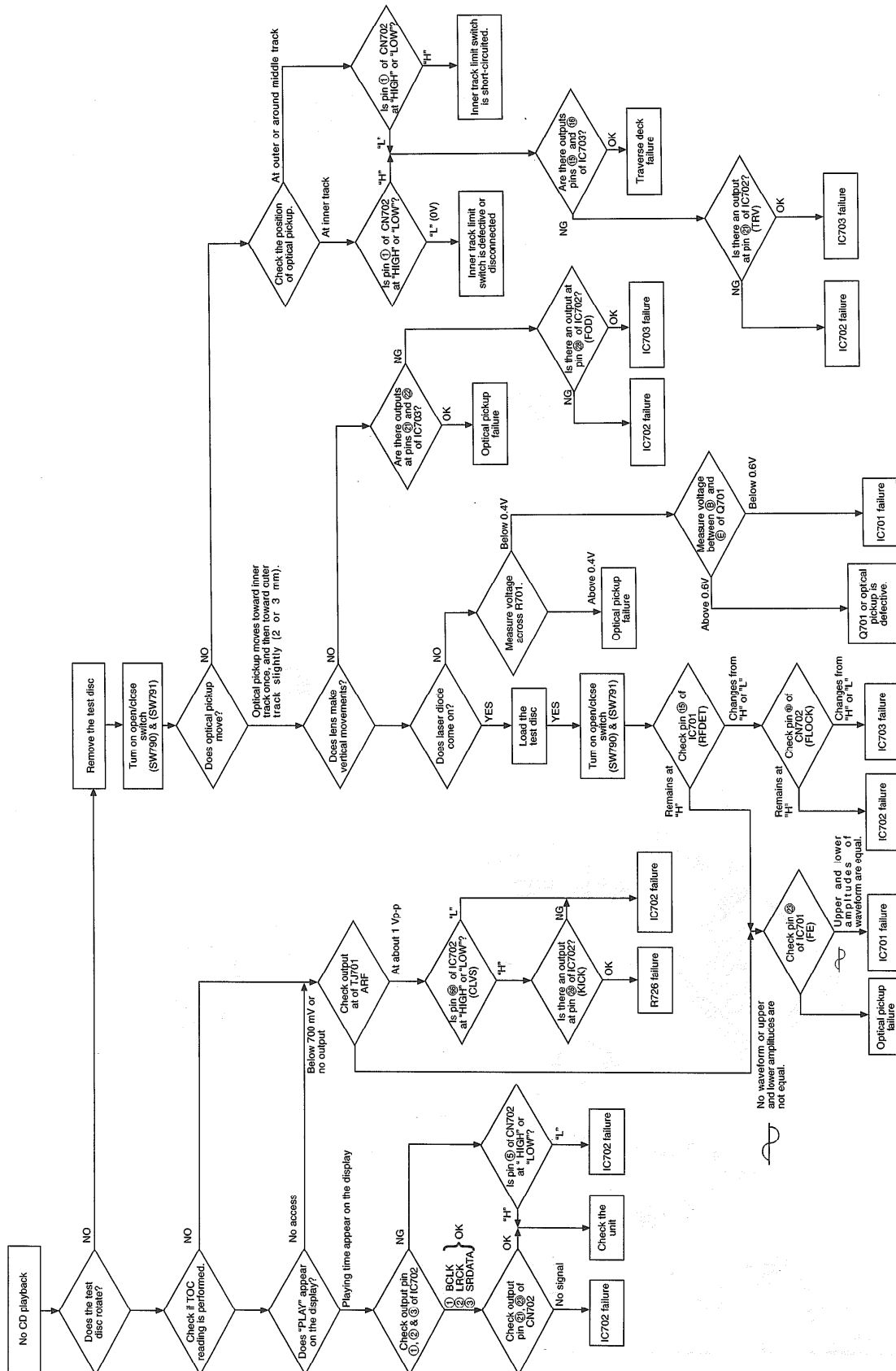
J SERVO P.C.B (REPX0144)



I LED P.C.B (REPX0152)



Troubleshooting Guide

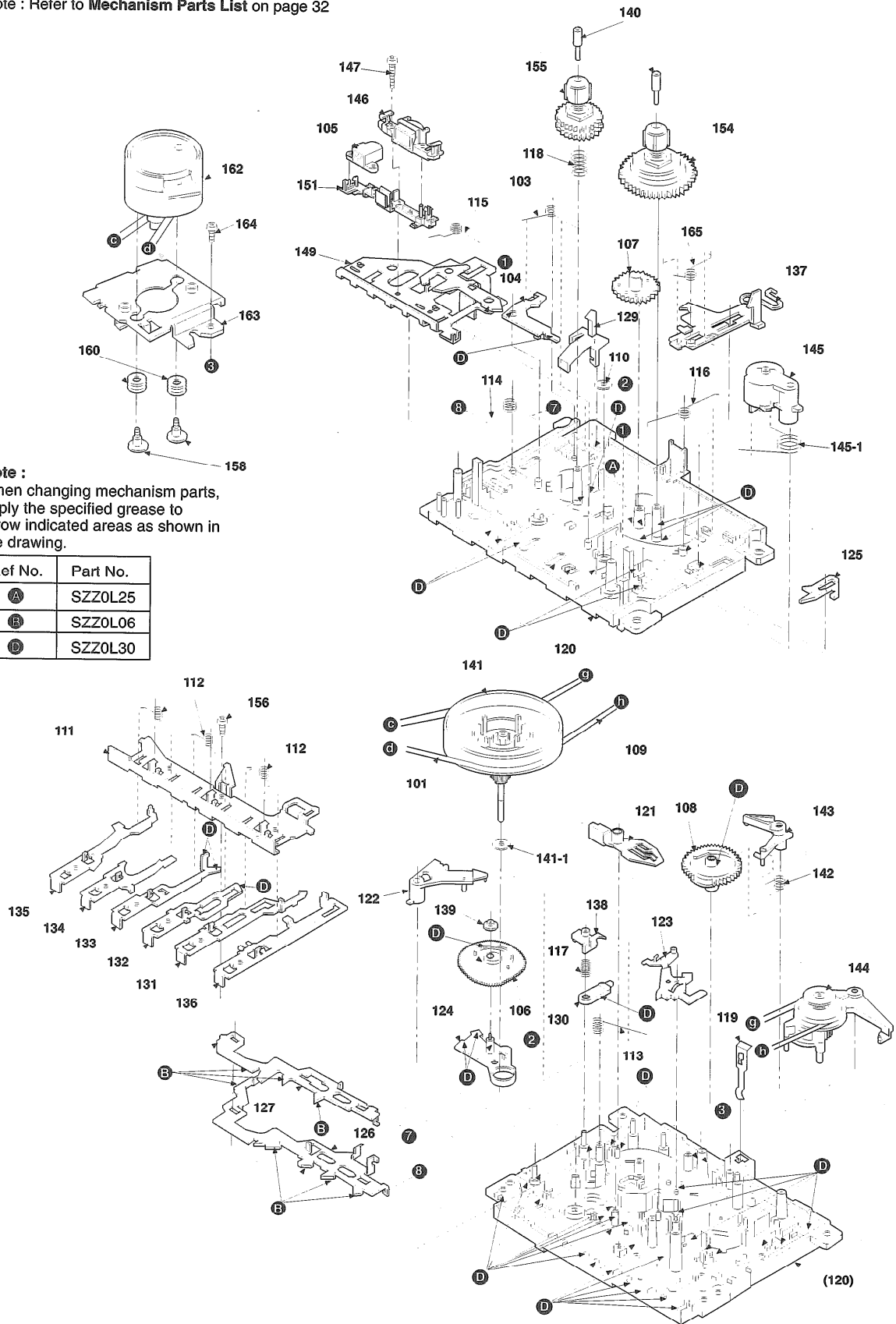


Mechanism Parts Location (RAA0919)

Note : Refer to Mechanism Parts List on page 32

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

Ref No.	Part No.
(A)	SZZ0L25
(B)	SZZ0L06
(D)	SZZ0L30



Mechanism Parts List

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

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK		123	RML0073-1	AS PROTECT LEVER	[M]	145-1	RMB0049	PINCH ARM SPRING	[M]
				124	RML0074	IDLER LEVER	[M]	146	RBR4CY016-M	STEREO ASTEC HEAD	[M]
101	RDV0007	MAIN BELT	[M]	125	RML0076	EJECT SELECTION LEVER	[M]	147	XTN2+14F	R/P HEAD SCREW	[M]
103	RMB0109-1	BRAKE SPRING	[M]	126	RML0077	LOCK PLATE	[M]	149	RMA0696	HEAD BASE	[M]
104	RML0116	BRAKE	[M]	127	RML0078	FUNCTION PLATE	[M]	151	RMQ0384	HEAD BASE	[M]
105	RBR2CY009	ERASE HEAD	[M]	129	RML0081-1	RECORD SAFETY LEVER	[M]	154	RXR0004	TAKE UP REEL ASSY	[M]
106	RDG0057	IDLER GEAR	[M]	130	RML0082	PAUSE LEVER	[M]	155	RXR0005	SUPPLY REEL ASSY	[M]
107	RDG0059	FF RELAY GEAR	[M]	131	RMM0023	PLAY ROD	[M]	156	XTN2+6J	BACK PLATE SCREW	[M]
108	RDK0005	CAM GEAR	[M]	132	RMM0024	REW ROD	[M]	158	RHD26002	MOTOR SCREW	[M]
109	RDV0006-1	RF BELT	[M]	133	RMM0025	FF ROD	[M]	160	RMG0102	MOTOR RUB. CUSH.	[M]
110	RHW16009	CAPSTAN WASHER	[M]	134	RMM0026	STOP ROD	[M]	162	RFKPXDS101PK	DC MOTOR ASS'Y	[M]
111	RMA0109	BACK PLATE	[M]	135	RMM0027	PAUSE ROD	[M]	163	RMA0108	MOTOR BK (P:75)	[M]
112	RMB0043-1	ROD OPERATION SPRING	[M]	136	RMM0028	REC ROD	[M]	164	XTN26+8J	MOTOR BK SCREW	[M]
113	RMB0045	AS SPRING	[M]	137	RMM0029	EJECT SLIDE LEVER	[M]	165	RME0098-2	EJECT SLIDE LEVER SP	[M]
114	RMB0046-1	LOCK PLATE SPRING	[M]	138	RMR0211	PAUSE BUSH	[M]				
115	RMB0047	HEAD PANEL SPRING	[M]	139	RMR0227	IDLER GEAR BUSH	[M]				
116	RMB0048	IDLER LEVER SPRING	[M]	140	RMS0055	REEL SHAFT	[M]				
117	RMB0053	PAUSE LEVER SPRING	[M]	141	RXF0012	FLYWHEEL ASSY	[M]				
118	RMB0125	BACK TENSION SPRING	[M]	141-1	RHW21008	FLYWHEEL WASHER	[M]				
119	RMC0061	PACK SPRING(OR RUS60	[M]	142	RMB0044	TRIGGER SPRING	[M]				
120	RFKRC090P-K	CHASSIS ASS'Y	[M]	143	RML0075	TRIGGER LEVER	[M]				
121	RML0071	SWING LEVER	[M]	144	RXP0014	RF CLUTCH ASSY	[M]				
122	RML0072	AS RELEASE LEVER	[M]	145	RXP0015	PINCH ROLLER ASSY	[M]				

Loading Mechanism Parts List

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

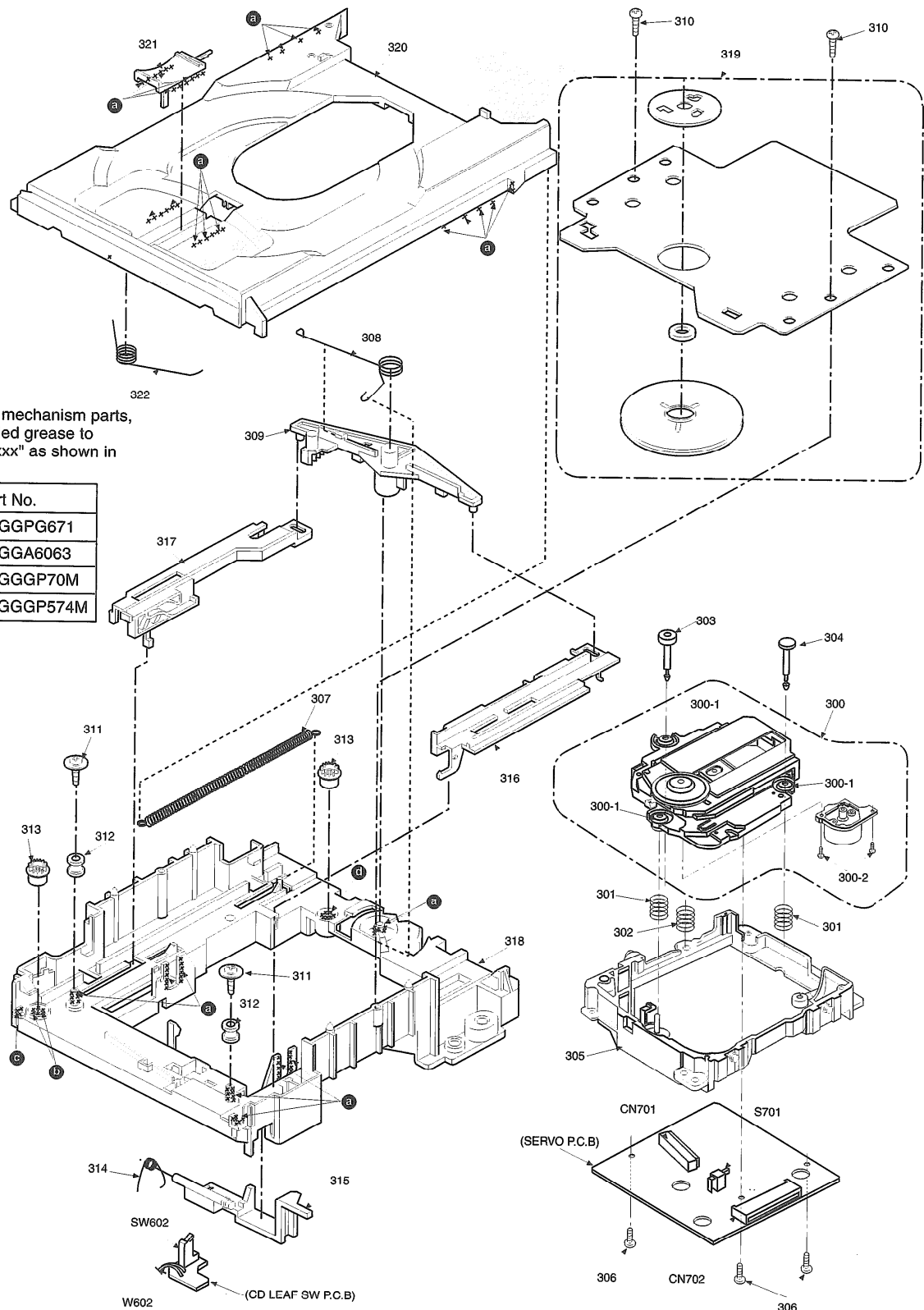
Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK		307	RMB0566	CD OPEN SPRING	[M]	318	RMK0388	CD CHASSIS	[M]
				308	RME0267	ASSIST SPRING	[M]	319	RFKNRXDS18PA	DISC HOLDER ASS'Y	[M]
300	RAE0152Z-M	TRAVERSE	[M]	309	RMM0207	CHANGE LEVER	[M]	320	RGQ0233-K	CD TRAY	[M]
300-1	SHGD113-1	FLOATING CUSHION	[M]	310	XTV26+6G	SCREW	[M]	321	RGQ0234-K	DISC HOLD PIECE	[M]
300-2	SNSD38	TRV MOTOR ASS'Y SCRE	[M]	311	RHD26016	SCREW	[M]	322	RME0269	DISC HOLD PIECE SPRING	[M]
301	RME0109	FLOATING SPRING B	[M]	312	RDP0103	ROLLER	[M]				
302	RME0142	FLOATING SPRING A	[M]	313	RDG0288	DAMPER GEAR	[M]				
303	RMS0350	FIXED PIN A	[M]	314	RME0268	CD EJ LEV SPR	[M]				
304	RMS0123-1	FIXED PIN B	[M]	315	RML0535	CD LOCK LEVER	[M]				
305	RMR0698-K	TRY CHASSIS	[M]	316	RMM0206	UP/DOWN LEVER B	[M]				
306	XTN2+6G	PCB SCREW	[M]	317	RMM0205	UP/DOWN LEVER A	[M]				

Loading Mechanism Parts Location

Note : Refer to **Mechanism Parts List** on page 32.

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

Ref No.	Part No.
(a)	RZGGPG671
(b)	RZGGA6063
(c)	RZGGGP70M
(d)	RZGGGP574M





Replacement Parts List

- Notes: *
- Important safety notice:
Components identified by Δ 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 3.
- ACHTUNG : * Die lasereinheit nicht zerlegen.
* Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS		38	XTBS26+10J	SCREW	[M]	Q352	2SC1740SRTA	TRANSISTOR	[M]
				39	XTN2+3F	SCREW	[M]	Q401	RVTDC114TST	TRANSISTOR	[M]
1	EAST10P02B6	SPEAKER	[M]	40	RDG0183-L	DAMPER GEAR	[M]	Q402	2SC1740SRTA	TRANSISTOR	[M]
2	REE0842	CD FFC	[M]	41	XTV3+12G	SP. MOUNTING SCREW	[M]	Q404	2SC1740SLNRT	TRANSISTOR	[M]
3	REX0905Y	MECHA LEAF SW WIRE.U	[M]	42	XTV3+20G	CASING SCREW	[M]	Q405	2SC1740SLNRT	TRANSISTOR	[M]
4	REX0906	MECHA HEAD WIRE UNIT	[M]	43	XTV3+8F	SCREW	[M]	Q410	2SC1740SLNRT	TRANSISTOR	[M]
5	REXX0189	SP-MAIN WIRE UNIT	[M]	44	XTWS3+10Q	MECHA SHAFT SCREW	[M]	Q411	RVTDC114TST	TRANSISTOR	[M]
6	RFKXDS28EBK	UPPER CAB ASS'Y	[M]	45	XYN3+F12FY	R.ANT SCREW	[M]	Q501	RVTDC114TST	TRANSISTOR	[M]
6-1	RGXP0023-Q	LCD PANEL	[M]	46	RMR1155-K	CD FIXTURE	[M]	Q502	2SC1740SRTA	TRANSISTOR	[M]
7	RFKJXDS28EBK	BOTTOM CAB ASS'Y	[M]EB	47	XTV3+10F	SCREW	[M]	Q504	2SC1740SLNRT	TRANSISTOR	[M]
7	RFKJXDS28EGK	BOTTOM CAB ASS'Y	[M]EG	48	RKTX0001-K	JOINT PORT (R)	[M]	Q505	2SC1740SLNRT	TRANSISTOR	[M]
7	RFKJXDS28E-K	BOTTOM CAB ASS'Y	[M]E	49	RKTX0002-K	JOINT PORT (L)	[M]	Q509	RVTDC114TST	TRANSISTOR	[M]
7-1	RJC91008	+- BATT. TERMINAL	[M]	50	RMVX0040	LAMP COVER	[M]	Q510	2SC1740SLNRT	TRANSISTOR	[M]
7-2	RKA0059-K	LEG RUBBER	[M]	51	RSCX0041	TRANSFORMER SHIELD	[M]	Q511	RVTDC114TST	TRANSISTOR	[M]
8	RFKLXDS27EBK	CASS LID ASS'Y	[M]	52	RMQ0649	MECHA BUTTON SUPPORT	[M]	Q601	RVTDTA114EST	TRANSISTOR	[M]
8-1	RKWX0092-Q	CASS. PANEL	[M]	53	RMAX0037	TRANSFORMER BRACKET	[M]	Q602	2SC1740SRTA	TRANSISTOR	[M]
11	RYQX0014	OPE BTN UNIT (L)	[M]	54	RGLX0012-Q	MEGA LED WINDOW	[M]	Q603	2SC1740SRTA	TRANSISTOR	[M]
12	RYQX0015	OPE BTN UNIT (R)	[M]			INTEGRATED CIRCUITS		Q604	2SC1740SRTA	TRANSISTOR	[M]
13	RGK1006-R	DIFFUSER (L)	[M]	IC1	TA2008AN	IC, TUNER	[M]	Q605	2SC1740SRTA	TRANSISTOR	[M]
14	RGK1007-R	DIFFUSER (R)	[M]	IC2	LC72131D	IC, PLL	[M]	Q607	2SC1740SRTA	TRANSISTOR	[M]
15	RGZX0025-K	MECHA BUTTON	[M]	IC301	BA3313L	IC, PRE AMP	[M]	Q608	2SA952LTA	TRANSISTOR	[M]
16	RKH0042-K	HANDLE	[M]	IC351	LA4663	IC, POWER	[M]	Q609	2SC1740SRTA	TRANSISTOR	[M]
17	RKK0073-1K	BATT. COVER	[M]	IC601	M38224M6M059	IC, U. COM	[M]	Q610	2SC1740SRTA	TRANSISTOR	[M]
18	RMAX0028	MECHA BRACKET (L)	[M]	IC602	BMR0301G	IC, RESET	[M]	Q611	RVTDTA114EST	TRANSISTOR	[M]
19	RMAX0029	MECHA BRACKET (R)	[M]	IC604	M62429P	IC, E.VOL	[M]	Q612	2SC1740SRTA	TRANSISTOR	[M]
20	RMB0490	CASS. OPEN SPRING	[M]	IC605	S81250SGY-Z	IC, 5V REG.	[M]	Q613	2SJ40CTA	TRANSISTOR	[M]
21	RKTX0003-S	PORT (R)	[M]	IC606	BU4066BC	IC, ANALOG SW	[M]	Q614	2SB1566E	TRANSISTOR	[M]
22	RKTX0004-S	PORT (L)	[M]	IC607	BU4066BC	IC, ANALOG SW	[M]	Q615	2SC1740SRTA	TRANSISTOR	[M]
23	RMC0355	R/P PLATE	[M]	IC701	AN8837SBE1	IC, HEAD AMP	[M]	Q616	RVTDC144EST	TRANSISTOR	[M]
25	RMXX0004	SPACER	[M]	IC702	MN662746RPK1	IC, LSI	[M]	Q617	2SA952LTA	TRANSISTOR	[M]
26	RKQ0224-K	HANDLE FIXTURE	[M]	IC703	AN8780NSBE2	IC, MOTOR DRIVER	[M]	Q618	RVTDC143XST	TRANSISTOR	[M]
27	RML0534	R/P LEVER	[M]			TRANSISTORS		Q620	RVTDTA143TST	TRANSISTOR	[M]
28	RME0270	R. ANT TERMINAL	[M]					Q621	2SC1740SRTA	TRANSISTOR	[M]
30	RMN0475	LCD HOLDER	[M]					Q624	RVTDC144EST	TRANSISTOR	[M]
31	RMXY0038	HEATSINK	[M]					Q701	2SA1037AKSTX	TRANSISTOR	[M]
32	RGU1630-S	CD EJ BUTTON	[M]					Q702	DTC114YKA146	TRANSISTOR	[M]
33	RGK1008-S	CD TRAY LID	[M]	Q1	2SC1740SRTA	TRANSISTOR	[M]	Q751	2SC1740SRTA	TRANSISTOR	[M]
34	SUX102	MECHA ROD	[M]	Q301	2SC1740SRTA	TRANSISTOR	[M]	Q752	2SC2001KTA	TRANSISTOR	[M]
35	XEARR210C-Y	R.ANTENNA	[M]	Q302	2SC1740SRTA	TRANSISTOR	[M]				
36	RMB0567	CD EJ BTN SPR	[M]	Q351	2SC2001KTA	TRANSISTOR	[M]				

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		DIODES								OSCILLATORS	
D1	SVC346T-AA	DIODE	[M]	SW811	EVQ21405R	SW, BAND	[M]	X2	RSXZ456KM01	19KHZ OSC	[M]
D2	KV1360NTM	DIODE	[M]	SW812	EVQ21405R	SW, PLAY/PAUSE	[M]	X3	RSXC7M20S04T	XTAL 7.2MHZ	[M]
D3	KV1360NTM	DIODE	[M]	SW901	RJJ1SE01-1H	SW, AC INLET (JK901)	[M] ⚠	X601	RSXD32K7S02	32.768HKZ X'TAL	[M]
D351	RVD1SS133TA	DIODE	[M]			CONNECTORS		X602	RSXZ4M19D01T	CERAMIC OSC.	[M]
D601	RVD1SS133TA	DIODE	[M]	CN701	RJS2A6016	16P FFC CONNECTOR	[M]	X701	RSXZ16M9M01T	CERAMIC OSC	[M]
D602	RVD1SS133TA	DIODE	[M]	CN702	RJS1A6723-1Q	23P FFC CONNCECTOR	[M]			FUSES & FUSE HOLDERS	
D607	RVD1SS133TA	DIODE	[M]	CN702	RJS1A6823-J	23P FPC CONNECTOR	[M]				
D608	RVD1SS133TA	DIODE	[M]	CP301	RJP4G18ZA	SOCKET	[M]	F901	XBA2C40TB0	FUSE	[M] ⚠
D609	MTZJ5R1BTA	DIODE	[M]	CP603	RJP4G9YA	LEAF SW 9P POST	[M]	FH901	RJR0169T	FUSE HOLDER	[M]
D611	RVD1SS133TA	DIODE	[M]	CP604	RJP4G4YA	LEAF SW 4P POST	[M]	FH902	RJR0169T	FUSE HOLDER	[M]
D613	RVD1SS133TA	DIODE	[M]	CP608	RJT029W002-1	SP CONNECTOR	[M]	FP601	RSFMB10KT-L	FUSE PROTECTOR	[M]
D614	MTZJ7R5CTA	DIODE	[M]			COILS & TRANSFORMERS		FP901	RSFMB40KT-L	FUSE PROTECTOR	[M] ⚠
D615	MTZJ15BTA	DIODE	[M]							JACKS	
D617	MTZJ5R6CTA	DIODE	[M]	L2	RLQY30S1W	COIL	[M]				
D618	RVD1SS133TA	DIODE	[M]	L3	RLV2C038-0	F. ANT	[M]	JK601	RJJ37TK01-1C	JK, HEADPHONE	[M]
D619	RVD1SS133TA	DIODE	[M]	L4	RLD4Y45W	COIL	[M]	JK901	RJJ1SE01-1H	JK, AC INLET	[M] ⚠
D620	RVD1SS133TA	DIODE	[M]	L6	RL02B130-T	AM OSC COIL	[M]			WIRE HOLDERS	
D750	MTZJ10BTA	DIODE	[M]	L7	RLQZP101KT-Y	AXIAL COIL	[M]				
D801	SPR325MVWT31	DIODE	[M]	L8	RLQY30S1W	COIL	[M]				
D803	SLR332DCTB7	DIODE	[M]	L301	RL09B17-T	RECORDING BIAS OCS C	[M]	H601A	RMR0318	9P CABLE HOLDER	[M]
D901	1N5402BM21	DIODE	[M] ⚠	L401	RLS500050T-Y	RF CHOKE COIL	[M]	H601B	RMR0318	9P CABLE HOLDER	[M]
D902	1N5402BM21	DIODE	[M] ⚠	L501	RLS500050T-Y	RF CHOKE COIL	[M]	H604	RJS1A5504	CABLE HOLDER	[M]
D903	1N5402BM21	DIODE	[M] ⚠	L601	RLQZP1R0KT-Y	COIL	[M]			WIRES	
D904	1N5402BM21	DIODE	[M] ⚠	L805	RLQZP1R0KT-Y	COIL	[M]				
D905	RVD1SS133TA	DIODE	[M]	L612	RLQZP1R0KT-Y	COIL	[M]	W602	RWJ4202190KK	CD LEAF SW WIRE	[M]
		TRIMMER		L613	RLQZP1R0KT-Y	COIL	[M]	W605	RWJ0102050KR	MAIN-MECHA MOTOR	[M]
CT1	ECRLA010A53R	TRIMMER CAPACITOR	[M]	L614	RLQZP1R0KT-Y	COIL	[M]	W606	RWJ8203120KK	MAIN-LED PCB	[M]
		SWITCHES		L617	RLQZP1R0KT-Y	COIL	[M]	W607	RWJ0302120KK	MAIN-BACKLIGHT PCB	[M]
				L623	RLS500050T-Y	RF CHOKE COIL	[M]	W901	RWJ0103170KK	POWER-BATT WIRE	[M]
S601	RSH1A006-U	SW, MOTOR	[M]	L626	RLQZP2R2KT-Y	COIL	[M]	PW601	RWJ1109120XX	MAIN-PANEL FFC	[M]
S701	RSH1A043-U	SW, REST SWITCH	[M]	L901	RLS500050T-Y	RF CHOKE COIL	[M] ⚠	PW604	REX0908	POWER-MAIN WIRE UNIT	[M]
SW301	RSP2F002-A	SW, R/P	[M]	L902	RLS500050T-Y	RF CHOKE COIL	[M] ⚠	PW901A	RWJ0103170KK	POWER-BATT WIRE	[M]
SW602	RSH1A005	SW, LEAF	[M]	T1	RLI2B014-T	AM IFT	[M]				
SW801	EVQ21405R	SW, TAPE/OFF	[M]	T901	RTP1L1B011-X	TRANSFORMER	[M] ⚠				
SW802	EVQ21405R	SW, TUNE/SKIP/SEARCH	[M]			COMPONENT COMBINATION					
SW803	EVQ21405R	SW, TUNE/SKIP/SEARCH	[M]	Z601	RSL5197-V	LCD	[M]				
SW804	EVQ21405R	SW, CLEAR/TUNE MODE	[M]	Z751	XAMR138	LAMP (BACK LIGHT)	[M]				
SW805	EVQ21405R	SW, SLEEP	[M]	Z801	RCD12042LN	REMOTE SENSOR	[M]				
SW806	EVQ21405R	SW, VOL-	[M]			CERAMIC FILTERS					
SW807	EVQ21405R	SW, VOL+	[M]								
SW808	EVQ21405R	SW, MEMORY	[M]	CF1	RLFFETNL02AL	FM CF	[M]				
SW809	EVQ21405R	SW, FM MODE/BP	[M]	CF3	RLFDFT20AL	FM DISCRIMINATOR	[M]				
SW810	EVQ21405R	SW, POWER BLASTER	[M]								

Resistors & Capacitors

- Notes** :
- Important safety notice:
Components identified by Δ 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 components, be sure to use only manufacturer's specified parts shown in the parts list.
 - The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indication can be used for all areas.
 - [M] in Remarks column indicates parts that are supplied by MESA.
 - Capacitor values are in microfarad (μ F) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 - Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
	RESISTORS										
R2	ERDS2TJ103T	10K 1/4W [M]	R202	ERDS2TJ272T	2.7K 1/4W [M]	R422	ERDS2TJ683T	68K 1/4W [M]	R615	ERDS2TJ104T	100K 1/4W [M]
R3	ERDS2TJ332T	3.3K 1/4W [M]	R204	ERDS2TJ274T	270K 1/4W [M]	R423	ERDS2TJ682T	6.8K 1/4W [M]	R617	ERDS2TJ104T	100K 1/4W [M]
R4	ERDS2TJ472T	4.7K 1/4W [M]	R205	ERDS2TJ680T	68 1/4W [M]	R424	ERDS2TJ153T	15K 1/4W [M]	R624	ERDS2TJ472T	4.7K 1/4W [M]
R5	ERDS2TJ221T	220 1/4W [M]	R206	ERDS2TJ222T	2.2K 1/4W [M]	R428	ERDS2TJ102T	1K 1/4W [M]	R625	ERDS2TJ472T	4.7K 1/4W [M]
R6	ERDS2TJ104T	100K 1/4W [M]	R207	ERDS2TJ682T	6.8K 1/4W [M]	R432	ERDS2TJ682T	6.8K 1/4W [M]	R626	ERDS2TJ106T	10M 1/4W [M]
R8	ERDS2TJ104T	100K 1/4W [M]	R208	ERDS2TJ472T	4.7K 1/4W [M]	R501	ERDS2TJ103T	10K 1/4W [M]	R627	ERDS2TJ334T	330K 1/4W [M]
R9	ERDS2TJ104T	100K 1/4W [M]	R251	ERDS2TJ822T	8.2K 1/4W [M]	R502	ERDS2TJ683T	68K 1/4W [M]	R628	ERDS2TJ105T	1M 1/4W [M]
R11	ERDS2TJ223T	22K 1/4W [M]	R254	ERDS2TJ181T	180 1/4W [M]	R503	ERDS2TJ562T	5.6K 1/4W [M]	R630	ERDS2TJ334T	330K 1/4W [M]
R12	ERDS2TJ103T	10K 1/4W [M]	R255	ERD2FCVJ4R7T	4.7 1/4W [M]	R504	ERDS2TJ682T	6.8K 1/4W [M]	R636	ERDS2TJ102T	1K 1/4W [M]
R16	ERDS2TJ104T	100K 1/4W [M]	R256	ERD2FCVJ4R7T	4.7 1/4W [M]	R506	ERDS2TJ332T	3.3K 1/4W [M]	R638	ERDS2TJ102T	1K 1/4W [M]
R17	ERDS2TJ222T	2.2K 1/4W [M]	R301	ERDS2TJ223T	22K 1/4W [M]	R507	ERDS2TJ104T	100K 1/4W [M]	R639	ERDS2TJ102T	1K 1/4W [M]
R20	ERDS2TJ223T	22K 1/4W [M]	R302	ERDS2TJ101T	100 1/4W [M]	R508	ERDS2TJ391T	390 1/4W [M]	R640	ERDS2TJ103T	10K 1/4W [M]
R21	ERDS2TJ473T	47K 1/4W [M]	R303	ERDS2TJ751T	750 1/4W [M]	R509	ERDS2TJ472T	4.7K 1/4W [M]	R641	ERDS2TJ103T	10K 1/4W [M]
R22	ERDS2TJ102T	1K 1/4W [M]	R304	ERDS2TJ563T	56K 1/4W [M]	R510	ERDS2TJ472T	4.7 1/4W [M]	R642	ERDS2TJ223T	22K 1/4W [M]
R23	ERDS2TJ223T	22K 1/4W [M]	R305	ERDS2TJ221T	220 1/4W [M]	R511	ERDS2TJ474T	470K 1/4W [M]	R643	ERDS2TJ224T	220K 1/4W [M]
R24	ERDS2TJ103T	10K 1/4W [M]	R306	ERDS2TJ100T	10 1/4W [M]	R512	ERDS2TJ392T	3.9K 1/4W [M]	R646	ERDS2TJ101T	100 1/4W [M]
R25	ERDS2TJ223T	22K 1/4W [M]	R307	ERDS2TJ272T	2.7K 1/4W [M]	R513	ERDS2TJ681T	680 1/4W [M]	R648	ERDS2TJ221T	220 1/4W [M]
R26	ERDS2TJ103T	10K 1/4W [M]	R351	ERDS2TJ103T	10K 1/4W [M]	R516	ERDS2TJ473T	47K 1/4W [M]	R649	ERDS2TJ223T	22K 1/4W [M]
R27	ERDS2TJ332T	3.3K 1/4W [M]	R352	ERDS2TJ103T	10K 1/4W [M]	R517	ERDS2TJ105T	1M 1/4W [M]	R650	ERDS2TJ182T	1.8K 1/4W [M]
R28	ERDS2TJ223T	22K 1/4W [M]	R353	ERDS2TJ563T	56K 1/4W [M]	R518	ERDS2TJ103T	10K 1/4W [M]	R654	ERDS2TJ332T	3.3K 1/4W [M]
R29	ERDS2TJ103T	10K 1/4W [M]	R354	ERDS2TJ471T	470 1/4W [M]	R519	ERDS2TJ822T	8.2K 1/4W [M]	R655	ERDS2TJ391T	390 1/4W [M]
R30	ERDS2TJ472T	4.7K 1/4W [M]	R355	ERDS2TJ274T	270K 1/4W [M]	R520	ERDS2TJ102T	1K 1/4W [M]	R656	ERDS2TJ473T	47K 1/4W [M]
R31	ERDS2TJ222T	2.2K 1/4W [M]	R401	ERDS2TJ103T	10K 1/4W [M]	R521	ERDS2TJ102T	1K 1/4W [M]	R658	ERDS2TJ473T	47K 1/4W [M]
R32	ERDS2TJ471T	470 1/4W [M]	R402	ERDS2TJ683T	68K 1/4W [M]	R522	ERDS2TJ683T	68K 1/4W [M]	R660	ERDS2TJ151T	150 1/4W [M]
R91	ERDS2TJ330T	33 1/4W [M]	R403	ERDS2TJ562T	5.6K 1/4W [M]	R523	ERDS2TJ682T	6.8K 1/4W [M]	R661	ERDS2TJ181T	180 1/4W [M]
R92	ERDS2TJ223T	22K 1/4W [M]	R404	ERDS2TJ682T	6.8K 1/4W [M]	R524	ERDS2TJ153T	15K 1/4W [M]	R662	ERDS2TJ103T	10K 1/4W [M]
R101	ERDS2TJ183T	18K 1/4W [M]	R406	ERDS2TJ332T	3.3K 1/4W [M]	R528	ERDS2TJ102T	1K 1/4W [M]	R663	ERDS2TJ122T	1.2K 1/4W [M]
R102	ERDS2TJ272T	2.7K 1/4W [M]	R407	ERDS2TJ104T	100K 1/4W [M]	R532	ERDS2TJ682T	6.8K 1/4W [M]	R666	ERDS2TJ472T	4.7K 1/4W [M]
R104	ERDS2TJ274T	270K 1/4W [M]	R408	ERDS2TJ391T	390 1/4W [M]	R603	ERDS2TJ221T	220 1/4W [M]	R667	ERDS2TJ104T	100K 1/4W [M]
R105	ERDS2TJ680T	68 1/4W [M]	R409	ERDS2TJ472T	4.7K 1/4W [M]	R604	ERDS2TJ153T	15K 1/4W [M]	R668	ERDS2TJ103T	10K 1/4W [M]
R106	ERDS2TJ222T	2.2K 1/4W [M]	R410	ERDS2TJ472T	4.7 1/4W [M]	R605	ERDS2TJ153T	15K 1/4W [M]	R669	ERDS2TJ123T	12K 1/4W [M]
R107	ERDS2TJ682T	6.8K 1/4W [M]	R411	ERDS2TJ474T	470K 1/4W [M]	R606	ERDS2TJ153T	15K 1/4W [M]	R670	ERDS1FVJ1R0T	1 1/2W [M]
R108	ERDS2TJ472T	4.7K 1/4W [M]	R412	ERDS2TJ392T	3.9K 1/4W [M]	R607	ERDS2TJ104T	100K 1/4W [M]	R671	ERDS2TJ151T	150 1/4W [M]
R151	ERDS2TJ822T	8.2K 1/4W [M]	R413	ERDS2TJ681T	680 1/4W [M]	R608	ERDS2TJ334T	330K 1/4W [M]	R672	ERDS2TJ124T	120K 1/4W [M]
R154	ERDS2TJ181T	180 1/4W [M]	R416	ERDS2TJ473T	47K 1/4W [M]	R609	ERDS2TJ153T	15K 1/4W [M]	R673	ERDS2TJ105T	1M 1/4W [M]
R155	ERD2FCVJ4R7T	4.7 1/4W [M]	R417	ERDS2TJ105T	1M 1/4W [M]	R610	ERDS2TJ152T	1.5K 1/4W [M]	R674	ERDS2TJ151T	150 1/4W [M]
R156	ERD2FCVJ4R7T	4.7 1/4W [M]	R418	ERDS2TJ103T	10K 1/4W [M]	R611	ERDS2TJ393T	39K 1/4W [M]	R675	ERDS2TJ181T	180 1/4W [M]
R201	ERDS2TJ183T	18K 1/4W [M]	R419	ERDS2TJ822T	8.2K 1/4W [M]	R612	ERDS2TJ472T	4.7K 1/4W [M]	R676	ERDS2TJ335T	3.3M 1/4W [M]
			R420	ERDS2TJ102T	1K 1/4W [M]	R613	ERDS2TJ333T	33K 1/4W [M]	R677	ERDS2TJ472T	4.7K 1/4W [M]
			R421	ERDS2TJ102T	1K 1/4W [M]	R614	ERDS2TJ104T	100K 1/4W [M]	R678	ERDS2TJ103T	10K 1/4W [M]

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
R679	ERDS2TJ153T	15K 1/4W [M]	R743	ERJ6GEYJ562A	5.6K 1/10W [M]	C23	ECFR1C333MR	0.033 16V [M]	C302	ECA1AM221B	220 10V [M]
R680	ERDS2TJ103T	10K 1/4W [M]	R744	ERJ6GEYJ104A	100K 1/10W [M]	C24	ECFR1C333MR	0.033 16V [M]	C303	ECA1HM2R2B	2.2 50V [M]
R681	ERDS2TJ223T	22K 1/4W [M]	R745	ERJ6GEYJ155A	1.5M 1/10W [M]	C30	ECBT1H331KB5	330P 50V [M]	C304	ECQP2A102JZT	1000P 100V [M]
R682	ERDS2TJ681T	680 1/4W [M]	R748	ERJ6GEYJ272A	2.7K 1/10W [M]	C31	ECBT1C103MS5	0.01 16V [M]	C305	ECA1CM101B	100 16V [M]
R683	ERDS2TJ223T	22K 1/4W [M]	R749	ERJ6GEYJ682A	6.8K 1/10W [M]	C32	ECBT1H102KB5	1000P 50V [M]	C306	ECBT1C822MS5	8200P 16V [M]
R684	ERDS2TJ122T	1.2K 1/4W [M]	R751	ERDS2TJ472T	4.7K 1/4W [M]	C33	ECBT1H102KB5	1000P 50V [M]	C307	ECBT1C103MS5	0.01 16V [M]
R686	ERDS2TJ472T	4.7K 1/4W [M]	R752	ERDS2TJ102T	1K 1/4W [M]	C34	ECBT1H102KB5	1000P 50V [M]	C310	ECQP2A151JZT	150P 100V [M]
R687	ERDS2TJ103T	10K 1/4W [M]	R753	ERDS2TJ102T	1K 1/4W [M]	C35	ECA1CM101B	100 16V [M]	C311	ECBT1C103MS5	0.01 16V [M]
R689	ERD2FCVG390T	39 1/4W [M]	R770	ERJ6GEYJ224A	220K 1/10W [M]	C36	ECA1EM101B	100 25V [M]	C351	ECA1CM100B	10 16V [M]
R690	ERDS2TJ1R5T	1.5 1/4W [M]	R801	ERDS2TJ152T	1.5K 1/4W [M]	C37	ECBT1C103MS5	0.01 16V [M]	C352	ECA1CM101B	100 16V [M]
R691	ERDS2TJ1R5T	1.5 1/4W [M]	R802	ERDS2TJ222T	2.2K 1/4W [M]	C39	ECBT1H180JC5	18P 50V [M]	C353	ECA1EM332E	3300 25V [M]
R692	ERDS2TJ1R5T	1.5 1/4W [M]	R803	ERDS2TJ272T	2.7K 1/4W [M]	C40	ECBT1C222MR5	2200P 16V [M]	C354	ECA1EM101B	100 25V [M]
R693	ERDS2TJ472T	4.7K 1/4W [M]	R804	ERDS2TJ392T	3.9K 1/4W [M]	C42	ECBT1H330J5	33P 50V [M]	C355	ECA1CM220B	20 16V [M]
R694	ERDS2TJ121T	120 1/4W [M]	R805	ERDS2TJ562T	5.6K 1/4W [M]	C43	ECBT1H101KB5	100P 50V [M]	C403	ECEA1CKA100B	10 16V [M]
R695	ERDS2TJ471T	470 1/4W [M]	R806	ERDS2TJ822T	8.2K 1/4W [M]	C44	ECA1HM2R2B	2.2 50V [M]	C404	ECA1HM010B	1 50V [M]
R696	ERDS2TJ101T	100 1/4W [M]	R807	ERDS2TJ153T	15K 1/4W [M]	C45	ECBT1H102KB5	1000P 50V [M]	C405	ECBT1H101KB5	100P 50V [M]
R698	ERDS2TJ152T	1.5K 1/4W [M]	R808	ERDS2TJ333T	33K 1/4W [M]	C48	ECA1HM010B	1 50V [M]	C406	ECEA1HKA010B	1 50V [M]
R699	ERDS2TJ562T	5.6K 1/4W [M]	R809	ERDS2TJ823T	82K 1/4W [M]	C49	ECBT1H102KB5	1000P 50V [M]	C408	ECA1HM100B	10 50V [M]
R701	ERJ6GEYJ4R7A	4.7 1/10W [M]	R851	ERDS2TJ153T	15K 1/4W [M]	C50	ECBT1H102KB5	1000P 50V [M]	C409	ECA1CM100B	10 16V [M]
R702	ERJ6GEYJ822A	8.2K 1/10W [M]	R857	ERDS2TJ103T	10K 1/4W [M]	C51	ECA1HM010B	1 50V [M]	C410	ECBT1H101KB5	100P 50V [M]
R704	ERJ6GEYJ102A	1K 1/10W [M]	R888	ERDS2TJ103T	10K 1/4W [M]	C53	ECBT1H102KB5	1000P 50V [M]	C411	ECA1HM010B	1 50V [M]
R705	ERJ6GEYJ124A	120K 1/10W [M]	R901	ERDS2TJ271T	270 1/4W [M]	C54	ECBT1H102KB5	1000P 50V [M]	C412	ECFR1C683MR	0.068 16V [M]
R706	ERJ6GEYJ102A	1K 1/10W [M]	R902	ERDS2TJ683T	68K 1/4W [M]	C91	ECA1HM3R3B	3.3 50V [M]	C413	ECFR1C683MR	0.068 16V [M]
R707	ERJ6GEYJ474A	470K 1/10W [M]	R903	ERDS2TJ272T	2.7K 1/4W [M]	C92	ECBT1H331KB5	330P 50V [M]	C414	ECA1HMR22B	0.22 50V [M]
R708	ERJ6GEYJ154A	150K 1/10W [M]				C98	ECBT1H331KB5	330P 50V [M]	C426	ECA1HMR22B	0.22 50V [M]
R709	ERJ6GEYJ473A	47K 1/10W [M]		CAPACITORS		C101	ECBT1C122MR5	1200P 16V [M]	C428	ECFR1C123KR	0.012 16V [M]
R710	ERJ6GEYJ103A	10K 1/10W [M]				C102	ECBT1C332MR5	3300P 16V [M]	C503	ECEA1CKA100B	10 16V [M]
R711	ERJ6GEYJ154A	150K 1/10W [M]	C1	ECBT1H470J5	47P 50V [M]	C104	ECBT1H681KB5	680P 50V [M]	C504	ECA1HM010B	1 50V [M]
R712	ERJ6GEYJ221A	220 1/10W [M]	C2	ECBT1H100JC5	10P 50V [M]	C106	ECA1CM101B	100 16V [M]	C505	ECBT1H101KB5	100P 50V [M]
R715	ERJ6GEYJ122A	1.2K 1/10W [M]	C3	ECFR1C223MR	0.022 16V [M]	C107	ECA1CM100B	10 16V [M]	C506	ECA1HM010B	1 50V [M]
R717	ERJ6GEYJ102A	1K 1/10W [M]	C4	ECBT1H102KB5	1000P 50V [M]	C108	ECBT0J223MS5	0.022 6.3V [M]	C507	ECFR1C682KR	6800 16V [M]
R718	ERJ6GEYJ102A	1K 1/10W [M]	C5	ECBT1H5R6KC5	5.6P 50V [M]	C151	ECBT1H102KB5	1000P 50V [M]	C509	ECEA1CKA100B	10 16V [M]
R719	ERJ6GEYJ102A	1K 1/10W [M]	C6	ECBT1H102KB5	1000P 50V [M]	C152	ECA1CM100B	10 16V [M]	C510	ECBT1H101KB5	100P 50V [M]
R720	ERJ6GEYJ102A	1K 1/10W [M]	C7	ECBT1H150JC5	15P 50V [M]	C153	ECA1HM2R2B	2.2 50V [M]	C511	ECA1HM010B	1 50V [M]
R721	ERJ6GEYJ101A	100 1/10W [M]	C8	ECBT1H102KB5	1000P 50V [M]	C154	ECQV1H104JZ3	0.1 50V [M]	C512	ECFR1C683MR	0.068 16V [M]
R723	ERJ6GEYJ272A	2.7K 1/10W [M]	C9	ECBT1H102KB5	1000P 50V [M]	C155	ECQV1H104JZ3	0.1 50V [M]	C513	ECFR1C683MR	0.068 16V [M]
R724	ERJ6GEYJ333A	33K 1/10W [M]	C10	ECBT1H100JC5	10P 50V [M]	C201	ECBT1C122MR5	1200P 16V [M]	C514	ECA1HMR22B	0.22 50V [M]
R725	ERJ6GEYJ122A	1.2K 1/10W [M]	C12	ECBT1H331KB5	330P 50V [M]	C202	ECBT1C332MR5	3300P 16V [M]	C526	ECA1HMR22B	0.22 50V [M]
R727	ERJ6GEYJ682A	6.8K 1/10W [M]	C13	ECA1CM100B	10 16V [M]	C204	ECBT1H681KB5	680P 50V [M]	C528	ECFR1C123KR	0.012 16V [M]
R728	ERJ6GEYJ682A	6.8K 1/10W [M]	C14	ECBT1H102KB5	1000P 50V [M]	C206	ECA1CM101B	100 16V [M]	C601	ECBT1H561KB5	560P 50V [M]
R729	ERJ6GEYJ562A	5.6K 1/10W [M]	C15	ECFR1C683MR	0.068 16V [M]	C207	ECA1CM100B	10 16V [M]	C603	ECA1HM010B	1 50V [M]
R731	ERJ6GEYJ123A	12K 1/10W [M]	C16	ECFR1C823MR	0.082 16V [M]	C208	ECBT0J223MS5	0.022 6.3V [M]	C605	ECA1HM010B	1 50V [M]
R734	ERJ6GEYJ101A	100 1/10W [M]	C17	ECFR1C823MR	0.082 16V [M]	C251	ECBT1H102KB5	1000P 50V [M]	C606	ECBT1H561KB5	560P 50V [M]
R735	ERJ6GEYJ101A	100 1/10W [M]	C18	ECFR1C333MR	0.033 16V [M]	C252	ECA1CM100B	10 16V [M]	C607	ECBT1H101KB5	100P 50V [M]
R736	ERJ6GEYJ101A	100 1/10W [M]	C19	ECFR1C333MR	0.033 16V [M]	C253	ECA1HM2R2B	2.2 50V [M]	C609	ECBT1H101KB5	100P 50V [M]
R738	ERJ6GEYJ223A	22K 1/10W [M]	C20	ECA1HM010B	1 50V [M]	C254	ECQV1H104JZ3	0.1 50V [M]	C615	ECBT1H180JC5	18P 50V [M]
R741	ERJ6GEYJ562A	5.6K 1/10W [M]	C21	ECA1HM010B	1 50V [M]	C255	ECQV1H104JZ3	0.1 50V [M]	C616	ECBT1H220JC5	22P 50V [M]
R742	ERJ6GEYJ562A	5.6K 1/10W [M]	C22	ECA1HM4R7B	4.7 50V [M]	C301	ECA1CM101B	100 16V [M]	C617	ECBT1H102KB5	1000P 50V [M]

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
C618	ECBT1H102KB5	1000P 50V [M]	C728	ECA1HAK010XI	1 50V [M]		CHIP JUMPERS				
C619	ECBT1H102KB5	1000P 50V [M]	C730	ECUZ1E104ZFN	0.1 25V [M]						
C620	ECBT1H820KB5	82P 50V [M]	C731	ECEA0JKA221I	220 6.3V [M]	RJ701	ERJ6GEY0R00A	0 1/10W [M]			
C621	ECBT1H101KB5	100P 50V [M]	C732	ECEA0JKA221I	220 6.3V [M]	RJ702	ERJ8GEY0R00A	0 1/8W [M]			
C622	ECBT1H102KB5	1000P 50V [M]	C733	ECUZ1E104MBN	0.1 25V [M]	RJ703	ERJ8GEY0R00A	0 1/8W [M]			
C623	ECA1CM101B	100 16V [M]	C734	ECEA1AKA221I	220 10V [M]	RJ704	ERJ8GEY0R00A	0 1/8W [M]			
C624	ECBT1H680J5	68P 50V [M]	C735	ECUZ1E104ZFN	0.1 25V [M]	RJ705	ERJ8GEY0R00A	0 1/8W [M]			
C625	ECBT1H820KB5	82P 50V [M]	C736	ECUZ1E104ZFN	0.1 25V [M]	RJ706	ERJ8GEY0R00A	0 1/8W [M]			
C626	ECBT1H470J5	47 50V [M]	C737	ECUZ1E104ZFN	0.1 25V [M]	RJ707	ERJ8GEY0R00A	0 1/8W [M]			
C628	ECA1CM101B	100 16V [M]	C738	ECUZ1E104MBN	0.1 25V [M]	RJ708	ERJ8GEY0R00A	0 1/8W [M]			
C629	ECA1CM101B	100 16V [M]	C739	ECUZ1H103KBN	0.01 50V [M]	RJ709	ERJ8GEY0R00A	0 1/8W [M]			
C631	ECBT1H470J5	47 50V [M]	C742	ECUZ1E273KBN	0.027 25V [M]	RJ710	ERJ8GEY0R00A	0 1/8W [M]			
C632	ECA1CM101B	100 16V [M]	C743	ECUZ1E104ZFN	0.1 25V [M]	RJ721	ERJ6GEY0R00A	0 1/10W [M]			
C633	ECA1CM100B	10 16V [M]	C744	ECUZ1E123KBN	0.012 25V [M]	RJ722	ERJ6GEY0R00A	0 1/10W [M]			
C636	ECBT1H561KB5	560P 50V [M]	C745	ECUZ1C473KBN	0.047 16V [M]	RJ723	ERJ6GEY0R00A	0 1/10W [M]			
C637	ECA1CM331B	330 16V [M]	C747	ECUV1H221KBN	220P 50V [M]	RJ724	ERJ6GEY0R00A	0 1/10W [M]			
C638	ECA1HMR47B	0.47 50V [M]	C749	ECUZ1H222KBN	2200P 50V [M]	RJ725	ERJ6GEY0R00A	0 1/10W [M]			
C640	ECA1CM220B	20 16V [M]	C750	ECUZ1E104MBN	0.1 25V [M]	RJ726	ERJ6GEY0R00A	0 1/10W [M]			
C641	ECA1CM101B	100 16V [M]	C751	ECUZ1E104MBN	0.1 25V [M]	RJ727	ERJ6GEY0R00A	0 1/10W [M]			
C642	ECA1CM101B	100 16V [M]	C752	ECUZ1H102KBN	1000P 50V [M]	RJ728	ERJ6GEY0R00A	0 1/10W [M]			
C644	ECA1CM100B	10 16V [M]	C753	ECUZ1H471KBM	470P 50V [M]	RJ750	ERJ6GEY0R00A	0 1/10W [M]			
C646	ECBT1H330J5	33P 50V [M]	C754	ECUZ1H471KBN	470P 50V [M]						
C648	ECBT1H330J5	33P 50V [M]	C761	ECUZ1H471KBN	470P 50V [M]		TEST JUMPER				
C650	ECBT1H330J5	33P 50V [M]	C762	ECUZ1H471KBN	470P 50V [M]						
C654	ECBT1H102KB5	1000P 50V [M]	C852	ECBT1H100JC5	10P 50V [M]	TJ701	EYF8CU	TEST JUMPER [M]			
C655	ECBT1C103MS5	0.01 16V [M]	C854	ECBT1H102KB5	1000P 50V [M]						
C701	ECEA0JKA330I	33 6.3V [M]	C860	ECBT1H101KB5	100P 50V [M]						
C702	ECUZ1E104MBN	0.1 25V [M]	C901	ECKR1H103ZF5	0.01 50V [M]						
C703	ECEA0JKA101I	100 6.3V [M]	C902	ECKR1H103ZF5	0.01 50V [M]						
C704	ECUZ1E104MBN	0.1 25V [M]	C903	ECKR1H103ZF5	0.01 50V [M]						
C706	ECUZ1H272KBN	2700P 50V [M]	C904	ECKR1H103ZF5	0.01 50V [M]						
C707	ECUZ1E273KBN	0.027 25V [M]									
C710	ECUV1H151KCN	150P 50V [M]									
C711	ECUZ1E104ZFN	0.1 25V [M]									
C712	ECUZ1E104ZFN	0.1 25V [M]									
C713	ECUZ1E104MBN	0.1 25V [M]									
C714	ECEA0JKA101I	100 6.3V [M]									
C715	ECUZ1H182KBN	1800P 50V [M]									
C716	ECUZ1H821KBN	820P 50V [M]									
C717	ECUZ1E104ZFN	0.1 25V [M]									
C718	ECUZ1C224KBN	0.22 16V [M]									
C721	ECUZ1H150JCN	15P 50V [M]									
C722	ECUZ1H150JCN	15P 50V [M]									
C723	ECEA1AKA221I	220 10V [M]									
C724	ECUZ1E104MBN	0.1 25V [M]									
C725	ECUZ1H102KBN	1000P 50V [M]									
C726	ECUZ1H102KBN	1000P 50V [M]									
C727	ECA1HAK010XI	1 50V [M]									

Packing Materials & Accessories

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

Remote Control Unit : Supply period for three years from terminal of production.

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS				ACCESSORIES		A2	RQT4257-H	O/I BOOK	[M]EG
P1	RPGX0474	GIFT BOX	[M]E	A1	EUR646552	REMOTE CONTROL	[M]	A2	RQT4258-B	O/I BOOK	[M]EB
P1	RPGX0475	GIFT BOX	[M]EB EG	A1-1	UR64EC2112	R/C BATTERY COVER	[M]	A3	RJA0019-2K	AC CORD	⚠ [M]EG E
P2	RPH0131	MIRAMAT SHEET	[M]	A2	RQT4254-E	O/I BOOK	[M]E	A3	RJA0053-1X	AC CORD	⚠ [M]EB
P3	RPN1111	POLYFOAM	[M]	A2	RQT4255-R	O/I BOOK	[M]E				
				A2	RQT4256-D	O/I BOOK	[M]EG				

Packaging

