

Service Manual

Portable CD Player SL-S230



Please file and use this manual together with the service manual for Model No. SL-S230, Order No. AD9803046C1.

Colour

(S) Silver Type
(A) Blue Type

MASH *1
multi-stage noise shaping

- Notes:**
- This simplified service manual is provided to indicate the differences between the original No. SL-S230 (P) (PC) and the subsequent model No. SL-S230 (GK) (GH).
 - SL-S230 (GK) (GH) is equipped with remote control on SL-S230 (P) (PC).
 - All parts are supplied by MESA.

Areas

(GK) China.
(GH) Hong kong.

Traverse Deck: RAE0145Z Mechanism Series Specifications

Audio

No. of channels: 2 channels (left and right, stereo)
Frequency response: 20 to 20,000 Hz (+0.5 dB to -1.5dB)
Output voltage: 0.6 V (50 k Ω)
S/N: more than 94 dB*2
Wow and flutter: Below measurable limit
DA converter: 1 bit, MASH*1
Headphones output level: max. 9 mW+9 mW/16 Ω (adjustable)

Pick up

Light source: Semiconductor laser
Wavelength: 780 nm

General

Operational temperature range: 0°C – 40°C (32°F – 104°F)
Rechargeable temperature range: 5°C – 40°C (41°F – 104°F)
Power supply: DC 4.5 V
Power consumption:

Power source	Anti-shock OFF/ON
AC adaptor	3.0 W/ 3.2 W
Battery (DC 3 V)	0.4 W/ 0.4 W

When recharging: 3.6 W

Play time:

When used in hold mode, at 25°C (77°F) temperature and on flat and stable surface.

Batteries used	Anti-shock OFF/ON
2 alkaline batteries*3	About 20 hours/ 20 hours
Rechargeable battery (P-3GAVT)	About 10 hours/ 10 hours

The play time may be less depending on the operating conditions

Recharging time:

P-3GAVT; About 5 hours
Dimensions (W×H×D): 128 × 27.8 × 144 mm
Weight: 265 g with batteries
220 g without batteries

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

*1 MASH is a trademark of NTT.

*2 This specification was measured in Anti -shock OFF mode.

*3 These batteries was not included.

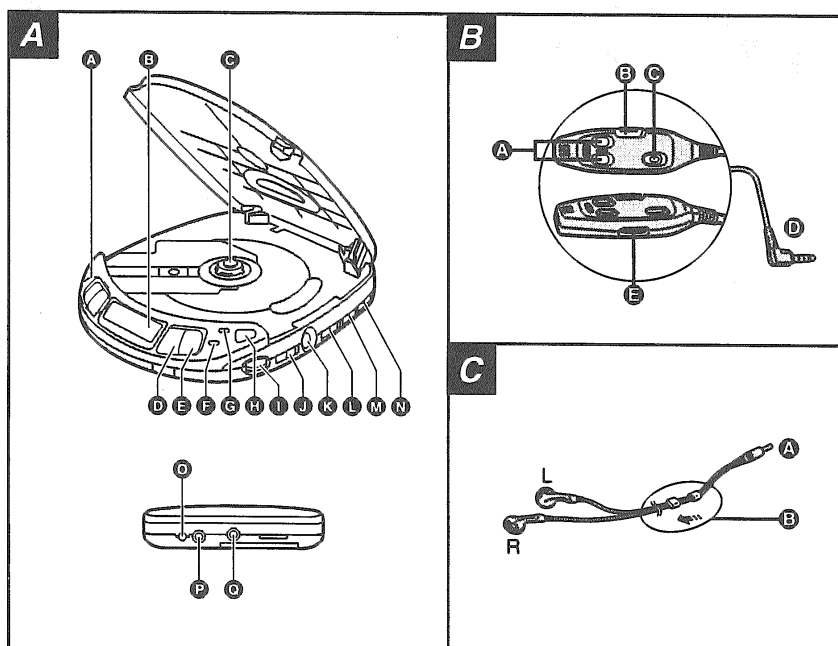
⚠ WARNING

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.

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Location of controls



Portable CD player

- A Skip/search buttons (◀◀, ▶▶ •SKIP •SEARCH)
- B Display
- C CD release button (PUSH)
- D Play/pause button (▶ II)
- E Stop/power off button (■, POWER OFF)
- F Memory/recall button (MEMORY/RECALL)
- G Repeat button (REPEAT)
- H Open button (OPEN)
- I Headphones volume control (VOLUME)
- J Train/S-XBS selector (TRAIN, S-XBS, OFF)
- K Headphones jack (⌀)
- L Play mode selector (RESUME, NORMAL, RANDOM)
- M Hold switch (HOLD)
- N Anti-shock switch (ANTI-SHOCK)
- O Out jack (OUT)
- P DC in jack (⌀-C-⌀ DC IN 4.5 V)
- Q Hole for car insulator mounting screw

Wired remote control

- A Skip/search buttons (+, -)
- B HOLD switch (HOLD)
- C Play/stop/off button
- D Plug
- E Volume control (VOL)

Stereo earphones

- A Plug
- B Slider

Schematic Diagram

This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S201 : Laser ON/OFF switch in "OFF" position.
(It turns "ON" with disc holder closed.)
- S202 : Rest detector in "OFF" position.
(It turns "OFF" when optical pickup comes to innermost periphery.)
- S301 : Memory/recall (MEMORY/RECALL) switch.
- S302 : Repeat (REPEAT) switch.
- S303, 304 : Skip/search (◀◀•SKIP/•SEARCH▶▶) switches.
(S303:◀◀, S304:▶▶)
- S305 : Stop/power off (■ POWER OFF) switch.
- S306 : Play/pause (▶ II) switch.
- S307 : Play mode selector (MODE) in "RESUME" position.
(RANDOM ↔ NORMAL ↔ RESUME)
- S308 : Hold (HOLD) switch in "OFF" position.
- S501 : Anti-shock (ANTI-SHOCK) switch in "OFF" position.
- S701 : TRAIN/S-XBS Selector (TRAIN/S-XBS) switch in "OFF" position.
- VR11 : Power supply voltage adjustment VR.
- VR701-1, VR701-2 : Volume control VR.

- The voltage value and waveforms are the reference voltage of this measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of GND terminal (DC IN Jack).

Accordingly, there may arise some errors in the voltage values and waveforms depending upon the internal impedance of the tester or measuring unit.

- The parenthesized is the voltage for test disc (1kHz, L+R, 0 dB) in play mode, and the other, for no disc in stop mode.
- AC adaptor is used for power supply.
- Signal line

➡ : Positive voltage lines.

➡ : Audio signal lines.

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

Please refer to the service manual for Model No.SL-S230 (Order No. AD 9803046C1) about Terminal Function of IC's.

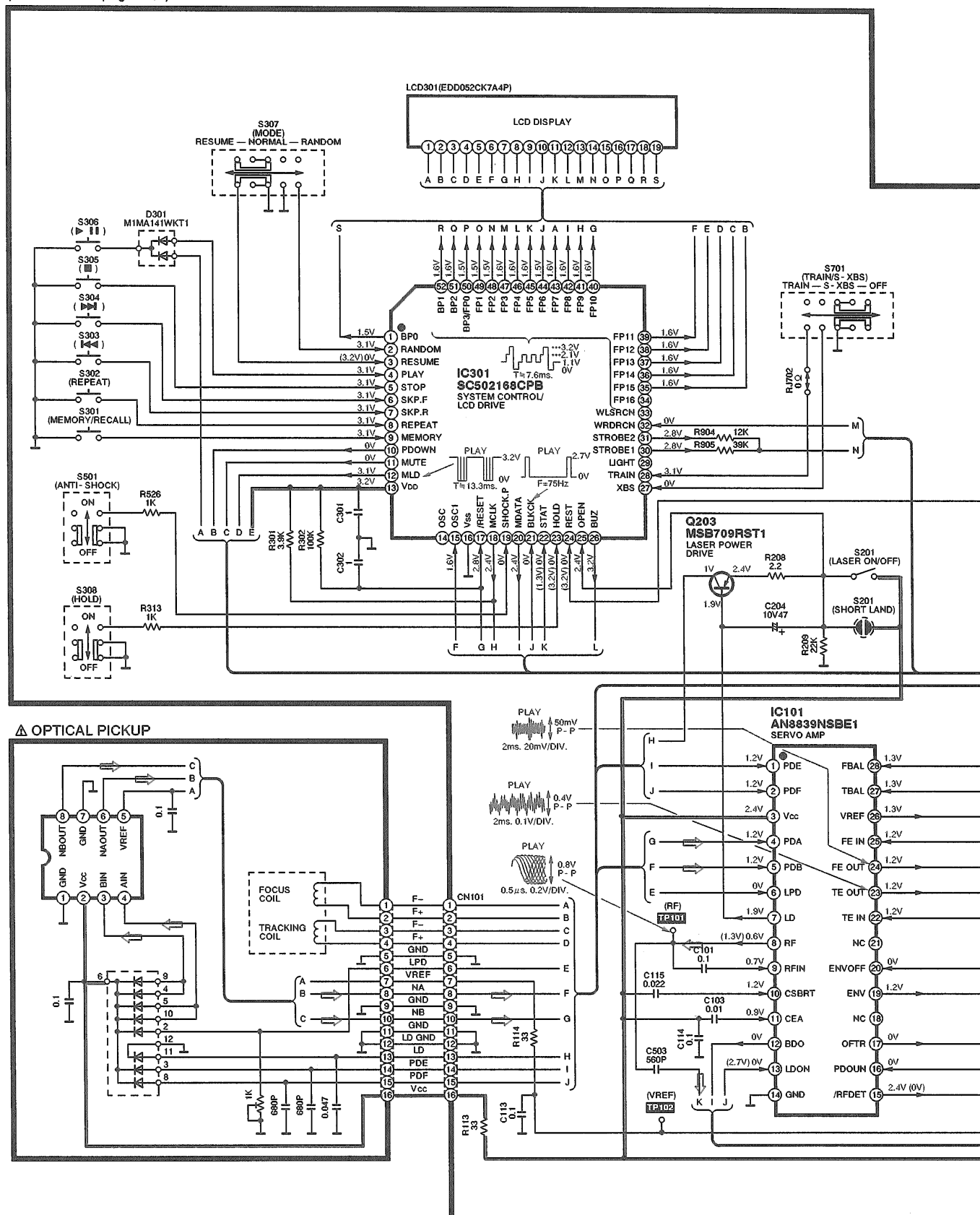
Caution!

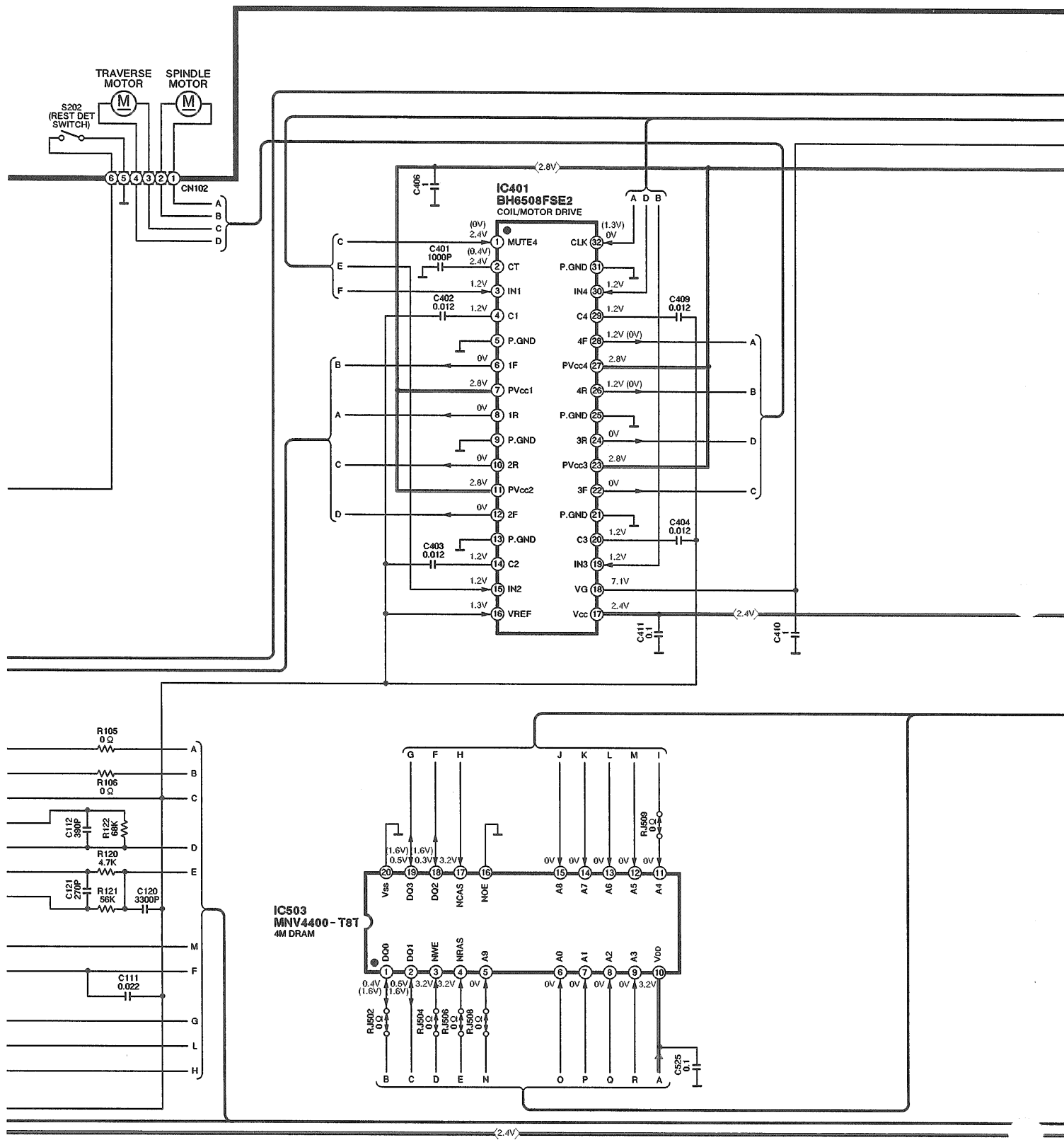
IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

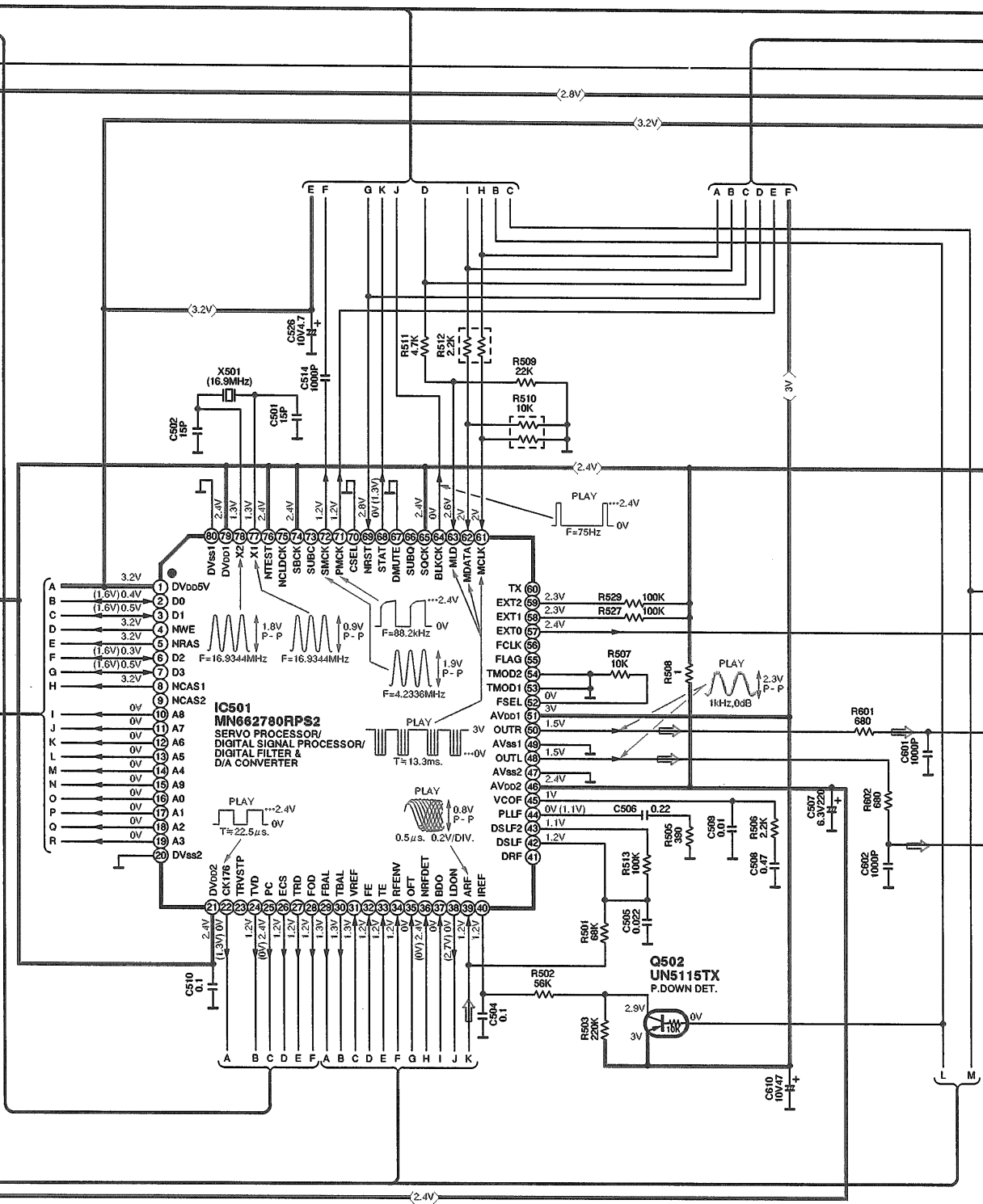
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.

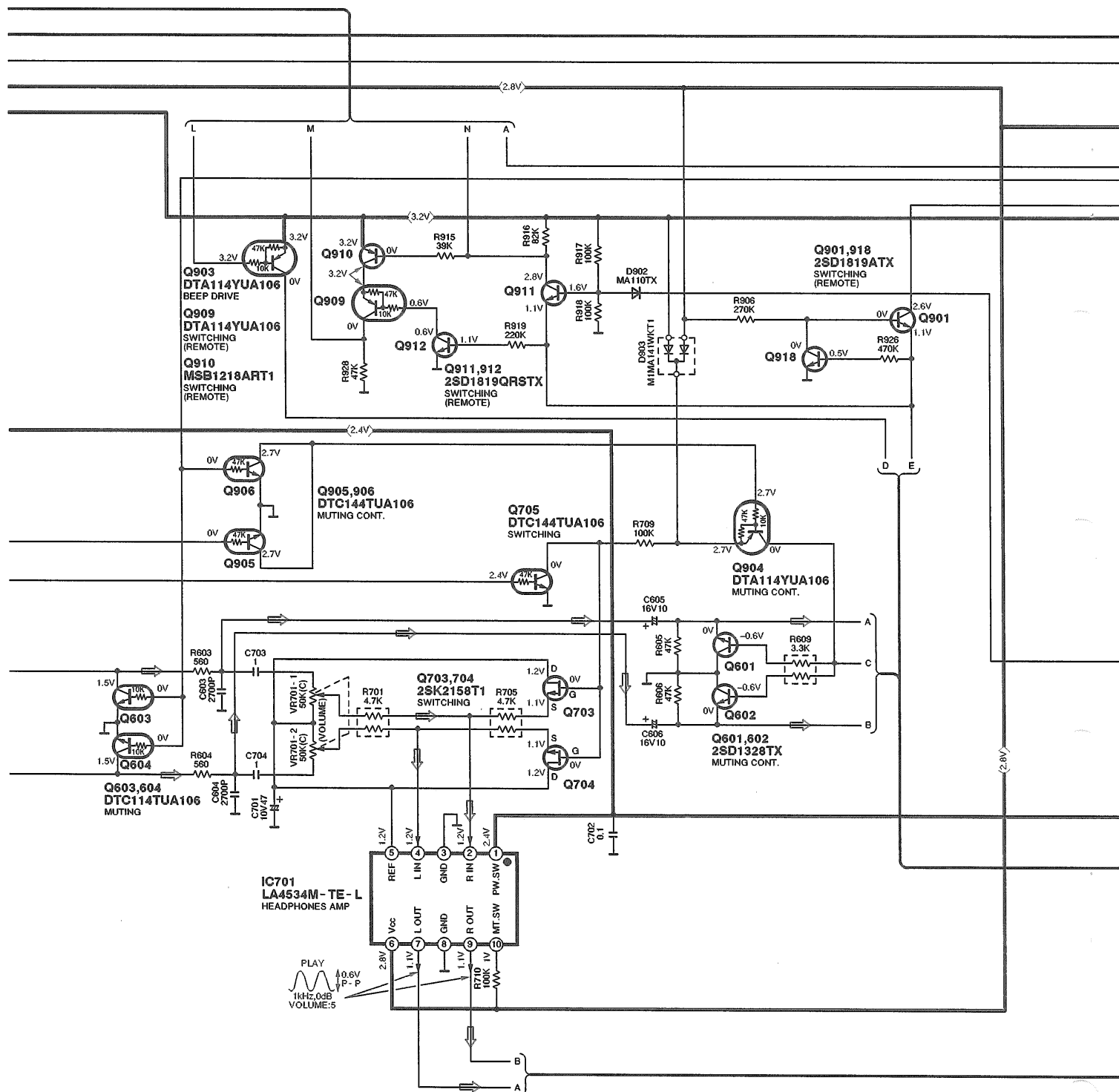
(P.C.Board: on pages 8,9)



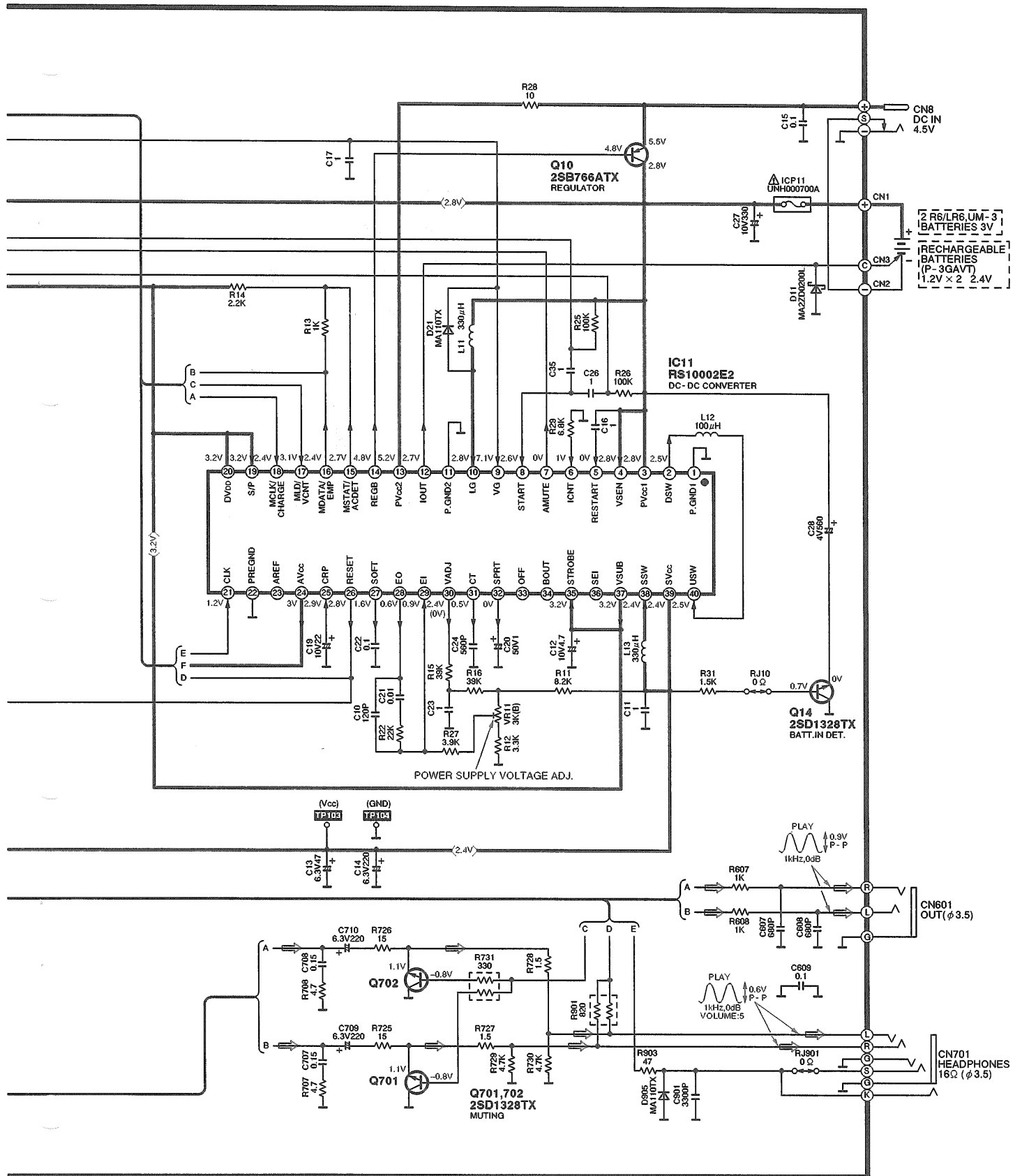


➡ : Positive voltage lines. ➡ : Audio signal lines.



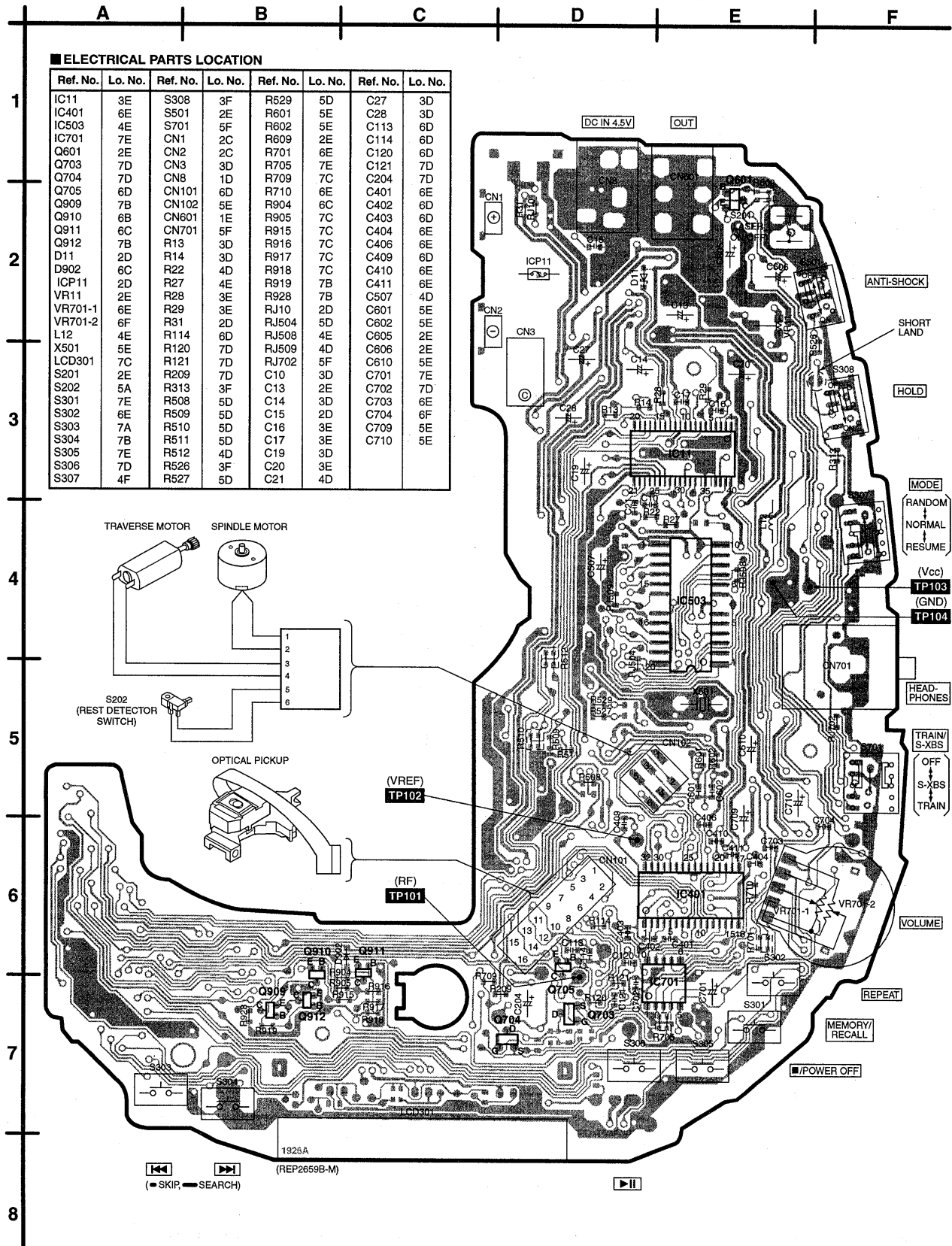


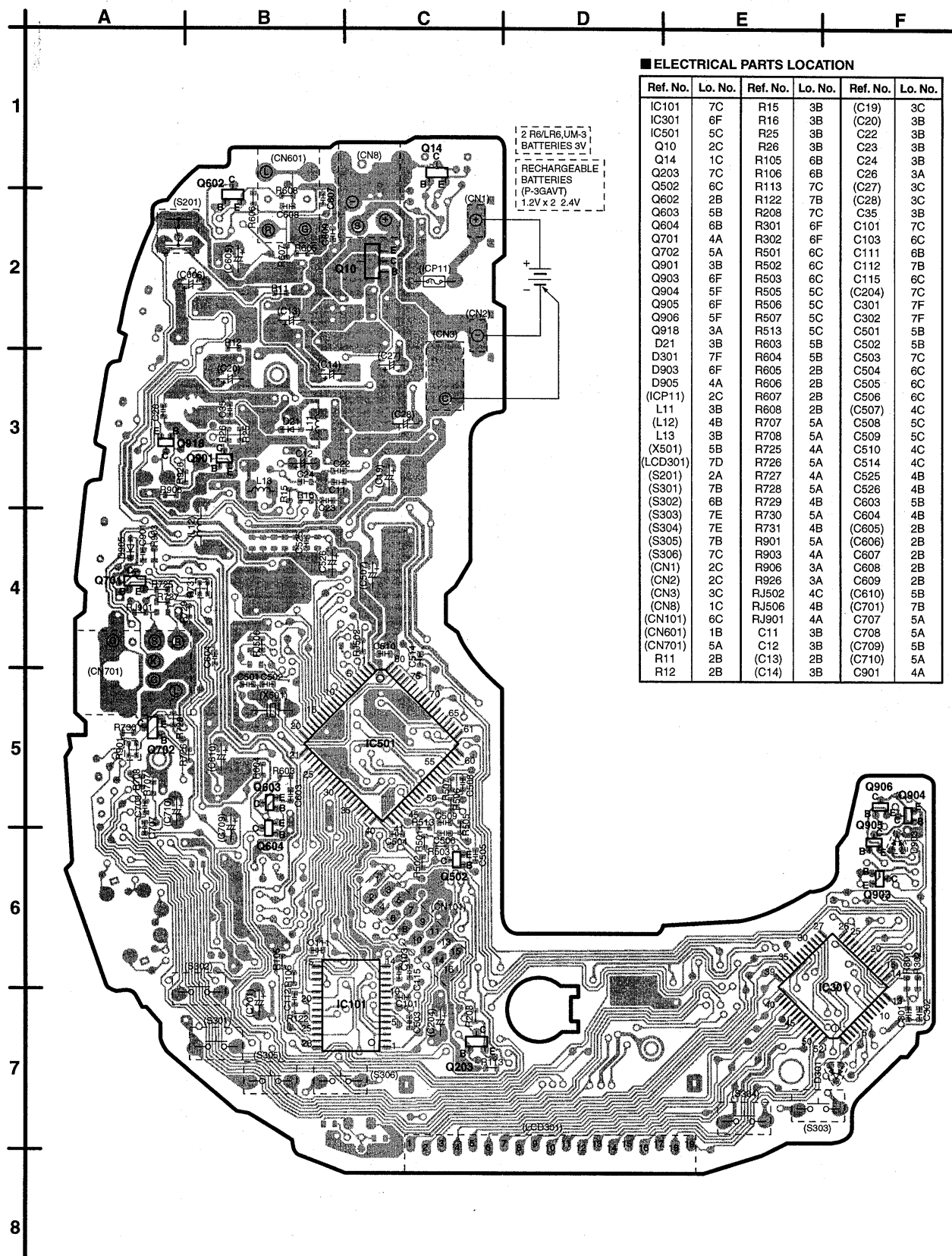
→ : Positive voltage lines. → : Audio signal lines.



Printed Circuit Board Diagram

This circuit board diagram may be modified at any time with the development of new technology.





■ 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 components, be sure to use only manufacture's specified parts shown in the parts list.
- * All parts are supplied by MESA.
- * The "<IA>" "<IB>" marks in Remark indicate language of instruction manual.
<IA> : English, Spanish, Chinese
<IB> : Korean
- * (A9) This item is not attached to merchandise, but it is supplied as a replacement parts.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Δ A1	RFEA403H-S	AC ADAPTOR	1	(GH)
Δ A1	RFEA403T-1S	AC ADAPTOR	1	(GK)
A2	RFEV316P-K1S	STEREO EARPHONES	1	
A4	RQT4331-K	INST. MANUAL	1	(GH) (GK) <IA>
A4	RQT4333-G	INST. MANUAL	1	(GH) <IB>
Δ A7	SJP5213-2	PLUG ADAPTOR	1	(GH)
A8	RFEV015PCKS	REMOTE CONTROLLER	1	
A9*	RKB205ZA-0	EAR PADS	1	
A10	RFKFP3GAVT2S	RECHA. BATT.	1	
A10-1	RFKNLS370-K	BATTERY CASE	1	
A11	RQCB0169	SERVICE CENTER LIST	1	(GH)
C10	ECUV1H121KCV	50V 120P	1	
C11	ECUVNA105ZFV	10V 1U	1	
C12	RCST1AY475RE	10V 4.7U	1	
C13	RCE0JSC4701X	6.3V 47U	1	
C14	RCE0JKA2211G	6.3V 220U	1	
C15	ECUZNC104ZFV	16V 0.1U	1	
C16, 17	ECUVNA105ZFV	10V 1U	2	
C19	ECEA1AKS220	10V 22U	1	
C20	ECEA1HKS010	50V 1U	1	
C21	ECUV1E103KBV	25V 0.01U	1	
C22	ECUZNC104ZFV	16V 0.1U	1	
C23	ECUVNA105ZFV	10V 1U	1	
C24	ECUV1H561KBV	50V 560P	1	
C26	ECUVNA105ZFV	10V 1U	1	
C27	RCE1AMT3311V	10V 330U	1	
C28	RCE0GMT5611V	4V 560U	1	
C35	ECUVNA105ZFV	10V 1U	1	
C101	ECUV1C104KBV	16V 0.1U	1	
C103	ECUV1E103KBV	25V 0.01U	1	
C111	ECUV1C223KBV	16V 0.022U	1	
C112	ECUV1H391KBV	50V 390P	1	
C113, 14	ECUZNC104ZFV	16V 0.1U	2	
C115	ECUV1C223KBV	16V 0.022U	1	
C120	ECUV1H332KBV	50V 3300P	1	
C121	ECUV1H271KBV	50V 270P	1	
C204	RCE1AKA4701G	10V 47U	1	
C301, 02	ECUVNA105ZFV	10V 1U	2	
C401	ECUV1H102KBV	50V 1000P	1	
C402-04	ECUV1E123KBV	25V 0.012U	3	
C406	ECUVNA105ZFV	10V 1U	1	
C409	ECUV1E123KBV	25V 0.012U	1	
C410	ECUVNA105ZFV	10V 1U	1	
C411	ECUZNC104ZFV	16V 0.1U	1	
C501, 02	ECUV1H150KCV	50V 15P	2	
C503	ECUV1H561KBV	50V 560P	1	
C504	ECUZNC104ZFV	16V 0.1U	1	
C505	ECUV1C223KBV	16V 0.022U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C506	ECUVNA224KBV	10V 0.22U	1	
C507	RCE0JKA2211G	6.3V 220U	1	
C508	ECUV0J474KBV	6.3V 0.47U	1	
C509	ECUV1E103KBV	25V 0.01U	1	
C510	ECUZNC104ZFV	16V 0.1U	1	
C514	ECUV1H102KBV	50V 1000P	1	
C525	ECUZNC104ZFV	16V 0.1U	1	
C526	RCST1AY475RE	10V 4.7U	1	
C601, 02	ECUV1H102KBV	50V 1000P	2	
C603, 04	ECUV1H272KBV	50V 2700P	2	
C605, 06	ECEA1CKS100	16V 10U	2	
C607, 08	ECUV1H681KBV	50V 680U	2	
C609	ECUZNC104ZFV	16V 0.1U	1	
C610	RCE1AKA4701G	10V 47U	1	
C701	RCE1AKA4701G	10V 47U	1	
C702	ECUZNC104ZFV	16V 0.1U	1	
C703, 04	ECUVNA105ZFV	10V 1U	2	
C707, 08	ECUVNA154KBV	10V 0.15U	2	
C709, 10	ECA0JAK221XH	6.3V 220U	2	
C901	ECUV1H332KBV	50V 3300P	1	
CN1, N2	RJC93015-1	BATTERY TERMINAL	2	
CN3	RJH5104	RECHARGE BATT. TERMINAL	1	
CN8	RJJ43K09-C	JACK, DC IN	1	
CN101	RJS2A4716M1	CONNECTOR (16P)	1	
CN102	RJS2A5106T1	CONNECTOR (6P)	1	
CN601	RJJD3S52B-C	JACK, AUDIO OUT	1	
CN701	RJJ36T02-C	JACK, HEADPHONES	1	
D11	MA2D0200L	DIODE	1	
D21	MA110TX	DIODE	1	
D301	MTMA141WKT1	DIODE	1	
D902	MA110TX	DIODE	1	
D903	MTMA141WKT1	DIODE	1	
D905	MA110TX	DIODE	1	
IC11	RS10002E2	IC	1	
IC101	AN8839NSBE1	IC	1	
IC301	SC502168CPB	IC	1	
IC401	BH6508FSE2	IC	1	
IC501	MN662780RPS2	IC	1	
IC503	MNV4400-T8T	IC	1	
IC701	LA4534M-TE-L	IC	1	
Δ ICP11	UNH000700A	IC PROTECTOR	1	
RJ10	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ502	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ504	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ506	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ508, 09	ERJ3GEY0R00V	CHIP JUMPER	2	
RJ702	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ901	ERJ3GEY0R00V	CHIP JUMPER	1	
L11	RLQU331KT-W	COIL, CHOKE	1	
L12	RLQB101KT-0	COIL, CHOKE	1	
L13	RLQU331KT-W	COIL, CHOKE	1	
LCD301	EDD052CK7A4P	LCD DISPLAY	1	
P1	RPK0997	PACKING CASE	1	(S)
P1	RPK1044	PACKING CASE	1	(A)
P2	RPQ0753	SPACE	1	
P3	RPQ0836-1	PAD	1	
P4	RPF0111	PROTECTION COVER	1	
Q10	2SB766ATX	TRANSISTOR	1	
Q14	2SD1328QRSTX	TRANSISTOR	1	
Q203	MSB709RST1	TRANSISTOR	1	
Q502	UN5115TX	TRANSISTOR	1	
Q601, 02	2SD1328QRSTX	TRANSISTOR	2	
Q603, 04	DTC114TUA106	TRANSISTOR	2	
Q701, 02	2SD1328QRSTX	TRANSISTOR	2	
Q703, 04	2SK2158T1	TRANSISTOR	2	
Q705	DTC144TUA106	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q901	2SD1819ATX	TRANSISTOR	1		S308	RSS2A010-1A	SW, HOLD	1	
Q903, 04	DTA114YUA106	TRANSISTOR	2		S501	RSS2A010-1A	SW, ANTI-SHODE	1	
Q905, 06	DTC144TUA106	TRANSISTOR	2		S701	RSS3A007-1A	SW, REST DET	1	
Q909	DTA114YUA106	TRANSISTOR	1						
Q910	MSB1218ART1	TRANSISTOR	1		VR11	RRN3A05B33WL	V. R., VOLTAGE ADJ.	1	
Q911, 12	2SD1819ATX	TRANSISTOR	2		VR701	EVUTUFB11C54	V. R., VOLUME	1	
Q918	2SD1819ATX	TRANSISTOR	1						
					X501	RSXZ16M9M01T	OSCILLATOR	1	
R11	ERJ3GEYJ822V	1/16W 8.2K	1						
R12	ERJ3GEYJ332V	1/16W 3.3K	1						
R13	ERJ3GEYJ102Z	1/16W 1K	1						
R14	ERJ3GEYJ222V	1/16W 2.2K	1						
R15, 16	ERJ3GEYJ393V	1/16W 39K	2						
R22	ERJ3GEYJ223V	1/16W 22K	1						
R25, 26	ERJ3GEYJ104Z	1/16W 100K	2						
R27	ERJ3GEYJ392V	1/16W 3.9K	1						
R28	ERJ3GEYJ100V	1/16W 10	1						
R29	ERJ3GEYJ682V	1/16W 6.8K	1						
R31	ERJ3GEYJ152V	1/16W 1.5K	1						
R105, 06	ERJ3GEY0R00V	1/16W 0	2						
R113, 14	ERJ3GEYJ330V	1/16W 33	2						
R120	ERJ3GEYJ472V	1/16W 4.7K	1						
R121	ERJ3GEYJ563V	1/16W 56K	1						
R122	ERJ3GEYJ683V	1/16W 68K	1						
R208	ERJ3GEYJ2R2V	1/16W 2.2	1						
R209	ERJ3GEYJ223V	1/16W 22K	1						
R301	ERJ3GEYJ392V	1/16W 3.9K	1						
R302	ERJ3GEYJ104Z	1/16W 100K	1						
R313	ERJ3GEYJ102Z	1/16W 1K	1						
R501	ERJ3GEYJ683V	1/16W 68K	1						
R502	ERJ3GEYJ563V	1/16W 56K	1						
R503	ERJ3GEYJ224V	1/16W 220K	1						
R505	ERJ3GEYJ391V	1/16W 390	1						
R506	ERJ3GEYJ222V	1/16W 2.2K	1						
R507	ERJ3GEYJ103Z	1/16W 10K	1						
R508	ERJ3GEYJ1R0V	1/16W 1	1						
R509	ERJ3GEYJ223V	1/16W 22K	1						
R510	EXBV4V103JV	1/32W 10K	1						
R511	ERJ3GEYJ472V	1/16W 4.7K	1						
R512	EXBV4V222JV	1/32W 2.2K	1						
R513	ERJ3GEYJ104Z	1/16W 100K	1						
R526	ERJ3GEYJ102Z	1/16W 1K	1						
R527	ERJ3GEYJ104Z	1/16W 100K	1						
R529	ERJ3GEYJ104Z	1/16W 100K	1						
R601, 02	ERJ3GEYJ681V	1/16W 680	2						
R603, 04	MCR03PZHJ561	1/16W 560	2						
R605, 06	ERJ3GEYJ473V	1/16W 47K	2						
R607, 08	ERJ3GEYJ102Z	1/16W 1K	2						
R609	EXBV4V332JV	1/32W 3.3K	1						
R701	EXBV4V472JV	1/32W 4.7K	1						
R705	EXBV4V472JV	1/32W 4.7K	1						
R707, 08	ERJ3GEYJ4R7V	1/16W 4.7	2						
R709, 10	ERJ3GEYJ104Z	1/16W 100K	2						
R725, 26	ERJ3GEYJ150V	1/16W 15	2						
R727, 28	ERJ3GEYJ1R5V	1/16W 1.5	2						
R729, 30	ERJ3GEYJ472V	1/16W 4.7K	2						
R731	EXBV4V331JV	1/32W 330	1						
R901	EXBV4V821JV	1/32W 820	1						
R903	ERJ3GEYJ470V	1/16W 47	1						
R904	ERJ3GEYJ123V	1/16W 12K	1						
R905	ERJ3GEYJ393V	1/16W 39K	1						
R906	ERJ3GEYJ274V	1/16W 270K	1						
R915	ERJ3GEYJ393V	1/16W 39K	1						
R916	ERJ3GEYJ823V	1/16W 82K	1						
R917, 18	ERJ3GEYJ104Z	1/16W 100K	2						
R919	ERJ3GEYJ224V	1/16W 220K	1						
R926	ERJ3GEYJ474V	1/16W 470K	1						
R928	ERJ3GEYJ473V	1/16W 47K	1						
SA1	SZZP1054C	PLAYABILITY TEST DISC	1						
SA2	SZZP1056C	UNEVEN TEST DISC	1						
S201	ESE11SV6	SW, LASER ON/OFF	1						
S301-06	EVQ11G05R	SW, PUSH	6						
S307	RSS3A007-1A	SW, MODE	1						

■ Replacement Parts List (Cabinet Parts)

Ref. No.	Change of Parts No.		Part Name & Description	Remarks
	(P)	➡ (GK/GH)		
CABINET PARTS				
1	RFKJLS230P-S	RFKJLS230GKS	BOTTOM CABINET ASS'Y	(GK)
		RFKJLS230GHS		(GH)
7	RYF0460-S	RYF0460A-S	CD COVER ASS'Y	[A]
		RYF0460A-A		[S]
8	RYK0718A-H	RYK0718F-H	INTERMEDIATE CABINET ASS'Y	

■ Packaging

