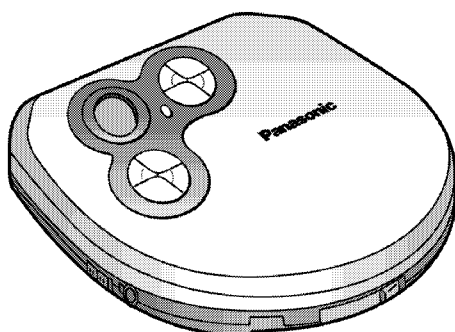


Service Manual

Portable CD Player



SL-SX240

Traverse Deck: RAE0145Z Mechanism Series

Colours

(A).....Blue Type

(S).....Silver Type

Areas

EB.....Great Britain.

EG.....Europe and Russia.

Please file and use this manual together with the service manual for Model No.SL-SX228SX230, Order No.AD0101009C2.

Specification

IAudio (Anti-shock off)

No. of channels: 2 channels (left and right, stereo)

Frequency response: 20 to 20,000 Hz (+0dB ~ -7dB)

DA converter: 1 bit, MASH

Headphones output level: RMS Max. 8mW+8mW/ 16Ω (adjustable)

IPickup

Light source: Semiconductor laser

Wavelength: 780 nm

IGeneral

Operational temperature range: 0°C-40°C

Rechargeable temperature range: 5°C-40°C

Power supply: DC 4.5V

IPower consumption

AC adaptor: 3.2W

Battery (DC 3V)

0.4W

When recharging:

4.0W

IPlay time

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

Batteries used

2 "AA" (LR6) alkaline batteries

About 30h

Rechargeable batteries (recharging time)

12h (5h)

The play time may be less depending on the operating conditions.

Dimensions (WxHxD)

128x25.9x131.5mm

Weight:

235g (with batteries)

187g (without batteries)

Notes:

Specifications are subject to change without notice.

Weight and dimensions are approximate.

⚠ 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.

Panasonic®

© 2001 Matsushita Electric Industrial Co., Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

CONTENTS

	Page		Page
1 Simplified Guide	2	4 Printed Circuit Board Diagram	8
2 Schematic Diagram Notes	2	5 Replacement Parts List	10
3 Schematic Diagram	3		

1 Simplified Guide

This manual mentions the revisions of original Service Manual SL-SX230(EG).

- Schematic Diagram

- Printed Circuit Board Diagram

- Replacement Parts List

The other items are referred to original Service Manual.

2 Schematic Diagram Notes

Notes:

- IS201: Laser ON/OFF switch in "OFF" position.
(It turns "ON" with disc holder closed.)
- IS202: Rest detector in "OFF" position.
(It turns "ON" when optical pickup comes to innermost periphery.)
- IS310: Hold (HOLD) switch in "OFF" position.
- IS801: Stop/operation off ( /OPR OFF) button.
- IS802,809: Skip/search ( /  ,  / ) buttons.
- IS803: Play/pause () button.
- IS804: EQ (EQ) button in "OFF" position.
- IS805, 807: Headphone volume control (VOL +, -) buttons.
- IS806: Memory/recall (MEMORY/RECALL) button.
- IS808: Mode (MODE) button.

- Components identified by  mark have special characteristics important for safety.
- When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- The supply part number is described alone in the replacement parts.

Signal line

-  : Positive voltage line.
-  : Playback signal line.

- 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.

Measurement conditions:

*().....CD playback mode (Test disc 1kHz, L+R, 0dB)

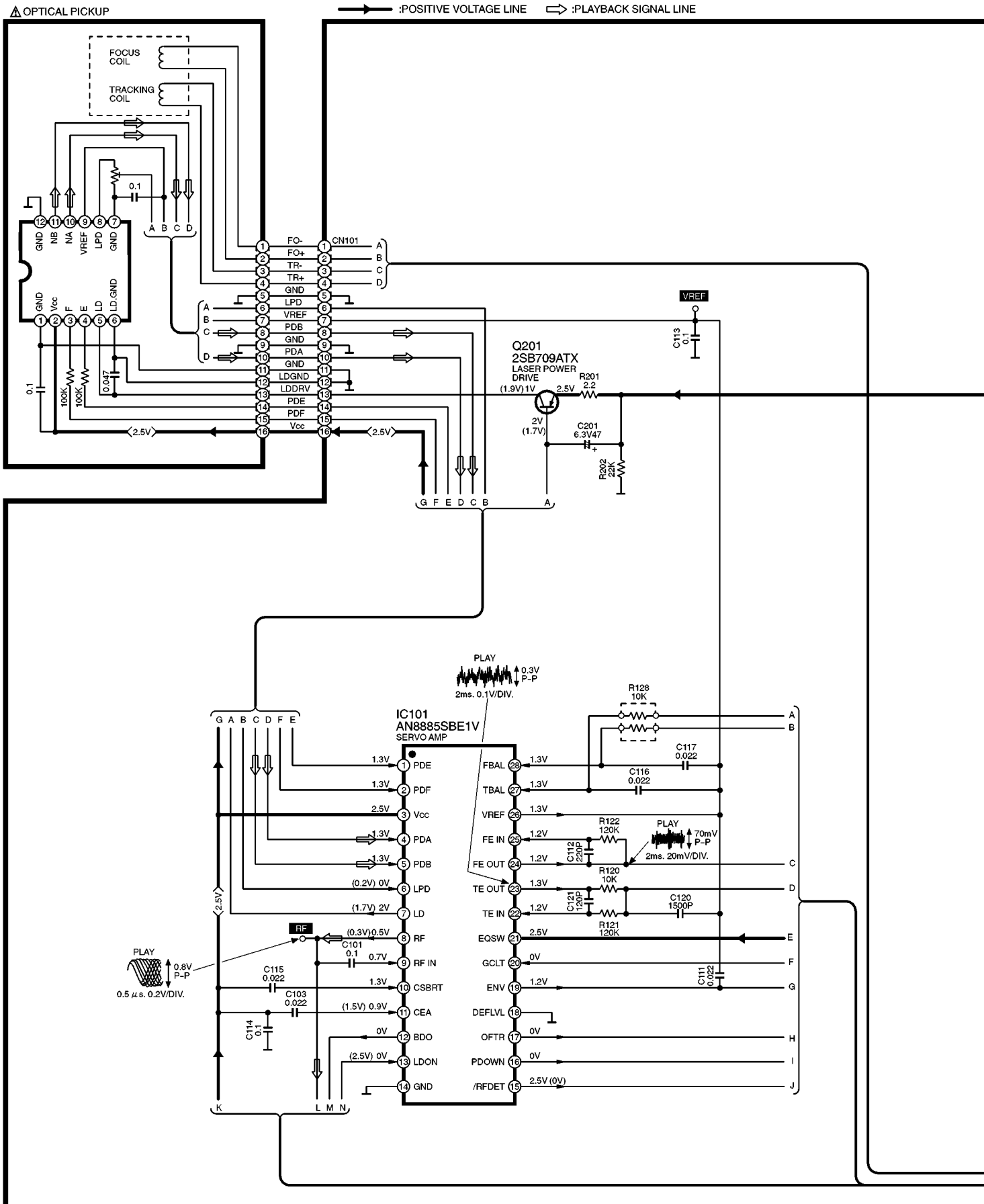
*No mark.....CD stop mode

- 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.

Caution!!

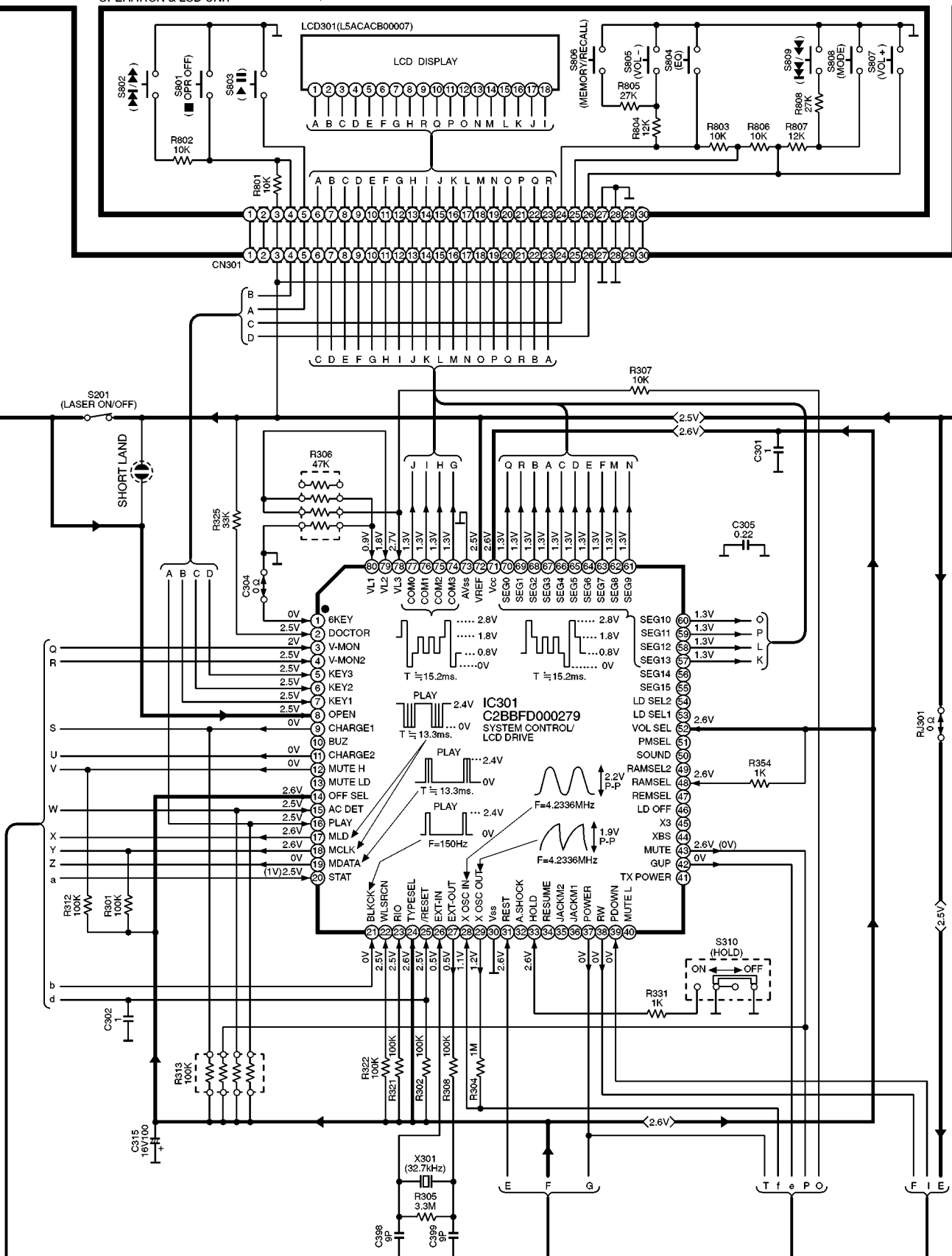
- IC and LSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.

3 Schematic Diagram



OPERATION & LCD UNIT

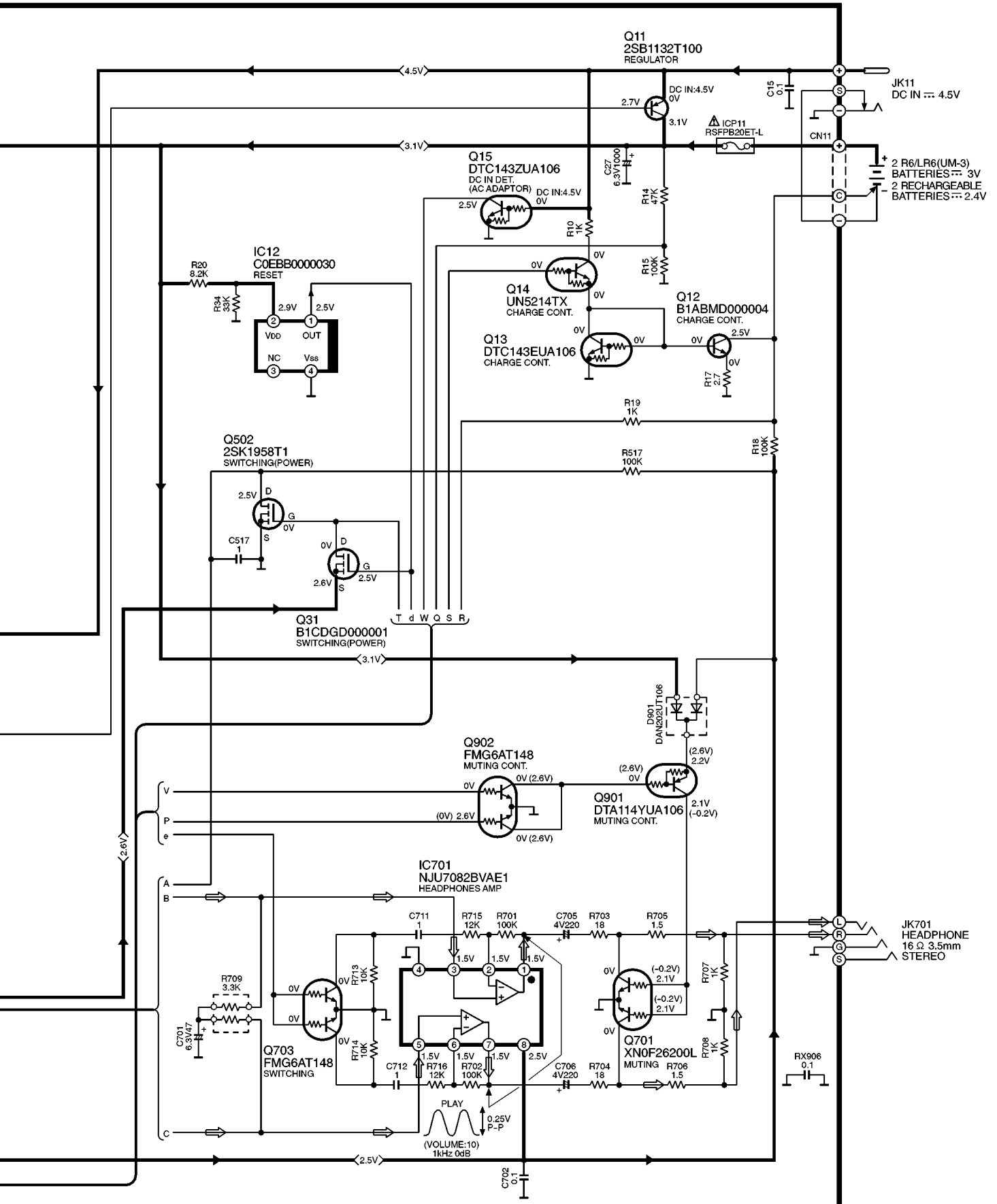
→ : POSITIVE VOLTAGE LINE



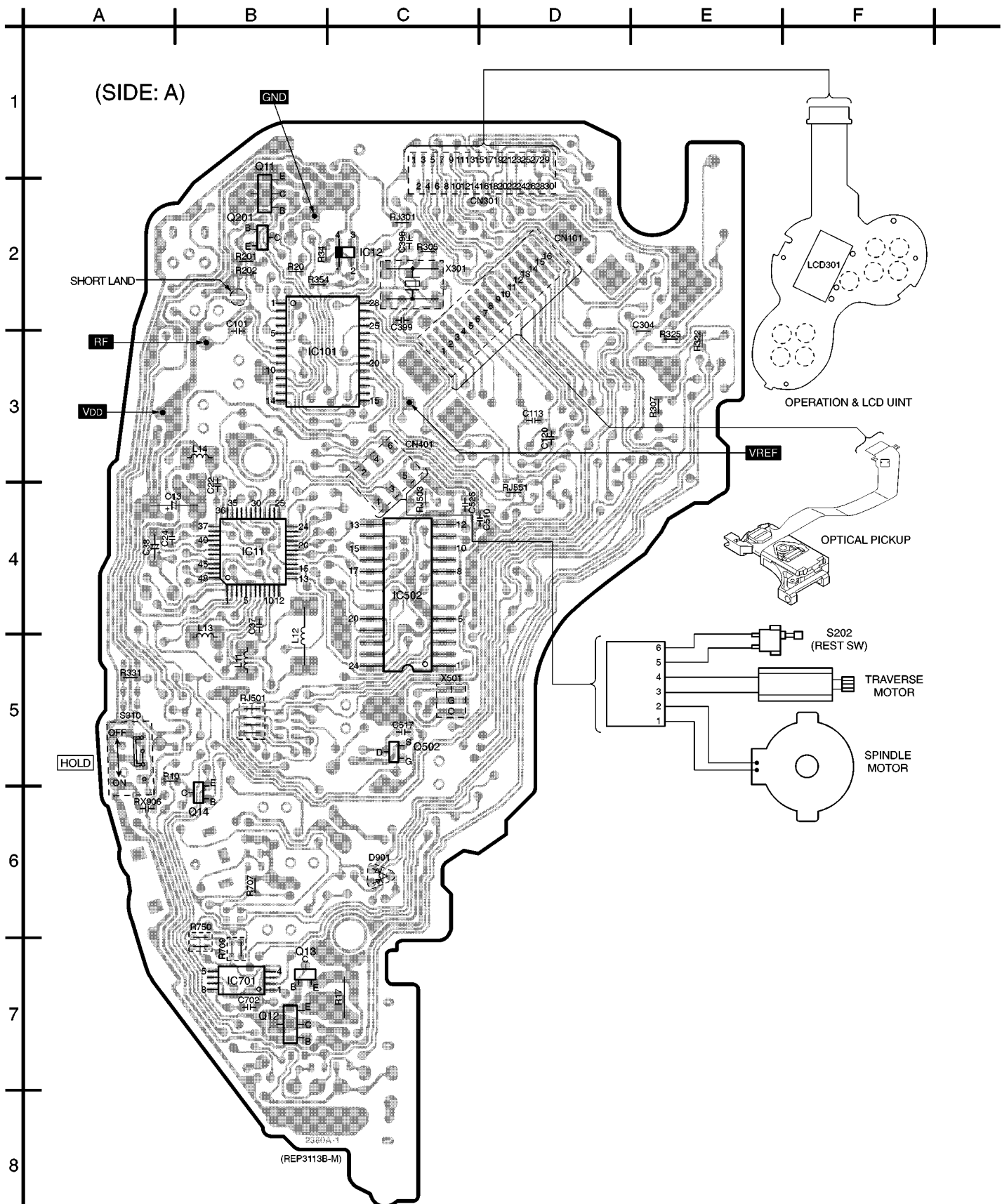




→ : POSITIVE VOLTAGE LINE ⇨ : PLAYBACK SIGNAL LINE



4 Printed Circuit Board Diagram



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

G

H

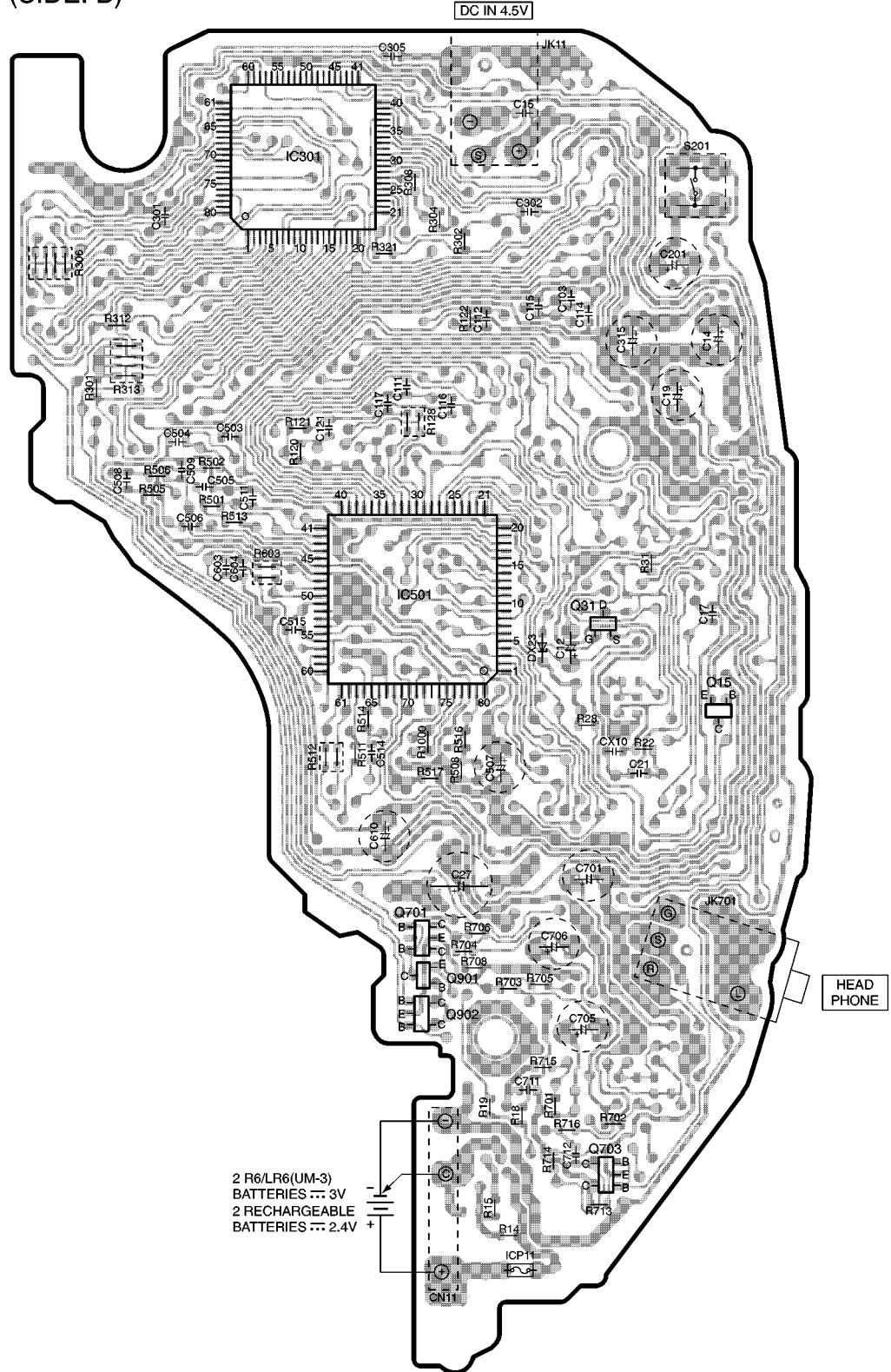
I

J

K

L

(SIDE: B)



5 Replacement Parts List

Notes:

*Important safety notice:

Components identified by $\triangle$ 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 manufactures specified parts shown in the parts list.

*The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in

accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

*The parenthesized indications in the Remarks columns specify the areas and the colours. (Refer to the cover page for area and colour.) Parts without these indications can be used for all areas and colours.

**<IA>, <IB>, <IC>” marks in Remarks indicate languages of instruction manuals.

[<IA>:English,

<IB>:English/Spanish/French/German/Italian/Swedish,

<IC>:Russian/Portuguese/Czech/Danish/Netherlands/Polish,

5.1. Except Electrical Parts

(Refer to pages 29, 30 of original Service Manual.)

Note:

*Mentioned in this parts list is only those different from Model No.SL-SX230(EG).

All other parts are the same as for SL-SX230(EG).

Ref. No.	Change of Part No.		Part Name & Description	Pcs	Remarks
	SL-SX230(EG)	SL-SX240(EB,EG)			
CABINET AND CHASSIS					
1	RGN2047-K	RGN2043-K	NAME PLATE	1	(EB)
1		RGN2042-K	NAME PLATE	1	(EG)
8	RGD0073E-S	RGD0073C-A	CD COVER	1	(A)
8	RGD0073D-A	RGD0073C-S	CD COVER	1	(S)
14	RYF0575C-A	RYF0575-A	LID ORNAMENT ASS'Y	1	
ACCESSORIES					
A2	RFEA419E-M	RFEA403B-S	AC ADAPTOR	1	(EB) △
A2	RFEA419E-M	RFEA419E-M	AC ADAPTOR	1	(EG) △
A3	RQT5790-E	RQT5792-B	INSTRUCTION MANUAL	1	(EB) <IA>
A3	RQT5791-H	RQT5790-E	INSTRUCTION MANUAL	1	(EG) <IB>
A3		RQT5791-H	INSTRUCITON MANUAL	1	(EG) <IC>
PACKING MATERIAL					
P11	RPK1534	RPK1531	PACKING CASE	1	(A)
P11	RPK1533	RPK1530	PACKING CASE	1	(S)
PRINTED CIRCUIT BOARDS					
PCB1	REP3113C-M	REP3113B-M	MAIN P.C.B. ASS'Y	1	(RTL)

5.2. Electrical Parts

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C12	ECST0JY475RR	6.3V 4.7U	1	ECST0JY475R
C13	RCST1CC476RC	16V 47U	1	F3H1A476A001
C14	RCE0JKA221IG	6.3V 220U	1	F2A0J2210012
C15	ECUZNC104ZFFV	16V 0.1U	1	F1H1C1040008
C17	ECUVNA105ZFFV	10V 1U	1	F1H1A105A030
C19	ECA1CAK220XH	16V 22U	1	
C21	ECUV1H152KBV	50V 1500P	1	F1H1H152A013
C22	ECUZNC104ZFFV	16V 0.1U	1	F1H1C1040008
C24	ECUV1H471KBV	50V 470P	1	F1H1H471A013
C27	RCE0JRS102BJ	6.3V 1000U	1	
C37	ECUVNA105ZFFV	10V 1U	1	F1H1A105A030
C38	RCST0JY226RG	6.3V 22U	1	F3F0J2260002
C101	ECUVNC104KBV	16V 0.1U	1	
C103	ECUVNE223KBV	25V 0.022U	1	F1H1E223A050
C111	ECUVNE223KBV	25V 0.022U	1	F1H1E223A050
C112	ECUV1H221KBV	50V 220P	1	F1H1H2210001
C113,14	ECUZNC104ZFFV	16V 0.1U	2	F1H1C1040008

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C115-17	ECUVNE223KBV	25V 0.022U	3	F1H1E223A050
C120	ECUV1H152KBV	50V 1500P	1	F1H1H152A013
C121	ECUV1H121KCV	50V 120P	1	
C201	ECA0JAK470XH	6.3V 47U	1	
C301,02	ECUVNA105ZFFV	10V 1U	2	F1H1A105A030
C304	ERJ3GEY0R00V	CHIP JUMPER	1	
C305	ECUVNA224KBV	10V 0.22U	1	F1H1A224A028
C315	ECEA1CKS101	16V 100U	1	
C398,99	ECUV1H090DCV	50V 9P	2	F1H1H9R0A244
C503	ECUV1H561KBV	50V 560P	1	F1H1H561A013
C504	ECUZNC104ZFFV	16V 0.1U	1	F1H1C1040008
C505	ECUVNE223KBV	25V 0.022U	1	F1H1E223A050
C506	ECUVNJ474KBV	63V 0.47U	1	F1H0J474A002
C507	ECEA0JKS331	6.3V 330U	1	
C508	ECUVNJ474KBV	63V 0.47U	1	F1H0J474A002
C509	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C510,11	ECUZNC104ZFFV	16V 0.1U	2	F1H1C1040008
C514	ECUV1H102KBV	50V 1000P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C515	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C517	ECUVNA105ZFV	10V 1U	1	F1H1A105A030
C525	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C603,04	ECUV1H272KBV	50V 2700P	2	
C610	ECA0JAK470XH	6.3V 47U	1	
C701	ECEA0JPD470I	6.3V 47U	1	
C702	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C705,06	ECEA0GKS221	4V 220U	2	
C711,12	ECUVNA105KBV	10V 1U	2	F1H1A105A028
CN11	RJH8303-3	BATTERY TERMINAL	1	
CN101	RJS2A6216T	CONNECTOR (16P)	1	K1MN16B00027
CN301	RJS2A6130T	CONNECTOR (30P)	1	K1MN30A00023
CN401	RJS2A5106T1	CONNECTOR (6P)	1	K1MN06A00021
CX10	ECUV1H121KCV	50V 120P	1	
D901	DAN202UT106	DIODE	1	B0ADCJ000012
DX23	MA8056M	DIODE	1	MAZ80560M
IC11	C0DBFFB00002	IC	1	
IC12	C0EBB0000030	IC	1	
IC101	AN8885SBE1V	IC	1	
IC301	C2BBFD000279	IC	1	
IC501	MN662786SB	IC	1	
IC502	MNV4400DT8TL	IC	1	
IC701	NJU7082BVAE1	IC	1	
ICP11	RSFPB20ET-L	IC PROTECTOR	1	K5H102Z00002 △
JK11	RJJ43K09-C	JACK,DC IN	1	K2EB2B000006
JK701	K2HC104B0013	JACK,HEADPHONE	1	
L11	RLQU331KT-W	COIL	1	G1C331K00004
L12	RLQS101KT1-D	COIL	1	G1A101C00001
L13	RLQU331KT-W	COIL	1	G1C331K00004
L14	RLQU101KT-W	COIL	1	G1C101K00008
LCD301	L5ACACB00007	LCD	1	
Q11	2SB1132T100	TRANSISTOR	1	B1ADMD000007
Q12	B1ABMD000004	TRANSISTOR	1	
Q13	DTC143EUA106	TRANSISTOR	1	B1GBCFG00011
Q14	UN5214TX	TRANSISTOR	1	UNR521400L
Q15	DTC143ZUA106	TRANSISTOR	1	B1GBCFG00004
Q31	B1CDGD000001	TRANSISTOR	1	
Q201	2SB709ASTX	TRANSISTOR	1	2SB0709ASL
Q502	2SK1958T1	TRANSISTOR	1	B1CFHA000001
Q701	XN0F26200L	TRANSISTOR	1	
Q703	FMG6AT148	TRANSISTOR	1	B1GBCEJA0001
Q901	DTA114YUA106	TRANSISTOR	1	B1GDJCFJN0011
Q902	FMG6AT148	TRANSISTOR	1	B1GBCEJA0001
R10	ERJ3GEYJ102V	1/16W 1K	1	ERJ3GEYJ102Z
R14	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R15	ERJ3GEYJ104Z	1/16W 100K	1	
R17	ERJ12YJ2R7H	1/2W 2.7	1	
R18	ERJ3GEYJ104Z	1/16W 100K	1	
R19	ERJ3GEYJ102V	1/16W 1K	1	ERJ3GEYJ102Z
R20	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R22	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R28	ERJ3GEYJ271V	1/16W 270	1	
R31	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R34	ERJ3GEYJ333V	1/16W 33K	1	D0GB333JA002
R120	ERJ3GEYJ103Z	1/16W 10K	1	
R121,22	ERJ3GEYJ124V	1/16W 120K	2	D0GB124JA002
R128	EXBV4V103JV	1/32W 10K	1	
R201	ERJ3GEYJ2R2V	1/16W 2.2	1	D0GB2R2JA002
R202	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R301,02	ERJ3GEYJ104Z	1/16W 100K	2	
R304	ERJ3GEYJ105V	1/16W 1M	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R305	ERJ3GEYJ335V	1/16W 3.3M	1	
R306	EXBV8V473JV	1/16W 47K	1	
R307	ERJ3GEYJ103Z	1/16W 10K	1	
R308	ERJ3GEYJ104Z	1/16W 100K	1	
R312	ERJ3GEYJ104Z	1/16W 100K	1	
R313	EXBV8V104JV	1/16W 100K	1	
R321,22	ERJ3GEYJ104Z	1/16W 100K	2	
R325	ERJ3GEYJ333V	1/16W 33K	1	D0GB333JA002
R331	ERJ3GEYJ102V	1/16W 1K	1	ERJ3GEYJ102Z
R354	ERJ3GEYJ102V	1/16W 1K	1	ERJ3GEYJ102Z
R501	ERJ3GEYJ683V	1/16W 68K	1	D0GB683JA002
R502	ERJ3GEYJ563V	1/16W 56K	1	
R505	ERJ3GEYJ151V	1/16W 150	1	
R506	ERJ3GEYJ222V	1/16W 2.2K	1	
R508	ERJ3GEYJ1R0V	1/16W 1	1	
R511	ERJ3GEYJ222V	1/16W 2.2K	1	
R512	EXBV4V222JV	1/32W 2.2K	1	
R513	ERJ3GEYJ104Z	1/16W 100K	1	
R514	ERJ3GEYJ331V	1/16W 330	1	
R516	ERJ3GEYJ181V	1/16W 180	1	
R517	ERJ3GEYJ104Z	1/16W 100K	1	
R603	EXBV4V561JV	1/32W 560	1	
R701,02	ERJ3GEYJ104Z	1/16W 100K	2	
R703,04	ERJ3GEYJ180V	1/16W 18	2	
R705,06	ERJ3GEYJ1R5V	1/16W 1.5	2	
R707,08	ERJ3GEYJ102V	1/16W 1K	2	ERJ3GEYJ102Z
R709	EXBV4V332JV	1/32W 3.3K	1	
R713,14	ERJ3GEYJ103Z	1/16W 10K	2	
R715,16	ERJ3GEYJ123V	1/16W 12K	2	
R750	EXBV4V123J	1/32W 12K	1	D1H412320001
R1000	ERJ3GEYJ123V	1/16W 12K	1	
RJ301	ERJ3GEY0R00V	1/16W 0	1	
RJ501	EXBV8VR000V	1/8W 0	1	
RJ503	ERJ3GEY0R00V	1/16W 0	1	
RJ551	ERJ3GEY0R00V	1/16W 0	1	
RX906	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
S201	ESE11SV6	SW,LASER ON/OFF	1	
S202	ESE11HS4	SW,REST DET.	1	
S310	RSS2A010-1A	SW,HOLD	1	K0D112B00071
X301	RSXC32K7L01T	OSCILLATOR	1	
X501	H2D169500011	OSCILLATOR	1	