

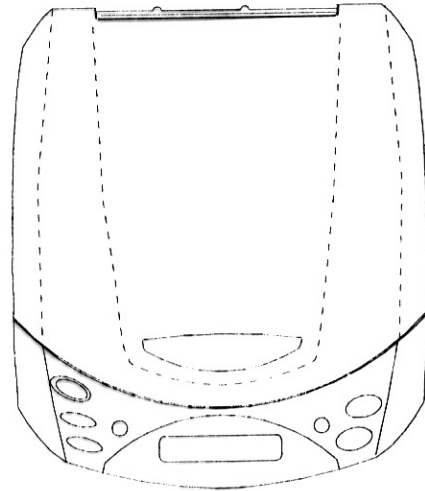
DAEWOO

SERVICE MANUAL

MODEL
CD-102

CAUTION : Before serving the chassis, read the "Important Service Safety Information" Section on page 6 of this manual.

PORTABLE COMPACT DISC PLAYER W/ANTI- SHOCK (6 DIGITAL)



CONTENTS

Laser Beam Safety Precautions	2
Before Repairing the Compact Disc Player	3
Sepecifications	4-5
Important Service Safety Information	6
Disassembly Instructions	7
Alignment and Adjustment	7-8
Product Safety Notice	8
Troubleshooting	8
Block Diagram	9
Adjustment Locations	10
Printed Circuit Boards	11
Wiring Diagrams	12
Exploded View Parts List	13
Exploded View	14
Electrical Parts List	15-17
Semiconductor Devices and Voltage Chart	18-19
Schematic Diagrams	20

CAUTION

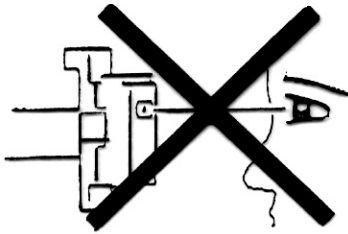
1. Parts identified by the \triangle symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make Leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

LASER BEAM SAFETY PRECAUTIONS

CLASS 1 LASER PRODUCT

Radio Shack, a division of Tandy Corporation, certifies that this equipment conforms to DHHS Regulation 21 CFR, Chapter 1 Subchapter J.

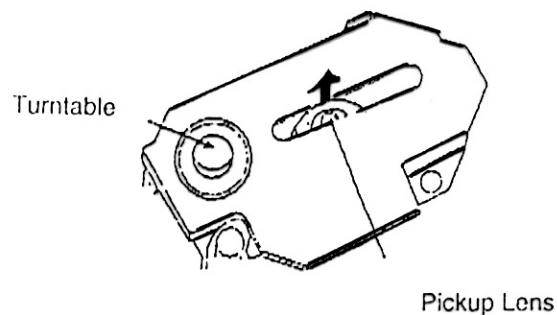
DANGER
INVISIBLE LASER RADIATION
AVOID DIRECT EXPOSURE TO BEAM



Do not look directly at the laser beam coming from the pickup or allow it to strike your skin.

This portable compact disc player uses a pickup that emits a laser beam.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 1 foot away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.



Caution:

Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.

HANDLING LASER PICKUP

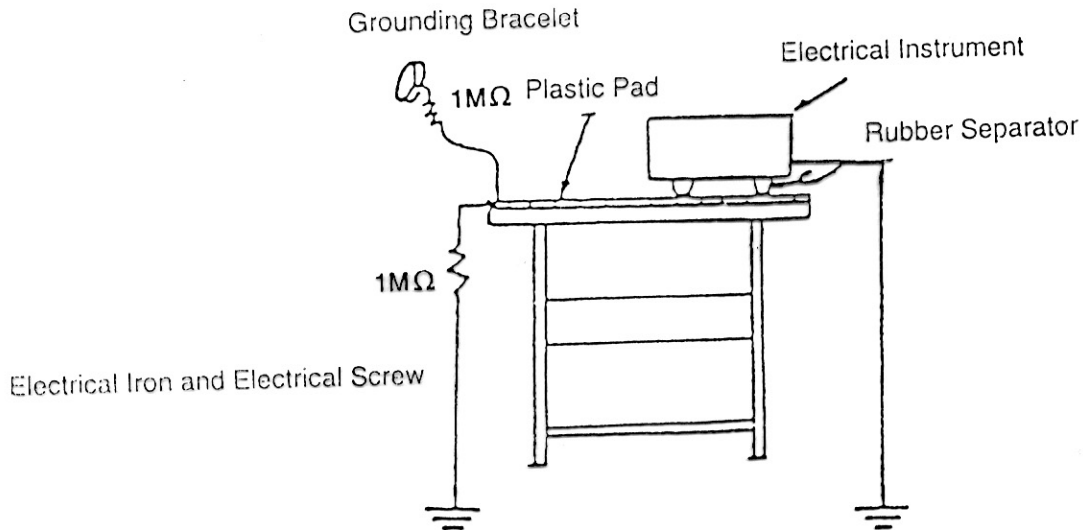
The laser diode in the optical system of this player can be damaged by electrostatic discharge from your clothes, body, etc. Proper electrostatic grounding for service personnel is required during servicing.

BEFORE REPAIRING THE COMPACT DISC PLAYER

PREPARATION

Human Body Grounding:

Many of the components used in this compact disc player, including the laser pickup, are sensitive to electrostatic discharge. Service personnel should be grounded with an electrostatic arm band (1 Mohm).



Caution:

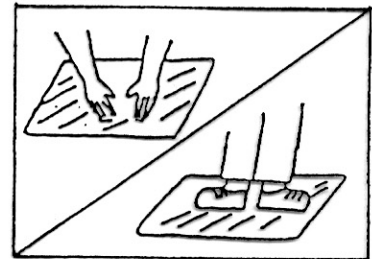
Static charge on clothing does not escape through a body grounding wristband. Be careful not to contact the pickup or electrical components with your clothing.

Workbench and Tool Grounding:

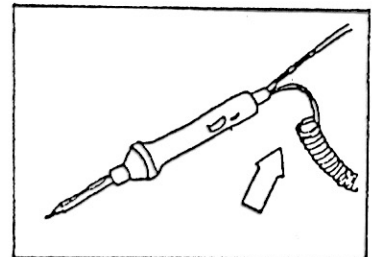
A properly grounded electroconductive plate (1 Mohm) or metal sheet should be filled to the workbench surface. Tools and instruments (soldering irons, scopes, etc.) should be grounded to prevent AC leakage.

If electric current occupied, even through it's very shot period of Surge Current, Laser Diode still has possibility of damage, in operation procedure, Laser Diode of Laser pick up two polarity will be short-circuited for protection on Laser Diode.

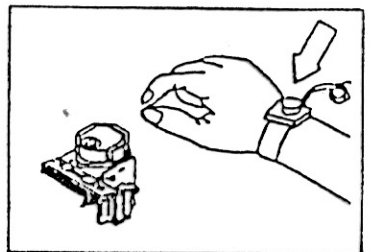
(1) Repairman should be standing on the floor, wearing the grounding bracelet(1M ohm) and wearing plastic shoes.



(2) Using Rubber Carpet on the table and on the floor.



(3) Put the electric iron and instrument surface to grounding.



(4) Made sure the Laser Diode in curcuiting without Surge Current.

SPECIFICATIONS

Supply voltage	3V DC
External supply voltage	4.5V DC
Reference output	2 mW
Line out impedance	10 Kohm per channel
Test disc	ABEX TCD-782/Sony Type 3

		UNIT	NOMINAL	LIMIT
T.H. Distortion		%	0.1	0.3
@ 1 kHz = 0 dB				
@ W/LPF FC = 30 kHz				
S/N Ratio		dB	75	70
@ 1 kHz = 0 dB				
@W/A Curve BP				
Output level		mV	600	500
Channel separation	1 kHz	dB	58	50
@ 1 kHz = 0 dB	10 kHz	dB	58	50
Frequency response	63 Hz	dB	3	±3
@ 1 kHz = 0 dB	100 Hz	dB	0	±3
	10 kHz	dB	0	±3
	20 kHz	dB	3	±3
L/R CH O/P difference	1 kHz	dB	0.5	2
Dynamic range		dB	85	80
Battery life	Heavy duty	HR		1:00
	Alkaline	HR		5:00
	Recharge	HR		3:30

POWER OUTPUT

T.H. Distortion		%	0.5	1.0
@ 1 kHz = 0 dB				
@ W/LPF FC = 30 kHz				
S/N Ratio		dB	70	60
@ 1 kHz = 0 dB				
@ W/A Curve BPF				
10 % Distortion output power		mW	25	22
Maximum output power		mW	28	26
Channel separation	1 kHz	dB	58	50
	10 kHz	dB	58	50
Frequency response	63 Hz	dB	±3	±3
@ 1 kHz = 0 dB	100 Hz	dB	0	±3
	10 kHz	dB	0	±3
	20 kHz	dB	±3	±3

		UNIT	NOMINAL	LIMIT
L/R CH O/P difference	1 kHz	dB	0	2
Bass boost	100 Hz	dB	+8	±2
@ Output level = 100 mV				
Interruption	Scratch	µm	800	600
@ Philips SBC 444A	Black dot	µm	800	600
	Finger print	µm	75	65
Dynamic range		dB	85	80
@ 1 kHz = -20 dB				
Vertical deviation		mm	1000	800
Minimum operation voltage		V	1.8	2
Hum & Noise (volume maximum)		mV		5
Minimum operation noise		mV		2
Initial reading time		Sec.	4	6
Access time 1st track		Sec.	4	6
Electricity		µm		140
Battery indication		V	1.8	±0.15

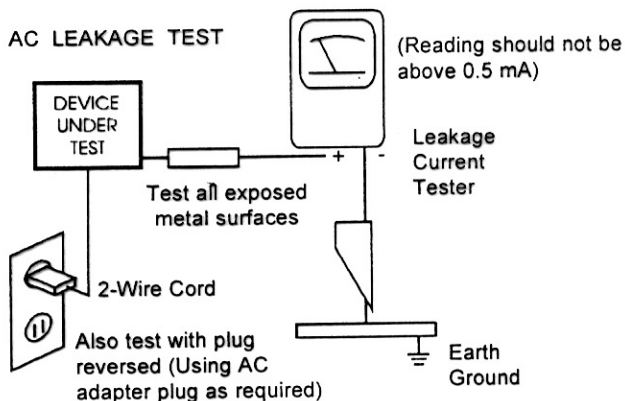
Note: Nominal specs represent the design specs. All units should be able to approximate these ¾ some will exceed and some might drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; in no case should a unit fail to meet limit specs.

IMPORTANT SERVICE SAFETY INFORMATION

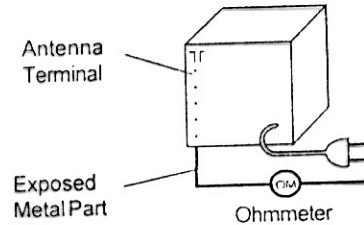
1. SAFETY PRECAUTIONS

Before returning a unit to the customer, always make a safety check of the entire unit, including, but not limited to the following items:

- a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing.
 - (1) Protective shields are provided to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience.
 - (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, non-metallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. Do not operate this unit or permit it to be operated without all protective devices correctly installed and functioning.
- b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, excessively wide cabinet ventilation slots, and an improperly fitted and/or incorrectly secured cabinet back cover.
- c. **Leakage Current Hot Check** - With the unit completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 "Leakage Current for Appliances" and Underwriters Laboratories (UL) 1410 (50.7). With the unit AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the unit (antennas, handle bracket, metal cabinet, screwheads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the unit power cord plug in the outlet and repeat the test. ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE UNIT TO THE CUSTOMER.



- d. **Insulation Resistance Test Cold Check**
 - (1) Unplug the power supply cord and connect a jumper wire between the two prongs of the plug.
 - (2) Turn on the power switch of the unit.
 - (3) Measure the resistance with an ohmmeter between the jumper AC plug and each exposed metallic cabinet part on the unit, such as screwheads, antenna, control shafts, handle brackets, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 and 5.2 megohms. When there is no return path to the chassis, the reading must be "infinite." If it is not within the limits specified, there is the possibility of a shock hazard, and the unit must be repaired and rechecked before it is returned to the customer.



2. PRODUCT SAFETY NOTICE

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by on schematics and parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

3. SERVICING PRECAUTIONS

Caution: Before servicing the unit covered by this service manual and its supplements, read and follow the "SAFETY PRECAUTIONS" on this page.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions. Remember: Safety first.

General Servicing Precautions

- a. Always unplug the unit's AC adapter from the AC power source before:
 - (1) removing or reinstalling any component, circuit board, or any other unit assembly.
 - (2) disconnecting or reconnecting any unit's electrical plug or other electrical connection.
 - (3) connecting a test substitute in parallel with an electrolytic capacitor in the unit.

Caution: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
- b. Do not defeat any plug/socket B+ voltage interlocks with which the unit covered by this service manual might be equipped.
- c. Do not apply AC power to this unit and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
- d. Always connect a test unit ground lead to the unit chassis ground before connecting the test unit ground lead last.

4. LASER PRECAUTIONS

Warning!!

1. When servicing (in case it is necessary to confirm laser beam emission), be sure your eyes do not get any closer than 1 ft or 30 cm from the surface of the objective lens on the optical pickup block.

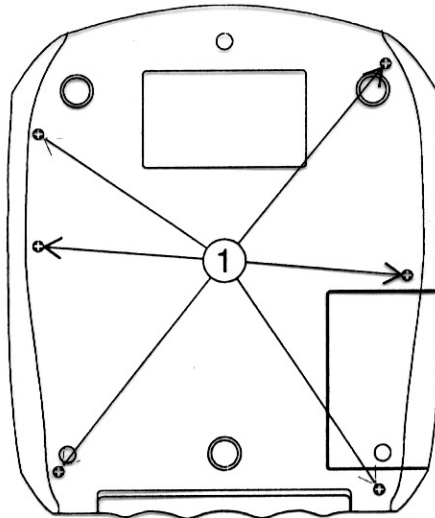
Handling the laser pickup

2. Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pickup, use a conductive mat on the floor and desk and wear a wristband connected to ground through a 1 MΩ resistor to protect the laser diode from static damage. If the lens should get dusty, carefully blow off the dust from the object.
3. There are no adjustable parts in the pickup assembly. If it is defective, replace the whole pickup assembly.

Caution : Using controls, making adjustments, or doing the procedures stated herein may result in hazardous radiation exposure.

Danger : If interlock fails or is defeated, the laser light is able to function. Because the laser is invisible, take extra care to avoid direct exposure to the beam.

DISASSEMBLY INSTRUCTIONS



Remove 6 screws (1) from bottom of unit.

ALIGNMENT AND ADJUSTMENT

Please pay attention to the following information before adjusting the CD player. The Pick-up is assembled and precisely adjusted by using a sophisticated manufacturing process in the factory. Keep the unit protected from vibration and impact. Do not disassemble or attempt to readjust it. Replace the Pick-up assembly (SPU 3031) if the Laser diode or Photo diode is damaged.

EQUIPMENT REQUIRED

- X10 test probe
- 40MHz oscilloscope
- 4.5V 1A power supply
- Digital voltmeter
- Shorting jumper
- Test disc-SONY Tape 3 or ABEX TCD-782

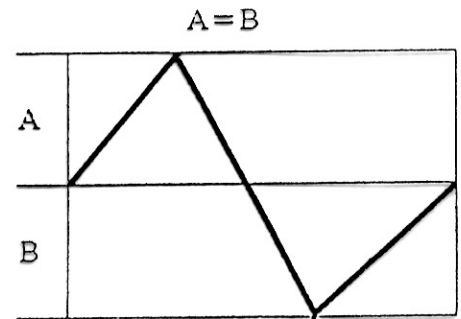
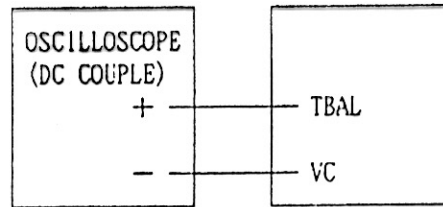
ADJUSTMENTS

At first, TEST MODE tap should be shorted and press play key.
Then the system turns on to TEST MODE and start focusing.

TRACKING BALANCE ADJUSTMENT

- TEST POINT : TBAL, VC
- ADJUST POINT : VR102
- TEST DISC : YEDS-18(SONY)

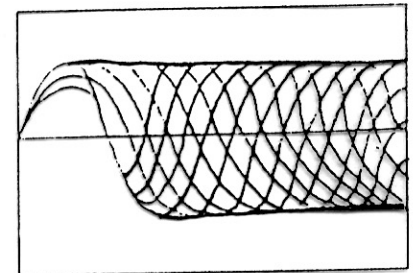
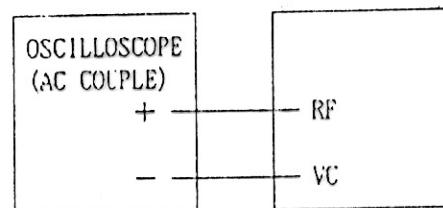
1. CONNECT OSCILLOSCOPE PROBE TO TBAL AND VC
2. PRESS PLAY KEY TO PLAY THE TEST DISC
3. PRESS PLAY KEY TO TRACKING OFF
4. TURN RV102 TO GET SYMMETRICAL WAVE HEIGHT
5. PRESS PLAY KEY TO TRACKING ON
6. PRESS STOP KEY.



FOCUS BIAS ADJUSTMENT

- TEST POINT : RF, VC
- ADJUST POINT : VR101
- TEST DISC : YEDS-18(SONY)

1. CONNECT OSCILLOSCOPE PROBE TO RF AND VC
2. PRESS PLAY KEY TO PLAY THE TEST DISC
3. TURN VR101 TO MAXIMIZE RF WAVE HEIGHT ($1.0 \pm 0.1V_{p-p}$)
4. PRESS STOP KEY



* Press don't forget to open the TEST MODE tap after adjustment.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by \triangle in the schematic diagram and the parts list.

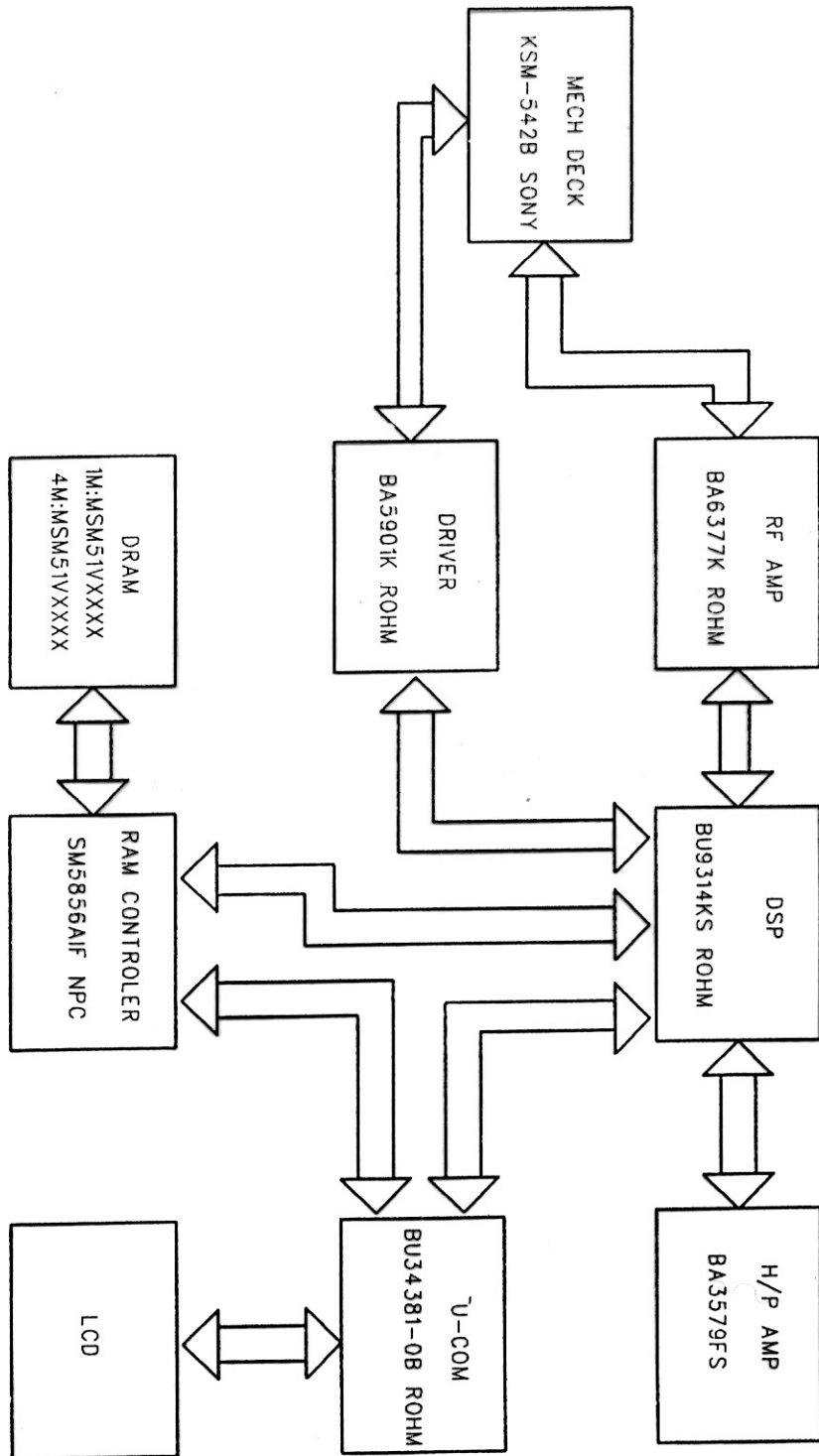
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

TROUBLESHOOTING

Player Section

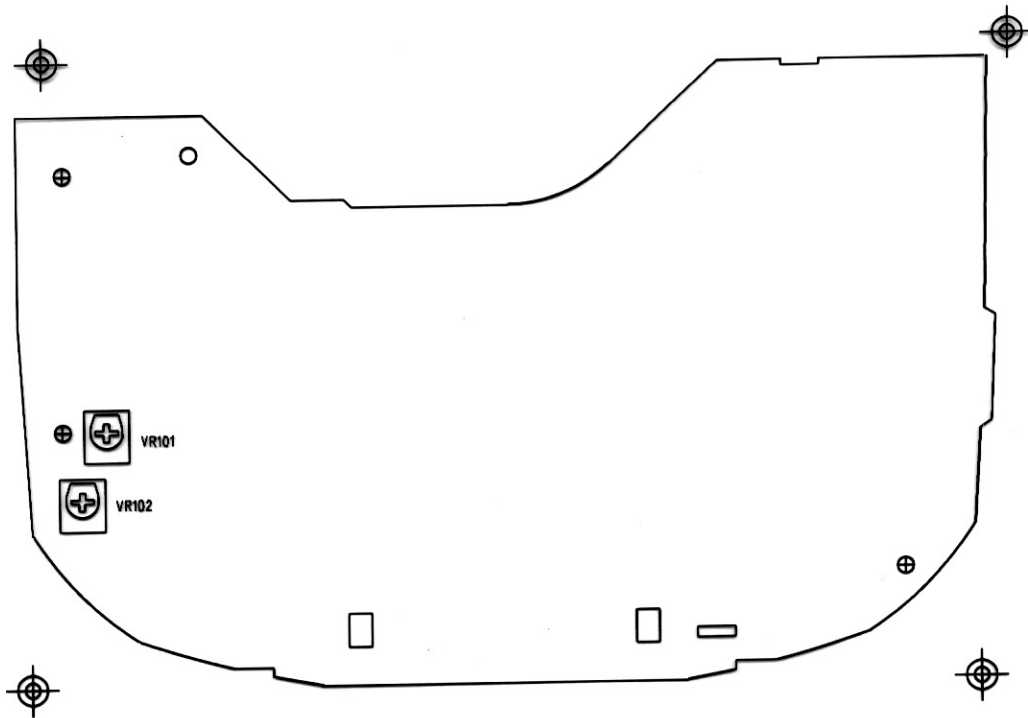
Symptom	Possible cause	Remedy
CD does not turn	<ul style="list-style-type: none"> • CD defective • CD laser head defective • Disconnected wire between Laser head and PCB unit 	Repair or replace Repair or replace Reconnected wire
• Output no sound	<ul style="list-style-type: none"> • IC301 	Check the IC Pin voltage and replace the IC.
• No rechargeable function	<ul style="list-style-type: none"> • D703 IN4148 or R705 47 ohm defective 	Check about component and replace

BLOCK DIAGRAM

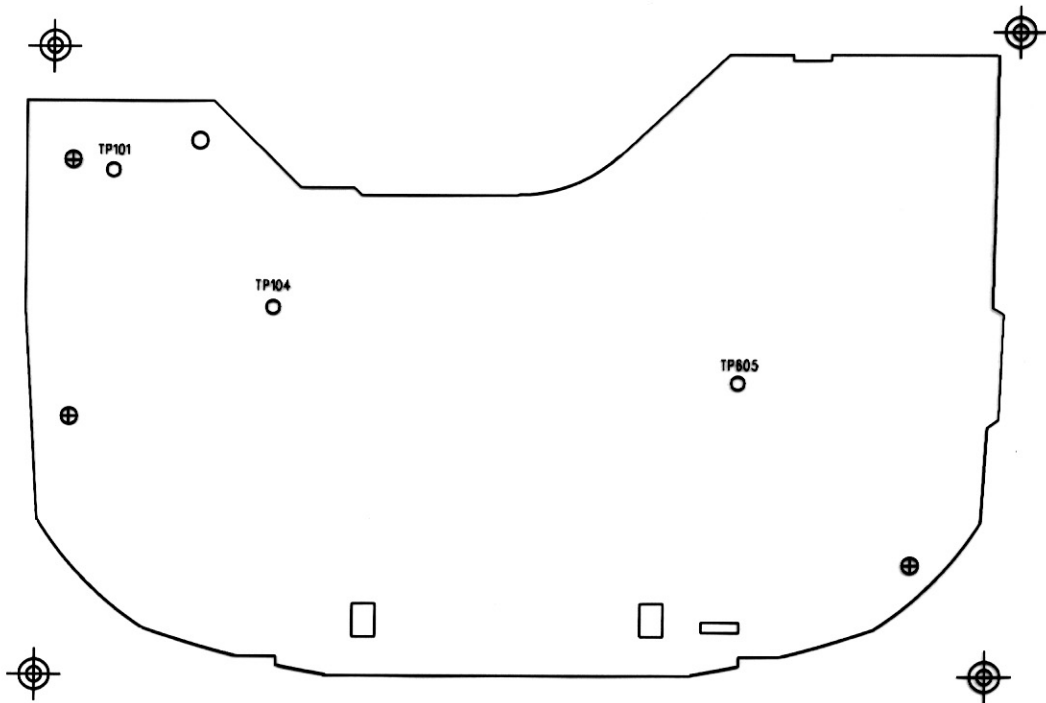


ADJUSTMENT LOCATIONS

Top View

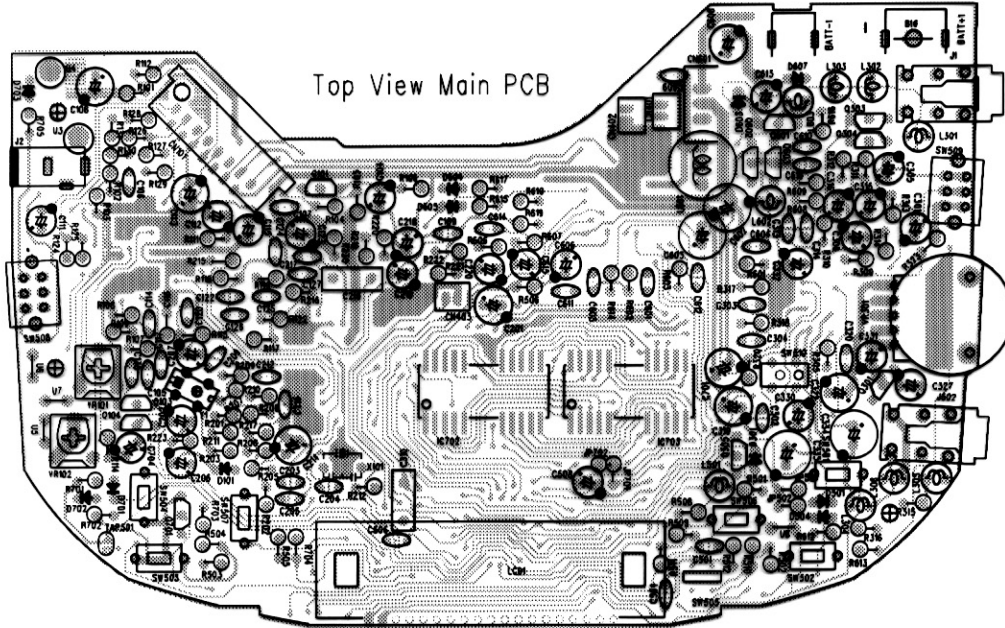


Bottom View

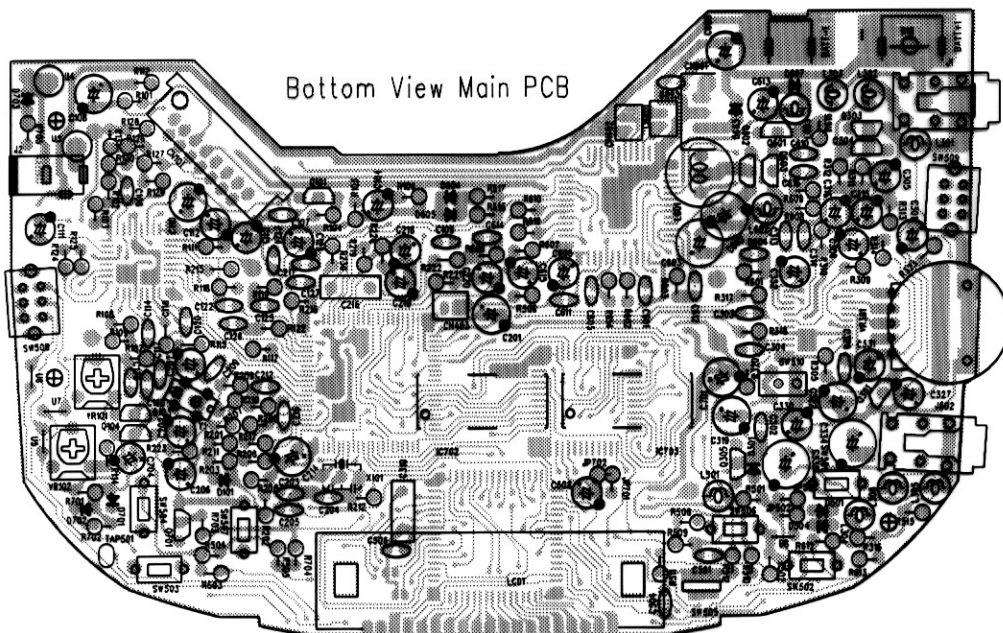


PRINTED CIRCUIT BOARD

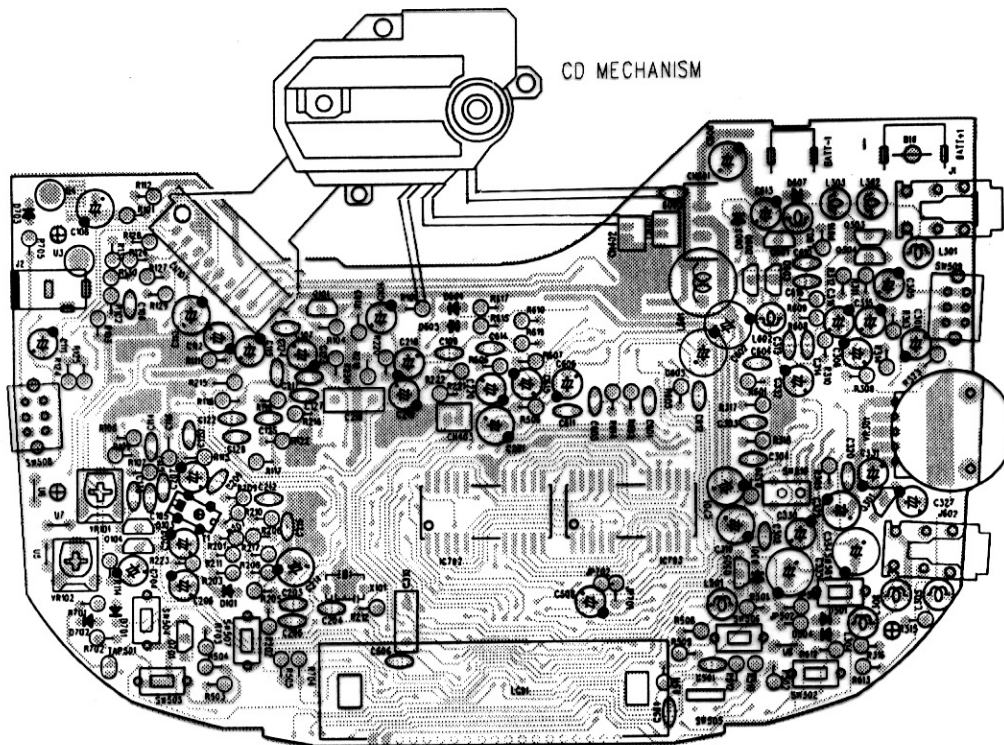
Top View



Bottom View



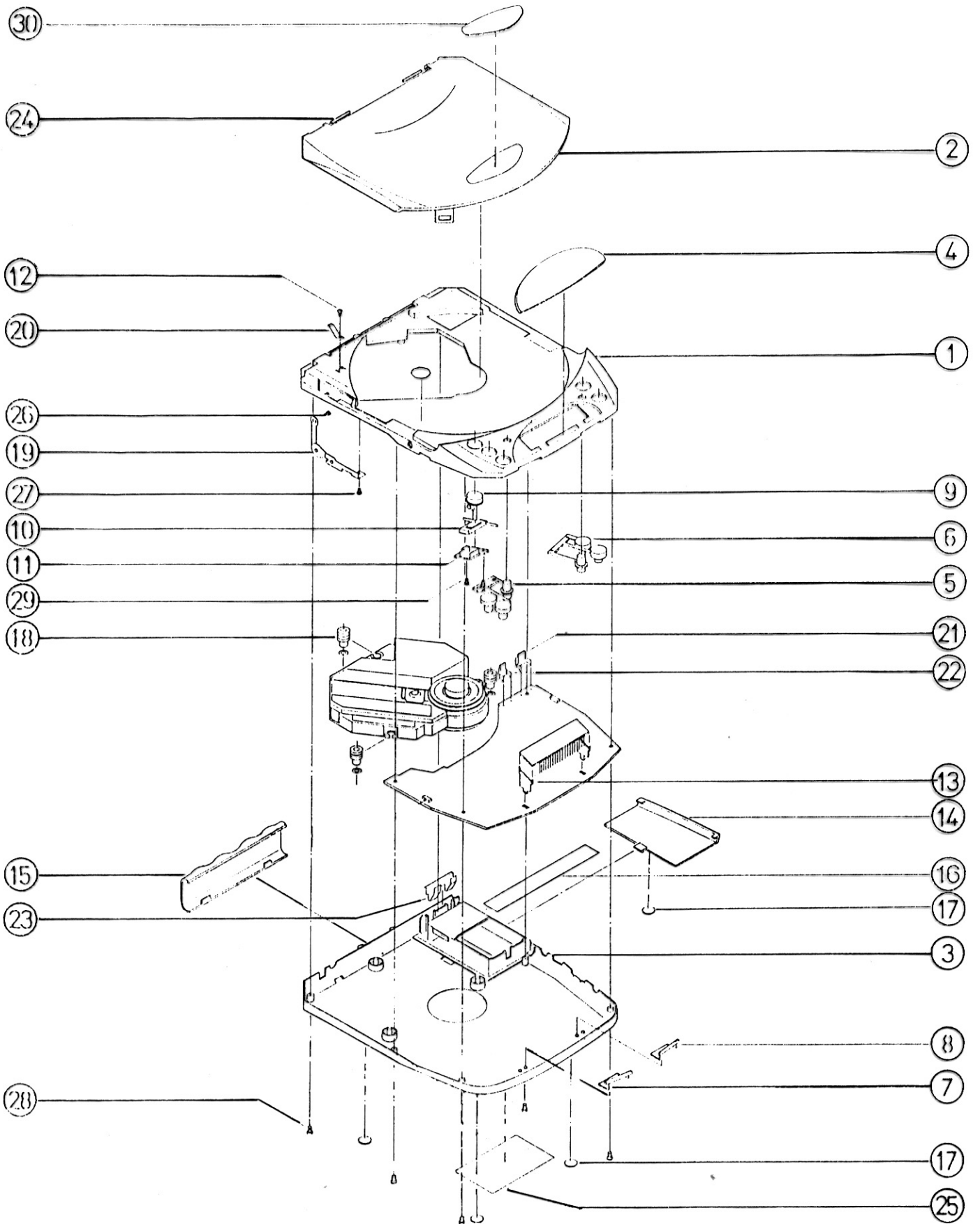
WIRING DIAGRAM



EXPLODED VIEW PARTS LIST

Ref. No	Mfr's Part No.	Description	Qty.
1	200-021800-XXX	Front Cabinet	1
2	210-021810-XXX	Disc Cover - B	1
3	201-021810-XXX	Rear Cabinet	1
4	222-02180A-3C5	Display Lens L = 8.0mm	1
5	245-021800-XXX	Press Button 'Skip, Scan'	1
6	245-021810-XXX	Press Button 'Memory, Play, Stop'	1
7	245-021820-XXX	Press Button 'Repeat'	1
8	245-021830-XXX	Press Button 'Random'	1
9	243-021800-XXX	Open Button	1
10	276-021800-000	Lock Pin	1
11	276-021800-000	Open Button Bracket	1
12	378-140420-002	Camera Screw T1.4 x 4 mm BB (Black)	1
13	259-021800-000	Display Bracket	1
14	206-021810-XXX	Battery Door	1
15	258-021800-000	Handheld Bracket	1
16	614-120700-01	12 mm Black Ribbon L=70mm	0.0030
17	428-021800-000	Rubber Foot ø8 x 0.8 mm (3M)	4
18	425-021800-00	Dumper (Sony D202)	3
19	336-021805-01	Hinge Ass'y	1
20	355-021815-01	Eject Spring Plate	1
21	347-021813-02	Battery Contact Plate (+)	1
22	348-021813-02	Battery Contact Spring (-)	1
23	346-021813-02	Battery Contact Plate (+,-)	1
24	415-021800-00	Disc Cover Pin	2
25	311-025800-0	Model Plate	1
26	378-170420-002	Camera Screw 4BTP 1.7 x 4 BK (Black)	1
27	378-160420-002	Camera Screw T1.6 x 4 mm BB (Black)	1
28	371-200810-002	Self Tapping Screw ø2 x 8 PA (Black)	6
29	378-140420-002	Camera Screw T1.4 x 4 mm BB (Black)	2
30	222-02181A-0E3	Door Lens (Acrylic)	1

EXPLODED VIEW



ELECTRICAL PARTS LIST

Ref. No	Description	RS Part No.	Mfr's Part No.
PCB			
	PCB CDP-278B00 Double Side FR4 'SUFFIX A"		190-278B00-330
	Recharge PCB CDP258-3-0 Double Side FR4		190-025801-330
	Key PCB CDP258 Double Side FR4		190-025802-330
ICs			
IC301	BA3579FS		130-035791-00
IC701	SM5856A1F		130-058561-00
IC401	BA5901K		130-059011-00
IC101	BA6377K		130-063771-00
IC201	BU9314KS		130-093141-00
IC501	BU34381-0B		130-343811-00
IC702	1M DRAM 256KX4 BIT CMOS DRAM 'HY534256ALJ-60'		130-534255-01
Headohone Jacks			
J301	3.5mm Stereo Headphone Jack 'TC38-071'		161-143524-01
J302	Stereo Headphone Jack 3.5mm (Green) 'TC38-071-02'(JY-3530G)		161-153524-01
Coils			
L602	Choke Coil 10uH (4x5.5mm)		104-100455-10
L501	Ferrite Choke Coil 100uH (4x5.5mm)		104-101455-11
L603	Choke Coil 33 uH (6x8)mm		104-330680-10
T601	Choke Coil Type CW3-810 95 uH (8x11.5mm)		104-950910-17
LCD Display			
	TTD1337DPRDPN		134-531337-06
Transistor			
Q101	2SA933SR		131-210933-661
Q601	2SA158SR		131-211585-661
Q602,Q603	2SC4115SR		131-234115-661
Q103	DTA144TS		131-440144-591
Q104,Q701	DTC114TS-T		131-450114-591
Q301,Q303,Q304	DTC143TS		131-450143-591
Diodes			
D101,D501,D504,D604,D605	1SS133		132-001330-16
D701,D702,D703	1N4001 1A 50V		132-040011-15
D603,D607	Schottky Barrier Diode 1N5817		132-058170-20
Switches			
SW301,SW508	Slide Switch SKA22D10-G4-NA		141-022D02-04
	Push Switch 'SPPB51'		144-022282-00
SW501,SW502,SW503, SW504,SW505,SW506, SW507	Tact Switch 'EVQ-PJB-04K'		145-114504-01
Resistor			
R320	1/16 w +/- 5% 10 Ohm		113-100201-21
R609	1/4 W +/- 5% 10 Ohm		113-100203-21
R601	1/16 W +/- 5% 100 Ohm		113-101201-21
R104,R119,R309,R310, R315,R316,R608	1/16 W +/- 5% 1K		113-102201-21

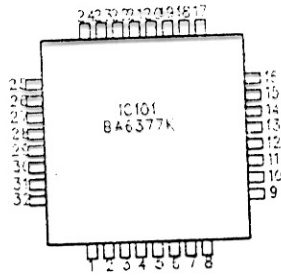
ELECTRICAL PARTS LIST

Ref. No	Description	RS Part No.	Mfr's Part No.
R111,R109,R201,R206, R209,R501,R511,R610, R702,R703,R704	1/16 W +/- 5% 10K		113-103201-21
R106,R126,R127,R219, R230,R311,R312,R323, R508,R509,R510,R512, R603,R613, CONNECT TO VR102	1/16 W +/- 5% 100K		113-104201-21
R122	1/16 W +/- 5% 1 M		113-105201-21
R117,R221	1/16 W +/- 5% 12 K		113-123201-21
R223	1/16 W +/- 5% 1.5 K		113-152201-21
R606	1/16 W +/- 5% 15 K		113-153201-21
R502	1/16 W +/- 5% 1.8 K		113-182201-21
R707,R713	1/16 W +/- 5% 18 K		113-183201-21
R222	1/16 W +/- 5% 2.2 K		113-222201-21
R202,R612,R706,R712	1/16 W +/- 5% 22 K		113-223201-21
R115	1/16W +/-5% 220 K		113-224201-21
R503	1/16 W +/- 5% 2.7 K		113-272201-21
R216,R124,R125	1/16 W +/- 5% 27 K		113-273201-21
R211	1/16 W +/- 5% 330 Ohm		113-331201-21
R107,R504	1/16 W +/- 5% 3.3 K		113-332201-21
R210,R709,R710	1/16 W +/- 5% 33 K		113-333201-21
R616	1/16 W +/- 5% 47 Ohm		113-470201-21
R212	1/16 W +/- 5% 470 Ohm		113-471201-21
R205,R207,R317,R318,R505	1/16 W +/- 5% 4.7 K		113-472201-21
R120,R121,R203,R215, R220,R305	1/16 W +/- 5% 47 K		113-473201-21
R218,R701	1/16 W +/- 5% 470 K		113-474201-21
R105,R112	1/16 W +/- 5% 4.7 Ohm		113-479201-21
R118,R607	1/16 W +/- 5% 5.6 K		113-562201-21
R708,R711	1/16 W +/- 5% 560 K		113-564201-21
R208	1/16 W +/- 5% 6.2 K		113-622201-21
R705	1/4 W +/- 5% 68 Ohm		113-680203-21
R313,R314	1/16 W +/- 5% 6.8 K		113-682201-21
R614	1/16 W +/- 5% 680 K		113-684201-21
R602,R108	1/16 W +/- 5% 8.2 K		113-822201-21
R619	1/16 W +/- 5% 82 K		113-823201-21
R101	1/16 W +/- 5% 91 Ohm		113-910201-21
Capacitor			
X201	Ceramic Resonator 16.934MHz ±0.5%		121-401692-20
C604,C612	0.001uF/50V ±20%		123-102360-09
C107,C109,C116,C501, C504,C506,C614	0.01 uF/25V +/-20%		123-103260-09
C126,C205,C215,C217, C221,C320,C601,C609, C610,C701	0.1 uF/50V ±20%		123-104360-0A
C222,C223	NPO 15 pF/50V ±10%		123-150330-10
C135	NPO 18pF/50V±10%		123-180330-10
C105	NPO 2pF/50V ±10%		123-209330-10

ELECTRICAL PARTS LIST

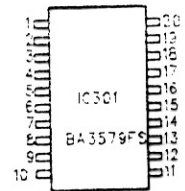
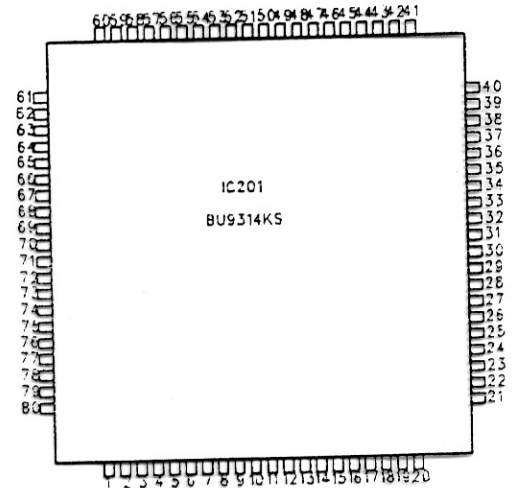
Ref. No	Description	RS Part No.	Mfr's Part No.
C212,C209	220 pF/50V ±10%		123-221330-00
C106,C114,C122,C124, C125,C313,C314	0.0022 uF/25V ±20%		123-222260-09
C120,C605	0.022 uF/25V ±20%		123-223260-09
C113	NPO 3 pF/50V ±10%		123-309330-10
C303,C304	SL 330pF/50V ±5%		123-331320-0A0
C117	0.0033 uF/50V ±20%		123-332360-00
C616	47 pF/50V ±5%		123-470320-0A
C118,C611	470 pF/50V ±10%		123-471330-00
C127	NPO 5pF/50V ±10%		123-509330-10
C216	0.1 uF/100V ±10%		125-104111-01
C508	Mini Elect Cap 0.1 UF 50V		127-104072-40
C207,C220,C327,C330,C606	Elect Cap 1 uF/50V ±20% 4x7mm (Mini)		127-105072-10
C206,C615	Elect Cap 10 uF/16V ±20% 4x7mm (Mini)		127-106042-10
C110	Elect Cap 100 uF/4V ±20% 5x5mm (Super Mini)\		127-107012-50
C108,C201,C319,C322,C602	Elect Cap 100 uF/10V ±20% (Super Mini 6.3x5mm		127-107032-40
C112,C123,C704	Elect Cap (Super Mini) 3x5mm 2.2uF/6.3V +80-20%		127-225029-40
C115,C331	Elect Cap 22uF/16V+/-20% (mini) 4x7mm		127-226042-10
C334,C335,C603	Elect Cap 220 uF/4V ±20% (mini)(6.3x5)mm		127-227012-10
C214,C608	Elect Cap 220 uF/10V ±20% (Mini size)		127-227032-10
C111,C332	Elect Cap (Mini) 3.3 uF/50V +80-20%		127-335079-10
C613	Mini Elect Cap 33 uF/16V ±20% 4x7mm		127-336042-10
C202,C301,C305,C306, C315,C316, C218	Elect Cap 4.7 uF/25V ±20% (Mini) 4x7mm		127-475052-10
C219	Elect Cap SS 47 uF/4V 10% 4x5mm (Super Mini)		127-476012-50
C104	Elect Cap 47uF/6.3V ±20% 5x5mm (Super Mini)		127-476022-40
Volume Control			
VR301	Rotary VR R1001G22B1A10K		111-103158-50
VR102	Semi Fixed Resistor 6mm 100 K FRC065C-104		112-104163-01
VR101	Trimmer Potentiometer 50 K (Horizontal) FRC065C-503		112-503143-02
Jumper Wire			
R114,R615,L301,L302,L303, L304,L305,L306,C705	Bare Copper Wire 0.54mm L=40mm AWG26 60mm Yellow UL Type '1007' AWG26 90mm Black UL Type '1007'		181-005040-00 181-126060-14 181-126090-10
Header			
CN401,CN402,CN403	2-Pin B2B-ZR 'jst' 15 Pin Connector 00 6200 XX7 012 800		160-902000-10 160-915000-00
DC Jack			
J601	TC18-038-02		161-283513-01
Earphone			
	CBX-156		169-015635-300
RCA Cable			
	1500mm (2-RCA Plug, 1-Stereo Plug)		186-266159-90
AC/DC Adaptor			
	EI-41 BS/CE Std. AC230V/50Hz 'B6-4103-14W'		199-832700-00
Miscellaneous			
	CD Mechanism 'KSM-542BAA'		910-0542B1-03

SEMICONDUCTOR DEVICES AND VOLTAGE CHARTS



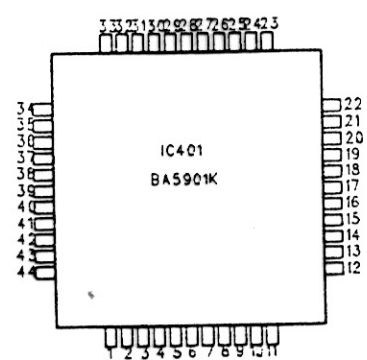
IC101 BA6377K							
Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage
1	1.8	9	1.3	17	1.6	25	1.7
2	0.6	10	1.7	18	0	26	1.7
3	0	11	2.4	19	0.7	27	2.1
4	0	12	3.2	20	2.1	28	1.9
5	1	13	1.6	21	3.2	29	1.6
6	0.8	14	0.1	22	1.6	30	1.6
7	0.2	15	0.1	23	2.3	31	0.6
8	2.8	16	1.6	24	1.7	32	1.7

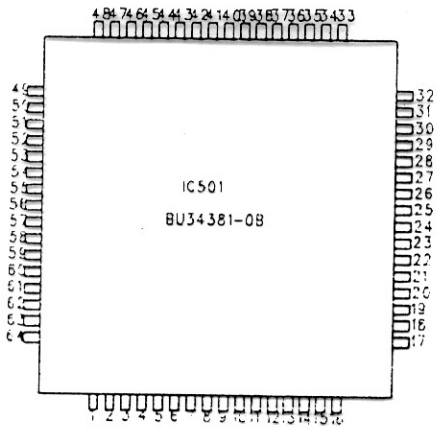
IC201 BU9314KS									
Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage
1	3.2	17	1.6	33	0.1	49	0	65	0.4
2	1.6	18	0.8	34	0.1	50	0	66	1.6
3	1.6	19	1.6	35	1.5	51	0	67	0.2
4	2.3	20	0.1	36	3.2	52	0	68	1.6
5	0.1	21	1.7	37	0.3	53	0	69	1.6
6	1.5	22	1.6	38	0.1	54	0	70	1.1
7	0.8	23	1.7	39	3.2	55	0	71	2
8	1.7	24	1.7	40	3.2	56	0	72	--
9	0	25	2	41	1.5	57	0	73	--
10	0.1	26	1.7	42	0	58	0	74	--
11	0.1	27	0	43	1.6	59	0	75	--
12	1.6	28	1.7	44	1.7	60	1.1	76	--
13	3.2	29	1.4	45	1.7	61	1.6	77	3.2
14	3.2	30	0.2	46	3.2	62	0.2	78	3.2
15	1.7	31	1.6	47	1.6	63	0.2	79	1.5
16	1.6	32	1.6	48	0	64	0.1	80	1.3



IC301 BA3579FS							
Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage
1	3.2	6	1.6	11	1.7	16	0.8
2	1.7	7	-2.8	12	0.8	17	1.2
3	0	8	0.8	13	1.7	18	0
4	1.7	9	0	14	1.7	19	1.2
5	1.6	10	0	15	0.4	20	3.2

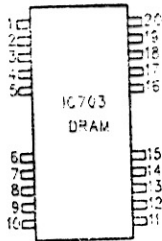
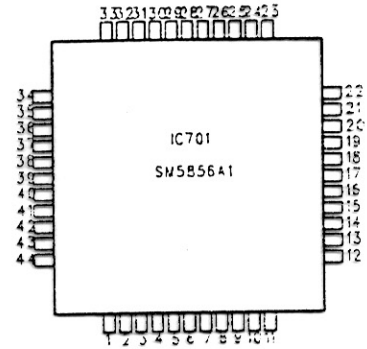
IC401 BA5901K							
Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage
1	4	12	3.2	23	0.1	34	0
2	4	13	1.7	24	0.5	35	0
3	3.2	14	1.7	25	0.1	36	0
4	0.9	15	3.2	26	0.2	37	3.8
5	0.3	16	1.7	27	0.3	38	1.6
6	0.7	17	1.7	28	0	39	3.9
7	1.3	18	1.7	29	0.6	40	3.2
8	0.1	19	3.2	30	0.1	41	0
9	0.9	20	1.7	31	0.1~1	42	0
10	1.6	21	0	32	0.1	43	0
11	1.7	22	1.8	33	0.3	44	0.6





IC501 BU34381-0B							
Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage
1	1.6	17	3.2	33	3.1	49	1.6
2	1.6	18	3.2	34	3.2	50	1.5
3	1.6	19	3.2	35	3.2	51	3.2
4	1.6	20	3.2	36	0	52	3.2
5	1.6	21	0	37	3.1	53	3.2
6	1.6	22	0	38	1.1	54	3.2
7	1.6	23	3.2	39	0.1	55	3.2
8	1.6	24	3.2	40	0.1	56	3.2
9	1.6	25	0	41	3.2	57	2
10	1.6	26	3.2	42	0.1	58	0.8
11	1.6	27	3.2	43	3.2	59	3.2
12	1.6	28	3.2	44	3.2	60	0
13	1.6	29	0	45	0	61	1.6
14	1.6	30	0	46	3.2	62	1.6
15	1.6	31	0	47	3.2	63	1.6
16	1.6	32	0	48	0	64	1.6

IC701 SM5856A1							
Pin	Voltage	Pin	Voltage	Pin	Voltage	Pin	Voltage
1	3.2	12	1.6	23	0	34	3
2	3.1	13	2	24	3.2	35	0.1~3.1
3	3.2	14	1.6	25	0.1	36	0.1~3.1
4	3.1	15	1.6	26	3.2	37	0.1~3.1
5	3.1	16	1.1	27	3.1	38	0.1~3.1
6	3.1	17	3.2	28	3.1	39	1
7	3.1	18	1.6	29	0.8~2.5	40	1.5
8	3.1	19	0.1	30	0.8~2.5	41	1.5
9		20	3.2	31	0.8~2.5	42	1.6
10	0	21	0.2~1.1	32	0.8~2.5	43	1.6
11	1	22	3.1	33	3.1	44	1.6

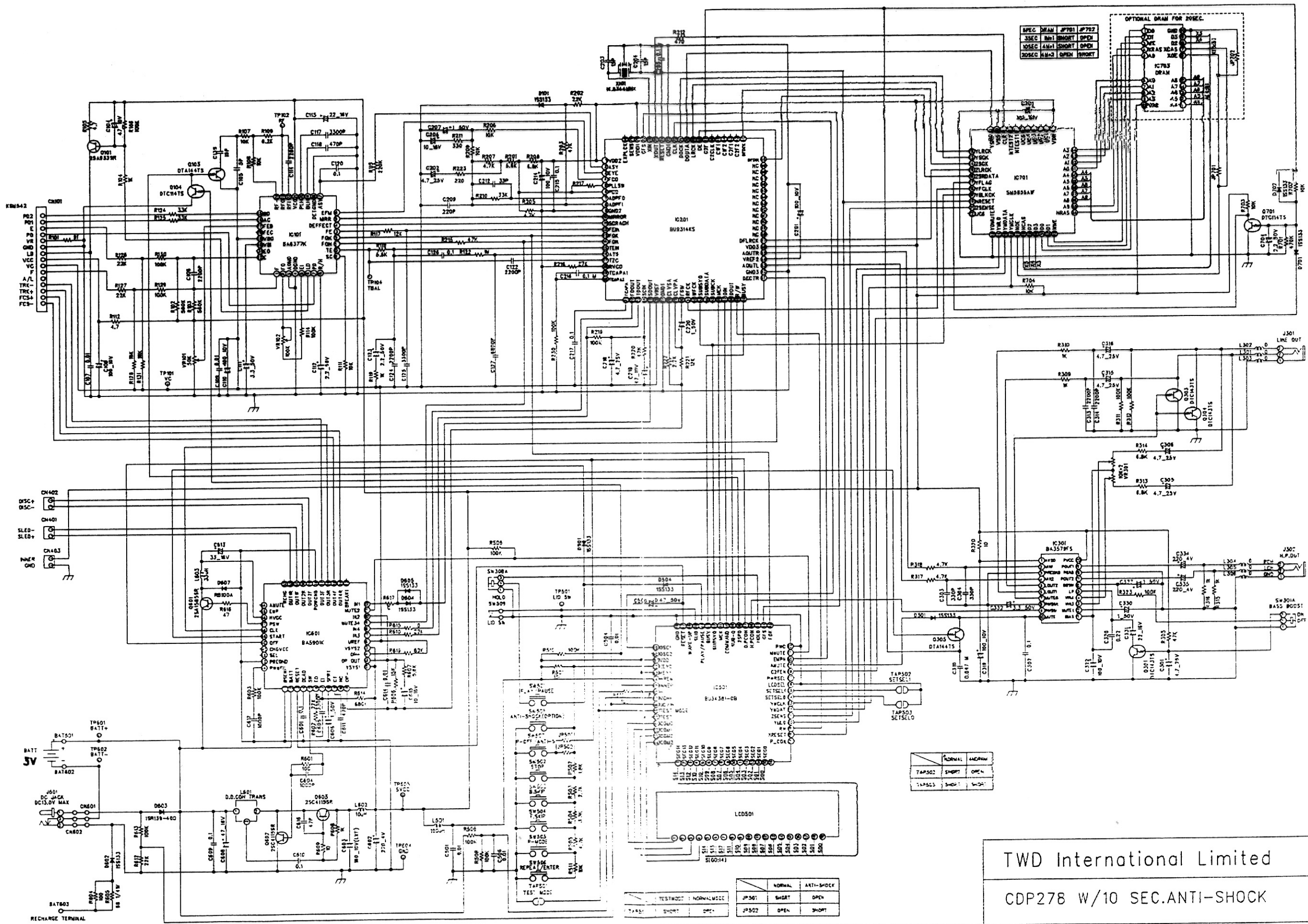


IC703 GM71C4256BJ70			
Pin	Voltage	Pin	Voltage
1	0.8~2.5	11	1.5
2	0.8~2.5	12	1
3	3.1	13	0.3~3.0
4	3	14	0.1~3.1
5	0.1~3.1	15	0.1~3.1
6	1.5	16	3.1
7	1.6	17	3.1
8	1.6	18	0.8~2.5
9	1.6	19	0.8~2.5
10	3.2	20	0

REF. NO.	E	B	C	REF. NO.	E	B	C
Q101	2.9	2.2	2.1	Q304	0	-2.8	0
Q103	1.1	4.5	1.7	Q601	4	3.8	1.4
Q104	0	0	4.5	Q602	0	0.2	4
Q301	0	0.9	0	Q603	3.3	2.8	4
Q303	0	-2.8	0	Q701	0	0.1	3.2

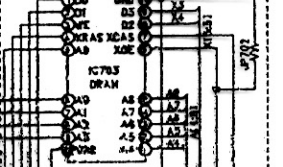


- Q101 2SA933SR
- Q103 DTA114TS
- Q104 DTC114TS
- Q301 DTC143TS
- Q303 DTC143TS
- Q304 DTC143TS
- Q601 2SA1585SR
- Q602 2SC4115SR
- Q603 2SC4115SR
- Q701 DTC114TS



1SEC	DRAM	#P701	#P702
3SEC	DRAM	SHORT	OPEN
10SEC	4M-1	SHORT	OPEN
20SEC	4M-2	OPEN	SHORT

OPTIONAL DRAM FOR 20SEC.



	NORMAL	ANALOG
TAP502	SHORT	OPEN
TAP503	SHORT	WIDE

TESTMODE	NORMAL	MODE
TAP501	SHORT	OPEN
TAP502	OPEN	SHORT

TWD International Limited
 CDP278 W/10 SEC.ANTI-SHOCK