

ION Audio

DISCOVER DRUMS

(iED16)

Service Manual

Rev. 1
2010.04.15

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PREFACE

This document is intended to assist the service technician in the operation, maintenance and repair of the ION Audio device. Together with the User Reference Manual, this document provides a complete description of the functionality and serviceability of the Device. Any comments or suggestions you may have pertaining to the document are welcome and encouraged.

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WARNINGS

TO REDUCE THE RISK OF ELECTRIC SHOCK OR FIRE, DO NOT EXPOSE THIS PRODUCT TO WATER OR MOISTURE.



The arrowhead symbol on a lightning flash inside a triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the enclosed product which may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point inside a triangle is intended to alert the user to the presence of important operating, maintenance and servicing instructions in the literature which accompanies the product.

REPAIR BY ANY PERSON OR ENTITY OTHER THAN AN AUTHORIZED ION AUDIO SERVICE CENTER WILL VOID THE ION AUDIO WARRANTY.

PROVISION OF THIS MANUAL DOES NOT AUTHORIZE THE RECIPIENT TO COMPETE WITH ANY ION AUDIO DISTRIBUTOR OR AUTHORIZED REPAIR SERVICE CENTER IN THE PROVISION OF REPAIR SERVICES OR TO BE OR MAKE REPAIRS AS AN AUTHORIZED SERVICE CENTER.

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Regarding the Power Supply Fuse



CAUTION: The product under service may employ the use of a replaceable fuse. Danger of fire or electrocution if fuse is incorrectly replaced. Replace with only the same type or equivalent type recommended by the equipment manufacturer.

Regarding the Internal Battery



CAUTION: The product under service may employ the use of a internal battery. Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction.

Safety Instructions

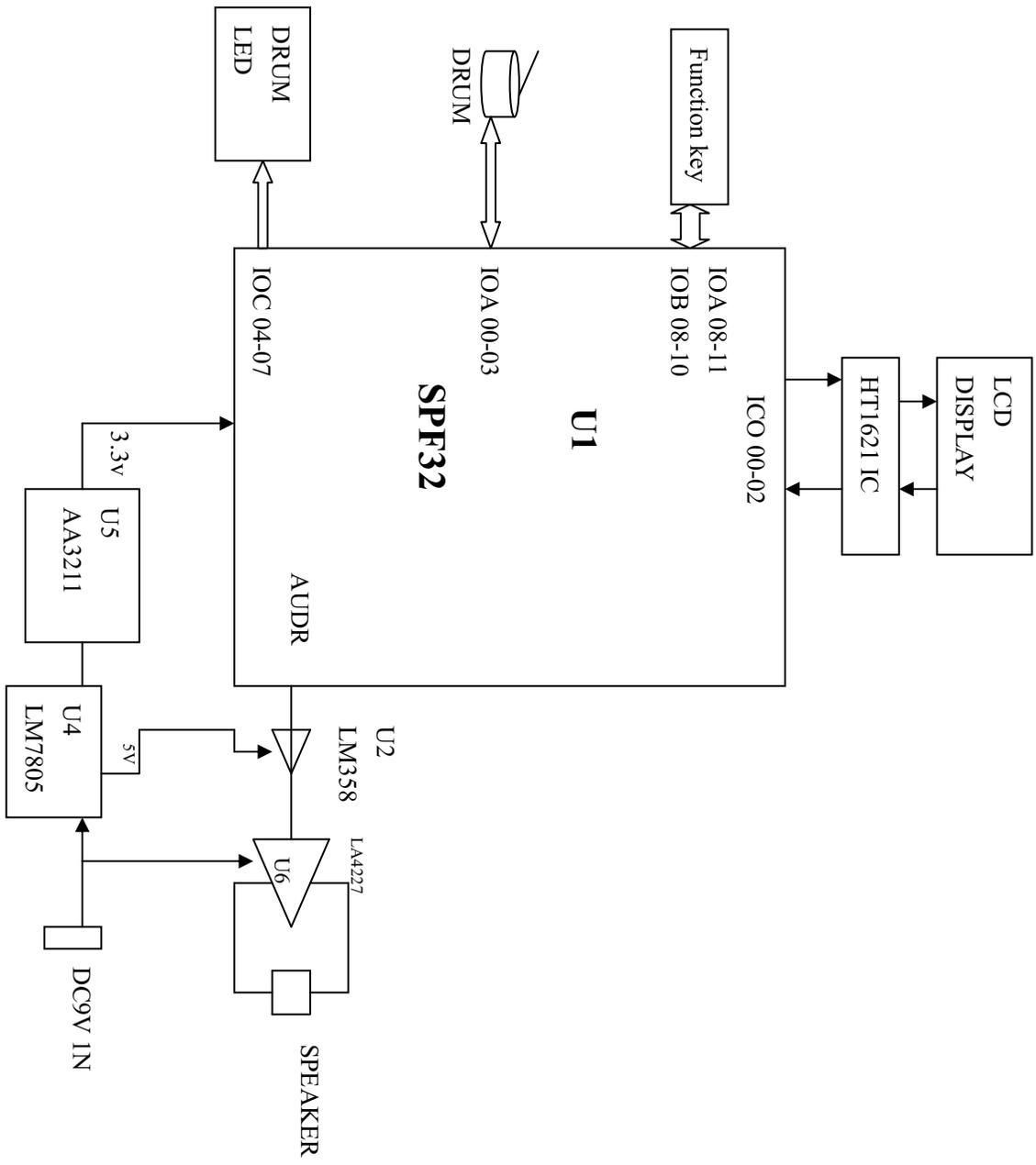
Carefully read the applicable items of the operating instructions and these safety suggestions before using this product. Use extra care to follow the warnings written on the product itself and in the operating instructions. Keep the operating instructions and safety suggestions for reference in the future.

1. **Power Source.** The product should only be connected to a power supply which is described either in the operating instructions or in markings on the product.
2. **Power Cord Protection.** AC power supply cords should be placed such that no one is likely to step on the cords and such that nothing will be placed on or against them.
3. **Periods of Non-use.** If the product is not used for any significant period of time, the product's AC power supply cord should be unplugged from the AC outlet.
4. **Foreign Objects and Liquids.** Take care not to allow liquids to spill or objects to fall into any openings of the product.
5. **Water or Moisture.** The product should not be used near any water or in moisture.
6. **Heat.** Do not place the product near heat sources such as stoves, heat registers, radiators or other heat producing equipment.
7. **Ventilation.** When installing the product, make sure that the product has adequate ventilation. Improperly ventilating the product may cause overheating, which may damage the product.
8. **Mounting.** The product should only be used with a rack which the manufacturer recommends. The combination of the product and rack should be moved carefully. Quick movements, excessive force or uneven surfaces may overturn the combination which may damage the product and rack combination.
9. **Cleaning.** The product should only be cleaned as the manufacturer recommends.
10. **Service.** The user should only attempt the limited service or upkeep specifically described in the operating instructions for the user. For any other service required, the product should be taken to an authorized service center as described in the operating instructions.
11. **Damage to the Product.** Qualified service personnel should service the unit in certain situations including without limitation when:
 - a. Liquid has spilled or objects have fallen into the product,
 - b. The product is exposed to water or excessive moisture,
 - c. The AC power supply plug or cord is damaged,
 - d. The product shows an inappropriate change in performance or does not operate normally, or
 - e. The enclosure of the product has been damaged.

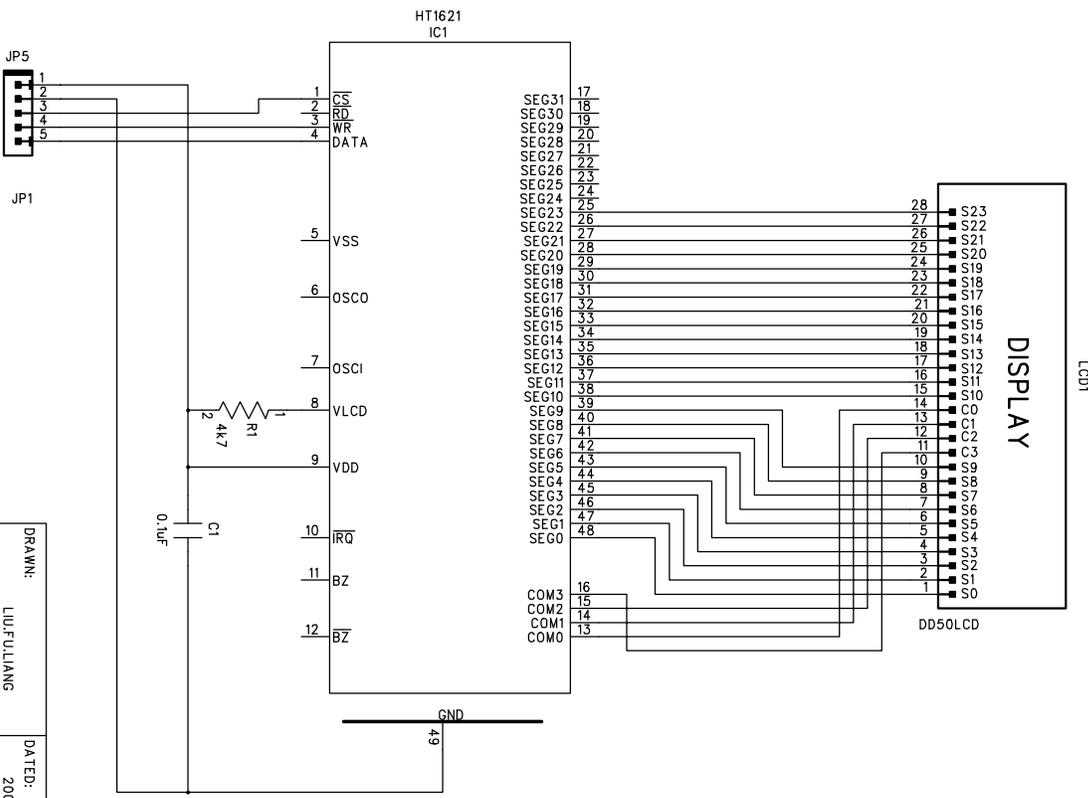
SPECIFICATION

1. Drums.....4pcs
2. Sounds.....single channel
3. Jack.....PHONE/AUX OUT
4. Rhythm50
5. Drum Voice.....50
6. Power.....9V
7. Dimension481*174*300mm
8. Weight.....1545g

DD-50 BLOCK DIAGRAM



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN:	LW.FUJIANG	DATED:	2002-5-165
CHECKED:		DATED:	
QUALITY CONTROL:		DATED:	
RELEASED:		DATED:	

COMPANY:		TITLE:	
		DD-50 LCD BOARD	
CODE:	SIZE:	DRAWING NO.:	REV.:
	A4	DD50-1101	V1.0
SCALE:			

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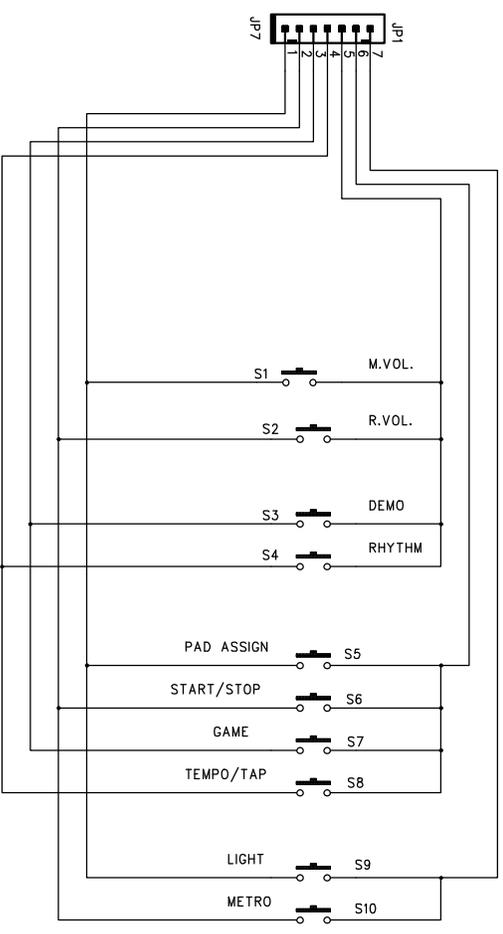
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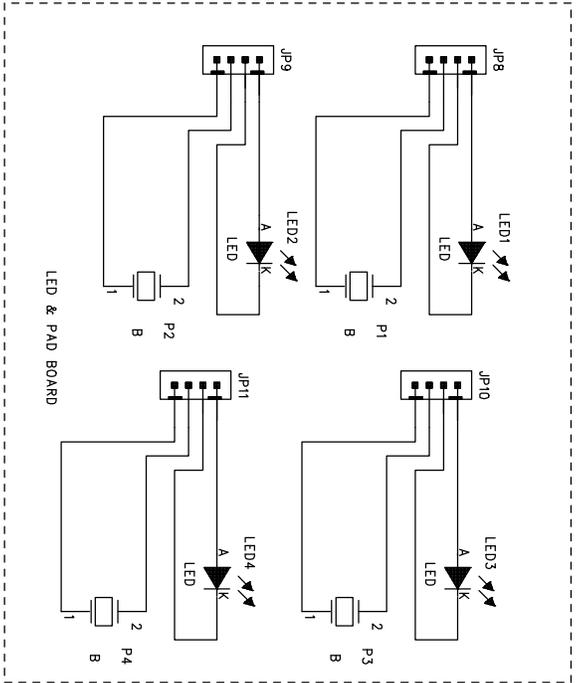
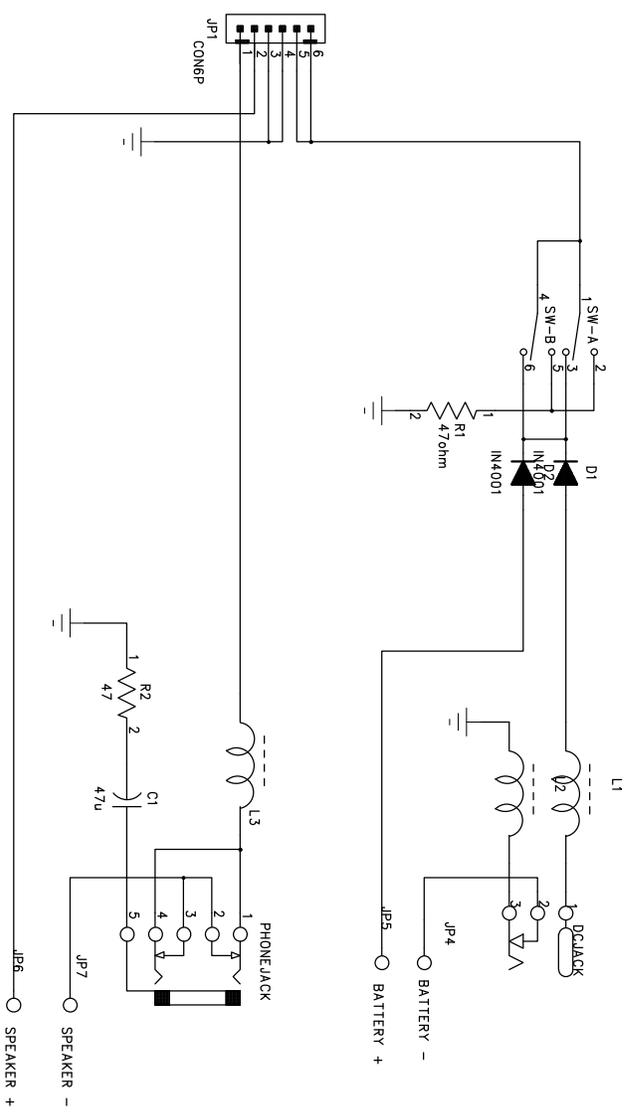
REVISION RECORD		
LTR	ECO NO:	APPROVED:



DRAWN:	LIU.FULIANG	DATED:	2002-7-4
CHECKED:		DATED:	
QUALITY CONTROL:		DATED:	
RELEASED:		DATED:	

COMPANY:			
TITLE: DD-50 FUNCTION BOARD			
CODE:	SIZE:	DRAWING NO:	REV:
	A4	DD50-1103	V1.0
SCALE:	SHEET:	OF	

REVISION RECORD		
LTR	ECO NO:	APPROVED:
DATE:	DATE:	DATE:

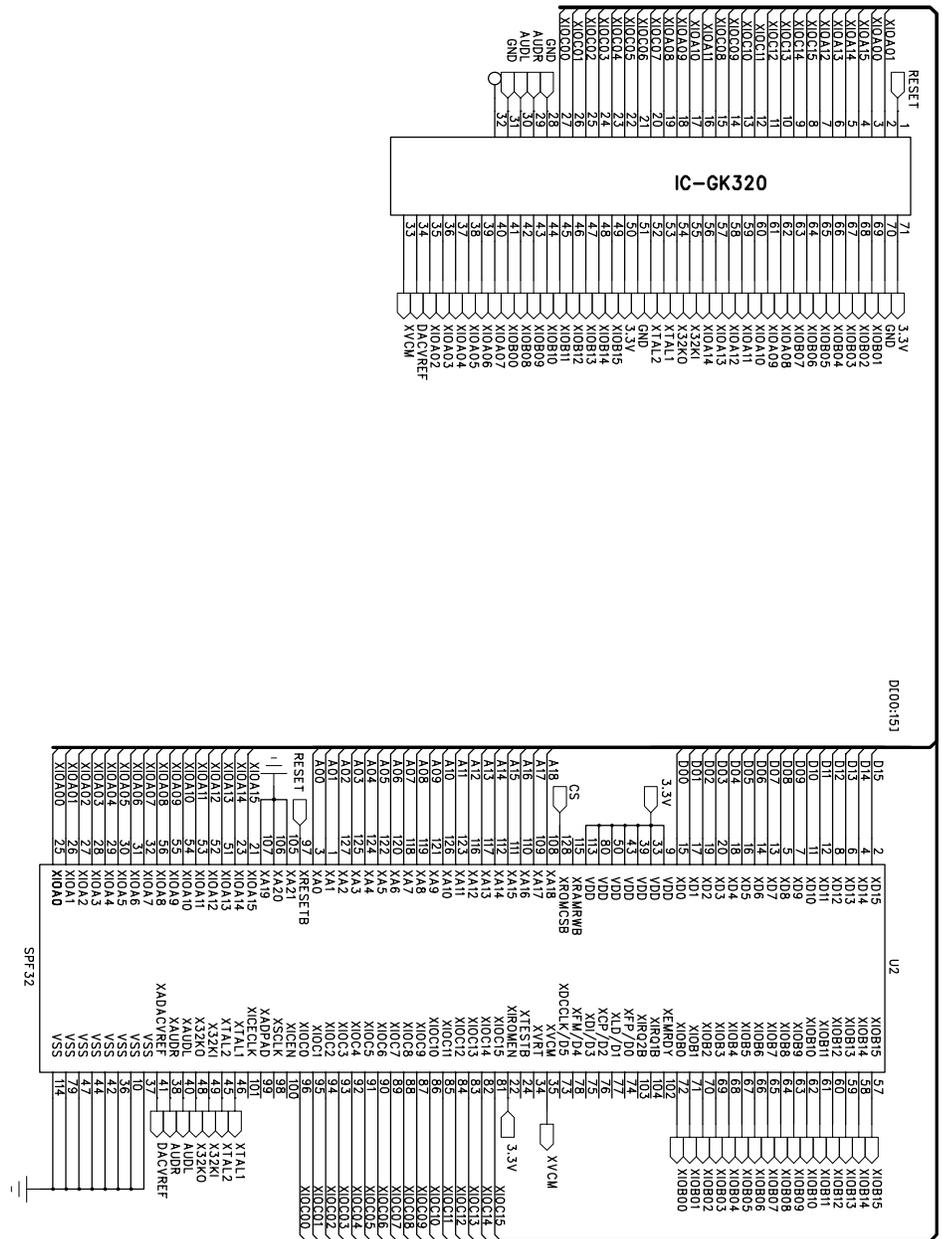


DRAWN:	LW.FUJIANG	DATED:	2002-07-11
CHECKED:		DATED:	
QUALITY CONTROL:		DATED:	
RELEASED:		DATED:	

COMPANY:		TITLE:	
DD-50 SWITCH BOARD		DD-50 SWITCH BOARD	
CODE:	SIZE:	DRAWING NO:	REV:
	A4	DD50-1104	V2.0
SCALE:			

6 5 4 3 2 1

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:



COMPANY: _____

TITLE: **GK-320 COB BOARD**

DRAWN: ZHOU DATED: 2003-5-10

CHECKED: _____ DATED: _____

QUALITY CONTROL: _____ DATED: _____

RELEASED: _____ DATED: _____

SCALE: _____ SHEET: _____ OF _____

DRAWING NO: **GK320-1110** REV: V1.0

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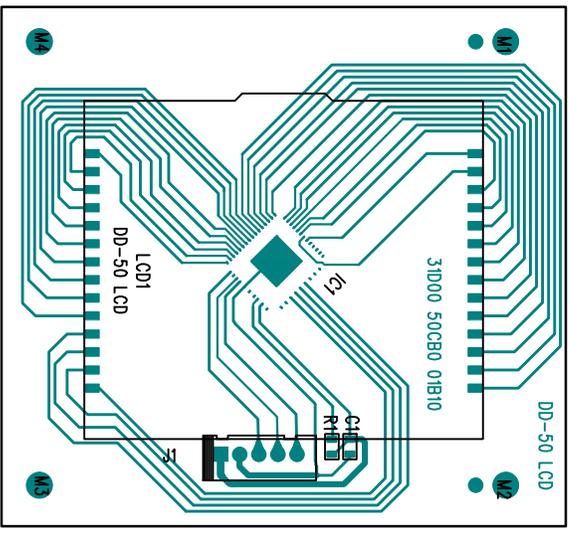
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REVISIONS			
REV. NO.	ZONE	SYMBOL	DESCRIPTION

REV. NO.	REV. BY	REV. DATE



MODEL NO.	DD-50	TITLE: DD-50 LCD BOARD							
MOULD NO.:	N/A	DRWN.	LJF/U/LIANG	DATE	2002-8-10	DWG NO.	DD50-1202		
UNIT:	mm	CHKD.		DATE		QTY.		REV.	V3.0
UNLESS OTHERWISE SPECIFIED TOLERANCES DECFIED ANGULAR .XX±0.10 ±0.5°		APPD.		DATE		Drawing size: A4		Scale:	1:1
		SHEET	OF	MATL.		FINISHED			

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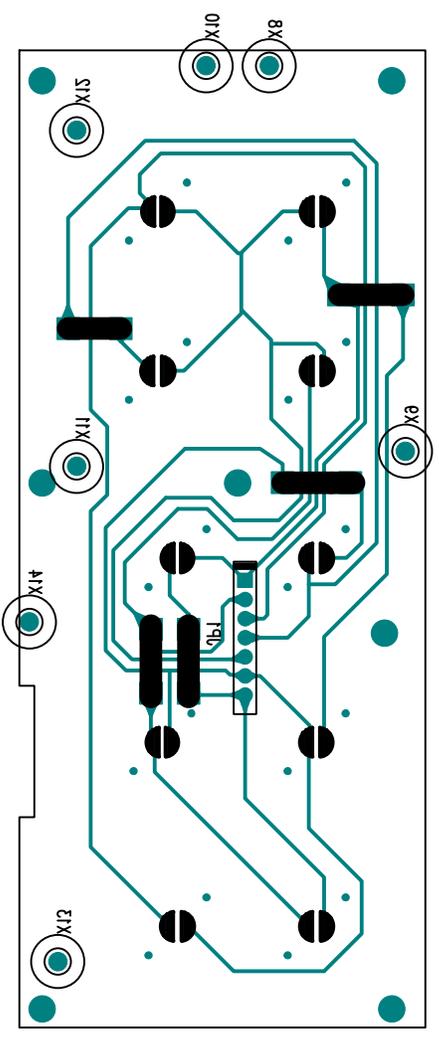
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REVISIONS			
REV. NO.	ZONE	SYMBOL	DESCRIPTION

REV. NO.	REV. BY	REV. DATE



MODEL NO.	DD-50		
MOULD NO.:	N/A		
UNIT:	mm		
UNLESS OTHERWISE SPECIFIED TOLERANCES			
DECIFIED		ANGULAR	
.XX±0.10		±0.5°	
TITLE: DD-50 FUNCTION BOARD			
DRWN.	LIU.FULLANG	DATE	2002-7-20
CHKD.		DATE	
APPD.		DATE	
SHEET	OF	MATL.	FINISHED
DWG NO.	DD50-1203	REV.	V3.0
QTY.		Scale:	1:1

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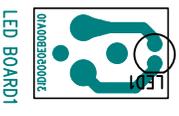
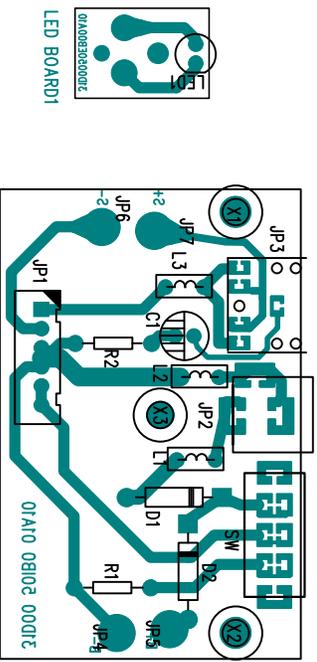
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REVISIONS			
REV. NO.	ZONE	SYMBOL	DESCRIPTION

REV. NO.	REV. BY	REV. DATE



MODEL NO.	DD-50	TITLE: DD-50 SWITCH BOARD			
MOULD NO.:	N/A	DRWN.	DATE	DWG NO.	DD50-1204
UNIT:	mm	CHKD.	DATE	QTY.	REV: V3.0
UNLESS OTHERWISE SPECIFIED TOLERANCES DECIPIED ANGULAR .XX±0.10 ±0.5°		APPD.	DATE	Drawing size: A4	Scale: 1:1
		SHEET	OF	MATL.	FINISHED

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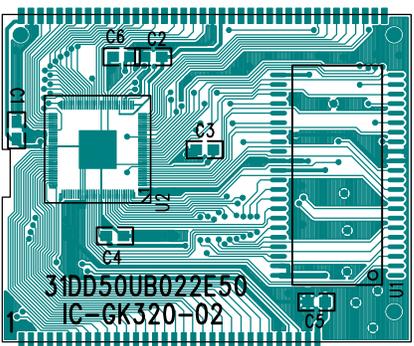
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REVISIONS			
REV. NO.	ZONE	SYMBOL	DESCRIPTION

REV. NO.	REV. BY	REV. DATE



MODEL NO.	GK-320	TITLE: GK-320 COB BARD					
MOULD NO.:	N/A						
UNIT:	mm	DRWN.	ZHOU	DATE	2003-5-10	DWG NO.	GK320-1210-201
UNLESS OTHERWISE SPECIFIED TOLERANCES DECIPIED ANGULAR ±0.5°				DATE		QTY.	
				DATE		Drawing size: A4	REV: V1.0
		SHEET	OF	MATL.		FINISHED	

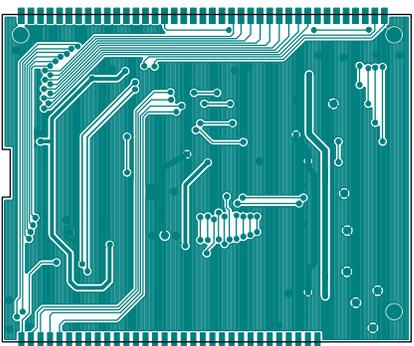
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REVISIONS					
REV. NO.	ZONE	SYMBOL	DESCRIPTION	REV. BY	REV. DATE



MODEL NO.		GK-320			
MOULD NO.:		N/A			
UNIT:	mm				
UNLESS OTHERWISE SPECIFIED TOLERANCES DECIPIED ANGULAR ±0.5° .XX±0.10					
TITLE:		GK-320 COB BOARD			
DRWN.	ZHOU	DATE	2003-5-10	DWG NO.	GK320-1210-202
CHKD.		DATE		QTY.	
APPD.		DATE		Drawing size:	A4
SHEET	OF	MATL.		FINISHED	

Bills of Material Component Listing

PN: 002020005 Parent item name : Portable Drum Material characteristic : selfmade
 Specification type : DD50 Measure unit :set Parent item Loss rate(%) : 0.000
 Version symbol : 10 Version explanation :10 version date: 2000-1-1
 Newest cost : Cost reference :

Level	Material Coding	Subunit Description	Subunit specification	Qty.	Unit	Remark
+	631020002	Black Velvet paper	10*5*0.5mm viscosity	4.00000	pcs	paster on battery door
+	299010009	Drum stick	ABS Black N/A	2.00000	pcs	
++	298010001	Plastic	ABS	0.03914	Kg	
+	641010058	Label	Black English with CE sample and DUST BOX 9V 800MA	1.00000	pcs	
+	639000706	Manual	English increased ESD statement	1.00000	pcs	
+	643010016	Drum stick Polybag DD50	PE 380*72*0.03mm no printing	1.00000	pcs	
+	643010082	Airframe Polybag	350*610*0.04mm English French word+enviromental protection	1.00000	pcs	
+	649000933	Carton(3pcs)	B=B 53.8*49.3*31.5cm	0.33333	pcs	
+	647000049	Gift box	English	1.00000	pcs	
+	644000004	Polyfoam	Low density	1.00000	pcs	
+	901020010	Stationery Adhesive tape	12MM*25y	0.00270	roll	
+	901020003	Sealing adhesive tape	48mm*50y Clarity	0.02950	roll	
+	1020100430		DD50 export	1.00000	set	
++	101050001	LED display ASSY	DD50	1.00000	set	
+++	501010038	PCB Single layer 94HB 1.6mm	Display PCB V01	4.00000	pcs	
+++	619010008	LED	red WEJ3148D LED 4mm	4.00000	pcs	FOR PAD1-PAD4.
+++	901010006	Stannum of cord solder wire	Sn-0.5Ag-0.7Copper Dia. 1.0mm	0.00040	Kg	
++	1010300200	Function board ASSY	DD50	1.00000	set	
+++	501030049	PCB Single layer 94HB 1.6mm	Function PCB V00 carbon+	1.00000	pcs	
+++	628060138	Flat cable	7 pin L=70mm 26#	1.00000	pcs	
+++	6290100070	Square Conductive Rubber	Not distinguish color no printing Making carbon net H-2013B IPCS=1D0T	10.00000	pcs	
+++	901010006	Stannum of cord solder wire	Sn-0.5Ag-0.7Copper Dia. 1.0mm	0.00030	Kg	
+++	901990001	Hot-Melt Tape		0.00020	Kg	
++	101060008	Switch board ASSY	DD50	1.00000	set	
+++	501010115	PCB Single layer 94HB 1.6mm	I/O PCB V01	1.00000	pcs	
+++	603080057	CAP ELECT DIP	47uf/16V +20% -20% 5*11mm	1.00000	pcs	C1
+++	608070001	Rectifier Diode DIP	IN4001 TYPE DIP	2.00000	pcs	D1, D2.
+++	606020001	Ferrite Bead DIP	MURATA BLO2RN2	1.00000	pcs	L3
+++	620010006	DC JACK	3Pin DS-210 DIP	1.00000	pcs	JP2
+++	620020004	STEREO JACK	5Pin ST-213 DIP	1.00000	pcs	JP3
+++	605000006	Coil	TC-451530-20uH-03 DIP	3.00000	pcs	L1, L2.
+++	602040140	Resistor DIP	47 ohm (1/4w)+5%-5%	2.00000	pcs	R1, R2
+++	621020004	Slide Switch	SLIDE SW SK22F03-G7 slider	1.00000	pcs	
+++	628010030	Masculine connector	6Pins/2.54mm single line bend feet DIP	1.00000	pcs	JP1
+++	628040030	Single connect wire	L=220mm U/L 1007#20 black	1.00000	pcs	SPEAKER -
+++	628040032	Single connect wire	L=220mm U/L 1007#20 red	1.00000	pcs	SPEAKER +
+++	901010005	Stannum of solder bar	Sn-0.5Ag-0.7Copper	0.00170	Kg	
+++	633000023	Pucker Gummed paper	3mm*35y high temperature	0.00060	roll	

+++	901030017	Flux	DL20L/pail	0.00020	L	
+++	901010006	Stannum of cord solder wire	Sn-0.5Ag-0.7Copper Dia. 1.0mm	0.00160	Kg	
+++	901030001	Yellow Glue	2.5L/bottle	0.00030	Bottle	
++	626000008	Speaker	4 OHM 1W 2.5" 66mm (tervalent chrome) black paper dish	1.00000	pcs	
++	628040167	Single connect wire	L=55mm U/L 1007#26 red	1.00000	pcs	BATTERY+
++	628040158	Single connect wire	L=350mm U/L 1007#26 black	1.00000	pcs	BATTERY -
++	299010066	General purpose Small Drum tray DL-1557	TPE (E212-40AT8 black) Injection Black N/A	4.00000	pcs	
+++	322010004	METAL INSTER(NICKED) MC306	Electrolysis board N/A Silvery gray DIA:85mm	1.00000	pcs	
++++	398010003	SECC	1.0mm	0.07050	Kg	
++	631040089	LCD EVA Soft Gasket	49*45*2.5mm	1.00000	pcs	
++	631020002	Black Velvet paper	10*5*0.5mm viscosity	4.00000	pcs	paste on battery door
++	631020015	Black Velvet paper	285*20*0.3mm viscosity Single layer no dry Rubber	1.00000	pcs	FOR BATTERY CABINT
++	630010019	Rubber feet	φ16mm thickness 3.2mm viscosity(Round)	3.00000	pcs	
++	309070004	Negative flake of Battery	nickelplate Silvery white L=27mm	1.00000	pcs	
++	309070036	Positive flake of Battery (general use)	Copper nickelplate Silvery white	1.00000	pcs	
++	209010022	Battery Box	ABS Injection Black N/A	1.00000	pcs	
+++	298010001	Plastic	ABS	0.03090	Kg	
+++	298040001	Water gap material	ABS Black	0.01450	Kg	
+++	298040002	Water gap material	ABS white	0.01400	Kg	
+++	298050005	Color seed	2705	0.00150	Kg	
++	209010015	Battery Box Cover	HIPS Black originality Injection molding	1.00000	pcs	
+++	298020001	Plastic	HIPS	0.00752	Kg	
++	215010007	Speaker bracket	HIPS Black N/A	1.00000	pcs	
+++	298020001	Plastic	HIPS	0.02884	Kg	
++	202010016	Bottom cabinet	HIPS Black N/A	1.00000	pcs	
+++	298020001	Plastic	HIPS	0.38244	Kg	
++	201030095	Top cabinet	HIPS Black Spray oil P=877C Silk screen P=432C	1.00000	pcs	
+++	201010024	Top cabinet	HIPS Injection Black	1.00000	pcs	
++++	298020001	Plastic	HIPS	0.53354	Kg	
+++	652020012	Hard glue anti-alcohol smear silver oil	G1-877C 4L/pail	0.03080	L	
+++	901030029	hard Rubber anti-alcohol smear open oil water	S-902 18L/pail	0.06770	L	
++	206040003	Joint Plastic Button	ABS Injection molding P=285C Silk screen Black	1.00000	pcs	
+++	206010050	Joint Plastic Button	ABS Blue P=285C without disposal	1.00000	pcs	
++++	298010001	Plastic	ABS	0.01751	Kg	
++	299010013	Lamp shade	HIPS Clarity red N/A	4.00000	pcs	
++	208010019	Knob	HIPS Black originality Injection molding	1.00000	pcs	
++	301010003	screw PA	2*8PA black crisscross PA metric coarse thread Dual teeth	8.00000	pcs	4PCS FOR LED PCB, 4PCS FOR LED COVER
++	301110009	screw BB	2.6*6BB Color Zn "+" Dual teeth PWB	21.00000	pcs	function board 7PCS, LCD board 4PCS, main board 7PCS, switch board 3PCS

++	301110024	screw BB	3*8BB Color Zn "+" PWB	14.00000	pcs	
++	301110015	screw BB	3*10BB "+" PWB plated Color Zn metric coarse dual teeth	8.00000	pcs	8PCS FOR BOTTOM CABINET
++	642010034	Display PVC	Silk print Dark gray P=426C	1.00000	pcs	
++	633000029	Dual side Gunned paper	DIA 28mm	4.00000	pcs	FOR BUZZER USE
++	1010400390	LCD display ASSY	DD50	1.00000	set	
+++	1011800040	IC sealing board ASSY	DD50 display board	1.00000	set	
++++	502010029	PCB Single layer 22F 1.6mm	LCD Display PCB V00	1.00000	pcs	
++++	6010100040	IC SMD	HT1621 IC	1.00000	pcs	
+++	603010020	CAP CERAMIC SMD	0.1uf/50V +10% -10% 0805	1.00000	pcs	C1
+++	602010152	Resistor SMD	47K ohm(1/8w)+5%-5% 0805	1.00000	pcs	R1
+++	628010025	Masculine connector	5Pins/2.54mm single line straight feet DIP	1.00000	pcs	
+++	901010006	Stannum of cord solder wire	Sn-0.5Ag-0.7Copper Dia. 1.0mm	0.00040	Kg	
++	1010100050	Main board ASSY	DD50	1.00000	set	
+++	501010003	PCB Single layer 94HB 1.6mm	Main PCB V05	1.00000	pcs	
+++	603070006	CAP CERAMIC DIP	0.01uf/50V+10%-10% DIP	1.00000	pcs	C17
+++	603070011	CAP CERAMIC DIP	0.1uf/50V +20%-20% PIN3mm DIP	10.00000	pcs	C1, C2, C4, C5, C9, C30, C32, C35, C41, C42.
+++	603070017	CAP CERAMIC DIP	20pf/50V+5%-5% NPO	4.00000	pcs	C7, C8, C10-C11.
+++	603070021	CAP CERAMIC DIP	0.02uf/50V +20% -20%	6.00000	pcs	C16, C19, C24, C26, C28, C33.
+++	603070039	CAP CERAMIC DIP	470pf/50V +10% -10% DIP	5.00000	pcs	C3, C12, C15, C29, C38.
+++	603080004	CAP ELECT DIP	10uf/16V +20% -20% 5*11mm DIP	1.00000	pcs	C34
+++	603080012	CAP ELECT DIP	100uf/16V +20% -20% 6.3*11mm	5.00000	pcs	C18, C20, C21, C22, C27.
+++	603080018	CAP ELECT DIP	1000uf/25V +20% -20% 10*20mm	1.00000	pcs	C23
+++	603080054	CAP ELECT DIP	4.7uf/50V +20% -20% 5*11mm	2.00000	pcs	C13, C14.
+++	603080057	CAP ELECT DIP	47uf/16V +20% -20% 5*11mm	3.00000	pcs	C6, C36, C37.
+++	603080067	CAP ELECT DIP	470uf/16V +20% -20% 8*12mm DIP	2.00000	pcs	C39, C40
+++	603110065	CAP MYLAR DIP	100nf/100V +5%-5% 2A104J P=7mm DIP	2.00000	pcs	C25, C31.
+++	603010082	CAP CERAMIC SMD	470pf/50V +10% -10% 0805 (X7R) SMD	4.00000	pcs	C44-C47
+++	608050001	Switch Diode DIP	IN4148 DIP TYPE	9.00000	pcs	D1-D9.
+++	608060006	Zener Diode DIP	5.6V 1/2W DIP	1.00000	pcs	ZD5
+++	601020020	DIP IC	VTC 78L05M TO-92 DIP TYPE manostat	1.00000	pcs	U4
+++	602040011	Resistor brede DIP	1K ohm(1/4w)+5%-5%	3.00000	pcs	R49-R50, R53
+++	602040012	Resistor DIP	1K ohm(1/8w)+5%-5%	4.00000	pcs	R36, R39, R41, R43.
+++	602040017	Resistor DIP	10K ohm(1/8w)+5%-5%	7.00000	pcs	R15, R16, R18, R33, R34, R56, Q8 "C" TO JMP22
+++	602040019	Resistor DIP	100K ohm(1/8w)+5%-5%	4.00000	pcs	R9-R12
+++	602040021	Resistor DIP	1M ohm(1/8w)+5%-5%	1.00000	pcs	R27
+++	602040061	Resistor DIP	20K ohm(1/8w)+5%-5%	4.00000	pcs	R5-R8
+++	602040073	Resistor DIP	220 ohm(1/8w)+5%-5%	2.00000	pcs	R46, R47.

+++	602040076	Resistor DIP	2.2K ohm(1/8w)+5%-5%	3.00000	pcs	R35, R44, R45.
+++	602040116	Resistor DIP	3.3K ohm(1/8w)+5%-5%	4.00000	pcs	R37, R38, R40, R42.
+++	602040130	Resistor DIP	3.9K ohm(1/8w)+5%-5%	1.00000	pcs	R31
+++	602040143	Resistor DIP	470 ohm(1/8w)+5%-5%	4.00000	pcs	R17, R22, R23, R24.
+++	602040147	Resistor DIP	47K ohm(1/8w)+5%-5%	1.00000	pcs	R32
+++	602040159	Resistor DIP	51K ohm(1/8w)+5%-5%	4.00000	pcs	R1-R4.
+++	609020011	Transistor DIP	8550D DIP high frequency low power DIP	1.00000	pcs	Q7
+++	609020012	Transistor DIP	9013H DIP high frequency low power DIP	6.00000	pcs	Q1-Q4, Q6, Q8.
+++	611010028	ROTARY Encoder	16ENH24A former Encoder3VDR0016ENH24AYsplitwithout nut与 shim	1.00000	pcs	S1
+++	610070005	Crystal DIP 49S	32.768KHZ (HC-49S) DIP	1.00000	pcs	Y2
+++	613000003	CERAMIC RESONATOR	6MHz medium frequency	1.00000	pcs	Y1
+++	628140008	jump	single flat cable 6.5mm	2.00000	pcs	R13, R57.
+++	628140011	jump	single flat cable 8mm	1.00000	pcs	JMP27
+++	628140015	jump	single flat cable 10mm	14.00000	pcs	JMP1, JMP2, JMP5, JMP10, JMP11, JMP16- 21, JMP24- TMP26.
+++	628140025	jump	single flat cable 15mm	3.00000	pcs	JMP23, JMP4, JMP28.
+++	628140036	jump	single flat cable 21mm	2.00000	pcs	JMP15, JMP22
+++	628140044	jump	single flat cable 29mm	8.00000	pcs	JMP3, JMP6- JMP9, JMP12- JMP14
+++	628070168	Gray flat cable with cathode plug	5 pin L=80mm 26# 5Pin/2.54cathode plug	1.00000	pcs	JP6
+++	628070190	Flat cable with cathode plug	6 pin L=150mm 2468#24 white 6Pin/2.54cathode plug	1.00000	pcs	JP7
+++	628060129	Flat cable	4 pin L=110mm #28	4.00000	pcs	FOR PAD AND LED.
+++	628040168	Single connect wire	L=120mm U/L 1007#22 black	1.00000	pcs	C23 negative to COB C2 negative
+++	308070001	Heat sink	Electrolysis board surface nickelplate Silvery white	1.00000	pcs	FOR LA4227
++++	308010012	Heat sink	Electrolysis board N/A Silvery white	1.00000	pcs	
+++++	398010001	SECC	0.5mm	0.00140	Kg	
+++	1011800010	IC sealing board ASSY	DD50 Main board	1.00000	set	
++++	506060004	PCB Dual layer FR4 0.8mm	IC PCB V02	1.00000	pcs	
++++	603010020	CAP CERAMIC SMD	0.1uf/50V +10% -10% 0805	6.00000	pcs	C1-C6
++++	6010104310	IC SMD	GPF32512A-002A-C 19MZL COB	1.00000	pcs	
++++	603010129	CAP CERAMIC SMD	1uf/50V +10%-10% 0603	1.00000	pcs	PIN 1 TO GND
+++	6010200150	DIP IC	LM358 DIP 8PINS TYPE ST TI	1.00000	pcs	U2
+++	6010200520	DIP IC	LA4227 DIP	1.00000	pcs	U6
+++	6010100990	IC SMD	AAT3215 SOP TYPE ANALOGIC TECH	1.00000	pcs	U3
+++	602040099	Resistor DIP	2.7K ohm(1/8w)+5%-5%	1.00000	pcs	R19
+++	901010005	Stannum of solder bar	Sn-0.5Ag-0.7Copper	0.00560	Kg	
+++	901990001	Hot-Melt Tape		0.00200	Kg	
+++	901030001	Yellow Glue	2.5L/bottle	0.00050	Bottle	
+++	633000023	Pucker Gunned paper	3mm*35y high temperature	0.00410	roll	
+++	901030017	Flux	DL20L/pail	0.00290	L	
+++	398040001	Light copper wire		0.00210	Kg	

+++	901010006	Stannum of cord solder wire	Sn-0.5Ag-0.7Copper Dia. 1.0mm	0.00250	Kg	
++	6250000020	Piezo	27mm 3.6~3.9KHz Model No: TFT-27T-4E (4.2KHZ +/- 0.5)	4.00000	pcs	
++	6180000260	LCD	GS-31417-0-TR2CS	1.00000	pcs	
++	6290300120	Zebra conduct bar	45*4.7*2mm PITCH=0.18mm pink Dual layer Protect layer	2.00000	pcs	
++	303010012	Gasket	inner Dia.9mm outer Dia.15mm Thickness 0.5 iron sheet	2.00000	pcs	
++	302990023	Nut (3VDR0016ENH 24AY)	M9 Thickness2mm Zn alloy	2.00000	pcs	
++	901030001	Yellow Glue	2.5L/bottle	0.00200	Bottle	
++	901010006	Stannum of cord solder wire	Sn-0.5Ag-0.7Copper Dia. 1.0mm	0.00250	Kg	
++	901990001	Hot-Melt Tape		0.00180	Kg	
++	901030033	White Gas	18L/pail	0.00660	L	
++	633000023	Pucker Gummed paper	3mm*35y high temperature	0.00050	roll	
++	901030016	Alcohol	20L/pail	0.00380	L	
++	901040013	Black Rubber	#4799	0.00040	Bottle	
++	303070024	Metal gasket	inner Dia.3.2mm outer Dia.13.8mm Thickness 0.8mm plating white Zn Iron	4.00000	pcs	