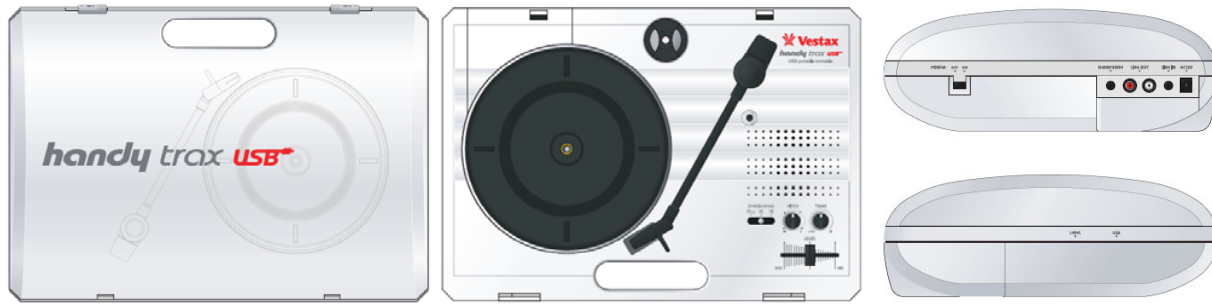


# SERVICE MANUAL

**MODEL: HANDY TRAX USB**



## SPECIFICATION

### MOTOR/TURNTABLE

DRIVE SYSTEM :	BELT RIVE	PITCH RANGE :	± 10 %
MOTOR :	DC SERVO MOTOR	WOW & FLUTTER :	< 0.25 %
PLATTER :	185 MM	S/N RATIO :	> 45 dB
SPEED :	33 1/3 . 45 . 78 rpm		

### TORN ARM

TYPE :	DYNAMIC BALANCE SYSTEM
CARTRIDGE :	CZ800-9 (Ceramic)
REPLACEMENT STYLUS :	Vestax VR-1SS (Sapphire)

### SPEAKER

SIZE :	77 mm	IMPEEDANCE :	8 ohm
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### MINIMUM SYSTEM REQUIREMENTS (When Using USB)

#### Windows

- CPU Intel Pentium III 450MHz more
- OS Windows XP / Vista
- USB PORT (Please avoid connecting to a USB hub)
- RAM 512MB more

#### Macintosh

- CPU Power Macintosh G4 more
- OS Mac OS X 10.4 more (recommended 10.5)
- USB PORT (Please avoid connecting to a USB hub)
- RAM 512MB more

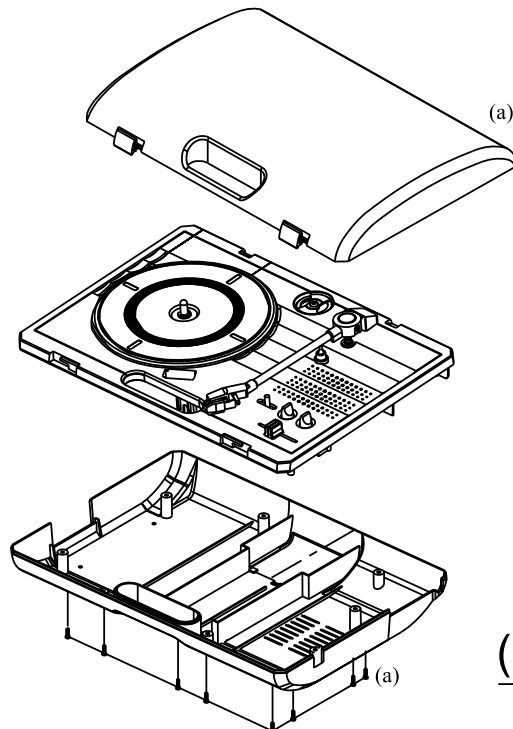
### POWER SUPPLY • OTHERS

POWER SUPPLY :	AC 12 V 300mA or UM-1 X 6
LIFE SPAN OF BATTERIES :	About 65 hours (Alkaline batteries)
POWER CONSUMPTION :	7 W
DIMENSIONS :	W 370 X D 260 X H 97 mm
WEIGHT :	2.0 kg (Batteries not included)

## DISASSEMBLY PROCEDURES

### 1. REMOVAL OF TOP COVER AND BOTTOM BOARD (Fig. 1)

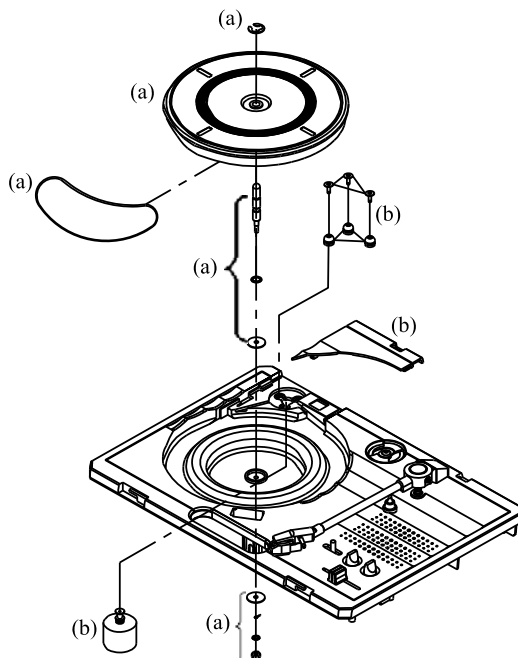
- (a) Open the Top Cover by pressing the plastic fix plate (hinge)
- (b) Remove all of screws (8 pcs) from Bottom Board



(Fig. 1)

### 2. REMOVAL OF MOTOR (Fig. 2)

- (a) Remove a e ring, platter, belt, center shaft, 4pcs of washers, nut and lug from cabinet
- (a) Remove a motor cover, 3pcs of screws and cushion motor, motor from cabinet..

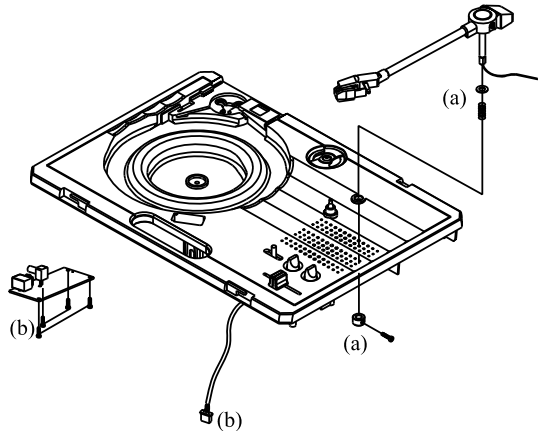


(Fig. 2)

## DISASSEMBLY PROCEDURES

### 3. REMOVAL OF TONE ARM AND USB PCB ASS'Y (Fig. 3)

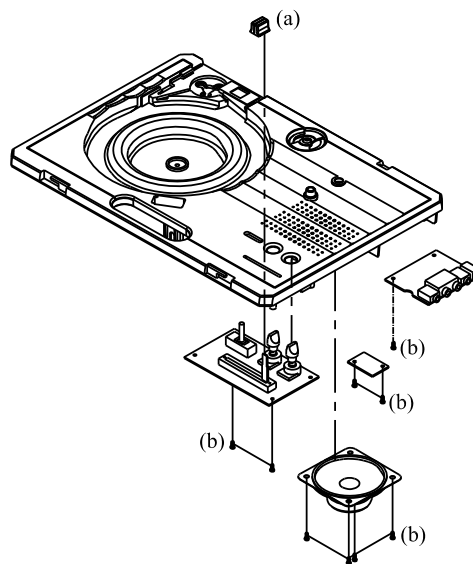
- (a) Remove 1pc of screw, collar shaft, spring and washer from tone arm.
- (b) Remove a connector wire and 4pcs of screws from USB pcb ass'y.



(Fig. 3)

### 4. REMOVAL OF CONTROL / POWER / P/S PCB ASS'Y AND SPEAKER (Fig. 4)

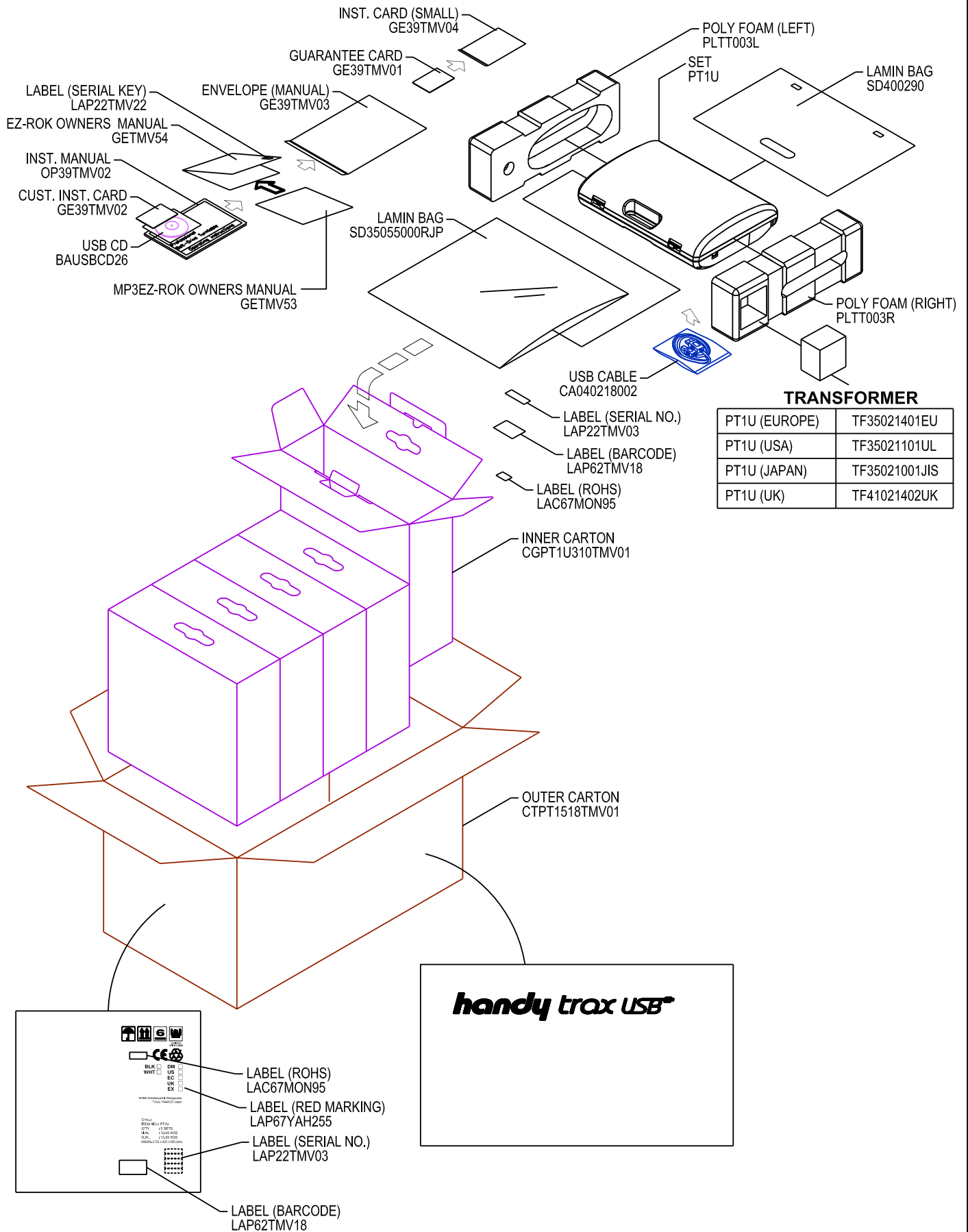
- (a) Remove a slide knob from cabinet.
- (a) Remove 9pcs of screws from Control / Power / P/S pcb ass'y and speaker.



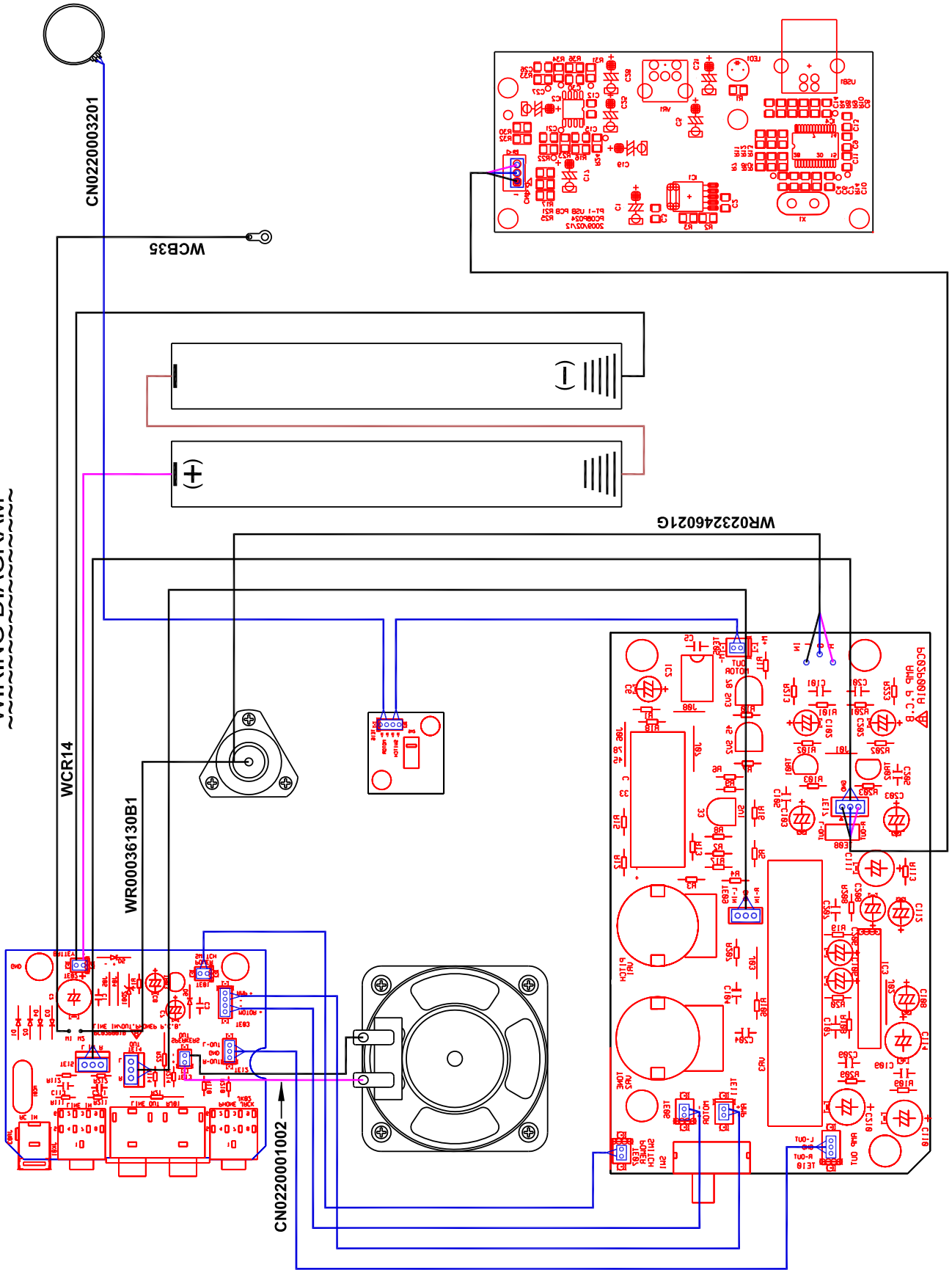
(Fig. 4)

# PACKING DIAGRAM

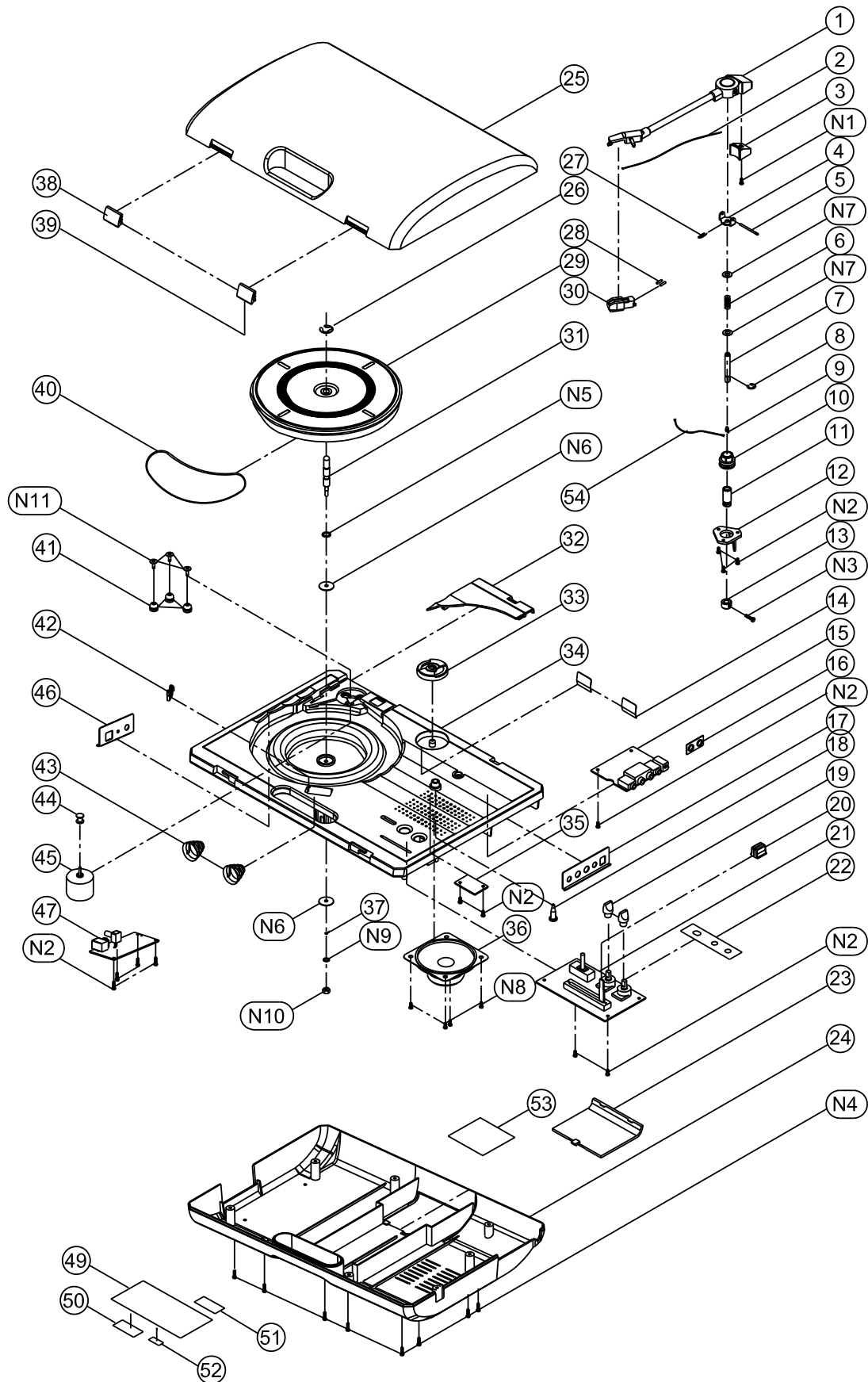
## MODEL: HANDY TRAX USB



# MODEL: HANDY TRAX USB WIRING DIAGRAM



# EXPLODED VIEW MODEL: HANDY TRAX USB



## HANDY TRAX USB (BOM)

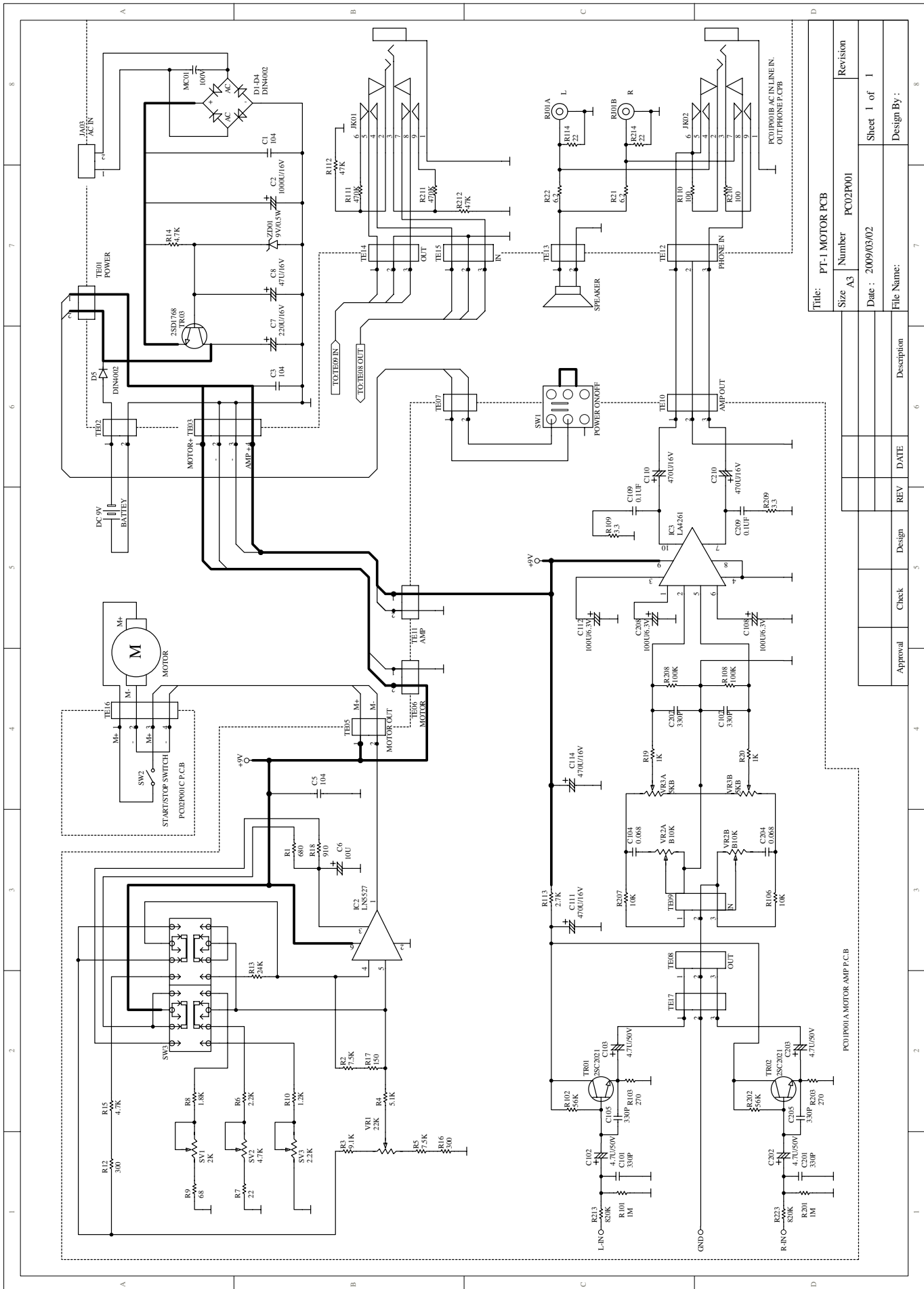
Lvl	Materials	SPECS	Qty	Part Location
.1	BASP10177	SPEAKER 3 8 OHM 2W	1	36
.1	BE1704506B	BELT	1	40
.1	BK18	LUG	1	37
.1	ERE76SUS	6MM E RING	1	26
.1	LAC67MON95	LABEL ( ROHS)	2	52
.1	LAP14TMV17	VOLTAGE LABEL	1	49
.1	LAP22TMV03	LABEL (SERIAL NO )	1	50
.1	LAP63TMV08	LABEL DATE (20 X 6MM)	1	51
.1	MT390180101	SIGNAL EARTH PLATE	1	16
.1	MT390300201	STUD HEAD SHELL	1	13
.1	MT390440101	METAL PLATE (SIGNAL)	1	17
.1	MT3904402	METAL PLATE (USB)	1	46
.1	MT390460101	FIXED METAL (BATTERY)	2	14
.1	MT6705501P	CENTER SHAFT	1	31
.1	NM3910601	VELVET CARPET (KNOB)	1	22
.1	NM3930301	VELVET CARPET	1	53
.1	NUT0104INI	SCREW NUT	1	N11
<b>.1</b>	<b>PA1002010B</b>	<b>STONE ARM ASS'Y ( PT1)</b>	<b>1</b>	
..2	CR800-9	CERAMIC CARTRIDGE	1	30
..2	ERE75	5MM E RING	1	8
..2	MT390100301	LUG	1	9
..2	<b>MT390100501</b>	<b>CENTER SHAFT ASS'Y</b>	<b>1</b>	
...3	MT390100401	METAL PLATE (ARM)	1	4
...3	MT390300101	CENTER SHAFT (ARM)	1	7
..2	MT390160202	COUNTER WEIGHT	1	3
..2	MT5301301	STUD	1	5
..2	PST020010TYH	TUBE (2.0 X 10MM)	2	28
..2	PT390120101	PLASTIC ARM BASE	1	1
..2	SC0310FABI	SCREW	1	N1
..2	SP3901602	SPRING	1	27
..2	TE10100	CONNECTOR (BIG PIN)	2	
..2	WR0036130B1	ARM WIRE 130MM (BLACK)	1	54
..2	WR023246021G	CONNECTOR WIRE	1	2
.1	PT1110627	KNOB	1	20
.1	PT2002202	45RPM ADAPTOR	1	33
.1	PT390300101	STUD HEAD SHELL	1	11
.1	PT390300201	FIXED BASE (ARM)	1	12
.1	PT390440101	PLASTIC FIX PLATE (HINGE) RIGHT	1	39
.1	PT390440201	PLASTIC FIX PLATE (HINGE) LEFT	1	38
.1	PT390440301	FIXED LUG	1	42
<b>.1</b>	<b>PT390460102</b>	<b>BATTERY COVER (PTIU) SPRAYING PEARL WHITE</b>	<b>1</b>	<b>23</b>
..2	PT390460101	BATTERY COVER (PTIU) RM	1	
<b>.1</b>	<b>PT390470102</b>	<b>MOTOR COVER (PTIU) SPRAYING PEARL WHITE</b>	<b>1</b>	<b>32</b>
..2	PT390470101	MOTOR COVER (PTIU) RM	1	
.1	PT391060101	KNOB	2	19
.1	PT391060201	BUTTON (OPEN /CLOSE)	1	18
<b>.1</b>	<b>PT393010103</b>	<b>TOP COVER (PTIU) S/P (PEARL WHITE/HANDY TRAX USB)</b>	<b>1</b>	<b>25</b>
..2	PT393010101	TOP COVER (PTIU) RM	1	
<b>.1</b>	<b>PT393020302</b>	<b>CABINET (PTIU) S/P PEARL WHITE/VESTAX</b>	<b>1</b>	<b>34</b>
..2	PT3930203	CABINET (PTIU) RM	1	
<b>.1</b>	<b>PT393030401</b>	<b>BOTTOM BOARD (PTIU) SPRAYING METALIC BROWN</b>	<b>1</b>	<b>24</b>
..2	PT3930304	BOTTOM BOARD (PTIU) RM	1	
<b>.1</b>	<b>PT5305207AEL</b>	<b>PLATTER (DL280N W/STAMPING) (EHS COMPLIANCE)</b>	<b>1</b>	<b>29</b>
..2	MT2005601	COPPER INSERT (CHANGE FROM SB56)	1	
..2	PT5305207	PLATTER (DL-280N) (EHS COMPLIANCE)	1	
.1	RU390300101	RUBBER (ARM)	1	10
.1	RU4109301	CUSHION MOTOR	3	41
.1	SC0308WBNI	SCREW	4	N8
.1	SC0310RBNI	SCREW-RoHS	12	N2
.1	SC0312RIZI	SCREW	1	N3
.1	SC0316RBNI	SCREW	8	N4
.1	SC2608W8INI	SCREW	3	N11

Lvl	Materials	SPECS	Qty	Part Location
.1	SD35055000RJP	LAMIN BAG	1	
.1	SD400290	LAMIN BAG	1	
.1	SP3903001	SPRING	1	6
.1	SP3904601	SPRING (BATTERY)	2	43
.1	TF35021401EU	ADAPTOR(EU) 12VAC,300MA	1	
<b>.1</b>	<b>TWME7I60T22</b>	<b>MOTOR ASS'Y</b>	<b>1</b>	
..2	ME7I60T22	MOTOR	1	45
..2	P6809501	PULLEY MOTOR	1	44
<b>.1</b>	<b>TWPC02P00102</b>	<b>PCB ASS'Y (PT1)</b>	<b>1</b>	
..2	PC02P001	P.C. BOARD (PT1)	1	
<b>..2</b>	<b>TWPC02P001A02</b>	<b>PCB ASS'Y (CONTROL)</b>	<b>1</b>	<b>21</b>
...3	CC10450T	C. CAP 0.1UF/50V	1	C5
...3	CC33150T	C. CAP 330PF/50V	6	C101, 105, 107, 201, 205, 207
...3	JW5206T	JUMPER WIRE (A.I.) 52MM	7	J01, 02, 03, 06, 07, 08, 11
...3	R03316T5	RESISTOR 3.3 OHM 1/16W	2	R109, 209
...3	R10216T5	RESISTOR 1K 1/16W	2	R19, 20
...3	R10316T5	RESISTOR 10K 1/16W	2	R106, 207
...3	R10416T5	RESISTOR 100K 1/16W	2	R108, 208
...3	R10516T5	RESISTOR 1M 1/6W	2	R101, 201
...3	R12216T5	RESISTOR 1.2K 1/16W	1	R10
...3	R15116T5	RESISTOR 150 OHM 1/6W	1	R17
...3	R18216T5	RESISTOR 1.8K 1/6W	1	R8
...3	R22016T5	RESISTOR 22 OHM 1/6W	1	R7
...3	R22216T5	RESISTOR 2.2K 1/16W	1	R6
...3	R24316T5	RESISTOR 24K 1/6W	1	R13
...3	R27116T5	RESISTOR 270 OHM 1/6W	2	R103, 203
...3	R27216T5	RESISTOR 2.7K 1/16W	1	R113
...3	R30116T5	RESISTOR 300 OHM 1/6W	2	R12, 16
...3	R47216T5	RESISTOR 4.7K 1/16W	1	R15
...3	R51216T5	RESISTOR 5.1K 1/6W	1	R4
...3	R56316T5	RESISTOR 56K 1/6W	2	R102, 202
...3	R68016T5	RESISTOR 68 OHM 1/6W	1	R9
...3	R68116T5	RESISTOR 680 OHM 1/6W	1	R1
...3	R75216T5	RESISTOR 7.5K 1/6W	2	R2, 5
...3	R82416T5	RESISTOR 820K 1/6W	2	R213, 223
...3	R91116T5	RESISTOR 910 OHM 1/16W	1	R18
...3	R91216T5	RESISTOR 9.1K 1/6W	1	R3
...3	EC10650TM	E. CAPACITOR 10UF/50V	1	C6
...3	EC10716TM	E. CAPACITOR 100UF/16V	3	C108, 112, 208
...3	EC47550TM	E. CAP 4.7UF/50V	4	C102, 103, 202, 203
...3	EC47716TM	E. CAP 470UF 16V	4	C110, 111, 114, 210
...3	MC10450TTF	M.CAP 0.1UF/50V (JL3)	2	C109, 209
...3	MC68350TTF	M.CAP 0.068UF/50V(J) TF (B)	2	C104, 204
...3	TR2SC2120Y	TRANSISTOR 2SC2120Y	2	TR01, 02
...3	IC4261	IC 4261	1	IC3
...3	IC5527	IC (5527)	1	IC2
...3	NM1106112	VELVET CARPET	1	VR3
...3	SV20205	2K SEMIFIXED RESISTOR	1	SV01
...3	SV22305	SEMIFIXED RESISTOR B22K	1	SV03
...3	SV50205	SEMIFIXED RESISTOR 5K	1	SV02
...3	SWSL10030-0403	SWITCH (OPEN/CLOSE)	1	SW03
...3	SWVS6P001	SWITCH	1	SW1
...3	TE612000301	3P CONNETOR SOCKET	1	TE17
...3	TE812000211	2P CONNECTOR SOCKET	4	TE05, 06, 07, 11
...3	TE812000311	3P CONNECTOR	1	TE10
...3	VRR1032001	VARIABLE RESISTOR B10K	1	VR1
...3	VRR1032002	VARIABLE RESISTOR B10K	1	VR2
...3	VRS50204505	VARIABLE RESISTOR B5K-DR141	1	VR3
...3	WR1134022G1	3P CONNECTOR WIRE 340MM	1	TE08 (to) TE15
...3	WR1137022G1	3P CONNECTOR WIRE 370MM	1	TE09 (to) TE14
<b>..2</b>	<b>TWPC02P001B02</b>	<b>PCB ASS'Y (POWER)</b>	<b>1</b>	<b>15</b>
...3	CC10450T	C. CAP 0.1UF/50V	2	C1, 3
...3	DI1N4002T5	DIODE IN4002	5	D1, 2, 3, 4, 5
...3	DIZDMTZJ91BT	ZENER DIODE 9.1B	1	ZD01



Lvl	Materials	SPECS	Qty	Part Location
...3	JW5206T	JUMPER WIRE (A.I.) 52MM	3	J04, 05, 06
...3	R06201T5	RESISTOR 6.2 OHM 1W	2	R21, 22
...3	R10116T5	RESISTOR 100 OHM 1/16W	2	R110, 210
...3	R22016T5	RESISTOR 22 OHM 1/6W	2	R114, 214
...3	R47216T5	RESISTOR 4.7K 1/16W	1	R14
...3	R47316T5	RESISTOR 47K 1/16W	2	R112, 212
...3	R47416T5	RESISTOR 470K 1/6W	2	R111, 211
...3	EC22716TM	E. CAP 220UF/16V	1	C7
...3	EC47616TM	E. CAP 47UF/16V	1	C8
...3	TR2SD1768S	TRANSISTOR 2SD1768S	1	TR03
...3	CN0220001002	2P EARTH WIRE	1	TE13
...3	CN0220002001	2P CONNECTOR WIRE	3	(TE07, 01), MOTOR(TE08, 03), AMP(TE11,03)
...3	CN0320002101	3P CONNECTOR WIRE 210MM	1	(TE10,12)
...3	EC10825EM	E. CAPACITOR 1000UF/25V	1	C2
...3	JK-3537	STEREO $\phi$ 3.5MM PHONE JACK	2	JK01, 02
...3	JKDJ-0702B-020	DC SOCKET 2.0MM	1	JA03
...3	MC473100K	M. CAP 0.047UF/100V	1	MC01
...3	RJ-1039-0380B	RCA JACK	1	RJ01
...3	TE812000211	2P CONNECTOR SOCKET	3	TE01, 02, 13
...3	TE812000311	3P CONNECTOR	1	TE12
...3	TE812000411	4P HEADER SIL 2MM MALE SHRD	1	TE03
...3	WCB35	WIRE BLACK 350MM	2	TE02(-), W1
...3	WCR14	WIRE RED 140MM	1	TE02(+)
<b>..2</b>	<b>TWPC02P001C01</b>	<b>PCB ASS'Y (P/S)</b>	<b>1</b>	<b>35</b>
...3	CN0220001701	2P CONNECTOR WIRE 170MM	1	TE16(M+-)SWITCH2
...3	CN0220003501	2P CONNECTOR WIRE 350MM	1	TE16(M+-)MOTOR
...3	SWDM03L-2P	SWITCH (XL-500II)	1	SW2
...3	TE812000411	4P HEADER SIL 2MM MALE SHRD	1	TE16
<b>.1</b>	<b>TWPC08P02401</b>	<b>PCB ASS'Y (USB)</b>	<b>1</b>	<b>47</b>
..2	CS104K5005X7R	CHIP CAP 0.1UF $\pm$ 10% 50V 0805	3	C2,12, 14
..2	CS105K1005X7R	CAPACITOR SMD 1UF/10V 10% X7R	7	C3, 4, 6, 8, 9, 11, 13
..2	CS180J5005NPO	C. CAP. SMD 18 pF 50V 5% 0805 NPO	2	C7, 10
..2	CS331J5005NPO	C. CAP. SMD 330 pF 50V 5% 0805 NPO	4	C15, 21, 26, 30
..2	ICNJM2387	IC NJM2387	1	IC1
..2	ICOPA2353UA	IC OPA2353UA	1	IC2
..2	ICPCM2902E-1	IC PCM2902E-1	1	IC4
..2	PC08P024	P.C. BOARD	1	
..2	RS000008J05	CHIP RES. 0 $\Omega$ 5% SMD 0805	7	R5, 6, 7, 10, 17, 21, 32
..2	RS001M08F05	CHIP RES. 1M $\Omega$ 1% SMD 0805	1	R14
..2	RS002208F05	CHIP RES. 22 $\Omega$ 1% SMD 0805	2	R8, 9
..2	RS010008F05	CHIP RES. 100 $\Omega$ 1% SMD 0805	2	R24, 31
..2	RS012K08F05	CHIP RES. 12K $\Omega$ 1% SMD 0805	2	R22, 33
..2	RS01K508F05	CHIP RES. 1.5K $\Omega$ 1% SMD 0805	4	R4, 11, 12, 13
..2	RS03K308F05	CHIP RES. 3.3K $\Omega$ 1% SMD 0805	1	R2
..2	RS03K908F05	CHIP RES. 3.9K $\Omega$ 1% SMD 0805	2	R23, 34
..2	RS047K08F05	CHIP RES. 47K $\Omega$ 1% SMD 0805	2	R25, 30
..2	RS04K708F05	CHIP RES. 4.7K $\Omega$ 1% SMD 0805	1	R1
..2	RS06K808F05	CHIP RES. 6.8K $\Omega$ 1% SMD 0805	1	R3
..2	RS220K08F05	CHIP RES. 220K $\Omega$ 1% SMD 0805	2	R16, 36
..2	AL4-08-0402	CON USB SOCKET 4 PIN FEMALE PC-MNT HORIZONTAL	1	USB1
..2	BALO-01	LED HOLDER LO-01	1	LED1
..2	EC10650TM	E. CAPACITOR 10UF/50V	8	C1, 5, 17, 19, 25, 27, 28, 31
..2	LD-005HLV	LED RED	1	LED1
..2	TE612000301	3P CONNETOR SOCKET	1	CN1
..2	VRR50302005	VARIABLE RESISTOR TOTARY 50KA*2	1	VR1
..2	XTM12000X3	CRYSTAL 12MHz	1	X1
.1	WR1130032G1	3P CONNECTOR WIRE 300MM	1	
.1	WS070409IN	WASHER 7X0.4X0.9MM	1	N9
.1	WS109506205M	WASHER	2	N7
.1	WS127705P	WASHER 1.2X7.7X0.5MM	1	N5
.1	WS184315IZ	WASHER 18X4.3X1.5	2	N6
.1	BAUSBCD26	USB CD (PTIU)	1	

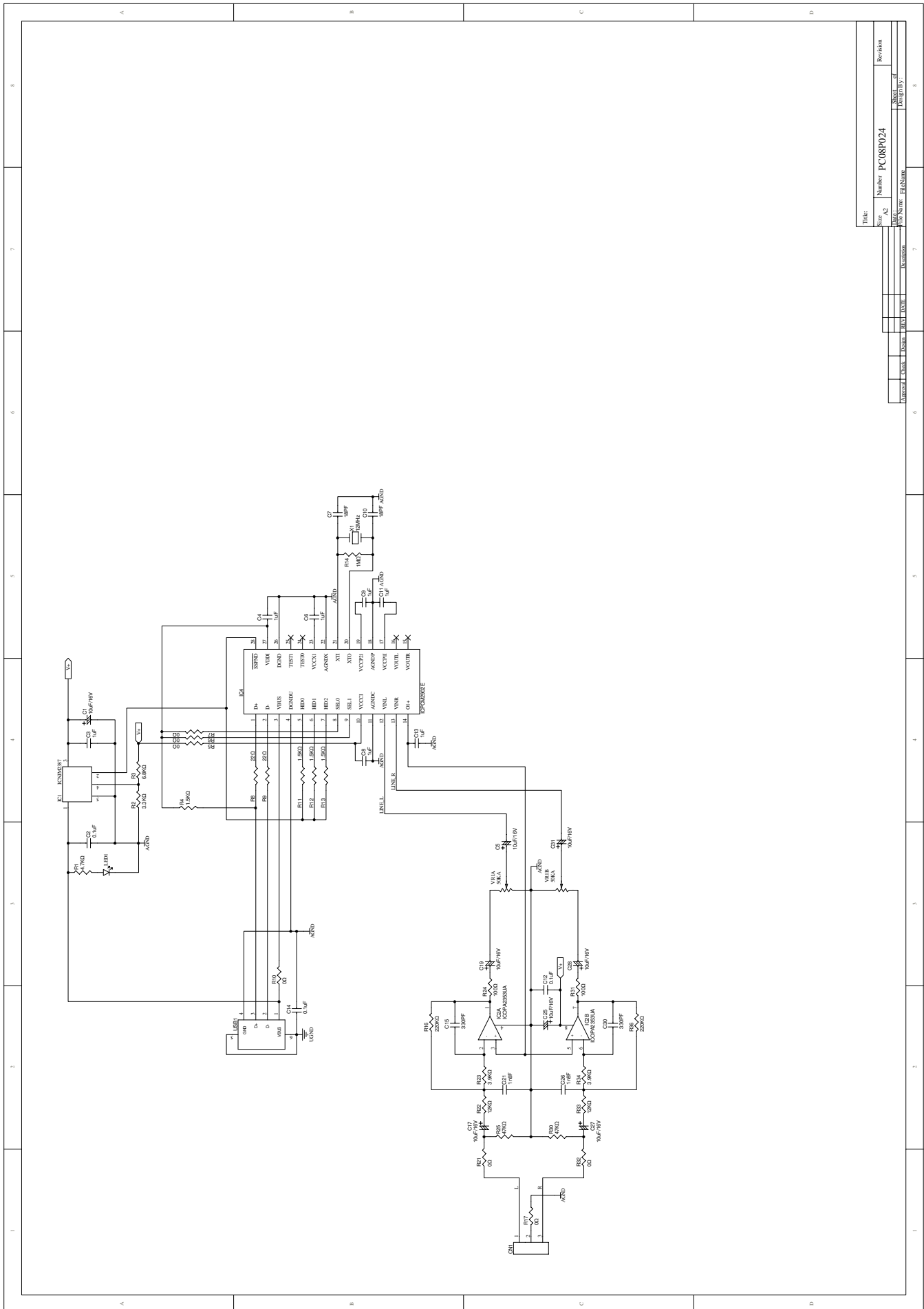
<b>Lvl</b>	<b>Materials</b>	<b>SPECS</b>	<b>Qty</b>	<b>Part Location</b>
.1	CA040218002	USB CABLE (BLACK) + CORE	1	
.1	CGPT1U310TMV01	INNER CARTON	1	
.1	CTPT1518TMV01	OUTER CARTON	0.2	
.1	GE39TMV03	ENVELOPE (BIG)	1	
.1	GETMV53	MP3EZ-ROK OWNERS MANUAL	1	
.1	GETMV54	EZ-ROK OWNERS MANUAL	1	
.1	LAC67MON96	LABEL ( ROHS)	0.2	
.1	LAP22TMV04	LABEL (SERIAL NO )	1	
.1	LAP22TMV22	LABEL (SERIAL KEY)	1	
.1	LAP62TMV18	LABEL (BARCODE)	1.4	
.1	LAP67YAH255	LABEL (RED MARKING)	1.4	
.1	OP39TMV02	INSTRUCTION MANUAL	1	
.1	PLTT003L	POLY FOAM (LEFT) PT1	1	
.1	PLTT003R	POLY FOAM (RIGHT) PT1	1	
.1	WCC28	WIRE BROWN 280MM	1	



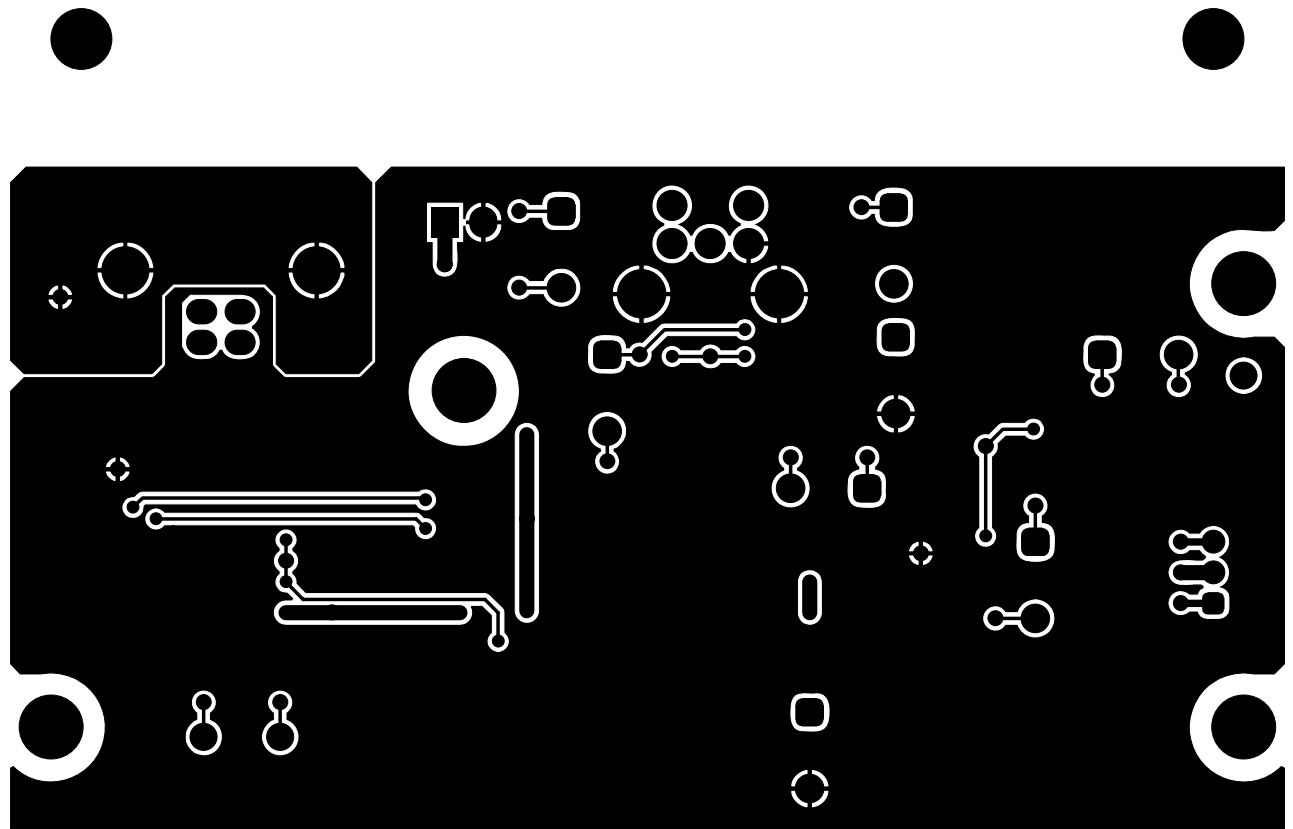
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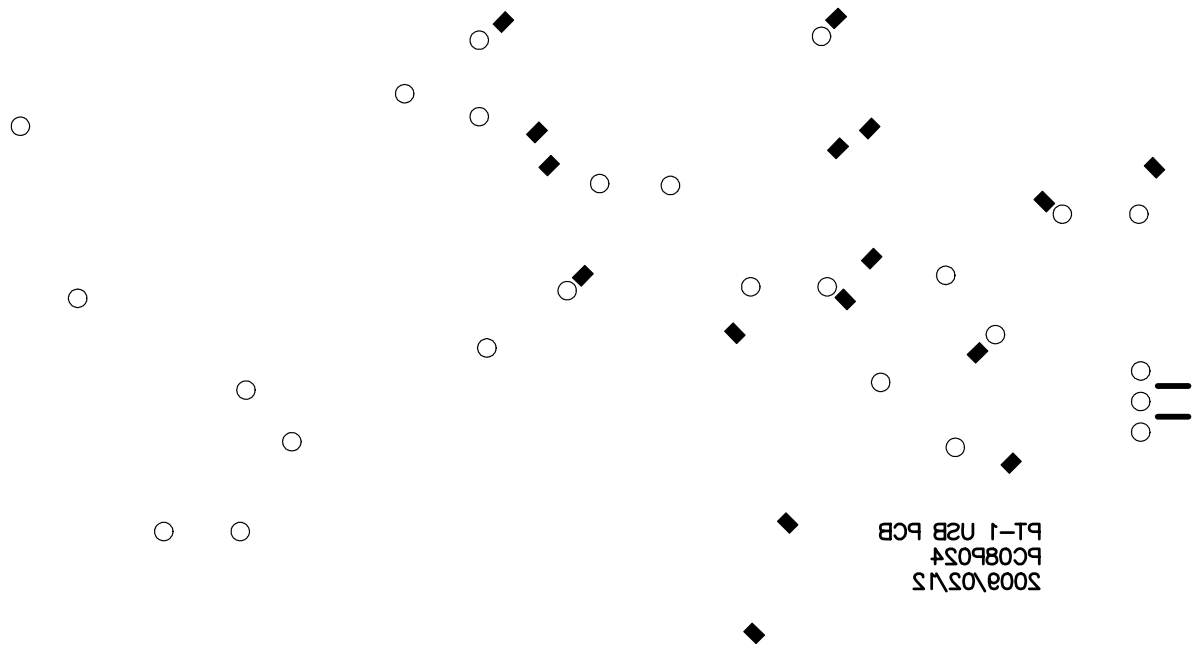
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Date	2009/03/02		Sheet 1 of 1		Design By:
File Name:		Description		REV	DATE
Approval	Check	Design	REV	DATE	Description

PC01P001A MOTOR AMP PCB

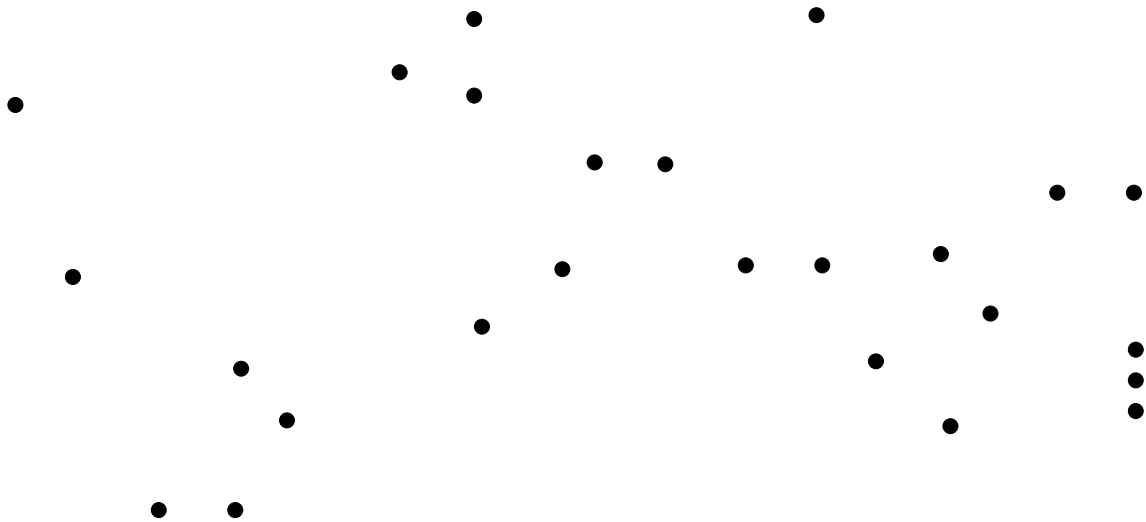


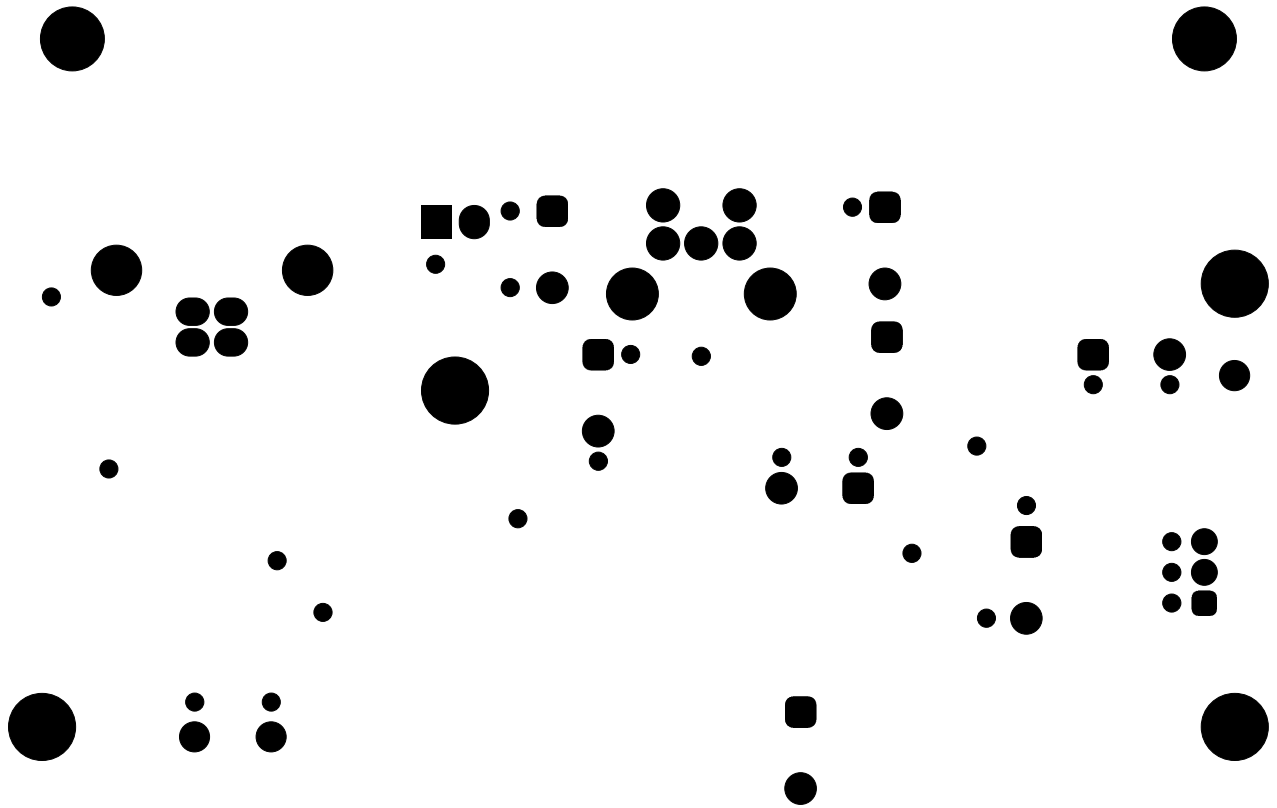
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Doc No:	PC08P024	Rev:	1.0	Date:	01/01/01
Author:	...	Drawn:	...	Checked:	...
Approved:	...	Released:	...	Released:	...



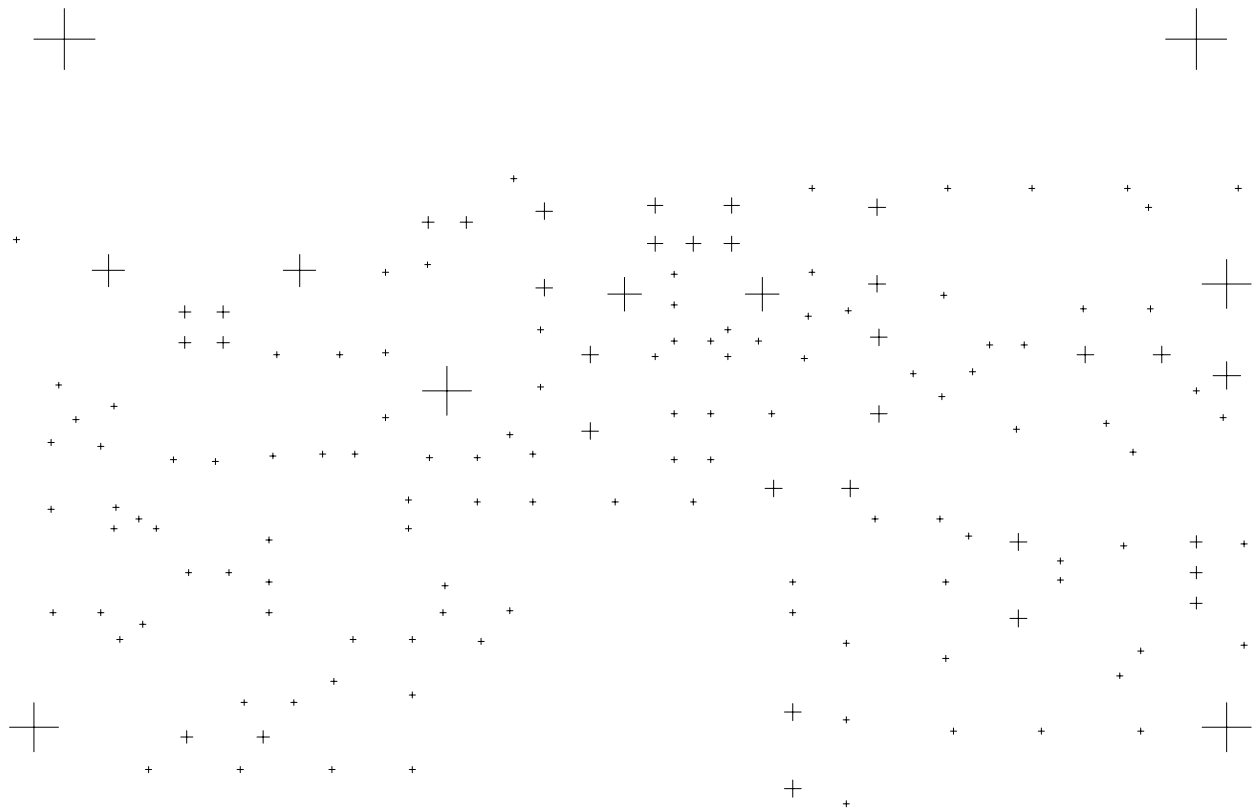


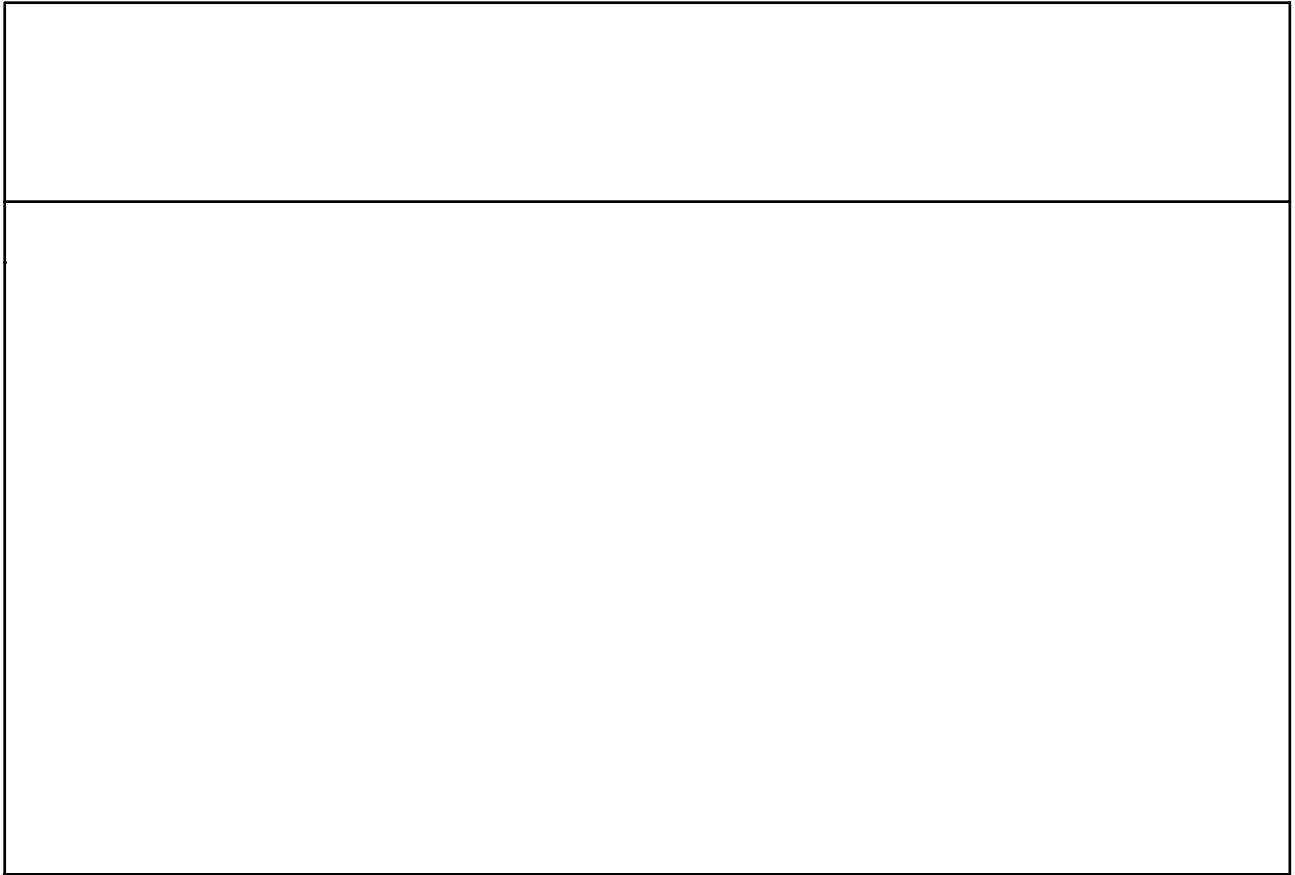
5008\05\12  
PC08P024  
PT-1 USB PCB

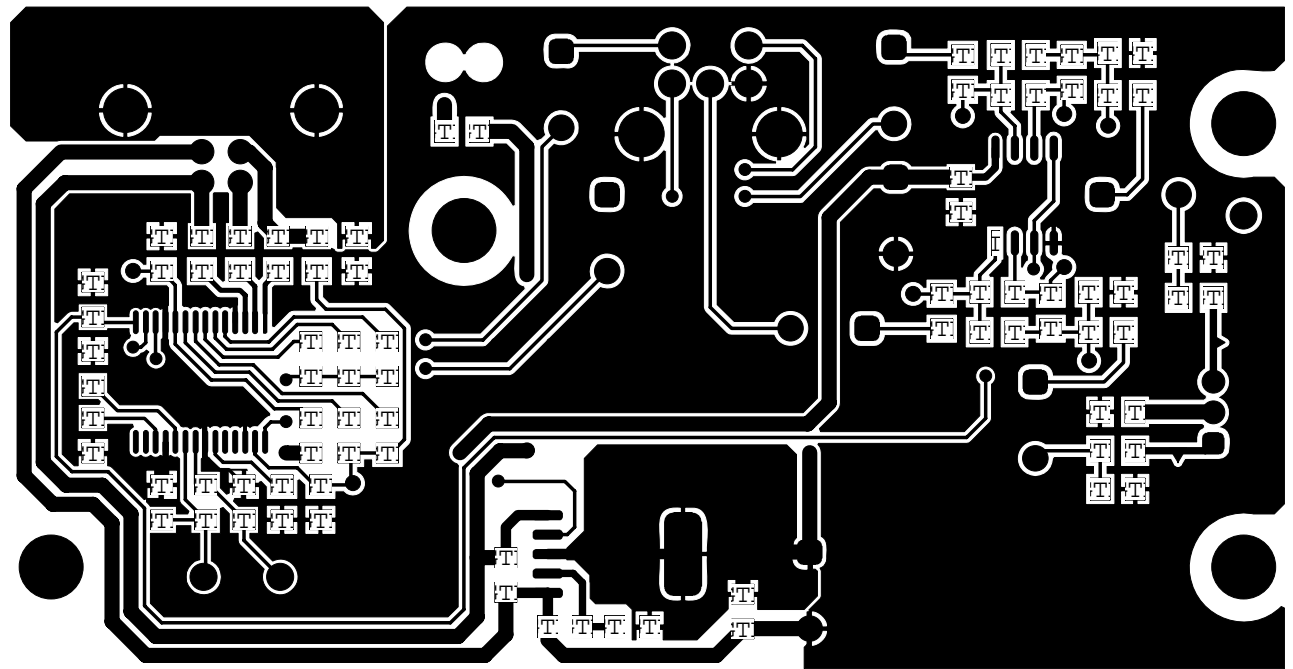


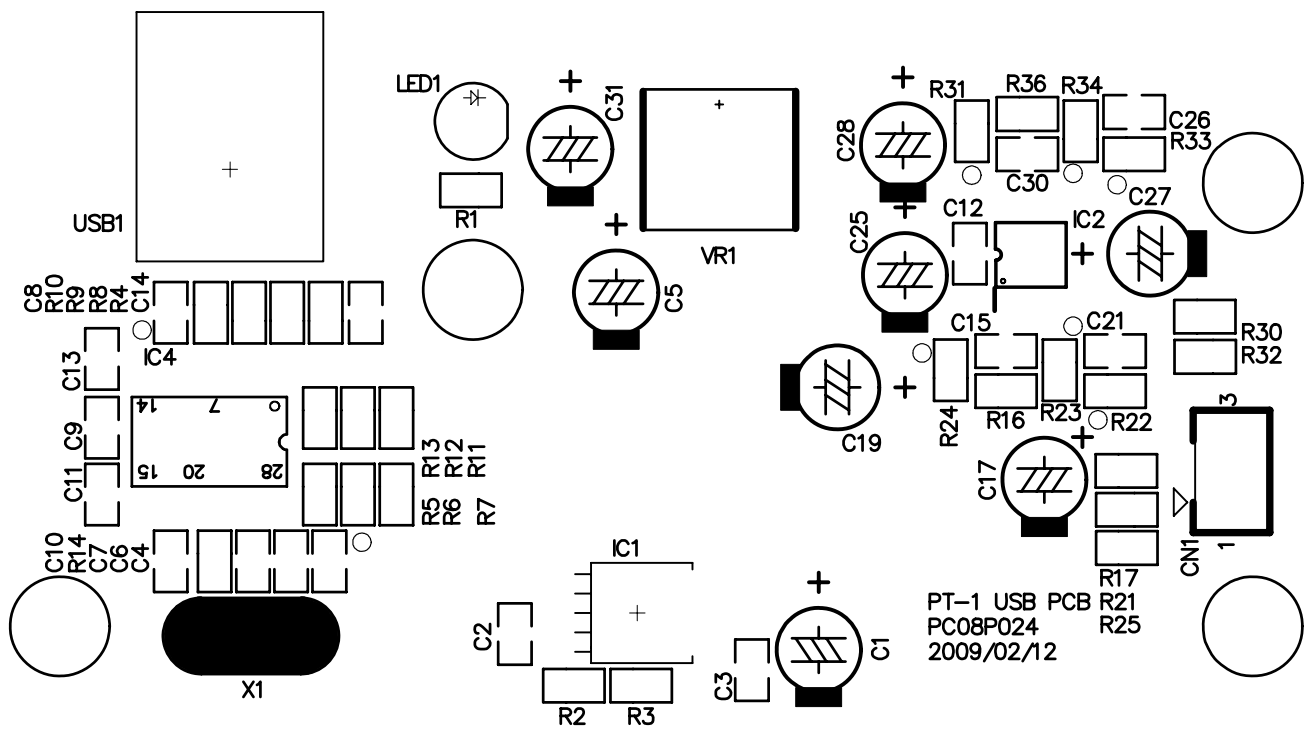














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