

TASCAM

SERVICE MANUAL

DR-10L

Micro Linear PCM Recorder

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INSTRUCTIONS FOR SERVICE PERSONNEL

BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

1. Test Mode

テストモード

1. How to enter the test mode

While holding down **PHONES [-]+** and **⏪** keys, switch the power on.
"TASCAM DR-10" will appear on the display.

If when the process goes to a test mode that requires forced set to the RTC, it is necessary to RTC set first. In this case appears in the RTC setting screen earlier, the setting is completed, **"TEST MODE"** is displayed, unit will proceed to the test mode.

2. How to operation and the result

When **"TEST MODE"** is displayed, pressing the **MENU** key or **ENTER/▶ ||** key shows the following test items.

1. テストモードの起動方法

PHONES [-]+ キーを押しながら電源を投入する。
 ディスプレイ上には**"TASCAM DR-10L"**が表示される。

テストモード移行時に RTC 強制設定が必要な場合は、先に RTC 設定を行う必要がある。この場合は RTC 設定画面が表示され、設定が完了すると、**"TEST MODE"**が表示されテストモードに移行する。

2. 操作方法と判定結果

"TEST MODE"と表示されている状態で **MENU** キーまたは **ENTER/▶ ||** キーを押すと下記のテスト項目を表示する。

TEST items / テスト項目	TEST function / テスト機能	TEST contents / テスト内容	OK	NG
"1 OLED test"	"1 WHITE OUT"	The entire screen lights. 画面全体が点灯表示	"OLED OK"	"OLED FAILURE" or "I2C FAILURE" or "ILLEGAL PARA!"
	"2 BLACK OUT"	The entire screen is off. 画面全体が消灯表示		
	"3 Power Save"	Display the "Contrast 000" at a minimum contrast. "Contrast 000 " を最小コントラストで表示		
	"4 Run 1s Row"	While the entire screen is off, only one horizontal line that is lit is scanned from top to bottom. 点灯する横線 1 本のみが上から下まで走査		
	"5 Run 1s Col"	While the entire screen is off, only vertical line one that is lit is scanned from left to right. 点灯する縦線 1 本のみが左から右まで走査		
	"6 Run 0s Row"	While the entire screen is lit, only one horizontal line that is off is scanned from top to bottom. 消灯する横線 1 本のみが上から下まで走査		
	"7 Run 0s Col"	While the entire screen is lit, only one vertical line that is off is scanned from left to right. 消灯する縦線 1 本のみが左から右まで走査		
"2 -----"	-----	Not Available 利用不可	-----	-----
"3 RTC test "		RTC operation check RTC 動作確認	"RTC OK"	"RTC FAILURE" or "RTC MALFUNC!!" or "RTC COMM.NG!"

- In the TEST items, use **▶▶** key to move 1 → 2 or 2 → 3, use **⏪** key to move 3 → 2 or 2 → 1.
- Use **ENTER/▶ ||** key to move from TEST items **"1 OLED test"** to TEST function, use **MENU** key to move from TEST function to TEST items **"1 OLED test"**.
- In TEST item **"1 OLED test"**, use **▶▶** key to move TEST function 1 → 2 → ... → 6 → 7, use **▶▶** key to move TEST function 7 → 6 → ... → 2 → 1.
- Use **ENTER/▶ ||** key to run each test.
- Check visually at the same time, while running TEST function (1~7) of test items **"1 OLED test"**.

3. How to exit from test mode

In the above test items, press the **▶▶** from **"3 RTC test "**, **"Shutdown PWR"** is displayed.

And, the power is turned off by pressing the **ENTER/▶ ||** key or performing a normal power-off operation, and exit from the test mode.

- テスト項目の1→2→3の移動は **▶▶** で行い、3→2→1の移動は **⏪** で行う。
- テスト項目**"1 OLED test"**からテスト機能へ移動するには **ENTER/▶ ||** キーを押して、テスト機能からテスト項目**"1 OLED test"**へ移動するには **MENU** キーを押す。
- テスト項目**"1 OLED test"**で、テスト機能1→2→...→6→7の移動は **▶▶** で行い、7→6→...→2→1の移動は **⏪** で行う。
- 各テストは **ENTER/▶ ||** キーで実行する。
- テスト項目**"1 OLED test"**で、テスト機能1~7を実行中は、必ず目視での確認も同時に行う。

3. テストモードの終了方法

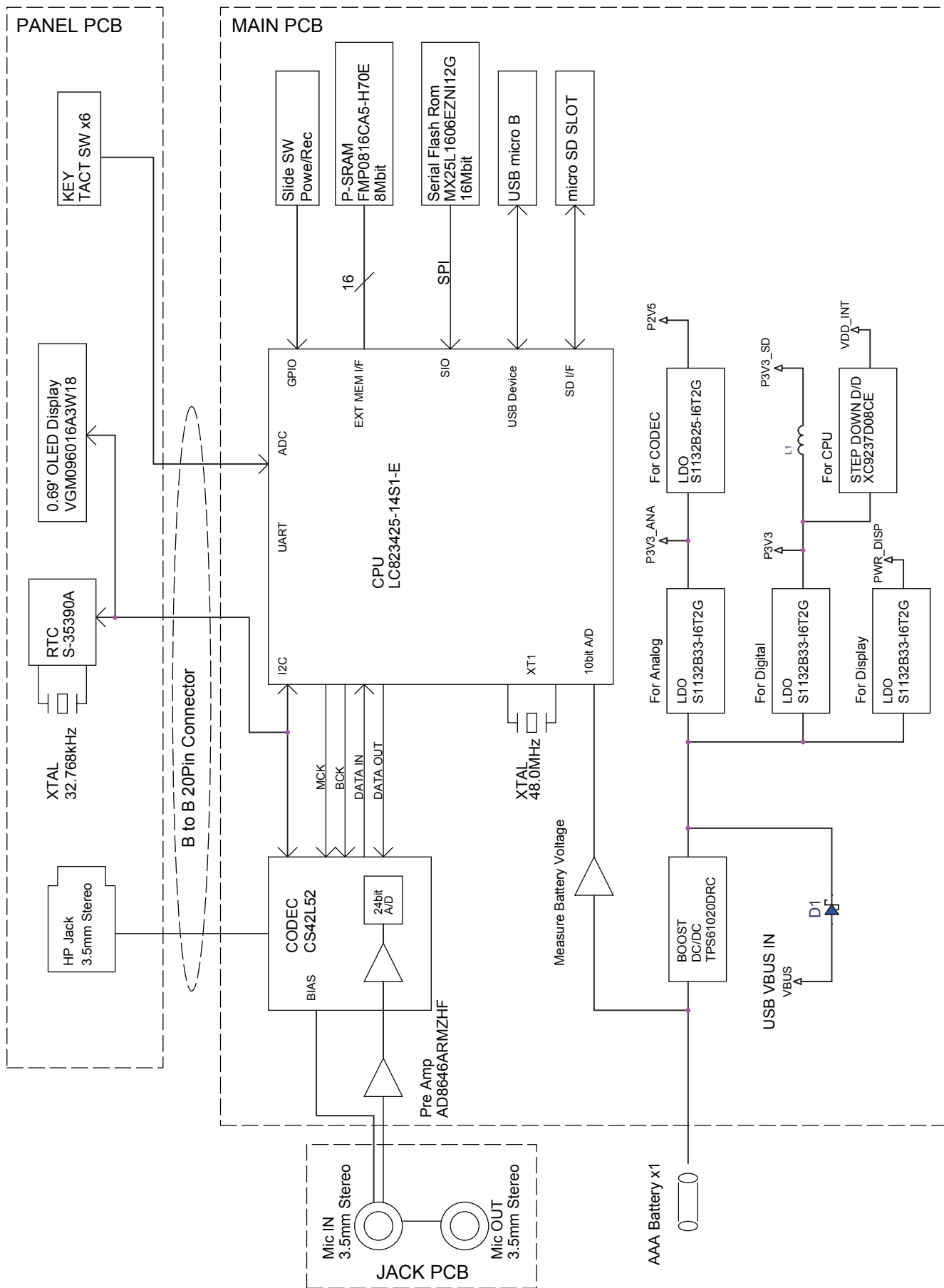
上記のテスト項目で、**"3 RTC test"**から **▶▶** を押すと、**"Shutdown PWR"**が表示される。

そのときに **ENTER/▶ ||** キーを押すか通常の電源オフ操作を行うと電源がオフになり、テストモードから出ることができる。

2. Block Diagram (DR-10L)

ブロックダイアグラム (DR-10L)

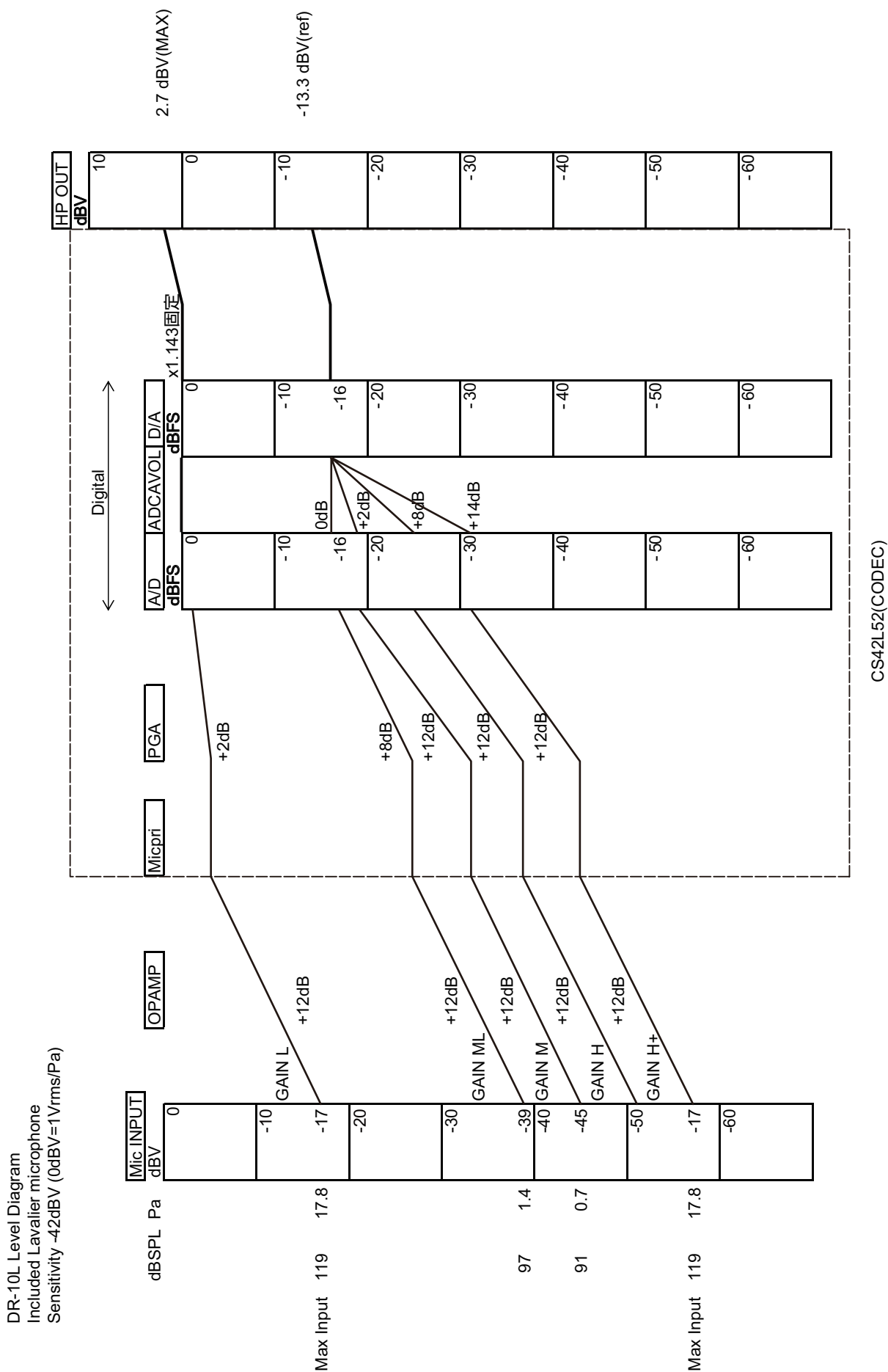
DR-10L Block Diagram



3. Level Diagram (DR-10L)

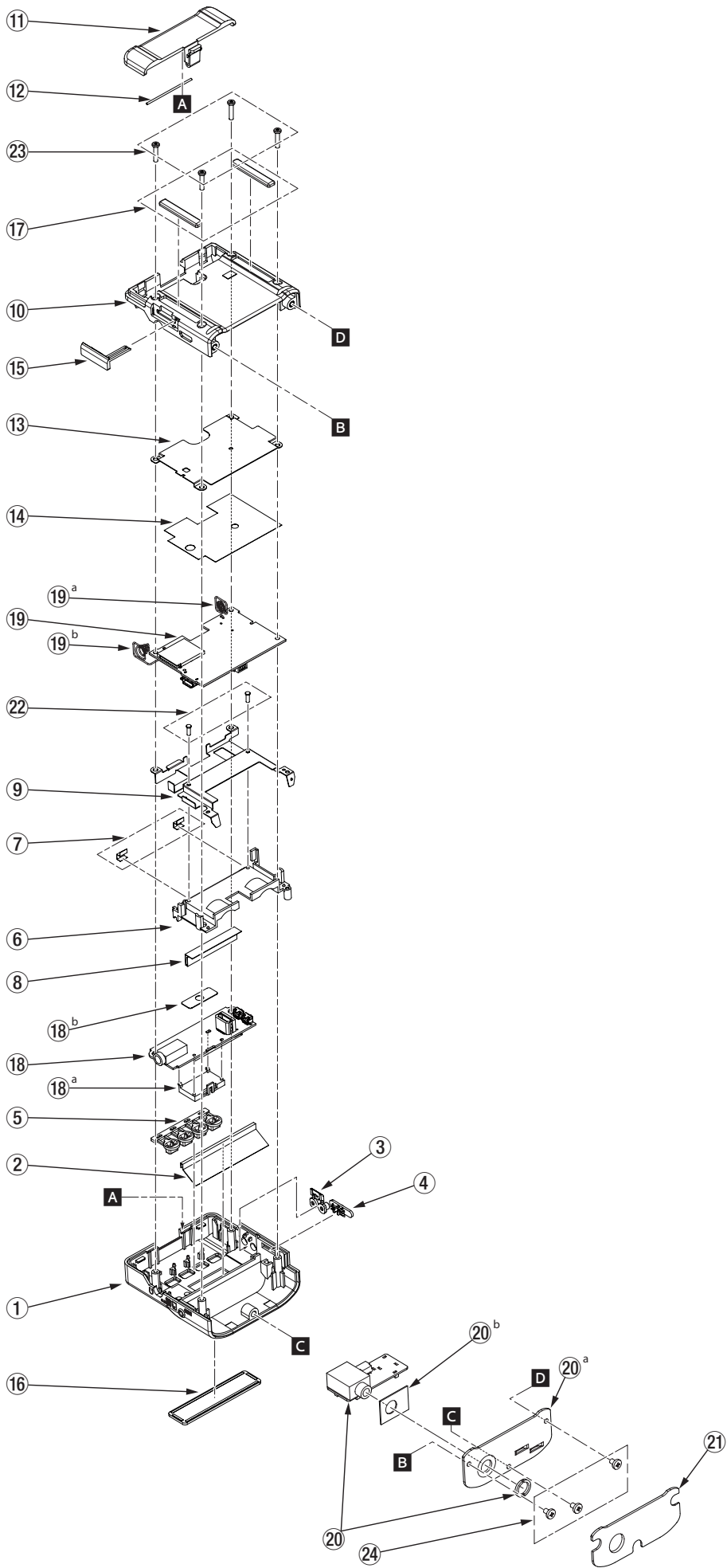
レベルダイアグラム (DR-10L)

DR-10L Level Diagram



4. Exploded Views and Parts List (DR-10L)

分解図とパーツリスト (DR-10L)



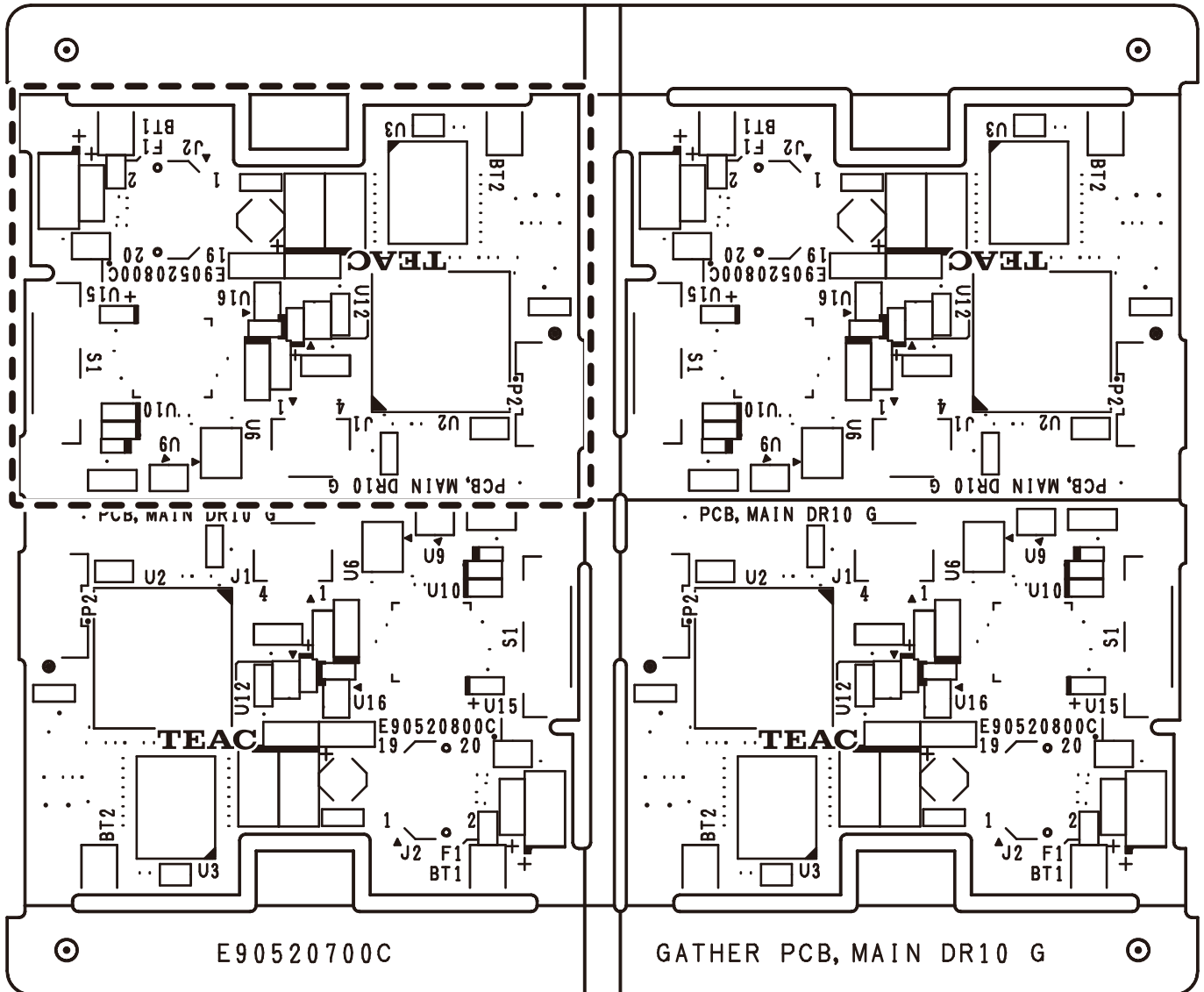
CAUTION Part with numbers in parentheses () cannot be ordered.**注意** "()"付き品番は、発注できません。

REF.NO.	PARTS NO.	DESCRIPTION .	Qty.	REMARKS
1	M03721320B	CASE,TOP DR10L	1	
2	M03748700A	SHEET,GND 15*41.5 G	1	
3	M03721700B	BUTTON,VOL DR10 G	1	
4	M03341100B	KNOB,SLIDE DR40 G	1	
5	M03721800A	BUTTON,TOP DR10 G	1	
6	M03721500C	ESCUTCHEON,INR DR10 G	1	
7	M03557200A	SHEET,GND CU 3.5*9*0.1 G	2	
8	M03748800A	SHEET,GND 15*28 G	1	
9	M03721600D	CHASSIS,CTR DR10 G	1	
10	M03721400C	CASE,BTM DR10C G	1	
11	M03721900C	COVER,BAT LID DR10 G	1	
12	M03723600A	SHAFT,COVER LID DR10 G	1	
13	M03723000A	CHASSIS,BTM DR10C G	1	
14	M03776000A	SHEET,BTM DR10 G	1	
15	M03722000B	COVER,SD DR10 G	1	
16	M03722200C	WINDOW,DR10 G	1	
17	M03723200A	FOOT,RUBBER DR10 G	2	
18	E95521020A	PCB ASSY,PANEL DR10L	1	See "GATHER PCB, PANEL DR10 G" on page 13
18a	M03722100B	BRACKET,OLED DR10 G	1	This part is included in E95521020A.
18b	M02973400A	SHEET,SLIDE 3POINT DR100	1	This part is included in E95521020A.
19	E95520800B	PCB ASSY,MAIN DR10L G	1	See "GATHER PCB, MAIN DR10 G" on page 13
19a	M03722400B	CPRSN SPR,BAT P DR10 G	1	This part is included in E95520800B.
19b	M03722500B	CPRSN SPR,BAT M DR10 G	1	This part is included in E95520800B.
20	E95521210A	PCBA,JACK 3.5MM DR10L	1	See "GA PCB, JACK DR10 G" on page 13
20a	(M03908500A)	BRACKET,3.5MM DR10L	1	This part is included in E95521210A.
20b	(M03767300A)	SHEET,GND 12*34 G	1	This part is included in E95521210A.
21	M03909000A	SHEET,BLIND DR10L	1	
22	B00326000A	SCREW,MPBR 1.4*4FZB G	2	
23	B00334100A	SCREW,MPPR 1.7*8 FZB G	4	
24	B00171203A	SCREW,BPA 2*3 FZB G	3	

5. PC Boards and Parts List

基板図とパーツリスト

GATHER PCB, MAIN DR10 G (Side A)

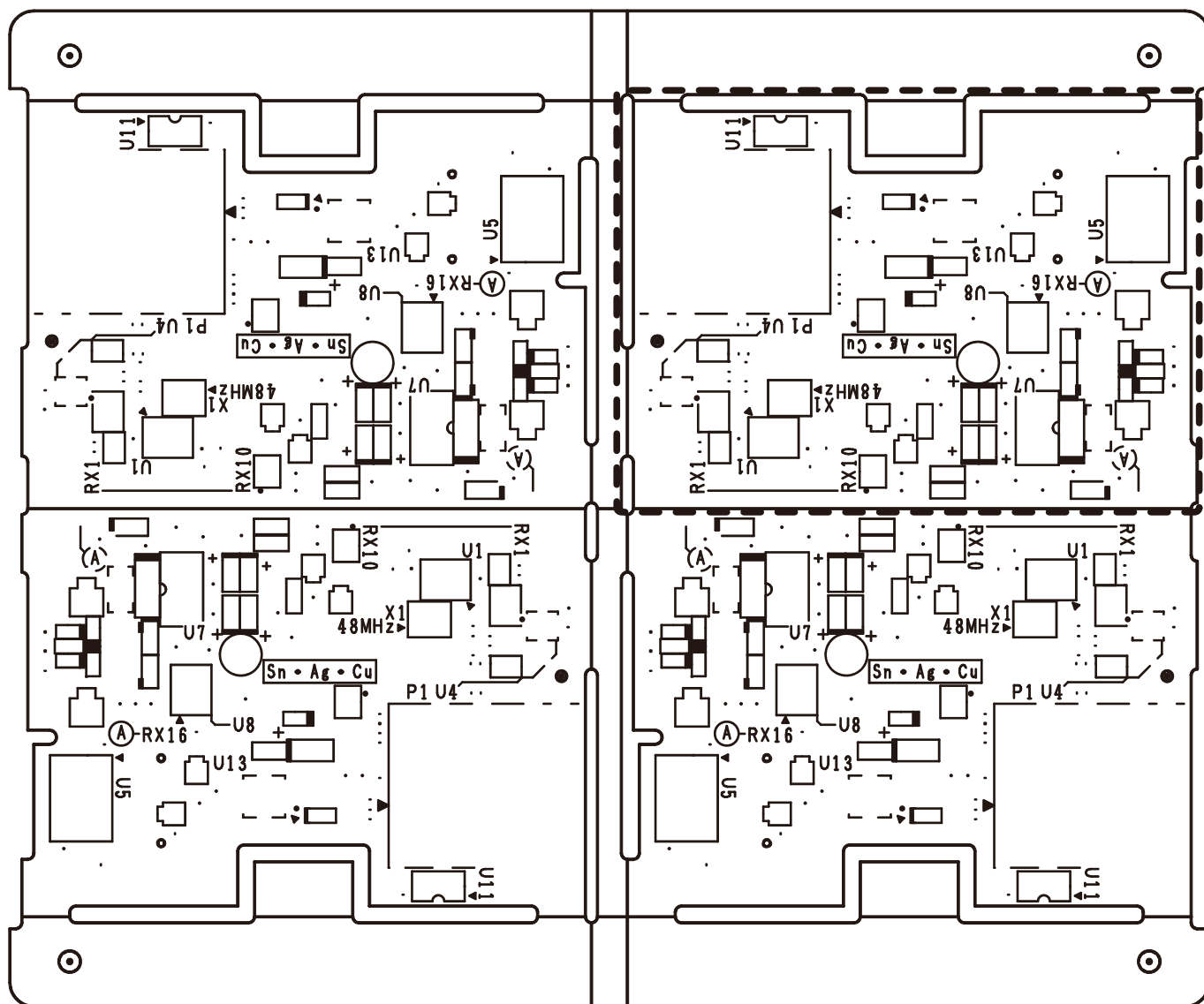


CAUTION The portion in the dashed box consists of service parts that need to be ordered using part numbers in Bold.

- 7 -

注意 破線部分は、太字品番で発注する補修部品になります。

GATHER PCB,MAIN DR10 G (Side B)

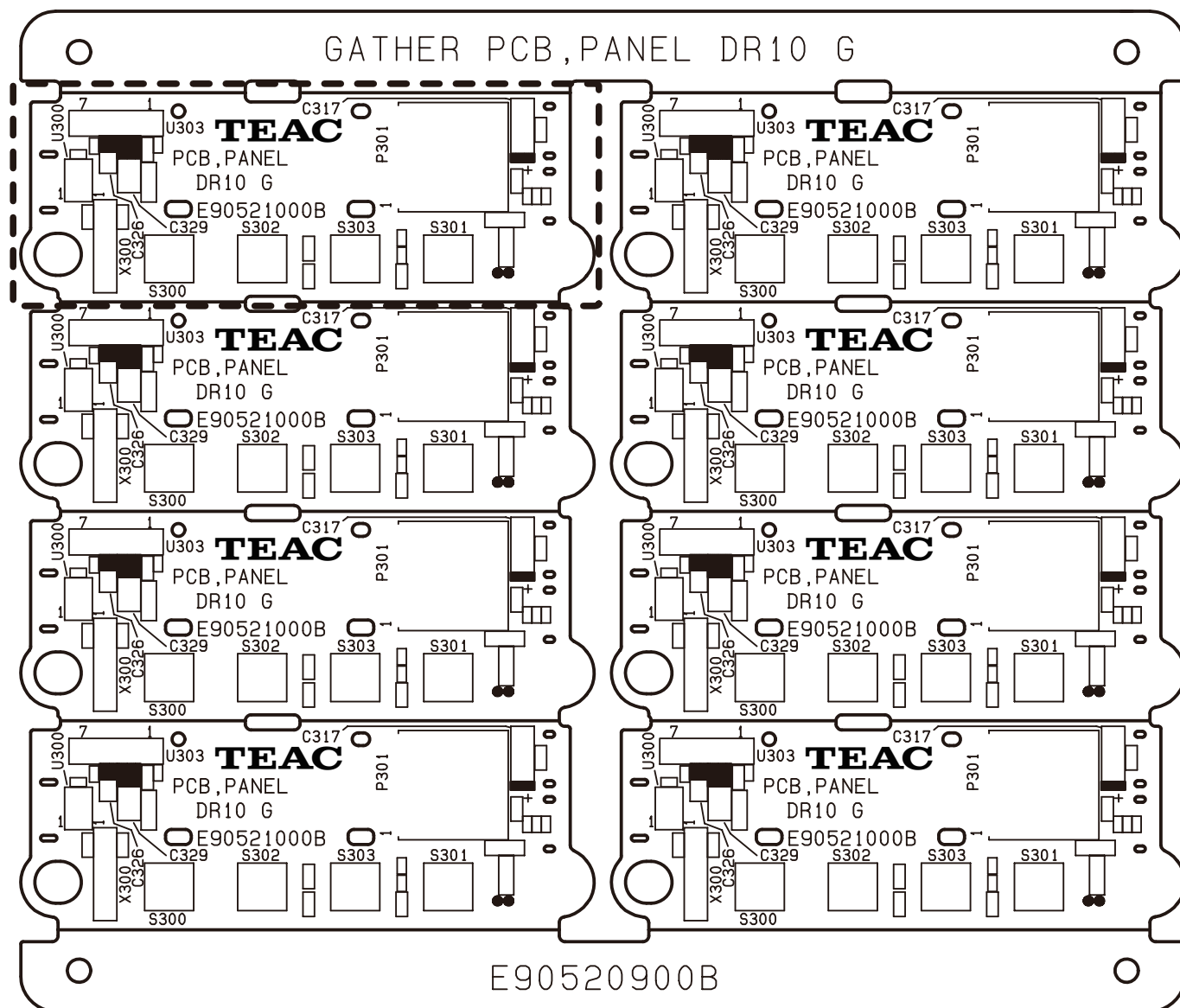


CAUTION The portion in the dashed box consists of service parts that need to be ordered using part numbers in Bold.

- 8 -

注意 破線部分は、太字品番で発注する補修部品になります。

GATHER PCB,PANEL DR10 G (Side A)

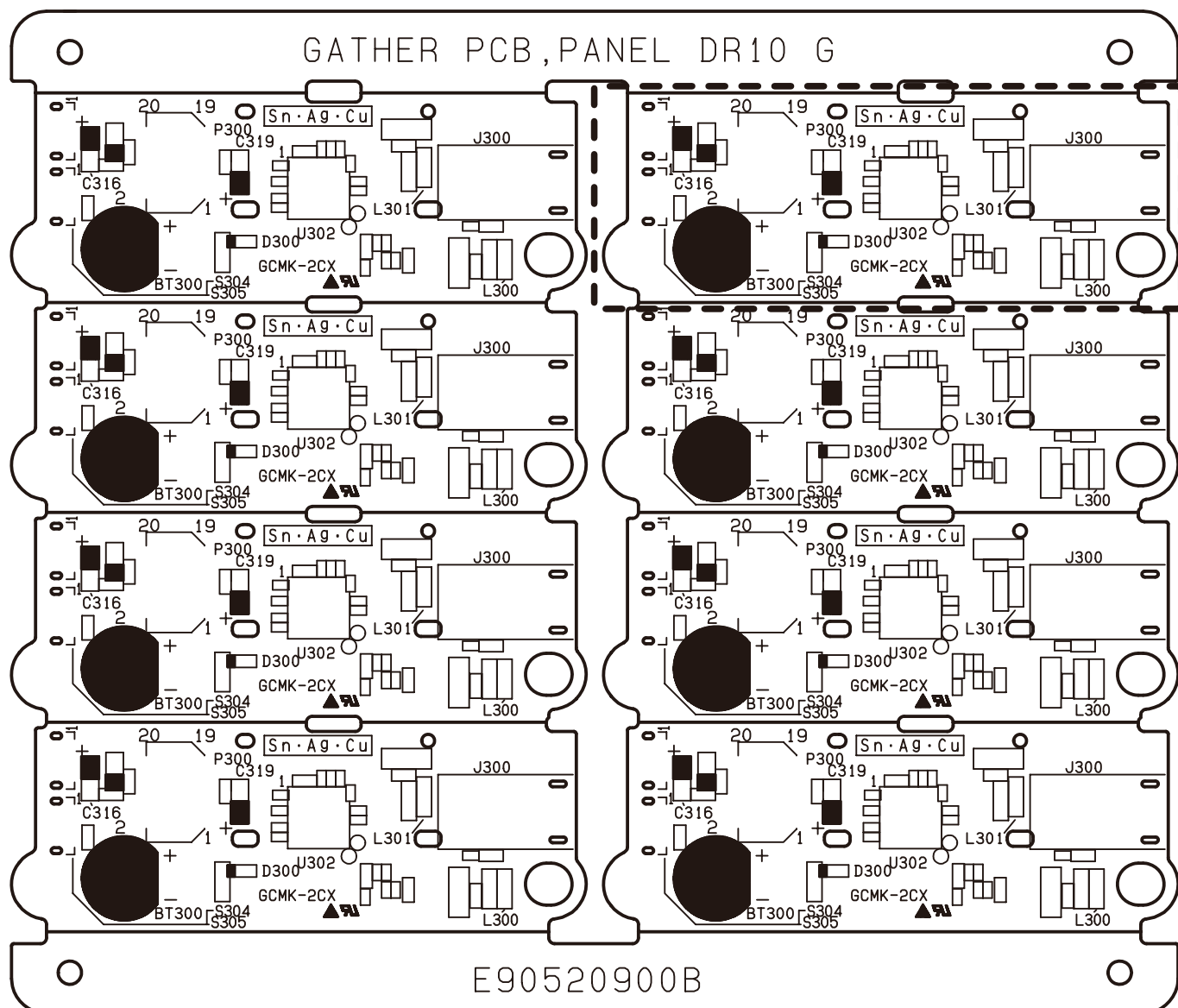


CAUTION The portion in the dashed box consists of service parts that need to be ordered using part numbers in Bold.

- 9 -

注意 破線部分は、太字品番で発注する補修部品になります。

GATHER PCB,PANEL DR10 G (Side B)

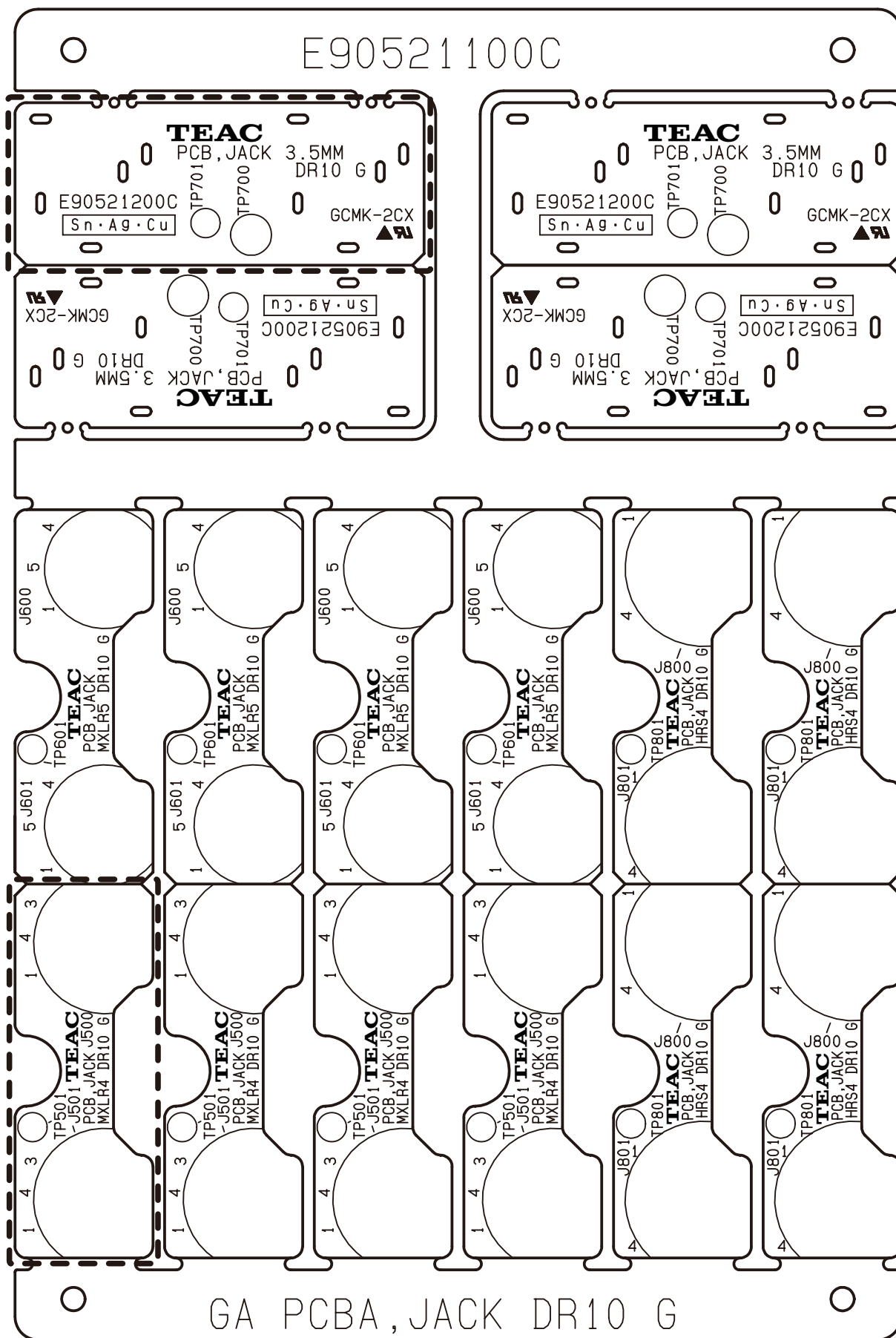


CAUTION The portion in the dashed box consists of service parts that need to be ordered using part numbers in Bold.

- 10 -

注意 破線部分は、太字品番で発注する補修部品になります。

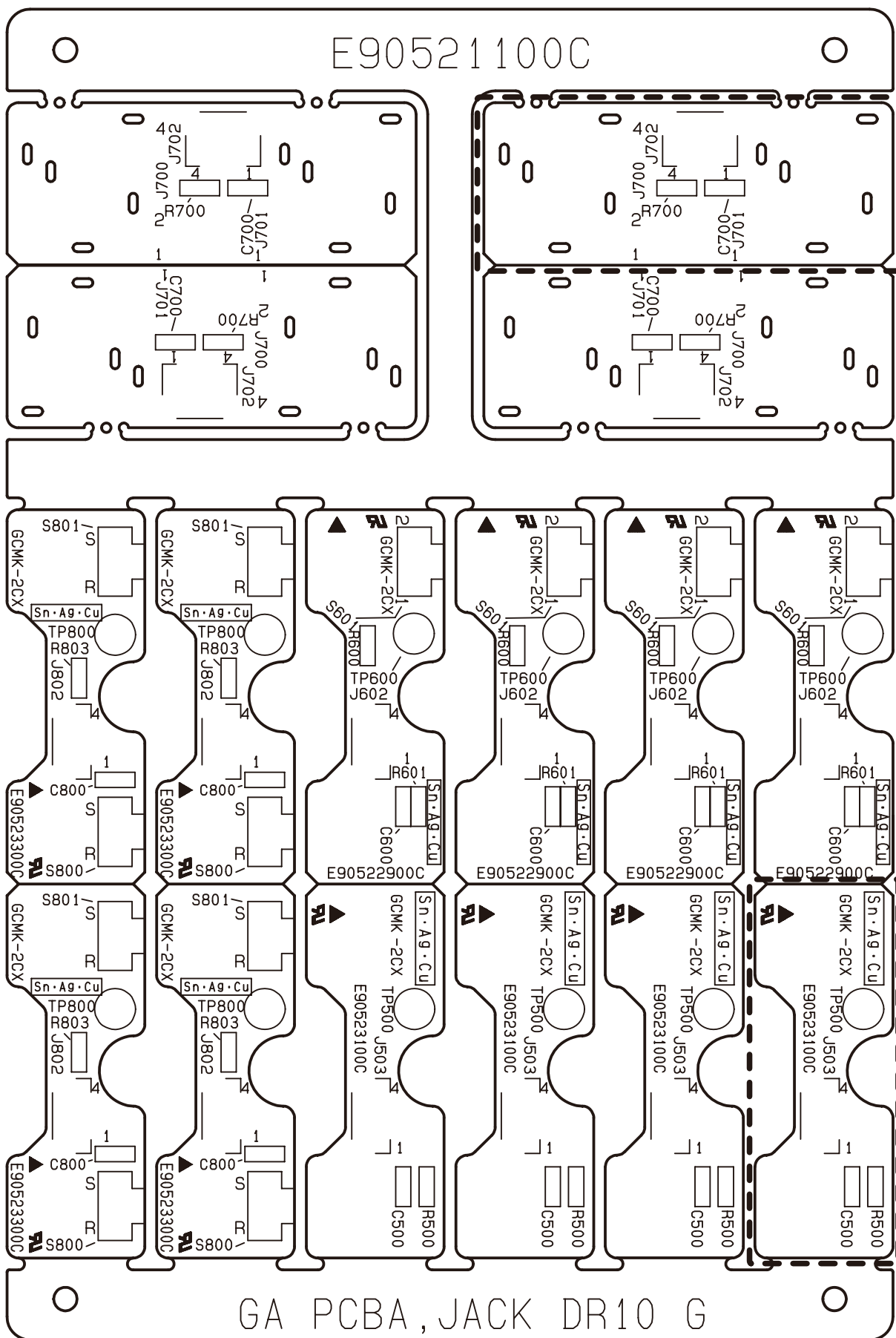
GA PCB,JACK DR10 G (Side A)



CAUTION The portion in the dashed box consists of service parts that need to be ordered using part numbers in Bold.

注意 破線部分は、太字品番で発注する補修部品になります。

GA PCB, JACK DR10 G (Side B)



CAUTION The portion in the dashed box consists of service parts that need to be ordered using part numbers in Bold.

注意 破線部分は、太字品番で発注する補修部品になります。

CAUTION Part with numbers in parentheses () cannot be ordered. If you want to order service parts, be sure to use "Child" part numbers (numbers in Bold), which refer to individual parts of a parent part.

注意 "()"付き品番は、発注できません。補修部品を発注する際は、太字品番で発注してください。

GATHER PCB, MAIN DR10 G

メイン基板

PARTS NO.	DESCRIPTION.	REMARKS
E95520800B	PCB ASSY,MAIN DR10L G	[T/C]
(E95520700B)	GATHER PCBA,MAIN DR10L G	[T/C]

GATHER PCB, PANEL DR10 G

パネル基板

PARTS NO.	DESCRIPTION.	REMARKS
E95521020A	PCB ASSY,PANEL DR10L	[T/C]
(E95520920A)	GATHER PCBA,PANEL DR10L	[T/C]

GA PCB, JACK DR10 G

パネル基板

PARTS NO.	DESCRIPTION.	REMARKS
E95521210A	PCBA,JACK 3.5MM DR10L	[T/C]
(E95521110A)	GA PCBA,JACK 3.5MM DR10L	[T/C]

6. Safety parts

安全部品

Items				
REF.NO.	PARTS NO.	DESCRIPTION.	QTY	REMARKS
F1	E0178564	FUSE,ERBRE2R00V G	1	⚠

7. Included Accessories

付属品

Included Accessories

REF.NO.	PARTS NO.	DESCRIPTION .	REMARKS
	D01303020A	OWNERS MNL,T/C DR10L	[T/C]
	E02304700A	CABLE ASSY,MICROUSB 05M G	[T/C]
	M03902600A	MIC ASSY,TCM361 G	[T/C]
	M03722300B	HOLDER,BELT DR10C G	[T/C]
	M03729300A	CALLYNG CASE,DR10C G	[T/C]

NOTES

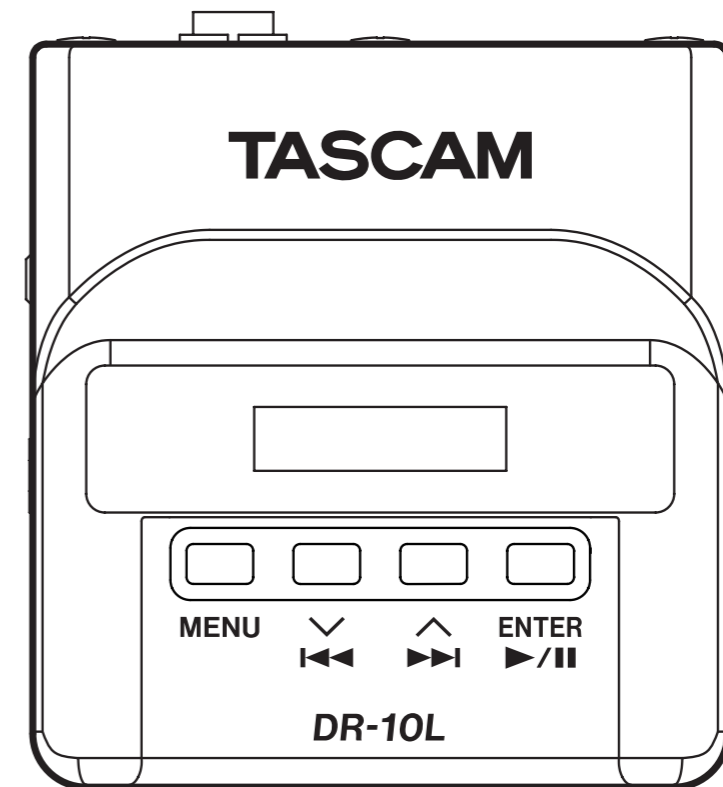
- PC boards shown are viewed from parts side.
 - Parts marked with * require longer delivery time.
 - The parts with no reference number or no parts number in the exploded views are not supplied.
 - As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
 - \triangle Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
 - Parts of [] mark can be used only with the version designated.
- [JPN] : JAPAN [T/C] : U.S.A./CANADA [KOR] : KOREA
 [EUR] : EUROPE [UK] : U.K.
 [AUS] : AUSTRALIA [TM] : TAIWAN
 [CHI] : CHINA [EX/BR] : BRAZIL
 [EX/T/C] : U.S.A./CANADA/SOUTH AMERICA

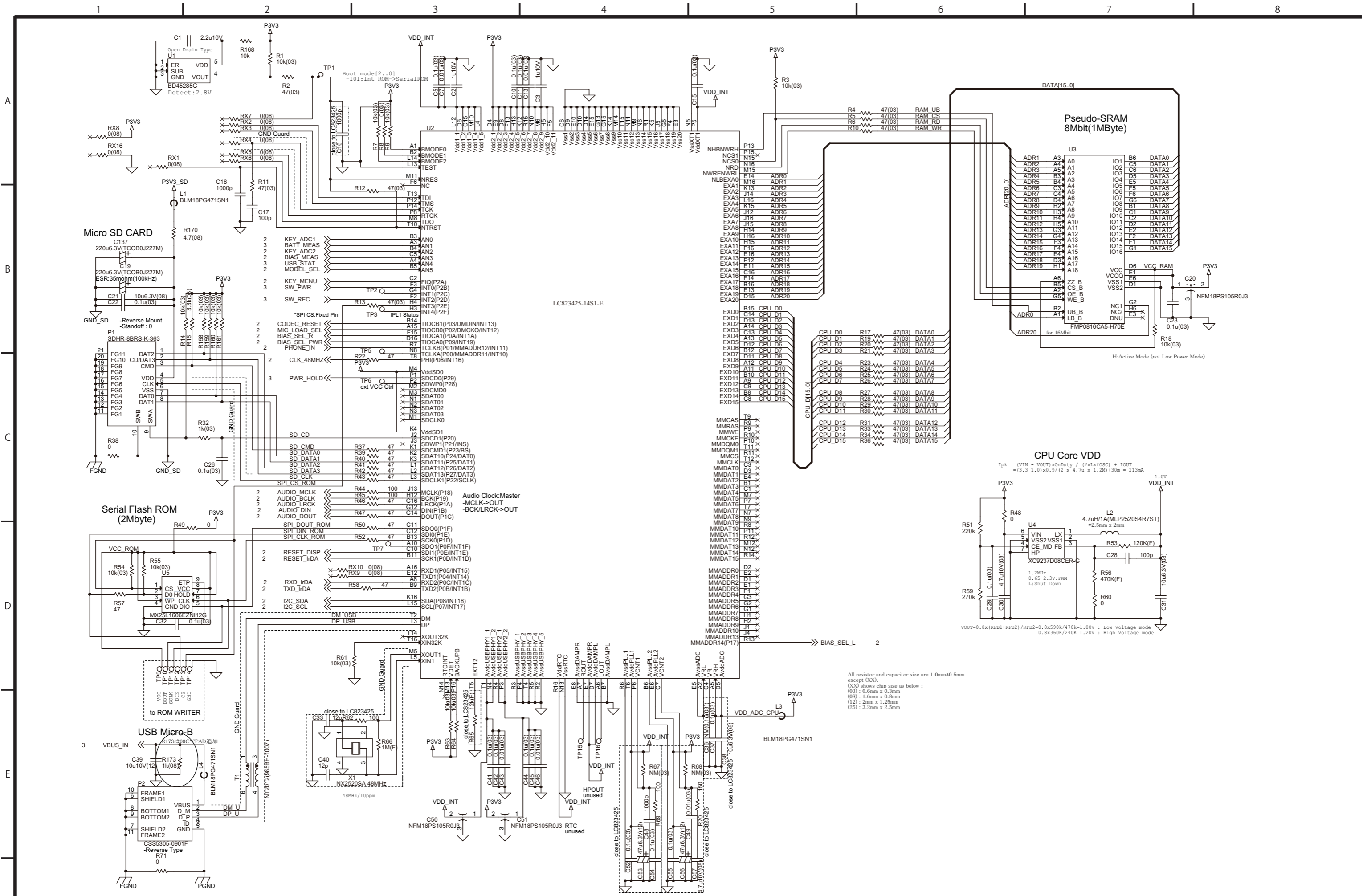
注意

- プリント基板図は部品面を示しています。
- *印の部品は納期が若干かかります。あらかじめご了承ください。
- 分解図に部番のない部品および品番のない部品は供給できません。
- 標準の抵抗、コンデンサーは省略してあります。回路図を参照してください。
- \triangle 印は安全重要部品です。交換する時は必ず指定の部品を使用してください。
- 仕向先
 [JPN] : JAPAN [T/C] : U.S.A./CANADA [KOR] : KOREA
 [EUR] : EUROPE [UK] : U.K.
 [AUS] : AUSTRALIA [TM] : TAIWAN
 [CHI] : CHINA [EX/BR] : BRAZIL
 [EX/T/C] : U.S.A./CANADA/SOUTH AMERICA

CONTENTS 目次

MAIN (1/3).....	2
MAIN (2/3).....	3
MAIN (3/3).....	4
PANEL.....	5
JACK.....	6

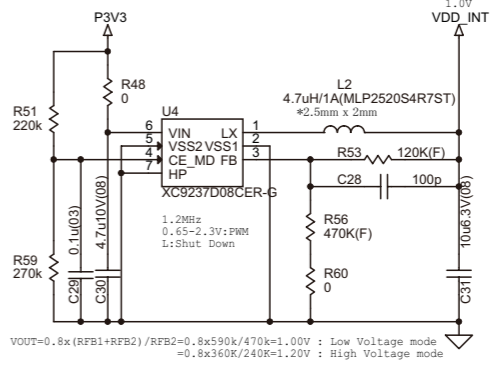




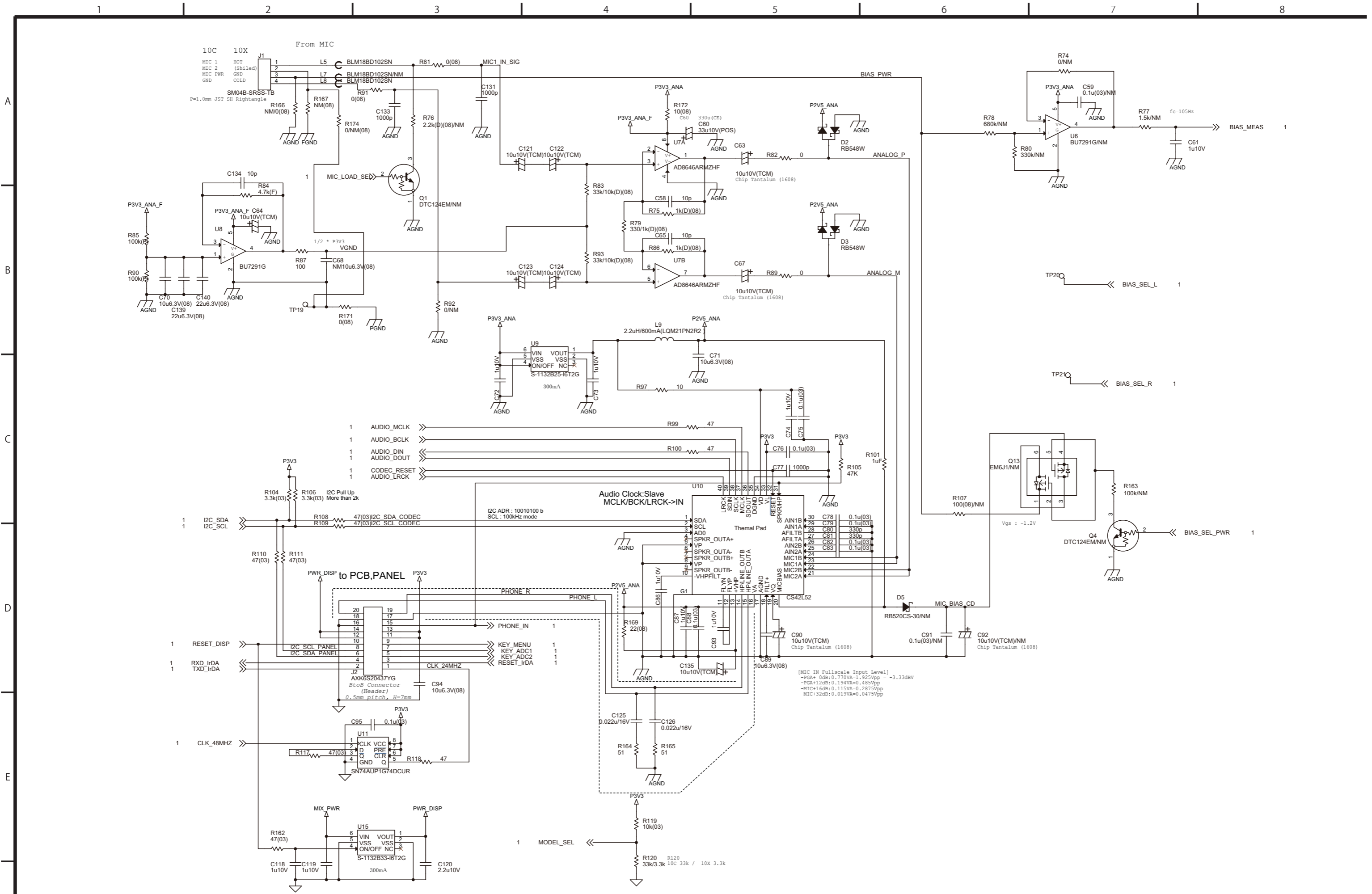
CPU Core VDD

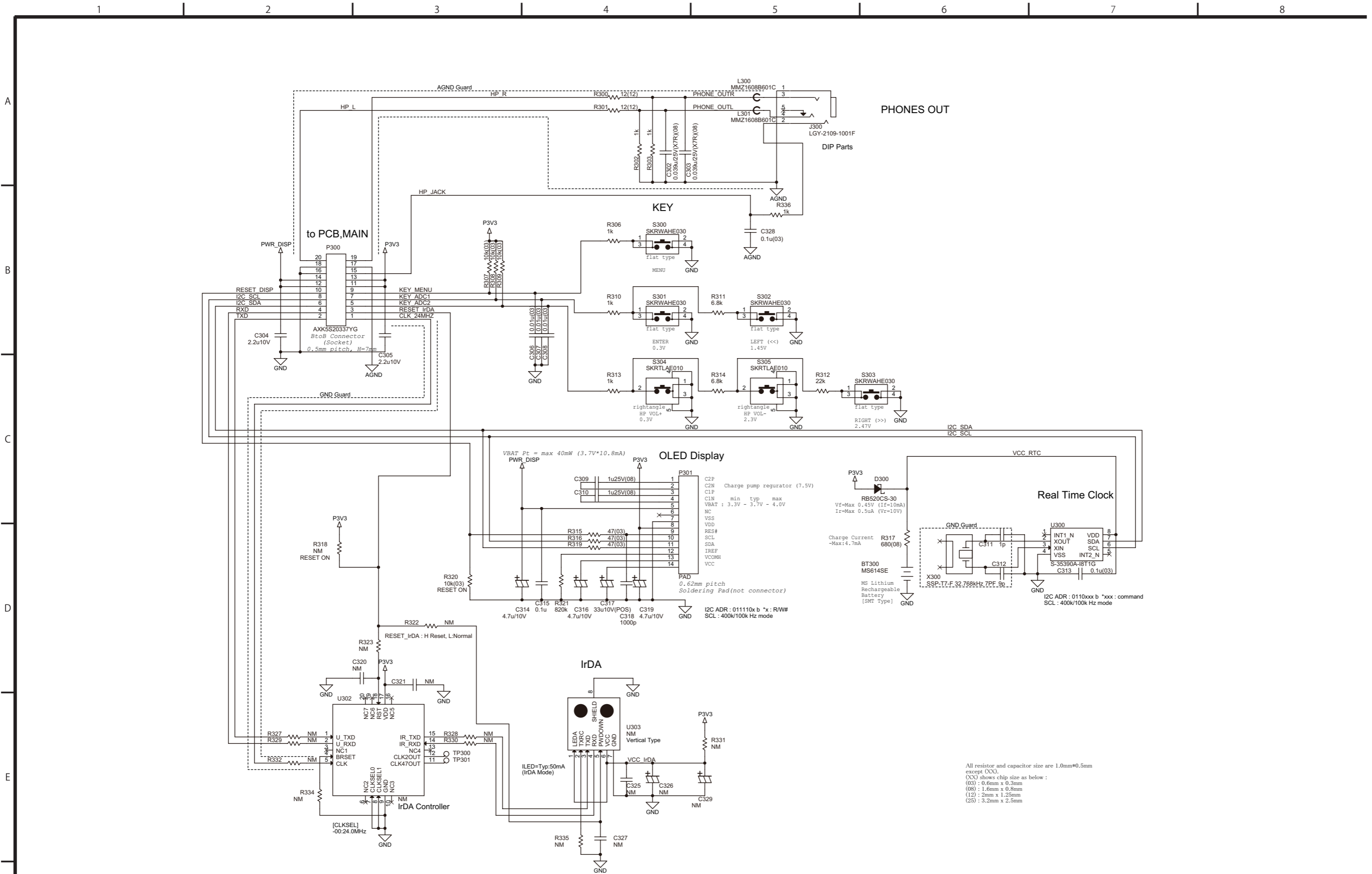
$$I_{pk} = (V_{IN} - V_{OUT}) \times \text{OnDuty} / (2 \times L \times f_{OSC}) + I_{OUT}$$

$$= (3.3 - 1.0) \times 0.9 / (2 \times 4.7 \mu\text{H} \times 1.2\text{MHz}) + 30\text{mA} = 213\text{mA}$$



All resistor and capacitor size are 1.0mm*0.5mm except (XX).
 (03) : 0.6mm x 0.3mm
 (08) : 1.6mm x 0.8mm
 (12) : 2mm x 1.25mm
 (25) : 3.2mm x 2.5mm





All resistor and capacitor size are 1.0mm*0.5mm except (XX).
 (XX) shows chip size as below:
 (03) : 0.6mm x 0.3mm
 (08) : 1.6mm x 0.8mm
 (12) : 2mm x 1.25mm
 (25) : 3.2mm x 2.5mm

1 2 3 4 5 6 7 8

E90521200C PCB, JACK 3.5MM DR10 G

For DR-10L

SENNHEISER Type (3.5mm Jack with Screw Lock)

