

# RC-20XL

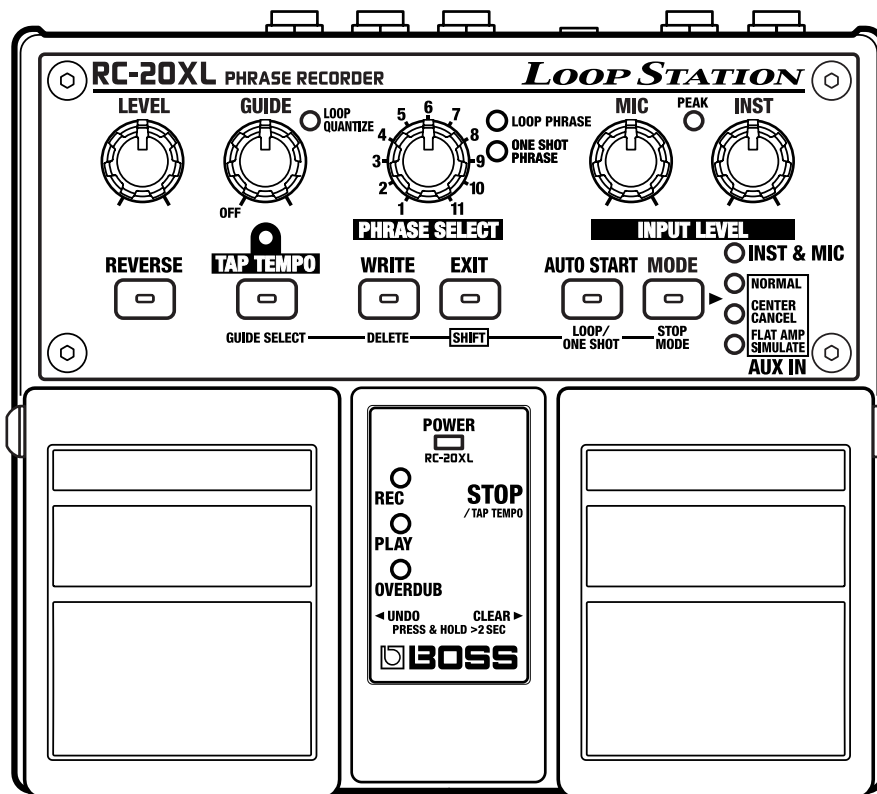
## PHRASE RECORDER

# SERVICE NOTES

*Issued by RJA*

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# CAUTIONARY NOTES

## User data status

User data status after each of the following processes is described below. Whenever carrying out procedures that involve deleting or erasing user data, always be sure to back up the user data to some form of external media (refer to Saving and Loading Data).

| Process                 | User Data |
|-------------------------|-----------|
| Checking Version number | Preserved |
| SERIAL DUMP             | Deleted   |
| Test Mode               | Preserved |

\* Executing Test Mode during Factory Reset deletes the user data.

## PARTS LIST

Due to one or more of the following reasons, parts with parts code \*\*\*\*\* cannot be supplied as service parts.

- Part supplied only as a component in a complete assembly
- Copyright does not permit the part to be supplied
- Part is sold commercially

## SPECIFICATIONS

### Nominal Input Level

|         |                    |
|---------|--------------------|
| INST:   | -20 dBu (variable) |
| MIC:    | -40 dBu (variable) |
| AUX IN: | -10 dBu            |

### Input Impedance

|         |           |
|---------|-----------|
| INST:   | 1 M ohms  |
| MIC:    | 1 k ohms  |
| AUX IN: | 47 k ohms |

### Nominal Output Level

|                  |          |
|------------------|----------|
| OUTPUT:          | -20 dBu  |
| Output Impedance |          |
|                  | 1 k ohms |

### Recommended Load Impedance

10 k ohms or greater

### Internal Memory

Recording time: 16 min. (max.)  
 Maximum number of saved phrases:  
 11 phrases (max.)

### Controls

REC/PLAY/OVERDUB Pedal, STOP/TAP TEMPO Pedal, INST Knob, MIC Knob, PHRASE SELECT Knob, GUIDE Knob, LEVEL Knob, REVERSE Button, TAP TEMPO Button, WRITE Button, EXIT Button, AUTO START Button, MODE Button

### Indicators

POWER (serves also as battery check indicator), REC, PLAY, OVERDUB, PEAK, LOOP QUANTIZE, LOOP PHRASE, ONE SHOT PHRASE, TAP TEMPO, REVERSE, WRITE, EXIT, AUTO START, MODE, INST & MIC, NORMAL, CENTER CANCEL, FLAT AMP SIMULATE

### Connectors

INST Jack (1/4 inch phone type)  
 MIC Jack (1/4 inch phone type)

AUX IN Jack (Stereo miniature phone type)  
 PHRASE SHIFT Jack (1/4 inch TRS phone type)  
 REVERSE Jack (1/4 inch phone type)  
 OUTPUT Jack (1/4 inch phone type)  
 AC Adaptor Jack

### Power

DC 9V: Dry battery (R6/LR6 (AA) type) x 6  
 AC Adaptor (PSA-series)

### Power Consumption

120 mA (9 V max.)

\* *Expected battery life under continuous use:*

|           |          |
|-----------|----------|
| Carbon:   | 6 hours  |
| Alkaline: | 16 hours |

These figures will vary depending on the actual conditions of use.

### Dimensions

173 (W) x 158 (D) x 57 (H) mm  
 6-13/16 (W) x 6-1/4 (D) x 2-1/4 (H) inches

### Weight

1.2 kg / 2 lbs 11 oz (including batteries)

### Accessories

Owner's Manual ENGLISH:(#G6017384)  
 JAPANESE:(#G6017382)

Leaflet ("USING THE UNIT SAFELY," "IMPORTANT NOTES," and "Information"):(#\*\*\*\*\*)

Dry battery (AA type) x 6:(#\*\*\*\*\*)

Sound Library for RC-20XL (Sample Phrase CD):(#\*\*\*\*\*)

### Options

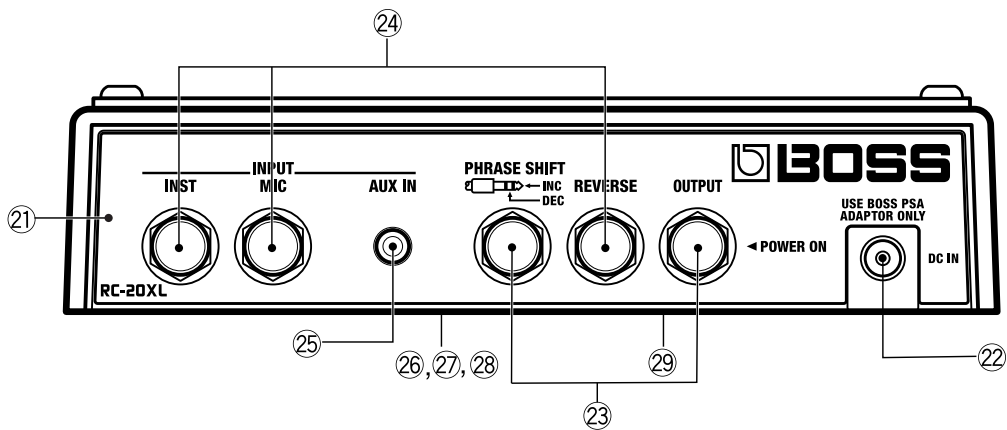
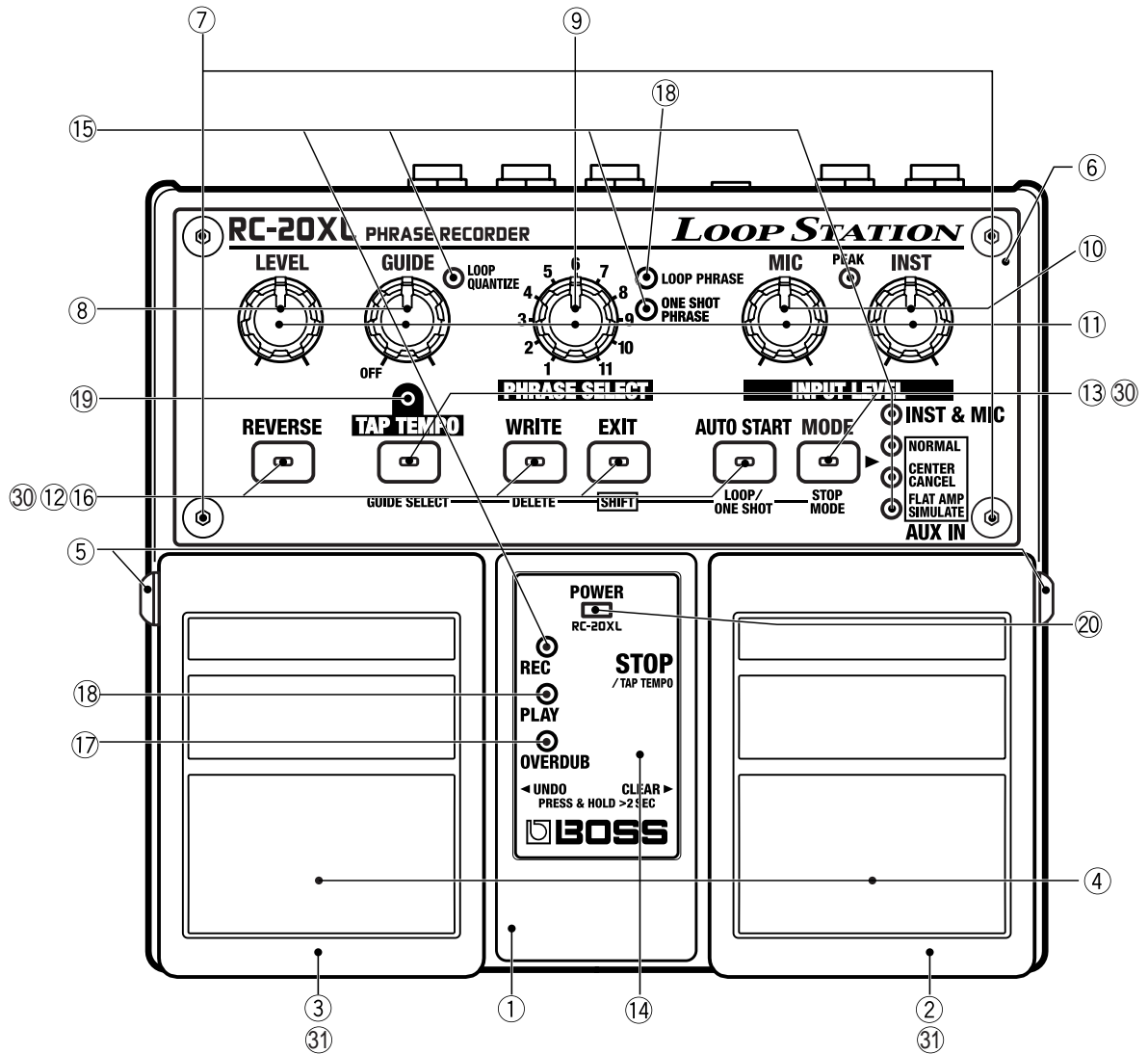
AC Adaptor (PSA-series)  
 Foot Switch (FS-5U)

\*  $0 \text{ dBu} = 0.775 \text{ Vrms}$

\* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*



# LOCATION OF CONTROLS

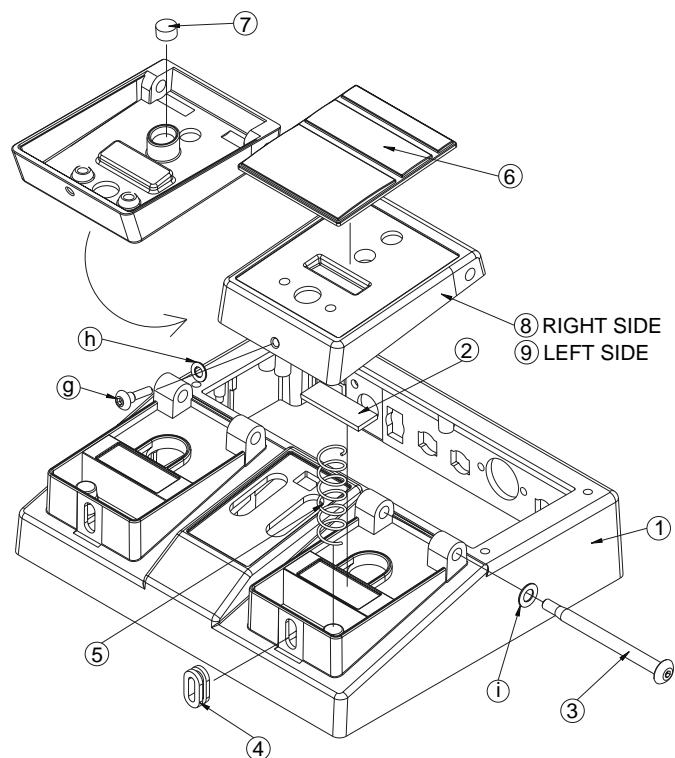


# LOCATION OF CONTROLS PARTS LIST

| NO | PART CODE  | CATEGORY          | PART NAME                    | DESCRIPTION                 | Q'TY |
|----|------------|-------------------|------------------------------|-----------------------------|------|
| 1  | G2017145   | CASING            | TOP CASE                     |                             | 1    |
| 2  | G2187530   | CASING            | PEDAL R                      |                             | 1    |
| 3  | G2187531   | CASING            | PEDAL L                      |                             | 1    |
| 4  | G2357116   | CASING            | PEDAL PLATE                  | 62X53                       | 2    |
| 5  | H5029851   | CASING            | PEDAL SHAFT                  |                             | 2    |
| 6  | G2217185   | CASING            | PANEL                        |                             | 1    |
| 7  | H5029855   | SCREWS            | SCREW M4X8                   | HEXAGON BUTTON HEAD NI      | 4    |
| 8  | F3279802   | POTENTIOMETER     | POTENTIOMETERNO CLICK 50KB   | RD901-40-125F-B54-00D       | 2    |
| 9  | F3279803   | POTENTIOMETER     | POTENTIOMETER 11 CLICKS 50KB | RD901-40-125F-B54-11D       | 1    |
| 10 | F3279805   | POTENTIOMETER     | POT.(W/O CLICK)              | RD901-40-125F-AF5-00D 250KA | 2    |
| 11 | G2477122   | KNOB,BUTTON       | R-KNOB                       |                             | 5    |
| 12 | G247751001 | KNOB,BUTTON       | VGA KEYTOP S BLACK WITH LENS |                             | 4    |
| 13 | G247751301 | KNOB,BUTTON       | VGA KEYTOP S WITHOUT LENS    |                             | 2    |
| 14 | G2217186   | CASING            | LED PANEL                    |                             | 1    |
| 15 | 1502928100 | DIODE             | LED (RED)                    | L-34HDSL                    | 8    |
| 16 | F5029117   | DIODE             | LED                          | L-312LRD                    | 4    |
| 17 | F5029125   | DIODE             | LED (YELLOW)                 | L-34YDSL                    | 1    |
| 18 | F5029124   | DIODE             | LED (GREEN)                  | L-34GDSY                    | 2    |
| 19 | 15029342   | DIODE             | LED                          | GL3ED8                      | 1    |
| 20 | F5029126   | DIODE             | POWER LED                    | L-113GDT                    | 1    |
| 21 | G2527110   | CASING            | REAR PANEL                   | PANEL                       | 1    |
| 22 | F344941501 | JACK,EXT TERMINAL | ADAPTOR JK                   | KM02009BB                   | 1    |
| 23 | F3449707   | JACK,EXT TERMINAL | PHONE JK(STREO)              | HTJ-064-12DS                | 1    |
| 24 | 13449155MF | JACK,EXT TERMINAL | PHONE JACK (MONO)            | HTJ-064-12I                 | 3    |
| 25 | F3449709   | JACK,EXT TERMINAL | 3.5MM MINI JACK              | SHJ-3513TS (STEREO)         | 1    |
| 26 | G2017621   | CASING            | BATTERY COVER                |                             | 1    |
| 27 | 75D422E000 | CASING            | BOTTOM COVER                 |                             | 1    |
| 28 | G2357118   | MISCELLANEOUS     | BOTTOM FOOT                  |                             | 2    |
| 29 | G2537558   | MISCELLANEOUS     | QUICK MANUAL&CAUTION         | LABEL                       | 1    |
| 30 | F3129306   | SWITCH            | SWITCH                       | SKQKAB                      | 6    |
| 31 | 13129778   | SWITCH            | TACT SWITCH                  | SKQKAh                      | 2    |

# EXPLODED VIEW, EXPLODED VIEW PARTS LIST

## EXPLODED VIEW 1



## EXPLODED VIEW 1 PARTS LIST

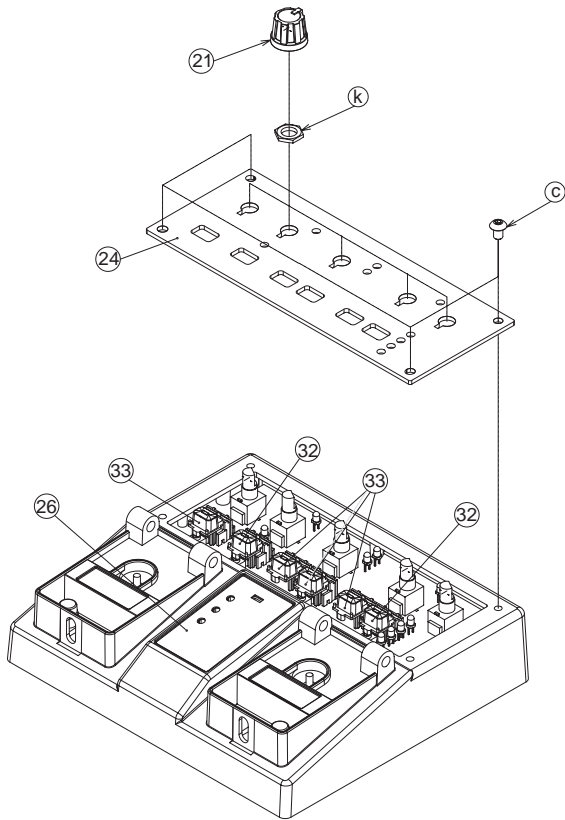
### [PART]

| NO | PART CODE  | PART NAME        | DESCRIPTION | Q'TY |
|----|------------|------------------|-------------|------|
| 1  | G2017145   | TOP CASE         |             | 1    |
| 2  | G2357111   | CUSHION R        |             | 2    |
| 3  | H5029851   | PEDAL SHAFT      |             | 2    |
| 4  | 2215770201 | PEDAL GUIDE BUSH | 215-702     | 2    |
| 5  | 2217710900 | COIL SPRING      | 217-109     | 2    |
| 6  | G2357116   | PEDAL PLATE      | 62X53       | 2    |
| 7  | G2357115   | PEDAL FOOT       | M8          | 2    |
| 8  | G2187530   | PEDAL R          |             | 1    |
| 9  | G2187531   | PEDAL L          |             | 1    |

### [SCREW]

| NO | PART CODE | PART NAME                 | DESCRIPTION                | Q'TY |
|----|-----------|---------------------------|----------------------------|------|
| g  | H5029852  | SCREW4M3 FEBZC            | HEXAGON SOCKET BUTTON HEAD | 2    |
| h  | H5039413  | NYLON WASHER M4.1X7.5X0.5 | BLACK                      | 2    |
| i  | H5039414  | NYLON WASHER M5.1X9.5X0.5 | BLACK                      | 2    |

## EXPLODED VIEW 2



## EXPLODED VIEW 2 PARTS LIST

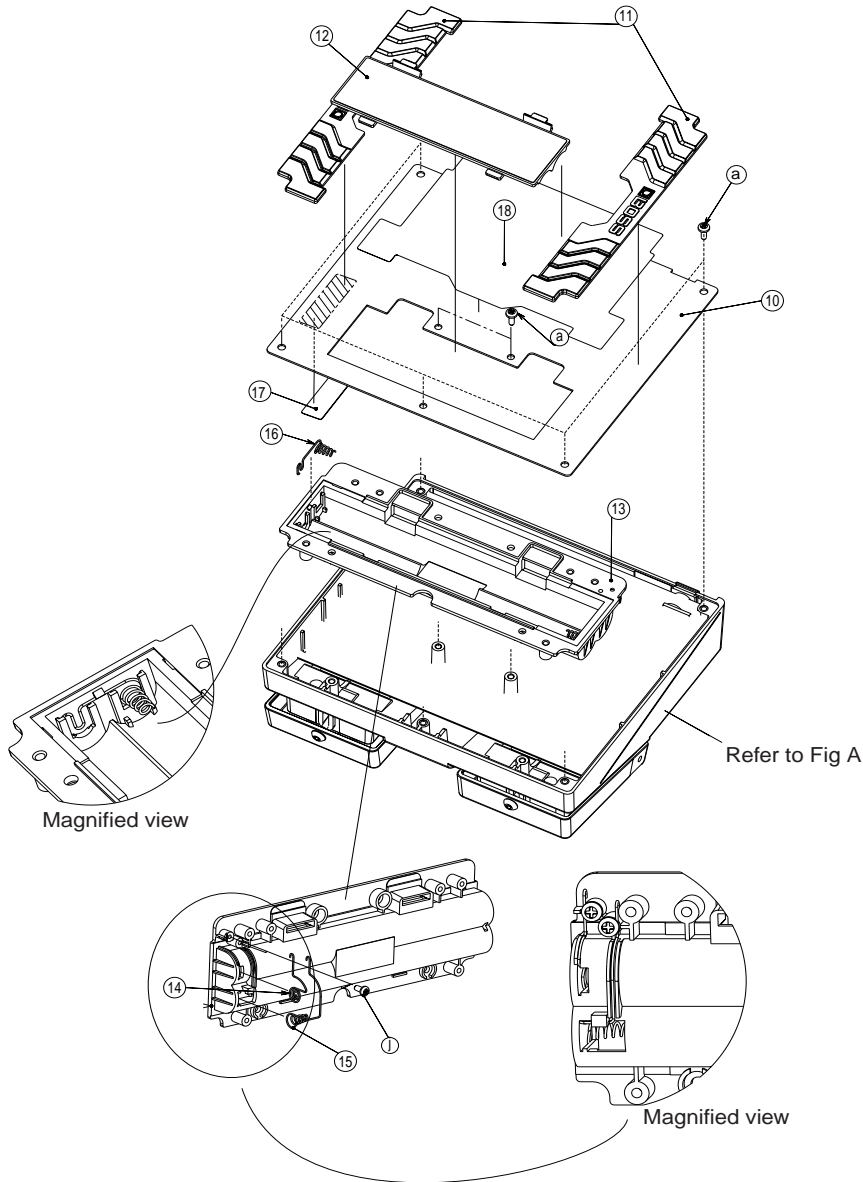
### [PART]

| NO | PART CODE  | PART NAME                    | DESCRIPTION | Q'TY |
|----|------------|------------------------------|-------------|------|
| 21 | G2477122   | R-KNOB                       |             | 5    |
| 24 | G2217185   | PANEL                        |             | 1    |
| 26 | G2217186   | LED PANEL                    |             | 1    |
| 32 | G247751301 | VGA KEYTOP S WITHOUT LENS    |             | 2    |
| 33 | G247751001 | VGA KEYTOP S BLACK WITH LENS |             | 4    |

### [SCREW]

| NO | PART CODE | PART NAME           | DESCRIPTION            | Q'TY |
|----|-----------|---------------------|------------------------|------|
| c  | H5029855  | SCREW M4X8          | HEXAGON BUTTON HEAD NI | 4    |
| k  | H5039521  | VR ACCESSORY NUT M7 |                        | 5    |

# EXPLODED VIEW 3



## EXPLODED VIEW 3 PARTS LIST

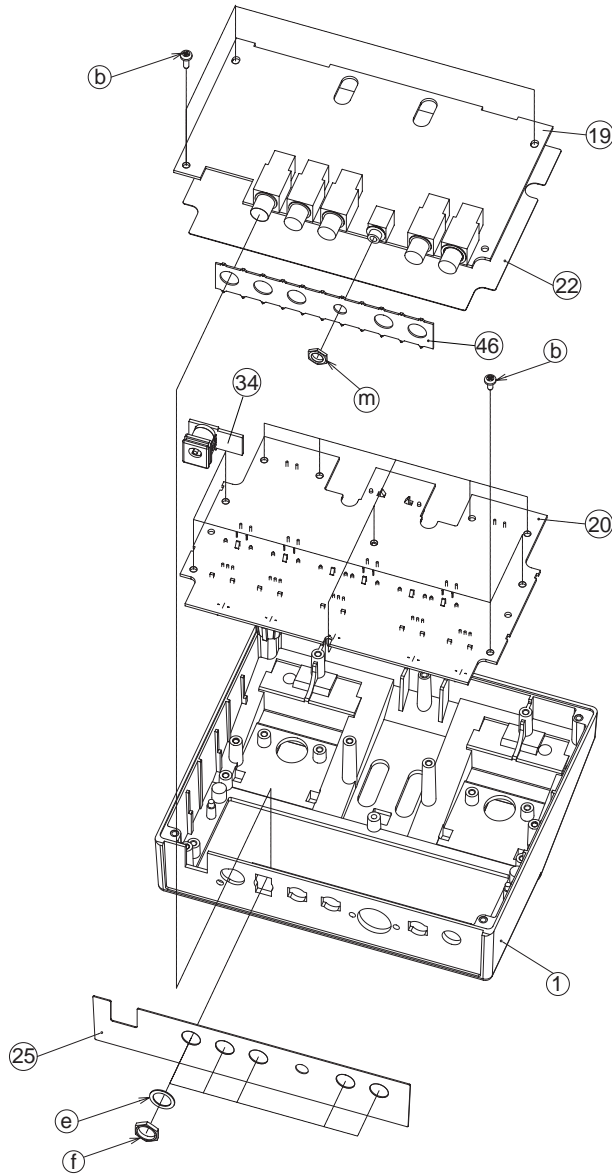
### [PART]

| NO | PART CODE | PART NAME                | DESCRIPTION | Q'TY |
|----|-----------|--------------------------|-------------|------|
| 10 | G2017148  | BOTTOM COVER             |             | 1    |
| 11 | G2357118  | BOTTOM FOOT              |             | 2    |
| 12 | G2017621  | BATTERY COVER            |             | 1    |
| 13 | G2017620  | BATTERY CASE             |             | 1    |
| 14 | G2177308  | BATTERY TERMINAL(+)      |             | 1    |
| 15 | G2177309  | BATTERY TERMINAL(-)      |             | 1    |
| 16 | G2177307  | BATTERY TERMINAL(+)      |             | 1    |
| 17 | G2257130  | BATTERY INSULATING SHEET |             | 1    |
| 18 | G2537558  | QUICK MANUAL&CAUTION     | LABEL       | 1    |

### [SCREW]

| NO | PART CODE | PART NAME    | DESCRIPTION                 | Q'TY |
|----|-----------|--------------|-----------------------------|------|
| a  | H5019115  | SCREW M3X8   | PAN TAPPING-2 FEBZC         | 7    |
| j  | H5019430  | SCREW M2.6X5 | BINDING HEAD TAPTITE P FEZC | 2    |



**EXPLODED VIEW (Fig. A)****EXPLODED VIEW(Fig. A) PARTS LIST****[PART]**

| NO | PART CODE  | PART NAME                                      | DESCRIPTION | Q'TY |
|----|------------|--|-------------|------|
| 1  | G2017145   | TOP CASE                                       |             | 1    |
| 19 | 75E183M000 | JACK BOARD ASSY                                |             | 1    |
| 20 | 75E183P000 | PANEL BOARD ASSY                               |             | 1    |
| 22 | G225712901 | INSULATING SHEET CENTER                        |             | 1    |
| 25 | G2527110   | REAR PANEL                                     |             | 1    |
| 34 | *****      | This PWB ASSY is included the JACK BOARD ASSY. |             | 1    |
| 46 | G2147821   | JACK HOLDER                                    |             | 1    |

**[SCREW]**

| NO | PART CODE | PART NAME     | DESCRIPTION      | Q'TY |
|----|-----------|---------------|------------------|------|
| b  | H5019110  | SCREW M3X6    | PAN TAPTITE FEZC | 13   |
| e  | H5039510  | NUT M9X12X2   | FENI             | 5    |
| f  | H5039112  | WASHER M9     |                  | 5    |
| m  | H5039324  | MINI JACK NUT | AJ324A-3C        | 1    |

# PARTS LIST

**SAFETY PRECAUTIONS:**  
The parts marked  $\Delta$  have safety-related characteristics. Use only listed parts for replacement.

Due to one or more of the following reasons, parts with parts code \*\*\*\*\* cannot be supplied as service parts.

- Part supplied only as a component in a complete assembly
- Copyright does not permit the part to be supplied
- Part is sold commercially

NOTE: The parts marked # are new. (initial parts) The description "Q'TY" means a necessary number of the parts per one product.

## CASING

|   |            |               |       |   |
|---|------------|---------------|-------|---|
| # | G2527110   | REAR PANEL    |       | 1 |
|   | G2357116   | PEDAL PLATE   | 62X53 | 2 |
|   | G2017620   | BATTERY CASE  |       | 1 |
|   | G2017621   | BATTERY COVER |       | 1 |
|   | 75D422E000 | BOTTOM COVER  |       | 1 |
|   | G2357118   | BOTTOM FOOT   |       | 2 |
| # | G2217186   | LED PANEL     |       | 1 |
| # | G2217185   | PANEL         |       | 1 |
|   | G2187531   | PEDAL L       |       | 1 |
|   | G2187530   | PEDAL R       |       | 1 |
|   | H5029851   | PEDAL SHAFT   |       | 2 |
| # | G2017145   | TOP CASE      |       | 1 |

## CHASSIS

|  |          |                |           |   |
|--|----------|----------------|-----------|---|
|  | G3487163 | WIRING BATTERY | L=80MM 2P | 1 |
|--|----------|----------------|-----------|---|

## KNOB,BUTTON

|  |            |                              |  |   |
|--|------------|------------------------------|--|---|
|  | G2477122   | R-KNOB                       |  | 5 |
|  | G247751001 | VGA KEYPOT S BLACK WITH LENS |  | 4 |
|  | G247751301 | VGA KEYPOT S WITHOUT LENS    |  | 2 |

## SWITCH

|  |          |             |        |                               |   |
|--|----------|-------------|--------|-------------------------------|---|
|  | 13129778 | TACT SWITCH | SKQKAH | SW1,SW8 on PB                 | 2 |
|  | F3129306 | SWITCH      | SKQKAB | SW2,SW3,SW4,SW5,SW6,SW7 on PB | 6 |

## JACK,EXT TERMINAL

|  |            |                   |                     |                   |   |
|--|------------|-------------------|---------------------|-------------------|---|
|  | F3449709   | 3.5MM MINI JACK   | SHJ-3513TS (STEREO) | JK3 on JK         | 1 |
|  | F344941501 | ADAPTOR JK        | KM02009BB           | JK6 on JK         | 1 |
|  | 13449155MF | PHONE JACK (MONO) | HTJ-064-12I         | JK1,JK2,JK5 on JK | 3 |
|  | F3449707   | PHONE JK(STREO)   | HTJ-064-12DS        | JK4,JK7 on JK     | 2 |

## PWB ASSY

|   |            |                  |  |   |
|---|------------|------------------|--|---|
| # | 75E183M000 | JACK BOARD ASSY  |  | 1 |
| # | 75E183P000 | PANEK BOARD ASSY |  | 1 |

## IC

|   |          |                      |                     |                                    |   |
|---|----------|----------------------|---------------------|------------------------------------|---|
| # | F5279861 | M12L16161A-7T        | IC (SDRAM)          | IC1 on JK                          | 1 |
|   | F5209123 | S-80930ALMP-DAT-T2   | IC (REST)           | IC6 on JK                          | 1 |
|   | F5289102 | NJM2100M 8P SOP      | IC (OP.AMP)         | IC13 on JK                         | 1 |
|   | 15189261 | M5218AFP-600E        | IC (BIPOlar OP AMP) | IC9,IC10,IC12,IC15 on JK,IC1 on PB | 5 |
|   | 02121556 | LC24085B-SD1         | IC (I/F)            | IC4 on JK                          | 1 |
|   | F5179125 | S-8520E33MC-BJS-T2   | IC (DC-DC)          | IC16 on JK                         | 1 |
| # | 03675078 | UPD703106AGJ-087-UEN | IC (CPU)            | IC3 on JK                          | 1 |
| # | F5279306 | TC4W66F              | IC (CMOS)           | IC11 on JK                         | 1 |
|   | 15259884 | TC7S08F(TE85L)       | IC (CMOS)           | IC7 on JK                          | 1 |
|   | 02451434 | AK4552VT             | IC (AD/DA)          | IC14 on JK                         | 1 |
|   | F5279305 | TC4066BFT            | IC                  | IC8 on JK                          | 1 |

## TRANSISTOR

|   |          |                   |                    |   |    |
|---|----------|-------------------|--------------------|---|----|
|   | 15319107 | 2SC4116-GR(TE85R) | TRANSISTOR         | Q12 on JK,Q2,Q1 on PB                     | 1  |
|   | 15329521 | RN1307(TE85R)     | TRANSISTOR         | Q1,Q2,Q3,Q4,Q11,Q13,Q14,Q15,Q16,Q17 on JK | 10 |
|   | F5139608 | IRF7606           | POWER MOS FET      | Q18 on JK                                 | 1  |
|   | 15329103 | 2SK880GR-TE85R    | FET TRANSISTOR     | Q9,Q10 on JK                              | 2  |
| # | F5329522 | RN2307            | DIGITAL TRANSISTOR | Q5,Q6,Q7,Q8 on JK                         | 4  |

| DIODE                  |            |                             |                              |  |    |
|------------------------|------------|-----------------------------|------------------------------|--|----|
| #                      | F5019309   | 02DZ5.1-Y                   | ZENNER DIODE                 | D9 on PB   | 1  |
|                        | F5029126   | L-113GDT                    | POWER LED                    | LED17 on PB  | 1  |
|                        | F5029125   | L-34YDSL                    | LED (YELLOW)                 | LED6 on PB   | 1  |
|                        | 1502928100 | L-34HDSL                    | LED (RED)                    | LED2,LED3,LED4,LED12,LED13,LED14,LED15,LED16                 | 8  |
|                        | F5029124   | L-34GDSY                    | LED (GREEN)                  | LED5,LED7 on PB  | 2  |
|                        | 15029342   | GL3ED8                      | LED                          | LED1 on PB   | 1  |
|                        | F5029117   | L-312LRD                    | LED                          | LED8,LED9,LED10,LED11 on PB                                  | 4  |
|                        | 15339119   | 1SS-352                     | DIODE                        | D1 on JK,D1,D2,D3,D4,D5,D6,D7,D8 on PB                       | 1  |
|                        | 15339120   | 1SS302                      | DIODE                        | DA2,DA5,DA6,DA7 on JK  | 4  |
|                        | F5339138   | 1SS355                      | DIODE                        | D2 on JK   | 1  |
|                        | F5339137   | SS14 VF=0.45V               | DIODE                        | D5,D6 on JK  | 2  |
| RESISTOR               |            |                             |                              |  |    |
|                        | F5419707   | CRN34101J                   | RESISTOR ARRAY               | RA13 on JK   | 1  |
|                        | F5419716   | CRN34103J                   | RESISTOR (CHIP)              | RA8,RA14,RA18,RA19,RA20 on JK                                | 5  |
|                        | F5419715   | CRN34680J                   | RESISTOR (CHIP)              | RA1,RA2,RA3,RA4,RA5,RA7,RA11,RA12,RA15,RA16,                 | 11 |
|                        | F5399115   | 100 J                       | RESISTOR                     | R9,R11,R14,R18,R21,R22 on JK                                 | 6  |
|                        | F5399145   | 12K J                       | RESISTOR                     | R65,R72 on JK  | 2  |
|                        | F5399157   | 39K J                       | RESISTOR                     | R80 on JK  | 1  |
|                        | F5399133   | 4.7K J                      | RESISTOR                     | R37,R33 on JK  | 2  |
|                        | F5399296   | 4.7J                        | RESISTOR                     | R74 on JK  | 1  |
|                        | F5399158   | 47K J                       | RESISTOR                     | R30,R32,R34,R39,R40,R49,R50,R51,R52,R53,<br>R59,R9,R10 on PB | 12 |
|                        | F5399166   | 82K J                       | RESISTOR                     | R36 on JK  | 1  |
|                        | F2569127   | MINISMDC075                 | POLY SWITCH                  | R86 on JK  | 1  |
|                        | F5399129   | 1.5K J                      | MTL.FILM RESISTOR            | R24 on JK  | 1  |
|                        | F5399104   | 10 J                        | MTL.FILM RESISTOR            | R83,R7 on JK   | 2  |
|                        | F5399170   | 100K J                      | MTL.FILM RESISTOR            | R35,R43,R46,R89 on JK,R4 on PB                               | 4  |
|                        | F5399140   | 10K J                       | MTL.FILM RESISTOR            | R1,R10,R12,R13,R23,R25,R26,R27,R29,R38,<br>R41,R,R3 on PB    | 27 |
| #                      | F5399180   | 150K                        | MTL.FILM RESISTOR            | R45,R56 on JK  | 2  |
|                        | F5399147   | 15K J                       | MTL.FILM RESISTOR            | R66,R70,R71 on JK  | 3  |
|                        | F5399128   | 1K J                        | MTL.FILM RESISTOR            | R88,R100,R102,R105 on JK,R6 on PB                            | 4  |
|                        | F5399200   | 1M J                        | MTL.FILM RESISTOR            | R15,R28,R31 on JK,R5,R7 on PB                                | 3  |
| #                      | F5399117   | 220                         | MTL.FILM RESISTOR            | R16,R17 on JK  | 2  |
|                        | F5399152   | 22K J                       | MTL.FILM RESISTOR            | R57,R60 on JK  | 2  |
|                        | F5399106   | 47 J                        | MTL.FILM RESISTOR            | R8,R90 on JK   | 2  |
| #                      | F5429393   | 47KD                        | MTL.FILM RESISTOR            | R48,R55,R58,R63,R77,R79 on JK                                | 6  |
|                        | F5399160   | 56K J                       | MTL.FILM RESISTOR            | R68,R73,R78 on JK  | 3  |
| #                      | F5429394   | 56KD                        | MTL.FILM RESISTOR            | R75,R82 on JK  | 2  |
| #                      | F5399109   | 68                          | MTL.FILM RESISTOR            | R3,R4,R5,R19,R20,R44,R61,R91,R92,R96,R98,R10                 | 12 |
| #                      | F5399165   | 68K                         | MTL.FILM RESISTOR            | R76 on JK  | 1  |
|                        | F5399127   | 1.2K J                      | RESISTOR                     | R1 on PB   | 1  |
|                        | F5399154   | 27K J                       | MTL.FILM RESISTOR            | R8 on PB   | 1  |
| #                      | F5399118   | 330                         | MTL.FILM RESISTOR            | R2 on PB   | 1  |
| POTENTIOMETER          |            |                             |                              |  |    |
|                        | F3279802   | RD901-40-125F-B54-00D       | POTENTIOMETER NO CLICK 50KB  | VR3,VR2 on PB  | 2  |
|                        | F3279803   | RD901-40-125F-B54-11D       | POTENTIOMETER 11 CLICKS 50KB | VR1 on PB  | 1  |
|                        | F3279805   | RD901-40-125F-AF5-00D 250KA | POT.(W/O CLICK)              | VR4,VR5 on PB  | 2  |
| CAPACITOR              |            |                             |                              |  |    |
|                        | F5399158   | 47K J                       | RESISTOR                     |  | 2  |
|                        | F5349704   | ECPU1C474MA5 0.47           | MYLAR CAPACITOR (SUBMICRON)  | C45,C55,C59 on JK  | 3  |
|                        | F5367542   | 10/16V ALUMINIUM            | ELECTROLYTIC CAPACITOR       | C62,C72,C77,C78,C81,C85 on<br>JK,C7,C8,C9,C10,C11,C12 on PB  | 6  |
|                        | F5367542   | 10/16V ALUMINIUM            | ELECTROLYTIC CAPACITOR       |  | 6  |
|                        | F5367546   | 100/16V ALUMINIUM           | ELECTROLYTIC CAPACITOR       | C1,C14,C16,C18,C30,C83,C86,C89 on JK                         | 8  |
|                        | F5367503   | 47/6.3V ALUMINIUM           | ELECTROLYTIC CAPACITOR       | C84 on JK  | 1  |
| #                      | F5359348   | 0.0056                      | CHIP CAPACITOR               | C42,C63,C68 on JK  | 3  |
| #                      | F5359328   | 0.01                        | CHIP CAPACITOR               | C19,C20,C21,C46,C48,C52 on JK                                | 6  |
| #                      | F5359313   | 0.1                         | CHIP CAPACITOR               | C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C17,                 | 32 |
| #                      | F5359313   | 0.1                         | CHIP CAPACITOR               | C1 on PB   | 1  |
|                        | F5369805   | 470P                        | CHIP CAPACITOR               | C56,C61 on JK  | 2  |
|                        | F5369601   | 1/50V                       | CHIP CAPACITOR               | C47,C49,C67,C75 on JK,C5,C6 on PB                            | 4  |
| #                      | F5359311   | 100P                        | CHIP CAPACITOR               | C51 on JK  | 1  |
| #                      | F5359318   | 10P                         | CHIP CAPACITOR               | C22,C23,C64,C70,C74 on JK                                    | 5  |
| #                      | F5359708   | 22P                         | CHIP CAPACITOR               | C25,C24 on JK  | 2  |
| #                      | F5359309   | 33P                         | CHIP CAPACITOR               | C53,C57 on JK  | 2  |
|                        | F5359387   | GRM39B102K50PT 0.001 K      | CERAMIC CAPACITOR            | C43,C32 on JK  | 2  |
|                        | F5359345   | 0.027U (1608TYPE)           | CAPACITOR (CHIP)             | C50 on JK  | 1  |
| INDUCTOR, COIL, FILTER |            |                             |                              |  |    |
|                        | F2449210   | SLF7032T-4R7M1R7-2(4.7UH)   | SMD COIL                     | L19 on JK  | 1  |
|                        | F5409102   | N1608Z601T02                | FERRITE-BEAD                 | L1,L2,L3,L4,L5,L7,L9,L10,L16,L17,L22 on JK                   | 11 |

| <b>INDUCTOR, COIL, FILTER</b> |            |                           |                             |               |    |
|-------------------------------|------------|---------------------------|-----------------------------|---------------|----|
| #                             | F5409117   | NFM4516P13C204F           | EMI FILTER                  | C80 on JK     | 1  |
|                               | 12449386   | SBT-0180W                 | EMI FILTER                  | FL1 on JK     | 1  |
|                               | F2449209   | SLF7032T-151MR29-2(150UH) | COIL                        | L20 on JK     | 1  |
| <b>CRYSTAL, RESONATOR</b>     |            |                           |                             |               |    |
| #                             | F5299114   | HC-49SM 5MHZ              | CRYSTAL                     | X3 on JK      | 1  |
|                               | F5299104   | MA-406 (24.576MHZ)        | CRYSTAL                     | X2 on JK      | 1  |
| <b>CONNECTOR</b>              |            |                           |                             |               |    |
| #                             | F3439160   | 53015-0210 2P P=2MM       | CONNECTOR                   | CN6 on JK     | 1  |
|                               | F3439167   | A2001WR2-14P              | CONNECTOR                   | CN1,CN3 on JK | 2  |
|                               | F3439193   | A2001WV2-7P               | CONNECTOR                   | CN2 on JK     | 1  |
| <b>WIRING, CABLE</b>          |            |                           |                             |               |    |
| #                             | G3477146   | RIBBON CABLE              | 3P L=40X5X5 MM P=2MM        | CN4,CN5 on JK | 1  |
|                               | G3487419   | WIRING 14P                |                             | CN1,CN2 on PB | 2  |
| <b>SCREWS</b>                 |            |                           |                             |               |    |
|                               | H5019110   | SCREW M3X6                | PAN TAPTITE FEZC            |               | 13 |
|                               | H5019115   | SCREW M3X8                | PAN TAPPING-2 FEBZC         |               | 7  |
|                               | H5029852   | SCREW 4M3 FEBZC           | HEXAGON SOCKET BUTON HEAD   |               | 2  |
|                               | H5029855   | SCREW M4X8                | HEXAGON BUTTON HEAD NI      |               | 4  |
|                               | H5039510   | NUT M9X12X2               | FENI                        |               | 5  |
|                               | H5039413   | NYLON WASHER M4.1X7.5X0.5 | BLACK                       |               | 2  |
|                               | H5039414   | NYLON WASHER M5.1X9.5X0.5 | BLACK                       |               | 2  |
|                               | H5019430   | SCREW M2.6X5              | BINDING HEAD TAPTITE P FEZC |               | 2  |
|                               | H5039324   | MINI JACK NUT             | AJ324A-3C                   |               | 1  |
| #                             | G2147821   | JACK HOLDER               |                             |               | 1  |
|                               | H5039521   | VR ACCESSORY NUT M7       |                             |               | 5  |
|                               | H5039112   | WASHER M9                 |                             |               | 5  |
| <b>PACKING</b>                |            |                           |                             |               |    |
| #                             | F2569113   | CD PAD                    |                             |               | 1  |
|                               | G2607212   | PACKING CASE LOWER        |                             |               | 1  |
| #                             | G2627754   | PACKING CASE(UPPER)       |                             |               | 1  |
|                               | G2237613   | REAR PAD                  |                             |               | 1  |
|                               | G2237614   | SIDE PAD                  |                             |               | 1  |
| <b>MISCELLANEOUS</b>          |            |                           |                             |               |    |
| #                             | G2357115   | PEDAL FOOT                | M8                          |               | 2  |
|                               | G2537558   | QUICK MANUAL&CAUTION      | LABEL                       |               | 1  |
|                               | H2369427   | LED SPACER                | H=8MM                       | on PB         | 8  |
| #                             | H2369406   | LED SPGER                 | H=7MM(FOR GL3ED8)           | on PB         | 1  |
|                               | 2217710900 | COIL SPRING               | 217-109                     |               | 2  |
|                               | 2215770201 | PEDAL GUIDE BUSH          | 215-702                     |               | 2  |
|                               | G2257130   | BATTERY INSULATING SHEET  |                             |               | 1  |
|                               | G2177308   | BATTERY TERMINAL(+)       |                             |               | 1  |
|                               | G2177307   | BATTERY TERMINAL(+)       |                             |               | 1  |
|                               | G2177309   | BATTERY TERMINAL(-)       |                             |               | 1  |
|                               | G2357111   | CUSHION R                 |                             |               | 2  |
|                               | G225712901 | INSULATING SHEET CENTER   |                             |               | 1  |
|                               | G2197126   | LED GUIDE                 |                             | on PB         | 1  |
| <b>ACCESSORIES (Standard)</b> |            |                           |                             |               |    |
| #                             | G6017383   | CD MANUAL                 | ENGLISH/JAPANESE            |               | 1  |
| #                             | *****      | CD ROM                    | DEMO PHRASE                 |               | 1  |
|                               | G601730301 | IMPORTANT NOTES           | ENGLISH/JAPANESE            |               | 1  |
| #                             | G2537733   | LEAF CAUTION              | JAPANESE/ENGLSIH            |               | 1  |
| #                             | G6017382   | OWNER'S MANUAL            | JAPANESE                    |               | 1  |
| #                             | G6017384   | OWNER'S MANUAL            | ENGLISH                     |               | 1  |

## CHECKING THE VERSION NUMBER

1. Completely turn down all volume controls.
2. Hold down the left pedal (ON/OFF) and right pedal (TAPL/MEMORY) and connect the +9 V DC plug to the ADAPTOR JACK.

(This turns on the power).

\* If no +9 V DC plug is available to connect to the ADAPTOR JACK, the power can be turned on by placing batteries in the unit and connecting a cable to the OUTPUT jack.

3. Only the POWER LED lights up.
4. Release the left and right pedals.
5. Press the left and right pedals, in that sequence, within a period of two second.
6. The unit enters Test mode, and all LEDs other than the PEAK LED light.
  - \* Failure of all LEDs other than the PEAK LED to light indicates an error. For more detailed information, refer to the individual test categories in "Test Mode."
7. Press the right pedal.

The internal ROM version and external FLASH version are indicated by the LEDs.

### Display of the Internal ROM Version

This is indicated by the four LEDs "FLAT AMP SIMULATE," "CENTER CANCEL," "NORMAL," and "INST & MIC."

| LED                          | Version |
|------------------------------|---------|
| Only "FLAT AMP SIMULATE" lit | Ver1.00 |
| Only "CENTER CANCEL" lit     | Ver1.01 |
| Only "NORMAL" lit            | Ver1.02 |
| Only "INST & MIC" lit        | Ver1.03 |

### Display of the External FLASH Version

This is indicated by the four LEDs "REVERSE," "TAP TEMPO," "WRITE," "EXIT," "AUTO START," "LOOP PHRASE," and "LOOP QUANTIZE."

| LED                      | Version |
|--------------------------|---------|
| Only "TAP TEMPO" lit     | Ver1.01 |
| Only "WRITE" lit         | Ver1.02 |
| Only "EXIT" lit          | Ver1.03 |
| Only "AUTO START" lit    | Ver1.04 |
| Only "LOOP PHRASE" lit   | Ver1.05 |
| Only "LOOP QUANTIZE" lit | Ver1.06 |

## SERIAL DUMP(SYSTEM UPDATE, USERS DATA SAVE AND LOAD)

The following data can be transmitted and received between two RC-20 units without using any other devices.

1. Program  
The RC-20XL's original external FLASH ROM can be updated by setting the RC-20XL with the latest version as the transmitting device and the RC-20XL with the previous version as the receiving device.
2. Guide sound  
The RC-20XL's guide sound can be transmitted and received.
3. Phrases (1-11)  
Any RC-20XL phrase to which the Phrase Select Volume has been saved can be transmitted and received.  
Use this function to save the user's phrases temporarily during repairs.

### Procedure

1. Connect the transmitting RC-20XL and the receiving RC-20XL as follows.

Connect the REVERSE jack and PHRASE SHIFT jack respectively.

Transmitting RC-20XL Receiving RC-20XL

REVERSE -----> PHRASE SHIFT

PHRASE SHIFT -----> REVERSE

2. Start up the transmitting RC-20XL in Dump mode.
  - 1) While holding down the [TAP TEMPO] and [AUTO START] buttons, turn on the power of the transmitting RC-20XL.
  - 2) [EXIT] and the [FLAT AMP SIMULATE] and [REC] [PLAY] [OVERDUB] indicators will light.
3. Start up the receiving RC-20XL in Update mode.
  - 1) Turn the [LEVEL] knob and [GUIDE] knob all the way to the left.
  - 2) Set the [PHRASE SELECT] knob to 1.
  - 3) While holding down the [REVERSE] and [MODE] buttons, turn on the power of the receiving RC-20XL.
  - 4) Within three seconds of turning on the power, press the [REVERSE] button and then the [MODE] button.  
[WRITE] and the [FLAT AMP SIMULATE] and [REC] [PLAY] [OVERDUB] indicators will light.
    - \* In Dump mode the [EXIT] indicator will light, but in Update mode the [WRITE] indicator will light.
4. Select the data that you want to send from the transmitting RC-20XL
  - 1) Press the [TAP TEMPO] button to select the data that you want to send. The type of data being transmitted is indicated by the [TAP TEMPO] LED.

| [TAP TEMPO] | Transmitting data                 |
|-------------|-----------------------------------|
| Dark        | Program, Guide sound, All phrases |
| Green       | Specified phrase                  |
| Red         | Guide sound                       |
| Orange      | Program                           |

2) If the [TAP TEMPO] indicator is green, use the [PHRASE SELECT] knob to select the phrase that will be transmitted.

5. Transmit the data from the transmitting RC-20XL.  
Transmission will begin when you press the left pedal of the transmitting RC-20XL.  
During transmission, the "CENTER CANCEL" [MODE] indicator lights for both devices.

Transmission and reception are completed when the [MODE] indicator stops at "FLAT AMP SIMULATE" on both the transmitting and receiving RC-20XL. When the [TAP TEMPO] indicator goes off, the [MODE] indicator on the transmitting device stops at "FLAT AMP SIMULATE," and the [MODE] indicator on the receiving device stops at "INST&MIC."

State of the transmitting RC-20XL

"FLAT AMP SIMULATE" Waiting to transmit

- \* The RC-20XL will briefly be in this state between data items.
- \* Since the guide sound data is divided into two parts, the RC-20XL will briefly be in this state even when transmitting only the guide sound data.

"CENTER CANCEL" Now transmitting

"NORMAL" No data for transmission

State of the receiving RC-20XL

"FLAT AMP SIMULATE" Waiting for reception

- \* The RC-20XL will briefly be in this state between data items.
- \* Since the guide sound data is divided into two parts, the RC-20XL will briefly be in this state even when receiving only the guide sound data.

"CENTER CANCEL" Now receiving

"NORMAL" Error

- \* An error will also occur if memory becomes full.



With the factory settings, transmitting the program, guide sound, and all phrases will require approximately 2 minutes.



Never turn off the power until transmission/reception has been completed.

6. Repeat steps 4. - 5. as necessary.
7. Turn off the power when you are finished.

# INSTRUCTIONS FOR FACTORY RESET

The RC-20XL can be restored to its original factory settings with the following procedure.



Restoring the factory settings with this procedure requires another RC-20XL currently programmed with the factory settings.

## Procedure

1. Turn on the power to the RC-20XL that is to have the factory settings restored.
2. Turn the PHRASE SELECT knob to "1."
3. Hold down SHIFT(EXIT) and press the DELETE(WRITE) button, causing the two indicators to flash.

The RC-20XL is put in delete standby.

4. Press the DELETE(WRITE) button.

The indicator lights while the delete is in progress; when the delete is finished, the indicator light goes off.



Do not turn off the power to the unit while the WRITE indicator or EXIT indicator is lit.

All data saved to the Phrase tracks is completely deleted.

5. Repeat Steps 2-4 above for the PHRASE SELECT knob settings "2" to "4."
6. Turn off the power to the unit.
7. As per the instructions for "Serial Dump" above, set the RC-20XL to which the factory settings are being loaded as the receiving device and the RC-20XL already containing the factory settings as the transmitting device.
  - 1) When the settings are transmitted, the [TAP TEMPO] indicator in Step 4 of "Serial Dump" is green.
  - 2) Set PHRASE SELECT VOLUME to "5" to execute transmission/reception of the data.
8. Set PHRASE SELECT VOLUME to "6" and repeat the procedure for 6 to 11.
9. Turn off the power to the unit.
10. Confirm that the phrases with the factory settings are saved to PHRASE SELECT VOLUME 5-11.

# TEST MODE

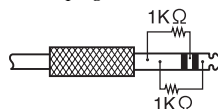
## Test items

1. FLASH ROM check
2. Version number check
3. Switch and LED check
4. LEVEL volume check
5. GUIDE volume check
6. DA check
7. Output check
8. INST volume check
9. MIC volume check
10. MUTE check
11. AUX IN (NORMAL) check
12. AUX IN (FLAT AMP SIMULATE) check
13. AUX IN (CENTER CANCEL) check
14. AUX IN (L ch) check
15. solder spot check

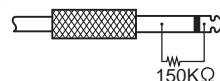
16. PHRASE SELECT volume check
17. Noise check
18. Battery operation check

## Items required for tests

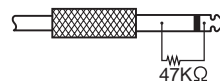
- Oscillators x 2
- Oscilloscope
- Noise meter
- Monitor amp
- FS-5U x 2
- 1k ohm stereo mini short plug:(#17041376)



- 150 ohm short plug:(#17041511)



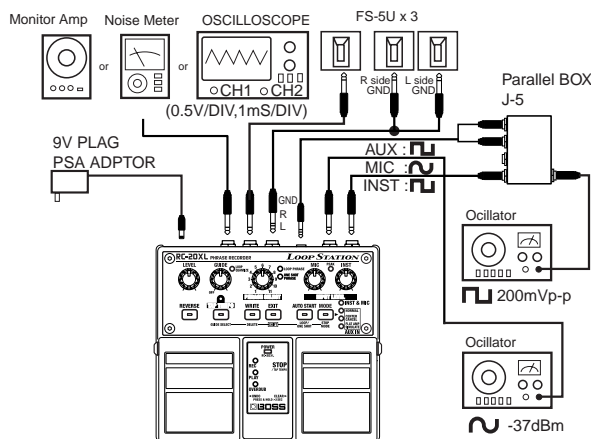
- 47k ohm short plug:(#17041375)



- Parallel box(BOSS J-5 ect.)
- +9V DC PLUG(AC ADAPTOR BOSS PSA-series)
- Stereo phone <-> monaural phone conversion cable(PCS-31 ect.)
- Stereo mini <-> monaural phone conversion cable

## Entering test mode

- Refer to the following figure and connect the diagnostic equipment.



- Set all volumes to minimum.
- While holding the left pedal and right pedal, connect the adaptor to the AC ADAPTOR JACK to turn on the power.

When only the POWER LED is lit, within two seconds press the left pedal and then the right pedal.

- You will enter Test mode, and all LEDs other than "PEAK" will either light or blink.



A FLASH ROM check is automatically performed when you enter Test mode. The state of the LEDs when you enter Test mode will depend on the result of this test. For details refer to the following item "1. FLASH check."



For details on how to skip directly to a desired test item, refer to "Skipping directly to the desired test," following the explanations of each test item.

## Exiting Test Mode

Turn off the power

## Explanation of each test item

### 1.FLASH ROM check

- Enter Test mode.
- The FLASH ROM check will be performed when you enter Test mode.
- If there are no problems, all LEDs other than "PEAK" will light.

If there is a problem, the state of the LEDs will indicate the problem as follows.

"OVERDUB" (yellow) blinking : MAKER ID error

"PLAY" (green) blinking : DEVICE ID error

"REC" (red) blinking : BUSY error



If a problem was found, operation will stop and it will not be possible to proceed to the next step. Turn off the power to exit Test mode.



If there are any unlit LEDs regardless of whether or not there was a problem, it is possible that the LED is faulty or soldered incorrectly. (With the exception of "PEAK.")

### 2.Version number check

- Press the right pedal.
- The internal ROM version number and the external FLASH ROM version number will be indicated by the LEDs.

Internal ROM version number display

This is indicated by the four LEDs "FLAT AMP SIMULATE", "CENTER CANCEL", "NORMAL", and "INST & MIC."

"FLAT AMP SIMULATE" only lit : Ver1.00

"CENTER CANCEL" only lit : Ver1.01

"NORMAL" only lit : Ver1.02

"INST & MIC" only lit : Ver1.03

External FLASH ROM version number display

This is indicated by the following six LEDs: "TAP TEMPO", "WRITE", "EXIT", "AUTO START", "ONE SHOT PHRASE", and "LOOP QUANTIZE."

"TAP TEMPO" only lit : Ver1.01

"WRITE" only lit : Ver1.02

"EXIT" only lit : Ver1.03

"AUTO START" only lit : Ver1.04

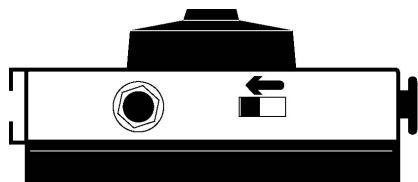
"ONE SHOT PHRASE" only lit : Ver1.05

"LOOP QUANTIZE" only lit : Ver1.06

- After verifying the version, press the right pedal.
- All LEDs other than "PEAK" will light.

### 3.Switches and LED check

- Connect two FS-5U units to the PHRASE SHIFT jack and REVERSE jack.
- Set the FS-5U polarity switches to the position shown in the diagram.



- Press the REVERSE switch.
- Verify that "REVERSE", "PLAY", and "OVERDUB", go dark, and that "TAP TEMPO" changes from orange to red.
- Press the TAP TEMPO switch, and verify that "TAP TEMPO" goes dark.
- Press the WRITE switch, and verify that "WRITE" goes dark.
- Press the EXIT switch, and verify that goes dark "EXIT."

- Press the AUTO START switch, and verify that "AUTO START" goes dark.
- Press the MODE switch, and verify that "INST & MIC", "NORMAL", "CENTER CANCEL", and "FLAT AMP SIMULATE" go dark.
- Press the FS-5U connected to the PHRASE SHIFT jack (left channel), and confirm that the "ONE SHOT PHRASE" indicator light goes off.
- Press the FS-5U connected to the PHRASE SHIFT jack (right channel), and confirm that the "LOOP PHRASE" indicator light goes off.
- Press the FS-5U that is connected to the REVERSE jack, and verify that all LEDs other than "PEAK" light.

### 4.LEVEL volume check

- Refer to the connection diagram in "Entering Test Mode" and connect the diagnostic equipment.

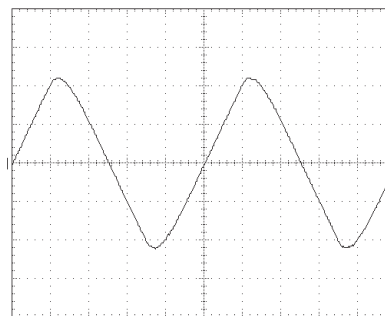
Input

INST : 200Hz, square wave, 200 mVp-p

MIC : 200 Hz, sine wave, -34 dBm

AUX IN : 200 Hz, square wave, 200 mVp-p, STEREO

- Move the LEVEL volume to approximately the center position, and then back to the minimum position.
  - Move the LEVEL volume from 'minimum' to 'maximum', and verify that the waveform increases smoothly.
- At this time, the MODE LEDs will light consecutively from "FLAT AMP SIMULATE," following the waveform.
- With the LEVEL volume at maximum, verify that the output waveform is the same as shown in the diagram.
  - Confirm that all LEDs other than PEAK are lit.

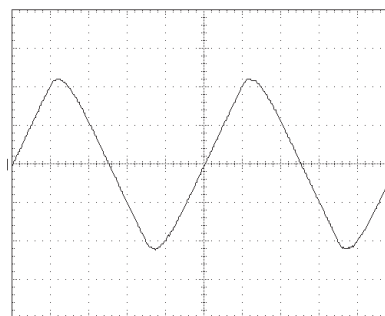


(0.5V/DIV, 1mS/DIV)

200Hz, 2.2Vp-p ± 0.2Vp-p

### 5.GUIDE volume check

- Move the GUIDE volume to approximately the center position, and then back to the minimum.
  - Move the GUIDE volume from 'minimum' to 'maximum,' and verify that the waveform increases smoothly.
- At this time, the MODE LEDs will change successively from "FLAT AMP SIMULATE," following the waveform.
- With the GUIDE volume at maximum, verify that the output waveform is the same as shown in the diagram.
  - Confirm that all LEDs other than PEAK are lit.



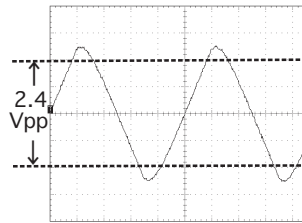
(0.5V/DIV, 1mS/DIV)

200Hz, 2.2Vp-p ± 0.2Vp-p

### 6.DA check

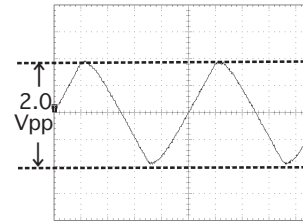
- Once again check the output waveform at the point that "5.GUIDE volume check" is completed, to check the DC leakage and level. In the following cases, the result is NG.

Excessive level NG



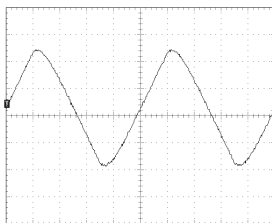
(0.5V/DIV, 1mS/DIV)

Insufficient level NG



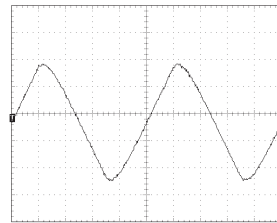
(0.5V/DIV, 1mS/DIV)

+DC NG(Asymmetrical:the upper and lower sides)



(0.5V/DIV, 1mS/DIV)

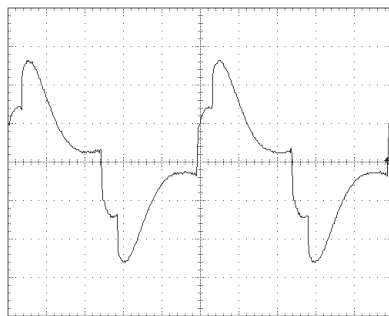
-DC NG(Asymmetrical:the upper and lower sides)



(0.5V/DIV, 1mS/DIV)

### 7.OUTPUT check

- .Set the INST volume and MIC volume to 'minimum'.
- .Set the PHRASE SELECT volume to the 'REVERSE' are lit.
- .Verify that the output waveform is as shown in the diagram.



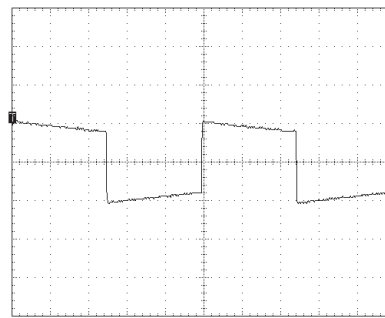
(0.5V/DIV, 1mS/DIV)



The waveform will change slightly depending on the inaccuracy of the input function.

### 8.INST volume check

- Set the PHRASE SELECT volume to the '3' position.
- Verify that "REVERSE" is dark and "TAP TEMPO" is lit red.
- Set the INST volume to 'minimum,' and slowly move it to 'maximum.'
- Verify that the waveform increases smoothly.
- Verify that that when the INST volume is at maximum, the waveform is the same as shown in the diagram.

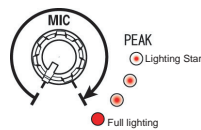


(0.5V/DIV, 1mS/DIV)

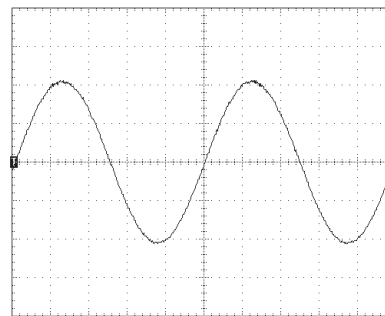
1.2Vp-p ± 0.2Vp-p

### 9.MIC volume check

- Set the PHRASE SELECT volume to the '4' position.
- Verify that "TAP TEMPO" changes from red to green.
- Set the MIC volume to minimum, and gradually move it to maximum.
- Verify that the waveform increases smoothly.
- Rotate the MIC volume control and confirm that "PEAK" lights as shown in the figure.



- Confirm that the same waveform as in the figure is produced when the MIC volume control is at maximum.

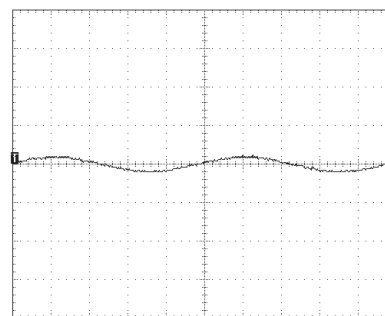


(0.5V/DIV, 1mS/DIV)

- Connect a noise meter to OUTPUT, and verify that the reading is in the range of -1.0 dBm ± 1.5 dBm.

### 10.MUTE check

- Set the PHRASE SELECT volume to the '5' position.
- Verify that "TAP TEMPO" is dark and "LOOP QUANTIZE" is lit.
- Verify that the output waveform is the same as the waveform shown in the diagram.



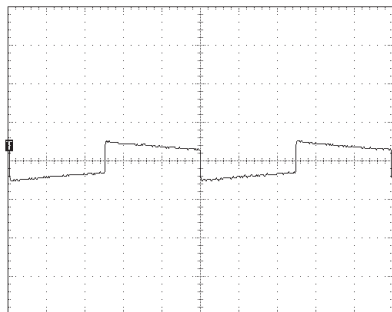
(0.5V/DIV, 1mS/DIV)

- Connect a noise meter to OUTPUT, and verify that the reading is in the range of -22.0 dBm ± 1.5 dBm.



## 11.AUX IN (NORMAL) check

- Set the PHRASE SELECT volume to the '6' position.
- Verify that "LOOP QUANTIZE" is dark and "LOOP PHRASE" is lit.
- Verify that the output waveform is the same as the waveform shown in the diagram.

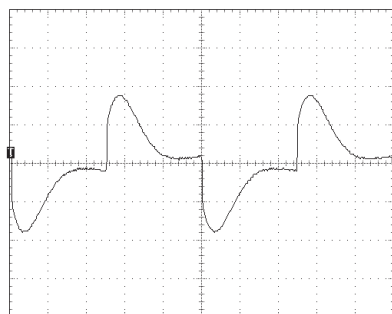


(0.5V/DIV, 1mS/DIV)

0.6Vp-p ± 0.1Vp-p

## 12.AUX IN (FLAT AMP SIMULATE) check

- Set the PHRASE SELECT volume to the '7' position.
- Verify that "LOOP PHRASE" is dark and "INST & MIC" is lit.
- Verify that the output waveform is the same as the waveform shown in the diagram.



(0.5V/DIV, 1mS/DIV)

2.0Vp-p ± 0.2Vp-p

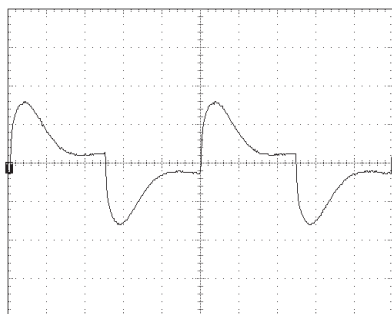
- Press the FS-5U that is connected to the REVERSE jack, and verify that the waveform does not decrease.

## 13.AUX IN (CENTER CANCEL) check

- Set the PHRASE SELECT volume to the '8' position.
- Verify that "INST & MIC" is dark and "NORMAL" is lit.
- Verify that there is no longer an output waveform.

## 14.AUX IN (L ch) check

- Set the PHRASE SELECT volume to the '9' position.
- Verify that "NORMAL" is dark and "CENTER CANCEL" is lit.
- Input only the L channel to AUX IN.
- Verify that the output waveform is the same as the waveform shown in the diagram.

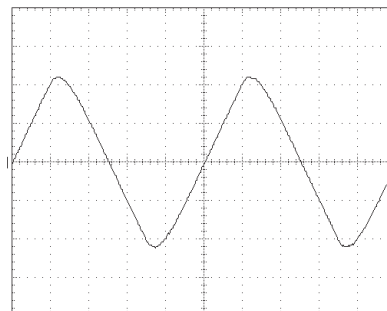


(0.5V/DIV, 1mS/DIV)

1.8Vp-p ± 0.2Vp-p

## 15.solder spot check

- Set the PHRASE SELECT volume to the '10' position.
- Verify that "CENTER CANCEL" is dark and "FLAT AMP SIMULATE" is lit.
- Verify that there is no longer an output waveform.
- Set the PHRASE SELECT volume to the '11' position.
- Verify that all LEDs are lit except for "PEAK."
- Verify that the output waveform is the same waveform as shown in the diagram.



(0.5V/DIV, 1mS/DIV)

200Hz, 2.2Vp-p ± 0.2Vp-p

## 16. PHRASE SELECT volume check

- Set the PHRASE SELECT control to the "10" position.
- Confirm that the FLAT AMP SIMULATE LED goes off.
- Set the PHRASE SELECT control to the "9" position.
- Confirm that the CENTER CANCEL LED goes off.
- Set the PHRASE SELECT control to the "8" position.
- Confirm that the NORMAL LED goes off.
- Set the PHRASE SELECT control to the "7" position.
- Confirm that the INST & MIC LED goes off.
- Set the PHRASE SELECT control to the "6" position.
- Confirm that the LOOP PHRASE LED goes off.
- Set the PHRASE SELECT control to the "5" position.
- Confirm that the LOOP QUANTIZE LED goes off.
- Set the PHRASE SELECT control to the "4" position.
- Confirm that the TAP TEMPO LED changes from red to orange.
- Set the PHRASE SELECT control to the "3" position.
- Confirm that the TAP TEMPO LED goes off.
- Set the PHRASE SELECT control to the "2" position.
- Confirm that the REVERSE LED goes off.
- Set the PHRASE SELECT control to the "1" position.
- Confirm that all LEDs other than the PEAK LED are lit.
- Confirm that the "POWER" indicator is lit.

## 17.Noise check

- Set the PHRASE SELECT volume to the '2' position.
- Connect a 47k ohm short plug to the INST jack, a 150k ohm short plug to the MIC jack, and a 1 k ohm stereo short plug to the AUX IN jack.
  - Connect a monitor amp to OUTPUT.
  - Set the INST volume and MIC volume to the maximum.
  - Drop the unit from a height of 10 cm, and verify that no abnormal noise is output.
    - Turn the INST volume and MIC volume, and verify that no abnormal noise is output.
    - With the INST volume and MIC volume at the maximum positions, measure the residual noise, and verify that it is less than -78 dBm (IHFA).

## 18.Battery operation check

- Put the battery in the battery compartment and insert the plug into the OUTPUT jack.
  - Verify that POWER is lit

**NOTE**

Always check the battery after repairing or servicing the product.

## Skipping directly to the desired test

- Enter Test mode.
- The FLASH ROM check will occur automatically, and if there is no problem, all LEDs other than "PEAK" will light.
- Follow the procedure described in the section for the test you want to perform.

**NOTE**

In order to perform "5. GUIDE volume check," you must first perform "4. LEVEL volume check."

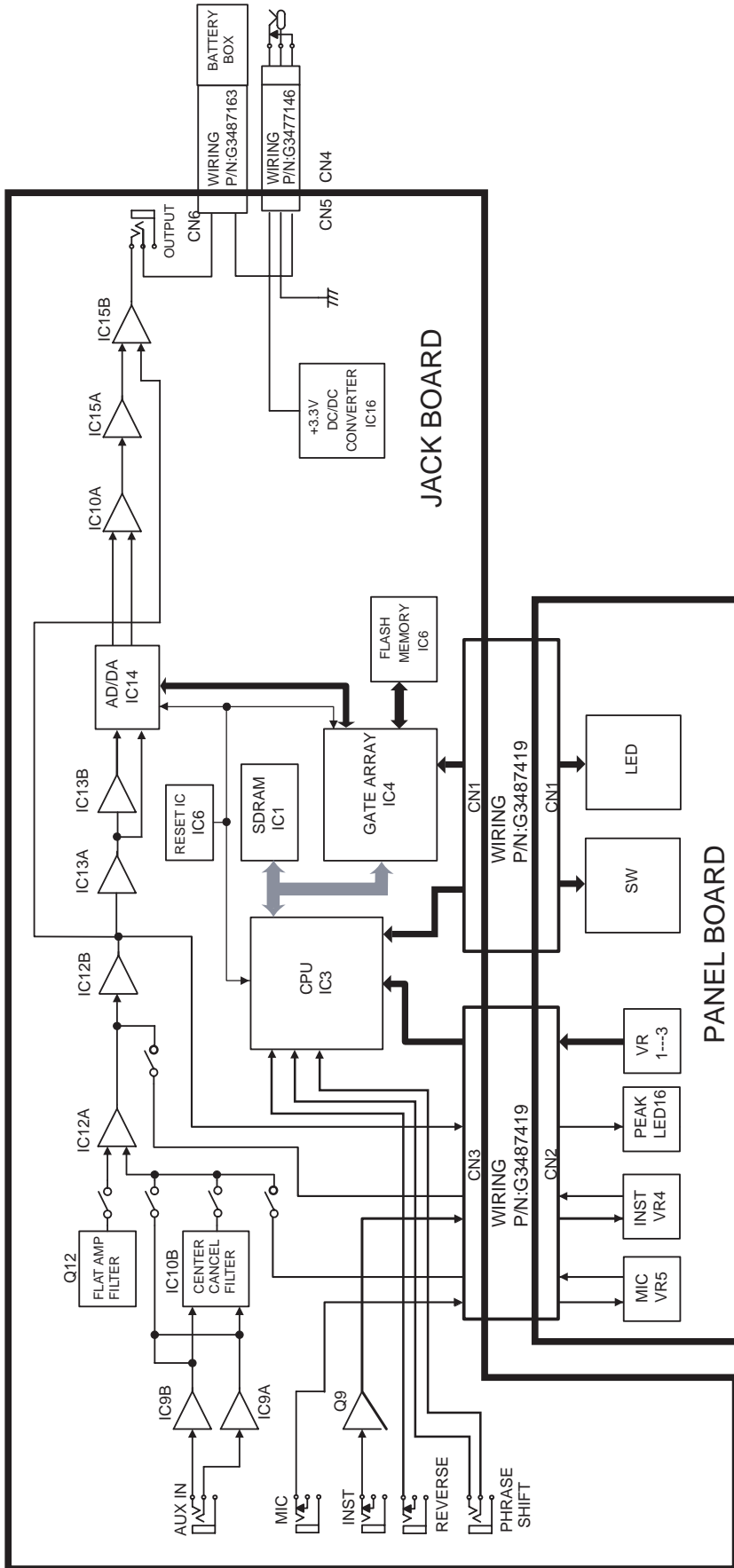
## Exiting Test mode

- Disconnect the plug from the ADAPTOR jack to turn off the power.

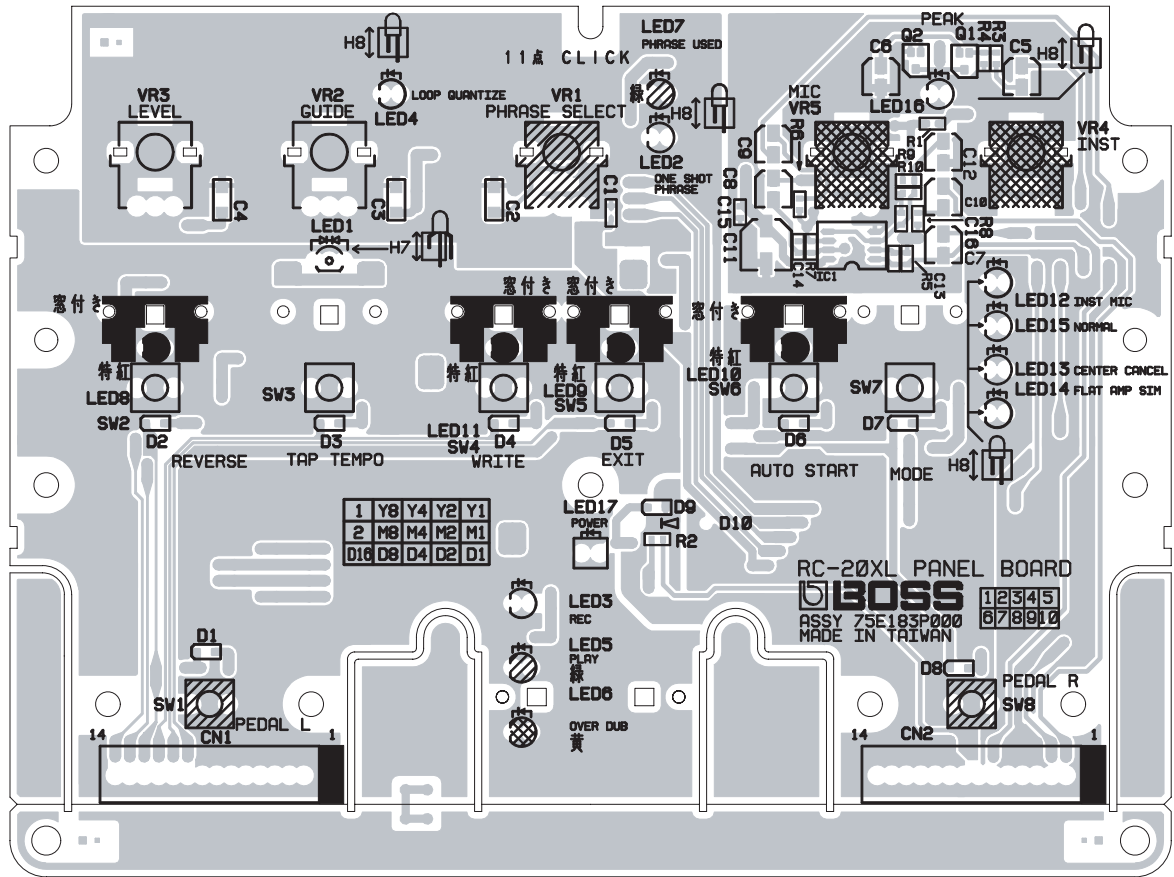
## Cautions

After repairing or servicing the product, you must check all test items.

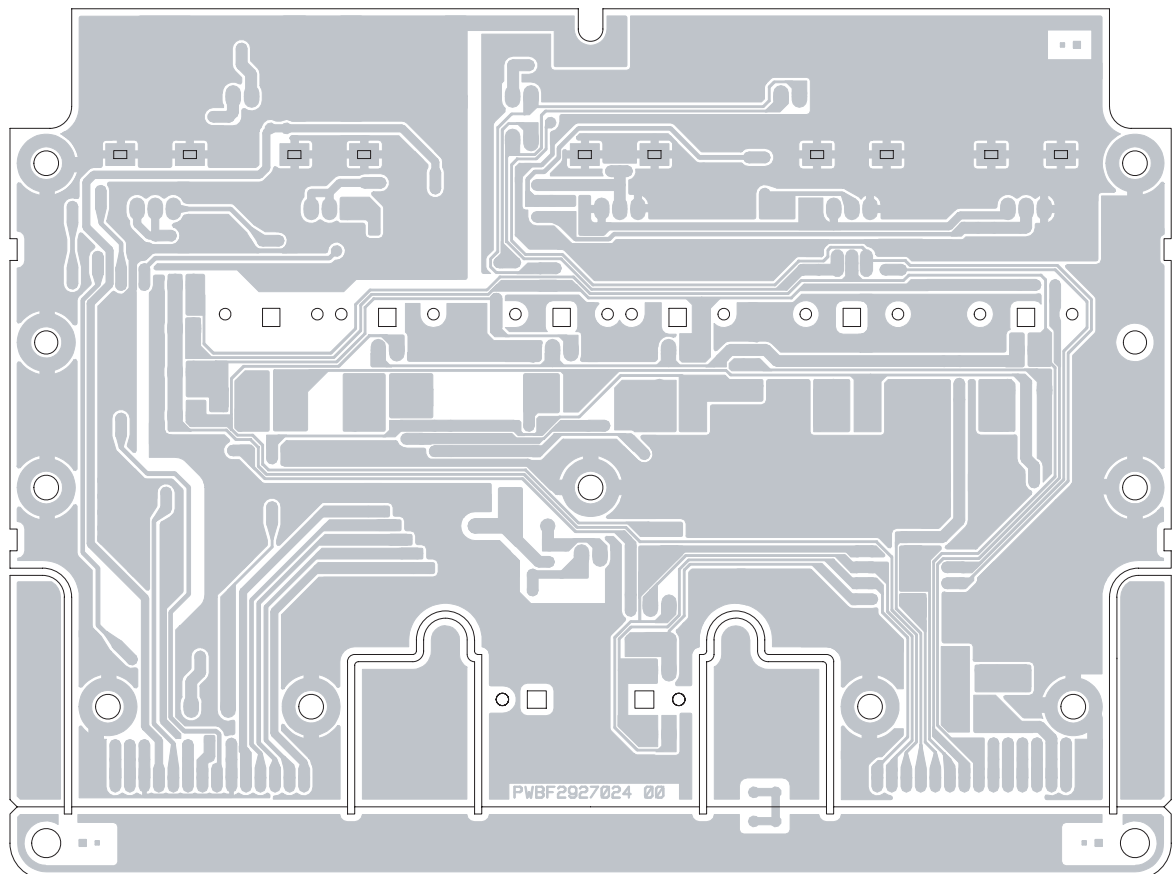
# BLOCK DIAGRAM



# CIRCUIT BOARD (PANEL)



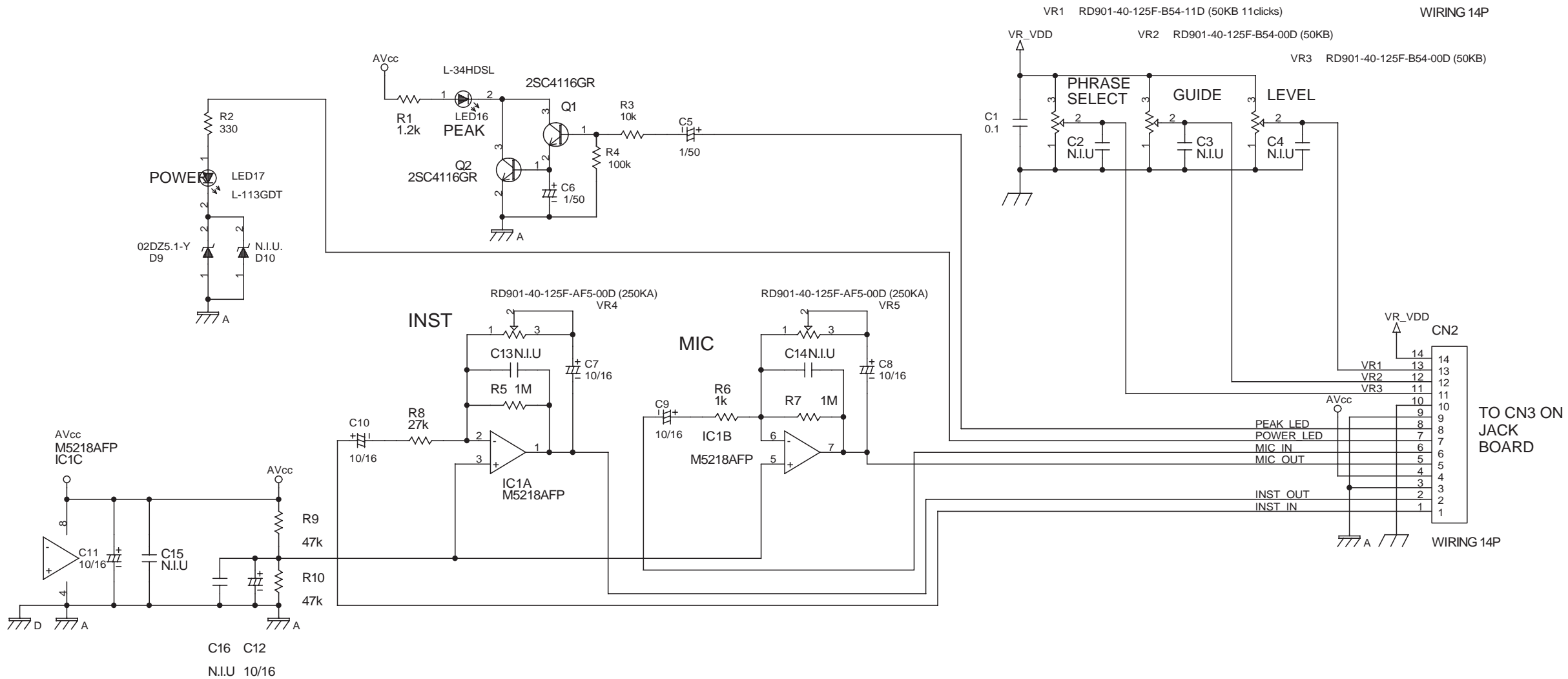
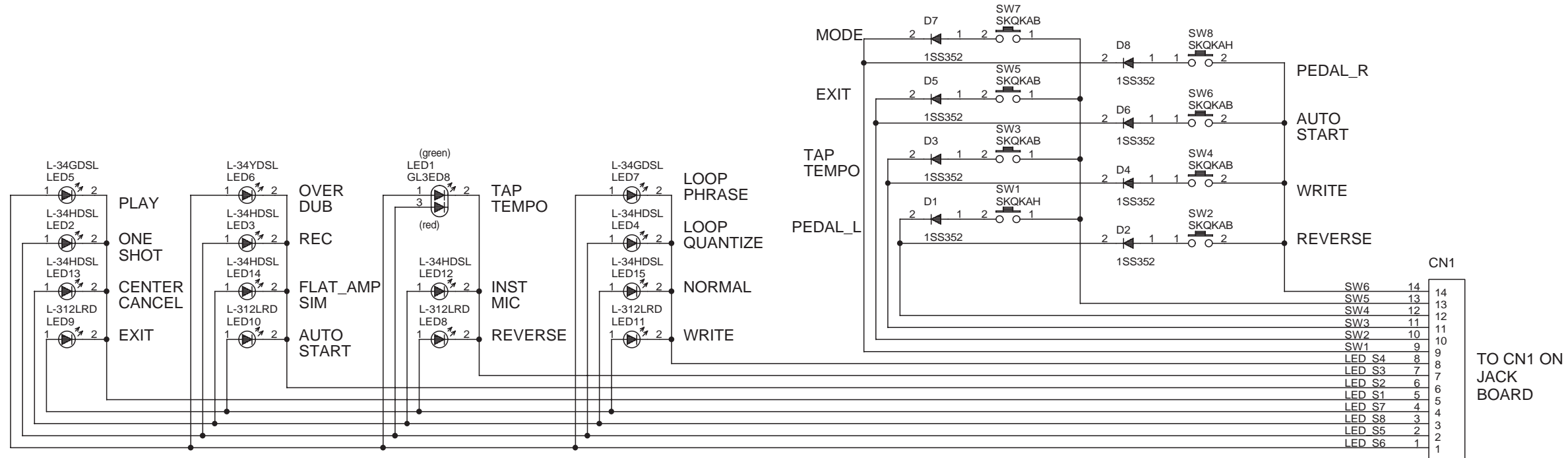
View from components side



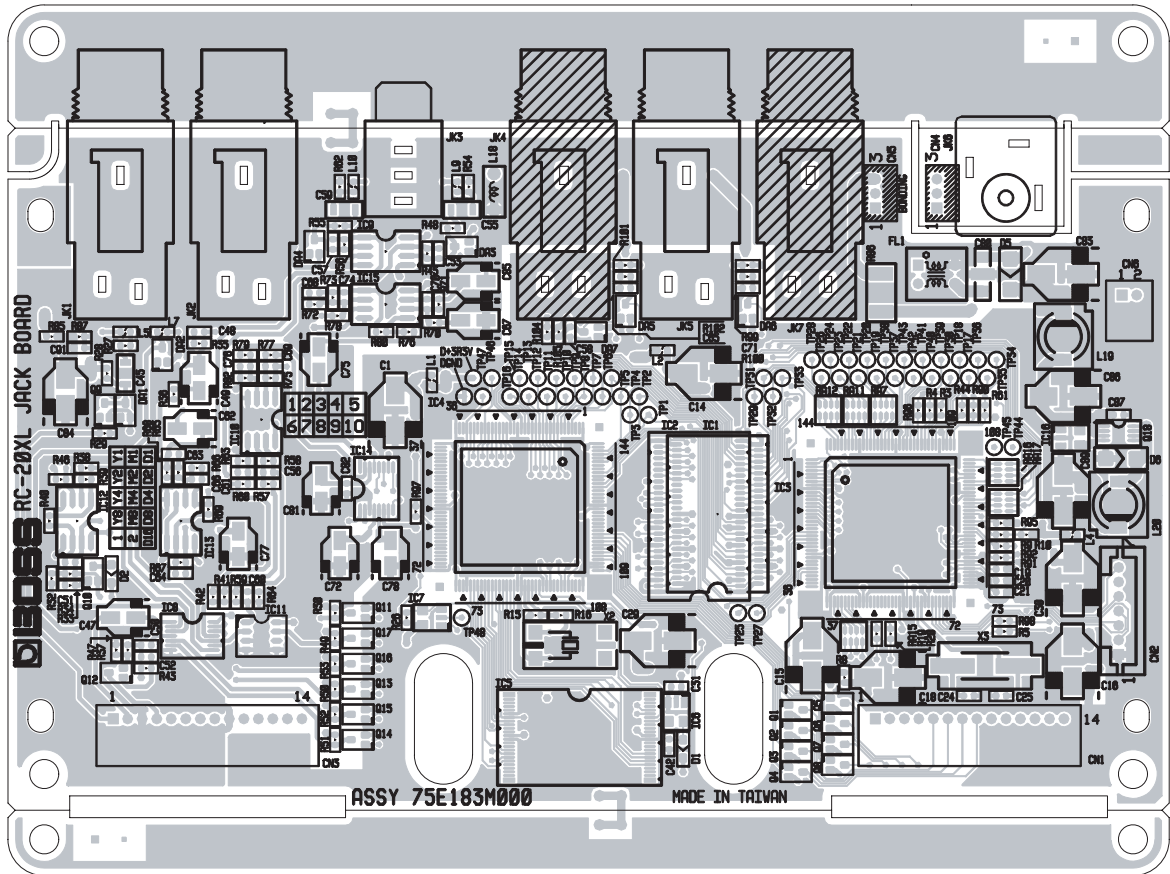
View from foil side



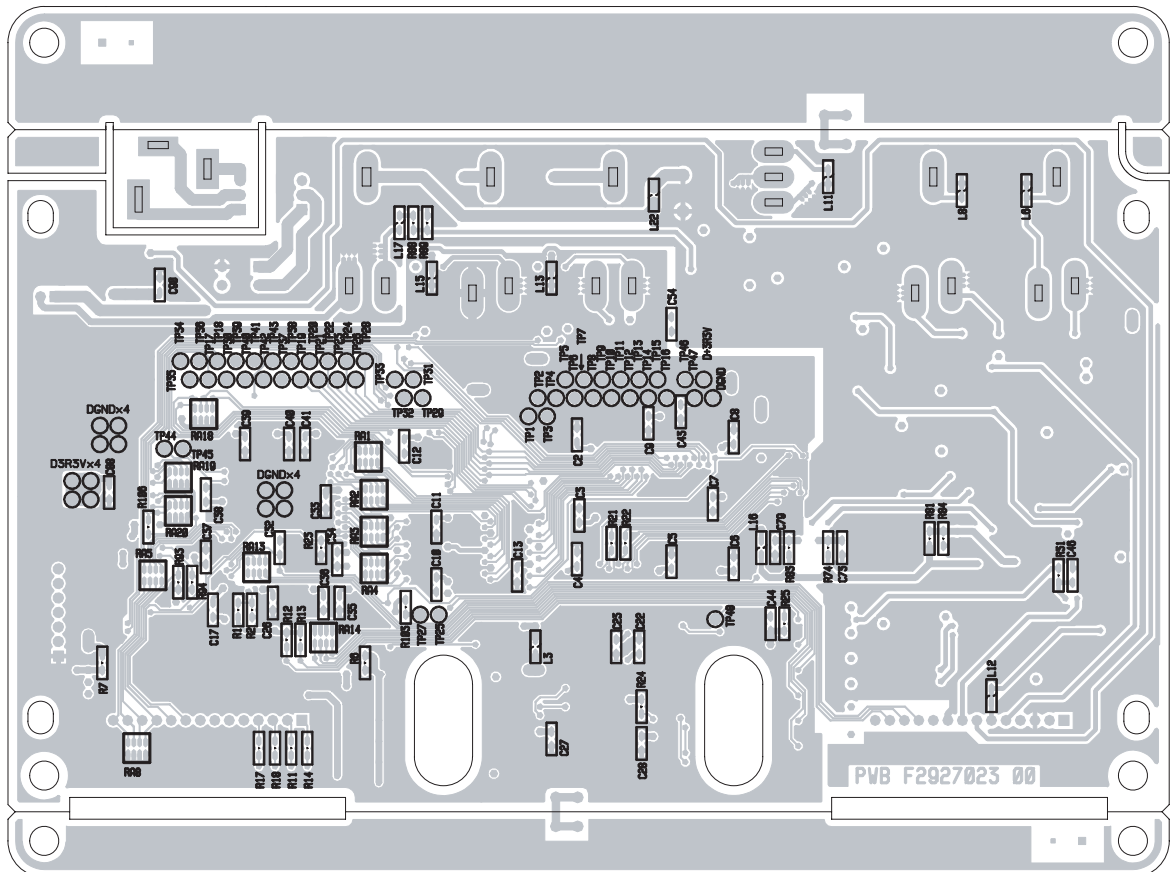
# CIRCUIT DIAGRAM (PANEL)



# CIRCUIT BOARD(JACK)



View from components side

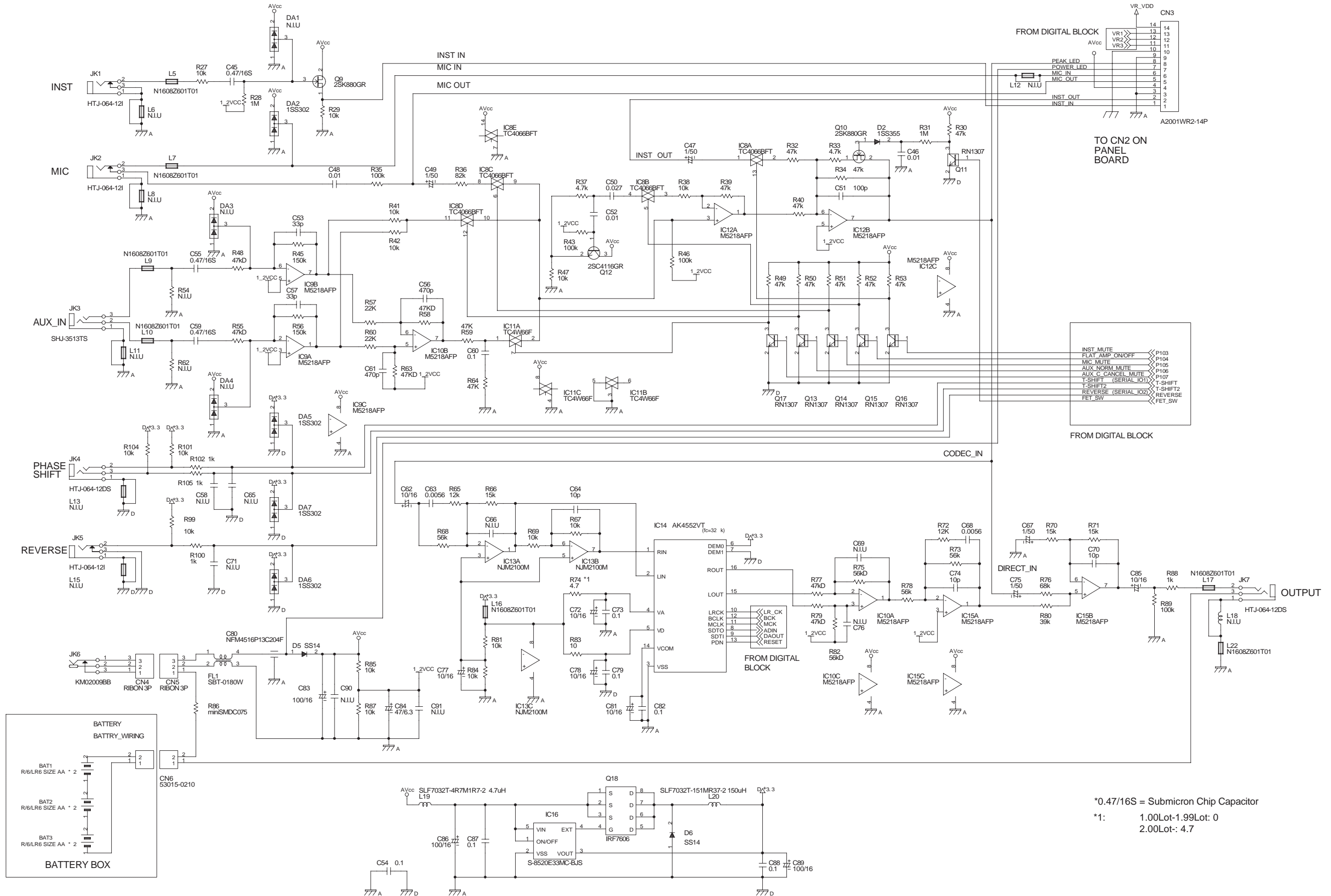


View from foil side





# CIRCUIT DIAGRAM (JACK1)



\*0.47/16S = Submicron Chip Capacitor  
 \*1: 1.00Lot-1.99Lot: 0  
 2.00Lot-: 4.7

# CIRCUIT DIAGRAM (JACK 2)

