

# UD-Stomp MODULATION DELAY

## SERVICE MANUAL



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This document is printed on chlorine free (ECF) paper with soy ink.

### IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

**WARNING :** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

**IMPORTANT :** This presentation or sale of this manual to any individual or firm does not constitute authorization certification, recognition of any applicable technical capabilities, or establish a principal-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

**WARNING :** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground bus in the unit (heavy gauge black wires connect to this bus.)

**IMPORTANT :** Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

### LITHIUM BATTERY HANDLING

This product uses a lithium battery for memory back-up.

**WARNING :** Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following precautions when handling or replacing lithium batteries.

- Leave lithium battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board by soldering, solder using the connection terminals provided on the battery cells.
- Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.

#### ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig handling. Udskiftning ma kun ske med batteri af samme fabrikat og type. lever det brugte batteri tilbage til leverandren.

#### VARNING

Explosionsfara vid felaktigt batteribyte.  
Anvand samma batterityp eller en ekvivalent typ som rekommenderas av apparatillverkaren.  
Kassera anvant batteri enligt fabrikantens instruktion.

#### VAROITUS

Paristo voi rajahtaa, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.  
Havita kaytetty paristo valmistajan ohjeiden mukaisesti.

The following information complies with Dutch official Gazette 1995. 45; ESSENTIALS OF ORDER ON THE COLLECTION OF BATTERIES.

- Please refer to the disassembly procedure for the removal of Back-up Battery.
- Leest u voor het verwijderen van de backup batterij deze beschrijving.

### WARNING: CHEMICAL CONTENT NOTICE!


The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (Where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

**DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!**

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

## ■ WARNING

Components having special characteristics are marked  and must be replaced with parts having specification equal to those originally installed.

## ■ SPECIFICATIONS

### Digital Section

- 8-Band Delay (Delay Time: 696msec max per band)
- Delay Time, Loop Filter (High Cut, Low Cut), Feedback, Tap, Pan, Level parameters can be set for each individual Effect Band.
- Effect Bands can be connected in series or parallel
- Effect Bands can be grouped together
- Maximum delay time (8 bands grouped) is 5890msec
- The same number of delay outputs as the number of delays used in the Group are available.
- Tap Tempo Function (Delay Time)
- Loop Sampling Function
- Individual Modulation Settings (Speed, Depth) for each Effect Band are available.
- Two types of modulation waves can be set simultaneously (Sine + Triangle/Saw Up/Saw Down).
- Modulation sync between bands is available.

### MIDI Functions

Receive: Program Change (Program Change Table can be created), Control Change, Bulk In  
 Transmit: Program Change, Control Change, Bulk Out, Merge Out

### Controller Switch

#### Top Panel

Push Switch x17  
 UP, DOWN, UTILITY, STORE, EFFECT BAND (1 - 8),  
 CONNECT, GROUP, SYNC, WAVE, FUNCTION

Knob x14  
 ASSIGNABLE CONTROL, TIME COARSE, TIME FINE,  
 LOW CUT FILTER, HIGH CUT FILTER, FEEDBACK,  
 DIRECT LEVEL/PAN, TAP, SPEED, DEPTH, PAN, LEVEL,  
 EFFECT LEVEL, OUTPUT

Footswitch x4  
 1, 2, 3, BANK

#### Rear Panel

STAND-BY ON/OFF, INPUT LOW/HIGH

#### Display

7 Segment LED (3 digit) x1  
 Push Switch LED x17  
 Foot Switch LED x4

### Connections/Jacks

INPUT: Standard Monaural Phone Jack  
 OUTPUT L/MONO, R: Standard Monaural Phone Jack  
 PHONES: Standard Stereo Phone Jack  
 EXP. PEDAL: Standard Stereo Phone Jack  
 DIGITAL OUT: COAXIAL (Sampling Rate : 44.1 kHz)  
 MIDI IN, MIDI OUT: 5 pin DIN

### A/D Converter

20 bit + 3 bit Floating

### D/A Converter

20 bit

### Sampling Frequency

44.1 kHz

### Memory Allocations

Preset: 90  
 User: 90

### Input Level/Impedance (When using preamp bypass)

INPUT HIGH: -25dBm/1M $\Omega$   
 INPUT LOW: -15dBm/1M $\Omega$

### Output Level/Impedance

OUTPUT L/MONO, R: 0dBm/1k $\Omega$   
 PHONES: 0dBm/47 $\Omega$  (47 $\Omega$  load)

### Power

Exclusive Power Adaptor (AC-10)  
 AC Output: AC12V, 1000mA

### Power Consumption

15W

### Dimensions (WxHxD)

280x70x184mm (11.0"x2.8"x7.2")

### Weight

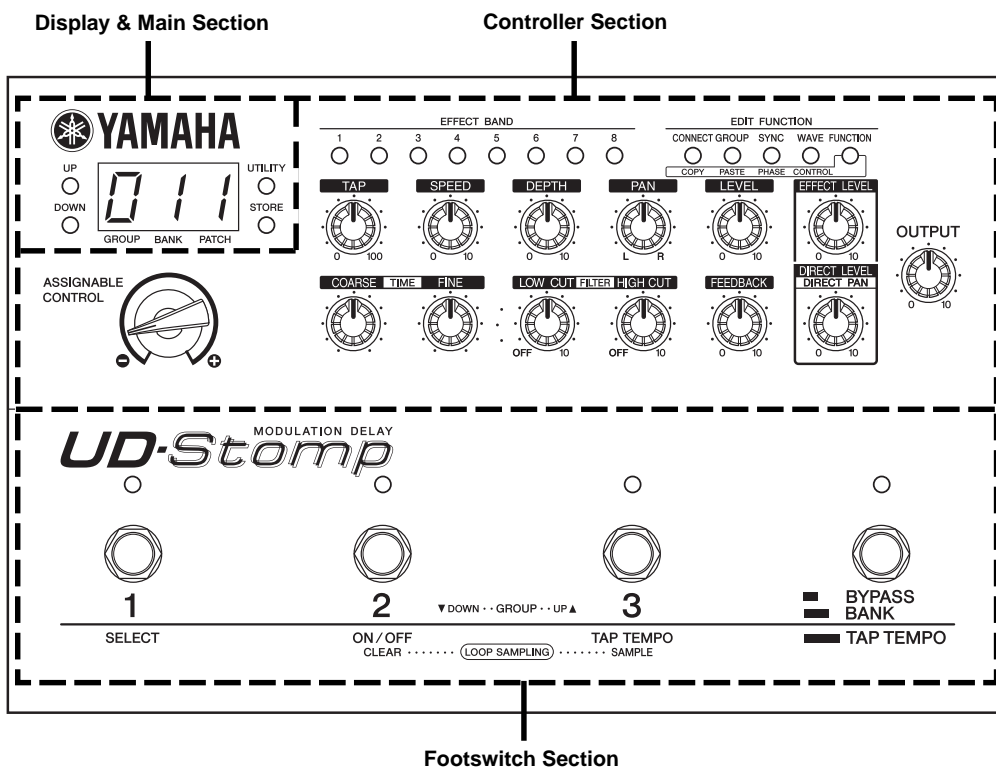
2.2kg (4lbs 14oz)

### Accessories

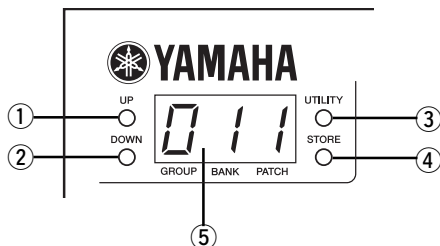
Power Adaptor (AC-10)  
 Owner's Manual

# ■ PANEL LAYOUT

• Top Panel

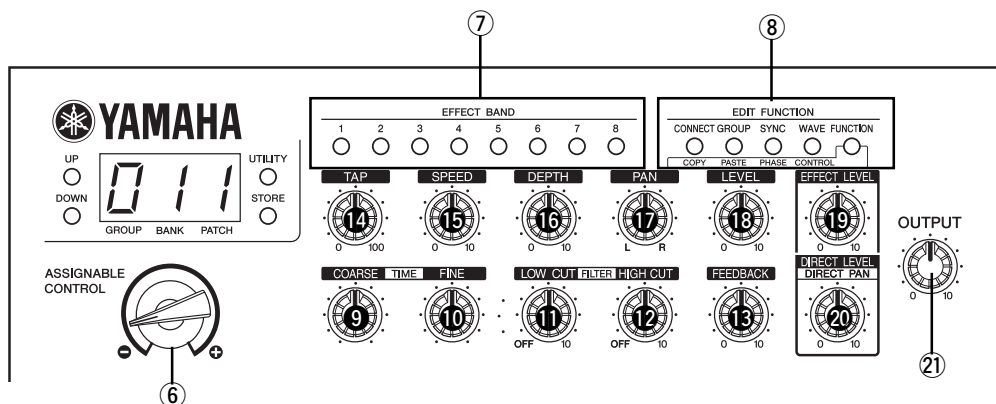


• Display & Main Section



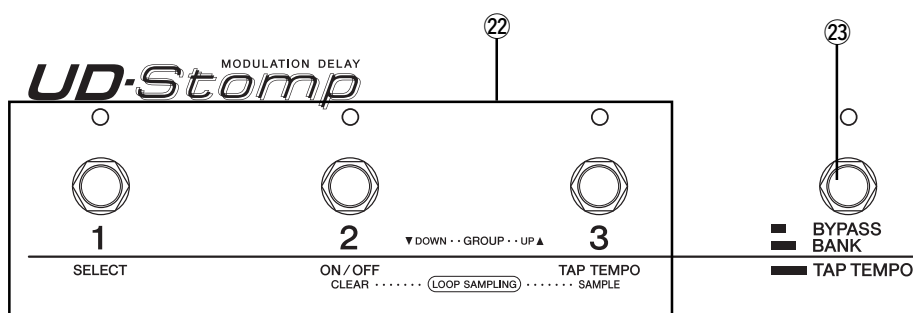
- ① Up Button (UP)
- ② Down Button (DOWN)
- ③ Utility Button (UTILITY)
- ④ Store Button (STORE)
- ⑤ Display

• Controller Section



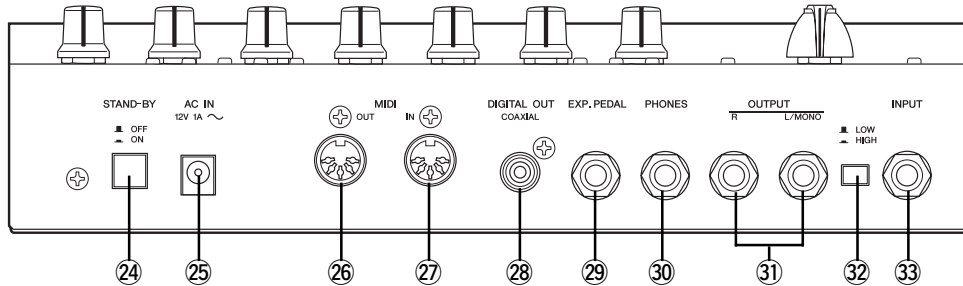
- ⑥ ASSIGNABLE CONTROL
- ⑦ EFFECT BAND 1-8
- ⑧ EDIT FUNCTION
- ⑨ Delay Time Control: Coarse (TIME COARSE)
- ⑩ Delay Time Control: Fine (TIME FINE)
- ⑪ LOW CUT FILTER Control
- ⑫ HIGH CUT FILTER Control
- ⑬ FEEDBACK Control
- ⑭ TAP Control
- ⑮ SPEED Control
- ⑯ DEPTH Control
- ⑰ PAN Control
- ⑱ Delay Level Control (LEVEL)
- ⑲ EFFECT LEVEL Control
- ⑳ DIRECT LEVEL/DIRECT PAN Control
- ㉑ OUTPUT Level Control

• Footswitch Section



- ⑳ Footswitches 1, 2, 3
- ㉑ Bank Switch (BYPASS, BANK, TAP TEMPO)

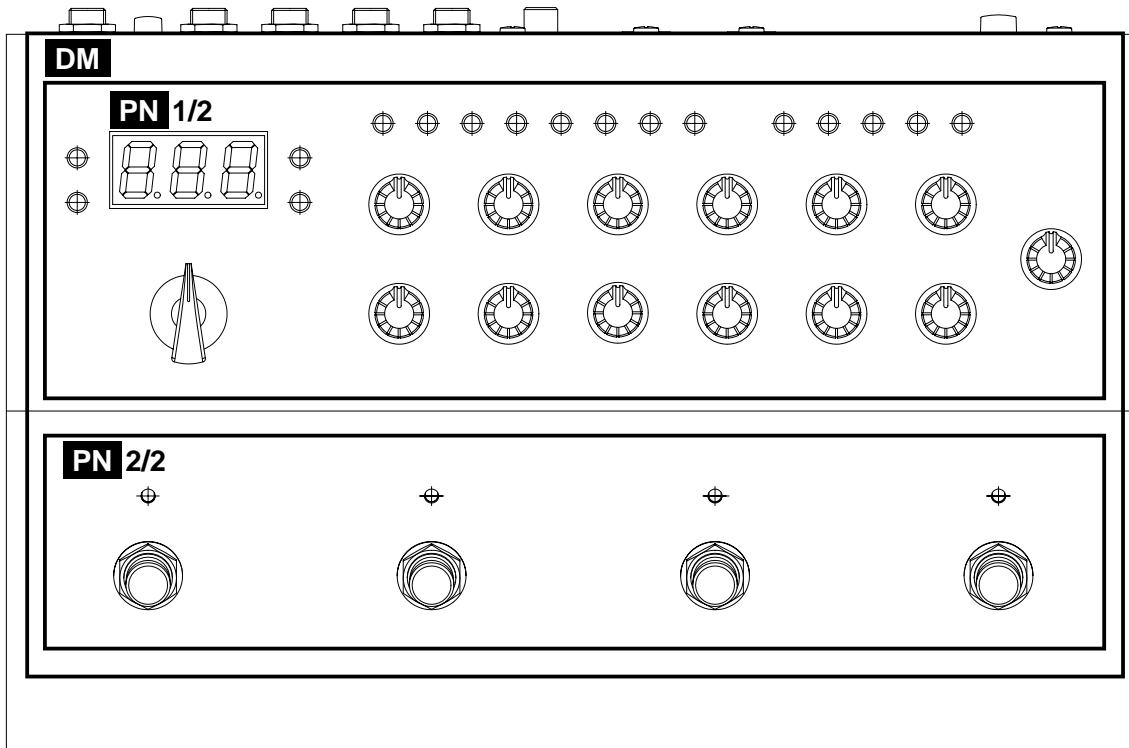
• Rear Panel



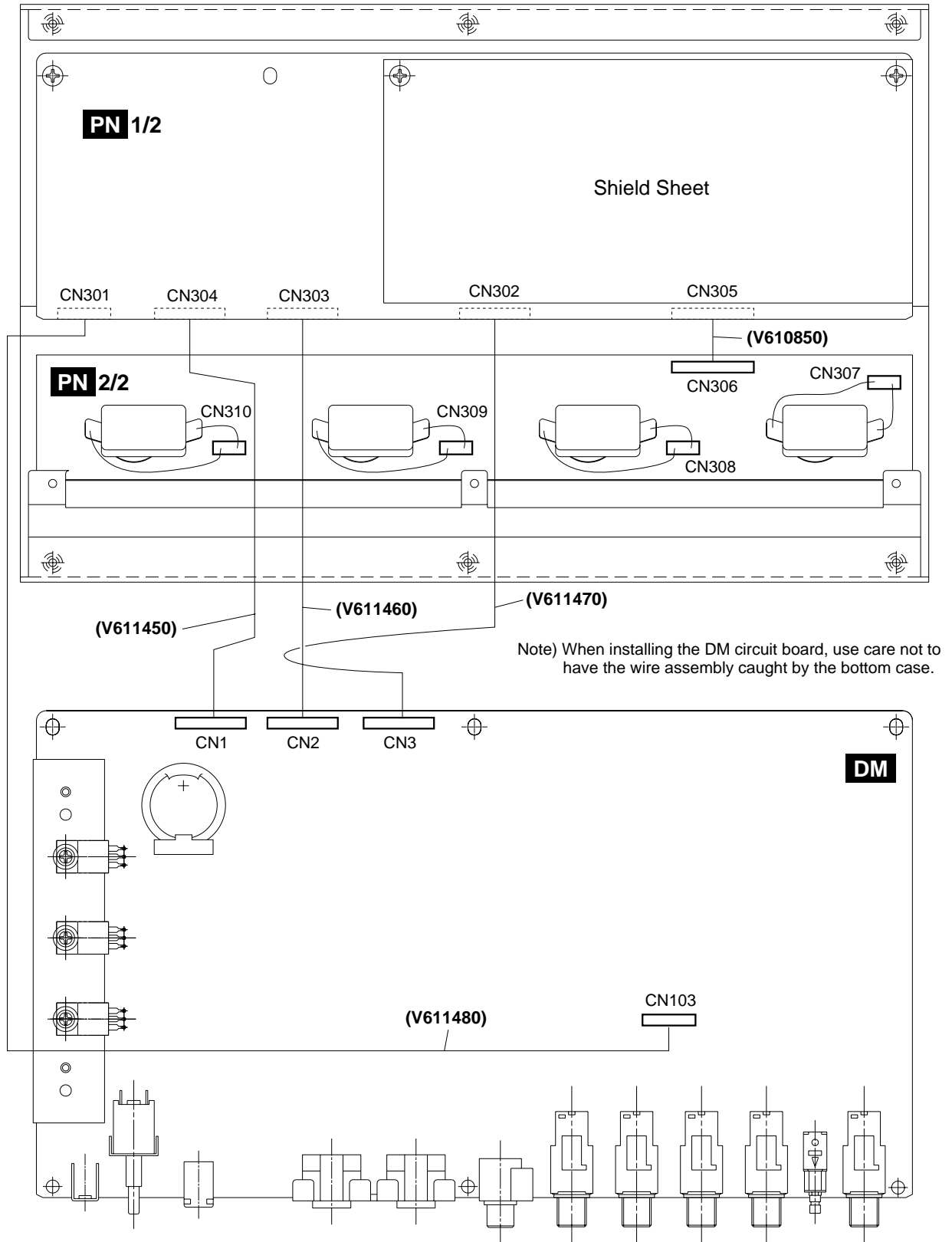
- ②④ Power Switch (STAND-BY ON/OFF)
- ②⑤ Power Adaptor Jack (AC IN 12V 1A)
- ②⑥ MIDI OUT Jack
- ②⑦ MIDI IN Jack
- ②⑧ DIGITAL OUT Jack

- ②⑨ Expression Pedal Jack (EXP. PEDAL)
- ③⑩ Headphones Jack (PHONES)
- ③① Output Jacks (OUTPUT R, L/MONO)
- ③② Input Level Switch (LOW/HIGH)
- ③③ INPUT Jack

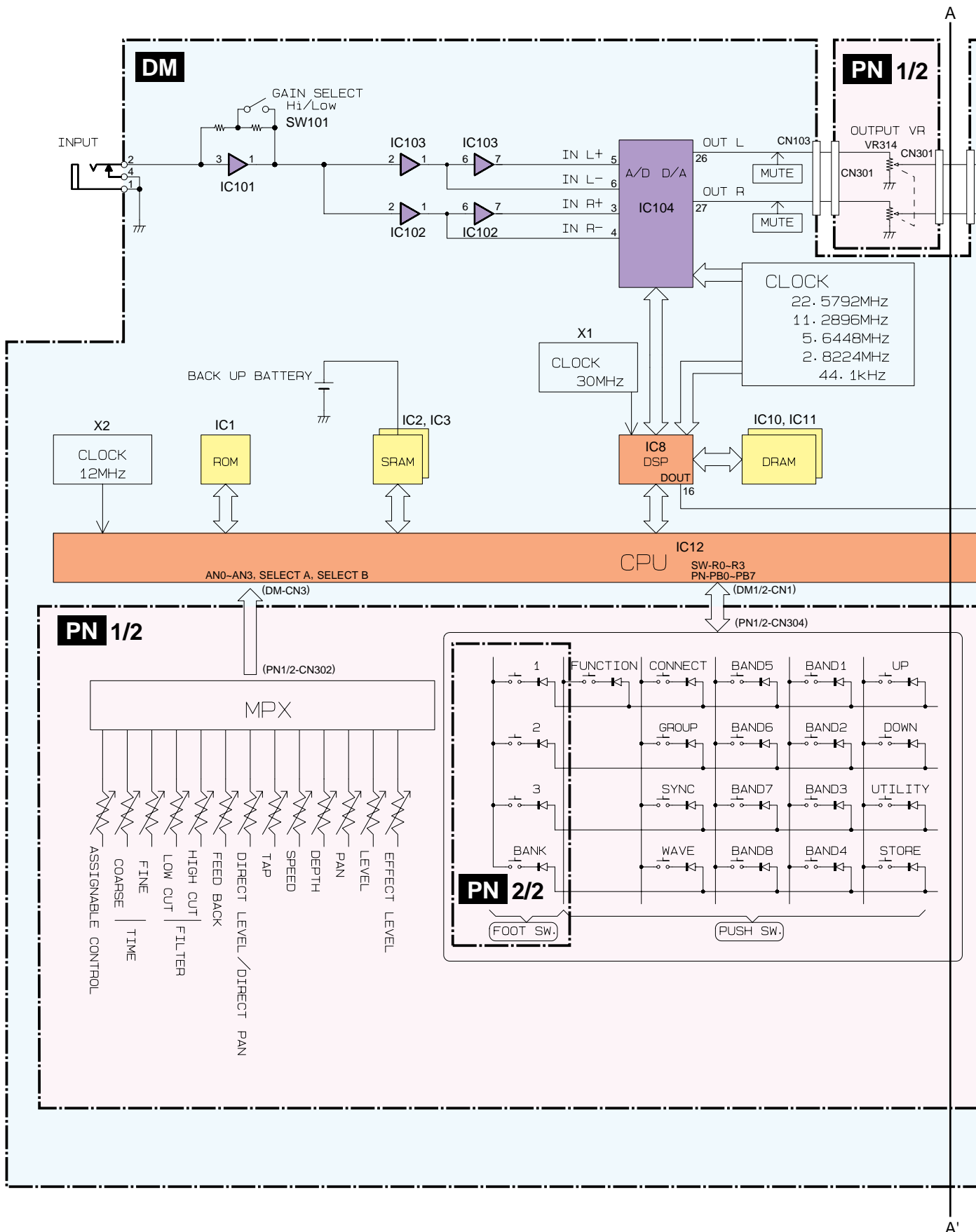
■ CIRCUIT BOARD LAYOUT



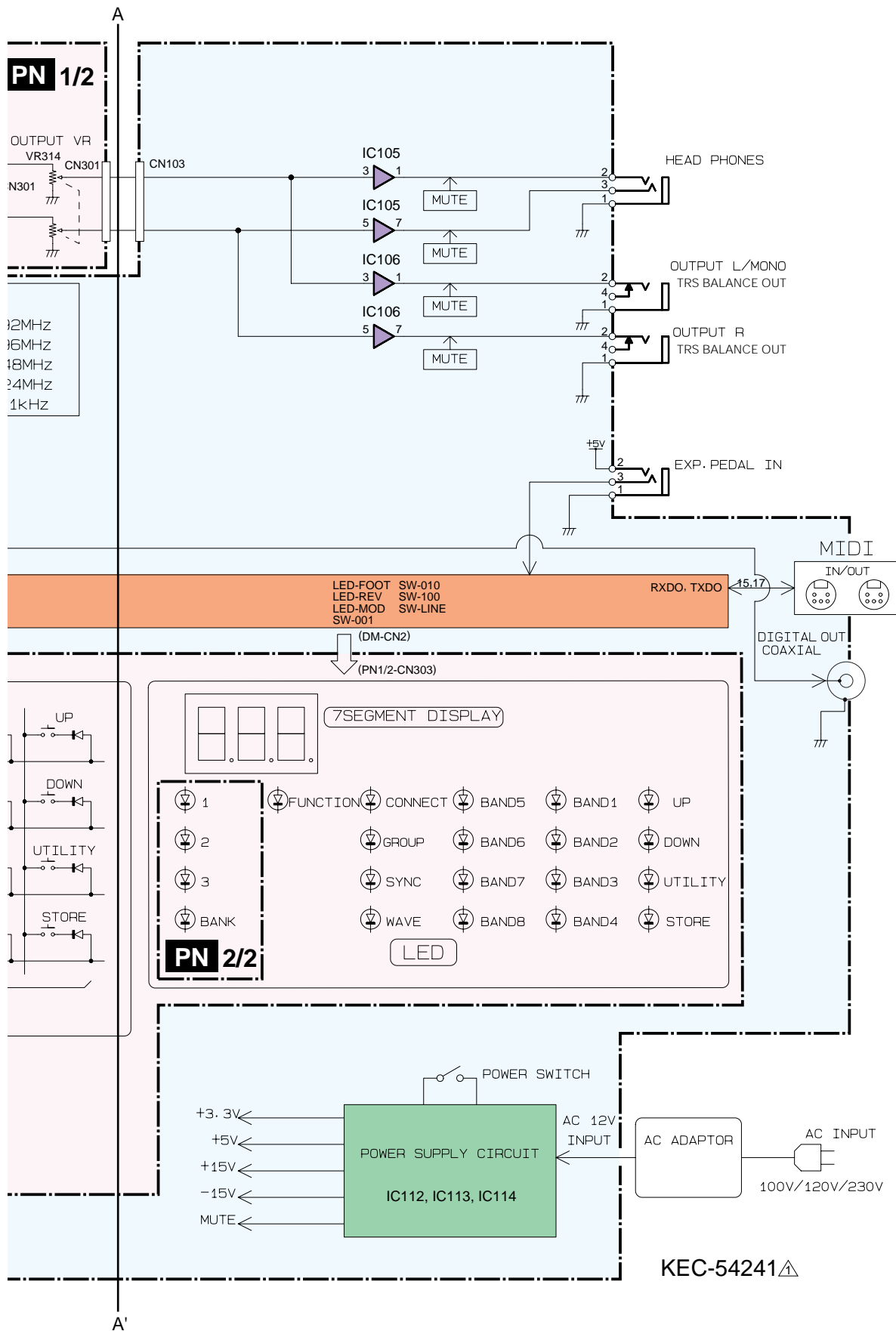
# WIRING



# BLOCK DIAGRAM



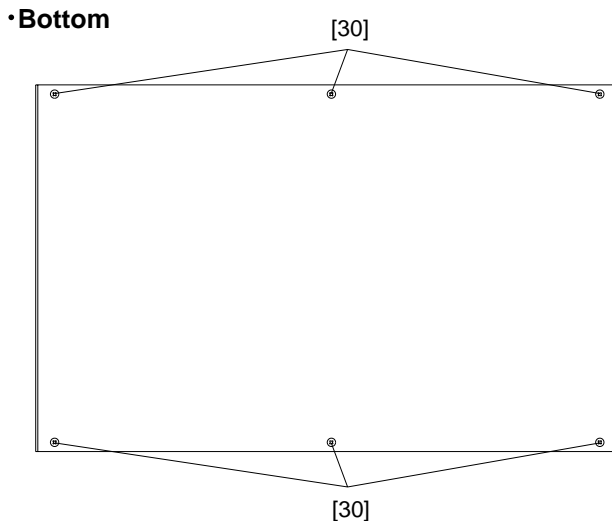




## ■ DISASSEMBLY PROCEDURE

### 1. Bottom Case (Manhour requirement: 1 min.)

Remove the six (6) screws marked [30]. The bottom case can then be removed. (Fig. 1)



[30]:Bind Head Tapping Screw-B 3.0x8 MFZN2BL (EP600190)

Fig.1

### 2. DM Circuit Board

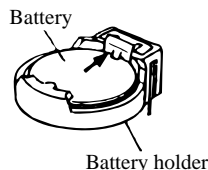
(Manhour requirement: 6 min.)

- 2-1. Remove the bottom case. (See Procedure 1.)
- 2-2. Remove the one (1) screw marked [T110A], three (3) screws marked [T120], five (5) hexagonal nuts marked [T50] and five (5) flat washers marked [T60] from the rear panel and the three (3) screws marked [T110B] from the DM circuit board. The DM circuit board can then be removed. Remove the five (5) toothed washer internal tooth forms marked [T70] as well when removing the DM circuit board from the main body. (Fig. 2)

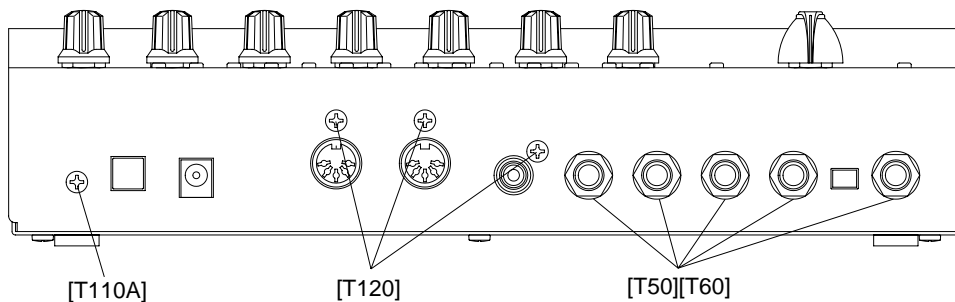
### Battery VS246400

VS246300(Battery holder for VS246400)

- Notice for back-up battery removal  
Push against the holder hook, then the battery will pop up.
- Druk tegen de houder, de batterij springt dan naar voren.



### •Rear



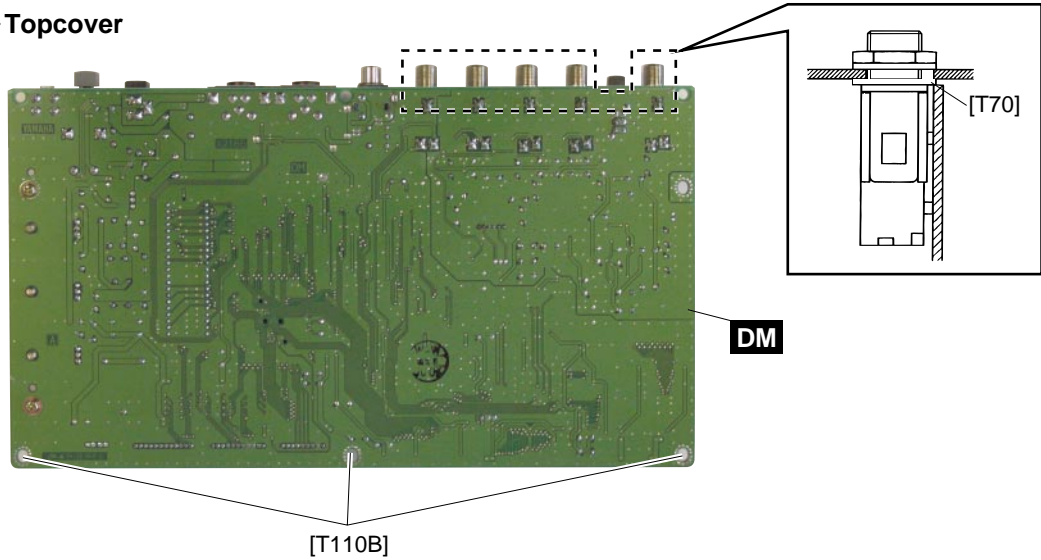
[T50]:Hexagonal Nut 9.0 12x2 MFNI33 (LX200060)

[T60]:Flat Washer 9x14 0.5 FNM3 (VL802300)

[T110]:Bind Head Tapping Screw-B 3.0x8 MFZN2BL (EP600190)

[T120]:Bind Head Tapping Screw-P 3.0x12 MFZN2BL (VC161100)

•Topcover



[T70]:Washer 9.0 MFZN2Y (ET800150)  
 [T110]:Bind Head Tapping Screw-B 3.0x8 MFZN2BL (EP600190)

Fig.2

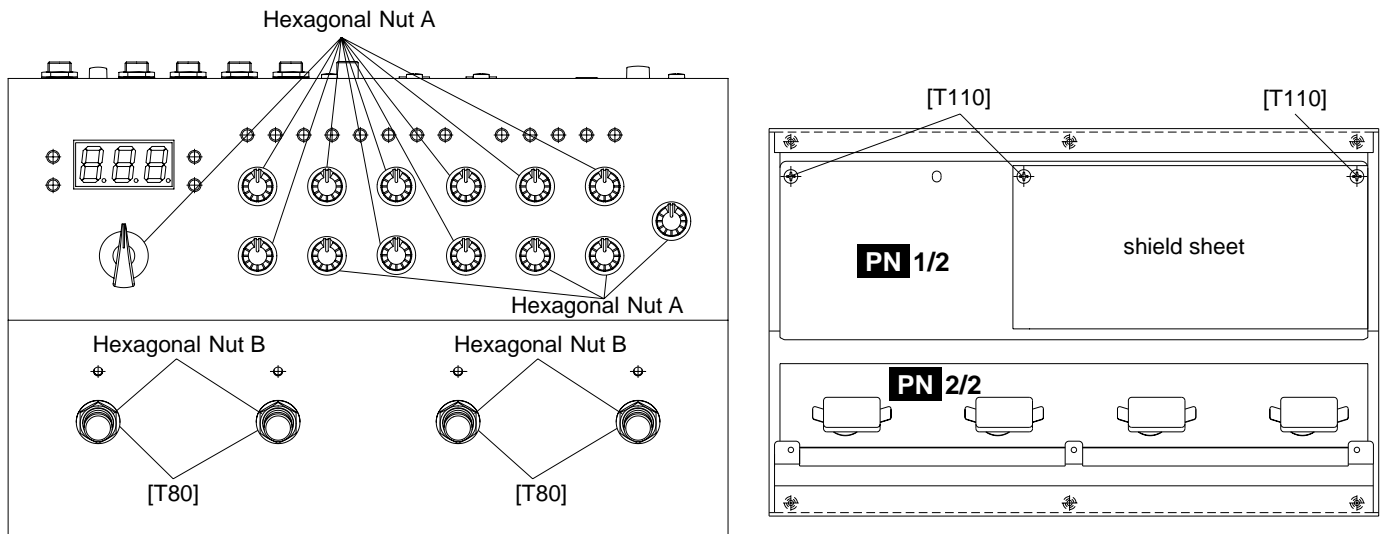
3. PN1/2 Circuit Boards

(Manhour requirement: 13 min.)

- 3-1. Remove the bottom case. (See Procedure 1.)
- 3-2. Remove the DM circuit board. (See Procedure 2.)
- 3-3. Remove the controls, knobs and the fourteen (14) hexagonal nuts A from the front panel, the three (3) screws marked [T110] and the shield film from the PN1/2 circuit board. The PN1/2 circuit board can then be removed. (Fig. 3)

4. PN 2/2 Circuit Board (Manhour requirement: 10 min.)

- 4-1. Remove the bottom case. (See Procedure 1.)
- 4-2. Remove the DM circuit boards. (See Procedure 2.)
- 4-3. Remove the four (4) hexagonal nuts B and the four (4) flat washers marked [T80] from foot switches. The PN 2/2 circuit board can then be removed. (Fig. 3)



[T80]:Flat Washer 12x17 0.5 MFNI33 (V7407400)  
 [T110]:Bind Head Tapping Screw-B 3.0x8 MFZN2BL (EP600190)

Fig.3

**5. Heat Sink (Manhour requirement: 8 min.)**

- 5-1. Remove the bottom case. (See Procedure 1.)
- 5-2. Remove the DM circuit board. (See Procedure 2.)

- 5-3. Remove the two (2) screws marked [A-a] from the soldered face of the DM circuit board and the three (3) screws marked [A-b] from IC112, IC113 and IC114. The heat sink can then be removed from the DM circuit board. (Fig. 4)

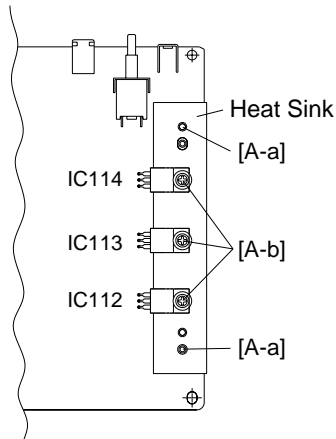


Fig.4

# LSI PIN DESCRIPTION

## ● HD6413002FP16 (XQ375A00) CPU

DM: IC12

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION	
1	PA6	O	Port A	51	A12	O	Address bus	
2	PA7	O	Port A	52	A13	O		
3	VCC		Power supply	53	A14	O		
4	PB0	I	Port B	54	A15	O		
5	PB1	I						
6	PB2	I						
7	PB3	I						
8	PB4	I						
9	PB5	I		55	A16	O	Ground	
10	PB6/DREQ0	I		56	A17	O		
11	PB7/DREQ1	I		57	A18	O	Port 6	
12	/RESO	O	Reset	58	A19	O		
13	VSS		Ground	59	VSS			
14	P90/TXD0	O	Port 9	60	P60//WAIT	I	Øout, Ø=FAI	
15	P91/TXD1	O						
16	P92/RXD0	I						
17	P93/RXD1	I						
18	P94/SCK0	O			61	P61//BREQ	I	Stand-by mode signal
19	P95/SCK1	I		62	P62//BACK	I	Reset	
20	P40/D0	I/O	Data bus	63	Ø	O	Non-maskable interrupt	
21	P41/D1	I/O		(Ground)	64	/STBY	I	Ground
22	P42/D2	I/O				65	/RES	I
23	P43/D3	I/O			66	NMI	I	Clock
24	VSS				67	VSS		Power supply
25	P44/D4	I/O			68	EXTAL	I	Address strobe
26	P45/D5	I/O			69	XTAL	O	Read strobe
27	P46/D6	I/O		70	VCC		Write strobe (High)	
28	P47/D7	I/O		71	/AS	O	Write strobe (Low)	
29	D8	I/O	Power supply	72	/RD	O	Mode select	
30	D9	I/O			73	/HWR		O
31	D10	I/O			74	/LWR		O
32	D11	I/O			75	MD0	I	Analog power supply
33	D12	I/O			76	MD1	I	
34	D13	I/O			77	MD2	I	Port 7 (ANALOG INPUT)
35	D14	I/O			78	AVCC		
36	D15	I/O		79	VREF	I		
37	VCC			80	P70/AN0	I		
38	A0	O		81	P71/AN1	I		
39	A1	O		82	P72/AN2	I		
40	A2	O		83	P73/AN3	I		
41	A3	O	Address bus	84	P74/AN4	I		
42	A4	O			85	P75/AN5	I	
43	A5	O			86	P76/AN6	I	
44	A6	O			87	P77/AN7	I	
45	A7	O			88	AVSS		Analog ground
46	VSS			(Ground)	89	P80	O	Port 8
47	A8	O			90	P81//CS3	O	Chip select
48	A9	O		91	P82//CS2	O		
49	A10	O		92	P83//CS1	O		
50	A11	O		93	P84//CS0	O	Ground	
				94	VSS		Port A	
				95	PA0	I		
				96	PA1	I		
				97	PA2	I		
				98	PA3	O		
				99	PA4	O		
				100	PA5	O		

## ● YSS910-S (XV988A00) DSP6 (Digital Signal Processor)

DM: IC8

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION	
1	Vdd		Power supply (3.3 V)	89	Vss		Ground	
2	Vss		Ground	90	DB13	I/O	Parallel data bus	
3	XI	I	System master clock input (60 MHz or 30 MHz)	91	DB14	I/O		
4	XO	O	System master clock output (High or 30 MHz)	92	DB15	I/O		
5	Vdd5		Power supply (5 V)	93	DB16	I/O		
6	/SYNCl	I	Sync. signal input	94	DB17	I/O		
7	/SYNCO	O	Sync. signal output	95	DB18	I/O		
8	Vdd5		Power supply (5 V)	96	DB19	I/O		
9	CKI	I	System clock input (30 MHz)	97	DB20	I/O	Ground	
10	CKO	O	System clock output (30 MHz)	98	DB21	I/O		
11	CKSEL	I	System master clock select (0: 60 MHz, 1: 30 MHz)	99	DB22	I/O		
12	Vss		Ground	100	Vss		Power supply (3.3 V)	
13	MCKS	I	Serial I/O master clock input (128 x Fs)	101	Vdd		Ground	
14	/SSYNCl	I	Serial I/O Sync. signal input	102	DB23	I/O		
15	/IC	I	Initial clear (RESET)	103	DB24	I/O		
16	/TEST	I	Test mode setting (0: Test, 1: Normal)	104	DB25	I/O	Parallel data bus	
17	BTYP	I	Data bus type select (0: 8 bit, 1: 16 bit)	105	DB26	I/O		
18	/IRQ	O	IRQ output	106	DB27	I/O		
19	TRIG	I/O	Trigger signal input/output	107	DB28	I/O	Ground	
20	Vdd5		Power supply (5 V)	108	DB29	I/O		
21	Vss		Ground	109	DB30	I/O		
22	/CS	I	chip select signal input	110	DB31	I/O	Timing signal output/ Parallel data bus output/ input	
23	/WR	I	Write signal input	111	TIMO/DBOB	I/O		
24	/RD	I	Read signal input	112	Vss			
25	CA7	I/O	Address bus of internal register	113	Vdd5		Power supply (5 V)	
26	CA6	I/O		Memory data bus	114	DA00	I/O	
27	CA5	I/O			115	DA01	I/O	
28	CA4	I/O			116	DA02	I/O	
29	CA3	I/O		Ground	117	DA03	I/O	
30	CA2	I/O			118	DA04	I/O	
31	CA1	I/O			119	DA05	I/O	
32	Vss		Power supply (3.3 V)	120	DA06	I/O	Ground	
33	Vdd		Power supply (3.3 V)	121	DA07	I/O		
34	CD15	I/O	Data bus of internal register	122	Vss			Ground
35	CD14	I/O		123	DA08	I/O		
36	CD13	I/O		124	DA09	I/O		
37	CD12	I/O		125	DA10	I/O	Memory data bus	
38	CD11	I/O		126	DA11	I/O		
39	CD10	I/O		127	DA12	I/O		
40	CD09	I/O		128	DA13	I/O	Ground	
41	CD08	I/O	129	DA14	I/O			
42	CD07	I/O	130	DA15	I/O			
43	CD06	I/O	Data bus of internal register	131	Vss		Ground	
44	Vss			Power supply (3.3 V)	132	Vdd		
45	Vdd			Power supply (3.3 V)	133	(n.c)		
46	Vdd5			Power supply (5 V)	134	Vdd5		Power supply (5 V)
47	CD05	I/O		Memory data bus	135	DA16	I/O	
48	CD04	I/O			136	DA17	I/O	
49	CD03	I/O			137	DA18	I/O	
50	CD02	I/O	Memory data bus	138	DA19	I/O		
51	CD01	I/O		139	DA20	I/O		
52	CD00	I/O		140	DA21	I/O		
53	/WAIT	O	WAIT output	141	DA22	I/O	Ground	
54	Vss		Ground	142	DA23	I/O		
55	SI0	I	Serial data input	143	Vss			Ground
56	SI1	I		144	DA24	I/O		
57	SI2	I		145	DA25	I/O		
58	SI3	I		146	DA26	I/O	Memory data bus	
59	SI4	I		147	DA27	I/O		
60	SI5	I		148	DA28	I/O		
61	SI6	I		149	DA29	I/O	Power supply (5 V)	
62	SI7	I	150	DA30	I/O			
63	Vss		Ground	151	DA31	I/O		
64	Vdd5		Power supply (5 V)	152	Vdd5		Ground	
65	SO0	O	Serial data output	153	Vss			
66	SO1	O		154	A00	O		
67	SO2	O		155	A01	O		
68	SO3	O		156	A02	O		
69	SO4	O		157	A03	O		
70	SO5	O		158	A04	O		
71	SO6	O		159	A05	O		
72	SO7	O	160	A06	O			
73	Vss		Ground	161	A07	O	Memory address (SRAM, PSRAM, DRAM)	
74	DB00	I/O	Parallel data bus	162	A08	O		
75	DB01	I/O		163	A09	O		
76	DB02	I/O		164	Vss			
77	DB03	I/O	Ground	165	Vdd		Power supply (3.3 V)	
78	DB04	I/O		166	A10	O		
79	DB05	I/O		167	A11	O		
80	DB06	I/O	Memory address (SRAM, PSRAM, DRAM)	168	A12	O		
81	DB07	I/O		169	A13	O		
82	DB08	I/O		170	A14	O		
83	DB09	I/O	Memory address (SRAM, PSRAM)	171	A15/RAS	O		
84	DB10	I/O		172	A16/CAS	O		
85	DB11	I/O		173	A17/CE	O		
86	DB12	I/O	Memory address (SRAM, PSRAM, DRAM)	174	/WE	O		
87	Vdd5			Power supply (5 V)	175	/OE	O	
88	Vdd			Power supply (3.3 V)	176	Vdd5		Power supply (5 V)

● **YM3437C-F (XM530A00) DIT2 (Digital Format Interface Transmitter)**

DM: IC17

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION	
1	Vss		Ground	9	MUTE	I	Mute	
2	MCLK	I	Master clock input	10	VFL	I	Validity flag	
3	DM0	I	DIN/BCLK/WCLK format select DM1,DM0=0,0 DSP,LDSP (64 bit,LSB first) DM1,DM0=0,1stereo,DSP (64 bit,MSB first) DM1,DM0=1,0 DSP2 (128 bit,MSB first) DM1,DM0=1,1 BB (64 bit,MSB first)	11	CCK	I	C,U bit clock input/C bit data input	
4	DM1	I		12	CIN	I	C,U bit data input/U bit data input	
5	RSTN	I		System reset	13	CLD	I	End of C,U bit input/16,20 bit/24 bit select
6	WCIN	I		Word clock input	14	CNTR	I	32 bit counter reset/Top of block
7	DIN	I	Digital audio serial data input	15	CSM	I	Channel status input mode select CSM=0 Asynchronous mode CSM=1 Synchronous mode	
8	VDD		Power supply (+5 V)	16	DOUT	O	Digital interface formatted data output	

● **AK4520A-VF-E2 (XT802A00) DAC & ADC**

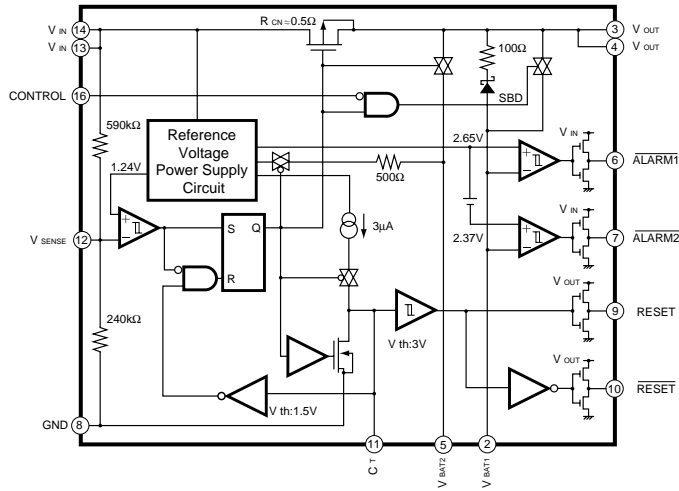
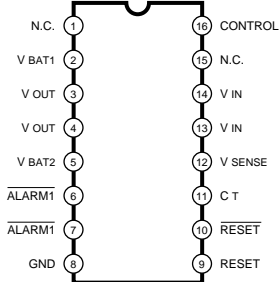
DM: IC104

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VREFH	I	Positive Voltage Reference Input, VA	15	MCLK	I	Master Clock Input
2	VREFL	I	Negative Voltage Reference Input, AGND	16	DEM0	I	De-emphasis Frequency Select
3	AINR+	I	Rch Analog Positive Input	17	DEM1	I	De-emphasis Frequency Select
4	AINR-	I	Rch analog Negative Input	18	TST3	I/O	Test Pins (Pull Down Pins)
5	AINL+	I	Lch Analog Positive Input	19	TST2	I/O	
6	AINL-	I	Lch analog Negative Input	20	TST1	I	
7	VA	-	Analog Power Supply	21	VD	-	
8	AGND	-	Analog Ground	22	DGND	-	Digital Ground
9	DIF0	I	Audio Data Interface Format	23	/PWDA	I	DAC power-Down Mode
10	DIF1	I	Audio Data Interface Format	24	/PWAD	I	ADC power-Down Mode
11	LRCK	I	Input/Output Channel Clock	25	CMODE	I	Master Clock Select ("H":384 fs,"L":256 fs)
12	SCLK	I	Audio Serial Data Clock	26	AOUTL	O	Lch Analog Output
13	SDTI	I	Audio Serial Data Input	27	AOUTR	O	Rch Analog Output
14	SDTO	O	Audio Serial Data Output	28	VCOM	O	Common Voltage Output, VA/2

# IC BLOCK DIAGRAM

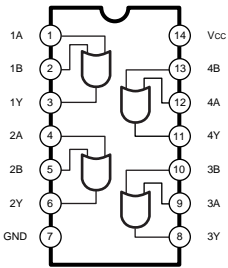
● **MB3790PF**(XR967A00)

DM: IC4  
ASSP



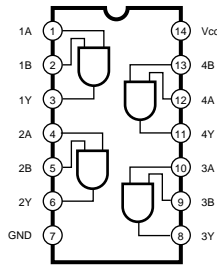
● **74AHC32DT**(XZ103A00)

DM: IC5, IC6  
OR



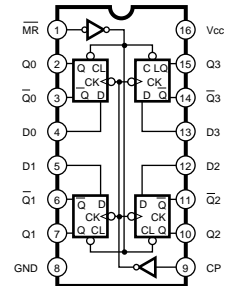
● **74HC08DT**(XZ108A00)

DM: IC7  
AND



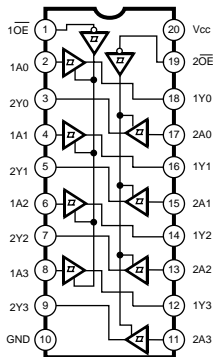
● **74HC175DT**(XZ113A00)

DM: IC110  
Quad D-Type Flip-Flop



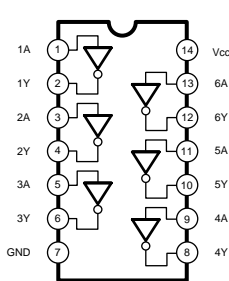
● **74HC244DT**(XZ109A00)

DM: IC14, IC15, IC16  
Bus Buffer



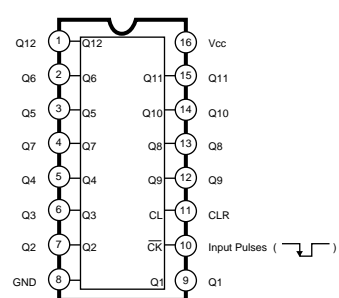
● **74HCU04DT** (XZ110A00)

DM: IC107  
INVERTER



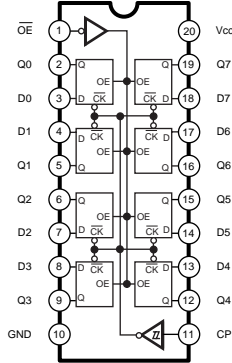
● **TC74HC4040F**(XR684A00)

DM: IC108  
12-Stage Binary Ripple Counter

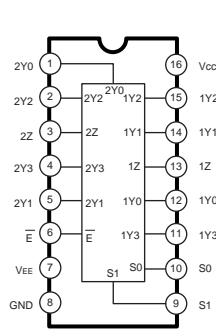




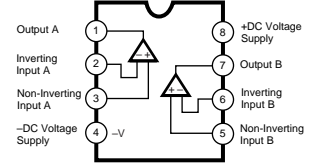
- **74HC374DT**(XZ102A00)  
PN: IC301~IC307  
D-FF



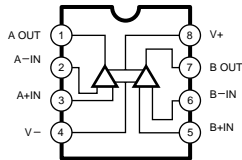
- **74HC4052DT**(XZ101A00)  
PN: IC308, IC309  
Multiplexer



- **NJM072M**(XC458A00)  
DM: IC101  
OP AMP

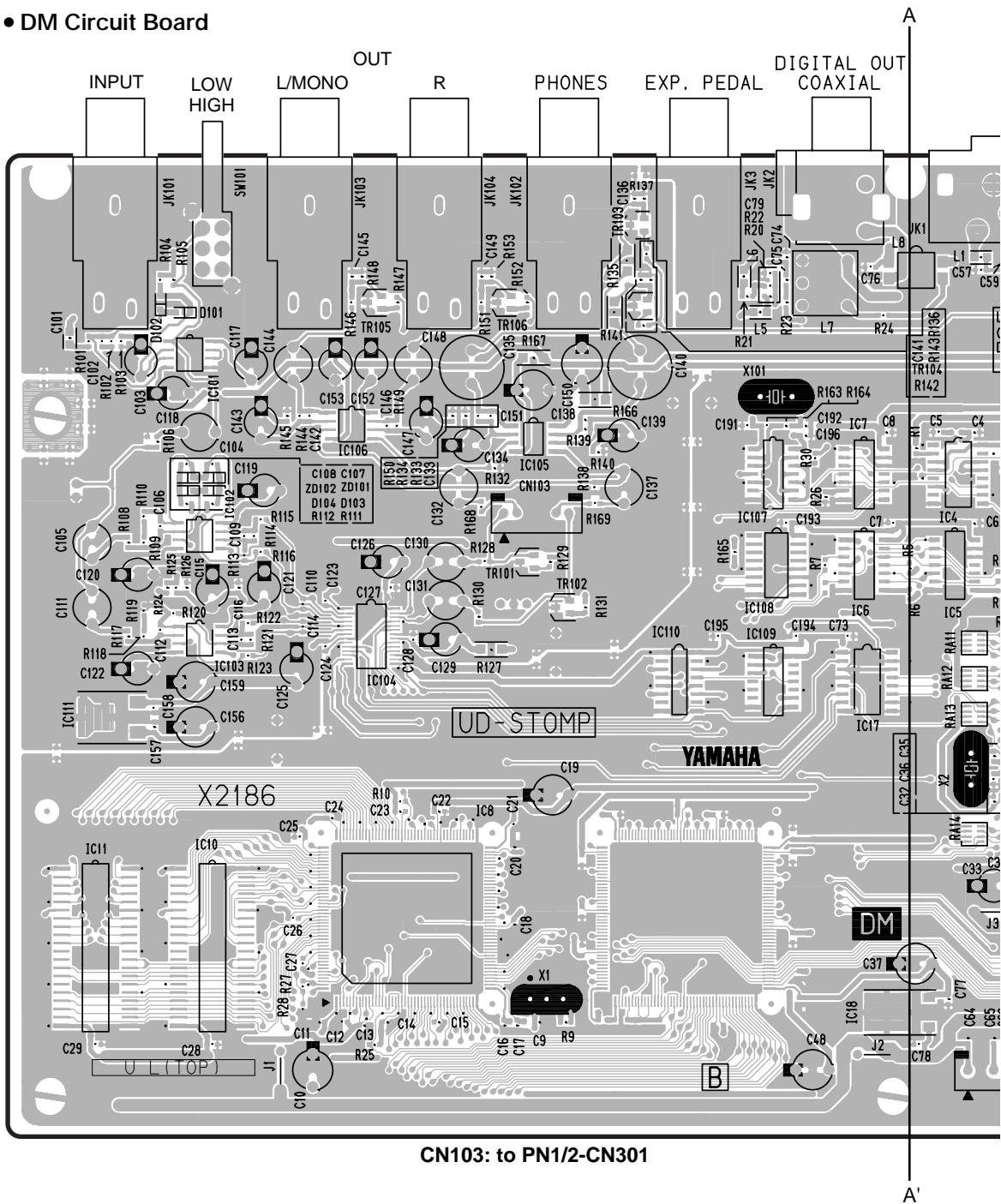


- **NJM5532M** (XC011A00)  
DM: IC102, IC103, IC106
- **NJM4556AMT1** (XQ138A00)  
DM: IC105  
OP AMP



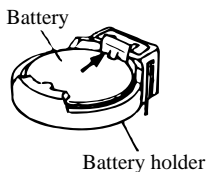
# CIRCUIT BOARDS

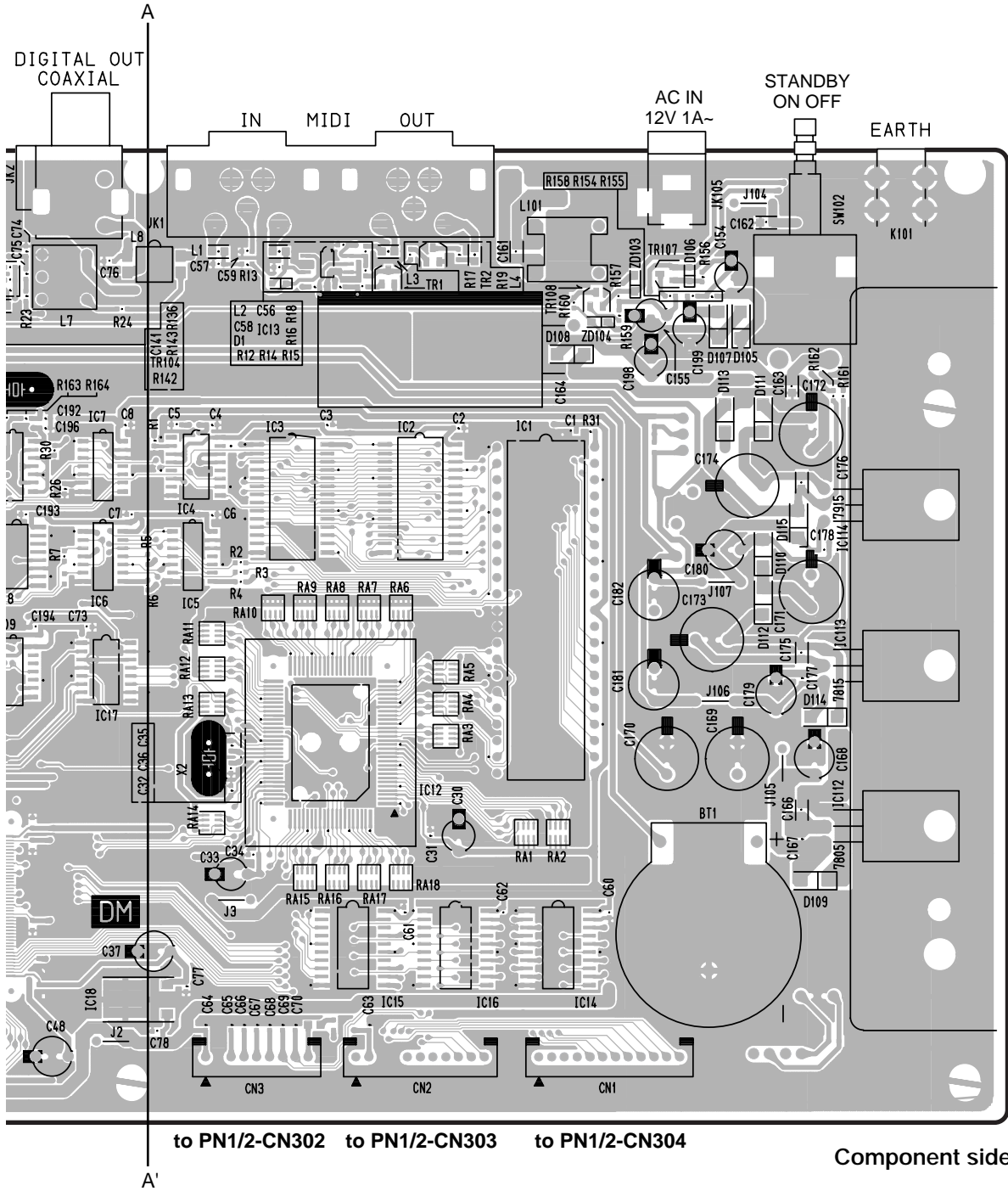
• DM Circuit Board



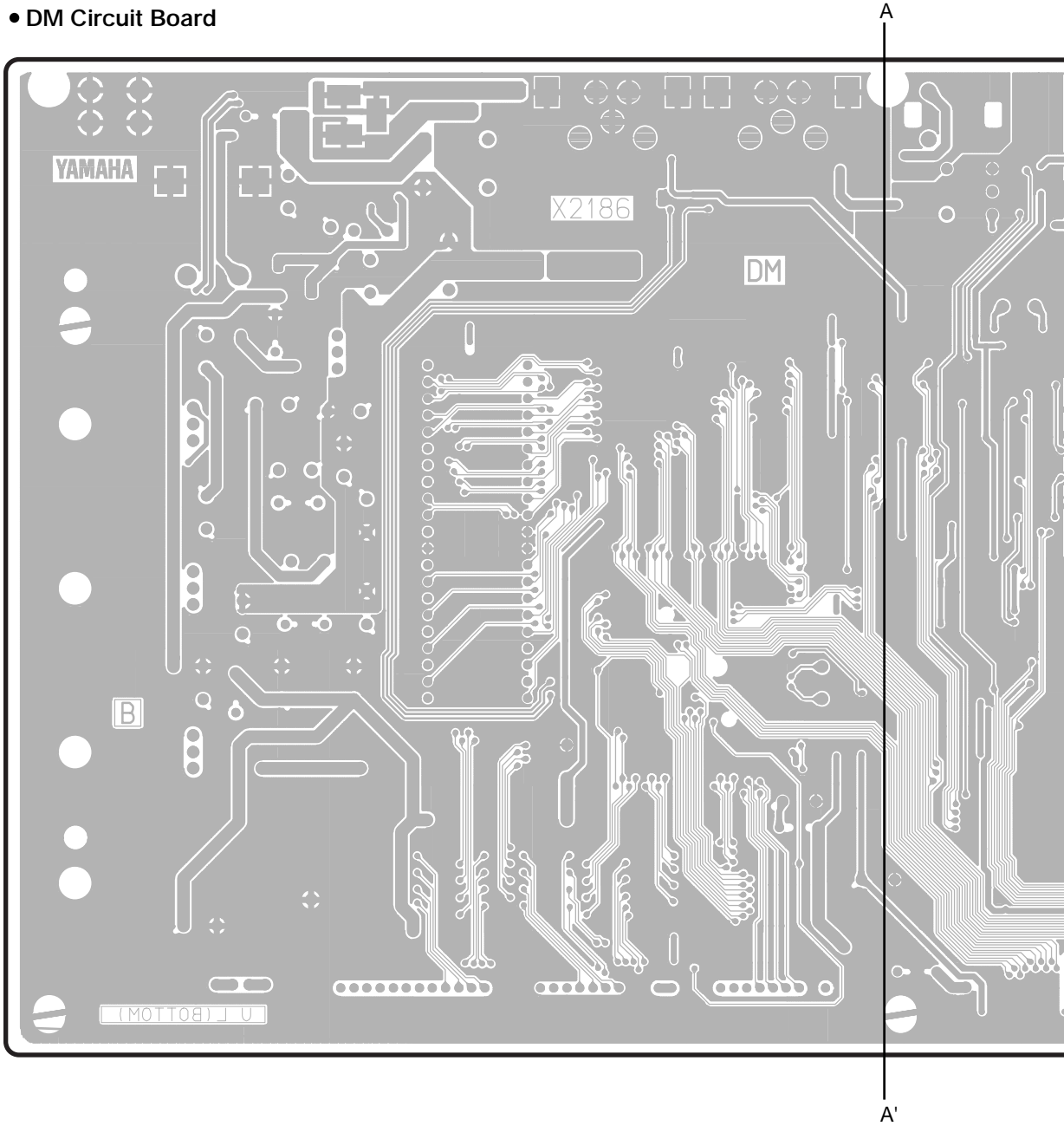
Battery VS246400  
 VS246300(Battery holder for VS246400)

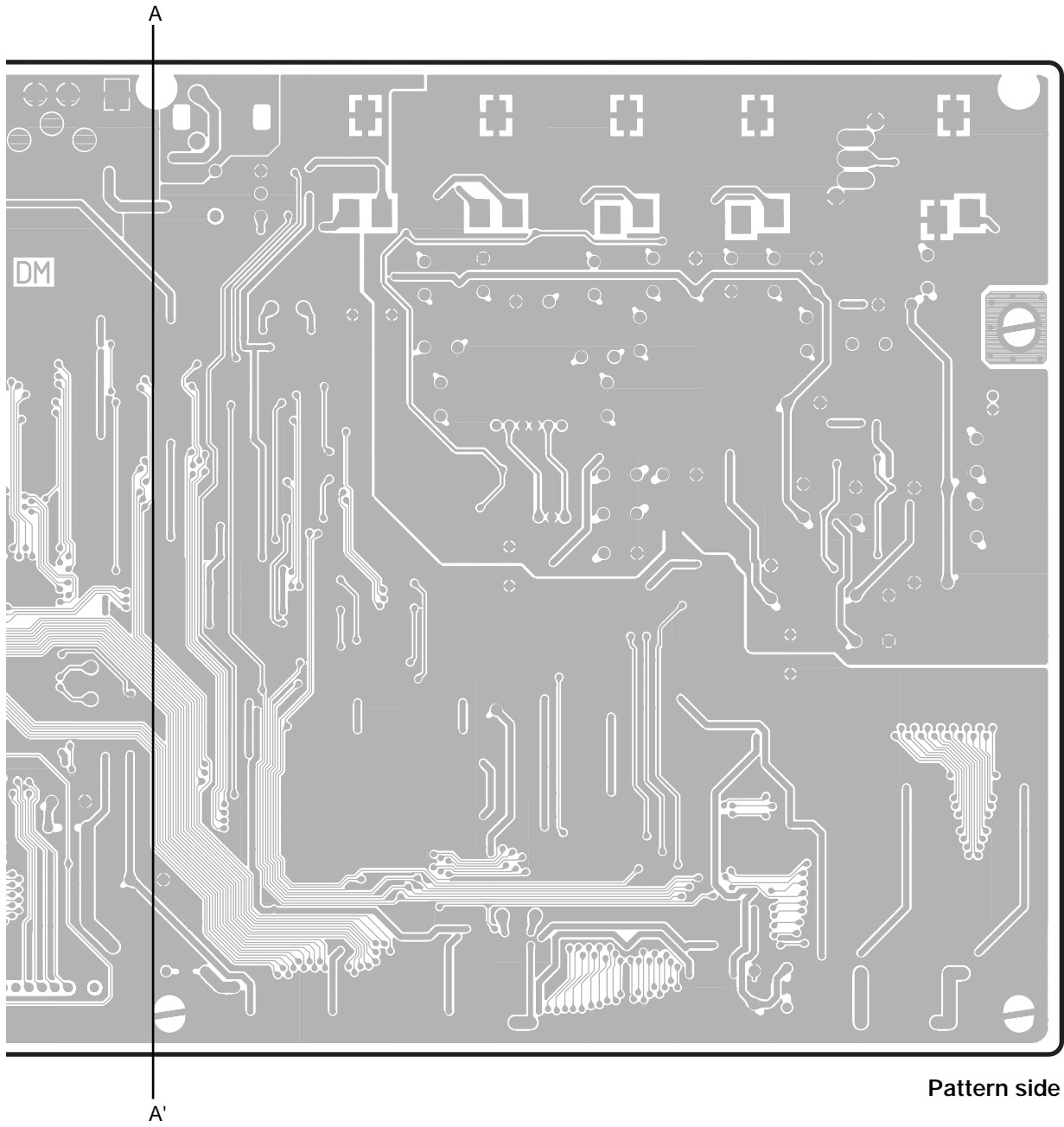
- Notice for back-up battery removal  
 Push against the holder hook, then the battery will pop up.
- Druk tegen de houder, de batterij springt dan naar voren.



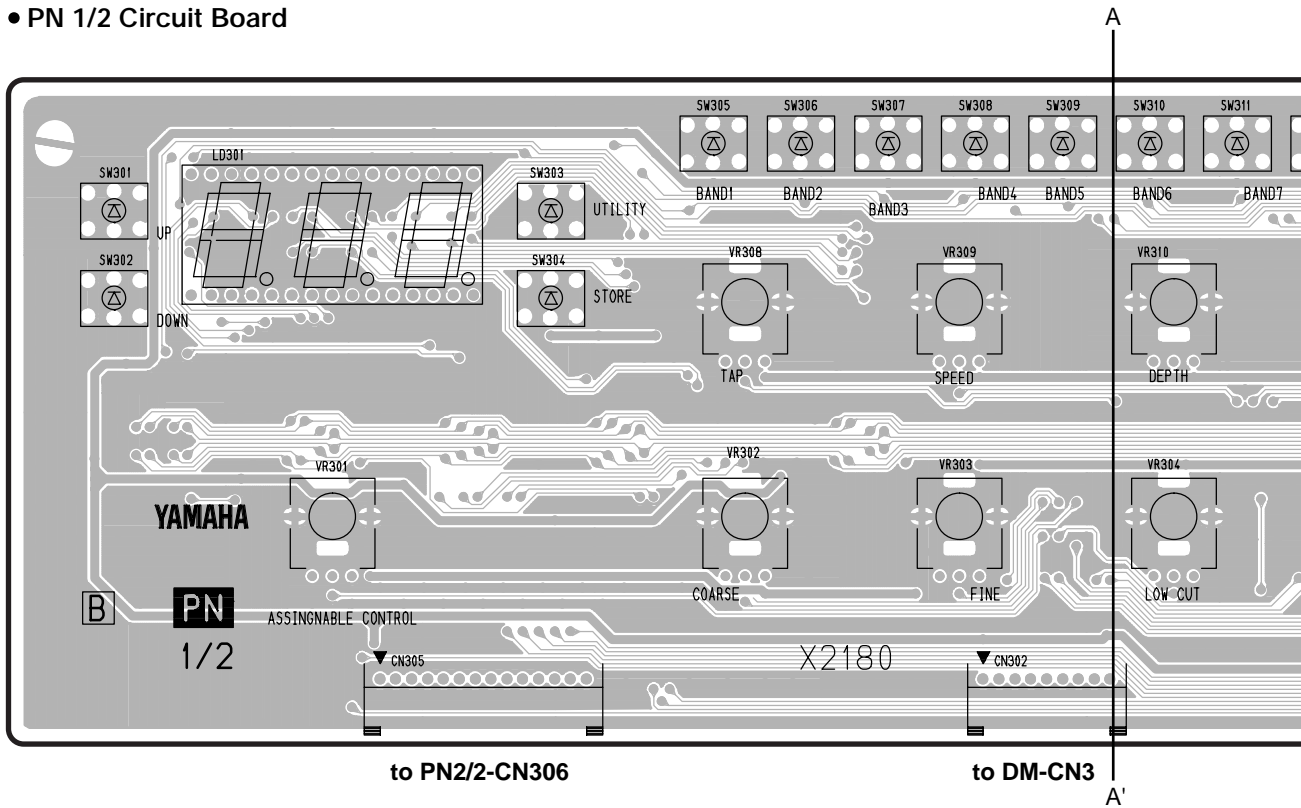


• DM Circuit Board

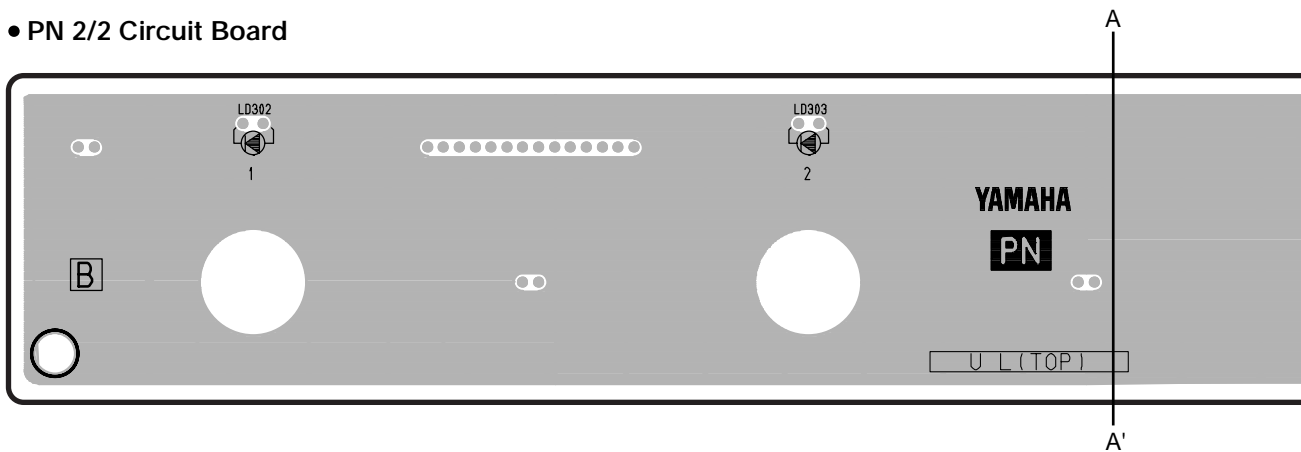




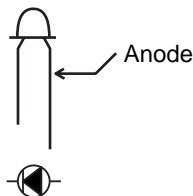
• PN 1/2 Circuit Board



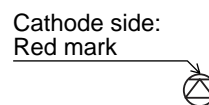
• PN 2/2 Circuit Board



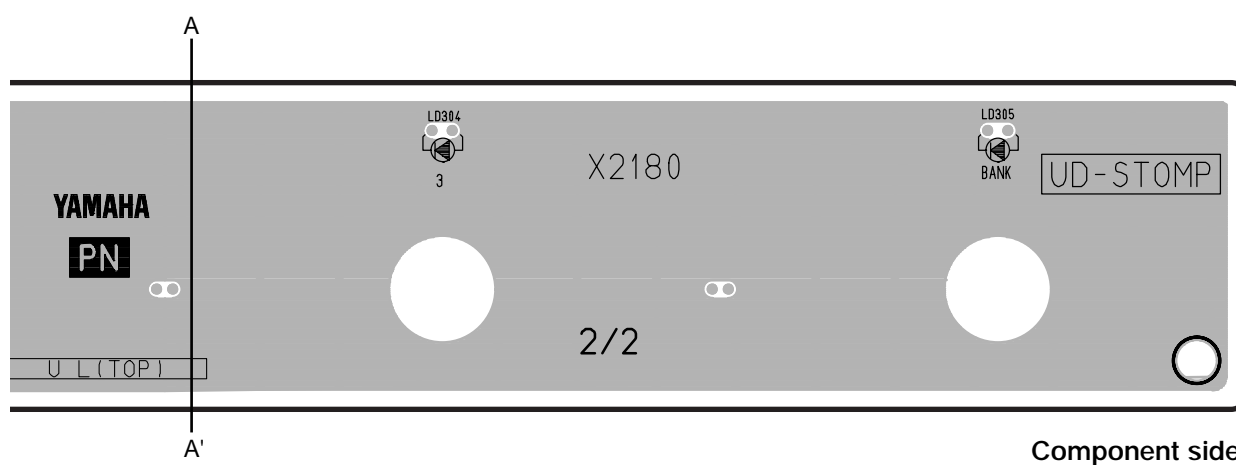
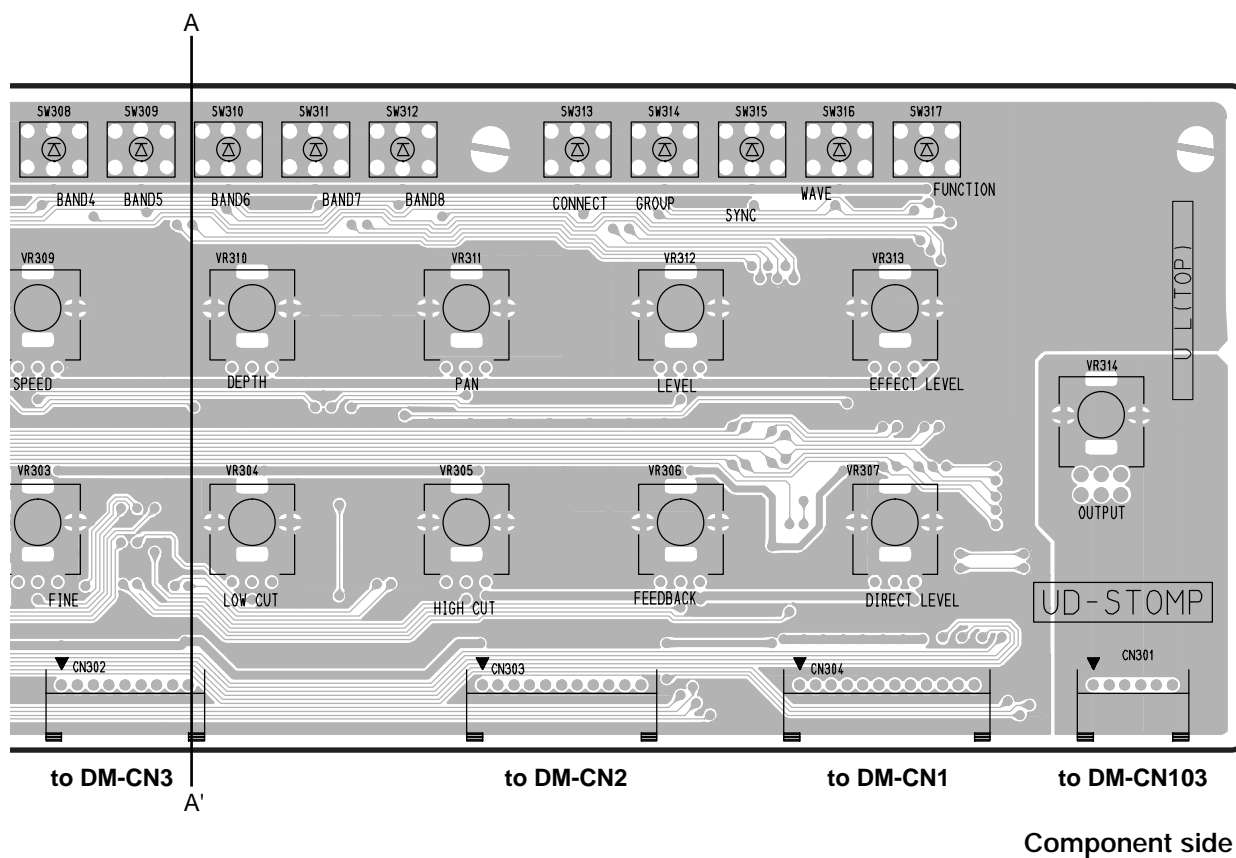
• LD302, LD303, LD304 and LD305 installation



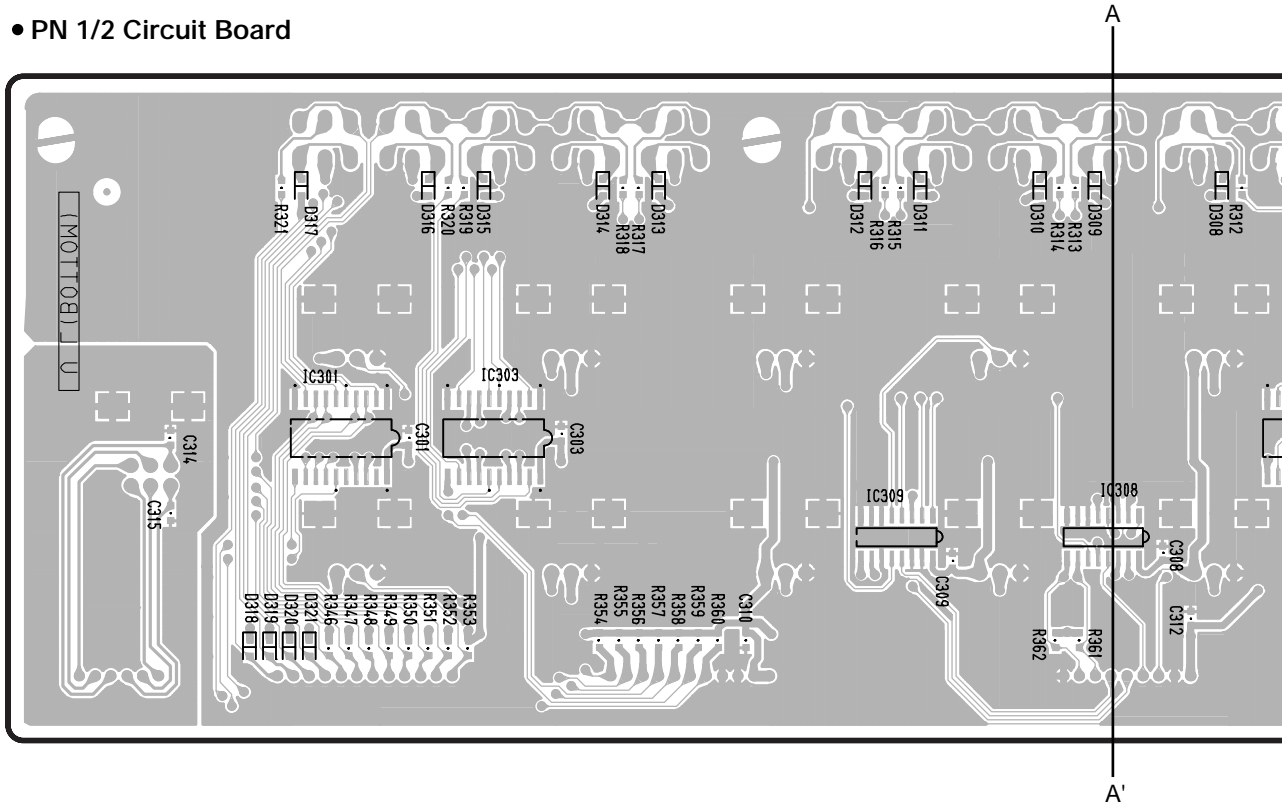
• SW301~SW317 installation



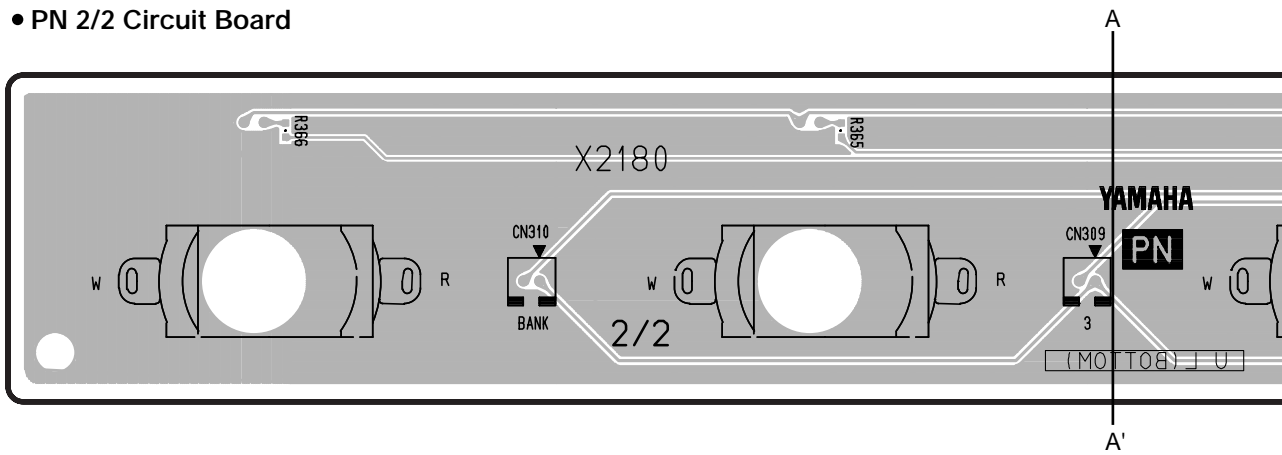
PN: CNA-V838980



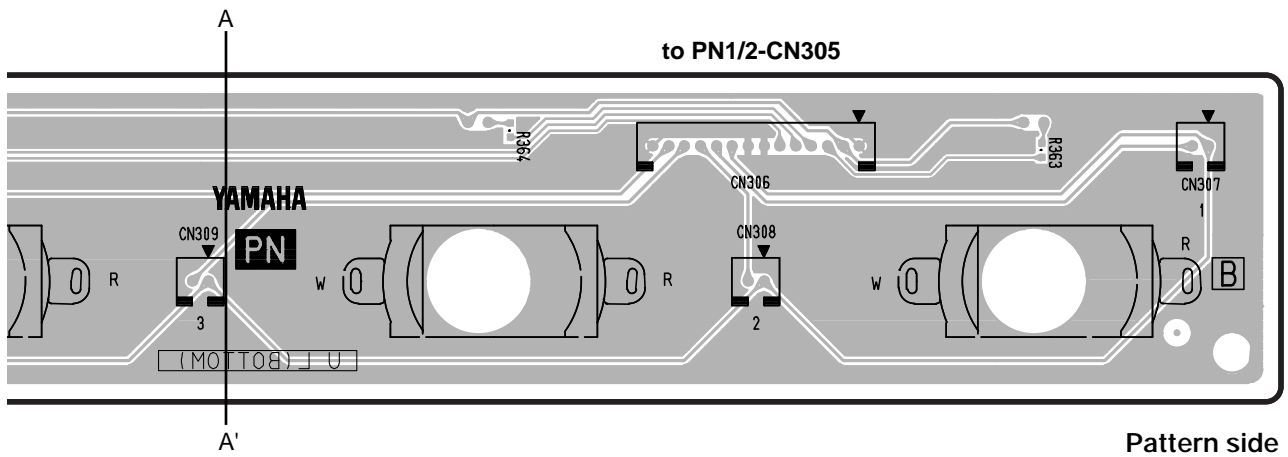
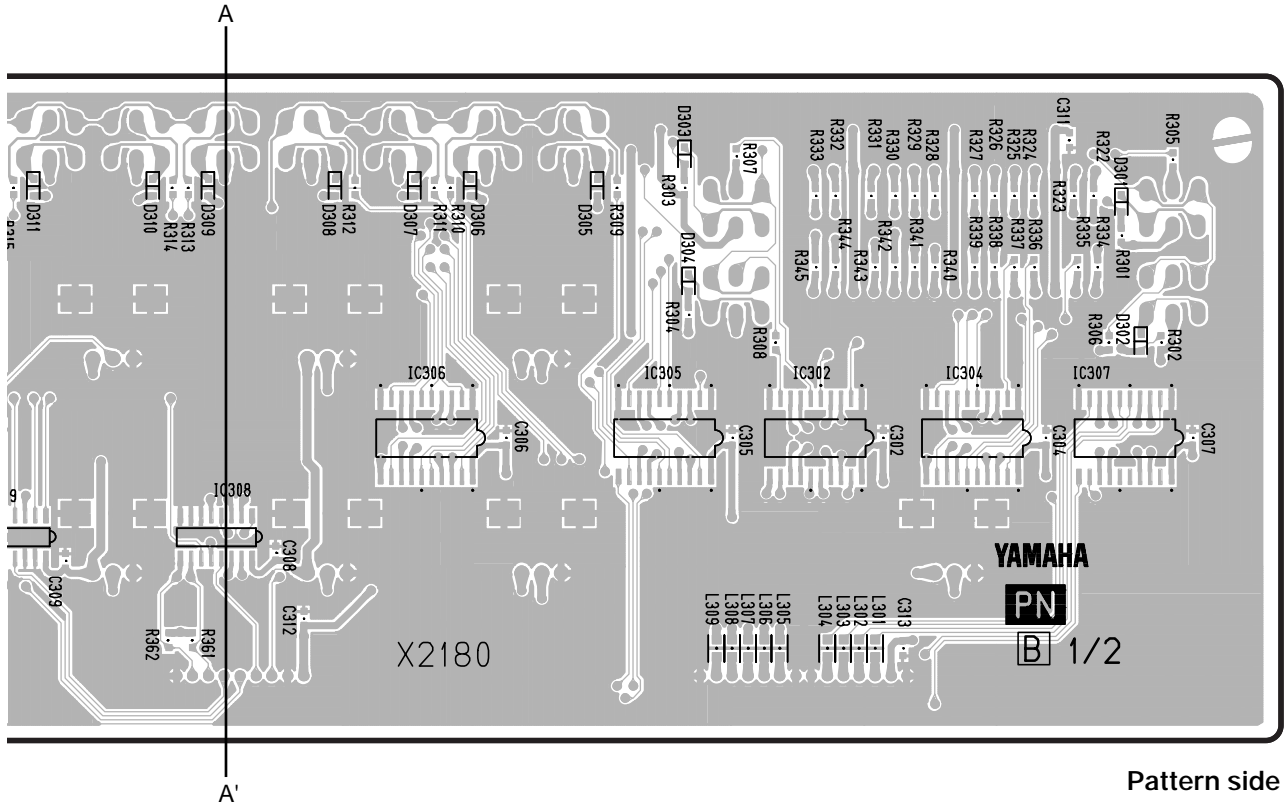
• PN 1/2 Circuit Board



• PN 2/2 Circuit Board







## ■ TEST PROGRAM

### A. CONNECTION OF TERMINALS

- INPUT                      Monaural input
- OUT L/MONO                Monaural output (RL 47KΩ)
- OUT R                        Monaural output (RL 47KΩ)
- HEAD PHONES              Stereo output (RL 33Ω each)
- EXP. PEDAL                FC7 or Connect VR of B50K.  
     JK pin 1: MIN of VR    JK pin 2: MAX of VR  
     JK pin 3: CENTER of VR
- DIGITAL OUT                Connect the DA converter.
- MIDI IN, MIDI OUT        Connect IN and OUT with the  
     DIN 5P cable.
- HIGH/LOW SW              Input Level Select  
     OFF: 0dB  
     ON: +10dB
- AC IN                        Connect the AC adaptor
- STAND-BY SW                Power switch

### B. CONTENTS OF THE TEST PROGRAM

- 0: LED Check
- 1: SW Check
- 2: VR Check
- 3: BATTERY Check
- 4: SRAM Check
- 5: FLASH ROM Check
- 6: DSP Check

### C. STARTING THE TEST PROGRAM AND CHECKING

While pressing the UTILITY, STORE and SYNC switches, turn on the POWER switch. The TEST program will then be started. At this time, check to make sure that the model name "Ud.S" is displayed for about 2 seconds. The digit at the left end of the 7-segment LED indicates the test No.

### D. SELECTING THE TEST NUMBER

- Using the UP and DOWN switches, select the test number and press the STORE switch to start testing.

### E. OPERATION OF THE TEST PROGRAM AND CHECKING

#### 0: LED check

- (1) Using the UP and DOWN switches, select "0".  
     (This step can be skipped if "0" is already selected.)
- (2) Press the STORE switch.
  - LED segments light up one after another starting with "UP". When "FUNCTION" is reached, "BANK", "3", "2" and "1" light up followed by 7 segments in the following order from the left end. After that, all LED segments light up and go out.(Fig.1)

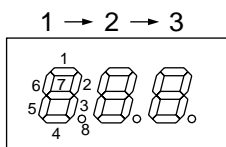


Fig.1

#### 1: SW Check

- (1) Using the UP and DOWN switches, select "1".  
     (This step can be skipped if "1" is already selected.)
- (2) Press the STORE switch.
- (3) Starting with the UP switch, press each switch whose LED lights up one after another. After "FUNCTION", "BANK", "3", "2" and "1", all LED segments should light up and then go out.
  - A number (0 to 20) is indicated at the right end of the 7 segment LED.
  - If "E" representing an error appears at the left end of the LED, press the UTILITY switch for resetting.

#### 2: VR Check (Be sure to set each of VR and EXP PEDAL to be checked at its center position.)

- (1) Using the UP and DOWN switches, select "2".  
     (This step can be skipped if "2" is already selected.)
- (2) Press the STORE switch to start checking.  
     LED display 2. 0
- (3) Turn ASSIGNABLE CONTROL **①** counterclockwise.  
     LED display 2. 0.
- (4) Turn ASSIGNABLE CONTROL **①** clockwise.  
     LED display 2. 1
- (5) Set ASSIGNABLE CONTROL **①** at the center position.
- (6) Turn COARSE **①** counterclockwise.  
     LED display 2. 1.
- (7) Turn COARSE **①** clockwise.  
     LED display 2. 2
- (8) Set COARSE **①** at the center position.
- (9) Check other VRs **②** to **⑪** (Fig. 2) one after another until EFFECT LEVEL **⑫** finally.  
     LED display 2.13
- (10) Return EXP. PEDAL. **⑬**  
     LED display 2 13.
- (11) Push in the EXP. PEDAL. **⑬**
  - All LED segments light up and go out, and then the checking proceeds to Battery check.
  - If VR or EXP PEDAL is not set at its center position, checking will result in an error and E. 0 will appear at the left end of LED.  
     In such case, set it to the center position and press UTILITY SW for resetting.
  - To advance the VR No. (0-13) to be checked, press UTILITY SW.

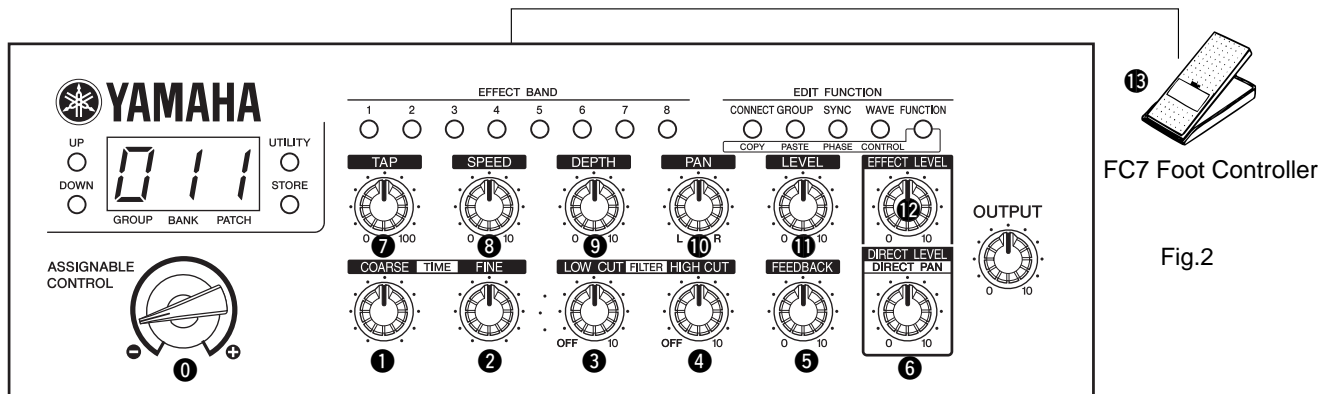


Fig.2

### 3: Battery check

- (1) Using the UP and DOWN switches, select "3".  
(This step can be skipped if "3" has already been selected.)
- (2) Press the STORE switch.
  - If the check result is OK, all lights light up, go off and the program proceed to the next step.
  - If the check result is unsatisfactory, "E" appears at the left end of the LED.

### 4: MIDI Check

- (1) Using the UP and DOWN switches, select "4".  
(This step can be skipped if "4" is already selected.)
- (2) Press the STORE switch.
  - If the check result is OK, all LED segments light up and go out. The checking function will proceed to the next step.
  - In case of an error, "E" appears at the left end of the LED. "0" at the right end indicates transmission and "1" indicates reception.

### 5: SRAM Check

- (1) Using the UP and DOWN switches, select "5".  
(This step can be skipped if "5" is already selected.)
- (2) Press the STORE switch.
  - If the check result is OK, all LED segments light up and go out. The checking function will proceed to the next step.
  - In case of an error, "E" appears at the left end of the LED. "0" at the right end indicates IC2 and "1" indicates IC3.

### 6: DSP Electric Characteristic

- (1) Using the UP and DOWN switches, select "6".  
(This step can be skipped if "6" is already selected.)
- (2) Press the STORE switch.
  - An input signal will be output when the STORE switch is pressed. "1" appears at the right end of the LED. (Table.1)
  - The sine waveform can be checked in all of the analog circuit, A/D, DSP-6 and D/A where the signal has passed.
  - Initial setting: OUTPUT VR ... MAX  
: HIGH/LOW SW ... OFF (LOW)  
: The input impedance of the measuring instrument should be 1MΩ or more.

Table1

	ITEM	INPUT	OUTPUT
1	INPUT Sensitivity	JK101 (INPUT) -5dBm(1KHz)	JK103(OUT L/MONO)+1.0dBm ± 3dB
2	INPUT Sensitivity	JK101 (INPUT) -5dBm(10KHz)	JK103(OUT L/MONO)+1.0dBm ± 3dB
3	INPUT Sensitivity	JK101 (INPUT) -5dBm(100Hz)	JK103(OUT L/MONO)+1.0dBm ± 3dB
4	INPUT Sensitivity	JK101 (INPUT) -25dBm(100Hz)	JK104(OUT R)-1.0dBm ± 3dB
5	INPUT Sensitivity	JK101 (INPUT) -25dBm(10KHz)	JK104(OUT R)-1.0dBm ± 3dB
6	INPUT Sensitivity	JK101 (INPUT) -25dBm(1KHz)	JK104(OUT R)-1.0dBm ± 3dB
7	INPUT Sensitivity	JK101 (INPUT) -5dBm(1KHz)	JK102(HP L)-0.5dBm ± 3dB
8	INPUT Sensitivity	JK101 (INPUT) -5dBm(10KHz)	JK102(HP L)-0.5dBm ± 3dB
9	INPUT Sensitivity	JK101 (INPUT) -5dBm(100Hz)	JK102(HP L)-1.5dBm ± 3dB
10	INPUT Sensitivity	JK101 (INPUT) -25dBm(100Hz)	JK102(HP R)-3.5dBm ± 3dB
11	INPUT Sensitivity	JK101 (INPUT) -25dBm(10KHz)	JK102(HP R)-2.5dBm ± 3dB
12	INPUT Sensitivity	JK101 (INPUT) -25dBm(1KHz)	JK102(HP R)-2.5dBm ± 3dB
13	INPUT Sensitivity	JK101 (INPUT) -35dBm(1KHz) HIGH/LOW SW ON	JK104(OUT R)-0.5dBm ± 3dB
14	INPUT Sensitivity	JK101 (INPUT) -35dBm(10KHz) HIGH/LOW SW ON	JK104(OUT R)-0.5dBm ± 3dB
15	INPUT Sensitivity	JK101 (INPUT) -35dBm(100Hz) HIGH/LOW SW ON after operation OFF	JK104(OUT R)-0.5dBm ± 3dB
16	NOISE LEVEL	Disconnect the jack of JK101 (INPUT), without filter	JK103(OUT L/MONO)-45dBm or less
17	NOISE LEVEL	Disconnect the jack of JK101 (INPUT), without filter	JK104(OUT R)-45dBm or less
18	NOISE LEVEL	Disconnect the jack of JK101 (INPUT), without filter	JK102(HP L)-45dBm or less
19	NOISE LEVEL	Disconnect the jack of JK101 (INPUT), without filter	JK102(HP R)-45dBm or less
20	DISTORTION FACTOR	JK101 (INPUT) -5dBm (1KHz)	JK103(OUT L/MONO) 0.5% or less
21	DISTORTION FACTOR	JK101 (INPUT) -25dBm (1KHz)	JK104(OUT R) 0.5% or less
22	DISTORTION FACTOR	JK101 (INPUT) -5dBm (1KHz)	JK102(HP L) 0.5% or less
23	DISTORTION FACTOR	JK101 (INPUT) -25dBm (1KHz)	JK102(HP R) 0.5% or less
24	INPUT Sensitivity	JK101 (INPUT) -15dBm (1KHz)	JK2(Digital Out) Lch:-18dBm ± 3dB, Rch: ± 0dBm ± 3dB

#### F. CHEKING OF THE ROM VERSION

While pressing the DOWN and UTILITY switches, turn on the POWER switch. The model name "Ud.S" is

displayed for about 2 seconds. As the version number "1.00" (each \* representing a number) appears after that, check it. Then the mode will return to the normal mode.

## ■ ERROR MESSAGES

If an error occurs during operation, one of the following error message numbers will appear in the display. Stop operation of the device and follow the proper solution described below.

### **E 1: MIDI Receive Buffer Full**

**CAUSE:** Too much MIDI data is being received at one time.

**SOLUTION:** Try reducing the amount of data being sent or, break the data into smaller blocks.

### **E 2: Communication Error.**

**CAUSE:** An abnormality is detected during MIDI communications.

**SOLUTION:** Check all connections, etc. and try again.

### **E 3: Bulk Receive Check Sum Error.**

**CAUSE:** The check sum does not match the received MIDI bulk data.

**SOLUTION:** Check all connections and data, and try again.

### **E 4: Bulk Receive Data Abnormality.**

**CAUSE:** An abnormality is detected in the received MIDI bulk data.

**SOLUTION:** Check all connections and data, and try again.

### **E 5: Backup Battery Error.**

**CAUSE:** Backup battery power is depleted.

**SOLUTION:** Continued use of the device will result in the loss of data.

```

YAMAHA          [ Modulation Delay]          Date:14-Dec-2001
  Model UD stomp MIDI Implementation Chart  Version : 1.0
+-----+-----+-----+-----+
:          : Transmitted : Recognized : Remarks :
:  Function ... :          :          :          :
+-----+-----+-----+-----+
:Basic  Default : 1 - 16      : 1 - 16, off : memorized :
:Channel Changed : 1 - 16      : 1 - 16, off :          :
+-----+-----+-----+-----+
:          Default : 1,3         : 1,3         : memorized :
:Mode    Messages : x           : x           :          :
:        Altered  : *****    : x           :          :
+-----+-----+-----+-----+
:Note    : x           : x           :          :
:Number : True voice: *****    : x           :          :
+-----+-----+-----+-----+
:Velocity Note ON  : x           : x           :          :
:        Note OFF : x           : x           :          :
+-----+-----+-----+-----+
:After   Key's    : x           : x           :          :
:Touch  Ch's     : x           : x           :          :
+-----+-----+-----+-----+
:Pitch Bender      : x           : x           :          :
+-----+-----+-----+-----+
:          0       : x           : x           :          :
:          1 - 31  : o           : o           :          :
:          32 - 63 : x           : x           :          :
:          64 - 95 : o           : o           :          :
:Control  95 -127 : x           : x           :          :
:        Change   :             :             :          :
:                :             :             :          :
:                :             :             :          :
:                :             :             :          :
:                :             :             :          :
:                :             :             :          :
+-----+-----+-----+-----+
:Prog    : o 0 - 127   : o 0 - 127   :          :
:Change : True #     : *****    :          :
+-----+-----+-----+-----+
:System Exclusive : o           : o           : Bulk Dump :
+-----+-----+-----+-----+
:System : Song Pos. : x           : x           :          :
:        : Song Sel. : x           : x           :          :
:common : Tune     : x           : x           :          :
+-----+-----+-----+-----+
:System :Clock   : x           : x           :          :
:Real Time :Commands: x           : x           :          :
+-----+-----+-----+-----+
:Aux    :All Sound OFF: x           : x           :          :
:        :Reset All Cntrls : x           : x           :          :
:        :Local ON/OFF : x           : x           :          :
:        :All Notes OFF: x           : x           :          :
:Mes-   :Active Sense : o           : x           :          :
:sages:Reset     : x           : x           :          :
+-----+-----+-----+-----+
:
:
+-----+-----+-----+-----+
Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   o : Yes
Mode 3 : OMNI OFF, POLY  Mode 4 : OMNI OFF, MONO   x : No

```

# UD-Stamp MODULATION DELAY

## PARTS LIST


### ■ CONTENTS

OVERALL ASSEMBLY .....	2
ELECTRICAL PARTS .....	4

### Notes : DESTINATION ABBREVIATIONS

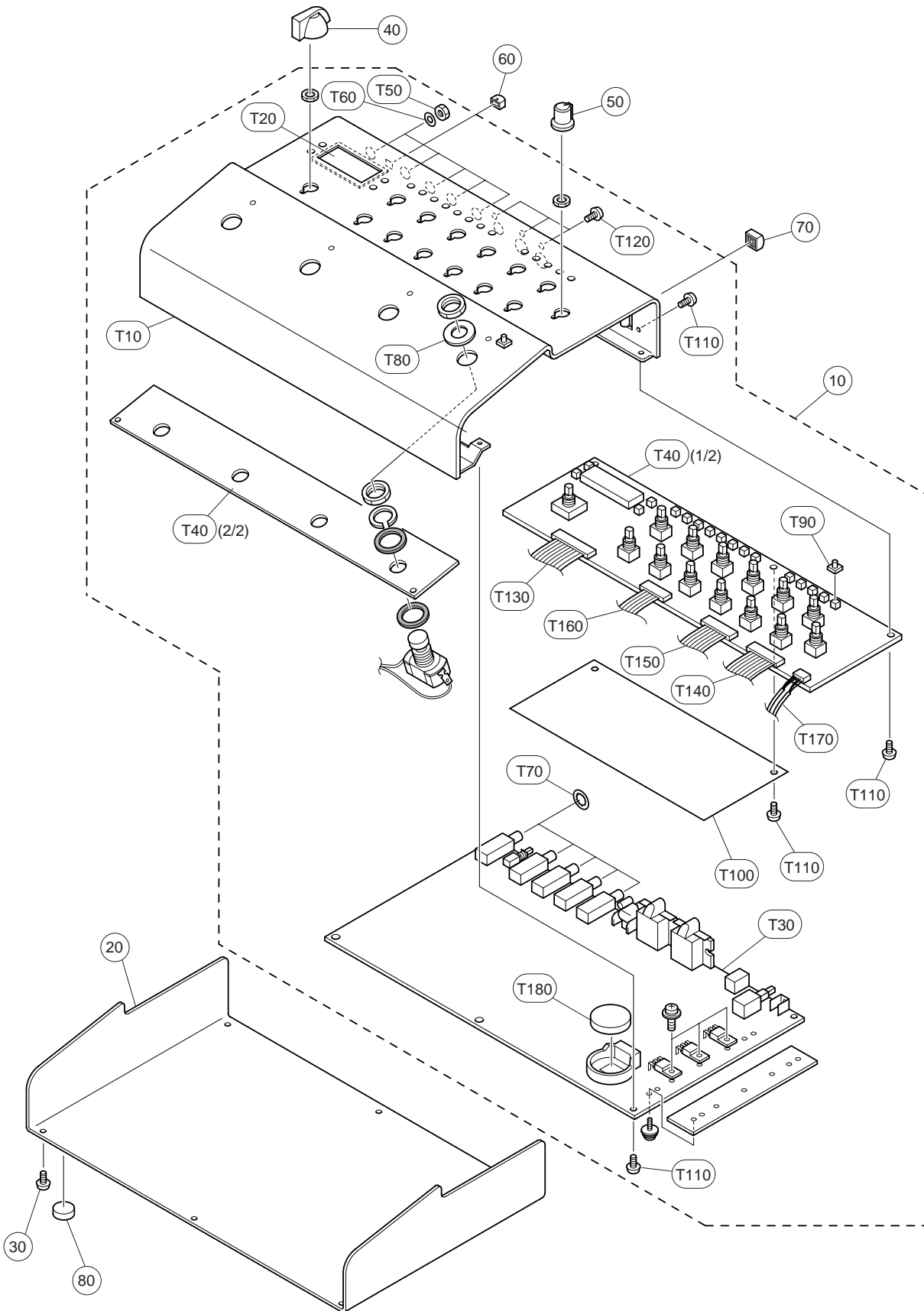
A : Australian model	M: South African model
B : British model	O : Chinese model
C : Canadian model	Q : South-east Asia model
D : German model	T : Taiwan model
E : European model	U : U.S.A. model
F : French model	V : General export model (110V)
H : North European model	W: General export model (220)
I : Indonesian model	N,X : General export model
J : Japanese model	Y : Export model

### ■ WARNING

Components having special characteristics are marked  and must be replaced with parts having specification equal to those originally installed.

- The numbers "QTY" show quantities for each unit.
- The parts with "--" in "PART NO." are not available as spare parts.
- This mark "}" in the REMARKS column means these parts are interchangeable.
- The second letter of the shaded (■) part number is O, not zero.
- The second letter of the shaded (■) part number is I, not one.

# OVERALL ASSEMBLY



REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	--	Overall Assembly		(V839770)		
10	--	Top Cover Assembly		(V839830)		
* 20	V8398400	Bottom Case				
30	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		6	01
40	V3694100	Knob		ASSIGNABLE CONTROL		02
50	V5852300	Knob		TAP,SPEED,DEPTH,PAN, LEVEL,EFFECT LEVEL, COARDE,FINE,LOW CUT, HIGH CUT,FEEDBACK, DIRECT LEVEL,OUTPUT	13	02
60	VZ429100	Button	GRAY	LOW/HIGH		01
70	VZ968600	Button	NO.947 CD-GRAY	STAND BY ON/OFF		01
80	VU859300	Leg			4	01
TOP COVER ASSEMBLY						
	--	Top Cover Assembly		(V839830)		
* T10	V8398800	Top Cover				
T20	V5734500	Meter Cover				02
* T30	V8389900	Circuit Board	DM			
* T40a	AAX33470	Circuit Board	PN 1/2	(V838980)		
* T40b	AAX33480	Circuit Board	PN 2/2	(V838980)		
T50	LX200060	Hexagonal Nut	9.0 12X2 MFNI33		5	01
T60	VL802300	Flat Washer	9X14 0.5 FNM3		5	01
T70	ET800150	Toothed Lock Washer-A	9.0 MFZN2Y		5	01
T80	V7407400	Flat Washer	12X17 0.5 MFNI33		4	01
T90	V5852100	Button		UP,DOWN,UTILITY,STORE, EFFECT BAND1-8, EDIT FUNCTION(CONNECT, GROUP,SYNC,WAVE,FUNCTION)	17	01
T100	--	Shield Sheet		(V839890)		
T110	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		7	01
T120	VC161100	Bind Head Tapping Screw-P	3.0X12 MFZN2BL		3	01
T130	--	Connector Assembly	C&C #28 14P L 50	(V610850)		
T140	--	Connector Assembly	C&C #28 12P L100	(V611450)		
T150	--	Connector Assembly	C&C #28 11P L100	(V611460)		
T160	--	Connector Assembly	C&C #28 9P L100	(V611470)		
T170	--	Connector Assembly	C&C #28 6P L250	(V611480)		
T180	VS246400	Lithium Battery	CR2450			03
ACCESSORIES						
⚠	V5882800	AC Adapter	AC-10 J	J		08
⚠	V5883000	AC Adapter	AC-10 U,C	U,C		08
⚠	V5883100	AC Adapter	AC-10 H	H		08

\*: New Parts

RANK: Japan only



# ELECTRICAL PARTS

REF NO.	PART NO.	DESCRIPTION	REMARKS	QTY	RANK
		ELECTRICAL PARTS	UD-STOMP		
*	V8389900	Circuit Board	DM (X2186B0)		
*	AAX33470	Circuit Board	PN1/2 (V838980)(X2180B0)		
*	AAX33480	Circuit Board	PN2/2 (V838980)(X2180B0)		
*	V8389900	Circuit Board	DM (X2186B0)		
	--	Heat Sink	(V573470)		
	VB763800	Bind Head Screw	SP 3.0X12 MFZN2Y	5	01
	VK863100	IC Socket	DICF-42CS-E		03
BT001	VS246300	Battery Holder	CR2450BH		03
C0001	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
-0009	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0010	UR838100	Electrolytic Cap.	100.00 16.0V		01
C0011	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
-0018	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0019	UR838100	Electrolytic Cap.	100.00 16.0V		01
C0020	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
-0029	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0030	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0031	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0032	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0033	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0034	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0035	UX061120	Ceramic Capacitor (Chip)	12P 50V J		01
C0036	UX061120	Ceramic Capacitor (Chip)	12P 50V J		01
C0037	UR838100	Electrolytic Cap.	100.00 16.0V		01
C0048	UR838100	Electrolytic Cap.	100.00 16.0V		01
C0056	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0057	UX064100	Ceramic Capacitor (Chip)	0.0100 50V K		01
C0058	UX064100	Ceramic Capacitor (Chip)	0.0100 50V K		01
C0059	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
-0070	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0073	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0074	UX062220	Ceramic Capacitor (Chip)	220P 50V J		01
C0075	UX064100	Ceramic Capacitor (Chip)	0.0100 50V K		01
C0076	UX064100	Ceramic Capacitor (Chip)	0.0100 50V K		01
C0077	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0078	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0079	UX064100	Ceramic Capacitor (Chip)	0.0100 50V K		01
C0101	UY065220	Ceramic Capacitor (Chip)	0.2200 50V Z		01
C0102	UX062100	Ceramic Capacitor (Chip)	100P 50V J		01
C0103	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0104	V6197100	Electrolytic Cap.-BP	10.00 35.0V		01
C0105	V6197100	Electrolytic Cap.-BP	10.00 35.0V		01
C0106	UX061100	Ceramic Capacitor (Chip)	10P 50V D		01
C0107	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0108	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0109	UX061220	Ceramic Capacitor (Chip)	22P 50V J		01
C0110	UX063100	Ceramic Capacitor (Chip)	1000P 50V K		01
C0111	V6197100	Electrolytic Cap.-BP	10.00 35.0V		01
C0112	UX061680	Ceramic Capacitor (Chip)	68P 50V J		01
C0113	UX061220	Ceramic Capacitor (Chip)	22P 50V J		01
C0114	UX063100	Ceramic Capacitor (Chip)	1000P 50V K		01
C0115	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0116	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0117	UR857100	Electrolytic Cap.	10.00 35.0V		01
-0122	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0123	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0124	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0125	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0126	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0127	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0128	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z		01
C0129	UR857100	Electrolytic Cap.	10.00 35.0V		01
-0132	V6197100	Electrolytic Cap.-BP	10.00 35.0V		01
C0133	UX061220	Ceramic Capacitor (Chip)	22P 50V J		01
C0134	UR857100	Electrolytic Cap.	10.00 35.0V		01
C0135	V6197000	Electrolytic Cap.-BP	47.00 25.0V		01
C0136	UX063100	Ceramic Capacitor (Chip)	1000P 50V K		01
C0137	V6197100	Electrolytic Cap.-BP	10.00 35.0V		01

\*: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C0138	UX061220	Ceramic Capacitor (Chip)	22P 50V J			01
C0139	UR857100	Electrolytic Cap.	10.00 35.0V			01
C0140	V6197000	Electrolytic Cap.-BP	47.00 25.0V			
C0141	UX063100	Ceramic Capacitor (Chip)	1000P 50V K			01
C0142	UX061220	Ceramic Capacitor (Chip)	22P 50V J			01
C0143	UR857100	Electrolytic Cap.	10.00 35.0V			01
C0144	V6197100	Electrolytic Cap.-BP	10.00 35.0V			01
C0145	UX062100	Ceramic Capacitor (Chip)	100P 50V J			01
C0146	UX061220	Ceramic Capacitor (Chip)	22P 50V J			01
C0147	UR857100	Electrolytic Cap.	10.00 35.0V			01
C0148	V6197100	Electrolytic Cap.-BP	10.00 35.0V			01
C0149	UX062100	Ceramic Capacitor (Chip)	100P 50V J			01
C0150	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0151	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0152	UR857100	Electrolytic Cap.	10.00 35.0V			01
C0153	UR857100	Electrolytic Cap.	10.00 35.0V			01
C0154	UR866100	Electrolytic Cap.	1.00 50.0V			01
C0155	UR866470	Electrolytic Cap.	4.70 50.0V			01
C0156	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0157	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
C0158	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
C0159	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0161	UY065100	Ceramic Capacitor (Chip)	0.1000 50V Z			
-0163	UY065100	Ceramic Capacitor (Chip)	0.1000 50V Z			
C0164	V6196900	Electrolytic Cap.	3300 35.0V			
C0166	UY065100	Ceramic Capacitor (Chip)	0.1000 50V Z			
C0167	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
C0168	UR838100	Electrolytic Cap.	100.00 16.0V			01
C0169	UR839100	Electrolytic Cap.	1000 16.0V			01
C0170	UR839100	Electrolytic Cap.	1000 16.0V			01
C0171	UR858470	Electrolytic Cap.	470.00 35.0V			01
-0174	UR868470	Electrolytic Cap.	470.00 50.0V			01
C0175	UY065100	Ceramic Capacitor (Chip)	0.1000 50V Z			
-0178	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
C0179	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0180	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0181	UR848220	Electrolytic Cap.	220.00 25.0V			01
C0182	UR848220	Electrolytic Cap.	220.00 25.0V			01
C0191	UX060500	Ceramic Capacitor (Chip)	5P 50V C			01
C0192	UX060500	Ceramic Capacitor (Chip)	5P 50V C			01
C0193	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
-0196	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
C0198	UR866100	Electrolytic Cap.	1.00 50.0V			01
C0199	UR866100	Electrolytic Cap.	1.00 50.0V			01
CN001	VV067200	Connector Base Post	M2426XX 12P TE			01
CN002	VV067100	Connector Base Post	M2426XX 11P TE			01
CN003	VV066900	Connector Base Post	M2426XX 9P TE			01
CN103	VV066600	Connector Base Post	M2426XX 6P TE			01
D0001	VT332900	Diode	1SS355 TE-17			01
D0101	VT332900	Diode	1SS355 TE-17			01
-0104	VT332900	Diode	1SS355 TE-17			01
D0105	VT532500	Diode	1SR154-400			01
D0106	VT332900	Diode	1SS355 TE-17			01
D0107	VT532500	Diode	1SR154-400			01
-0115	VT532500	Diode	1SR154-400			01
* IC001	X2201B00	IC	MSM27C802CZ-NRS	ROM 8M		
IC002	XV411A00	IC	W24258S-70LE-EL10	SRAM 256K		07
IC002	XZ388A00	IC	W24257S-70LL-EL10	SRAM 256K		05
IC003	XV411A00	IC	W24258S-70LE-EL10	SRAM 256K		07
IC003	XZ388A00	IC	W24257S-70LL-EL10	SRAM 256K		05
IC004	XR967A00	IC	MB3790PF	ASSP		05
IC005	XZ103A00	IC	74AHC32DT	OR		01
IC006	XZ103A00	IC	74AHC32DT	OR		01
IC007	XZ108A00	IC	74HC08DT	AND		01
IC008	XV988A00	IC	YSS910-S	DSP6		10
IC010	XV077B00	IC	MSM514260E-60JS	DRAM 4M		
IC011	XV077B00	IC	MSM514260E-60JS	DRAM 4M		
IC012	XQ375A00	IC	HD6413002FP16	CPU		09
IC013	VN686000	Photo Coupler	PC410T			04
IC013	VR903700	Photo Coupler	HCPL-M600			04

\*: New Parts

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UD-Stomp

REF NO.	PART NO.	DESCRIPTION	REMARKS	QTY	RANK
IC014	XZ109A00	IC	74HC244DT		02
-016	XZ109A00	IC	74HC244DT	BUFFER	02
IC017	XM530A00	IC	YM3437C-F	BUFFER	07
IC018	XU965A00	IC	UPC29M33T-E1	DIT2	03
IC101	XC458A00	IC	NJM072M	REGULATOR +3.3V	03
IC102	XC011A00	IC	NJM5532M	OP AMP	03
IC103	XC011A00	IC	NJM5532M	OP AMP	03
IC104	XT802A00	IC	AK4520A-VF-E2	OP AMP	07
IC105	XQ138A00	IC	NJM4556AM(T1)	ADC & DAC	03
IC106	XC011A00	IC	NJM5532M	OP AMP	03
IC107	XZ110A00	IC	74HCU04DT	OP AMP	01
IC108	XR684A00	IC	TC74HC4040F	INVERTER	03
IC109	XZ112A00	IC	74HC164DT	B.COUNTER	02
IC110	XZ113A00	IC	74HC175DT	SHIFT REGISTER	02
IC111	XZ162A00	IC	NJM78M05DLA	D-FF	03
IC112	XJ607A00	IC	NJM7805FA	REGULATOR +5V	02
IC113	XD853A00	IC	NJM7815FA	REGULATOR +15V	03
IC114	XD854A00	IC	NJM7915FA	REGULATOR -15V	03
JK001	V6177500	DIN Connector	JACK 5P3 HDC-052A	MIDI(IN/OUT)	03
JK002	V6178000	Pin Connector	JACK HSP-241V1B	DIGITAL OUT	01
JK003	V6177700	Phone Jack	STEREO HTJ-064-12D	EXP. PEDAL	03
JK101	V3633400	Phone Jack	HTJ-064-12I	INPUT	01
JK102	V6177700	Phone Jack	STEREO HTJ-064-12D	PHONES	03
JK103	V3633400	Phone Jack	HTJ-064-12I	OUTPUT(I/MONO)	01
JK104	V3633400	Phone Jack	HTJ-064-12I	OUTPUT(R)	01
JK105	V6177200	Connector	HTJ-020-05A	AC IN 12V 1A	03
J0001	--	Jumper Wire	0.55	(VA07890)	
-0107	--	Jumper Wire	0.55	(VA07890)	
K0101	VV075700	Terminal Plate			01
L0001	VS740100	Chip Inductance	BLM21B751S 2125		03
-0006	VS740100	Chip Inductance	BLM21B751S 2125		03
L0007	VC548200	Pulse Transformer	TC-1019-06 7mm		04
L0008	V6178900	Noise Filter	ZJYS51R5-2PT		04
L0101	VG238200	LC Filter	PLT2003C		04
R0001	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0002	RG005100	Carbon Resistor (chip)	100 0.1 J		
-0007	RG005100	Carbon Resistor (chip)	100 0.1 J		
R0009	RG005270	Carbon Resistor (chip)	270 0.1 J		
R0010	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0012	RG006100	Carbon Resistor (chip)	1.0K 0.1 J		
R0013	RG005220	Carbon Resistor (chip)	220 0.1 J		
R0014	RG007100	Carbon Resistor (chip)	10K 0.1 J		
-0016	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0017	RG006220	Carbon Resistor (chip)	2.2K 0.1 J		
R0018	RG005220	Carbon Resistor (chip)	220 0.1 J		
R0019	RG005220	Carbon Resistor (chip)	220 0.1 J		
R0020	RG006100	Carbon Resistor (chip)	1.0K 0.1 J		
R0021	RG006100	Carbon Resistor (chip)	1.0K 0.1 J		
R0022	RG009100	Carbon Resistor (chip)	1.0M 0.1 J		
R0023	RG004470	Carbon Resistor (chip)	47 0.1 J		
R0024	RG004750	Carbon Resistor (chip)	75 0.1 J		
R0025	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0026	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0027	RG000000	Carbon Resistor (chip)	0 0.1 J		
R0030	RG000000	Carbon Resistor (chip)	0 0.1 J		
R0101	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0102	RG009100	Carbon Resistor (chip)	1.0M 0.1 J		
R0103	RG006470	Carbon Resistor (chip)	4.7K 0.1 J		
R0104	RG006470	Carbon Resistor (chip)	4.7K 0.1 J		
R0105	RG007220	Carbon Resistor (chip)	22K 0.1 J		
R0106	RG007120	Carbon Resistor (chip)	12K 0.1 J		
R0108	RG107100	Carbon Resistor (chip)	10K 0.1 F		
R0109	RG107220	Carbon Resistor (chip)	22K 0.1 F		
R0110	RG106330	Carbon Resistor (chip)	3.3K 0.1 F		
R0111	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0112	RG007100	Carbon Resistor (chip)	10K 0.1 J		
R0113	RG006560	Carbon Resistor (chip)	5.6K 0.1 J		
R0114	RG006560	Carbon Resistor (chip)	5.6K 0.1 J		
R0115	RG005470	Carbon Resistor (chip)	470 0.1 J		
R0116	RG005470	Carbon Resistor (chip)	470 0.1 J		

\*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R0117	RG107100	Carbon Resistor (chip)	10K 0.1 F			
R0118	RG105470	Carbon Resistor (chip)	470 0.1 F			
R0119	RG106270	Carbon Resistor (chip)	2.7K 0.1 F			
R0120	RG006560	Carbon Resistor (chip)	5.6K 0.1 J			
R0121	RG006560	Carbon Resistor (chip)	5.6K 0.1 J			
R0122	RG005470	Carbon Resistor (chip)	470 0.1 J			
R0123	RG005470	Carbon Resistor (chip)	470 0.1 J			
R0124	RG006470	Carbon Resistor (chip)	4.7K 0.1 J			
R0125	RG004330	Carbon Resistor (chip)	33 0.1 J			
R0126	RG006470	Carbon Resistor (chip)	4.7K 0.1 J			
R0127	RG203470	Carbon Resistor (chip)	4.7 1/4 J			
R0128	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0129	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0130	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0131	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0132	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0133	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0134	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0135	RG204470	Carbon Resistor (chip)	47 1/4 J			
R0136	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0137	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0138	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0139	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0140	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0141	RG204470	Carbon Resistor (chip)	47 1/4 J			
R0142	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0143	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0144	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0145	RG006220	Carbon Resistor (chip)	2.2K 0.1 J			
R0146	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0147	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0148	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0149	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0150	RG006220	Carbon Resistor (chip)	2.2K 0.1 J			
R0151	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0152	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0153	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0154	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0155	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0156	RG007220	Carbon Resistor (chip)	22K 0.1 J			
R0157	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0158	RG006220	Carbon Resistor (chip)	2.2K 0.1 J			
R0159	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0160	RG008100	Carbon Resistor (chip)	100K 0.1 J			
R0161	RG006470	Carbon Resistor (chip)	4.7K 0.1 J			
R0162	RG006470	Carbon Resistor (chip)	4.7K 0.1 J			
R0163	RG009100	Carbon Resistor (chip)	1.0M 0.1 J			
R0164	RG005680	Carbon Resistor (chip)	680 0.1 J			
R0165	RG005220	Carbon Resistor (chip)	220 0.1 J			
R0166	RG205100	Carbon Resistor (chip)	100 1/4 J			
R0167	RG205100	Carbon Resistor (chip)	100 1/4 J			
R0168	RG006220	Carbon Resistor (chip)	2.2K 0.1 J			
R0169	RG006220	Carbon Resistor (chip)	2.2K 0.1 J			
RA001	RH047100	Resistor Array	10KX4			
-018	RH047100	Resistor Array	10KX4			
SW101	V3633600	Push Switch	SPPJ22SE01	LOW/HIGH		02
SW102	V4577800	Push Switch	SDKLA10200	STAND BY ON/OFF		03
TR001	VV556400	Transistor	"2SC2412K Q,R,S "			01
TR002	VV556400	Transistor	"2SC2412K Q,R,S "			01
TR101	VD303700	Transistor	"2SC3326 A,B TE85R "			01
-106	VD303700	Transistor	"2SC3326 A,B TE85R "			01
TR107	VV556400	Transistor	"2SC2412K Q,R,S "			01
TR108	VJ927200	Transistor	"2SA1162 O,Y "			01
X0001	VU682100	Quartz Crystal Unit	30.00M HZ DOC-49S2			06
X0002	VE463500	Quartz Crystal Unit	AT-49/12.0000MHZ			03
X0101	VR013200	Quartz Crystal Unit	22.5792M AT-49			03
ZD101	VU170900	Zener Diode	UDZ 2.0BTE-17 2.0V			01
ZD102	VU170900	Zener Diode	UDZ 2.0BTE-17 2.0V			01
ZD103	VU173000	Zener Diode	UDZ 15B TE-17 15V			01
ZD104	VU173000	Zener Diode	UDZ 15B TE-17 15V			01

\*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
*	AAX33470	Circuit Board	PN1/2	(V838980)(X2180B0)		
*	AAX33480	Circuit Board	PN2/2	(V838980)(X2180B0)		
	V6220800	Spacer			8	
	V6624600	LED Holder	LED3-1A		4	
	--	Connector Assembly	C& #24 2P L60	(V654510)	4	
	V6124500	Push Switch	ADS-003-A10	1(SELECT),2(ON/OFF), 3(TAP TEMPO), BYPASS/BANK/TAP TEMPO	4	05
C0301	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
-0315	UX145100	Ceramic Capacitor (Chip)	0.1000 25V Z			01
CN301	VV068000	Connector Base Post	M2426XXR 6P SE			01
CN302	VV068300	Connector Base Post	M2426XXR 9P SE			01
CN303	VV068500	Connector Base Post	M2426XXR 11P SE			01
CN304	VV068600	Connector Base Post	M2426XXR 12P SE			01
CN305	VV068800	Connector Base Post	M2426XXR 14P SE			01
CN306	VV067400	Connector Base Post	M2426XX 14P TE			01
CN307	VV066200	Connector Base Post	M2426XX 2P TE			01
-310	VV066200	Connector Base Post	M2426XX 2P TE			01
D0301	VT332900	Diode	1SS355 TE-17			01
-0321	VT332900	Diode	1SS355 TE-17			01
IC301	XZ102A00	IC	74HC374DT	D-FF		02
-307	XZ102A00	IC	74HC374DT	D-FF		02
IC308	XZ101A00	IC	74HC4052DT	MULTIPLEXER		02
IC309	XZ101A00	IC	74HC4052DT	MULTIPLEXER		02
LD301	V5801000	LED Display	LTC-5836E	GROUP/BANK/PATCH		05
LD302	VV620800	LED	LT311G-41-C13 RE	1		01
LD303	VV620800	LED	LT311G-41-C13 RE	2		01
LD304	VV620800	LED	LT311G-41-C13 RE	3		01
LD305	VV620800	LED	LT311G-41-C13 RE	BANK		01
L0301	VS740100	Chip Inductance	BLM21B751S 2125			03
-0309	VS740100	Chip Inductance	BLM21B751S 2125			03
R0301	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0302	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
-0304	RG006100	Carbon Resistor (chip)	1.0K 0.1 J			
R0305	RG005560	Carbon Resistor (chip)	560 0.1 J			
-0321	RG005560	Carbon Resistor (chip)	560 0.1 J			
R0322	RG005820	Carbon Resistor (chip)	820 0.1 J			
-0345	RG005820	Carbon Resistor (chip)	820 0.1 J			
R0346	RG007100	Carbon Resistor (chip)	10K 0.1 J			
-0362	RG007100	Carbon Resistor (chip)	10K 0.1 J			
R0363	RG005560	Carbon Resistor (chip)	560 0.1 J			
-0366	RG005560	Carbon Resistor (chip)	560 0.1 J			
SW301	VK701100	Push Switch	SKHQFN GREEN	UP		02
SW302	VK701100	Push Switch	SKHQFN GREEN	DOWN		02
SW303	VK701100	Push Switch	SKHQFN GREEN	UTILITY		02
SW304	VK701100	Push Switch	SKHQFN GREEN	STORE		02
SW305	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 1		02
SW306	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 2		02
SW307	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 3		02
SW308	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 4		02
SW309	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 5		02
SW310	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 6		02
SW311	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 7		02
SW312	VK701100	Push Switch	SKHQFN GREEN	EFFECT BAND 8		02
SW313	VK701100	Push Switch	SKHQFN GREEN	CONNECT		02
SW314	VK701100	Push Switch	SKHQFN GREEN	GROUP		02
SW315	VK701100	Push Switch	SKHQFN GREEN	SYNC		02
SW316	VK701100	Push Switch	SKHQFN GREEN	WAVE		02
SW317	VK701100	Push Switch	SKHQFN GREEN	FUNCTION		02
VR301	V5264800	Rotary Variable Resistor	RK09L1140 10KB	ASSIGNABLE CONTROL		03
VR302	V5264800	Rotary Variable Resistor	RK09L1140 10KB	COARSE		03
VR303	V5264800	Rotary Variable Resistor	RK09L1140 10KB	FINE		03
VR304	V5264800	Rotary Variable Resistor	RK09L1140 10KB	LOW CUT		03
VR305	V5264800	Rotary Variable Resistor	RK09L1140 10KB	HIGH CUT		03
VR306	V5264800	Rotary Variable Resistor	RK09L1140 10KB	FEEDBACK		03
VR307	V5264800	Rotary Variable Resistor	RK09L1140 10KB	DIRECT LEVEL		03
VR308	V5264800	Rotary Variable Resistor	RK09L1140 10KB	TAP		03
VR309	V5264800	Rotary Variable Resistor	RK09L1140 10KB	SPEED		03
VR310	V5264800	Rotary Variable Resistor	RK09L1140 10KB	DEPTH		03

\*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
VR311	V5264800	Rotary Variable Resistor	RK09L1140 10KB	PAN LEVEL EFFECT LEVEL OUTPUT		03
VR312	V5264800	Rotary Variable Resistor	RK09L1140 10KB			03
VR313	V5264800	Rotary Variable Resistor	RK09L1140 10KB			03
VR314	V5265100	Rotary Variable Resistor	RK09L12D0 20KA X2			03
	VS246400	Lithium Battery	CR2450			03

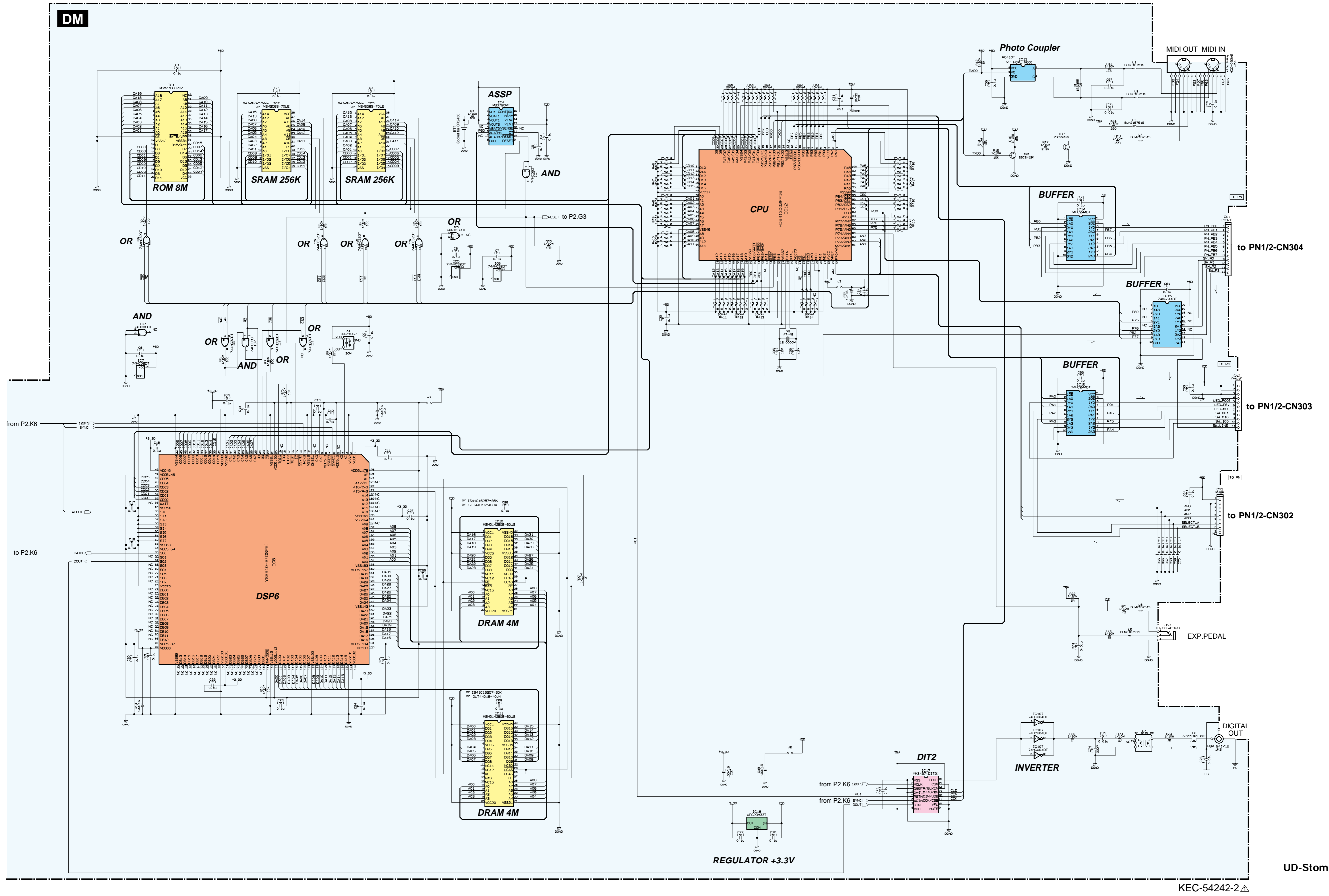
\*: New Parts

RANK: Japan only

UD-Stomp OVERALL CIRCUIT DIAGRAM 1/3 (DM)

UD-Stomp

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UD-Stomp

UD-Stomp

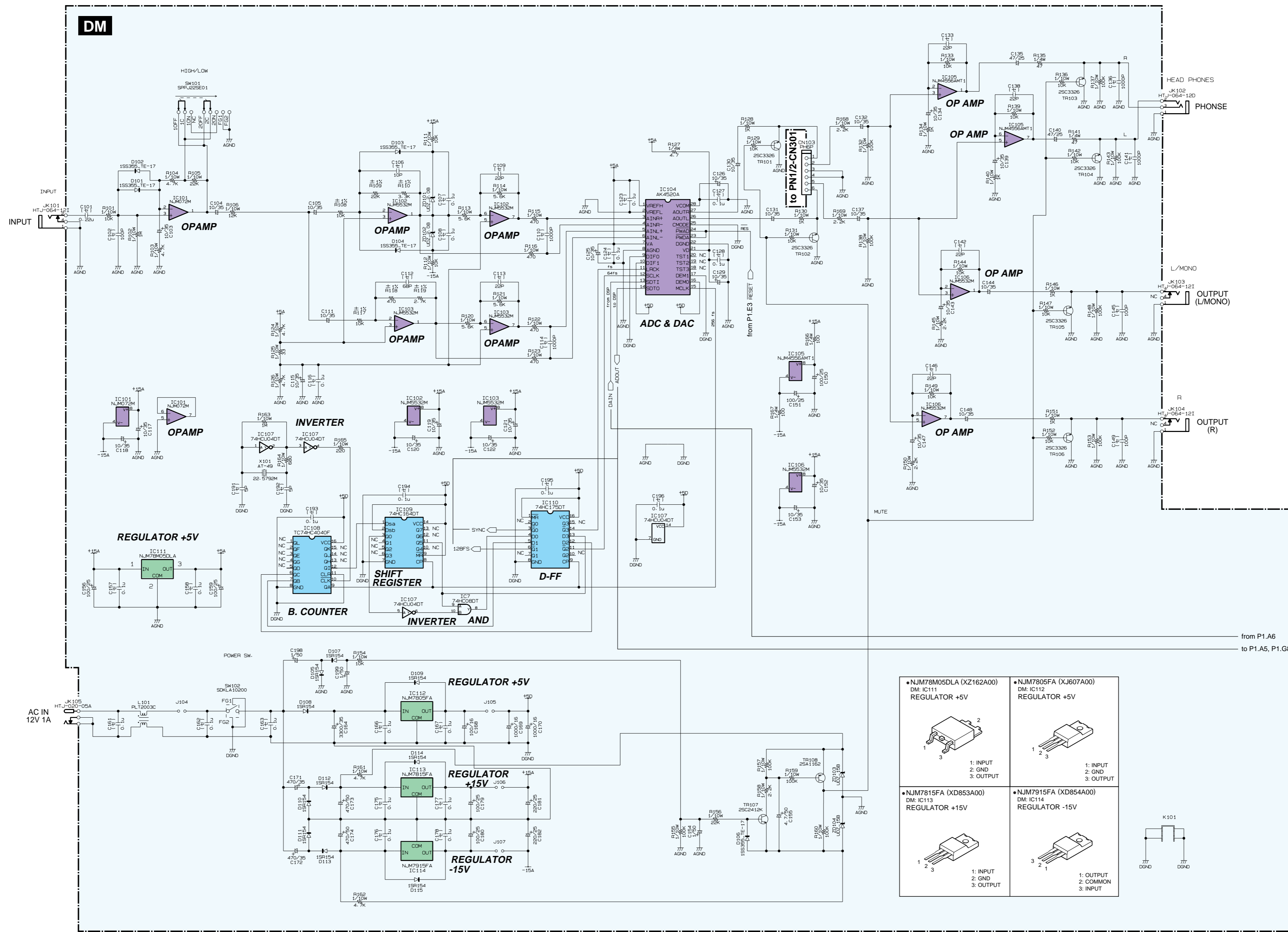
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Note : See parts list for details of circuit board component parts.

(τ) : Ceramic Capacitor (Chip)

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<p>• NJM78M05DLA (XZ162A00) DM: IC111 REGULATOR +5V</p>	<p>• NJM7805FA (XJ607A00) DM: IC112 REGULATOR +5V</p>
<p>• NJM7815FA (XD853A00) DM: IC113 REGULATOR +15V</p>	<p>• NJM7915FA (XD854A00) DM: IC114 REGULATOR -15V</p>





KEC-54243-2