

DIGITAL MIXING ENGINE

DME 32

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 håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.

Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.

Hävitätä käytetty 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

Sampling frequency	Internal	48 kHz
	External	39.69–50.88 kHz
Signal delay		0.21 ms (direct cable from input 1 to output 1, fs = 48 kHz)
Memories	Configuration	2 (A, B)
	Scene	99 per configuration
Display		24-character x 2 line LCD, with backlight
Scene No.		7-segment LED x 2
Indicators	Wordclock	48 kHz, 44.1 kHz, LOCK
	Emergency mode	EMERGENCY
	Others	COMPONENT,PARAMETER,VALUE, PROTECT,UTILITY, USER DEFINE
PC Card slot		PCMCIA Type II memory cards
Power requirements		U.S.A. & Canada 120 V AC, 60 Hz Europe 230 V AC, 50 Hz
Power consumption		40 W
Dimensions (W x H x D)		480 x 141.5 x 375.2 mm (18.9 x 5.6 x 14.8 inches), 3U
Weight		9.5 kg (21 lbs)
Free-air operating temperature		10 °C to 35 °C (50 °F to 95 °F)
Storage temperature		-20 °C to 60 °C (-4 °F to 140 °F)
Power cord length		2.5 m
Supplied accessories		Power cord, CD-ROM (DME Manager program), 9-pin D-sub crossed cable, 16-pin Euro-block plug, Owner's Manual
Options		MY8, MY4 mini YGDAL I/O cards

Control I/O

Connection	Format	Level	Connector
WORD CLOCK INPUT	—	TTL 75 Ω (ON/OFF)	BNC
WORD CLOCK OUTPUT	—	TTL	BNC
MIDI IN	MIDI	—	5-pin DIN
MIDI OUT	MIDI	—	5-pin DIN
CASCADE IN	—	—	Half pitch 50-pin
CASCADE OUT	—	—	Half pitch 50-pin
USB	USB	—	USB Type B male
PC CONTROL	—	RS232C/RS422	9-pin D-sub
COM	—	RS422	9-pin D-sub
GPI IN (x16)	—	0–5 V	Euro block
GPI OUT (x16)	—	0–5 V	Euro block
GPI +V (x16)	—	6 mA max	Euro block
SLOT (x4)	mini YGDAL	—	—

IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

IMPORTANT. The wires in this main lead are coloured in accordance with the following code:

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the main lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The BLUE wire must be connected to the terminal that is marked with the letter N (or coloured BLACK).

The BROWN wire must be connected to the terminal that is marked with the letter L (or coloured RED).

Be certain that neither core is connected to the earth terminal of the three pin plug.

Connector Pin Assignments

PC CONTROL (RS232C)

Pin	Name	In/Out	Pin	Name	In/Out
1	Unused	—	6	DSR	In
2	RxD	In	7	RTS	Out
3	TxD	Out	8	CTS	In
4	DTR	Out	9	Unused	—
5	GND	—			

PC CONTROL (RS422)

Pin	Name	In/Out	Pin	Name	In/Out
1	Unused	—	6	Rx+	In
2	Rx-	In	7	RTS	Out
3	Tx-	Out	8	CTS	In
4	Tx+	Out	9	Unused	—
5	GND	—			

CASCADE OUT

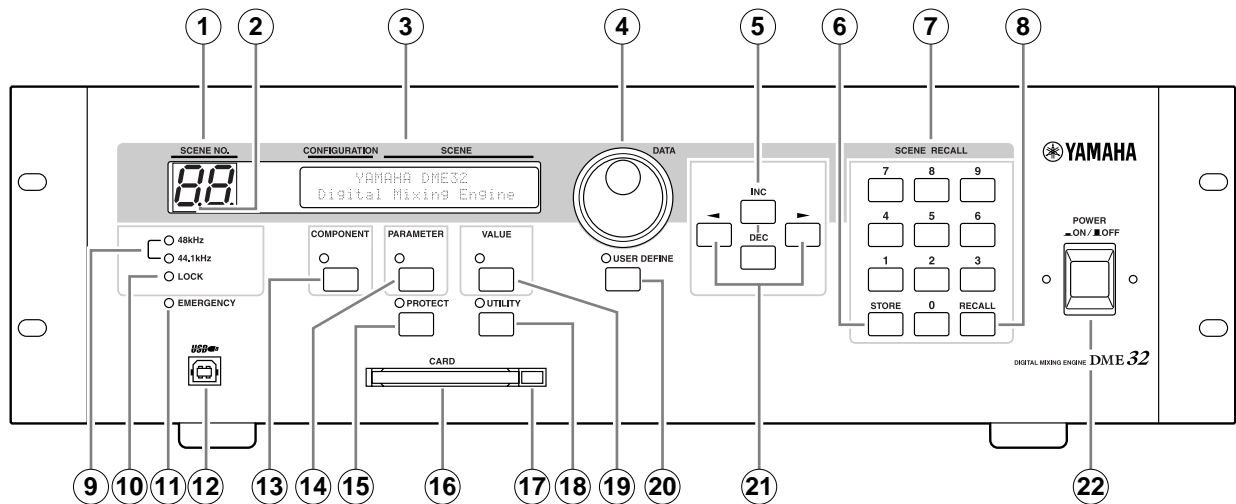
Pin	Name	Pin	Name
1	GND	26	GND
2	Bus 1–4 in+	27	Bus 1–4 in-
3	Bus 5–8 in+	28	Bus 5–8 in-
4	Bus 9–12 in+	29	Bus 9–12 in-
5	Bus 13–16 in+	30	Bus 13–16 in-
6	Bus 17–20 in+	31	Bus 17–20 in-
7	Bus 21–24 in+	32	Bus 21–24 in-
8	Bus 25–28 in+	33	Bus 25–28 in-
9	Bus 29–32 in+	34	Bus 29–32 in-
10	GND	35	GND
11	Sum 1–4 out+	36	Sum 1–4 out-
12	Sum 5–8 out+	37	Sum 5–8 out-
13	Sum 9–12 out+	38	Sum 9–12 out-
14	Sum 13–16 out+	39	Sum 13–16 out-
15	Sum 17–20 out+	40	Sum 17–20 out-
16	Sum 21–24 out+	41	Sum 21–24 out-
17	Sum 25–28 out+	42	Sum 25–28 out-
18	Sum 29–32 out+	43	Sum 29–32 out-
19	Wordclock out	44	Wordclock in
20	GND	45	GND
21	Control Rx+	46	Control Rx-
22	Control Tx+	47	Control Tx-
23	ID out	48	GND
24	ID out (GND)	49	GND
25	GND	50	GND

CASCADE IN

Pin	Name	Pin	Name
1	GND	26	GND
2	Bus 1–4 out+	27	Bus 1–4 out-
3	Bus 5–8 out+	28	Bus 5–8 out-
4	Bus 9–12 out+	29	Bus 9–12 out-
5	Bus 13–16 out+	30	Bus 13–16 out-
6	Bus 17–20 out+	31	Bus 17–20 out-
7	Bus 21–24 out+	32	Bus 21–24 out-
8	Bus 25–28 out+	33	Bus 25–28 out-
9	Bus 29–32 out+	34	Bus 29–32 out-
10	GND	35	GND
11	Sum 1–4 in+	36	Sum 1–4 in-
12	Sum 5–8 in+	37	Sum 5–8 in-
13	Sum 9–12 in+	38	Sum 9–12 in-
14	Sum 13–16 in+	39	Sum 13–16 in-
15	Sum 17–20 in+	40	Sum 17–20 in-
16	Sum 21–24 in+	41	Sum 21–24 in-
17	Sum 25–28 in+	42	Sum 25–28 in-
18	Sum 29–32 in+	43	Sum 29–32 in-
19	Wordclock in	44	Wordclock out
20	GND	45	GND
21	Control Tx+	46	Control Tx-
22	Control Rx+	47	Control Rx-
23	ID in (GND)	48	GND
24	ID in	49	GND
25	GND	50	GND

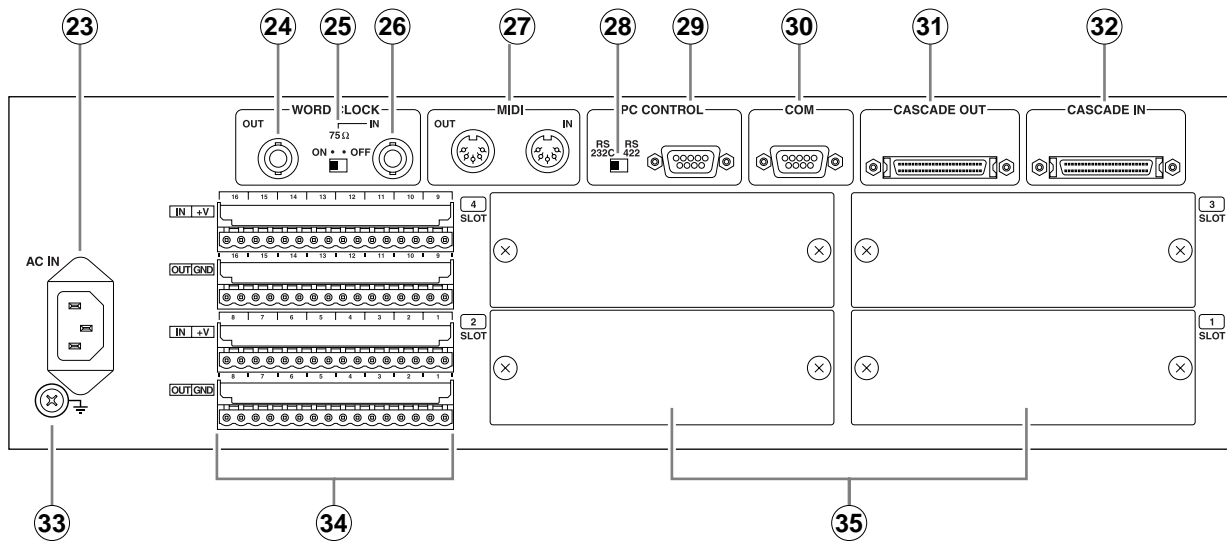
■ PANEL LAYOUT

● Front Panel



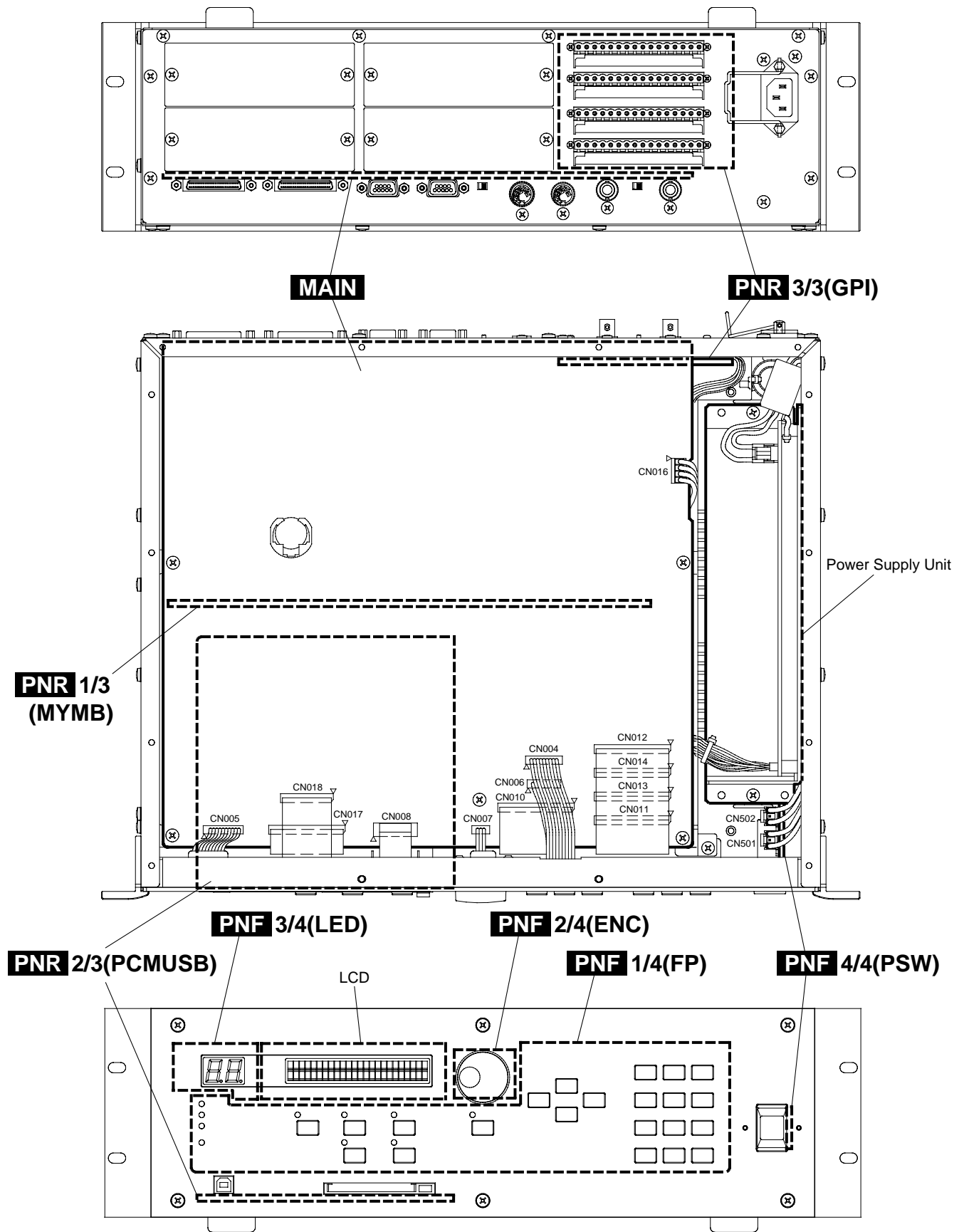
- ① SCENE NO. indicator
- ② Scene edit dots
- ③ Display
- ④ DATA wheel
- ⑤ INC & DEC buttons
- ⑥ STORE button
- ⑦ SCENE RECALL number keypad
- ⑧ RECALL button
- ⑨ 48kHz & 44.1kHz indicators
- ⑩ LOCK indicator
- ⑪ EMERGENCY indicator
- ⑫ USB port
- ⑬ COMPONENT button & indicator
- ⑭ PARAMETER button & indicator
- ⑮ PROTECT button & indicator
- ⑯ CARD slot
- ⑰ CARD eject button
- ⑱ UTILITY button & indicator
- ⑲ VALUE button & indicator
- ⑳ USER DEFINE button & indicator
- ㉑ Cursor buttons (◀ / ▶)
- ㉒ POWER switch

● Rear Panel

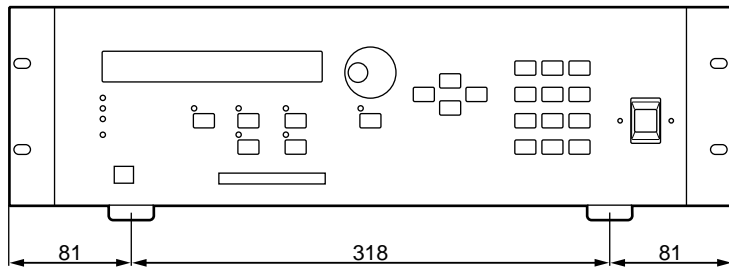
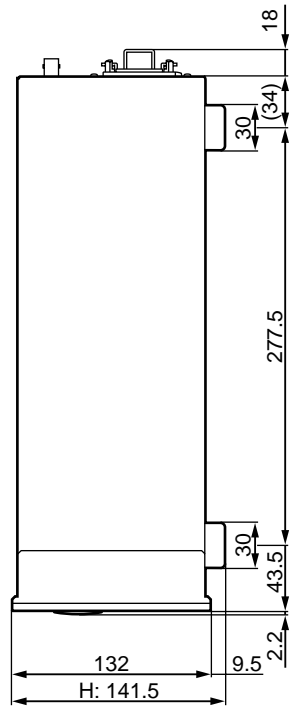
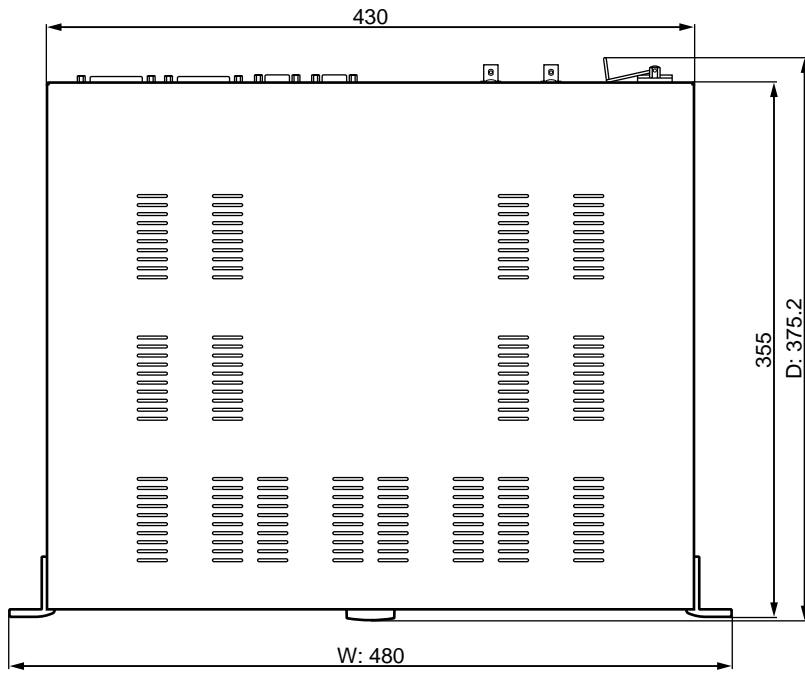


- 23 AC IN connector
- 24 WORD CLOCK OUT connector
- 25 WORD CLOCK 75 ohm ON/OFF switch
- 26 WORD CLOCK IN connector
- 27 MIDI IN & OUT ports
- 28 PC CONTROL RS232C/RS422 switch
- 29 PC CONTROL port
- 30 COM port
- 31 CASCADE OUT port
- 32 CASCADE IN port
- 33 Ground terminal
- 34 GPI connectors
- 35 SLOTS 1-4

CIRCUIT BOARD LAYOUT



■ DIMENTIONS



Unit: mm

■ DISASSEMBLY PROCEDURE

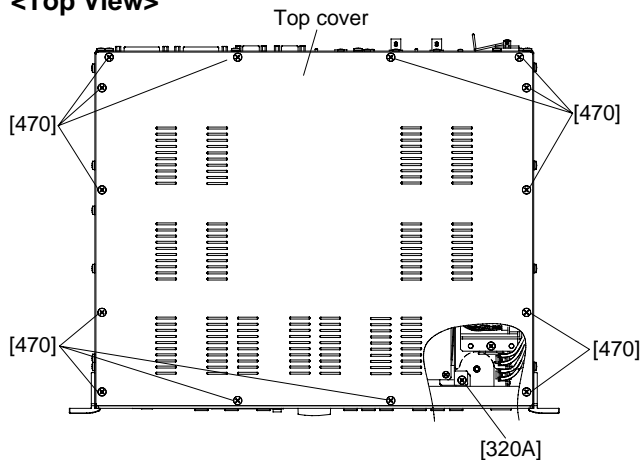
1. Top Cover

- 1-1 Remove the fourteen (14) screws marked [470]. The top cover can then be removed. (Fig. 1)

2. Front Panel Assembly

- 2-1 Remove the top cover. (See procedure 1.)
 2-2 Remove the six (6) screws marked [350]. The left and right mount brackets can then be removed. (Fig. 2)
 2-3 Remove the screw marked [320A] and the four (4) screws marked [320B]. The front panel assembly can then be removed. (Fig. 1, 2)

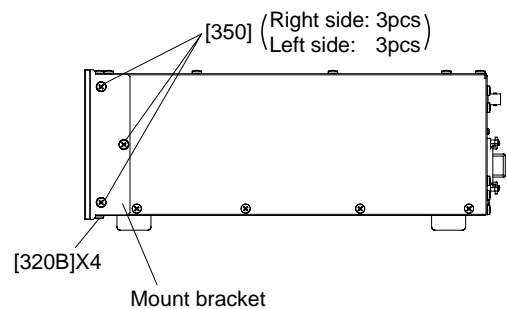
<Top View>



[320A]: Bind Head Tapping Screw-B A4.0X8 MFZN2BL (VC688800)
 [470]: Bind Head Tapping Screw-B A4.0X8 MFZN2BL (VC688800)

Fig. 1

<Right side View>



[320B]: Bind Head Tapping Screw-B A4.0X8 MFZN2BL (VC688800)
 [350]: Oval Head Screw B4.0X10 MFZNBL (V6221000)

Fig. 2

3. MAIN Circuit Board

- 3-1 Remove the top cover. (See procedure 1.)
 3-2 Remove the eight (8) screws marked [A], the two (2) screws marked [420], the two (2) screws marked [430] and the five (5) screws marked [440]. The MAIN circuit board can then be removed. (Fig. 3, 4)

4. Replacement of the Lithium Battery

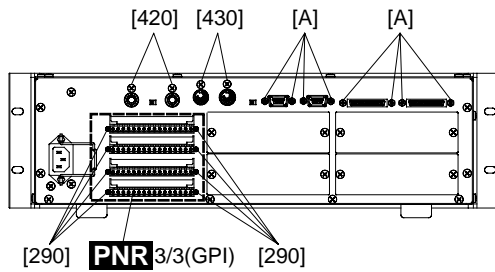
- 4-1 Remove the top cover. (See procedure 1.)
 4-2 The lithium battery can be replacement on the MAIN circuit board. (Fig. 4)

* The lithium battery is not a part of the MAIN circuit board. Therefore, always save the data before exchanging the MAIN circuit board. Once the data has been saved, the lithium battery can be removed from the circuit board for the Main body and mounted to the new circuit board.

5. Power Supply Unit

- 5-1 Remove the top cover. (See procedure 1.)
 5-2 Remove the two (2) screws marked [150]. The power supply unit can then be removed. (Fig. 4)

<Rear View>



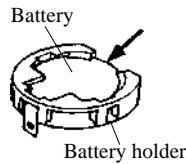
- [290]: Pan Head Screw 2.6X6 MFZN2BL (VC990500)
- [420]: Bonding Screw 3.0X6 MFZN2BL (VS863000)
- [430]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)

Fig. 3

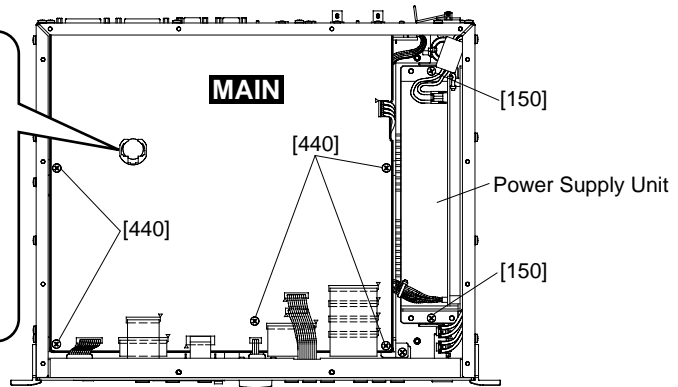
• Lithium Battery

Battery VN103500
VN103600(Battery holder for VN103500)

- Notice for back-up battery removal
Push the battery as shown in figure, then the battery will pop up.
- Druk de batterij naar beneden zoals aangeven in de tekening, de batterij springt dan naar voren.



<Top View>



- [150]: Bind Head Tapping Screw-B A4.0X8 MFZN2BL (VC688800)
- [440]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)

Fig. 4

6. PNR1/3(MYMB), PNR2/3(PCMUSB) and PNR3/3(GPI) Circuit Boards

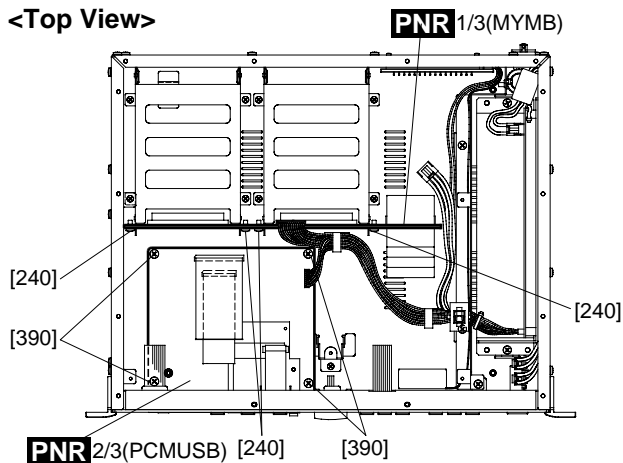
- 6-1 Remove the top cover. (See procedure 1.)
- 6-2 Remove the MAIN circuit board. (See procedure 3.)
- 6-3 PNR1/3(MYMB) Circuit Board:
Remove the four (4) screws marked [240]. The PNR1/3 (MYMB) circuit board can then be removed. (Fig. 5)
- 6-4 PNR2/3(PCMUSB) Circuit Board:
Remove the four (4) screws marked [390]. The PNR2/3 (PCMUSB) circuit board can then be removed. (Fig. 5)
- 6-5 PNR3/3(GPI) Circuit Board:
Remove the eight (8) screws marked [290]. The PNR3/3 (GPI) circuit board can then be removed. (Fig. 3)

7. PNF1/4(FP), PNF2/4(ENC), PNF3/4(LED), PNF4/4(PSW) Circuit Boards and LCD

- 7-1 Remove the top cover. (See procedure 1.)
- 7-2 Remove the six (6) screws marked [90]. The front panel can then be removed. (Fig. 6)

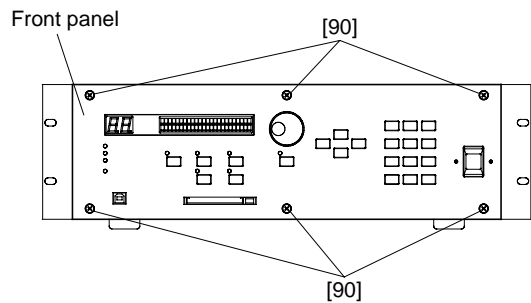
- 7-3 PNF1/4(FP) Circuit Board:
Remove the four (4) screws marked [30A]. The PNF1/4(FP) circuit board can then be removed. (Fig. 7)
- 7-4 PNF2/4(ENC) Circuit Board:
Remove the four (4) screws marked [30B]. The PNF2/4(ENC) circuit board can then be removed. And then pull out the encoder knob from the PNF2/4(ENC) circuit board. (Fig. 7)
- 7-5 PNF3/4(LED) Circuit Board:
Remove the screw marked [30C]. The PNF3/4(LED) circuit board can then be removed. (Fig. 7)
- 7-6 PNF4/4(PSW) Circuit Board:
Pull out the power switch knob. Remove the two (2) screws marked [60]. The PNF4/4(PSW) circuit board can then be removed. (Fig. 7)
- 7-7 LCD:
Remove the screw marked [50]. The LCD can then be removed. (Fig. 7)

<Top View>



[240]: Bind Head Screw 4.0X8 MFZN2BL (EG340360)
[390]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)

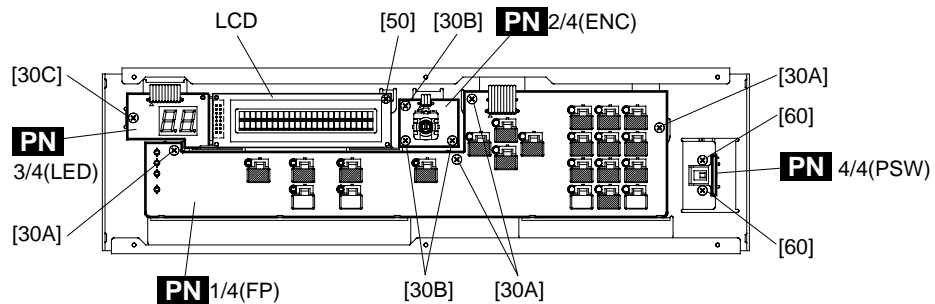
Fig. 5



[90]: Oval Head Screw 4.0X8 MFZNBL (VS153600)

Fig. 6

<Front View>



[30]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
[50]: Pan Head Screw 2.6X6 MFZN2BL (VC990500)
[60]: Bonding Screw 3.0X6 MFZN2BL (VS863000)

Fig. 7

■ LSI PIN DESCRIPTION

HD6437042AF62F (XY885B00) CPU	14
MR-SHPC-01 (XW937A00) PC Card Controller	15
SGH609080F-47F (XU235A00) ATSC	16
YSS904-F (XV989A00) DSP5 (Digital Signal Processor)	17
YSS910-S (XV988A00) DSP6 (Digital Signal Processor)	18
PDIUSB12PW (XW583A00) USB Interface	19
ST16C554DCQ64 (XW934A00) UART (Universal Asynchronous Receiver and Transmitter)	19
TPS2205IDB (XW602A00) Power Controller	20
YM3436DK (XG948E00) DIR2 (Digital Format Interface Receiver)	20

● HD6437042AF62F (XY885B00) CPU

MAIN: IC4

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	PE14	O	Port E	57	D11	I/O	} Data bus
2	PE15	O	Port E	58	D10	I/O	
3	VSS	I	Ground	59	D9	I/O	
4	A0	O	} Address bus	60	D8	I/O	} Data bus
5	A1	O		61	VSS	I	
6	A2	O		62	D7	I/O	} Data bus
7	A3	O		63	D6	I/O	
8	A4	O		64	D5	I/O	
9	A5	O		65	VCC	I	Power supply
10	A6	O		66	D4	I/O	} Data bus
11	A7	O		67	D3	I/O	
12	A8	O		68	D2	I/O	
13	A9	O		69	D1	I/O	} Data bus
14	A10	O		70	D0	I/O	
15	A11	O		71	VSS	I	Ground
16	A12	O		72	XTAL	I	Crystal oscillator
17	A13	O		73	MD3	I	Mode control
18	A14	O		74	EXTAL	I	Crystal oscillator
19	A15	O		75	MD2	I	Mode control
20	A16	O	76	NMI	I	Non-maskable interrupt request	
21	VCC	I	Power supply	77	VCC	I	Power supply
22	A17	O	Address bus	78	MD1	I	Mode control
23	VSS	I	Ground	79	MD0	I	Mode control
24	/RAS	O	Row address strobe	80	PLLVCC	I	PLL Power supply
25	/CASL	O	Column address strobe (low)	81	PLLCAP	I	PLL capacitor
26	/CASH	O	Column address strobe (high)	82	PLLVSS	I	PLL Ground
27	VSS	O	Ground	83	PA15 / CK	O	Port A / Clock
28	RDWR / PB5	O	DRAM read/write / Port B	84	/RES	I	Reset
29	A18	O	} Address bus	85	PE0	I	} Port E
30	A19	O		86	PE1	I	
31	A20	O		87	PE2	I	
32	PB9 / A21	O		Port B / Address bus	88	PE3	I
33	VSS	I	Ground	89	PE4	I	} Ground
34	/RD	O	Read	90	VSS	I	
35	/WDTOVF	O	Watch dog timer overflow	91	AN0 / PF0	I	} Analog input / Port F
36	/WRH	O	High write	92	AN1 / PF1	I	
37	VCC	I	Power supply	93	AN2 / PF2	I	
38	/WRL	O	Low write	94	AN3 / PF3	I	
39	VSS	I	Ground	95	AN4 / PF4	I	
40	/CS1	O	Chip select	96	AN5 / PF5	I	} Analog ground
41	/CS0	O	Chip select	97	AVSS	I	
42	PA9 / TCLKD	O	Port A / Timer clock	98	AN6 / PF6	I	Analog input / Port F
43	/IRQ2 / TCLKC	I	Interrupt request / Timer clock	99	AN7 / PF7	I	Analog input / Port F
44	/CS3	O	Chip select	100	AVCC	I	Power supply
45	/CS2	O	Chip select	101	VSS	I	Ground
46	/IRQ1	I	Interrupt request	102	PE5	O	Port E
47	TXD	O	Data transmission	103	VCC	I	Power supply
48	RXD	I	Data reception	104	PE6	O	} Port E
49	/IRQ0	I	Interrupt request	105	PE7	O	
50	PA1 / TXD0	O	Port A / Data transmission	106	PE8	O	
51	PA0 / RXD0	I	Port A / Data reception	107	PE9	O	} Port E
52	D15	I/O	} Data bus	108	PE10	O	
53	D14	I/O		109	VSS	I	Ground
54	D13	I/O		110	PE11	O	} Port E
55	VSS	I		Ground	111	PE12	
56	D12	I/O	Data bus	112	PE13	O	

● MR-SHPC-01 (XW937A00) PC Card Controller

PNR: IC101

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION		
1	GND		Ground	73	GND		Ground		
2	/RESET	I	System reset	74	CD2	I/O	} Card data bus		
3	/SRD	I	Read command	75	CD10	I/O			
4	/SWE0	I	} Write command	76	CWP XIOIS16	I	Write protect / 16 bit cycle request		
5	/SWE1	I			77	/CCD2	I	Card detect	
6	/BS	I	Bus strobe	78	CVPP1	O	Card slot power supply		
7	/CS	I	Chip select	79	CVPP0	O	Card slot power supply		
8	CARD PW GOOD	I	Card power good	80	/CVCC3	O	Card slot power supply (+3.3 V)		
9	CD3	I/O	Card data bus	81	/CVCC5	O	Card slot power supply (+5.0 V)		
10	/CCD1	I	Card detect	82	SPKR OUT	O	Speaker signal		
11	CD4	I/O	} Card data bus	83	LED OUT	O	LED signal		
12	CD11	I/O			84	/SWAIT	O	System wait	
13	CD5	I/O			85	TEST	I	Test pin	
14	SYSTEM VCC		System power supply	86	RA25	I	} Resistor high address institute		
15	CD12	I/O	} Card data bus	87	RA24	I			
16	CD6	I/O			88	RA23		I	
17	CD13	I/O			89	RA22		I	
18	GND		Ground	90	SYSTEM VCC		System power supply		
19	CD7	I/O	Card data bus	91	CKIO	I	System clock		
20	CD14	I/O	Card data bus	92	GND		Ground		
21	/CCE1	O	Card enable	93	ENDIAN	I	ENDIAN institute		
22	CARD Vcc		Card power supply	94	SA25	I	} System address bus		
23	CD15	I/O	Card data bus	95	SA24	I			
24	CA10	O	Card address bus	96	SA23	I			
25	/CCE2	O	Card enable	97	SA22	I			
26	/COE	O	Card output enable	98	SA21	I			
27	/CVS1	I	Card power supply/voltage detect	99	SA20	I			
28	CA11	O	Card address bus	100	SA19	I			
29	/CIORD	O	Card I/O read	101	SA18	I			
30	CA9	O	Card address bus	102	SA17	I			
31	/CIOWR	O	Card I/O write	103	SA16	I			
32	CA8	O	} Card address bus	104	SA15	I			
33	CA17	O			105	SA14	I		
34	CA13	O			106	SA13	I		
35	CA18	O			107	SA12	I		
36	CA14	O			108	SA11	I		
37	GND		Ground	109	GND		Ground		
38	CA19	O	Card address bus	110	SA10	I	} System address bus		
39	CWE PGM	O	Card write enable	111	SA9	I			
40	CA20	O	Card address bus	112	SA8	I			
41	CRDY XBSY IREQ	I	Read/Busy interrupt request	113	SA7	I			
42	CA21	O	Card address bus	114	SA6	I			
43	CARD VCC		Card power supply	115	SA5	I			
44	CA16	O	} Card address bus	116	SA4	I			
45	CA22	O			117	SA3	I		
46	CA15	O			118	SA2	I		
47	CA23	O			119	SA1	I		
48	CA12	O			120	SA0	I		
49	CA24	O			121	GND		Ground	
50	CA7	O			122	SD15	I/O	} System data bus	
51	CA25	O			123	SD14	I/O		
52	CA6	O		124	SD13	I/O			
53	/CVS2	I	Card power supply/voltage detect	125	SD12	I/O			
54	CA5	O	Card address bus	126	SD11	I/O			
55	SYSTEM VCC		System power supply	127	SYSTEM VCC		System power supply		
56	GND		Ground	128	SD10	I/O	} System data bus		
57	CRESET	O	Card reset	129	SD9	I/O			
58	CA4	O	Card address bus	130	SD8	I/O	Ground		
59	/CWAIT	I	Card wait request	131	GND		} System data bus		
60	CA3	O	Card address bus	132	SD7	I/O			
61	/CINPACK	I	Card read data control	133	SD6	I/O			
62	CA2	O	Card address bus	134	SD5	I/O			
63	CARD VCC		Card power supply	135	SD4	I/O			
64	/CREG	O	Memory area select	136	SD3	I/O			
65	CA1	O	Card address bus	137	SD2	I/O			
66	CBVD2 SPKR	I	Battery voltage detect / Speaker	138	SD1	I/O			
67	CA0	O	Card address bus	139	SD0	I/O	} Ground		
68	CBVD1 STSCHG	I	Battery voltage detect / Status change	140	GND				
69	CD0	I/O	} Card data bus	141	SIRQ3	O	} System interrupt request		
70	CD8	I/O			142	SIRQ2		O	
71	CD1	I/O			143	SIRQ1		O	
72	CD9	I/O			144	SIRQ0		O	

● SGH609080F-47F (XU235A00) ATSC

MAIN: IC38, 42

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION																								
1	syncati	I	Synch. word input terminal for ati, siat3-0 input	41	synci	I	Synch. word input terminal for si3-0 input																								
2	mccti	I	64 fs clock input terminal for ati, siat3-0 input	42	mcci	I	64 fs clock input terminal for si3-0 input																								
3	mcbti	I	128 fs clock input terminal for ati, siat3-0 input	43	mcbi	I	128 fs clock input terminal for si3-0 input																								
4	VCC		Power supply (+5 V)	44	VCC		Power supply (+5 V)																								
5	GND		Ground	45	GND		Ground																								
6	mcati	I	256 fs clock input terminal for ati, siat3-0 input	46	mcai	I	256 fs clock input terminal for si3-0 input																								
7	GND		Ground	47	GND		Ground																								
8	siat0	I	Serial data input terminal	48	si0	I	Serial data input terminal																								
9	siat1	I																													
10	siat2	I																													
11	siat3	I																													
12	ati	I	Optical input terminal	52	GND		Ground																								
13	GND		Ground	53	so3	O	Serial data output terminal																								
14	ato	O	Optical output terminal	54	so2	O																									
15	soat3	O	Serial data output terminal	55	so1	O																									
16	soat2	O																													
17	soat1	O																													
18	soat0	O		57	VCC		Power supply (+5 V)																								
19	VCC		Power supply (+5 V)	58	GND		Ground																								
20	GND		Ground	59	mcao	I	256 fs clock input terminal for so3-0 output																								
21	mcato	I	256 fs clock input terminal for ato, soat3-0 output	60	GND		Ground																								
22	GND		Ground	61	mcbo	I	128 fs clock input terminal for so3-0 output																								
23	mcbito	I	128 fs clock input terminal for ato, soat3-0 output	62	mcco	I	64 fs clock input terminal for so3-0 output																								
24	mccto	I	64 fs clock input terminal for ato, soat3-0 output	63	synco	I	Synch. word input terminal for so3-0 output																								
25	syncato	I	Synch. word input terminal for ato, soat3-0 output	64	so-sel1	I	Format select terminal for soat3-0 output																								
26	clkssel	I	Clock select terminal for ato, soat 3-0 output 0: mcato,mcbito,mccto,syncato 1: mcai,mcbi,mcci,synci	65	so-sel0	I	Format select terminal for soat3-0 output																								
27	ato-sel0	I	Format select terminal for ato, soat3-0 output	66	uo3	O	U-bit output terminal for optical output																								
28	ato-sel1	I	Format select terminal for ato, soat3-0 output																												
			<table border="1"> <thead> <tr> <th>0: mcato,mcbito,mccto,syncato</th> <th>1: mcai,mcbi,mcci,synci</th> <th colspan="2">output format</th> </tr> <tr> <th>ato sel1</th> <th>ato sel0</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>ato</td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td>soat0</td> <td>(8ch/line)</td> </tr> <tr> <td>0</td> <td>1</td> <td>soat2_0</td> <td>(4ch/line)</td> </tr> <tr> <td>0</td> <td>0</td> <td>soat3-0</td> <td>(2ch/line)</td> </tr> </tbody> </table>					0: mcato,mcbito,mccto,syncato	1: mcai,mcbi,mcci,synci	output format		ato sel1	ato sel0			1	1	ato		1	0	soat0	(8ch/line)	0	1	soat2_0	(4ch/line)	0	0	soat3-0	(2ch/line)
0: mcato,mcbito,mccto,syncato	1: mcai,mcbi,mcci,synci	output format																													
ato sel1	ato sel0																														
1	1	ato																													
1	0	soat0	(8ch/line)																												
0	1	soat2_0	(4ch/line)																												
0	0	soat3-0	(2ch/line)																												
29	bitsel2	}	Bit shift select terminal for the ato output	67	uo2	O	U-bit output terminal for optical output																								
30	bitsel1																														
31	bitsel0																														
32	VCC		Power supply (+5 V)	68	uo1	O	U-bit output terminal for optical output																								
33	GND		Ground																												
34	ext-sync2		Synch. detect output terminal 2																												
35	ui0	}	U-bit input terminal for optical output	69	uo0	O	U-bit output terminal for optical output																								
36	ui1																														
37	ui2																														
38	ui3																														
39	si-sel0		input format select terminal for si3-0	70	ext-sync1	O	Synch. detect output terminal 1																								
40	si-sel1		input format select terminal for si3-0i	71	VCC		Power supply (+5 V)																								
			<table border="1"> <thead> <tr> <th>si sel1</th> <th>si sel0</th> <th colspan="2">input format</th> </tr> <tr> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>not enable to set</td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td>si0</td> <td>(8ch/line)</td> </tr> <tr> <td>0</td> <td>1</td> <td>si2_0</td> <td>(4ch/line)</td> </tr> <tr> <td>0</td> <td>0</td> <td>si3-0</td> <td>(2ch/line)</td> </tr> </tbody> </table>	si sel1	si sel0	input format						1	1	not enable to set		1	0	si0	(8ch/line)	0	1	si2_0	(4ch/line)	0	0	si3-0	(2ch/line)	72	GND		Ground
si sel1	si sel0	input format																													
1	1	not enable to set																													
1	0	si0	(8ch/line)																												
0	1	si2_0	(4ch/line)																												
0	0	si3-0	(2ch/line)																												
				73	clk	I	Clock input terminal for word clock extract																								
				74	GND		Ground																								
				75	/res	I	System reset input terminal																								
				76	GND		Ground																								
				77	wc-at	O	Word clock output terminal																								
				78	mute	I	Data mute input terminal																								
				79	ati-sel1	I	Input format select terminal for ati, siat3-0.																								
				80	ati-sel0	I	input format select terminal for ati, siat3-0.																								
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ati sel1	ati sel0	input format																													
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0	1	ati2_0	(4ch/line)																												
0	0	ati3-0	(2ch/line)																												

● YSS904-F (XV989A00) DSP5 (Digital Signal Processor)

MAIN: IC106, 107, 110

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	NC		} Not used	105	NC		} Not used
2	NC						
3	NC						
4	NC						
5	Vdd		Ground	108	NC		} Serial data bus
6	Vss	I	Power supply	109	SIO28	I/O	
7	XI	O	System master clock input (60 MHz or 30 MHz)	110	SIO29	I/O	
8	XO	O	System master clock output (High or 30 MHz)	111	SIO30	I/O	
9	Vdd		Ground	112	SIO31	I/O	
10	/SYNCl	I	Sync. signal input	113	Vss		} Power supply
11	/SYNCO	O	Sync. signal output	114	Vdd		
12	Vdd		Ground	115	SIO32	I/O	} Serial data bus
13	CKI	I	System clock input (30 MHz)	116	SIO33	I/O	
14	CKO	O	System clock output (30 MHz)	117	SIO34	I/O	
15	CKSEL	I	System master clock select	118	SIO35	I/O	
16	Vss		Power supply	119	SIO36	I/O	
17	MCKD	I	Serial clock input (256 fs)	120	SIO37	I/O	
18	/SSYNC	I	Serial. signal input	121	SIO38	I/O	
19	/IC	I	Initial clear	122	SIO39	I/O	
20	/TEST	I	Test mode setting (0: TEST, 1: Normal)	123	Vss		} Power supply
21	NC		} Not used	124	Vdd		
22	NC						
23	NC						
24	Vdd			Ground	125	SIO40	I/O
25	Vss		Power supply	126	SIO41	I/O	} Serial data bus
26	/CS	I	Chip select	127	SIO42	I/O	
27	/WR	I	Write enable input	128	SIO43	I/O	
28	/RD	I	Read enable input	129	SIO44	I/O	
29	CA7	I	} CPU address bus	130	SIO45	I/O	
30	CA6	I					
31	CA5	I					
32	CA4	I					
33	CA3	I	} Power supply	131	SIO46	I/O	
34	CA2	I					
35	CA1	I					
36	Vss			Power supply	132	SIO47	I/O
37	Vdd		Ground	133	Vss		} Serial data bus
38	CD15	I/O	} CPU data bus	134	SIO48	I/O	
39	CD14	I/O					
40	CD13	I/O					
41	CD12	I/O					
42	CD11	I/O					
43	CD10	I/O					
44	CD09	I/O					
45	CD08	I/O	} Power supply	135	SIO49	I/O	
46	CD07	I/O					
47	CD06	I/O					
48	Vss		Power supply	136	SIO50	I/O	
49	NC		} Not used	137	SIO51	I/O	
50	NC						
51	NC						
52	NC						
53	NC						
54	NC						
55	NC						
56	NC		} Power supply	138	SIO52	I/O	
57	Vdd			Ground	139	SIO53	I/O
58	Vdd			} CPU data bus	140	SIO54	I/O
59	CD05	I/O					
60	CD04	I/O					
61	CD03	I/O					
62	CD02	I/O					
63	CD01	I/O					
64	CD00	I/O	} Power supply		141	SIO55	I/O
65	/WAIT	O		Wait output	142	Vss	
66	Vss		Power supply	143	Vdd		} Ground
67	SIO00	I/O	} Serial data bus	144	Vdd		
68	SIO01	I/O					
69	SIO02	I/O					
70	SIO03	I/O					
71	SIO04	I/O					
72	SIO05	I/O					
73	SIO06	I/O		} Power supply	145	SIO56	I/O
74	SIO07	I/O					
75	Vss		Power supply		146	SIO57	I/O
76	Vdd		Ground	147	SIO58	I/O	
77	SIO08	I/O	} Parallel data bus	148	SIO59	I/O	
78	SIO09	I/O					
79	SIO10	I/O					
80	SIO11	I/O					
81	SIO12	I/O					
82	SIO13	I/O					
83	SIO14	I/O		} Power supply	149	SIO60	I/O
84	SIO15	I/O					
85	Vss		Power supply		150	SIO61	I/O
86	Vdd		Ground	151	SIO62	I/O	
87	SIO16	I/O	} Parallel data bus	152	SIO63	I/O	
88	SIO17	I/O					
89	SIO18	I/O					
90	SIO19	I/O					
91	SIO20	I/O					
92	SIO21	I/O					
93	SIO22	I/O		} Power supply	153	NC	
94	SIO23	I/O					
95	Vss		Power supply	154	NC		
96	Vdd		Ground	155	NC		} Not used
97	SIO24	I/O					
98	SIO25	I/O	} Serial data bus	156	NC		
99	SIO26	I/O					
100	SIO27	I/O					
101	NC			} Power supply	157	NC	
102	NC						
103	NC						
104	NC				Power supply	158	NC
			Ground		159	NC	
					160	NC	
					161	Vss	
				162	/POE	I	Parallel data bus control signal
				163	Vss		} Power supply
				164	PIO00	I/O	
				165	PIO01	I/O	} Parallel data bus
				166	PIO02	I/O	
				167	PIO03	I/O	
				168	PIO04	I/O	
				169	PIO05	I/O	
				170	PIO06	I/O	
				171	PIO07	I/O	
				172	Vss		} Power supply
				173	Vdd		
				174	Vdd		} Ground
				175	PIO08	I/O	
				176	PIO09	I/O	} Parallel data bus
				177	PIO10	I/O	
				178	PIO11	I/O	
				179	PIO12	I/O	
				180	PIO13	I/O	
				181	PIO14	I/O	
				182	PIO15	I/O	
				183	Vss		} Power supply
				184	NC		
				185	PIO16	I/O	} Parallel data bus
				186	PIO17	I/O	
				187	PIO18	I/O	
				188	PIO19	I/O	
				189	PIO20	I/O	
				190	PIO21	I/O	
				191	PIO22	I/O	
				192	PIO23	I/O	} Power supply
				193	Vss		
				194	Vdd		} Ground
				195	Vdd		
				196	PIO24	I/O	} Parallel data bus
				197	PIO25	I/O	
				198	PIO26	I/O	
				199	PIO27	I/O	
				200	PIO28	I/O	
				201	PIO29	I/O	
				202	PIO30	I/O	
				203	PIO31	I/O	} Power supply
				204	Vss		
				205	NC		} Not used
				206	NC		
				207	NC		
				208	NC		

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

MAIN: IC77, 80, 83, 86, 89, 92, 95, 98, 101, 104

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	Vdd		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	Vdd		Power supply (5 V)	96	DB19	I/O	
9	CKI	I	System clock input (30 MHz)	97	DB20	I/O	
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		Ground
13	MCKS	I	Serial I/O master clock input (128 x Fs)	101	Vdd		Power supply (3.3 V)
14	/SSYNCO	I	Serial I/O Sync. signal output	102	DB23	I/O	Parallel data bus
15	/IC	I	Initial clear	103	DB24	I/O	
16	/TEST	I	Test mode setting (0: Test, 1: Normal)	104	DB25	I/O	
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	
20	Vdd		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	
23	/WR	I	Write signal input	111	TIMO/DBOB	I/O	Timing signal output/ Parallel data bus output/ input
24	/RD	I	Read signal input	112	Vss		Ground
25	CA7	I/O	Address bus of internal register	113	Vdd		Power supply (5 V)
26	CA6	I/O					
27	CA5	I/O					
28	CA4	I/O					
29	CA3	I/O					
30	CA2	I/O					
31	CA1	I/O					
32	Vss		Ground	114	DA00	I/O	Memory data bus
33	Vdd		Power supply (3.3 V)	115	DA01	I/O	
34	CD15	I/O	Data bus of internal register	116	DA02	I/O	
35	CD14	I/O					
36	CD13	I/O					
37	CD12	I/O					
38	CD11	I/O					
39	CD10	I/O					
40	CD09	I/O					
41	CD08	I/O					
42	CD07	I/O					
43	CD06	I/O					
44	Vss		Ground	117	DA03	I/O	
45	Vdd		Power supply (3.3 V)	118	DA04	I/O	
46	Vdd		Power supply (5 V)	119	DA05	I/O	
47	CD05	I/O	Data bus of internal register	120	DA06	I/O	
48	CD04	I/O					
49	CD03	I/O					
50	CD02	I/O					
51	CD01	I/O					
52	CD00	I/O					
53	/WAIT	O	WAIT output	121	DA07	I/O	
54	Vss		Ground	122	Vss		Ground
55	SI0	I	Serial data input	123	DA08	I/O	Memory data bus
56	SI1	I					
57	SI2	I					
58	SI3	I					
59	SI4	I					
60	SI5	I					
61	SI6	I					
62	SI7	I					
63	Vss		Ground	124	DA09	I/O	
64	Vdd		Power supply (5 V)	125	DA10	I/O	
65	SO0	O	Serial data output	126	DA11	I/O	
66	SO1	O					
67	SO2	O					
68	SO3	O					
69	SO4	O					
70	SO5	O					
71	SO6	O					
72	SO7	O					
73	Vss		Ground	127	DA12	I/O	
74	DB00	I/O	Parallel data bus	128	DA13	I/O	
75	DB01	I/O					
76	DB02	I/O					
77	DB03	I/O					
78	DB04	I/O					
79	DB05	I/O					
80	DB06	I/O					
81	DB07	I/O					
82	DB08	I/O					
83	DB09	I/O					
84	DB10	I/O					
85	DB11	I/O					
86	DB12	I/O					
87	Vdd		Power supply (5 V)	129	DA14	I/O	
88	Vdd		Power supply (3.3 V)	130	DA15	I/O	
				131	Vss		Ground
				132	Vdd		Power supply (3.3 V)
				133	(n.c)		Not used
				134	Vdd		Power supply (5 V)
				135	DA16	I/O	Memory data bus
				136	DA17	I/O	
				137	DA18	I/O	
				138	DA19	I/O	
				139	DA20	I/O	
				140	DA21	I/O	
				141	DA22	I/O	
				142	DA23	I/O	
				143	Vss		Ground
				144	DA24	I/O	Memory data bus
				145	DA25	I/O	
				146	DA26	I/O	
				147	DA27	I/O	
				148	DA28	I/O	
				149	DA29	I/O	
				150	DA30	I/O	
				151	DA31	I/O	
				152	Vdd		Power supply (5 V)
				153	Vss		Ground
				154	A00	O	Memory address (SRAM, PSRAM, DRAM)
				155	A01	O	
				156	A02	O	
				157	A03	O	
				158	A04	O	
				159	A05	O	
				160	A06	O	
				161	A07	O	
				162	A08	O	
				163	A09	O	
				164	Vss		Ground
				165	Vdd		Power supply (3.3 V)
				166	A10	O	Memory address (SRAM, PSRAM, DRAM)
				167	A11	O	
				168	A12	O	
				169	A13	O	Memory address (SRAM, PSRAM)
				170	A14	O	
				171	A15/RAS	O	
				172	A16/CAS	O	Memory address (SRAM, PSRAM), /RAS (DRAM)
				173	A17/CE	O	Memory address (SRAM), /CAS (DRAM)
				174	/WE	O	Memory address (SRAM), /CE (PSRAM)
				175	/OE	O	Memory write enable signal
				176	Vdd		Memory output enable signal
							Power supply (5 V)

● PDIUSB12PW (XW583A00) USB Interface

PNR: IC102

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DATA0	I/O	Bit 0 of bi-directional data.	15	RD_N	I	Read Strobe (Active Low)
2	DATA1	I/O	Bit 1 of bi-directional data.	16	WR_N	I	Write Strobe (Active Low)
3	DATA2	I/O	Bit 2 of bi-directional data.	17	DMREQ	O	DMA Request.
4	DATA3	I/O	Bit 3 of bi-directional data.	18	DMACK_N	I	DMA Acknowledge (Active Low).
5	GND	-	Ground	19	EOT_N	I	End of DMA Transfer (Active Low).
6	DATA4	I/O	Bit 4 of bi-directional data.	20	RESET_N	I	Reset (Active Low and asynchronous).
7	DATA5	I/O	Bit 5 of bi-directional data.				Built-in Power-On-Reset circuit
8	DATA6	I/O	Bit 6 of bi-directional data.	21	GL_N	O	GoodLink LED indicator (Active Low)
9	DATA7	I/O	Bit 7 of bi-directional data.	22	XTAL1	I	Crystal Connection 1 (6 MHz)
10	ALE	I	Address Latch Enable.	23	XTAL2	O	Crystal Connection 2 (6 MHz)
11	CS_N	I	Chip Select (Active Low).	24	Vcc	-	Voltage supply (4.0-5.5 V)
12	SUSPEND	I/O	Device is in Suspend state.	25	D-	-	USB D-data line
13	CLKOUT	O	Programmable Output Clock (slew-rate controlled)	26	D+	-	USB D+data line
14	INT_N	O	interrupt (Active Low)	27	Vout3.3	-	3.3 V regulated output.
				28	A0	I	Address bit. A0=1 selects command instruction; A0=0 selects the data phase.

● ST16C554DCQ64 (XW934A00) UART (Universal asynchronous receiver and transmitter)

MAIN: IC18

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	/DSRA	I	Data set ready (active low)	33	/CTSC	I	Clear to send (active low)
2	/CTSA	I	Clear to send (active low)	34	/DTRC	O	Data terminal ready (active low)
3	/DTRA	O	Data terminal ready (active low)	35	VCC	I	Power supply inputs
4	VCC	I	Power supply inputs	36	/RTSC	O	Request to send (active low)
5	/RTSA	O	Request to send (active low)	37	INTC	O	Interrupt C (active high)
6	INTA	O	Interrupt A (active high)	38	/CSC	I	Chip select
7	/CSA	I	Chip select	39	TXC	O	Transmit data
8	TXA	O	Transmit data	40	/IOR	I	Read strobe
9	/LOW	I	Write strobe	41	TXD	O	Transmit data
10	TXB	O	Transmit data	42	/CSD	I	Chip select
11	/CSB	I	Chip select	43	INTD	O	Interrupt D (active high)
12	INTB	O	Interrupt B (active high)	44	/RTSD	O	Request to send (active low)
13	/RTSB	O	Request to send (active low)	45	GND		Signal and power ground
14	GND		Signal and power ground	46	/DTRD	O	Data terminal ready (active low)
15	/DTRB	O	Data terminal ready (active low)	47	/CTSD	I	Clear to send (active low)
16	/CTS	I	Clear to send (active low)	48	/DSRD	I	Data set ready (active low)
17	/DSRB	I	Data set ready (active low)	49	/CDD	I	Carrier detect (active low)
18	/CDB	I	Carrier detect (active low)	50	/RID	I	Ring indicator (active low)
19	/RIB	I	Ring indicator (active low)	51	RXD	I	Receive data input RX D
20	RXB	I	Receive data input RX B	52	VCC	I	Power supply inputs
21	VCC	I	Power supply inputs	53	D0	I/O	Data bus
22	A2	I	Address bus	54	D1	I/O	
23	A1	I		55	D2	I/O	
24	A0	I		56	D3	I/O	
25	XTAL1	I		Crystal or External clock input	57	D4	
26	XTAL2	O	Output of the crystal oscillator or buffered clock	58	D5	I/O	
27	RESET	I	Reset	59	D6	I/O	
28	GND		Signal and power ground	60	D7	I/O	
29	RXC	I	Receive data input RX C	61	GND		Signal and power ground
30	/RIC	I	Ring indicator (active low)	62	RXA	I	Receive data input RX A
31	/CDC	I	Carrier detect (active low)	63	/RIA	I	Ring indicator (active low)
32	/DSRC	I	Data set ready (active low)	64	/CDA	I	Carrier detect (active low)

● TPS2205IDB (XW602A00) Power Controller

PNR: IC104

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	5V	I	Card power (5 V)	16	3.3V	I	Card power (3.3 V)
2	5V	I	Card power (5 V)	17	3.3V	I	Card power (3.3 V)
3	A_PGM	I	AVPP voltage control	18	/OC	O	Overflow control ("L" level signal output)
4	A_Vcc	I	AVPP voltage control	19	NC	-	Not used
5	/A_Vcc	I	AVPP voltage control	20	BVCC	O	Power supply switch (0 V,3.3 V,5 V,HI-Z)
6	/A_Vcc	I	AVPP voltage control	21	BVCC	O	Power supply switch (0 V,3.3 V,5 V,HI-Z)
7	12V	I	Card power (12 V)	22	BVCC	O	Power supply switch (0 V,3.3 V,5 V,HI-Z)
8	AVPP	O	Power supply switch (0 V,3.3 V,5 V,12 V,HI-Z)	23	BVPP	O	Power supply switch (0 V,3.3 V,5 V,12 V ,HI-Z)
9	AVCC	O	Power supply switch (0 V,3.3 V,5 V,HI-Z)	24	12V	I	Card power (12 V)
10	AVCC	O	Power supply switch (0 V,3.3 V,5 V,HI-Z)	25	NC	-	Not used
11	AVCC	O	Power supply switch (0 V,3.3 V,5 V,HI-Z)	26	/B_Vcc	I	BVCC voltage control
12	GND	-	Ground	27	/B_Vcc	I	BVCC voltage control
13	NC	-	Not used	28	B_Vcc	I	BVCC voltage control
14	/SHDN	I	TPS2205 Shat down	29	B_PGM	I	BVCC voltage control
15	3.3V	I	Card power (3.3 V)	30	5V	I	Card power (5 V)

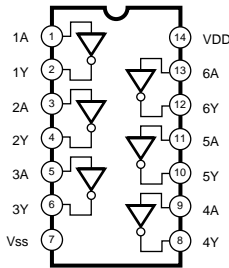
● YM3436DK (XG948E00) DIR2 (Digital Format Interface Receiver)

MAIN: IC28, 40

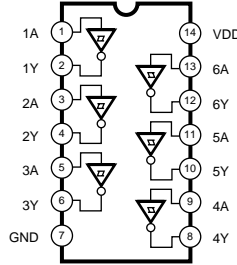
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DAUX	I	Auxiliary input for audio data	23	RSTN	I	System reset input
2	HDLT	O	Asynchronous buffer operation flag	24	Vdda		VCO section power (+5 V)
3	DOU	O	Audio data output	25	CTLN	I	VCO control input N
4	VFL	O	Parity flag output	26	PCO	O	PLL phase comparison output
5	OPT	O	Fs x 1 Synchronous output signal for DAC	27	(NC)		
6	SYNC	O	Fs x 1 Synchronous output signal for DSP	28	CTLP	I	VCO control input P
7	MCC	O	Fs x 64 Bit clock output	29	Vssa		VCO section power (GND)
8	WC	O	Fs x 1 Word clock output	30	TSTN	I	Test terminal. Open for normal use
9	MCB	O	Fs x 128 Bit clock output	31	KM2	I	Clock mode switching input 2
10	MCA	O	Fs x 256 Bit clock output	32	KM0	I	Clock mode switching input 0
11	SKSY	I	Clock synchronization control input	33	FS1	O	Channel status sampling frequency display output 1
12	XI	I	Crystal oscillator connection or external clock input	34	FS0	O	Channel status sampling frequency display output 0
13	XO	O	Crystal oscillator connection	35	CSM	I	Channel status output method selection
14	P256	O	VCO oscillating clock connection	36	EXTW	I	External synchronous auxiliary input word clock
15	LOCK	O	PLL lock flag	37	DDIN	I	EIAJ (AES/EBU) data input
16	Vss		Logic section power (GND)	38	LR	O	PLL word clock output
17	TC	O	PLL time constant switching output	39	Vdd		Logic section power (+5 V)
18	DIM1	I	Data input mode selection	40	ERR	O	Data error flag output
19	DIM0	I	Data input mode selection	41	EMP	O	Channel status emphasis control code output
20	DOM1	I	Data output mode selection	42	CD0	O	3-wire type microcomputer interface data output
21	DOM0	I	Data output mode selection	43	CCK	I	3-wire type microcomputer interface clock input
22	KM1	I	Clock mode switching input 1	44	CLD	I	3-wire type microcomputer interface load input

IC BLOCK DIAGRAM

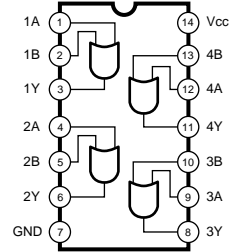
- **MM74HCU04SJX** (XY070A00)
TC74HC04AF (XS993A00)
HD74LVC04FP (XW905A00)
Hex Inverter
MAIN: IC16, 25
PNR: IC103



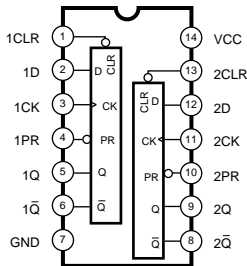
- **MM74HC14SJX** (XW104A00)
Hex Inverter
MAIN: IC19



- **74VHC32SJX** (XY306A00)
Quad 2 Input OR
MAIN: IC3, 5

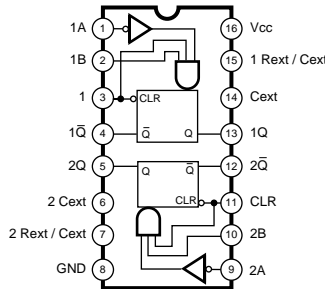


- **MM74HC74ASJX** (XY153A00)
Dual D-Type Flip-Flop
MAIN: IC17, 22

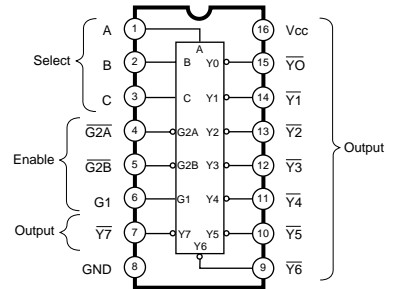


INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	Q̄
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	f	H	H	L
H	H	f	L	L	H
H	H	L	X	Q _o	Q _o

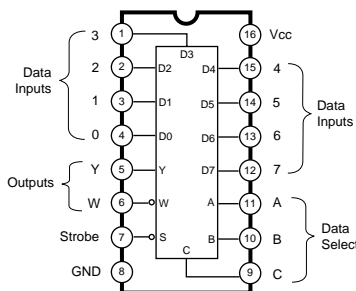
- **TC74HC123AF** (XN242A00)
Dual Retriggerable Single Shot
MAIN: IC41



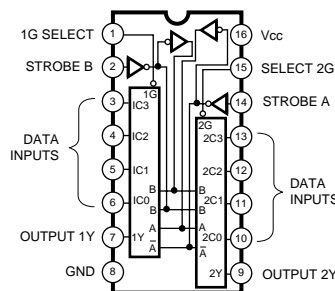
- **TC74VHC138F** (XT015A00)
3 to 8 Demultiplexer
MAIN: IC64, 65



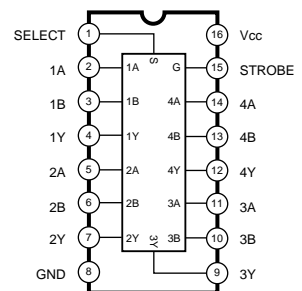
- **MM74HC151SJX** (XY308A00)
8 to 1 Data Selector
MAIN: IC26, 62, 63



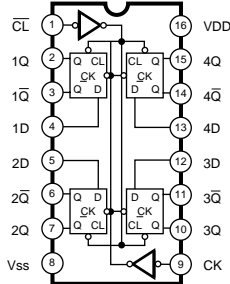
- **TC74HC153AFEL** (XY309A00)
Dual 4 to 1 Data Selectors
MAIN: IC27



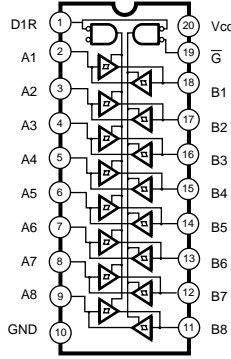
- **MM74HC157SJX** (XY310A00)
Quad 2 to 1 Multiplexer
MAIN: IC108, 109



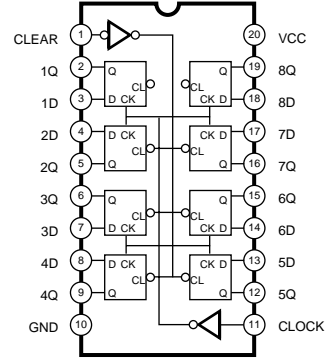
- **MM74HC175SJX** (XY307A00)
Quad D-Type Flip-Flop
MAIN: IC24, 46-49



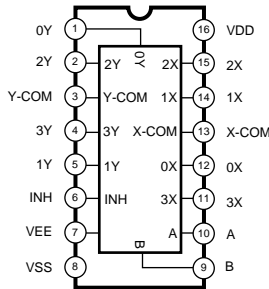
- **MM74HC245ASJX** (XW107A00)
SN74ABT245BNSR (XU009A00)
TC74VHC245F (XT487A00)
Octal 3-State Bus Transceiver
MAIN: IC29-31, 50-52, 60, 61, 66-75



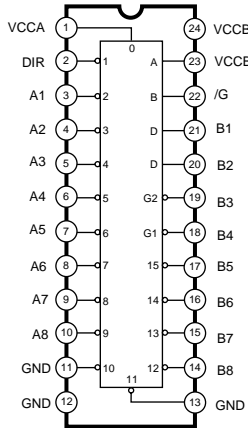
- **MM74HC273SJX** (XY198A00)
Octal D-Type Flir Flop
MAIN: IC23



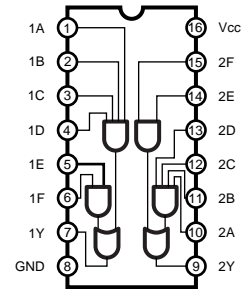
- **TC74HC4052AF** (XS790A00)
Differential 4-Channel
Multiplexer/Demultiplexer
MAIN: IC44, 45



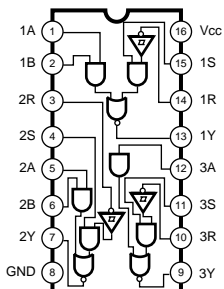
- **TC74LVX4245FS** (XU229A00)
Dual Supply Octal Bus Transceiver
MAIN: IC111-117



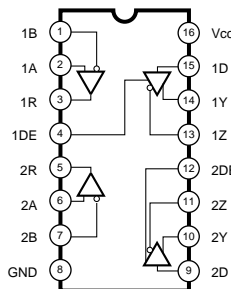
- **SN75121NSR** (XU816A00)
Dual Line Driver
MAIN: IC36, 43



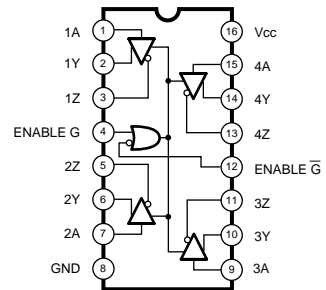
- **SN75124NS** (XV930A00)
Triple Line Receiver
MAIN: IC39



- **SN75C1168NSR** (XU073A00)
Line Driver / Receiver
MAIN: IC21, 37, 122



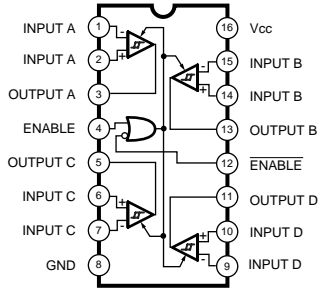
- **AM26LS31CNSR** (XU996A00)
Quad Line Driver
MAIN: IC34, 35, 118, 119



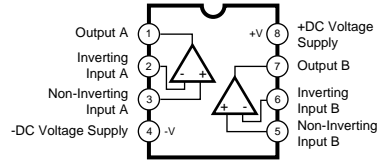
INPUT	ENABLES		OUTPUTS	
	G	G-bar	Y	Z
H	H	X	H	L
L	H	X	L	H
H	X	L	H	L
L	X	L	L	H
X	L	H	Z	Z

H= high level
L= low level
X= irrelevant
Z= high impedance (off)

- **DS26C32ATMX** (XU815A00)
Quad Differential Line Receiver
MAIN: IC32, 33, 120, 121



- **NJM2082M-T1** (XN797A00)
Dual Operational Amplifier
MAIN: IC1



TEST PROGRAM AND INSPECTION

1. Preparation

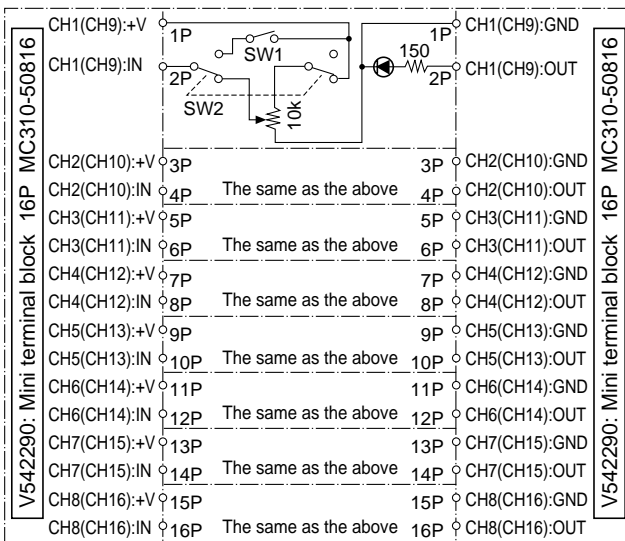
1-1. Initial settings

- Connect the [CASCADE IN] terminal and [CASCADE OUT] terminal with a SCSI 50p cable.
- Connect the [PC CONTROL] terminal and PC (Windows machine) serial terminal with a D-sub 9b cross cable.
- Connect the [MIDI IN] terminal and [MIDI OUT] terminal with a MIDI cable.
- Connect the [WORD CLOCK IN] terminal and transmitter output terminal with a BNC cable.

The transmitter source can be switched between 44.1 kHz and 48 kHz with a jitter of approximately 1nSec.

- Connect the [WORD CLOCK OUT] terminal and frequency counter input terminal with BNC cable.
- Insert the slot inspection jig card in [SLOT 1 to 4]. (Connect a voltmeter to CN2 of the jig.)
- At 1 to 16 channels of the GPI terminal, connect the circuit GPI connect jig shown in the figure below.
- Insert the memory card in the card slot.
- Connect the [USB] terminal to the PC [USB] terminal with a cable.

Circuit diagram for GPI inspection jig



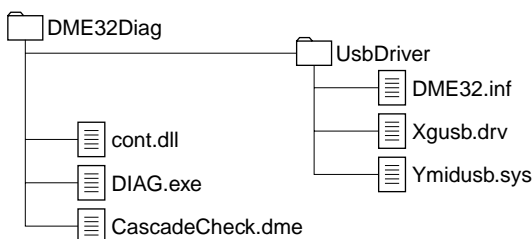
1-2. Conditions

The following are the conditions unless otherwise specified.

- Each setting is performed by command inputs from the terminal software in the PC by the (D-sub 9P) cable connected to the [PC CONTROL] terminal.
- Set the [PC CONTROL] [RS232C/RS422] switch to RS232C.
- Set [WORD CLOCK IN 75Ω] to on.

1-3. Structure of test program file, version management and file structure

File structure



Note:cont.dll

cont.dll is not included in the master data that has been attached. Copy it from C:\Program Files\Dme that DME Manager has installed.

1. Copy the test program to each DME32Diag holder and PC \Program Files.
2. DME Manager is installed. Copy cont.dll from C:\Program Files\Dme to each of the DME32Diag holders.

Note:cont.dll version

Make sure that the firmware written in the DME32 to be detected and the DME Manager cont.dll in the PC are the same version.

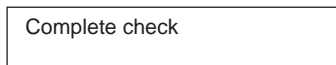
If cont.dll in a different version of DME Manager is used, the test program will not operate properly.

2. Test program

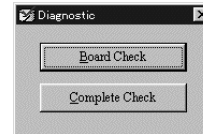
2-1. Starting the test program

While simultaneously pushing the [PROTECT] key and the [UTILITY] key, turn the power supply switch on.

(Continue to push both switches until the following display can be seen in the LCD screen.)



Click "DIAG.EXE" on the PC screen to start the test program. Double click "DIAG.EXE".

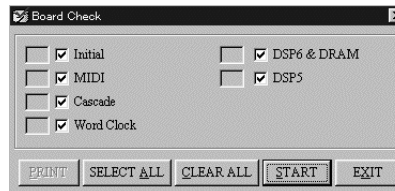


If inspecting the main sheet, click "Board Check". For a comprehensive inspection, click "Complete Check".

2-2. Main Sheet Inspection

2-2-1. Selecting the main sheet inspection items

On the "Board Check" screen, click the check boxes for the items to be inspected.



Click the [START] button and the check box items that have been selected will be executed in order starting from the top left.

Use the following buttons as needed.

Click [SELECT ALL] and all check boxes will be set to on.

Click [CLEAR ALL] and all check boxes will be set to off.

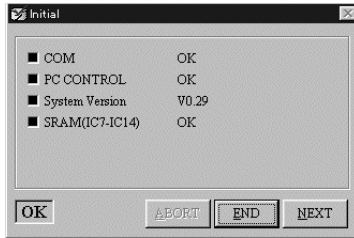
Click [EXIT] and program can be ended.

Click [PRINT] and results of the inspection will be printed.

There will be no explanation of these buttons after this.

2-2-2. Initial diagnosis

The results of the diagnosis is shown on the initial screen.



Click [NEXT] and check boxes are set to on and the inspection goes to the next item.

Use the following buttons as needed.

Click [END] to end the test program. The screen returns to the one shown in “2-2-1 Selecting the main sheet inspection items”.

Click [ABORT] to interrupt the diagnosis. The results of the diagnosis will be NG (No Good).

There will be no explanation of these buttons after this.

(1) COM

Checks the circuit between the [COM] terminal and the CPU.

When in the inspection preparation stage, connecting the [PC CONTROL] terminal and [COM] terminal will automatically start the diagnosis. The results are displayed here.

(2) PC CONTROL

Checks the circuit between the [PC CONTROL] terminal and the CPU.

When in the inspection preparation stage, connecting the [PC CONTROL] terminal and [COM] terminal will automatically start the diagnosis. The results are displayed here.

(3) System Version

The version of the data written in the DME32 flash memory is displayed.

(4) SRAM (IC7-IC14)

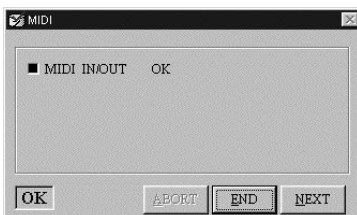
The results of the SRAM read/write check are displayed.

2-2-3. MIDI

Click [NEXT] on the initial screen and the following screen is displayed.



Click [OK] and loop check is performed between [MIDI IN] and [MIDI OUT]. The results of the diagnosis are displayed on the MIDI screen.

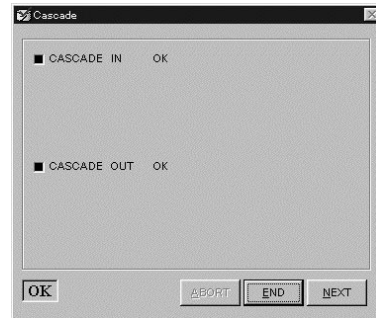


2-2-4. Cascade

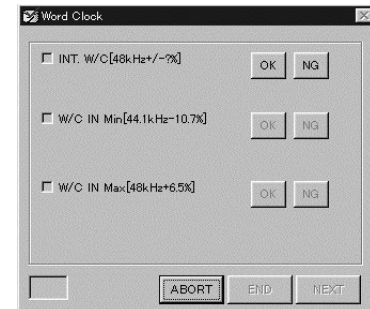
The following screen is displayed at the start of the cascade check.



Click [OK] and a loop check is performed between [CASCADE IN] and [CASCADE OUT]. The results of the diagnosis are displayed on the cascade screen.



2-2-5. Word Clock



(1) INT.W/C [48 kHz]

The following screen is displayed at the start of the word clock out check.



Click [OK] and the screen is changed to the WORD CLOCK OUT check screen. Check the frequency being output by the [WORD CLOCK OUT] and check either [OK] or [NG].

(2) W/C IN Min [44.1 kHz-10.7%]

The following screen is displayed at the start of the word clock in minimum.



Click [OK] and the screen is changed to WORD CLOCK IN MINIMUM check screen.

If “LOCK” is displayed, click [OK]. If “UNLOCK” is displayed, click [NG].

(3) W/C IN Max [48 kHz + 6.5%]

The following screen is displayed at the start of the WORD CLOCK IN MAXIMUM check.

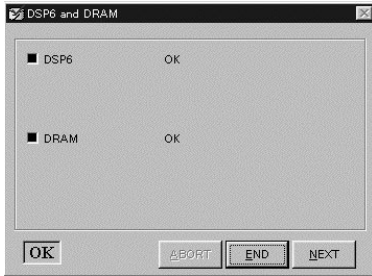


Click [OK] and the screen is changed to the WORD CLOCK IN MAXIMUM check screen.

Check the frequency being output by the [WORD CLOCK OUT] and check either [OK] or [NG].

2-2-6. DSP6 and DRAM

Circuit check for DSP6 and DRAM.



(1) DSP6

Displays the results of a circuit check from the So terminal of DSP6 to the Si terminal of DSP6 via DSP5.

(2) DRAM

Displays the results of the DRAM address bus and data bus connected to DSP6.

2-2-7. DSP5

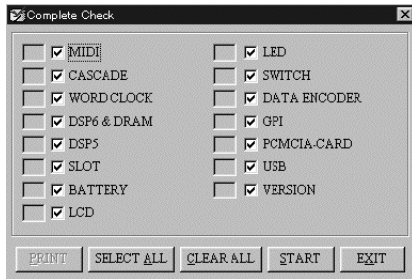
Displays the results of connections for all DSP5.



2-3. Comprehensive inspection

2-3-1. Selecting the items for the comprehensive inspection

On the DME32, pressing and holding the [PROTECT] and [UTILITY] keys while turning on the power will put the unit in the inspection wait mode. Select the items to be inspected by setting the check boxes on the “Complete Check” screen to on.

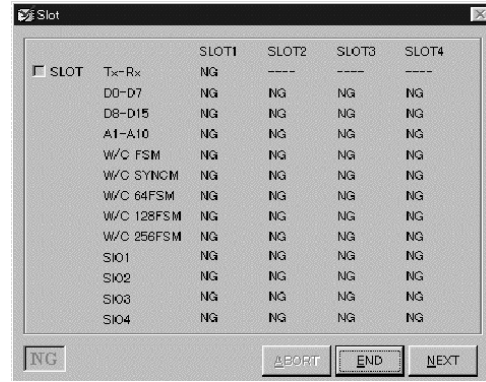


Refer to “2-2 Main Sheet Inspection” for test programs for MIDI, CASCADE, WORD CLOCK DSP6/DRAM and DSP5.

2-3-2. SLOT



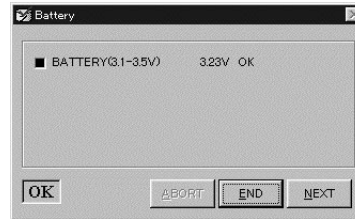
Insert the slot inspection jig card in the indicated slots.



- Tx-Rx: Communication circuit check.
- D0-D7: Data bus check.
- D8-D15: Data bus check.
- A1-A10: Address check.
- W/C FSM: Clock check.
- W/C SYNCM: Clock check.
- W/C 64FSM: Clock check.
- W/C 128FSM: Clock check.
- W/C 256FSM: Clock check.
- SI01: Digital I/O check (Ch 1/2)
- SI02: Digital I/O check (Ch 3/4)
- SI03: Digital I/O check (Ch 5/6)
- SI04: Digital I/O check (Ch 7/8)

2-3-3. BATTERY

Checks the voltage of the battery.



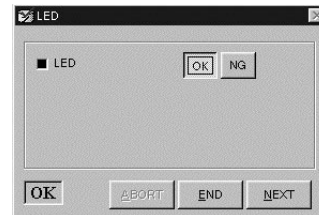
2-3-4. LCD

Checks if all the dots of the LCD are displayed. Click [OK] or [NG].



2-3-5. LED

Checks if all the LEDs come on in sequence. Click [OK] or [NG].



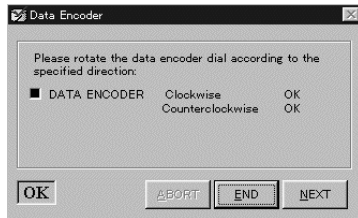
2-3-6. SWITCH

Press the switches in the sequence indicated and the results of the diagnosis will be shown.



2-3-7. DATA ENCODER

Turn [DATA] knob in the direction indicated and the results of the diagnosis will be shown.



2-3-8. GPI

Connect the GPI inspection jig to the GPI terminal indicated.

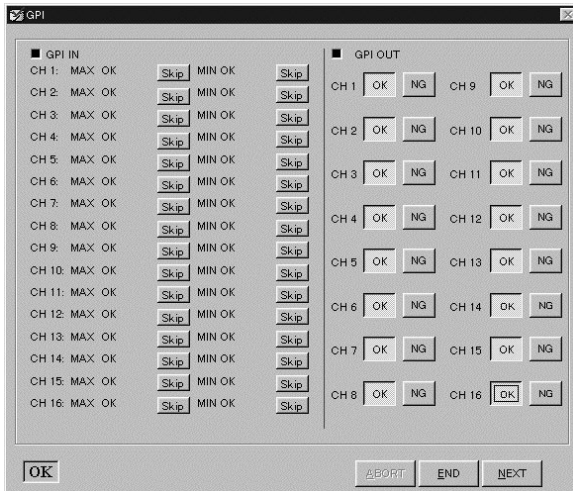


(1) GPI IN

Operate the jig and results of the minimum and maximum input voltage diagnosis will be shown.

(2) GPI OUT

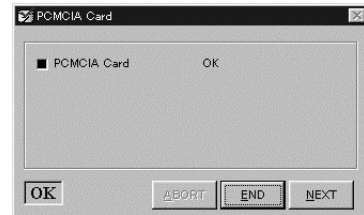
Check that the LEDs for the jig come on. Click [OK] or [NG] for each channel.



2-3-9. PCM-CIA CARD



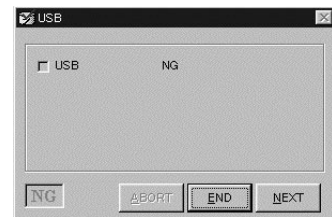
Follow the instructions and insert the PCM-CIA card into the [CARD] slot. Click [OK] and the results of the diagnosis will be displayed.



2-3-10. USB

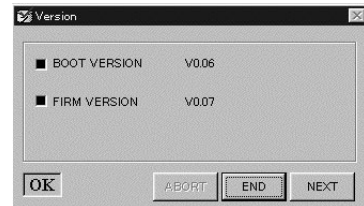


Follow the instructions and connect the USB terminal of the PC (Windows machine) and the [USB] terminal of the DME32. Click [OK] and the results of the diagnosis will be displayed.



2-3-11. VERSION

Displays the software version for the DME32 main unit.



BOOT VERSION: This is the software version that has been written to the ROM in the CPU.

FIRM VERSION: This is the software version that has been written to the flash memory.

3. Inspection

3-1. Output voltage measurement (Slot section)

- Measures each output voltage from CN2 of the slot inspection jig.

CN2 Pin No.	Output Voltage	Permissible Range
Pin 1	+15 V	+15 V +/- 5 %
Pin 2	+5 V	+5 V +/- 5 %
Pin 3	-5 V	-5 V +/- 5 %
Pin 4	+20 V	+20 V +/- 5 %
Pin 5	-15 V	-15 V +/- 5 %
Pin 6	GND	-
Pin 7	+3.3 V	- (Not supplied)

3-2. Jitter Measurement

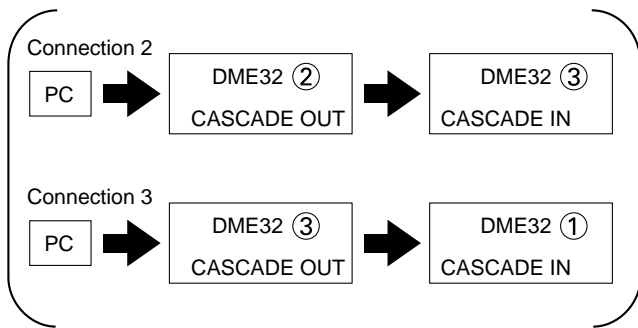
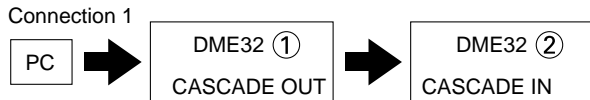
- Insert MY4-AE into [SLOT1]
Connect the output connector for the MY4-AE card and the D-sub CANNON conversion box with a D-sub 25P cable. Connect the D-sub CANNON conversion box with a 150 ohms impedance CANNON cable.
- Follow the instructions on the test program and input a 44.1 kHz/ 48 kHz signal from the transmitter to the [WORD CLOCK IN] terminal.

WORD CLOCK	Permissible Range	LED ON Check
44.1 kHz	5 nSec or less	44.1 kHz/LOCK
48 kHz	5 nSec or less	48 kHz/LOCK

3-3. CASCADE IN/OUT Check

3-3-1. Connection

- Checks DME32 for one set of two units.
- Both DME32 should have the latest version of the firmware loaded.
- Connect the [CASCADE IN] terminal for one unit with the [CASCADE OUT] terminal for the outer unit with a SCSI 50p cable.
- Connect the [PC CONTROL] terminal and PC serial terminal (Windows machine) with a D-sub 9P cross cable. (First, connect as shown in “Connection 1” in the drawing below.)



3-3-2. Setting (Initialization)

- While pressing [RECALL], turn on the power switch. (Continue to press until the LCD shown below is displayed.)

```
DIAGNOSTICS V1.0
RAM INITIAL. *
```

- If the display shown above appears on the LCD, press [RECALL] once again to initialize. (The LCD will change to the display shown below)

```
DIAGNOSTICS V1.0
RAM INITIAL. END
```

- Turn the power supply switch off.
- Perform the operations shown above on both units.

3-3-3. Configuration transfer

- Turn on the power switches for the two units in sequence.
- The DME Manager from the PC (Windows machine) will start. At this time, check if data is being received from DME32. A message will appear. Click [No].
- Click [File] in the upper left hand corner of DME Manager and select [Open] from the pull down menu.
- From the file selection menu, select the [CascadeCheck.dme] file for checking Cascade Out and click [Open]. The configuration for checking Cascade Out will be displayed.
- Click [File] in the upper left hand corner of DME Manager and select [Data Transfer] from the pull down menu.

- Select Data Transfer Menu and then “A” from the list. The name will change in the title column. Click [Execute]. A confirmation message will be displayed. Click [OK].
- It will automatically enter the run mode.

3-3-4. Check

- Double click “Meter 8” on the PC DME Manager and a detailed display for Meter 8 will be displayed.
- Check that the meters in Meter 8 is oscillating. Press the “1(~8)” button on the Run Mode Controller and then press the “Recall” button. Scene 1 (~8) will be recalled.

```
When Scene 1 is recalled, the first meter for Meter8 will oscillate.
:
:
:
:
When Scene 8 is recalled, the eighth meter for Meter8 will oscillate.
```

- If all are OK, CASCADE OUT for DME32 (1) and CASCADE IN for DME32 (2) have passed.

3-3-5. Changing the connections

<Connection 2>

- Changes the <Connection 1> shown in 3-3-1 to <Connection 2>.
- Perform the same operations as for connection 1 and 2.
- If OK, the CASCADE IN/OUT for DME32 (2) has passed. DME32 (3) CASCADE IN has passed.

<Connection 3>

- Changes <Connection2> to <Connection3>.
- Perform the same operations as for connection 1 and 2.
- If OK, the CASCADE IN/OUT for DME32 (3) and DME32 (1) have passed.

4. Factory settings

- PC CONTROL: RS232C
- WORD CLOCK IN 75Ω: ON

5. Initialization

- While pressing [RECALL], turn on the power switch. (Continue to press until the LCD shown below is displayed.)

```
DIAGNOSTICS V1.0
RAM INITIAL. *
```

- If the display shown above appears on the LCD, press [RECALL] once again to initialize. (The LCD will change to the display shown below)

```
DIAGNOSTICS V1.0
RAM INITIAL. END
```

6. Start confirmation

- Perform operations (1) and (2) shown below in suitable combinations. For either one, check that the LCD “momentarily light” when the power supply switch is turned on and then end the operation.

Regardless of the treatment, the input power supply voltage should be AC100V.

- (1) Turn the power switch ON-OFF approximately five times at fast intervals (approximately 1 second).
- (2) Turn the power switch ON-OFF approximately five times at slow intervals (approximately 5 to 10 seconds).

■ FLASH ROM UPGRADE

1. Turn on the power with press and hold [STORE] and [0] keys on DME32.

LCD Display on DME32.

```
System prog Ver.00.07
Install All Ready
```

2. Press [RECALL] key on DME32.

```
System prog Ver.00.07
Flash-R Erasing Now...
```

Then, wait until display showing the following.

```
System prog Ver.00.07
Please send to Bin file
```

3. Transmit “DME.bin” files.
Set up port of communication soft on PC. (ex. HyperTerm) like follows.

```
Bits per seconds      : 38400
Data bits             : 8
Parity                : None
Stop                  : 1
Transfer procedure    : X-modem
```

4. “>” are shown during the file transmitting by each 64 packets (128byte/packet).

```
System Download Ready!
>>>>>>>>>>>>>>>>>>
```

The message after completing the transmit.

```
System Download Done
```

5. Turn off the power. And then Turn on ther power with press and hold [RECALL] key.

```
DIAGNOSTICS V1.0
RAM INITIAL. *
```

Press [Recall] key again. Then SRAM will be cleared.

6. Turn Off/On the power again. Then you can start to use.

■ ERROR MESSAGE

If the DME32 displays an error message, look for the solution in the following table.

Message	Reason	Solution
***** WARNING ***** LOW BATTERY	The internal battery has expired.	Save the configurations to DME Man-ager or a PC Card, and then replace the battery.
ABORTED-TooMany Errors!	Several errors occurred while trying to download the firmware.	Try downloading again.
Application Prog Error!	The application program is not regis-tered in the flash ROM.	Register the application program in the flash ROM.
CASCADE ERR (My ID:)	When the DME32 is turned on, it checks its ID number. If this number does not match, a connection error occurs.	Make sure the cascade cables are con-nected in the proper order. In addition, this message will appear when the bat-tery is changed. Perform initialization.
CPU Address Error!	An SH2 error trap occurred.	
DMA Address Error!		
DME I/F ERR	Communication failed between DME32s in a multi-ple-unit system. Per-haps a cascade cable has been discon-nected, or a DME32 is not turned on.	Check the cascade cables, and make sure all DME32s are turned on.
Ext RAM Read/Write err!	An error occurred while reading or writ-ing to the ex-ternal RAM.	
Flash ROM checksum err!	A flash ROM write error occurred.	
Flash ROM device err!	A manufacture or device code error occurred.	
Flash ROM Write Error!	An SH2 error trap occurred.	
Flash ROM write error!	A flash ROM erase error occurred.	
Illegal Instruction!	An SH2 error trap occurred.	
Illegal interrupt!		
Illegal slot!		
NMI Request!		
TIME OUT ERR	When a multiple-unit DME32 system is turned on, DME32s with a cable con-nected to their CASCADE IN wait for connection confirmation from the next DME32. If this confirmation is not received within 10 seconds, a time out error occurs.	Ensure that cascaded DME32s are turned on within 10 seconds of each other. Make sure that all DME32s are turned on. Make sure the cascade cables are connected properly.
Unexpected vector!	An SH2 error trap occurred.	
User Break!		

DME Manager Error Messages

If DME Manager displays an error message, look for the solution in the following table.

Message	Reason	Solution
Cannot compile because configuration contains no components!	An attempt was made to compile a configuration that contains no components.	Add some components, and then try compiling again.
Cannot display more than 32 meters!	An attempt was made to display more than 32 meters.	A maximum of 32 meters can be displayed simultaneously.
COM port open error 5	The COM port is in use by another device.	Disable the device using the COM port.
		Open the "setup.ini" file in the DME folder and make sure that the COM setting is correct. If you are using com port 2, for example, the setting should be "COM2".
Component position error!	An error occurred while trying to display the configuration.	Try opening the configuration again, or try receiving it from the DME32 again.
Configuration must be compiled before saving!	An attempt was made to save a configuration that has not been compiled.	Compile the configuration, and then try saving again.
Configuration must be compiled before sending!	An attempt was made to send an uncompiled configuration to the DME32.	Compile the configuration, and then try sending again.
DME32 and DME Manager configurations do not match!	The DME Manager and DME32 configuration data does not match.	Match the data, and then try sending the configuration again.
DME32 not found!	The DME32 was not detected when DME Manager was started.	Continue using only DME Manager, or check the DME32 connection and restart DME Manager.
Error reading file!	An error occurred while trying to open a file. Perhaps the file is already in use, or has not yet been saved.	Check if the file is already in use, or check if it has been saved, and then try opening again.
Error receiving configuration!	An error occurred while receiving a configuration from the DME32.	Check the DME32 connection, and then try receiving again.
Error sending configuration!	An error occurred while sending a configuration to the DME32.	Check the DME32 connection, and then try sending again.
Error writing file!	An error occurred while trying to write to a file. Perhaps it's in use, or is write protected.	Enter another file name, or turn off the write protection, and then try saving again.
Grid spacing is too large or too small!	The specified grid spacing is too large or too small.	Enter a grid spacing within the valid range.
Incorrect password!	The password entered was incorrect.	Enter the correct password.
No configuration selected!	An attempt was made to send a configuration, but no configuration was selected.	Select a configuration, and then try sending again.
"NO DATA" is an invalid file name!	"NO DATA" cannot be used as a file name.	Enter a file name other than "NO DATA".
Not a DME file!	An attempt was made to open a file other than a DME file.	Open, and drag open only DME files
Printer setup error!	An error occurred while trying to read the printer setup information. Perhaps the printer is not set up correctly, or a suitable driver is not available.	Set up the printer correctly.
The DME32 configuration data has changed. Receive data from DME32?	The configuration data has changed on the DME32. This may be due, for example, to the wordclock setting being changed from the front panel, or a configuration being loaded from a PC Card.	Click OK to receive the updated configuration data from the DME32.
This component is protected!	An attempt was made to edit a protected component.	Turn off the component's protection, and then try editing again.

Message	Reason	Solution
This operation is protected!	An attempt was made to use a protected operation.	Turn off the Operation or Component protection, and then try again.
Too many components for DME32 #!	The maximum number of components for the specified DME32 has been exceeded.	Delete any unused components in order to free up resources, and then add the new component.
You must enter a title for the configuration!	An attempt was made to send a configuration, but no configuration was selected, or no title was entered.	Select a configuration, or enter a title, and then try sending again.
You must enter a title for the user module!	An attempt was made to save a user module, but no title was entered.	Enter a title, and then try saving again.
Available resources are low. Further editing is not recommended. Delete some components or restart the program to resolve the problem.	This message warns that Windows resources are getting low, perhaps because there are many configuration windows open, or several programs are running simultaneously. If you continue using DME Manager, Windows may suddenly quit DME Manager.	Close some configuration windows, quit some other programs, or restart DME Manager.

■ MIDI IMPLEMENTATION CHART

YAMAHA [Digital Mixing Engine]

Date: 1 May 2000

Model: DME32

MIDI Implementation Chart

Version: 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1-16 1-16	1-16 1-16	Memorized
Mode	Default Messages Altered	X X *****	OMNI OFF/OMNI ON X X	Memorized
Note Number	True Voice	X *****	X X	
Velocity	Note On Note Off	X X	X X	
After Touch	Keys Ch's	X X	X X	
Pitch bend		X	X	
Control Change	0-119	O	O	Assignable
Prog Change	:True#	0-127 *****	0-127 X	Assignable
System Exclusive		O	O	Parameter Change
System Common	:Song Pos :Song Sel :Tune	X X X	X X X	
System Real Time	:Clock :Commands	X X	X X	
Aux Messages	:Local ON/OFF :All Notes OFF :Active Sense :Reset	X X X X	X X X X	
Notes				

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

O: Yes
X: No

■ MIDI Data Format

1. Transmit/Receive Data

1.1 Program Change

When a Program Change message is received, the scene specified in the [Program Change Assign Table] is recalled.

Program Change messages are transmitted according to the [Program Change Assign Table]. If a scene memory number has been assigned to more than one Program

Change, the lowest-numbered Program Change is transmitted.

1.2 Control Change

When a Control Change message is received, the parameter specified in the [Control Change Assign Table] is edited.

When a parameter specified in the [Control Change Assign Table] is edited, a Control Change message for that control change number is transmitted. If a parameter has been

assigned to more than one Control Change, the lowest-numbered Control Change is transmitted.

1.3 Parameter Change

Parameter value changes are transmitted and received. If [Parameter Change Tx] is ON, these messages are transmitted when the value of a parameter is changed. These messages can be received when [Parameter Change Rx] is ON.

2. DME32 Settings and Operation

2.1 MIDI Setup

2.1.1 MIDI Channel

2.1.1.1 Transmit Channel

Specify the MIDI channel for transmission.

2.1.1.2 Receive Channel

Specify the MIDI channel that will be used for reception. As a rule, MIDI messages are received only if the MIDI channel matches, but this is not the case if OMNI is ON.

2.1.2 ON/OFF

2.1.2.1 Program Change

Enable or disable reception and transmission. If OMNI is ON, these messages are received regardless of the MIDI channel. If ECHO is ON, they are echoed regardless of the channel.

2.1.2.2 Control Change

Enable or disable reception and transmission. If OMNI is ON, these messages are received regardless of the MIDI channel. If ECHO is ON, they are echoed regardless of the channel.

2.1.2.3 Parameter Change

Enable or disable reception and transmission. If ECHO is ON, these messages are echoed regardless of the channel.

2.2 MIDI Program Change Assign Table

This table allows the free assignment of scene memories to Program Changes.

2.3 MIDI Control Change Assign Table

This table allows the free assignment of parameters to Control Changes. This is used both for reception and for transmission. If TX is ON, these messages are transmitted when the assigned parameter is edited.

3. MIDI Format Table

3.1 Channel Message

Command	rx/tx	Function
Bn Control Change	rx/tx	Parameter control (according to Control Change Assign Table)
Cn Program Change	rx/tx	Scene memory change (according to Program Change Assign table)

3.2 Parameter Change

Parameter type	rx/tx	Function
0x00	rx/tx	edit buffer (byte operation format)

4. MIDI Format Detailed Specification

4.1 Control Change (Bn)

Reception

These messages are received if [Control Change RX] is ON and the [Rx CH] matches.

However if [OMNI] is ON, these messages are received regardless of the channel.

These messages are echoed if [Control Change ECHO] is ON.

Parameters are controlled according to the [Control Change Assign Table].

Transmission

If [Control Change TX] is ON, these messages are transmitted on the [Tx CH] when a parameter specified in the [Control Change Assign Table] is modified.

If [Control Change ECHO] is ON, these messages are merged with those output by the unit itself, while taking advantage of running status.

STATUS	1011nnnn Bn	Control Change
DATA	0ccccccc cc	Control No. (0-119)
	0vvvvvvvv vv	Control Value (0-127)

Control values are converted into parameter values according to the following equation.

$$C = 128 \text{ (byte parameter)}$$

$$16384 \text{ (word parameter)}$$

S = total number of variable steps for the parameter

$$C/S = X \text{ remainder } Y$$

$$\text{INT}((Y+1)/2) = Z$$

$$\text{If}(\text{MIDI DATA-Z}) < 0 \quad \rightarrow \text{param} = 0$$

$$\text{If}(((\text{MIDI DATA-Z})/X) > \text{MAX}) \quad \rightarrow \text{param} = \text{MAX}$$

$$\text{Otherwise} \quad \rightarrow \text{param} = \text{INT}((\text{MIDI DATA-Z})/X)$$

4.2 Program Change (Cn)

Reception

These messages are received if [Program Change RX] is ON and the [Rx CH] matches.

However, if [OMNI] is ON, they are received regardless of the channel.

These messages are echoed if [Program Change ECHO] is ON.

Scene memories are recalled according to the [Program Change Assign Table].

Transmission

If [Program Change TX] is ON, this message is transmitted on the [Tx CH] according to the settings of the [Program Change Assign Table] when a scene is recalled.

If the scene memory number that was recalled is assigned to more than one Program Change, the lowest-numbered Program Change is transmitted.

If [Program Change ECHO] is ON, these messages are echoed.

STATUS	1100nnnn	Cn	Program Change
DATA	nnnnnnn	nn	Program No. (0-127)

4.3 Parameter Change (byte operation for type 0x00: edit buffer)

Reception

These messages are received if [Parameter Change RX] is ON and the [Rx CH] matches the Device Channel included in the SUB STATUS of the message.

These messages are echoed if [Parameter Change ECHO] is ON.

When these messages are received, the corresponding parameter is controlled.

Transmission

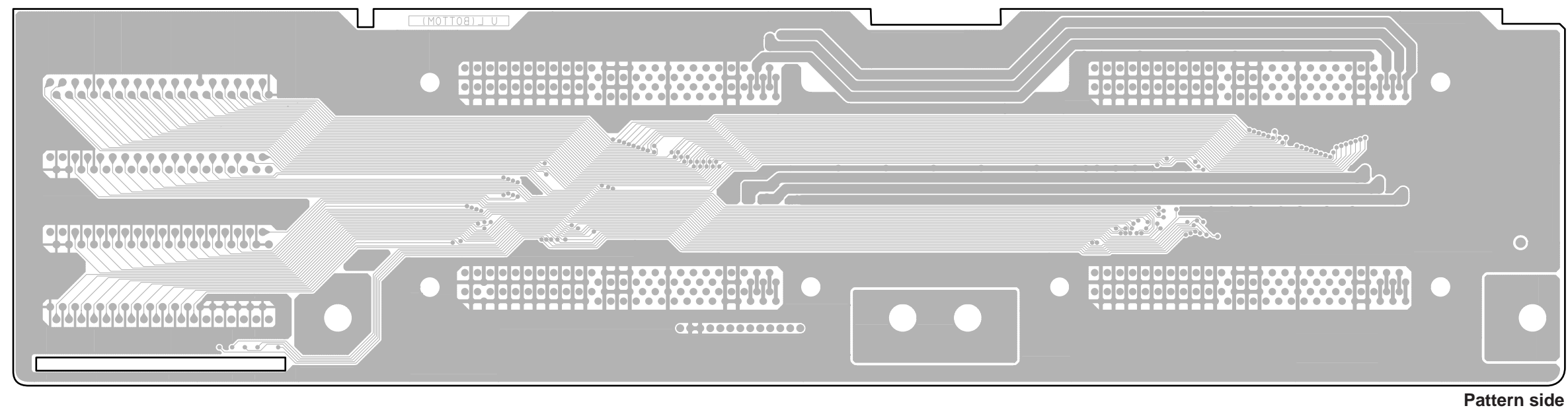
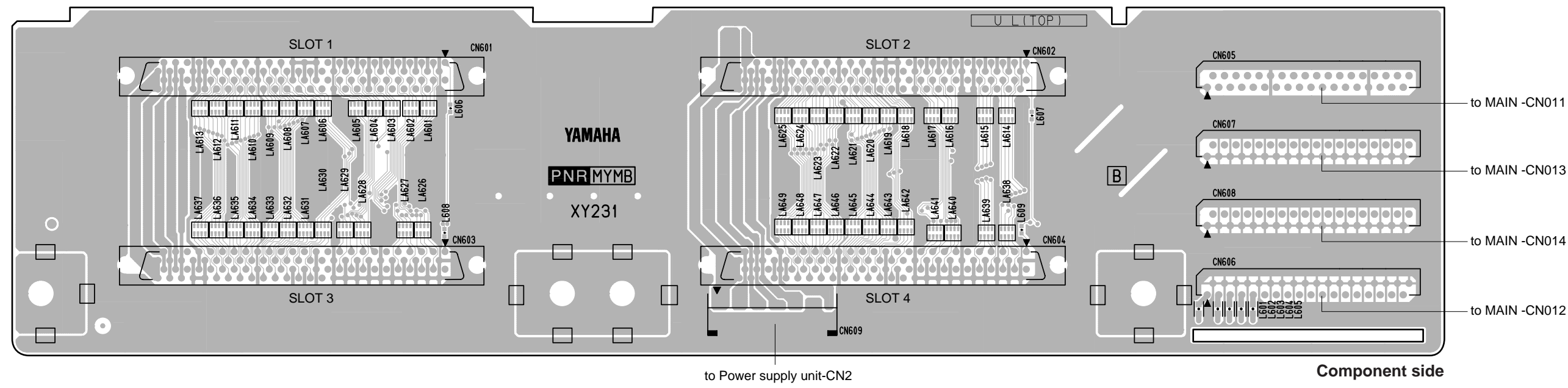
If [Parameter Change TX] is ON, this message is transmitted on the [Tx CH] Device Channel when a parameter not specified in the [Control Change Assign Table] is adjusted.

These messages are transmitted without change if [Parameter Change ECHO] is ON.

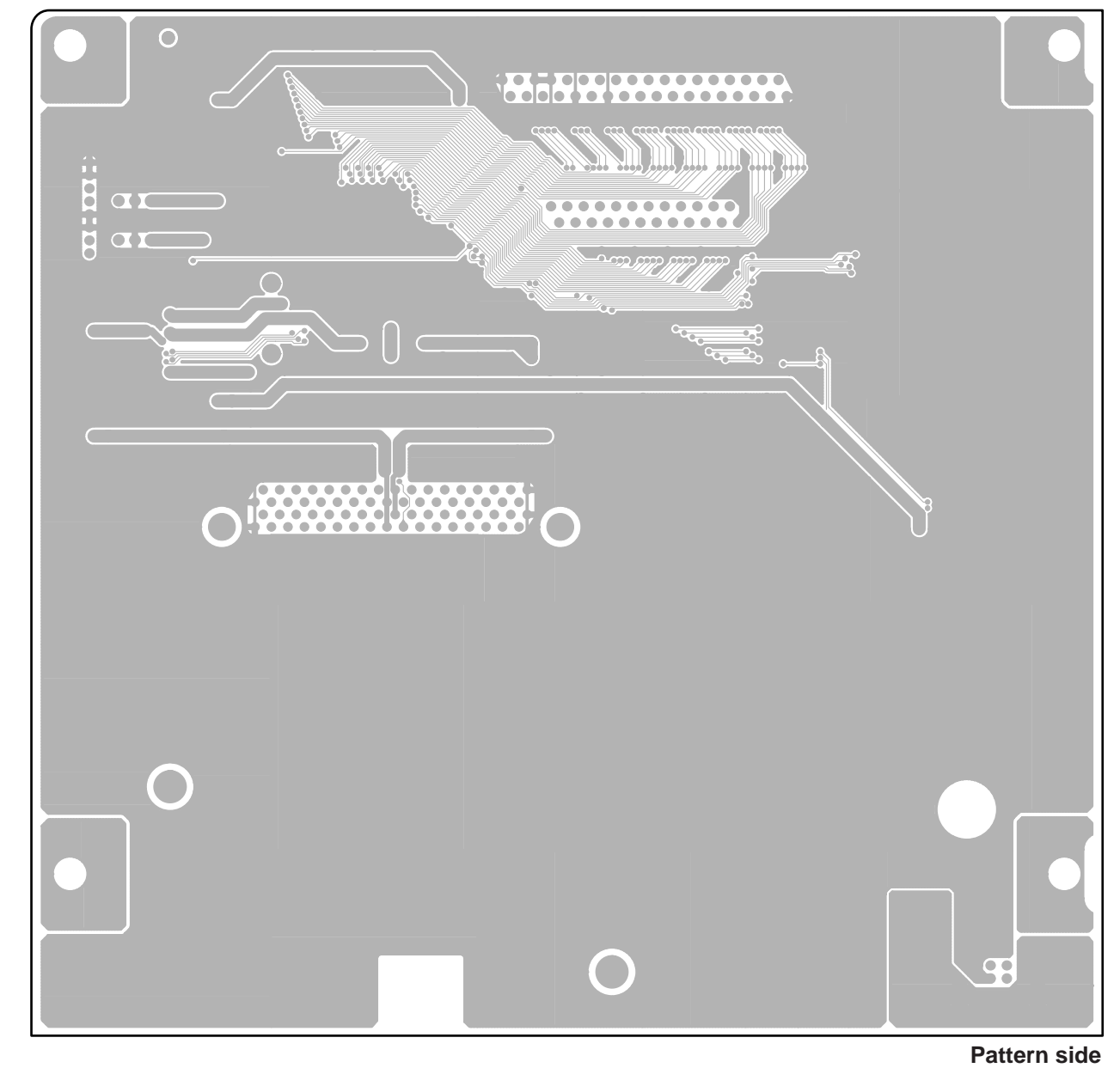
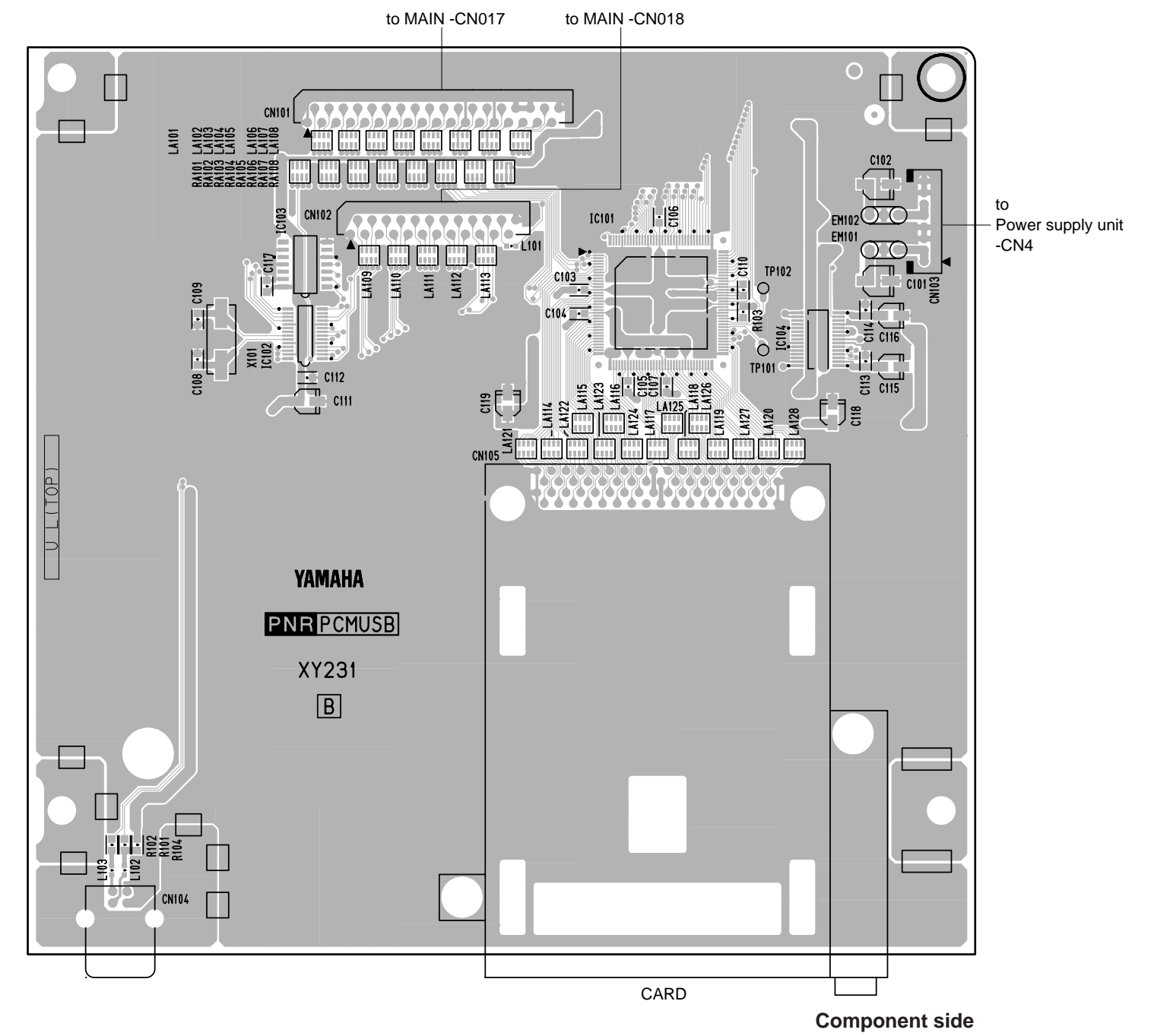
STATUS	11110000	F0	System Exclusive Message
ID No.	01000011	43	Manufacturer's ID No. (YAMAHA)
SUB STATUS	0001nnnn	1n	parameter change or response for request n=0-15 (Device Channel No.1-16)
GROUP ID	00111110	3E	group ID (digital mixer)
MODEL ID	00000101	05	Device code (DME32)
PARAM TYPE	00000000	00	byte operation for edit buffer
DATA	0000aaaa	dd1	Parameter No. (H high order bit)
	0000bbbb	dd2	Parameter No. (H low order bit)
	0000cccc	dd3	Parameter No. (L high order bit)
	0000dddd	dd4	Parameter No. (L low order bit)
	0000eeee	dd5	Parameter value (H high order bit)
	0000ffff	dd6	Parameter value (H low order bit)
	0000gggg	dd7	Parameter value (L high order bit)
	0000hhhh	dd8	Parameter value (L low order bit)
EOX	11110111	F7	End Of Exclusive

■ CIRCUIT BOARDS

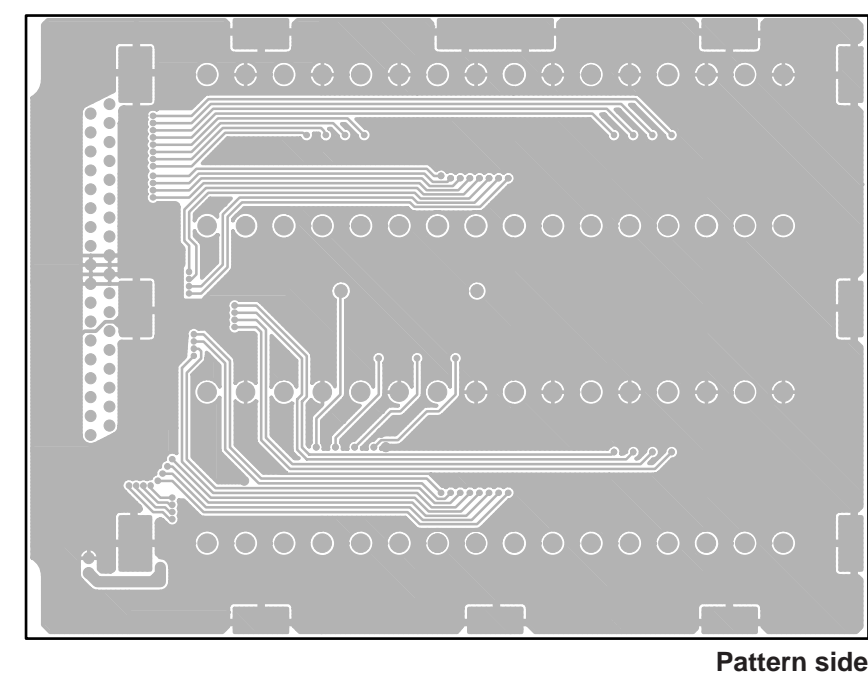
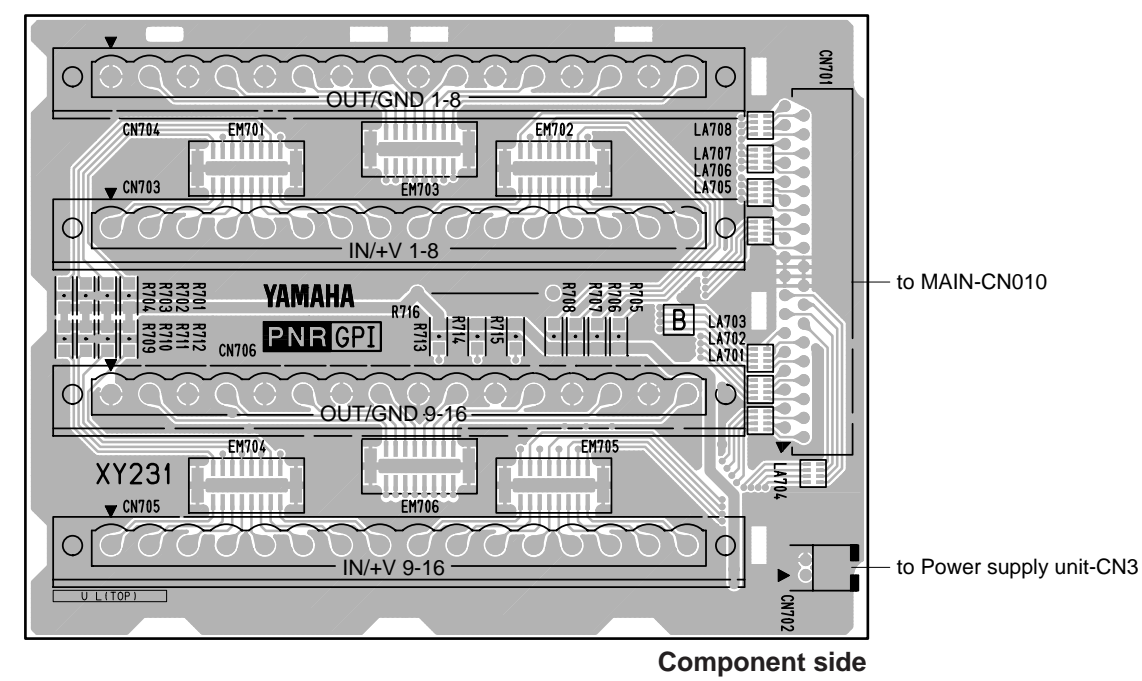
● PNR1/3(MYMB) Circuit Board



● PNR2/3(PCMUSB) Circuit Board

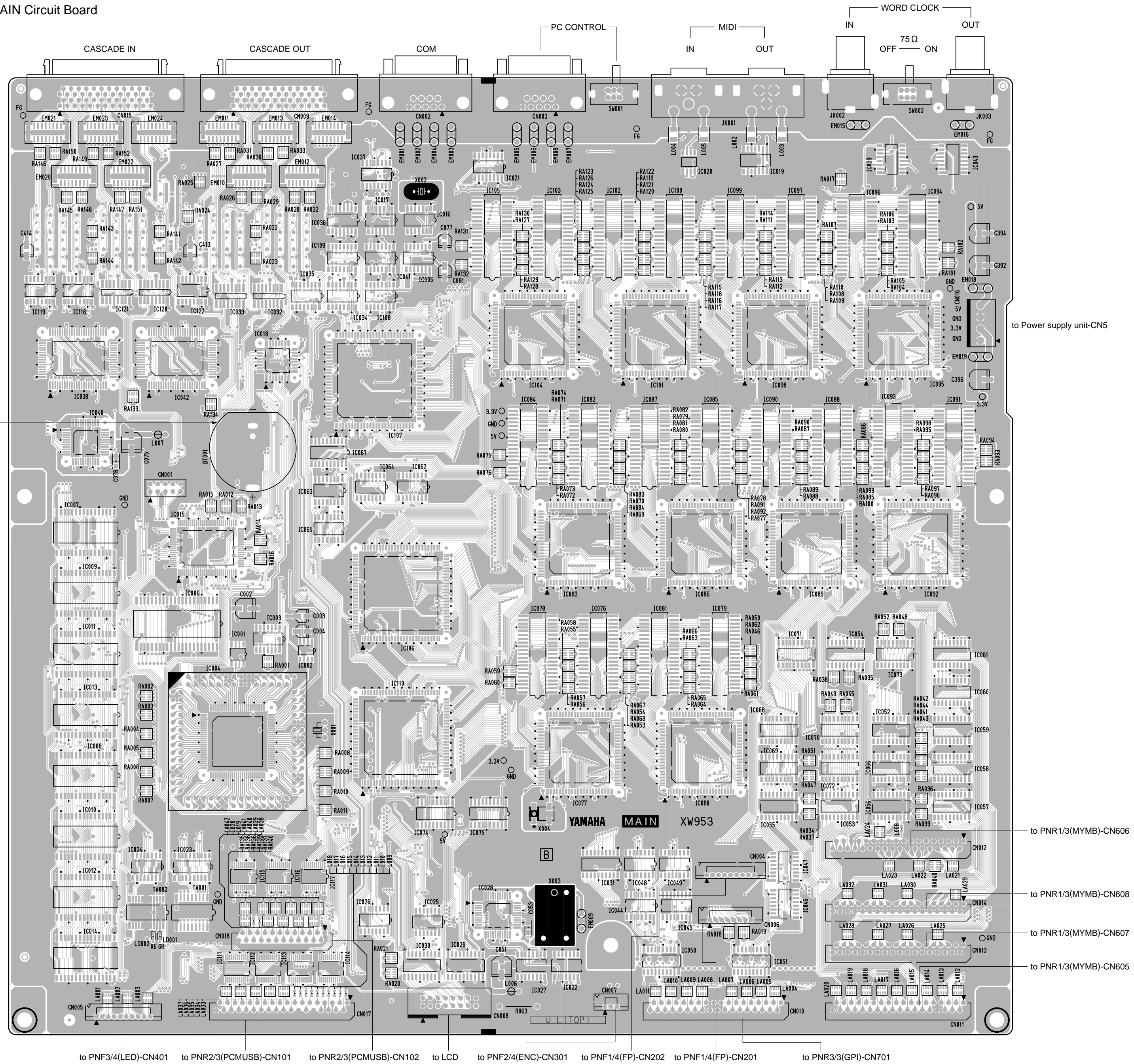


● PNR3/3(GPI) Circuit Board



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

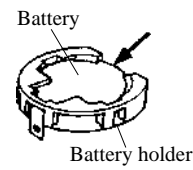
● MAIN Circuit Board



● Lithium Battery

Battery VN103500
VN103600(Battery holder for VN103500)

- Notice for back-up battery removal
Push the battery as shown in figure,
then the battery will pop up.
- Druk de batterij naar beneden zoals
aangeven in de tekening, de batterij
springt dan naar voren.

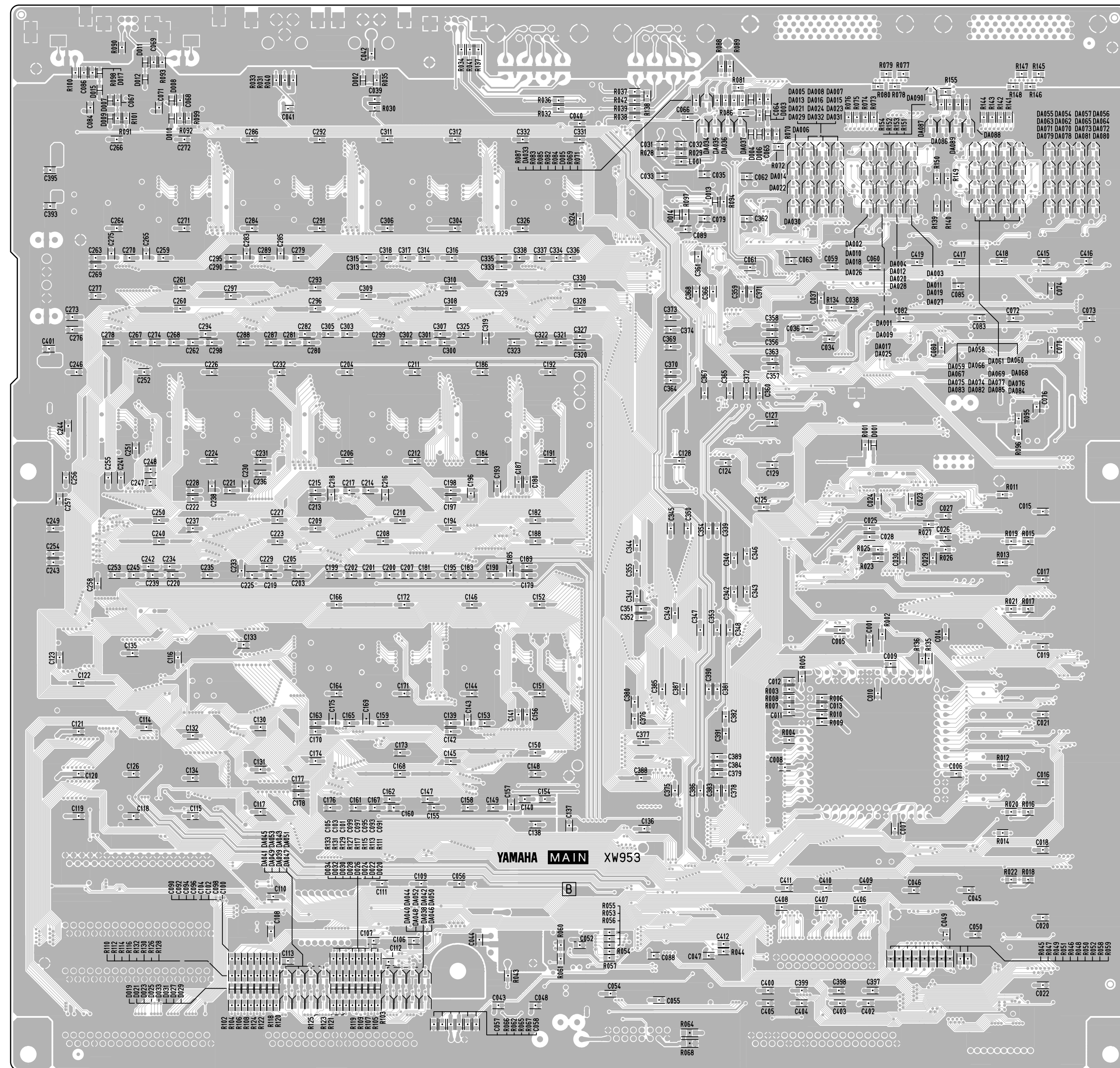


to PNF3/4(LED)-CN401 to PNR2/3(PCMUSB)-CN101 to PNR2/3(PCMUSB)-CN102 to LCD to PNF2/4(ENC)-CN301 to PNF1/4(FP)-CN202 to PNF1/4(FP)-CN201 to PNR3/3(GPI)-CN701

Component side

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

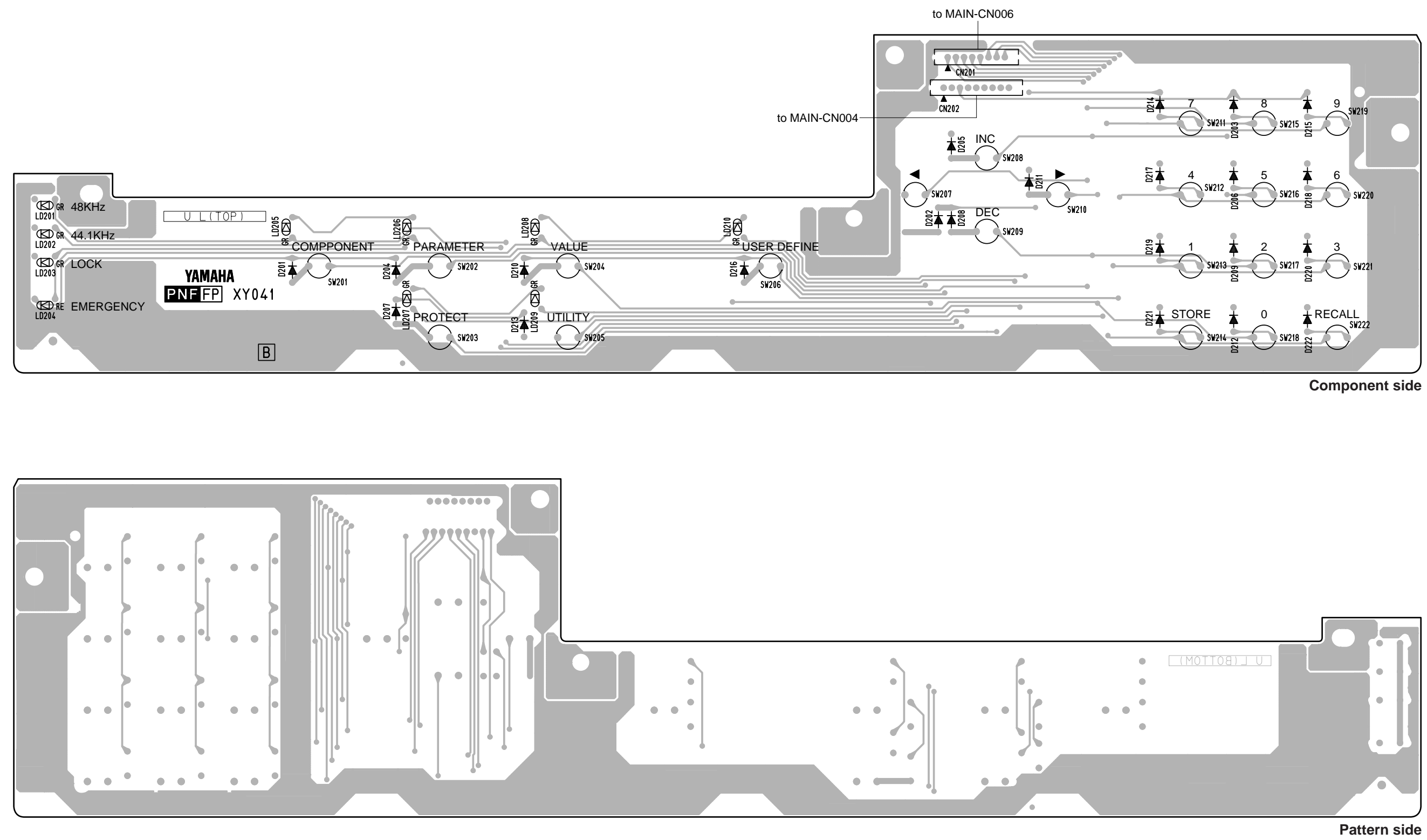
● MAIN Circuit Board



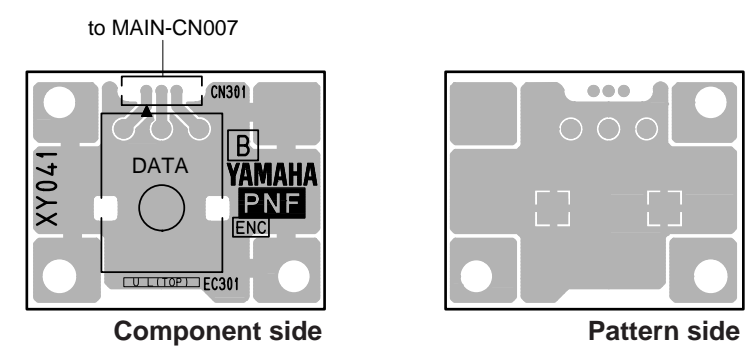
Pattern side

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

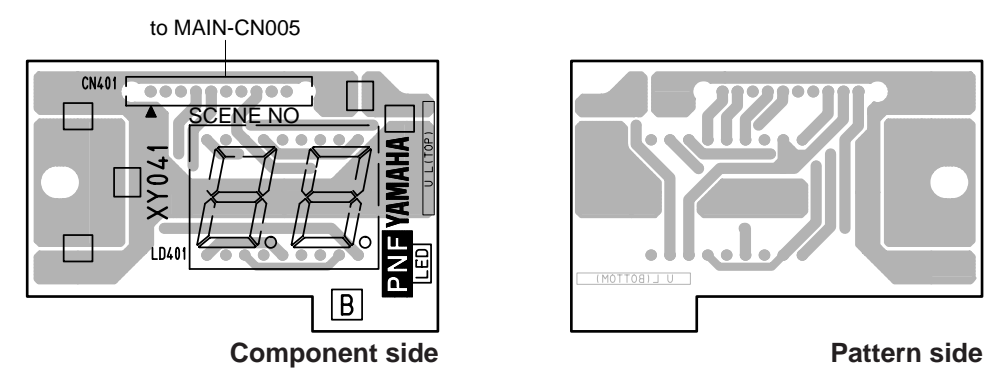
●PNF1/4(FP) Circuit Board



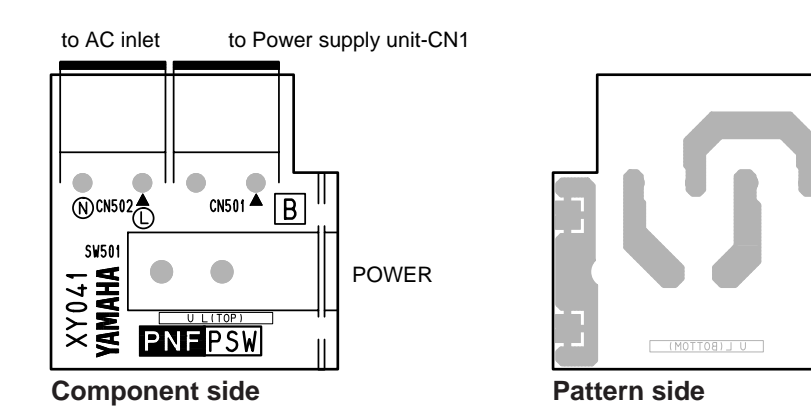
●PNF2/4(ENC) Circuit Board



●PNF3/4(LED) Circuit Board



●PNF4/4(PSW) Circuit Board



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

DIGITAL MIXING ENGINE

DME 32

PARTS LIST


■ CONTENTS



OVERALL ASSEMBLY.....	2
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ELECTRICAL PARTS	6-12

Notes: DESTINATION ABBREVIATIONS

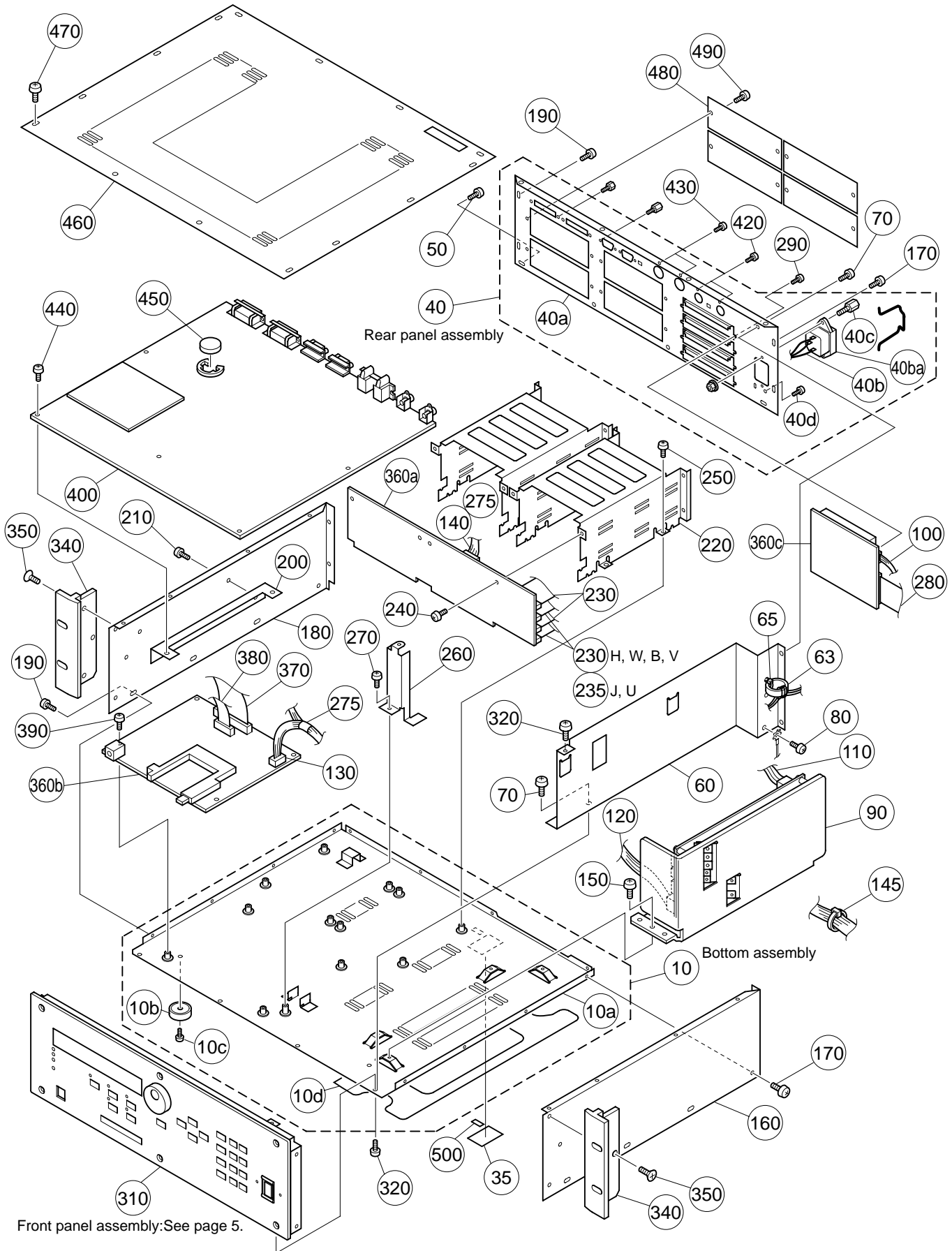
A: Australian model	M: South African model
B: British model	O: Chinese model
C: Canadian model	Q: South-east Asia model
D: German model	T: Taiwan model
E: European model	U: U.S.A. model
F: French model	V: General export model (110 V)
H: North European model	W: General export model (220 V)
I : Indonesian 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 in “QTY” show quantities for each unit.
- The parts with “- -” in “PART NO.” are not available as spare parts.
- The mark “ } ” in the remarks column indicates that 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		DME32		
	--	Overall Assembly		J (V520670)		
	--	Overall Assembly		U (V520680)		
	--	Overall Assembly		H,W,B,V (V580010)		
10	--	Bottom Assembly		(V593160)		
* 10a	V5202700	Bottom Chassis				
10b	CB806590	Leg	BL		4	03
10c	VR138400	Bind Head Tapping Screw-B	4.0X12 MFZN2BL		4	01
10d	--	Protection Sheet		(V520520)		
10e	--	Label	CAUTION	U,H,W,B,V (V533520)		
35	--	Label	UL	U (V570430)		
40	--	Rear Panel Assembly	J	J (V529560)		
40	--	Rear Panel Assembly		U (V529570)		
40	--	Rear Panel Assembly		H,W,B,V (V508002)		
* 40a	V5203200	Rear Panel		J		
* 40a	V6035300	Rear Panel				
* 40a	V5203400	Rear Panel		U		
* 40a	V5800300	Rear Panel		H,W,B,V		
40b	--	Connector Assembly	ACIN-PSW	(V515520)		
* 40ba	V5065200	AC Inlet	M1908-C 3P	AC IN		03
* 40c	V5600300	Support			2	
40d	VP156800	Bind Head Screw	4.0X8 MFZN2BL			01
50	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL	J	4	01
50	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL	U,H,W,B,V	4	01
60	--	Partition		(V520470)		
63	VC362700	Ferrite Core				04
65	CB069250	Cord Holder	BK-1			01
70	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		4	01
80	EG340360	Bind Head Screw	4.0X8 MFZN2BL			01
* 90	V4845900	Power Supply Unit	DAE J.UC.CE			
100	--	Connector Assembly	PH&PH 2P 350L	(V508790)		
110	--	Connector Assembly	PSW-PS VH- 3P	(V515540)		
120	--	Connector Assembly	PS-MAIN VH- 4P	(V515560)		
130	--	Connector Assembly	PH&PH 8P 300L	(V515590)		
140	--	Connector Assembly	PH&PH 13P 400L	(V596720)		
145	CB069250	Cord Holder	BK-1			01
150	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		2	01
152	--	Clamp Filter		U,H,W,B,V (VY73470)	2	
156	V6032800	Ferrite Core				
* 160	V5204000	Side Panel	RIGHT			
170	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		6	01
* 180	V5204100	Side Panel	LEFT			
190	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		6	01
200	--	L Angle		(V520480)		
210	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		2	01
* 220	V5204500	OPT Angle			2	
230	--	Cable, FFC		J,U (V599030)	2	
230	--	Cable, FFC		H,W,B,V (V599030)	4	
235	--	Cable, FFC	36P 350mm P=1.25	J,U (MF13635)	2	
240	EG340360	Bind Head Screw	4.0X8 MFZN2BL		4	01
250	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		8	01
260	--	PCB Support		(V520490)		
270	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL			01
275	VN941800	Cord Holder			2	01
280	--	Cable, FFC	P=1.25-K-36-550	(V518310)		
290	VC990500	Pan Head Screw	2.6X6 MFZN2BL		8	01
310	--	Front Panel Assembly		(V529550)		
320	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		5	01
* 340	V4278700	Mount Bracket			2	08
350	V6221000	Oval Head Screw	B4.0X10 MFZN2BL		6	
360	--	Circuit Board	PNR	(V512960)		
360a	AAX13970	Circuit Board	PNR 1/3 (MYMB)			
360b	AAX13950	Circuit Board	PNR 2/3 (PCMUSB)			
360c	AAX13960	Circuit Board	PNR 3/3 (GPI)			
370	--	Cable, FFC	36P 250mm P=1.25	(MF13625)		
380	--	Cable, FFC	24P 250mm P=1.25	(MF12425)		
385	--	USB Angle		(V563370)		
390	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		4	01
* 400	V5129300	Circuit Board	MAIN			
420	VS863000	Bonding Screw	3.0X6 MFZN2BL		2	01

*: New Parts

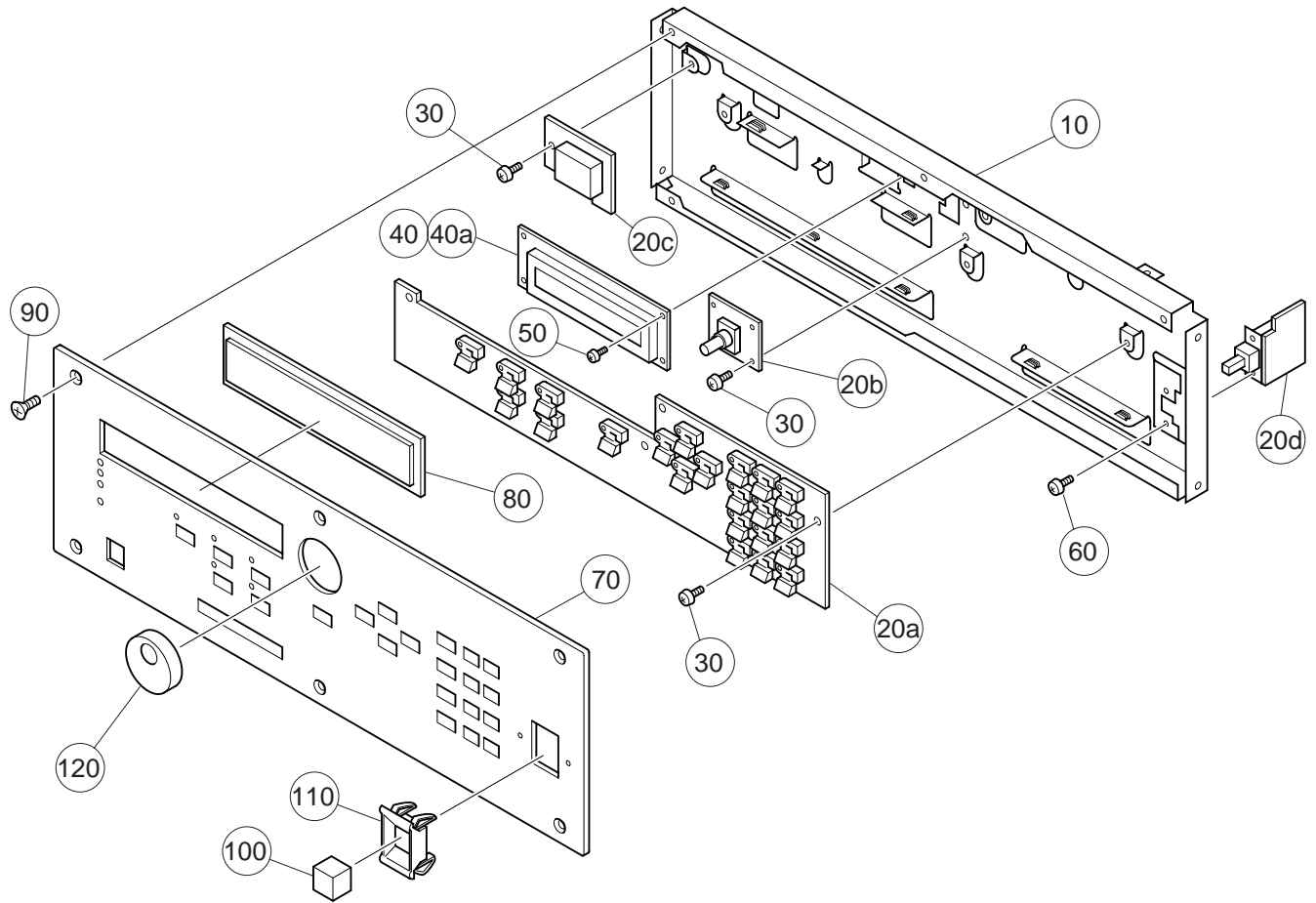
RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
430	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		2	01
440	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		5	01
450	VN103500	Lithium Battery	CR2032			03
* 460	V5202400	Top Cover				
470	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		14	01
480	VZ678500	IF Plate			4	05
490	VP156900	Bind Head Screw	A4.0X12 MFZN2BL		8	01
500	--	Label, Date Cord		U (VA03930)		
		ACCESSORIES				
* 5422900	V5422900	Euroblock Connector	MC300-50816 16P		4	09
* 5436200	V5436200	Cable, D-Sub	17JE 414 9P			07
* 5600500	V5600500	Holder, AC Cord	I/O			
* 609B00	XY609B00	Compact Disc				
	VQ240200	Adapter, AC Cord	KPR-25	J		06
△	VN580000	AC Cord	DC-015-J01 2.5m	J		52
△	VB506800	AC Cord	CSA	U,V		01
△	VB928000	AC Cord	VDE	H,W		
△*	V6190800	AC Cord	BS 3P	B		

*: New Parts

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FRONT PANEL ASSEMBLY



REF NO.	PART NO.	DESCRIPTION	REMARKS	QTY	RANK
	--	FRONT PANEL ASSEMBLY	DME32		
*	10	Front Panel Assembly	(V529550)		
	--	Sub Chassis	(V512940)		
	20	Circuit Board			
	20a	Circuit Board	PNF 1/4 (FP)		
	20b	Circuit Board	PNF 2/4 (ENC)		
	20c	Circuit Board	PNF 3/4 (LED)		
	20d	Circuit Board	PNF 4/4 (PSW)		
	30	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		
*	40	LCD Assembly	24X2	8	01
	40a	LCD	DM081Y-6BL3		
	50	Pan Head Screw	2.6X6 MFZN2BL		01
	60	Bonding Screw	3.0X6 MFZN2BL	2	01
*	70	Front Panel			
*	80	Cover			
	90	Oval Head Screw	4.0X8 MFZN2BL	6	01
	100	Power Switch Knob			03
	110	Escutcheon, Power Switch			03
	120	Knob, Encoder			04

*: New Parts

RANK: Japan only

ELECTRICAL PARTS

REF. NO.	PART NO.	DESCRIPTION	REMARKS	QTY	RANK
		ELECTRICAL PARTS	DME32		
*	V5129300	Circuit Board	MAIN		
	--	Circuit Board	PNF	(XW953B0)	
	AAX13980	Circuit Board	PNF 1/4 (FP)	(V512940,XY041B0)	
	AAX13990	Circuit Board	PNF 2/4 (ENC)	(XY041B0)	
	AAX14000	Circuit Board	PNF 3/4 (LED)	(XY041B0)	
	AAX14010	Circuit Board	PNF 4/4 (PSW)	(XY041B0)	
	--	Circuit Board	PNR	(V512960,XY231B0)	
	AAX13970	Circuit Board	PNR 1/3 (MYMB)	(XY231B0)	
	AAX13950	Circuit Board	PNR 2/3 (PCMUSB)	(XY231B0)	
	AAX13960	Circuit Board	PNR 3/3 (GPI)	(XY231B0)	
*	V5129300	Circuit Board	MAIN	(XW953B0)	
BT1	VN103600	Battery Holder	CR2032		03
C1	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C2	UF037330	Electrolytic Cap. (chip)	33 16V		01
C3	UF037100	Electrolytic Cap. (chip)	10 16V		01
C4	UF037100	Electrolytic Cap. (chip)	10 16V		01
C5	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-11	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C12	UB012470	Monolithic Ceramic Cap.	B 470P 50V K		01
C13	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-30	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C31	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J		01
C32	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J		01
C33	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-50	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C51	UF037470	Electrolytic Cap. (chip)	47 16V		01
C52	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C53	VR327000	Mylar Capacitor (chip)	0.0470 16V J		01
C54	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-56	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C57	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K		01
C58	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K		01
C59	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-63	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C64	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J		01
C65	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J		01
C66	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C67	UB051300	Monolithic Ceramic Cap.	SL 30P 50V J		01
-69	UB051300	Monolithic Ceramic Cap.	SL 30P 50V J		01
C70	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-74	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C75	UF037470	Electrolytic Cap. (chip)	47 16V		01
C76	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C77	UF037100	Electrolytic Cap. (chip)	10 16V		01
C78	VR327000	Mylar Capacitor (chip)	0.0470 16V J		01
C79	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C80	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C81	UF037100	Electrolytic Cap. (chip)	10 16V		01
C82	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-85	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C86	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J		01
C88	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-391	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C392	UF038100	Electrolytic Cap. (chip)	100 16V		01
C393	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C394	UF038100	Electrolytic Cap. (chip)	100 16V		01
C395	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C396	UF027470	Electrolytic Cap. (chip)	47 10V		01
C397	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-411	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
C412	UB012820	Monolithic Ceramic Cap.	B 820P 50V K		01
C413	UF037100	Electrolytic Cap. (chip)	10 16V		01
C414	UF037100	Electrolytic Cap. (chip)	10 16V		01
C415	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
-419	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z		01
CN1	VQ623900	Pin Header	HIF3H-10PB-2.54DSA		03
CN2	VU196300	Connector Socket	17LE-23090-27 D4CH	COM	04
CN3	VU196300	Connector Socket	17LE-23090-27 D4CH	PC CONTROL	04

*: New Parts

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
CN4	VK025300	Wire Trap	52147 9P TE			01
-7	VK024700	Wire Trap	52147 3P TE			01
CN8	VP214600	Header, Flat Cable	HIF3FC 16P TE			03
CN9	V4795900	Connector, FCN-235D	230R(PI) 50P SE	CASCADE OUT		
CN10	VQ048500	Connector, FFC	52045 36P TE			02
-14	VQ048500	Connector, FFC	52045 36P TE			02
CN15	V4795900	Connector, FCN-235D	230R(PI) 50P SE	CASCADE IN		
CN16	LB932040	Base Post Connector	VH 4P TE			01
CN17	VQ048500	Connector, FFC	52045 36P TE			02
CN18	VP127700	Connector, FFC	52045 24P TE			01
D1	VT332900	Diode	1SS355 TE-17			01
-5	VT332900	Diode	1SS355 TE-17			01
D17	VT332900	Diode	1SS355 TE-17			01
D19	VT332900	Diode	1SS355 TE-17			01
-34	VT332900	Diode	1SS355 TE-17			01
DA1	VV556300	Diode Array	DAN217 0.3A X2			01
-90	VV556300	Diode Array	DAN217 0.3A X2			01
EM1	FZ006920	LC Filter	LS MT B271KB			01
-9	FZ006970	LC Filter	LS MT Y223NB			02
EM10	VL534100	LC Filter	NFA81R00C101			05
-14	VL534100	LC Filter	NFA81R00C101			05
EM15	FZ006920	LC Filter	LS MT B271KB			01
EM16	FZ006920	LC Filter	LS MT B271KB			01
EM18	FZ006970	LC Filter	LS MT Y223NB			02
EM19	FZ006970	LC Filter	LS MT Y223NB			02
EM20	VL534100	LC Filter	NFA81R00C101			05
-24	VL534100	LC Filter	NFA81R00C101			05
IC1	XN797A00	IC	NJM2082M(T1)	OP AMP		02
IC2	XI686A00	IC	M62021FP	SYSTEM RESET		04
* IC3	XY306A00	IC	74VHC32SJX	OR		01
IC4	XY885B00	IC	HD6437042AF62F	CPU		
* IC5	XY306A00	IC	74VHC32SJX	OR		01
* IC6	XT507B00	IC	MBM29F800BA-90PF	FLASH ROM 8M		14
IC7	XV378B00	IC	LP621024DM-70LLQ	SRAM 1M		07
-14	XV378B00	IC	LP621024DM-70LLQ	SRAM 1M		07
* IC15	XY976B00	IC	EPM7128SQC100-7	FPGA		
* IC16	XY070A00	IC	MM74HCU04SJX	INVERTER		01
* IC17	XY153A00	IC	MM74HC74ASJX	D-FF		01
* IC18	XW934A00	IC	ST16C554DCQ64	UART		11
IC19	XW104A00	IC	MM74HC14SJX	INVERTER		01
IC20	VN406200	Photo Coupler	HCPL-0600-500			05
IC21	XU073A00	IC	SN75C1168NSR	LINE DRIVER/RECEIVER		05
* IC22	XY153A00	IC	MM74HC74ASJX	D-FF		01
IC23	XY198A00	IC	MM74HC273SJX	D-FF		03
* IC24	XY307A00	IC	MM74HC175SJX	D-FF		02
IC25	XS993A00	IC	TC74HC04AF	INVERTER		01
* IC26	XY308A00	IC	MM74HC151SJX	DATA SELECTOR		02
* IC27	XY309A00	IC	TC74HC153AFEL	DATA SELECTOR		02
IC28	XG948E00	IC	YM3436DK	DIR2		11
IC29	XT487A00	IC	TC74VHC245F	TRANSCEIVER		03
* IC30	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
* IC31	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
IC32	XU815A00	IC	DS26C32ATMX	LINE RECEIVER		06
IC33	XU815A00	IC	DS26C32ATMX	LINE RECEIVER		06
IC34	XU996A00	IC	AM26LS31CNSR	LINE DRIVER		
IC35	XU996A00	IC	AM26LS31CNSR	LINE DRIVER		
IC36	XU816A00	IC	SN75121NSR	LINE DRIVER		
IC37	XU073A00	IC	SN75C1168NSR	LINE DRIVER/RECEIVER		05
IC38	XU235A00	IC	SGH609080F-47F	ATSC		10
IC39	XV930A00	IC	SN75124NS	LINE RECEIVER		
IC40	XG948E00	IC	YM3436DK	DIR2		11
IC41	XN242A00	IC	TC74HC123AF	SINGLE SHOT		02
IC42	XU235A00	IC	SGH609080F-47F	ATSC		10
IC43	XU816A00	IC	SN75121NSR	LINE DRIVER		
IC44	XS790A00	IC	TC74HC4052AF	MULTIPLEXER		02
IC45	XS790A00	IC	TC74HC4052AF	MULTIPLEXER		02
* IC46	XY307A00	IC	MM74HC175SJX	D-FF		02
* -49	XY307A00	IC	MM74HC175SJX	D-FF		02
IC50	XU009A00	IC	SN74ABT245BNSR	TRANSCEIVER		04
IC51	XU009A00	IC	SN74ABT245BNSR	TRANSCEIVER		04

*: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
* IC52	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
* IC60	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
* IC61	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
* IC62	XY308A00	IC	MM74HC151SJX	DATA SELECTOR		02
* IC63	XY308A00	IC	MM74HC151SJX	DATA SELECTOR		02
IC64	XT015A00	IC	TC74VHC138F	DECODER		02
IC65	XT015A00	IC	TC74VHC138F	DECODER		02
IC66	XT487A00	IC	TC74VHC245F	TRANSCEIVER		03
IC67	XT487A00	IC	TC74VHC245F	TRANSCEIVER		03
* IC68	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
* -73	XW107A00	IC	MM74HC245ASJX	TRANSCEIVER		03
IC74	XT487A00	IC	TC74VHC245F	TRANSCEIVER		03
IC75	XT487A00	IC	TC74VHC245F	TRANSCEIVER		03
IC76	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC77	XV988A00	IC	YSS910-S	DSP6		10
IC78	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC79	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC80	XV988A00	IC	YSS910-S	DSP6		10
IC81	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC82	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC83	XV988A00	IC	YSS910-S	DSP6		10
IC84	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC85	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC86	XV988A00	IC	YSS910-S	DSP6		10
IC87	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC88	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC89	XV988A00	IC	YSS910-S	DSP6		10
IC90	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC91	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC92	XV988A00	IC	YSS910-S	DSP6		10
IC93	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC94	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC95	XV988A00	IC	YSS910-S	DSP6		10
IC96	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC97	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC98	XV988A00	IC	YSS910-S	DSP6		10
IC99	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC100	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC101	XV988A00	IC	YSS910-S	DSP6		10
IC102	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC103	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
IC104	XV988A00	IC	YSS910-S	DSP6		10
IC105	XV932A00	IC	MSM5118160D-60J DR	DRAM 16M		
* IC106	XV989A00	IC	YSS904-F	DSP5		11
* IC107	XV989A00	IC	YSS904-F	DSP5		11
* IC108	XY310A00	IC	MM74HC157SJX	MULTIPLEXER		01
* IC109	XY310A00	IC	MM74HC157SJX	MULTIPLEXER		01
* IC110	XV989A00	IC	YSS904-F	DSP5		11
IC111	XU229A00	IC	TC74LVX4245FS	TRANSCEIVER		04
-117	XU229A00	IC	TC74LVX4245FS	TRANSCEIVER		04
IC118	XU996A00	IC	AM26LS31CNSR	LINE DRIVER		
IC119	XU996A00	IC	AM26LS31CNSR	LINE DRIVER		
IC120	XU815A00	IC	DS26C32ATMX	LINE RECEIVER		06
IC121	XU815A00	IC	DS26C32ATMX	LINE RECEIVER		06
IC122	XU073A00	IC	SN75C1168NSR LINE	LINE DRIVER/RECEIVER		05
JK1	VK519000	DIN Connector	5P3 YKF51-50	MIDI IN/OUT		04
JK2	VI552200	BNC Connector	YKS11-0 1P	WORD CLOCK IN		05
JK3	VI552200	BNC Connector	YKS11-0 1P	WORD CLOCK OUT		05
L1	VS740100	Chip Inductance	BLM21B751S 2125			03
L2	VQ723100	Chip Bead Core	EXC CL3225U 3			01
-5	VQ723100	Chip Bead Core	EXC CL3225U 3			01
L6	V6220500	Coil	LHL08TB152J 1.5mH			
L7	V6220500	Coil	LHL08TB152J 1.5mH			
* L8	V2703200	Chip Inductance	BLM11B221SB 1608			01
* -11	V2703200	Chip Inductance	BLM11B221SB 1608			01
* L13	V2703200	Chip Inductance	BLM11B221SB 1608			01
* -20	V2703200	Chip Inductance	BLM11B221SB 1608			01
* LA1	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* -42	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* LD1	V5477200	LED (chip)	CL-190YG-CD-T GR			01

*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
* LD2	V5477300	LED (chip)	CL-190R-CD-T RE			01
R1	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R2	RD259470	Carbon Resistor (chip)	4.7M 0.1 J			01
R3	RD256300	Carbon Resistor (chip)	3.0K 0.1 J			01
R4	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R5	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R6	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R8	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R9	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R15	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
-18	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R25	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R26	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
* R27	RD254200	Carbon Resistor (chip)	20.0 0.1 J			01
R28	RD259100	Carbon Resistor (chip)	1.0M 0.1 J			01
R29	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R30	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R31	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R32	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R33	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R34	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R35	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R36	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R37	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R38	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R39	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R40	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R41	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R42	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R43	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R44	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R45	RD154330	Carbon Resistor (chip)	33.0 1/4 J			01
-52	RD154330	Carbon Resistor (chip)	33.0 1/4 J			01
R53	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
-57	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R58	RD255150	Carbon Resistor (chip)	150.0 0.1 J			01
R59	RD255620	Carbon Resistor (chip)	620.0 0.1 J			01
R60	RD256330	Carbon Resistor (chip)	3.3K 0.1 J			01
R61	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R62	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R63	VC741700	Metal Oxide Film Resistor	4.7 1W J			01
R64	RD156510	Carbon Resistor (chip)	5.1K 1/4 J			01
R65	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R66	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R67	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R68	RD155470	Carbon Resistor (chip)	470.0 1/4 J			01
R69	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R70	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R71	RD253470	Carbon Resistor (chip)	4.7 0.1 J			01
R72	RD253470	Carbon Resistor (chip)	4.7 0.1 J			01
R73	RD255150	Carbon Resistor (chip)	150.0 0.1 J			01
-81	RD255150	Carbon Resistor (chip)	150.0 0.1 J			01
R82	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R83	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R84	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R85	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R86	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
-89	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R90	RD254750	Carbon Resistor (chip)	75.0 0.1 J			01
R91	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
-93	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R94	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R95	RD256330	Carbon Resistor (chip)	3.3K 0.1 J			01
R96	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R97	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R98	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R99	RD254750	Carbon Resistor (chip)	75.0 0.1 J			01
R100	RD253470	Carbon Resistor (chip)	4.7 0.1 J			01
R101	RD254750	Carbon Resistor (chip)	75.0 0.1 J			01
R102	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01

*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
-133	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R134	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
-140	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R141	RD255150	Carbon Resistor (chip)	150.0 0.1 J			01
-148	RD255150	Carbon Resistor (chip)	150.0 0.1 J			01
R149	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R150	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R151	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R152	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R153	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R154	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R155	RD255150	Carbon Resistor (chip)	150.0 0.1 J			01
R156	RD355100	Carbon Resistor (chip)	100.0 63M J			01
RA1	RE047100	Resistor Array	10KX4			01
-11	RE047100	Resistor Array	10KX4			01
RA12	RE046100	Resistor Array	1KX4			01
RA13	RE047100	Resistor Array	10KX4			01
-25	RE047100	Resistor Array	10KX4			01
RA26	RE046100	Resistor Array	1KX4			01
RA27	RE046100	Resistor Array	1KX4			01
* RA28	RE044100	Resistor Array	10X4			01
RA29	RE046100	Resistor Array	1KX4			01
* RA30	RE044100	Resistor Array	10X4			01
RA31	RE046100	Resistor Array	1KX4			01
* RA32	RE044100	Resistor Array	10X4			01
* RA33	RE044100	Resistor Array	10X4			01
RA34	RE047100	Resistor Array	10KX4			01
-144	RE047100	Resistor Array	10KX4			01
* RA145	RE044100	Resistor Array	10X4			01
-152	RE046100	Resistor Array	1KX4			01
SW1	VQ545800	Slide Switch	SSSF04	PC CONTROL RS 232C/422		02
SW2	VQ545800	Slide Switch	SSSF04	W. CLOCK IN 75ohm ON/OFF		02
TA1	VQ248400	Transistor Array	TD62783AF			04
TA2	VY703900	Transistor Array	TD62309F(EL)			04
TH1	VV456000	Protect Switch	RXE030 0.30A 60V			
TH2	VV456000	Protect Switch	RXE030 0.30A 60V			
X1	VY856300	Ceramic Resonator	7.00M EFOEC7004T4			01
* X2	VL907400	Quartz Crystal Unit	19.6608MHz AT-51			04
X3	VQ248800	Quartz Crystal Unit	3119A-AQA8024.576M			10
X4	VZ156100	Quartz Crystal Unit	60MHz DSO751S			06
	--	Circuit Board	PNF	(V512940,XY041B0)		
	AAX13980	Circuit Board	PNF 1/4 (FP)	(XY041B0)		
	AAX13990	Circuit Board	PNF 2/4 (ENC)	(XY041B0)		
	AAX14000	Circuit Board	PNF 3/4 (LED)	(XY041B0)		
	AAX14010	Circuit Board	PNF 4/4 (PSW)	(XY041B0)		
	VT810300	Push Button	PRO R3	COMPONENT,PARAMETER, VALUE,USER DEFINE,INC,<, >,DEC,SCENE RECALL 0-9	18	03
	VT839000	Push Button	PRO R3	PROTECT,UTILITY,STORE, RECALL	4	03
	--	Ribbon Cable	P=2.0 #26 8P 100L	(V503990)		
	--	Ribbon Cable	P=2.0 #26 9P 120L	(V504020)		
	--	Ribbon Cable	P=2.0 #26 10P 80L	(V518290)		
	--	Ribbon Cable	P=2.0 #26 3P 100L	(V518300)		
CN201	VI878600	Cable Holder	51048 8P TE			01
CN202	VI878700	Cable Holder	51048 9P TE			01
CN301	VI878100	Cable Holder	51048 3P TE			01
CN401	VI878800	Cable Holder	51048 10P TE			01
CN501	LB933030	Base Post Connector	VH 3P SE			01
CN502	LB933030	Base Post Connector	VH 3P SE			01
D201	VD631600	Diode	1SS133,176,HSS104			01
-222	VD631600	Diode	1SS133,176,HSS104			01
EC301	VR101400	Encoder	EC16B24204 L=15	DATA		04
LD201	VU091400	LED	SLZ-235B-08-T1	48kHz,....USER DEFINE		01
-210	VU091400	LED	SLZ-235B-08-T1			01
* LD401	V5477900	LED	LB-602DK2	SCENE NO.		04
SW201	VV056000	Tact Switch	SKQNAE025A	COMPONENT,....RECALL		01
-222	VV056000	Tact Switch	SKQNAE025A			01
△ SW501	V3127000	Push Switch	ESB92S23B J.U.C.S	POWER ON/OFF		02

*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	--	Circuit Board	PNR	(V515960,XY231B0)		
	AAX13970	Circuit Board	PNR 1/3 (MYMB)	(XY231B0)		
	AAX13950	Circuit Board	PNR 2/3 (PCMUSB)	(XY231B0)		
	AAX13960	Circuit Board	PNR 3/3 (GPI)	(XY231B0)		
*	VB659000	Bind Head Screw	3.0X8 MFZN2BL		2	01
	V5782900	Bind Head Screw	2.0X8 MFZN2BL		2	
	ES200030	Hexagonal Nut	#1 3.0 MFZN2BL		2	01
	ES200050	Hexagonal Nut	#1 2.0 MFZN2Y		2	01
	--	Shield Plate		(V520500)		
C101	UF047100	Electrolytic Cap. (chip)	10 25V			01
C102	UF047100	Electrolytic Cap. (chip)	10 25V			01
C103	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-107	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C108	UB051680	Monolithic Ceramic Cap.	SL 68P 50V J			01
C109	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C110	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C111	UF037100	Electrolytic Cap. (chip)	10 16V			01
C112	UB045100	Monolithic Ceramic Cap.	F 0.100 50V Z			01
-114	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C115	UF066100	Electrolytic Cap. (chip)	1 50V			01
C116	UF066100	Electrolytic Cap. (chip)	1 50V			01
C117	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C118	UF066100	Electrolytic Cap. (chip)	1 50V			01
C119	UF066100	Electrolytic Cap. (chip)	1 50V			01
CN101	VQ048500	Connector, FFC	52045 36P TE			02
CN102	VP127700	Connector, FFC	52045 24P TE			01
CN103	VB390400	Connector Base Post	PH 8P TE			01
* CN104	V4261200	Connector Receptacle	FCN-860 4P SE	USB		01
* CN105	V4794000	Connector, PC CARD	IC1 68P SE	CARD		09
CN601	VU328200	Plug	PHEC 100P TE	SLOT 1-4		05
-604	VU328200	Plug	PHEC 100P TE			05
CN605	VQ048500	Connector, FFC	52045 36P TE			02
-608	VQ048500	Connector, FFC	52045 36P TE			02
CN609	VK015400	Connector Base Post	PH 13P SE			01
CN701	--	Connector, FFC	52044 36P SE	(VQ04650)		
CN702	VB858100	Connector Base Post	PH 2P SE			01
* CN703	V5422800	Connector	ME060-50816 16P	IN/+V,OUT/GND SLOT		08
* -706	V5422800	Connector	ME060-50816 16P			08
EM101	FZ005920	LC Filter	LS MT Y223NB			02
-706	VL534100	LC Filter	NFA81R00C101			05
* IC101	XW937A00	IC	MR-SHPC-01	PC CARD CONTROLLER		12
* IC102	XW583A00	IC	PDIUSB12PW	USB I/F		09
* IC103	XW905A00	IC	HD74LVC04FP	INVERTER		01
* IC104	XW602A00	IC	TPS2205IDB	POWER CONTROLLER		09
* L101	V2703200	Chip Inductance	BLM11B221SB 1608			01
* -103	V2703200	Chip Inductance	BLM11B221SB 1608			01
L601	VS740100	Chip Inductance	BLM21B751S 2125			03
-605	VS740100	Chip Inductance	BLM21B751S 2125			03
* L606	V2703200	Chip Inductance	BLM11B221SB 1608			01
* -609	V2703200	Chip Inductance	BLM11B221SB 1608			01
* LA101	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* -128	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* LA601	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* LA626	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* -649	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* LA701	V5477600	Chip Inductance	BLA3216B221SD4T1			01
* -708	V5477600	Chip Inductance	BLA3216B221SD4T1			01
R101	RD254180	Carbon Resistor (chip)	18.0 0.1 J			
R102	RD254180	Carbon Resistor (chip)	18.0 0.1 J			
R104	RD256150	Carbon Resistor (chip)	1.5K 0.1 J			01
R701	RD156220	Carbon Resistor (chip)	2.2K 1/4 J			
-715	RD156220	Carbon Resistor (chip)	2.2K 1/4 J			
R716	HF756220	Carbon Resistor	2.2K 1/4 J			
RA101	RE047100	Resistor Array	10KX4			01
-108	RE047100	Resistor Array	10KX4			01
X101	V4093500	Quartz Crystal Unit	6MHz SMD-49			03
*	V4845900	Power Supply Unit	DAE J UC CE			

*: New Parts

RANK: Japan only

DIGITAL MIXING ENGINE

DME 32


CIRCUIT DIAGRAM

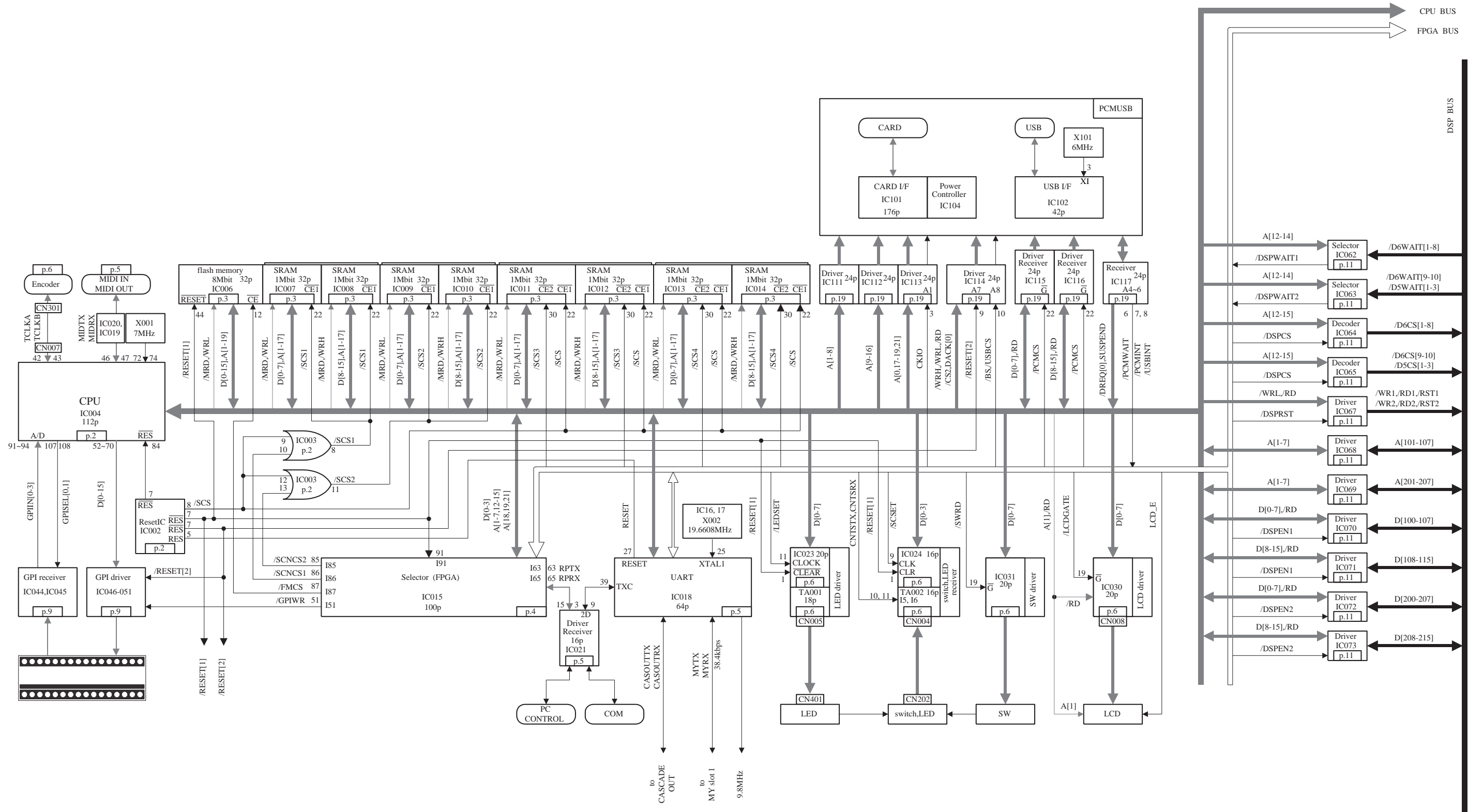
■ CONTENTS

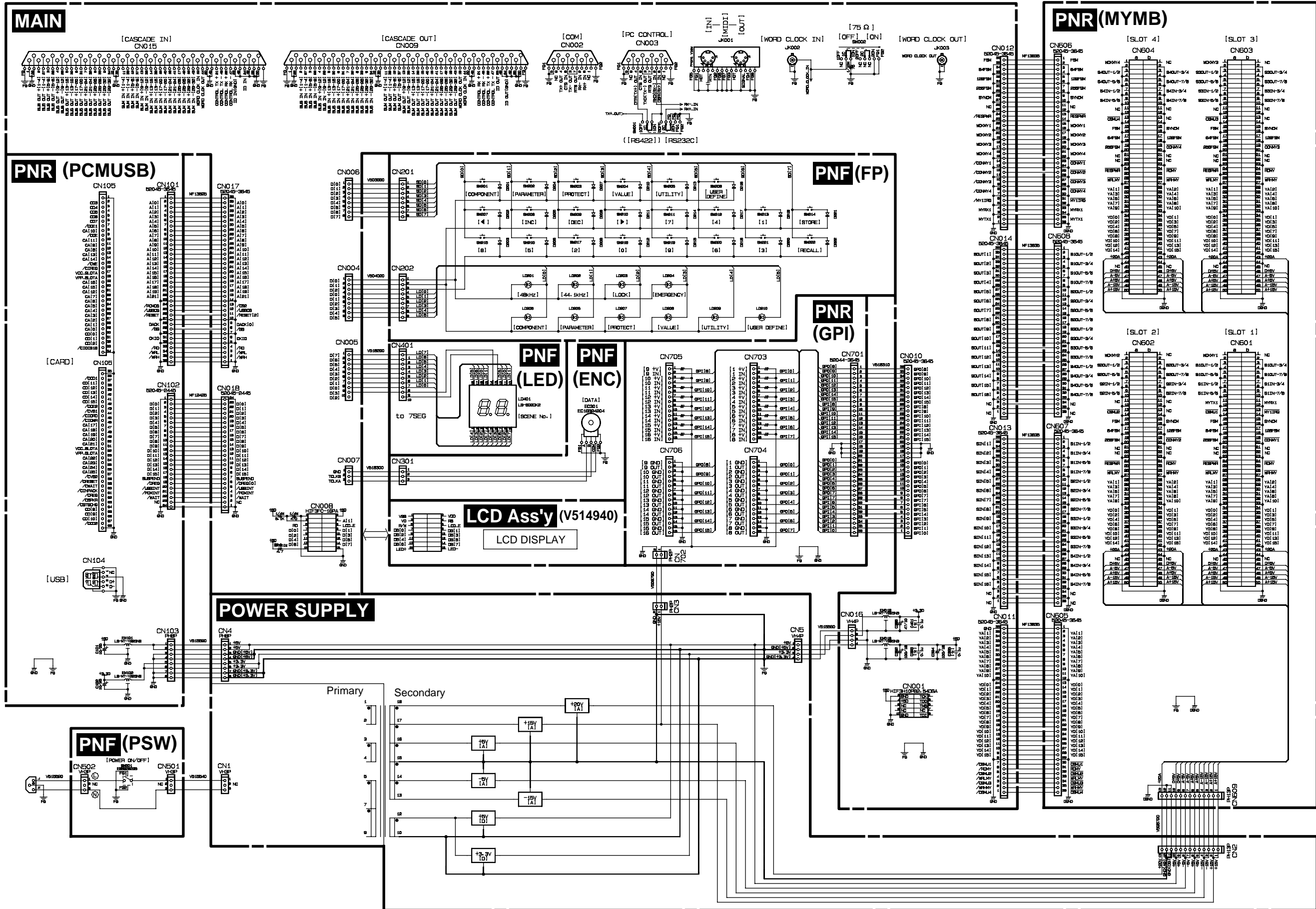
BLOCK DIAGRAM	3
WIRING	5
MAIN CIRCUIT DIAGRAM	6
PNF CIRCUIT DIAGRAM	25
PNR 2/3 (PCMUSB) CIRCUIT DIAGRAM (PNR 2/3 (PCMUSB))	26
PNR 1/3 (MYMB) CIRCUIT DIAGRAM (PNR 1/3 (MYMB))	27
PNR 3/3 (GPI) CIRCUIT DIAGRAM (PNR 3/3 (GPI))	28
POWER SUPPLY UNIT CIRCUIT DIAGRAM	29

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

■ WARNING

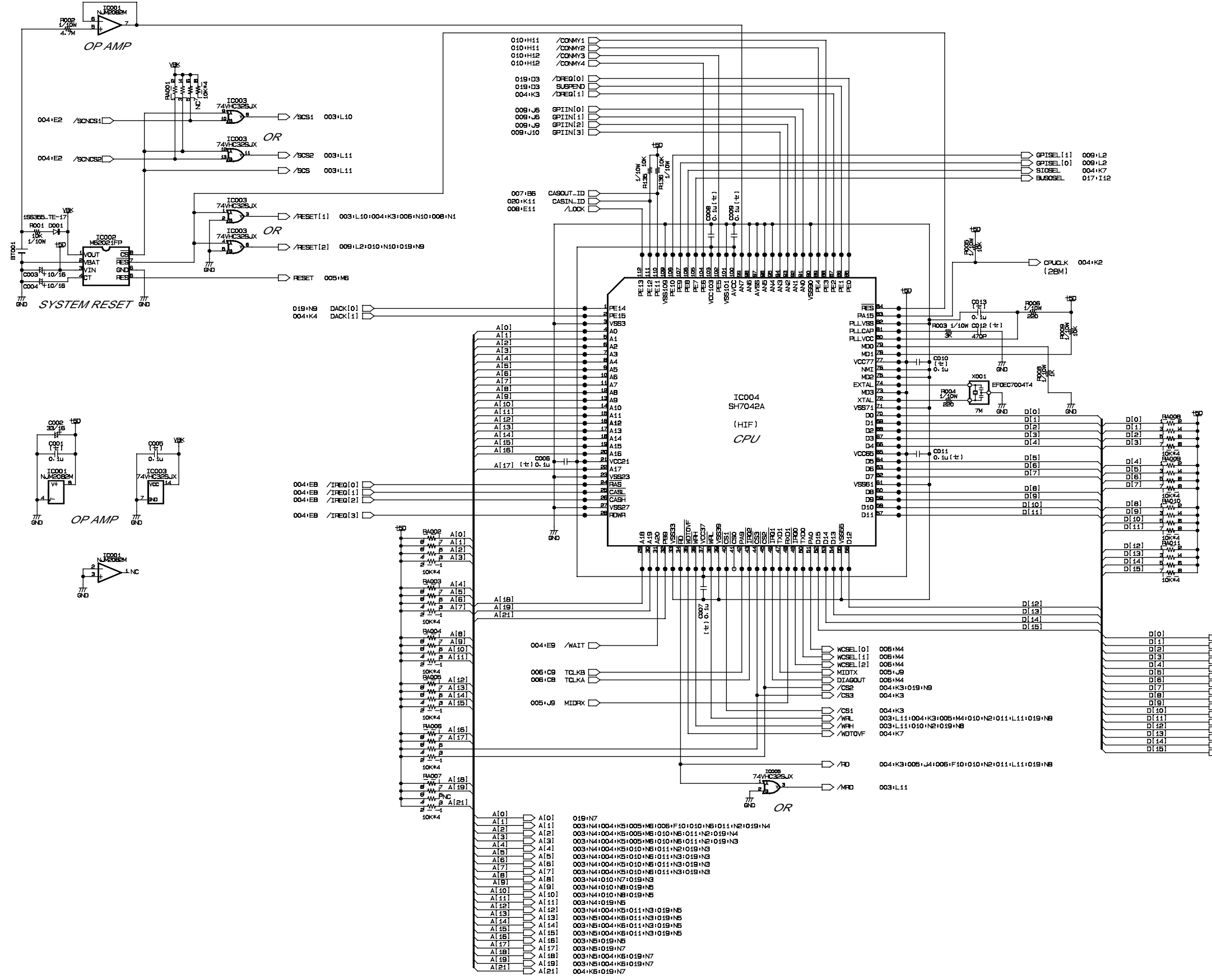
Components having special characteristics are marked  and must be replaced with parts having specification equal to those originally installed.





MAIN CIRCUIT DIAGRAM 002 (DME32)

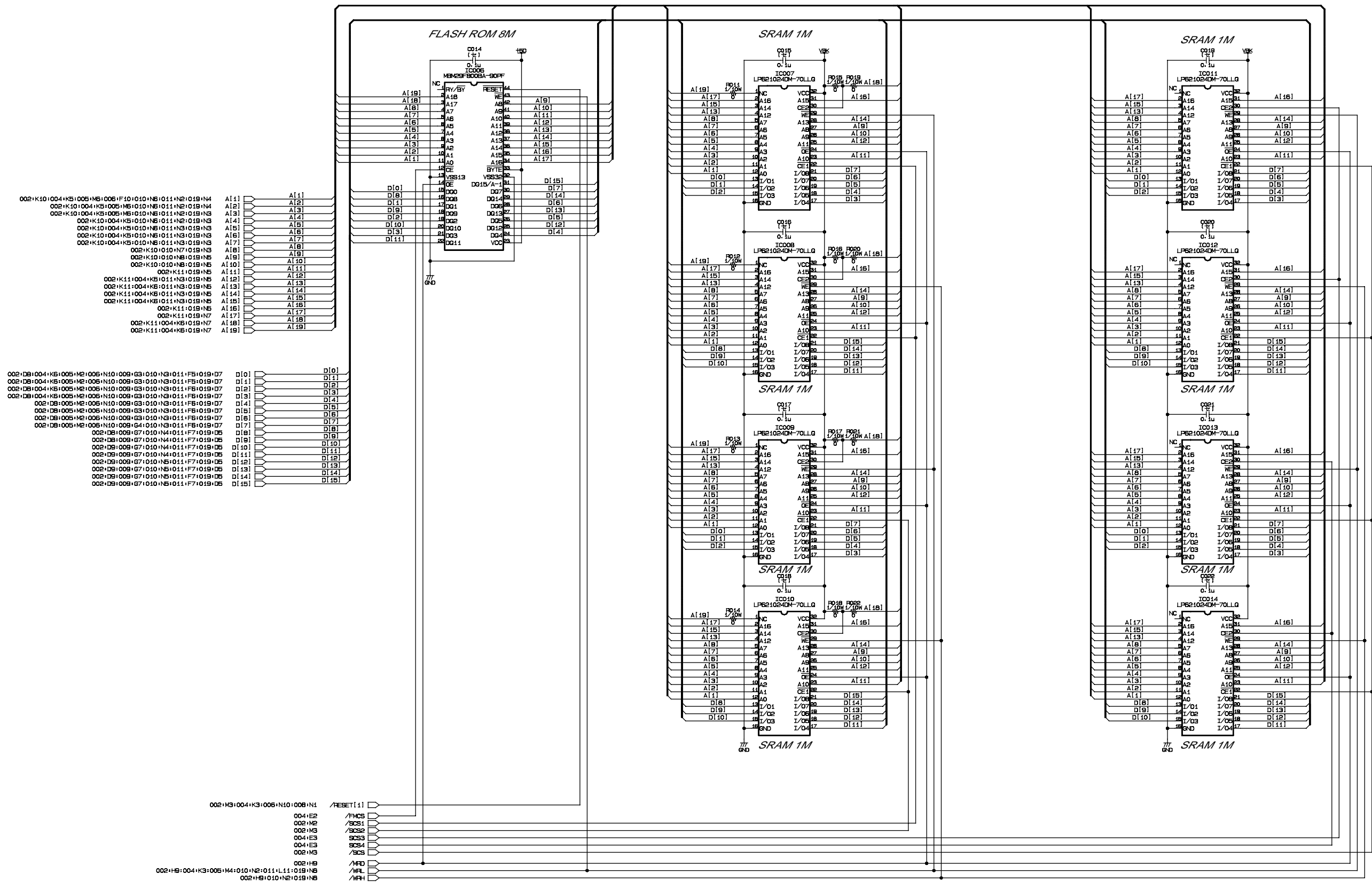
DME32



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 003 (DME32)

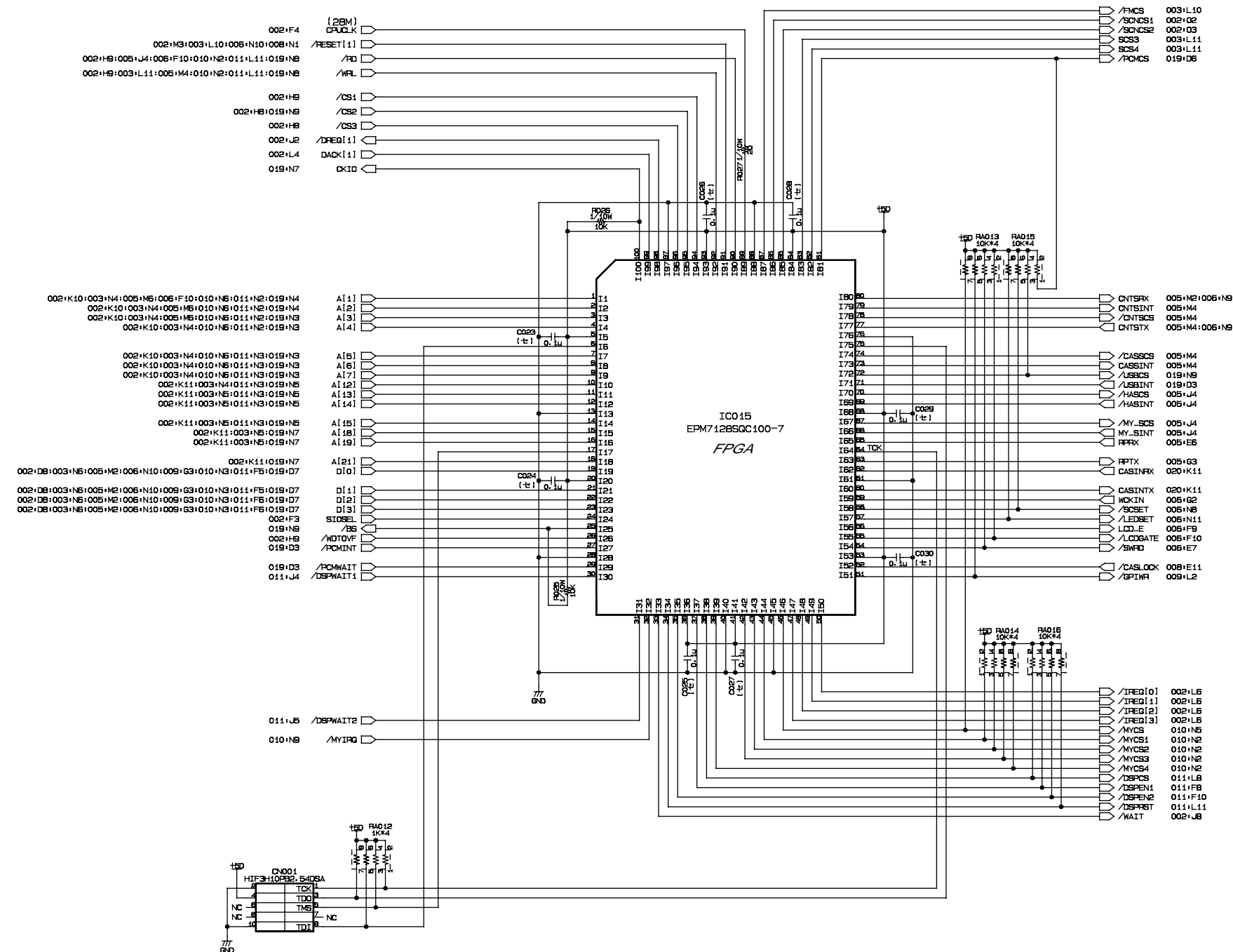
DME32



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 004 (DME32)

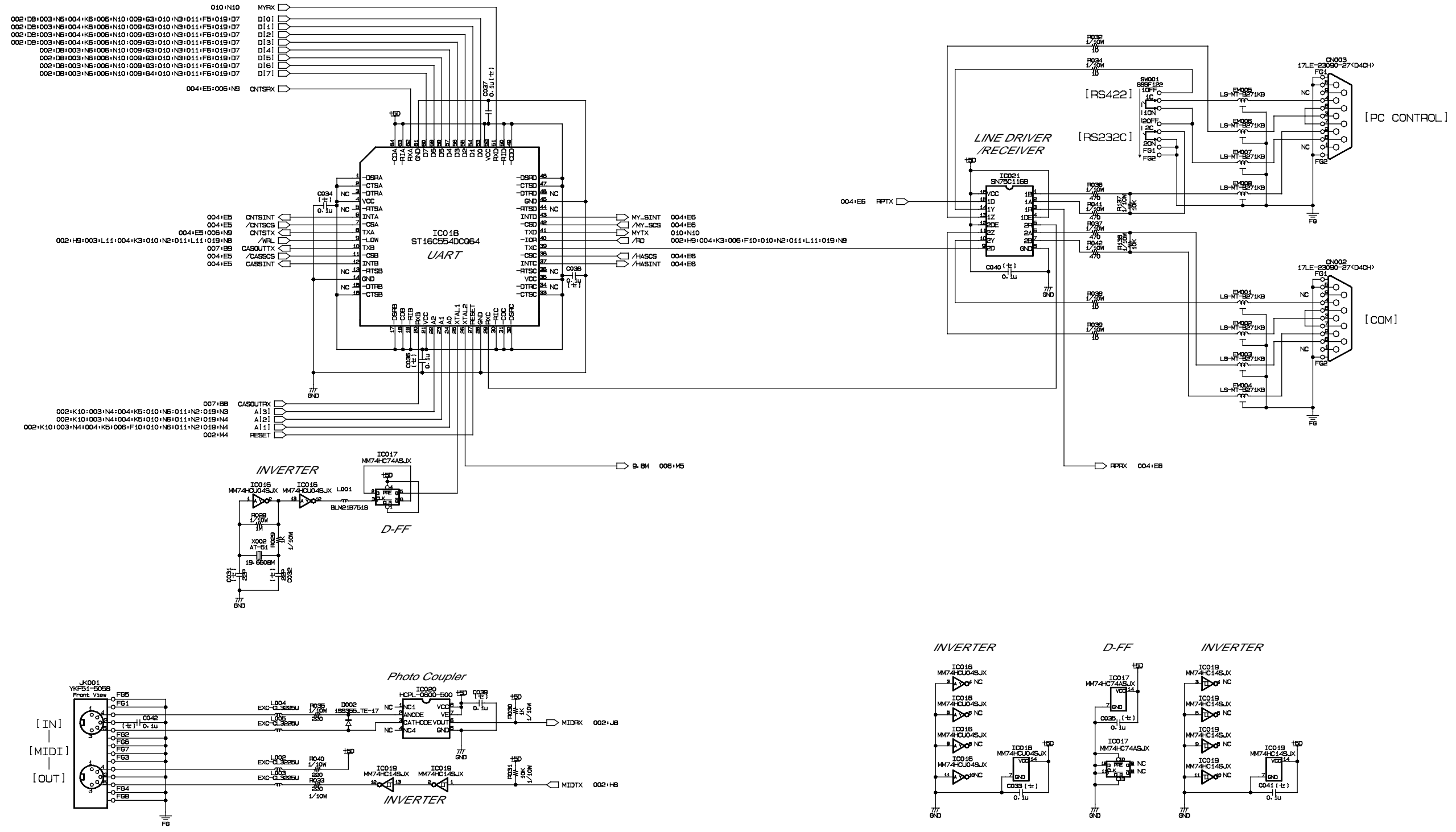
DME32



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 005 (DME32)

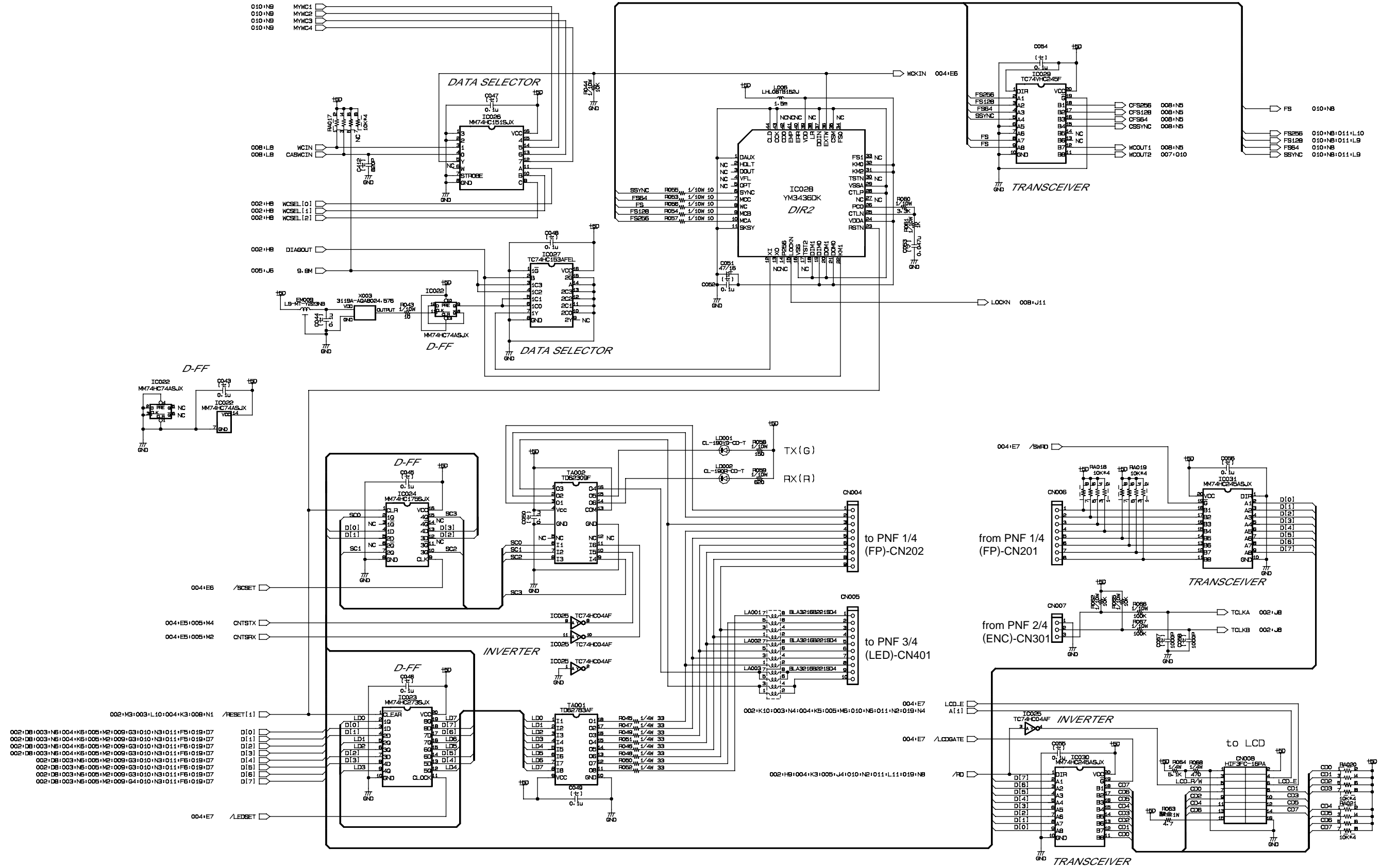
DME32



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 006 (DME32)

DME32

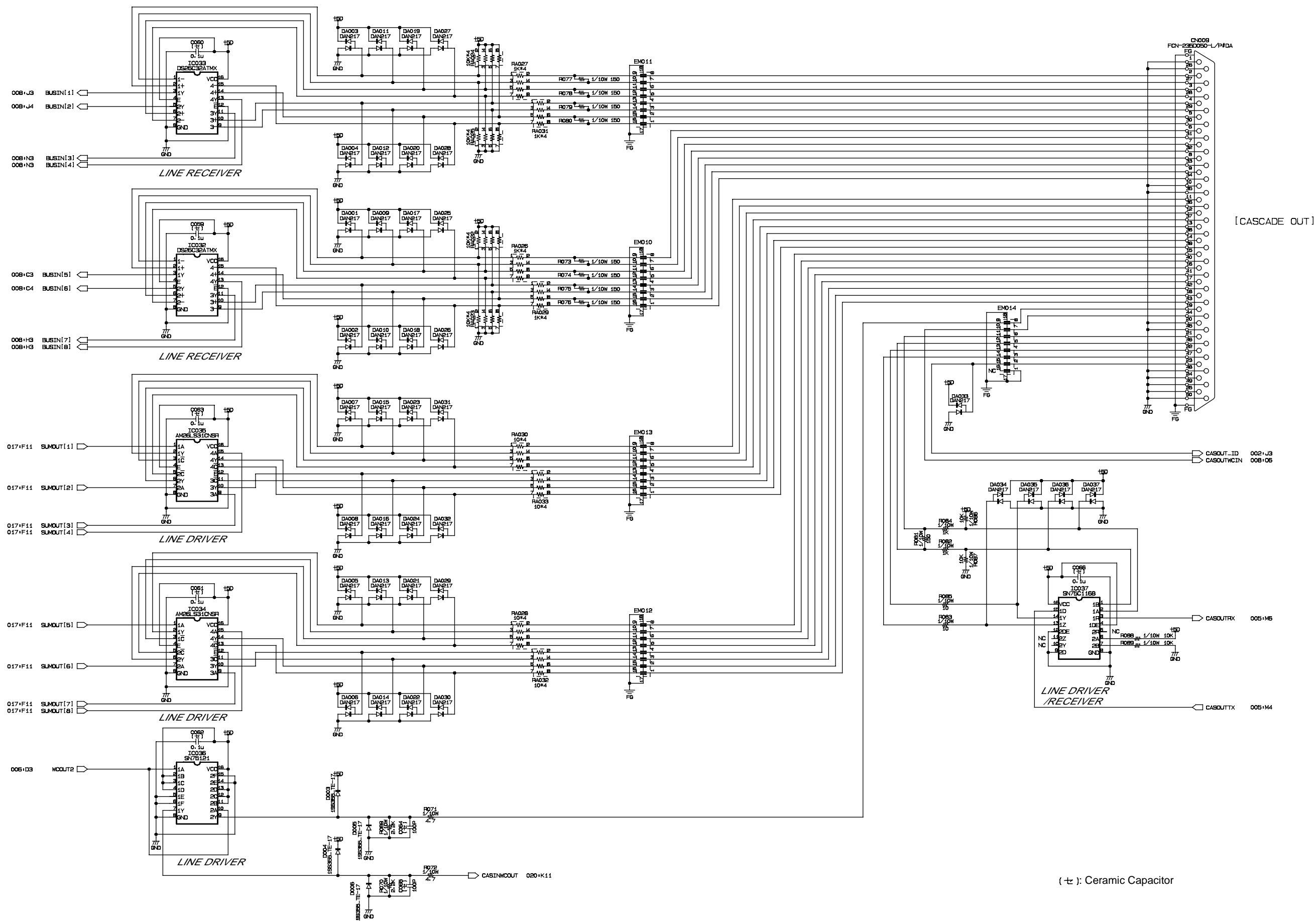


(マ): Mylar Capacitor <05>
 (セ): Ceramic Capacitor
 酸化金: Metal Oxide Film Resistor

MAIN CIRCUIT DIAGRAM 006 (DME32)

MAIN CIRCUIT DIAGRAM 007 (DME32)

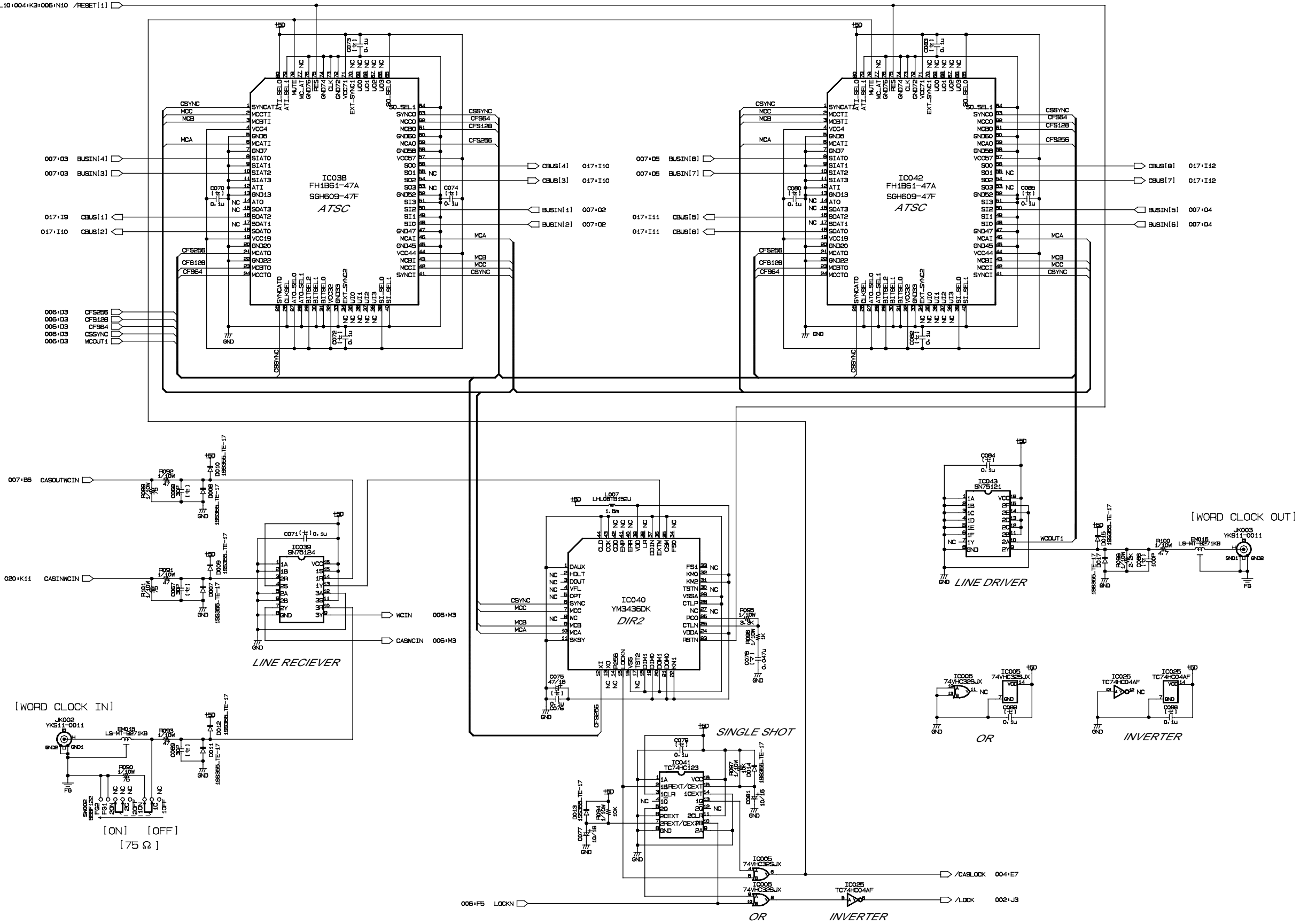
DME32



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 008 (DME32)

DME32

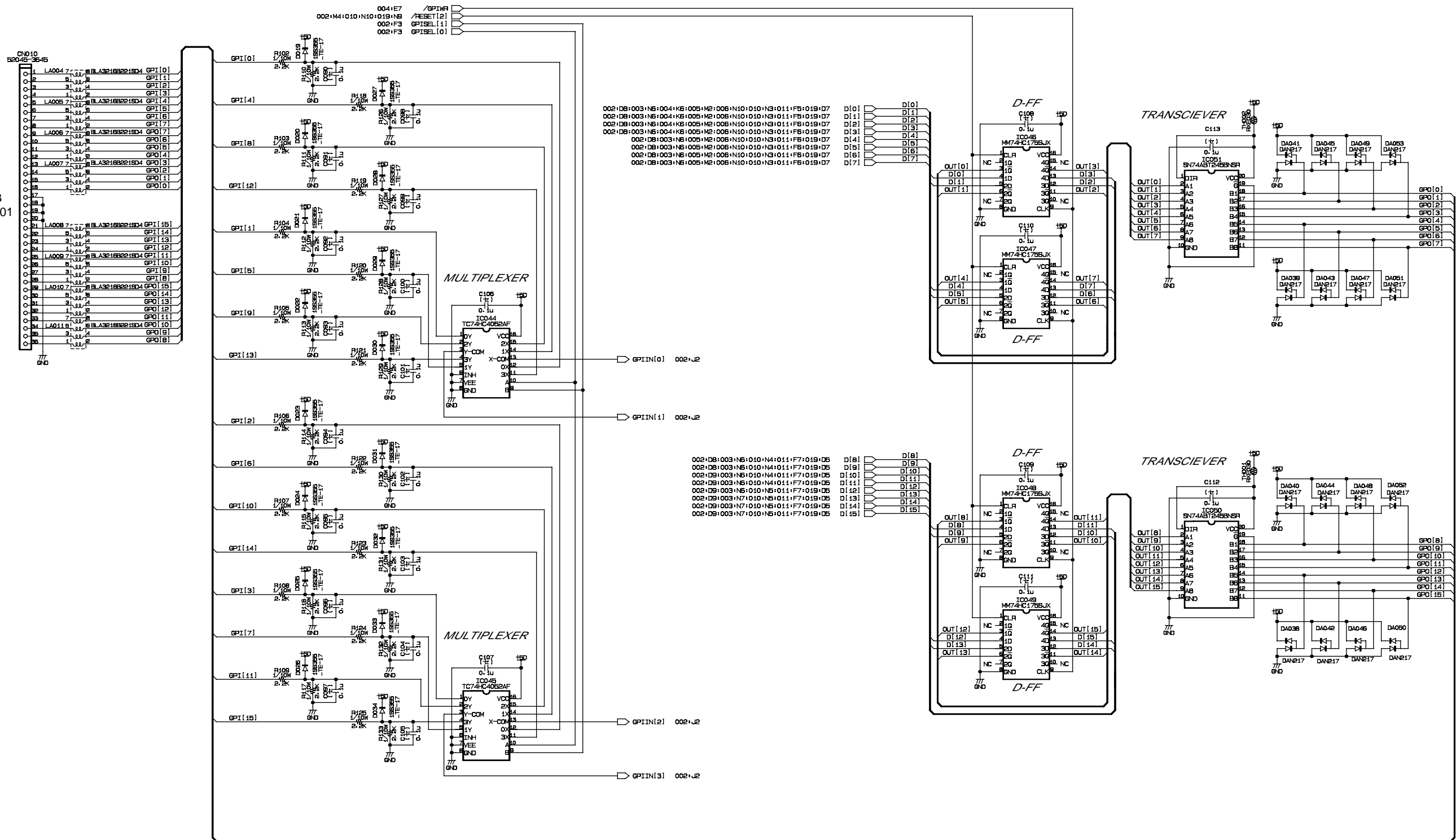


(M): Mylar Capacitor (0.7 μ)
(C): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 009 (DME32)

DME32

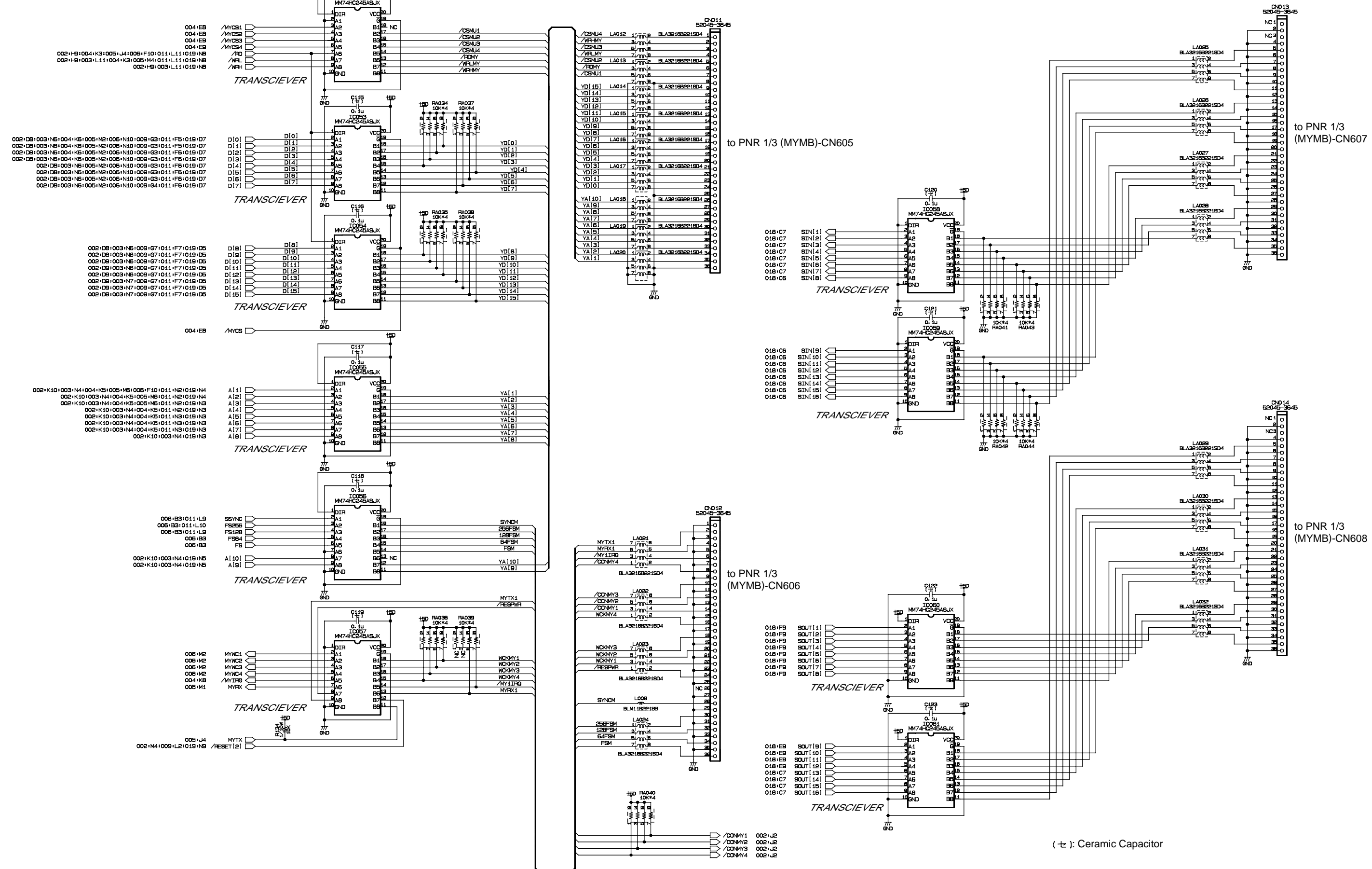
to PNR 3/3
(GPI)-CN701



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 010 (DME32)

DME32

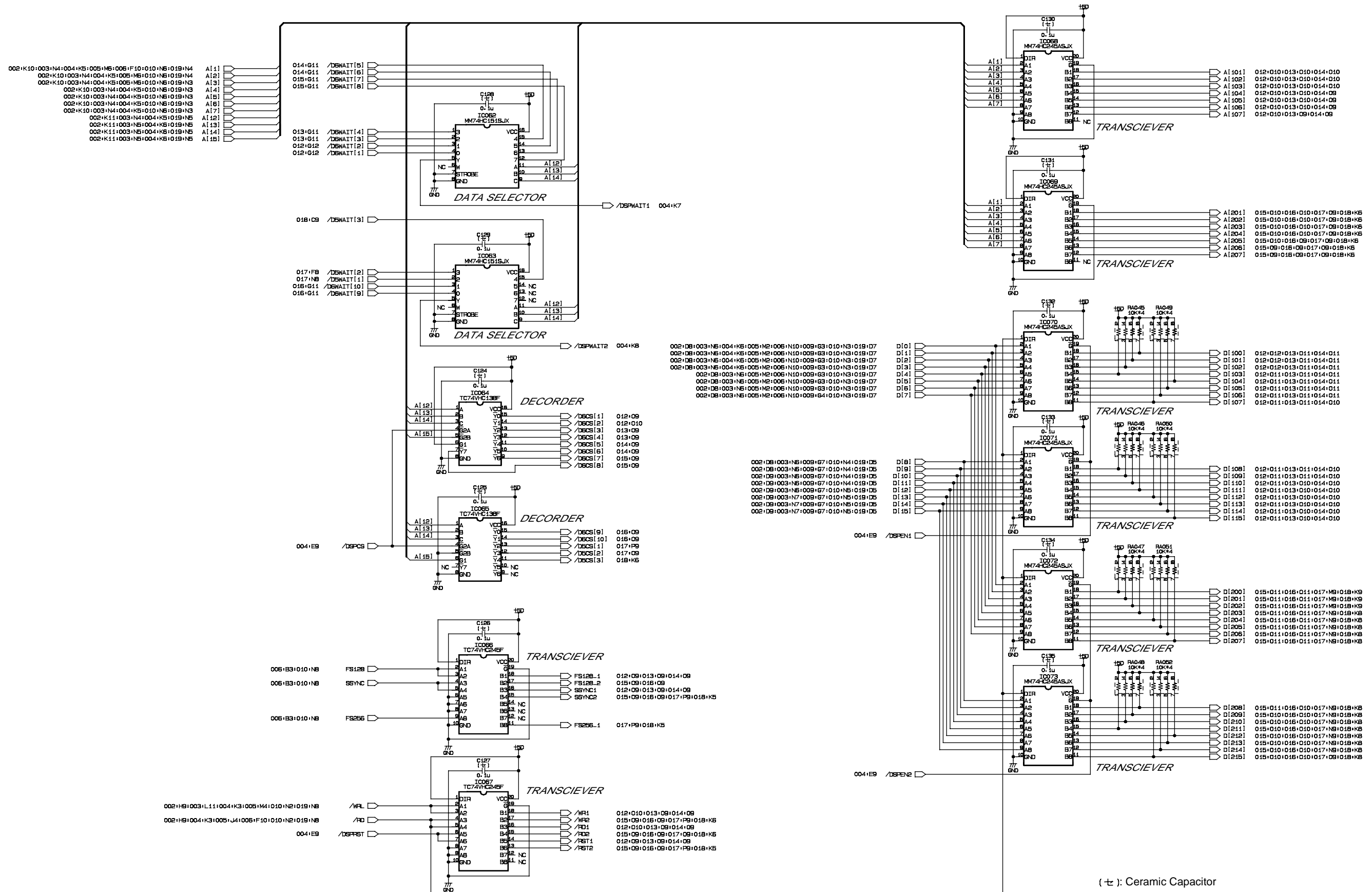


(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 010 (DME32)

MAIN CIRCUIT DIAGRAM 011 (DME32)

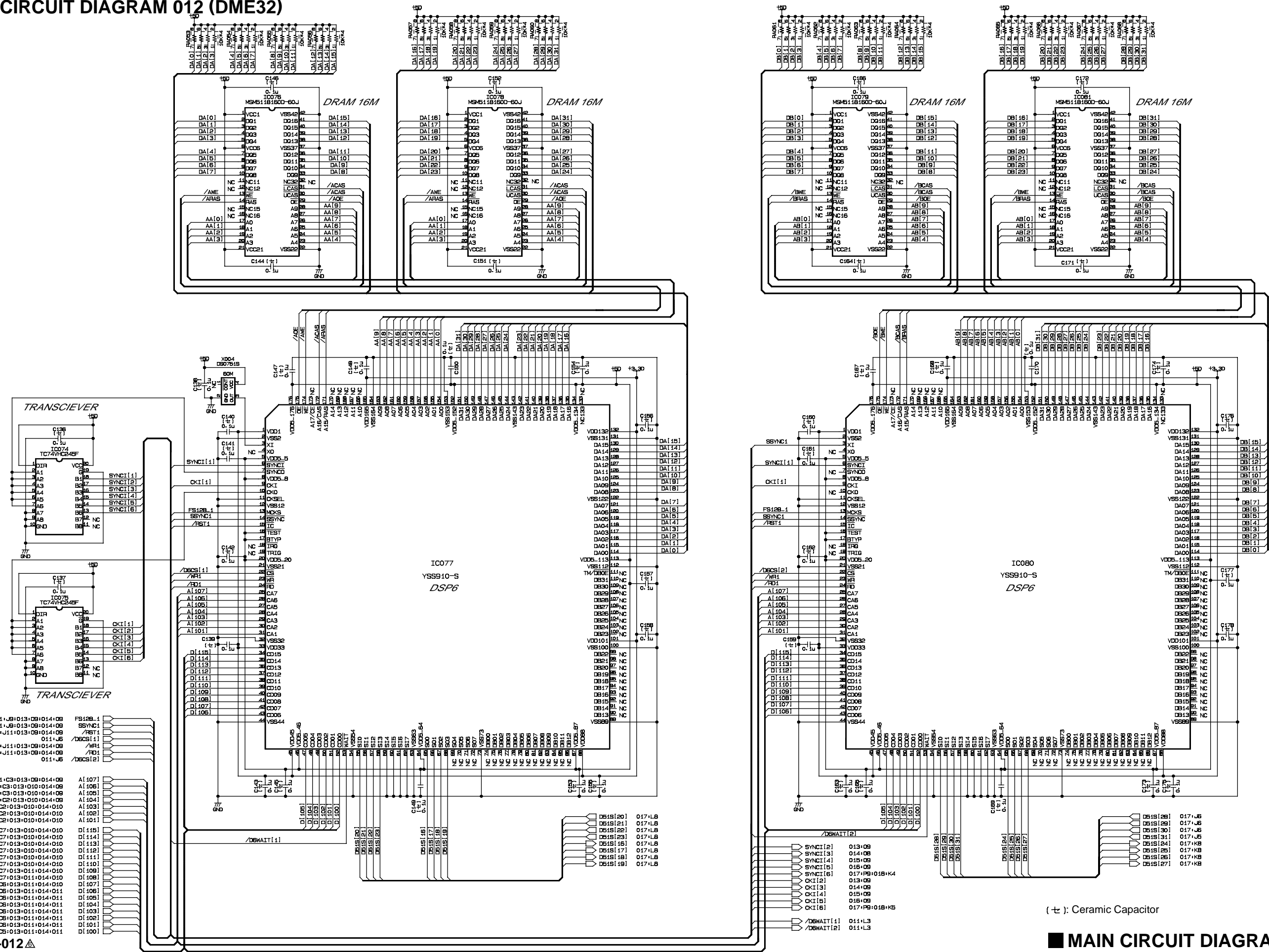
DME32



(C): Ceramic Capacitor

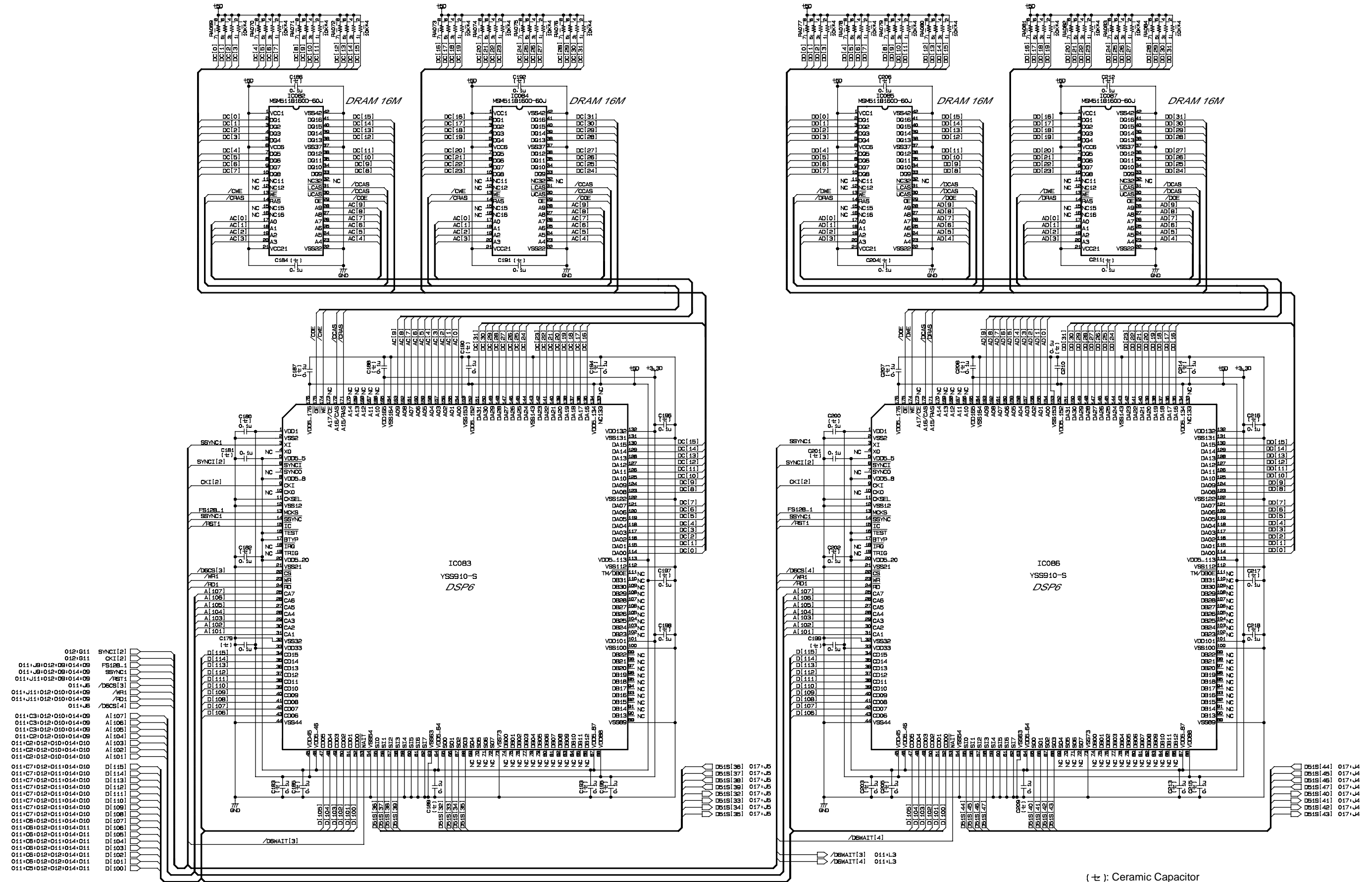
MAIN CIRCUIT DIAGRAM 012 (DME32)

DME32



MAIN CIRCUIT DIAGRAM 013 (DME32)

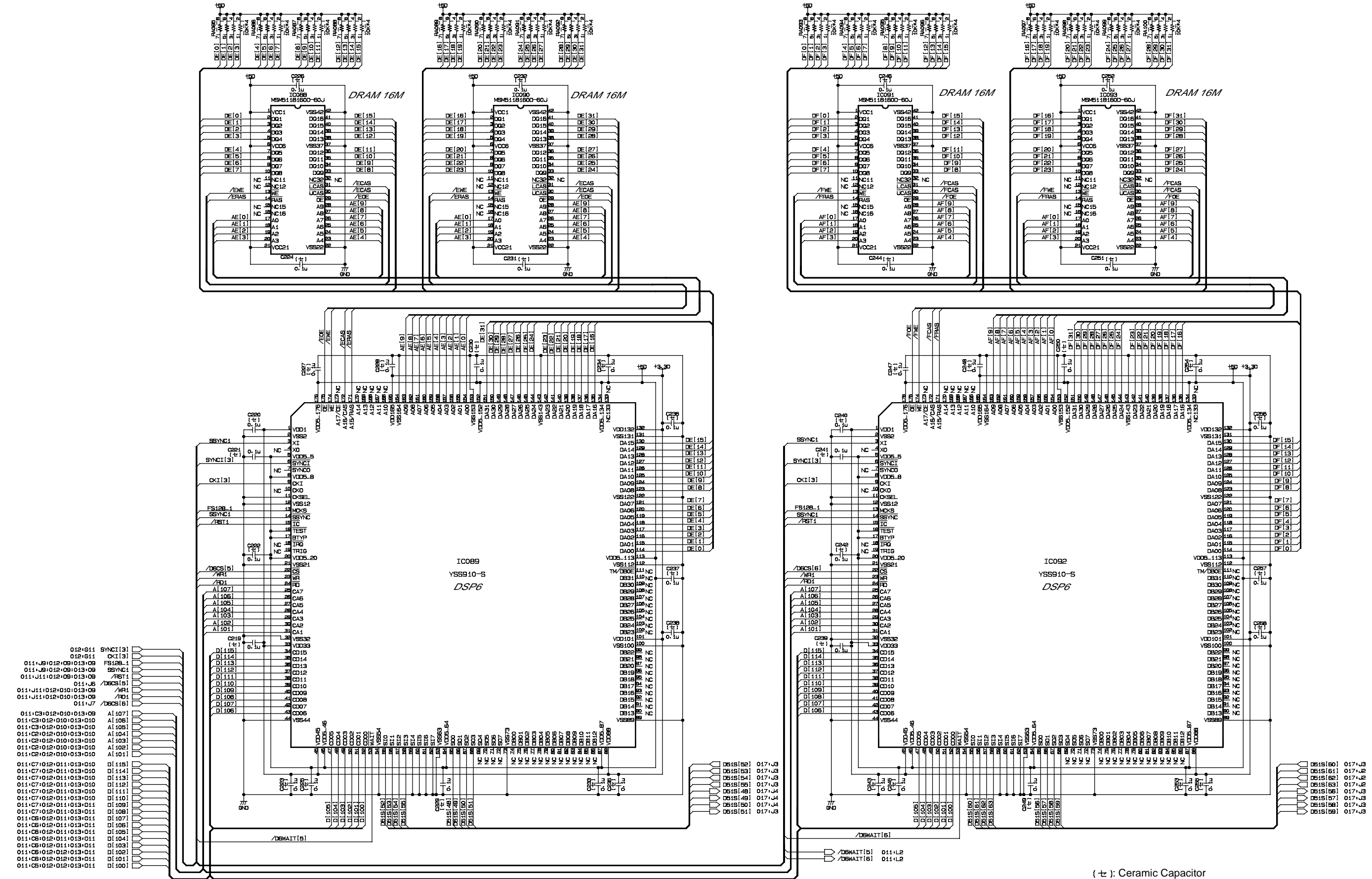
DME32



(±): Ceramic Capacitor

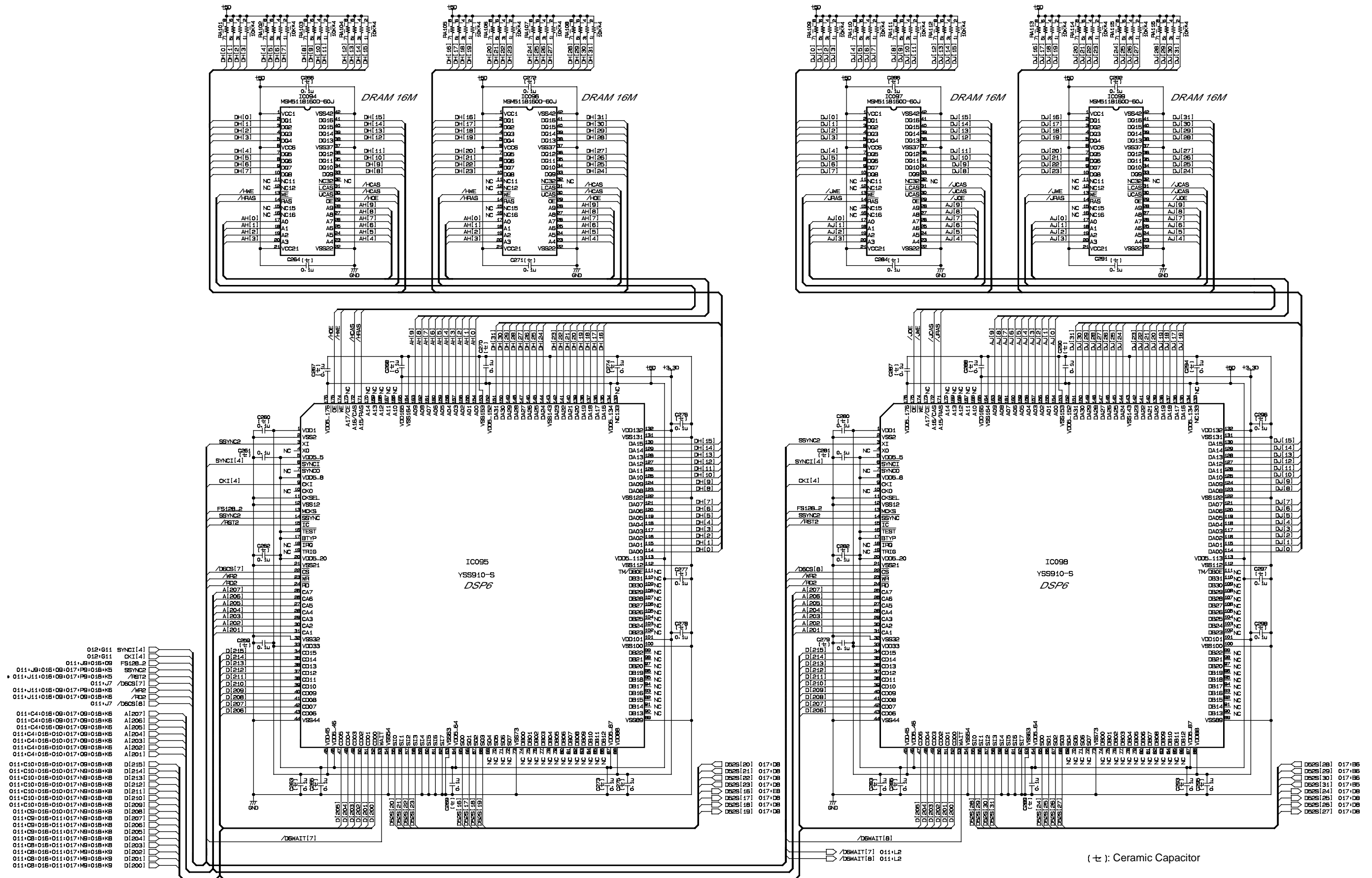
MAIN CIRCUIT DIAGRAM 014 (DME32)

DME32



MAIN CIRCUIT DIAGRAM 015 (DME32)

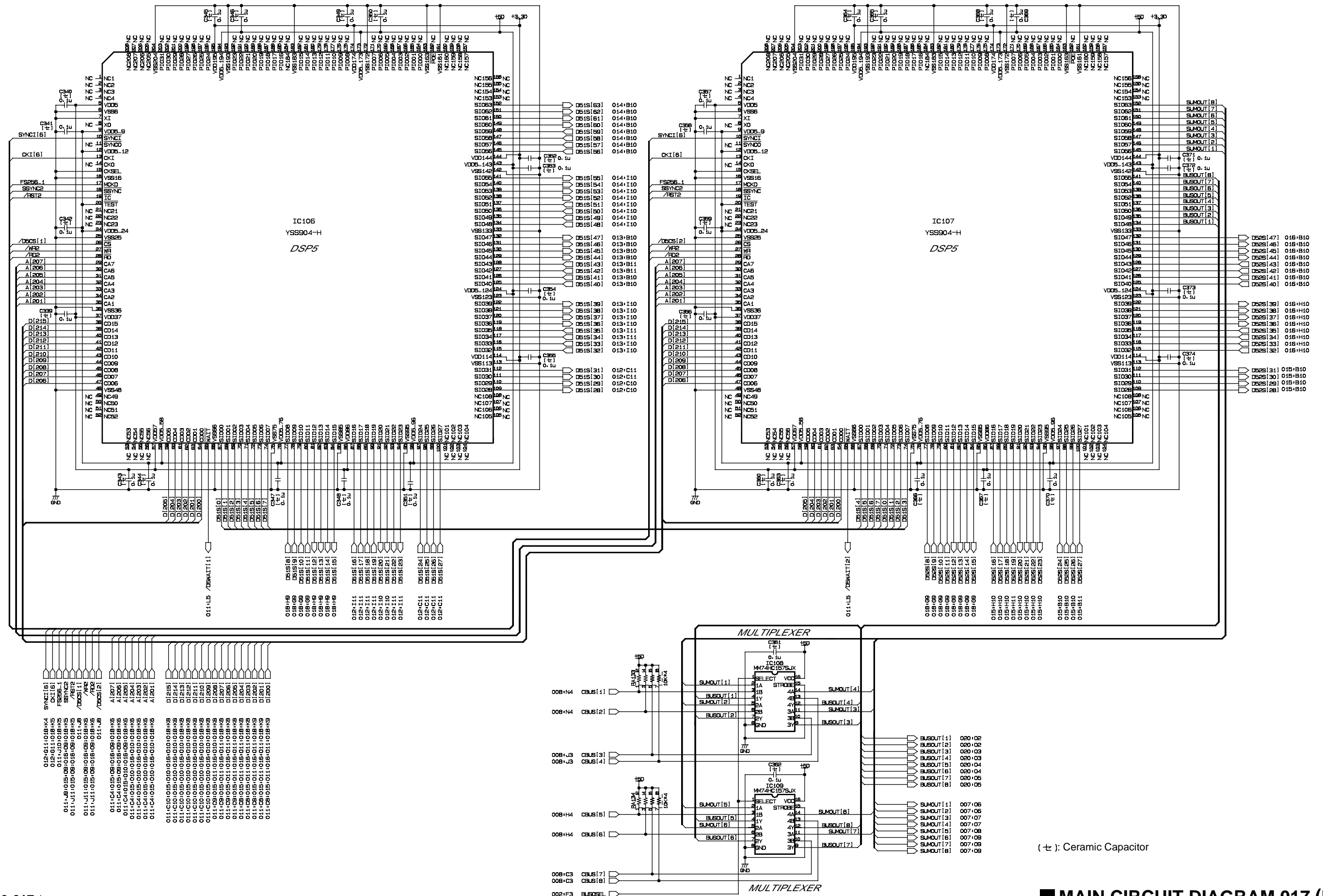
DME32



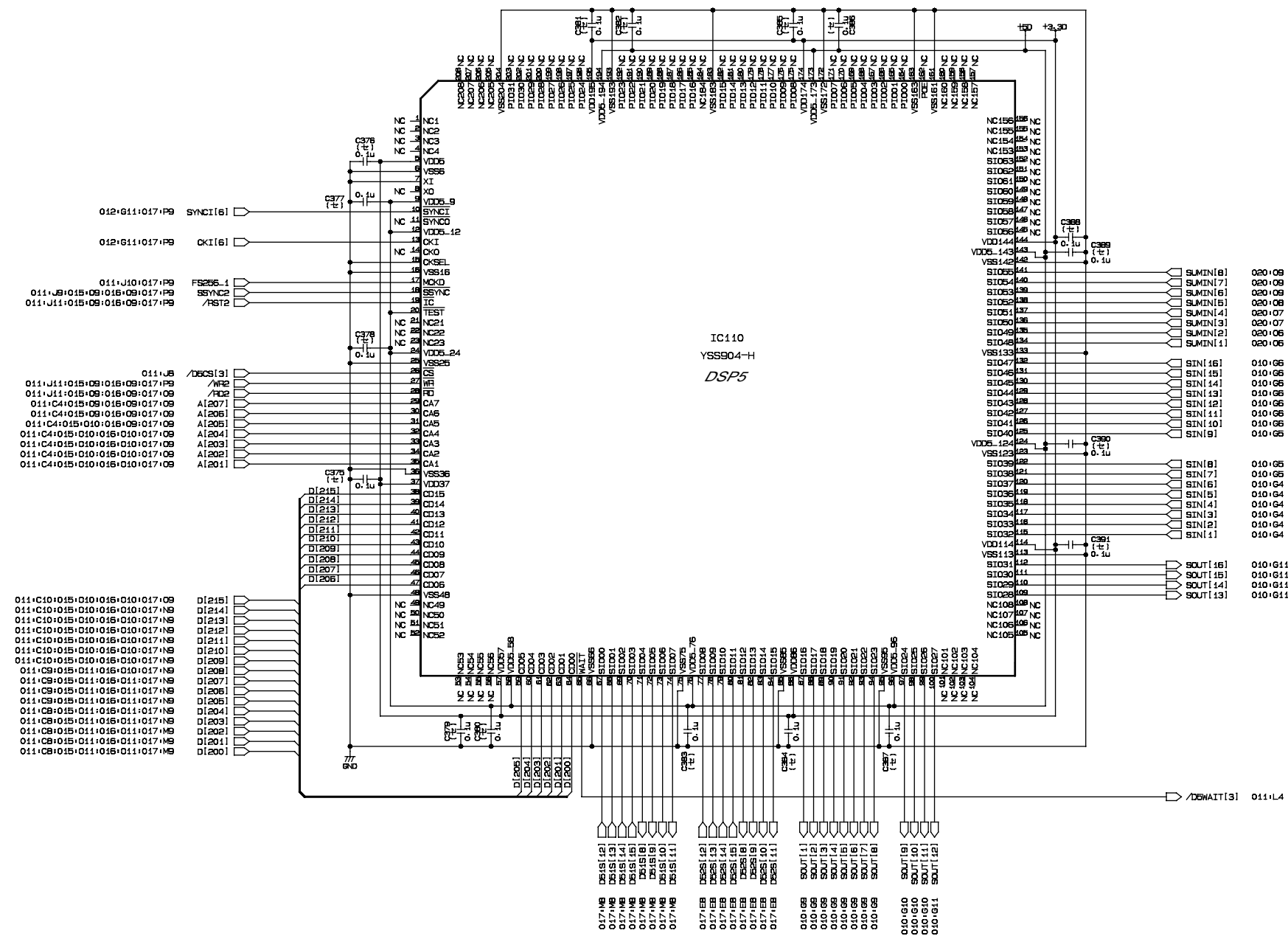
(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 017 (DME32)

DME32



MAIN CIRCUIT DIAGRAM 018 (DME32)



(±): Ceramic Capacitor

MAIN CIRCUIT DIAGRAM 019 (DME32)

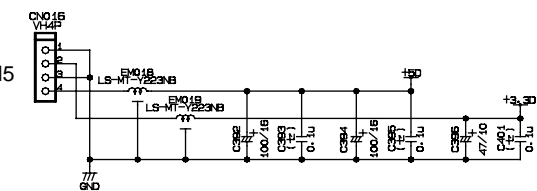
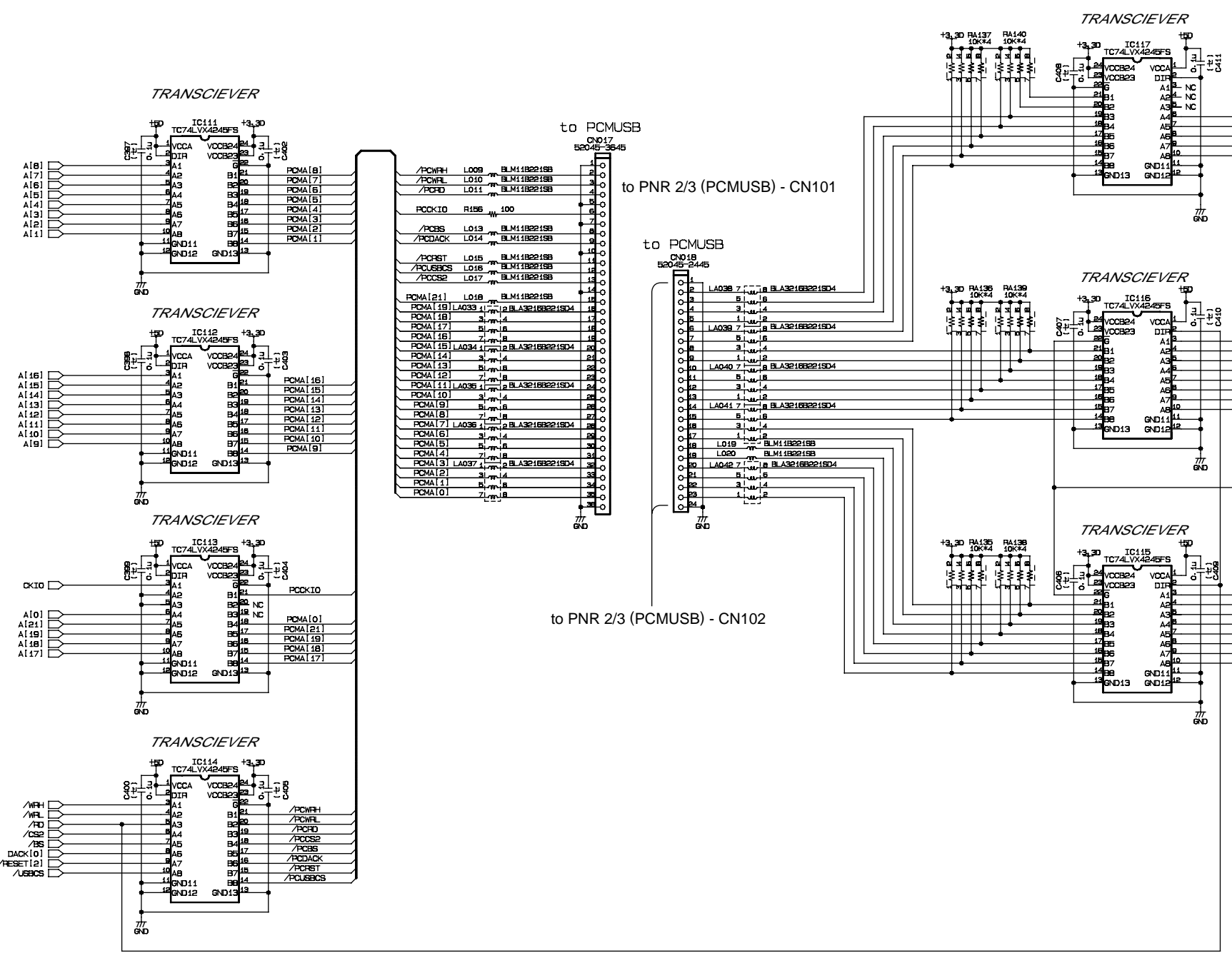
DME32

002+K10+003+N4+010+N7
 002+K10+003+N4+004+K5+010+N6+011+N3
 002+K10+003+N4+004+K5+010+N6+011+N3
 002+K10+003+N4+004+K5+010+N6+011+N3
 002+K10+003+N4+004+K5+010+N6+011+N2
 002+K10+003+N4+004+K5+005+M6+010+N6+011+N2
 002+K10+003+N4+004+K5+005+M6+010+N6+011+N2

002+K11+003+N5
 002+K11+003+N5+004+K6+011+N3
 002+K11+003+N5+004+K6+011+N3
 002+K11+003+N4+004+K6+011+N3
 002+K11+003+N4
 002+K10+003+N4+010+N6
 002+K10+003+N4+010+N6

004+K4
 002+K10
 002+K11+004+K6
 002+K11+003+N5+004+K6
 002+K11+003+N5

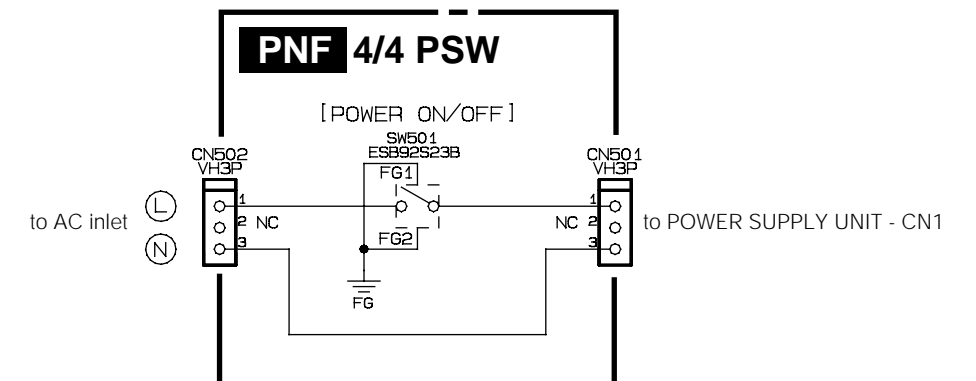
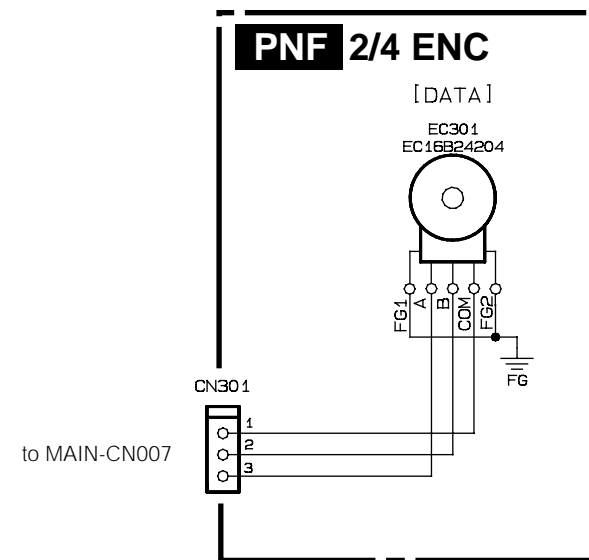
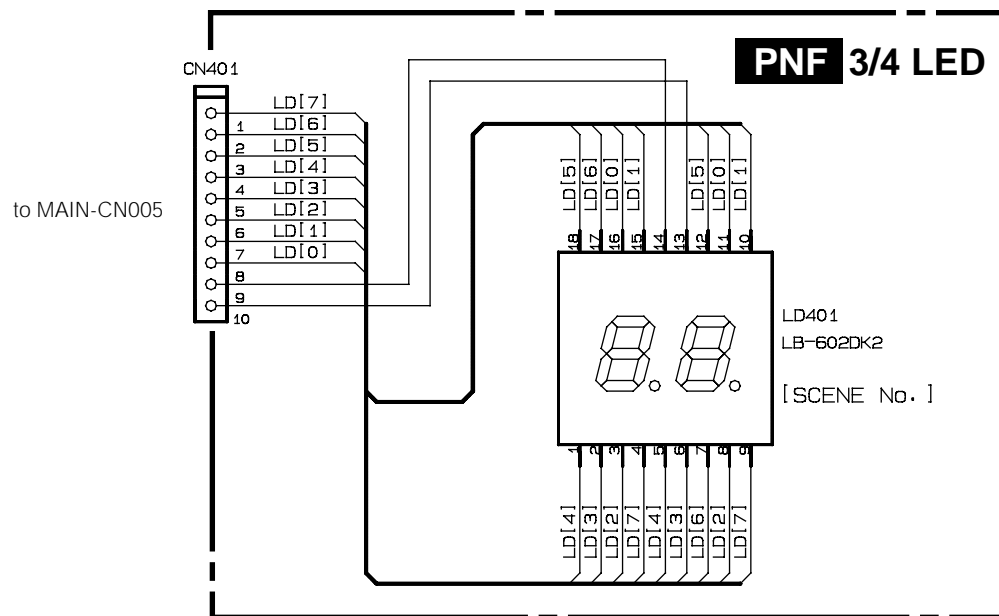
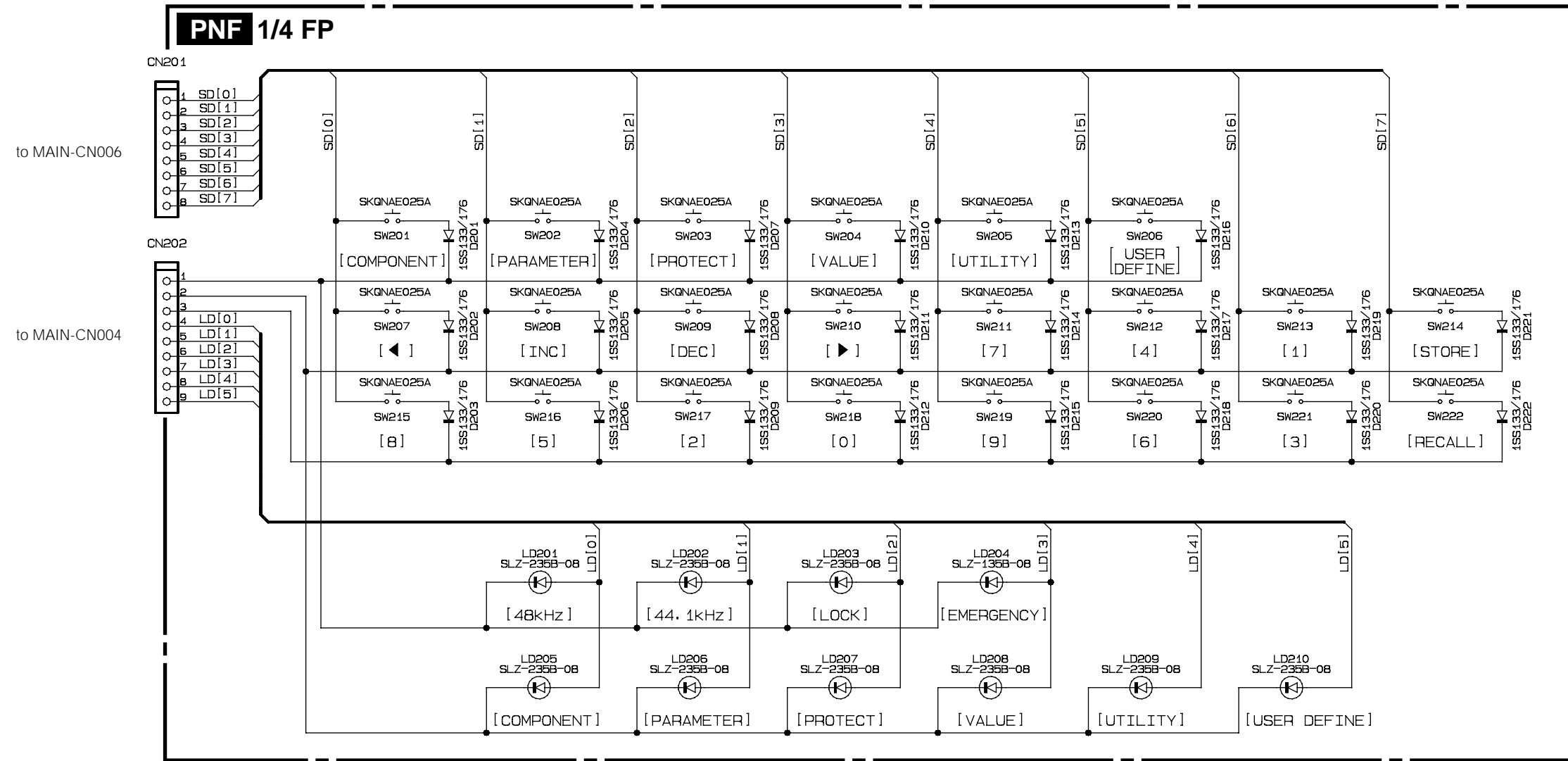
002+H8+003+L11+010+N2
 002+H8+003+L11+004+K3+005+M4+010+N2+011+L1
 002+H8+004+K3+005+J4+006+F10+010+N2+011+L1
 002+H8+004+K3
 004+K7
 002+L4
 DACK[0]
 RESE[1,2]
 002+M4+009+L2+010+N10
 004+K5

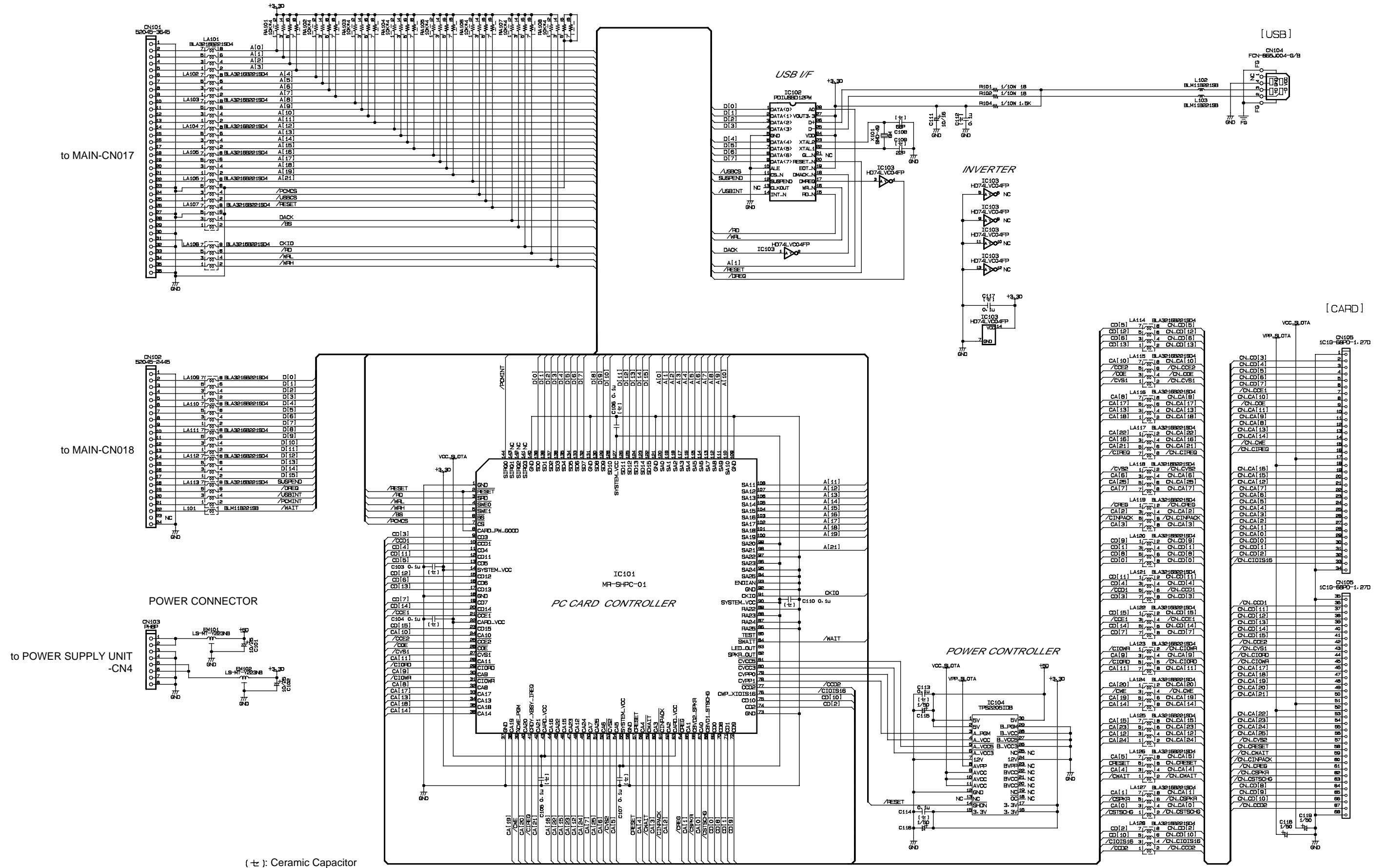


002+D9+003+N7+009+G7+010+N5+011+F7
 002+D9+003+N7+009+G7+010+N5+011+F7
 002+D9+003+N7+009+G7+010+N5+011+F7
 002+D9+003+N5+009+G7+010+N5+011+F7
 002+D9+003+N5+009+G7+010+N4+011+F7
 002+D9+003+N5+009+G7+010+N4+011+F7
 002+D9+003+N5+009+G7+010+N4+011+F7
 002+D9+003+N5+009+G7+010+N4+011+F7

002+D8+003+N5+005+M2+006+N10+009+G4+010+N3+011+F6
 002+D8+003+N5+005+M2+006+N10+009+G3+010+N3+011+F6
 002+D8+003+N5+005+M2+006+N10+009+G3+010+N3+011+F6
 002+D8+003+N5+005+M2+006+N10+009+G3+010+N3+011+F6
 002+D8+003+N5+004+K6+005+M2+006+N10+009+G3+010+N3+011+F6
 002+D8+003+N5+004+K6+005+M2+006+N10+009+G3+010+N3+011+F6

(±): Ceramic Capacitor





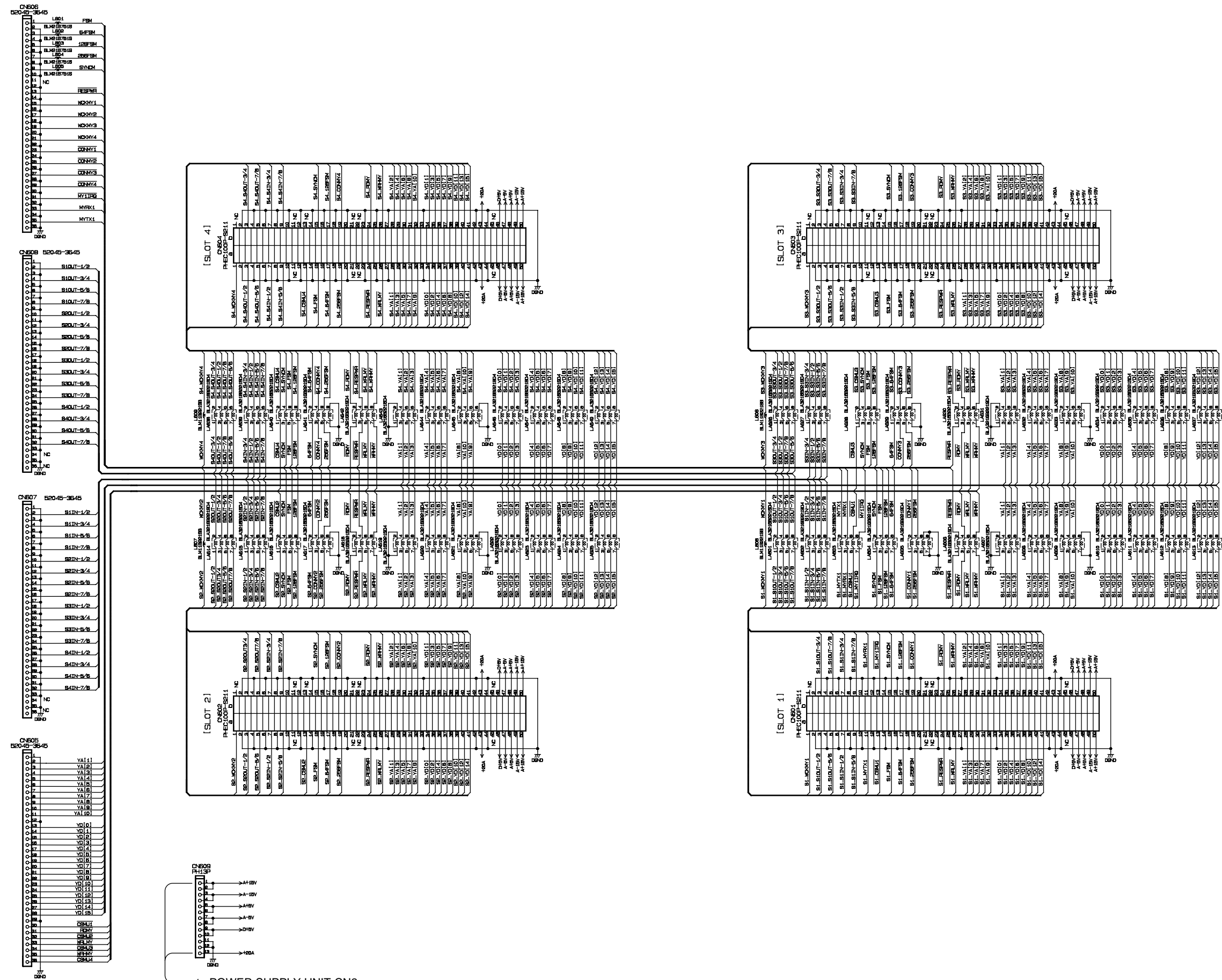
to MAIN-CN12

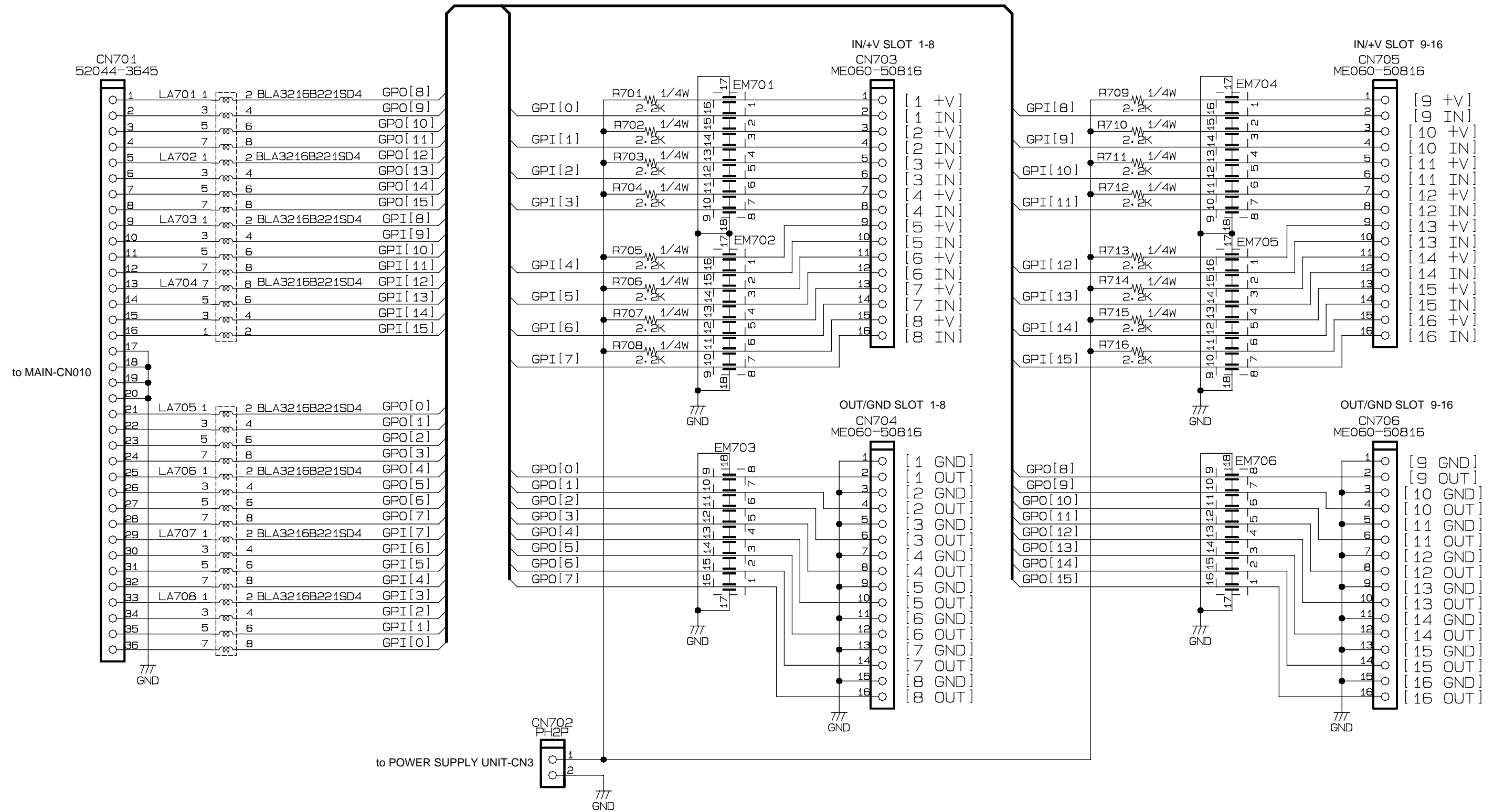
to MAIN-CN14

to MAIN-CN13

to MAIN-CN11

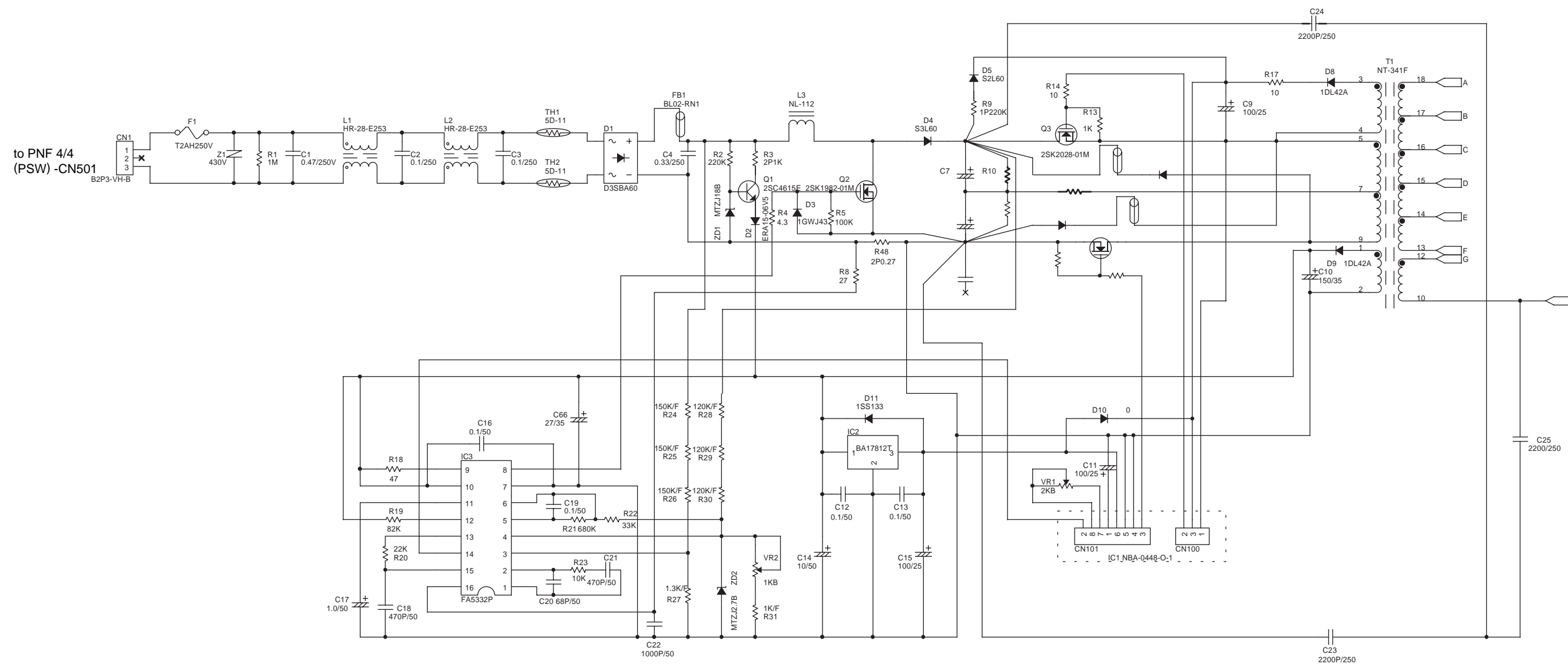
to POWER SUPPLY UNIT-CN2





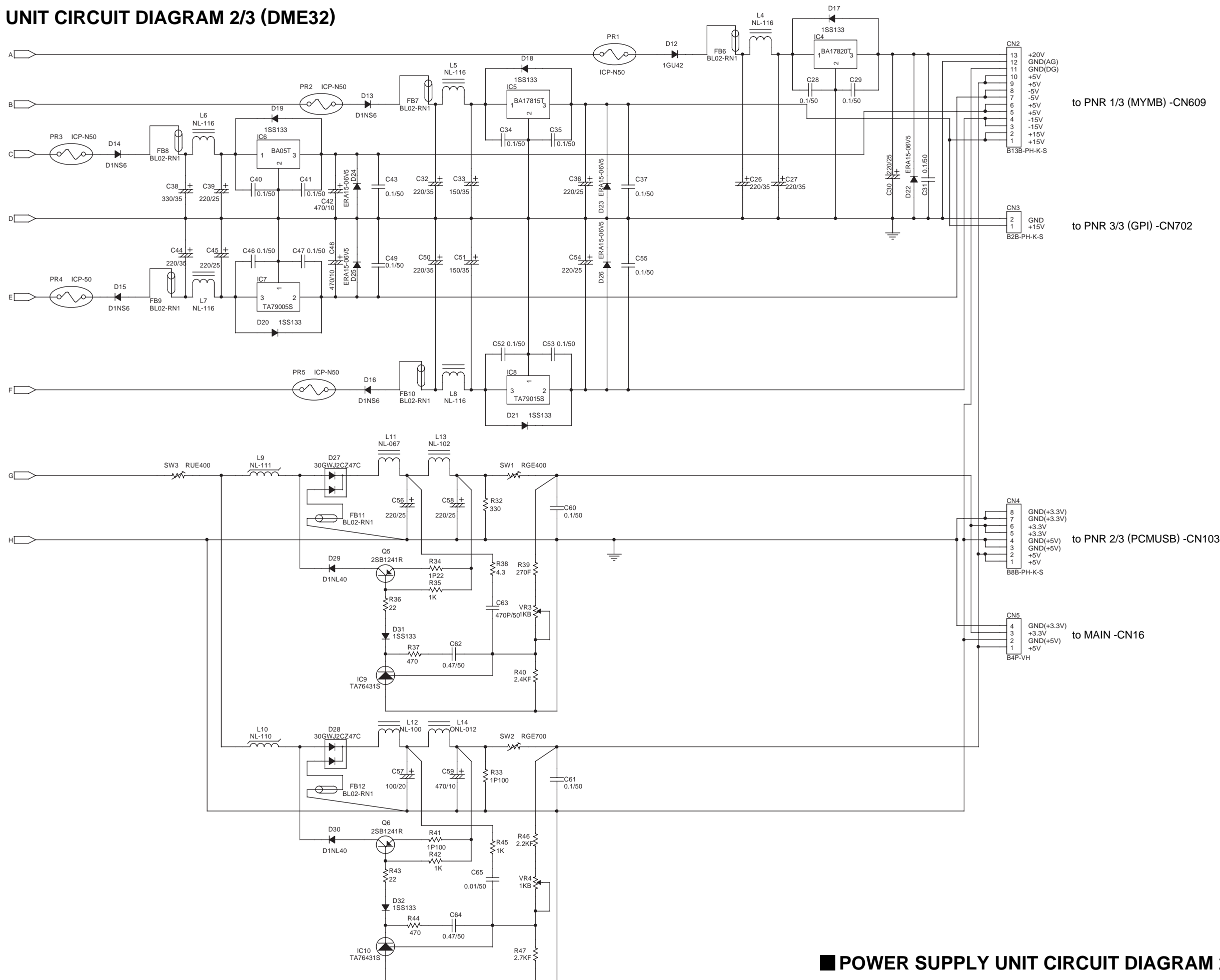
POWER SUPPLY UNIT CIRCUIT DIAGRAM 1/3 (DME32)

DME32



POWER SUPPLY UNIT CIRCUIT DIAGRAM 2/3 (DME32)

DME32



to PNR 1/3 (MYMB) -CN609

to PNR 3/3 (GPI) -CN702

to PNR 2/3 (PCMUSB) -CN103

to MAIN -CN16

POWER SUPPLY UNIT CIRCUIT DIAGRAM 3/3 (DME32)

DME32

