

# AD CONVERTER AD 824 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 rate	MY8-AE, MY8-TD	39.69–50.88 kHz
	MY8-AT	41.013–50.88 kHz
AD conversion resolution	24-bit linear, 128-times oversampling	
Frequency response	-1.5, +1 dB, 20 Hz–20 kHz, GAIN +10 dB	
	-3, +1 dB, 20 Hz–20 kHz, GAIN -62 dB	
Dynamic range *1	110 dB (typical), GAIN +10 dB	
Gain error	±1 dB @ 1 kHz, GAIN -62 dB to +10 dB	
THD *2	0.1 %, 4 dB output @ 20 Hz–20 kHz, GAIN -62 dB	
	0.05 %, full scale output @ 1 kHz, GAIN -62 dB	
	0.05 %, 4 dB output @ 20 Hz–20 kHz, GAIN +10 dB	
	0.01 %, full scale output @ 1 kHz, GAIN +10 dB	
Hum & noise level *1	-92 dB (typical), Rs = 150 Ω, GAIN +10 dB	
	-62 dB, Rs = 150 Ω, GAIN -62 dB	
Equivalent input noise *1	-128 dB, Rs = 150 Ω, GAIN -62 dB	
Crosstalk	-70 dB between adjacent channels @ 1 kHz	
Signal delay	0.85 ms (analog input to digital output, fs = 48 kHz)	
Phantom power	+48 V	
Channel indicators	PEAK	3 dB below full scale
	NOMINAL	14 dB below full scale
	SIGNAL	34 dB below full scale
	+48 V	Phantom power on/off
	SEL	Channel select
Other indicators	Wordclock	44.1kHz, 48kHz, BNC, SLOT
	+48 V MASTER	Phantom power master on/off
	POWER	Power on/off
Gain display	3-digit, 7-segment LED	
Power requirements	U.S.A. & Canada 120 V AC, 60 Hz	
	Europe 230 V AC, 50 Hz	
Power consumption	50 W	
Dimensions (W x H x D)	480 x 97.5 x 377.6 mm (18.9 x 3.84 x 14.86 inches)	
Weight	8.5 kg (18.7 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)	
Relative humidity	10 %–95 %	
Power cord length	1.9 m	
Supplied accessories	Owner's Manual, 9-pin D-sub crossed cable (1.5m)	
Options	MY8-AT, MY8-TD, MY8-AE mini YGDAI I/O cards	

### 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.

\*1. Measured with a 6 dB/octave filter at 12.7 kHz; equivalent to a 20 kHz filter with infinite dB/octave attenuation.

\*2. Measured with a 6 dB/octave filter @ 80 kHz.

\* Where dB represents a specific voltage, 0 dB is referenced to 0.775 V rms.

## Analog Input

Connection	GAIN	Actual Load Impedance	For Use with Nominal	Input Level		Connector
				Nominal	Max. before clip	
INPUT 1–8 * <sup>1</sup>	-62 dB	3k $\Omega$ lines	50–600 $\Omega$ mics & 600 $\Omega$ lines	-62 dB (615 $\mu$ V)	-48 dB (3.08 mV)	XLR-3-31 type (balanced)* <sup>2</sup>
	+10 dB			+10 dB (2.45 V)	+24 dB (12.28 V)	
INSERT IN 1–8		10k W	600 $\Omega$ lines	+10 dB (2.45 V)	+24 dB (12.28 V)	TRS phone jack (balanced)* <sup>3</sup>

\*1. 24-bit linear, 128-times oversampling A/D converters.

\*2. XLR-type connectors are electronically balanced (pin 1 = ground, pin 2 = hot, pin 3 = cold).

\*3. TRS phone jacks are electronically balanced (tip = hot, ring = cold, sleeve = ground).

\* Where dB represents a specific voltage, 0 dB is referenced to 0.775 V rms.

## Analog Output

Connection	Actual Source Impedance	For Use with Nominal	Output Level		Connector
			Nominal	Max. before clip	
INSERT OUT 1–8	150 $\Omega$	10k $\Omega$ lines	+10 dB (2.45 V)	+24 dB (12.28 V)	TRS phone jack (balanced)* <sup>1</sup>

\*1. TRS phone jacks are electronically balanced (tip = hot, ring = cold, sleeve = ground).

\* Where dB represents a specific voltage, 0 dB is referenced to 0.775 V rms.

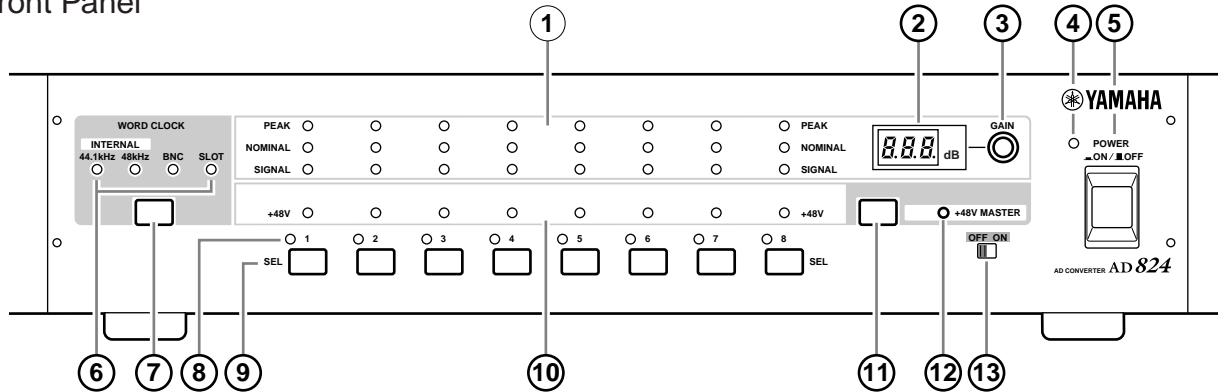
## Digital I/O

Connection	Format	Level/Impedance	Connector
COM PC/RS422	—	RS232C/RS422	9-pin D-sub (male)
COM RS422	—	RS422	9-pin D-sub
WORD CLOCK IN	—	TTL, 75 $\Omega$ (ON/OFF)	BNC
WORD CLOCK OUT	—	TTL, 75 $\Omega$	BNC
SLOT	mini YGDAI	—	—



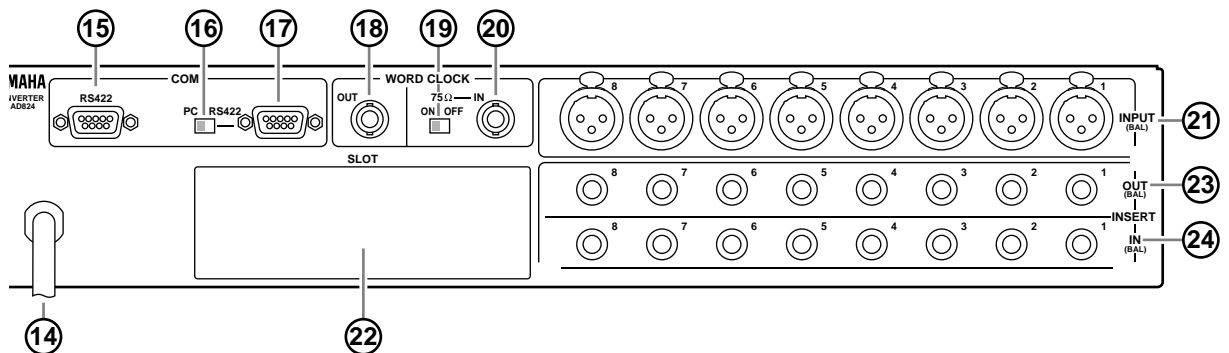
## ■ PANEL LAYOUT

### ● Front Panel



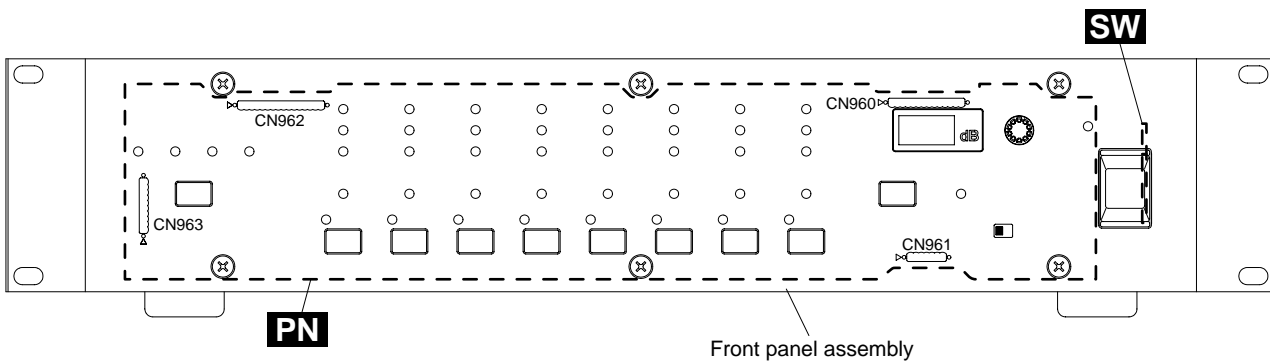
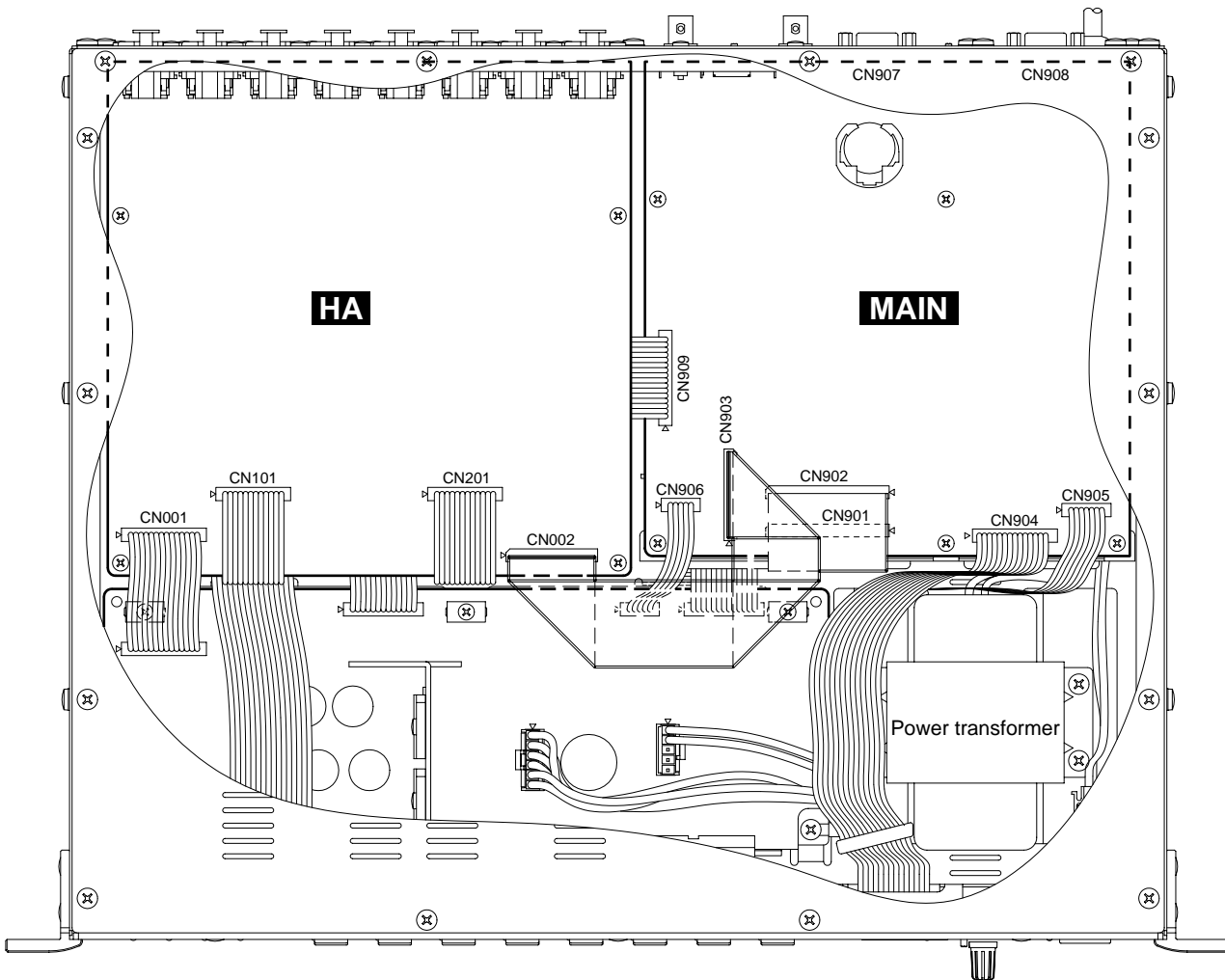
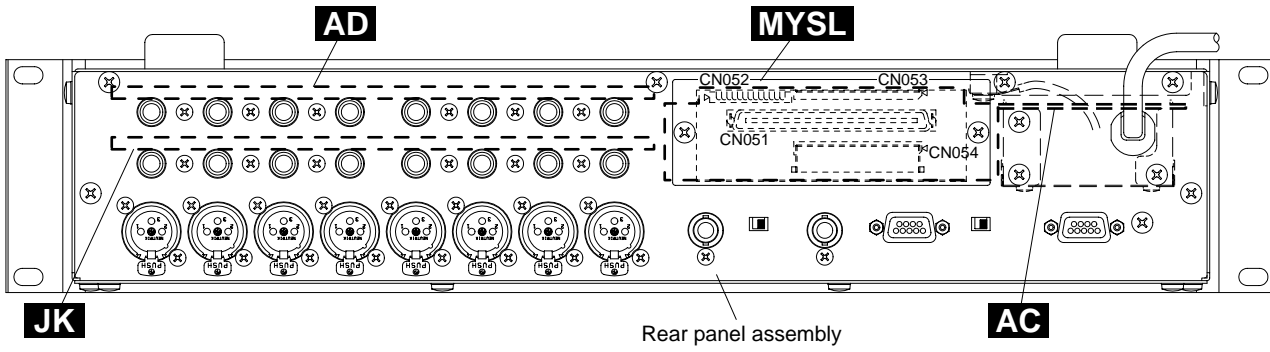
- ① PEAK, NOMINAL & SIGNAL indicators
- ② GAIN display
- ③ GAIN control
- ④ POWER indicator
- ⑤ POWER switch
- ⑥ WORD CLOCK indicators
- ⑦ WORD CLOCK Source button
- ⑧ Channel SEL indicators
- ⑨ Channel SEL buttons
- ⑩ Channel +48V indicators
- ⑪ +48V on/off button
- ⑫ +48V MASTER indicator
- ⑬ +48V MASTER switch

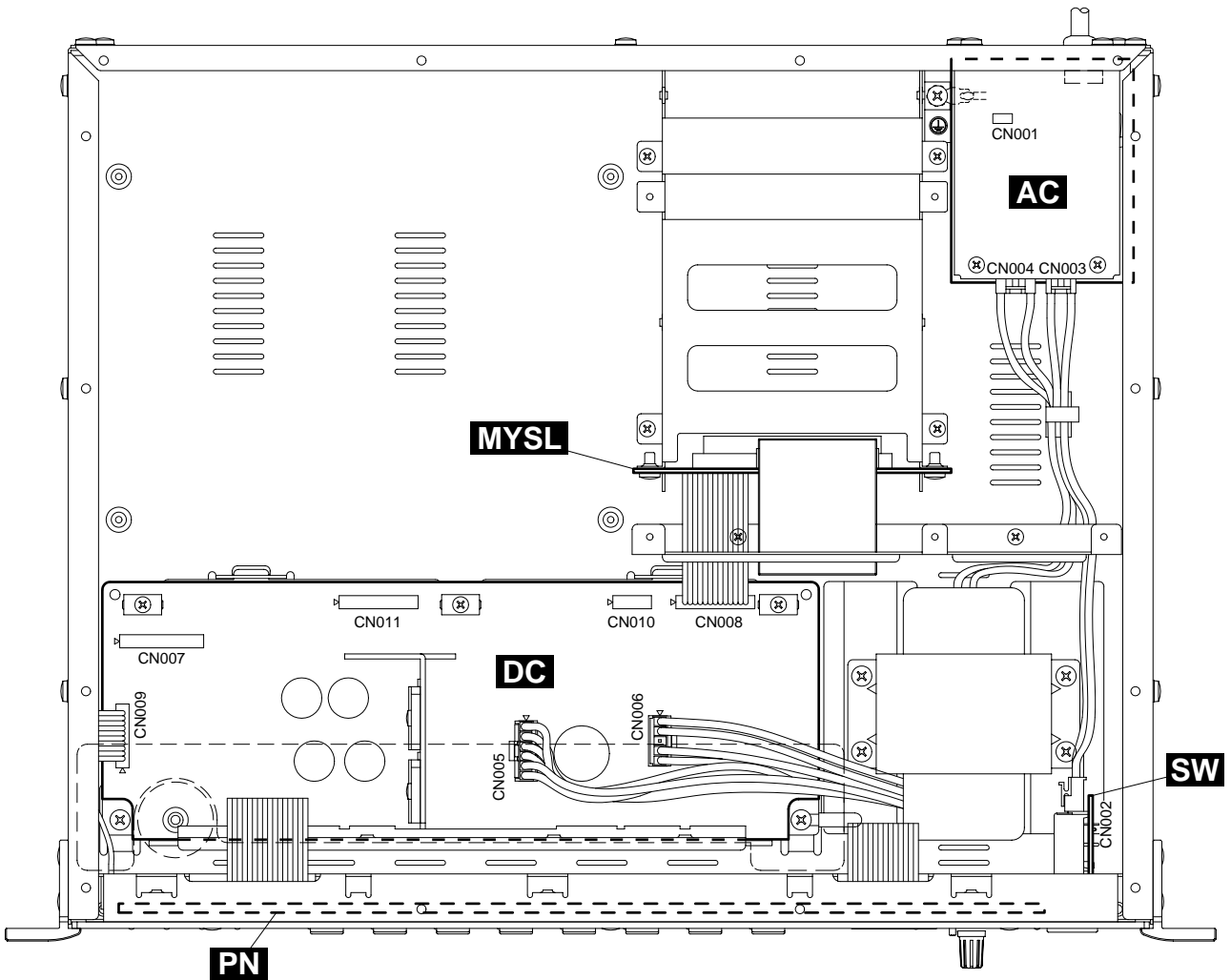
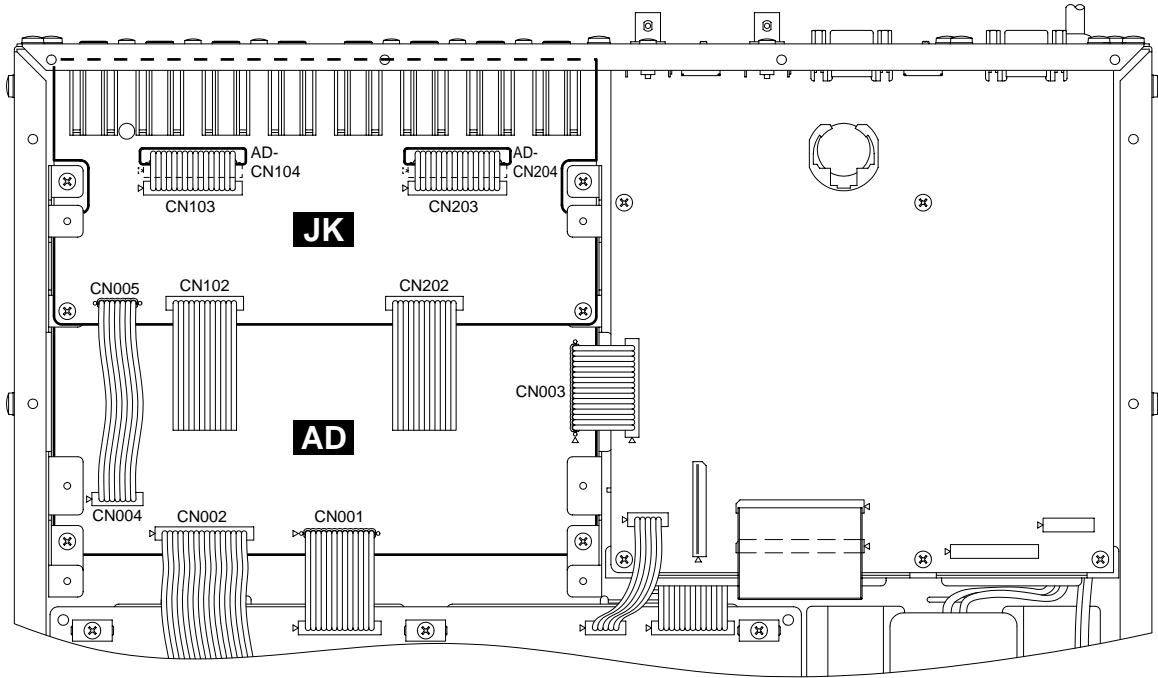
### ● Rear Panel



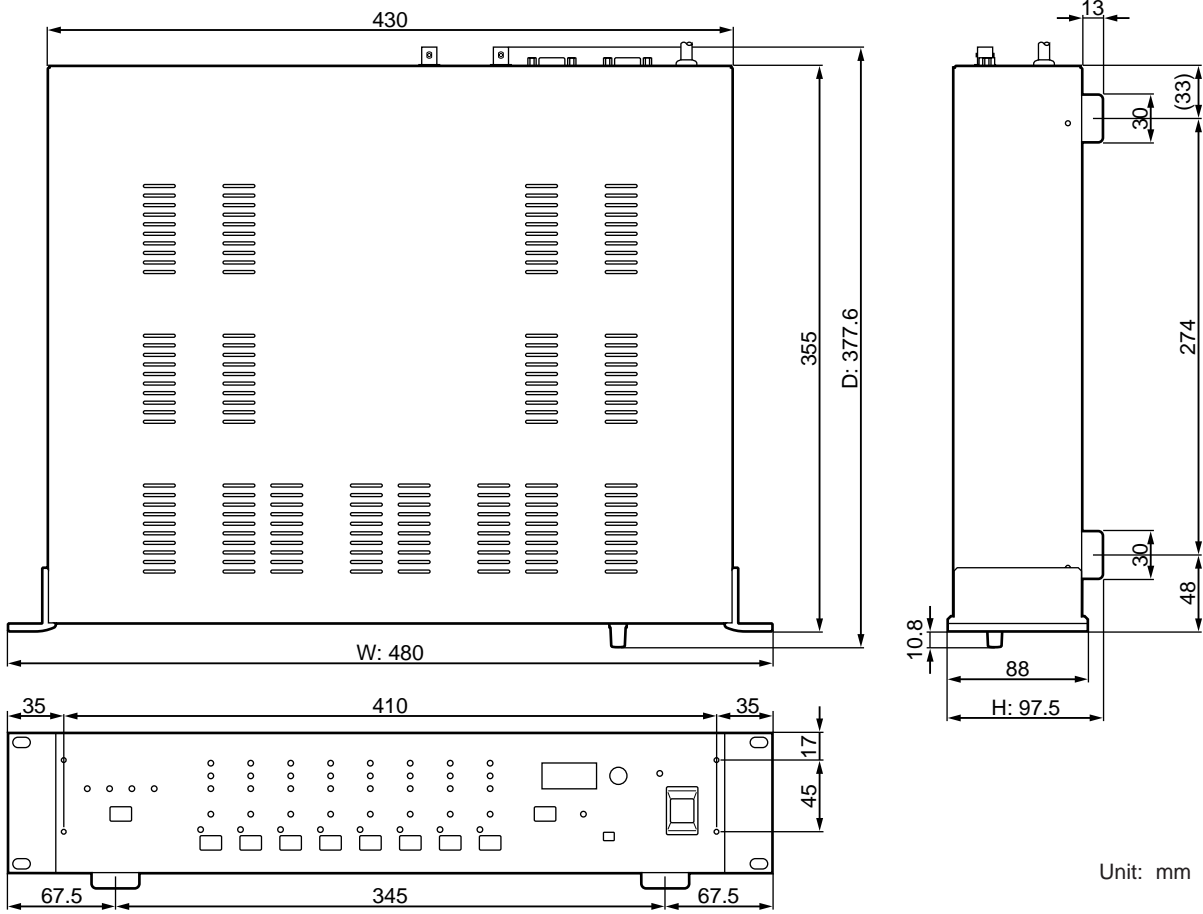
- ⑭ Power cable
- ⑮ COM RS422 port
- ⑯ COM PC/RS422 switch
- ⑰ COM PC/RS422 port
- ⑱ WORD CLOCK OUT connector
- ⑲ WORD CLOCK 75Ω ON/OFF switch
- ⑳ WORD CLOCK IN connector
- ㉑ INPUT (BAL) connectors
- ㉒ SLOT
- ㉓ INSERT OUT (BAL) connectors
- ㉔ INSERT IN (BAL) connectors

# ■ CIRCUIT BOARD LAYOUT

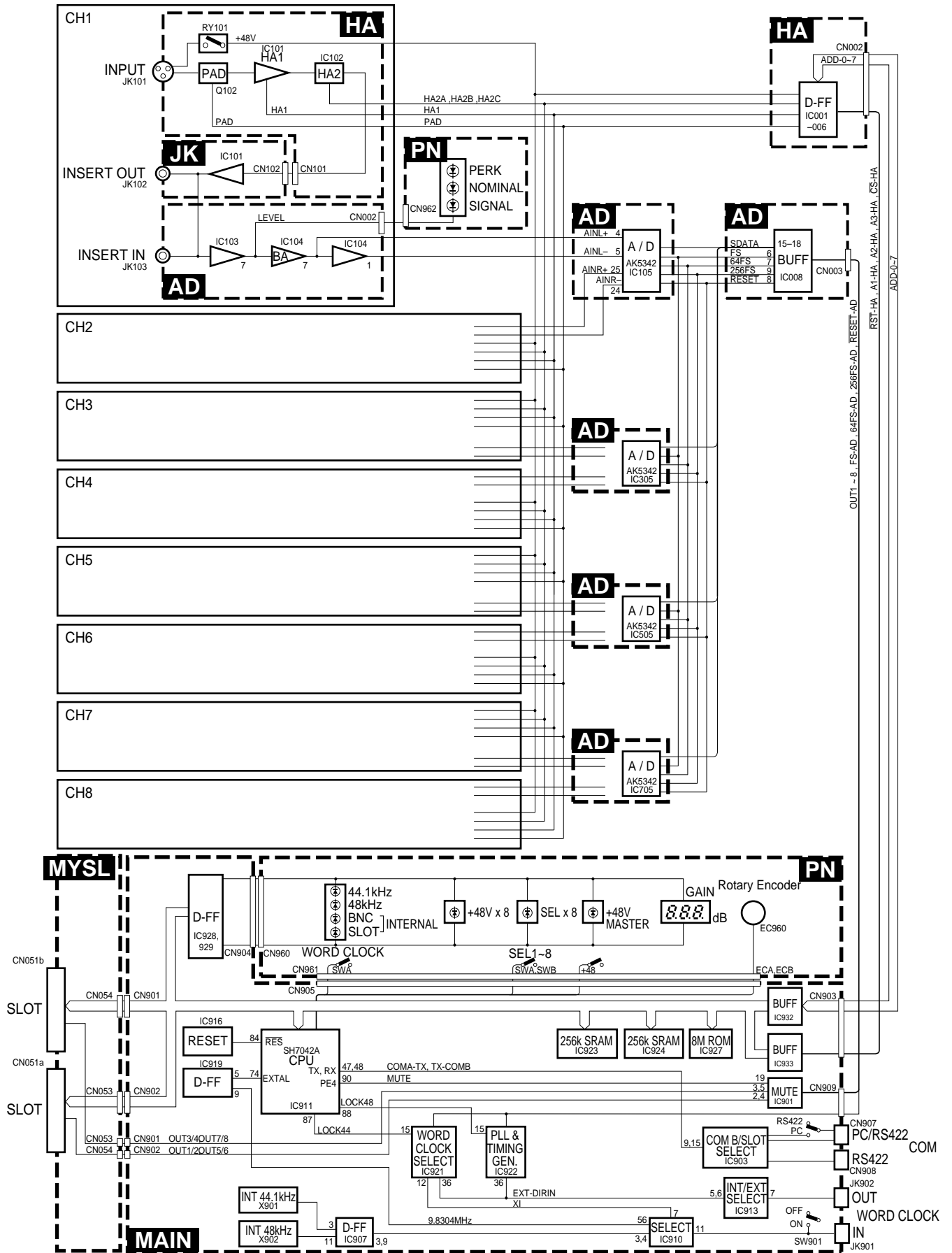




# ■ DIMENTIONS



■ BLOCK DIAGRAM



KEC-92536

## ■ DISASSEMBLY PROCEDURE

### 1. Top Cover

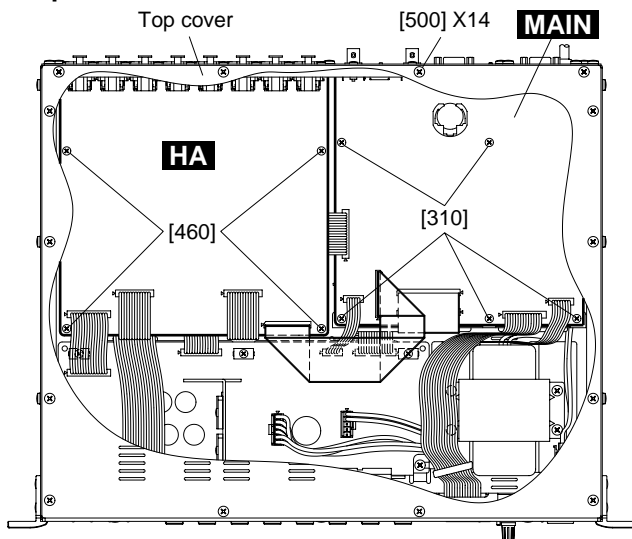
- 1-1 Remove the fourteen (14) screws marked [500]. The top cover can then be removed. (Fig. 1)

### 2. Circuit Boards and Units

Remove the top cover, each circuit board and unit can then be removed.

Circuit Board and Unit	Ref. No.	Screw	QTY	Fig.
MAIN	A	Screw	4	2
	290	Bonding Screw 4.0X8 MFZN2BL (VS154500)	1	2
	300	Bonding Screw 3.0X6 MFZN2BL (VS863000)	2	2
	310	Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)	5	1
HA	450	Bonding Tapping Screw 3.0X8 MFZN2BL (VN41330)	16	2
	460	Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)	4	1
DC Assembly	210	Bind Head Tapping Screw-B A4.0X6 MFZN2BL (VC688800)	2	5
Power Transformer	190	Bind Head Tapping Screw-B A4.0X6 MFZN2BL (VC688800)	4	5

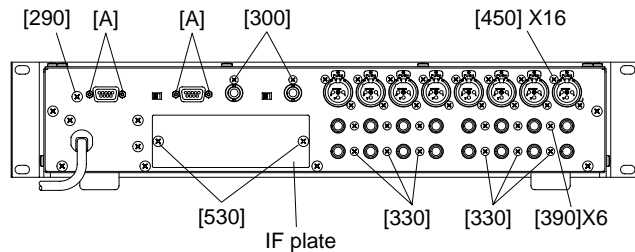
#### <Top View>



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

Fig. 1

#### <Rear View>



[330]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN41330)  
 [390]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN41330)  
 [530]: Bind Head Screw A4.0X12 MFZN2BL (VP156900)

Fig. 2

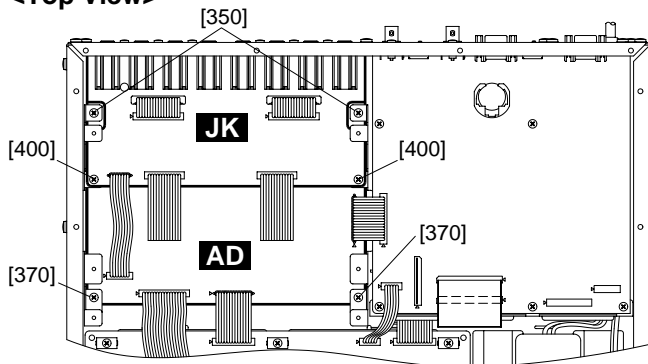
### 3. JK Circuit Board and AD Circuit Board

- 3-1 Remove the top cover. (See procedure 1.)  
 3-2 Remove the HA circuit board. (See procedure 2.)  
 3-3 Remove the two (2) screws marked [430]. The AD shield sheet can then be removed. (Fig. 4)  
 3-4 Remove the six (6) screws marked [390] and the two (2) screws marked [400]. The JK circuit board can then be removed. (Fig. 2 and Fig. 3)

### 4. AD Circuit Board

- 4-1 Remove the top cover. (See procedure 1.)  
 4-2 Remove the HA circuit board. (See procedure 2.)  
 4-3 Remove the JK circuit board. (See procedure 3.)  
 4-4 Remove the six (6) screws marked [330], the two (2) screws marked [350] and the two (2) screws marked [370]. The AD circuit board can then be removed. (Fig. 2 and Fig. 3)

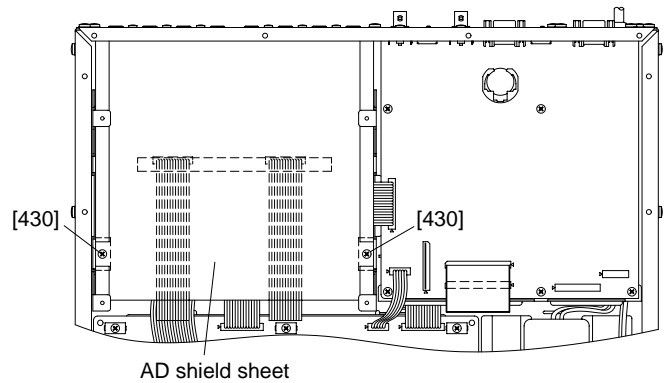
&lt;Top View&gt;



[350]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)  
 [370]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)  
 [400]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)

Fig. 3

&lt;Top View&gt;



[430]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)

Fig. 4

## 5. MYSL Circuit Board

\* Note that remove card before following operation.

- 5-1 Remove the top cover. (See procedure 1.)
- 5-2 Remove the MAIN circuit board. (See procedure 2.)
- 5-3 Remove the two (2) screws marked [530]. The IF plate can then be removed. (Fig. 2)
- 5-4 Remove the four (4) screws marked [260]. The OPT assembly can then be removed. (Fig. 5)
- 5-5 Remove the two (2) screws marked [240]. The MYSL circuit board can then be removed. (Fig. 5)

## 6. AC Circuit Board

- 6-1 Remove the top cover. (See procedure 1.)
- 6-2 Remove the MAIN circuit board. (See procedure 2.)
- 6-3 Remove the three (3) screws marked [50A] and the two (2) screws marked [110A]. The AC circuit board can then be removed. (Fig. 6)

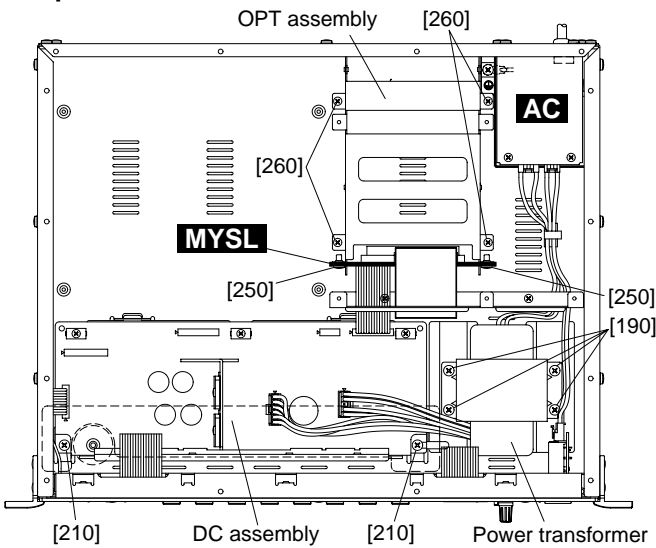
\* The fuse is not a part of the AC circuit Board. When you replace the AC circuit board, you should remove the fuse from the board, and put it back into the holder on the new board.

## 7. DC Circuit Board

- 7-1 Remove the top cover. (See procedure 1.)
- 7-2 Remove the DC assembly. (See procedure 2.)
- 7-3 Remove the four (4) screws marked [60]. The transistor holder can then be removed. (Fig. 7)
- 7-4 Remove the three (3) screws marked [40]. The DC circuit board can then be removed. (Fig. 7)

\* The four fuses are not part of the DC circuit Board. When you replace the DC circuit board, you should remove the fuses from the board, and put it back into the holder on the new board.

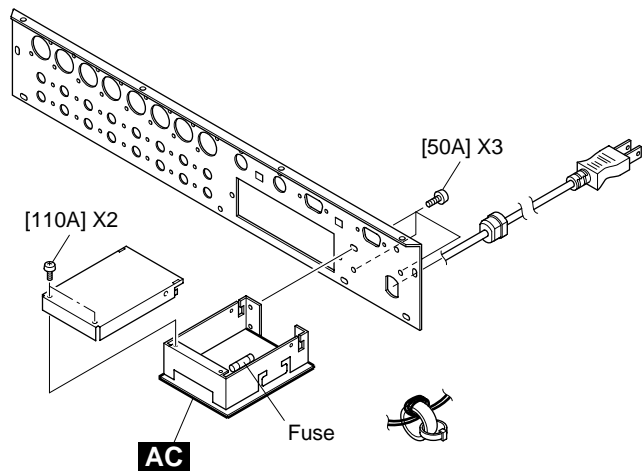
<Top View>



[250]: Bind Head Screw 4.0X8 MFZN2BL (EG340360)  
 [260]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)

Fig. 5

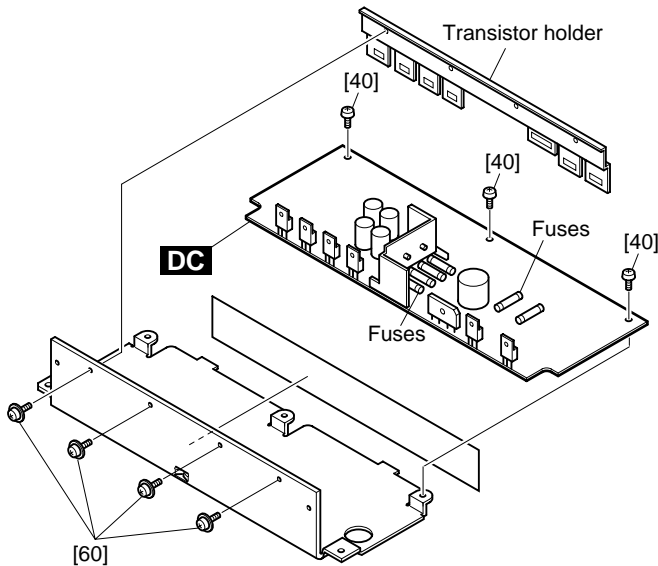
• Rear Panel Assembly



[50A]: Bind Head Tapping Screw-B A4.0X8 MFZN2BL (VC688800)  
 [110A]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)

Fig. 6

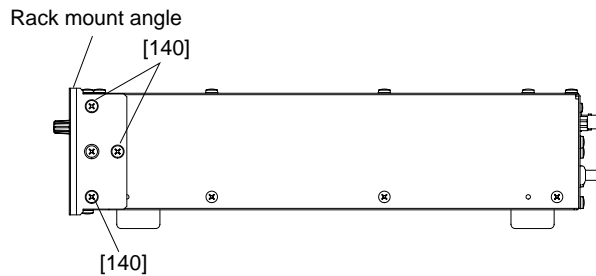
• DC Assembly



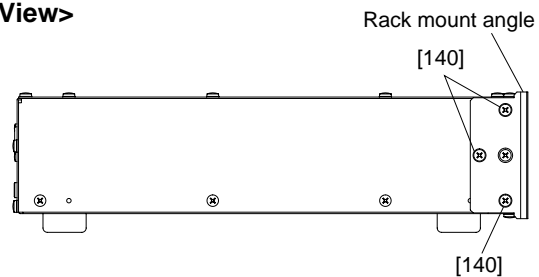
[40]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)  
 [60]: Pan Head Screw SP4.0X8 MFZN2Y (EL200020)

Fig. 7

<Right View>



<Left View>



[140]: Oval Head Screw B4.0X10 MFZN2BL (V6221000)

Fig. 8

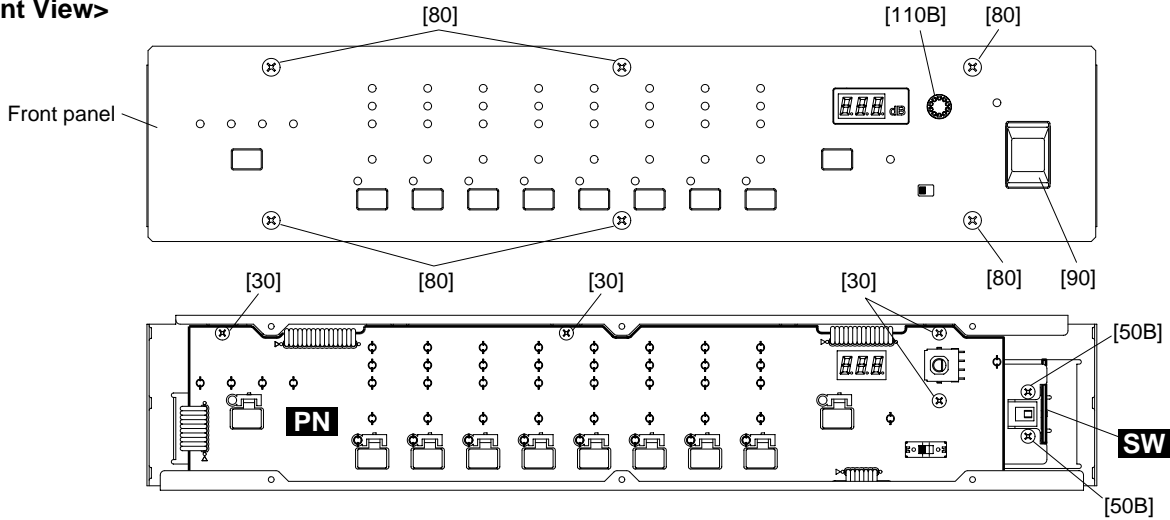
8. PN Circuit Board and SW Circuit Board

- 8-1 Remove the top cover. (See procedure 1.)
- 8-2 Remove the six (6) screws marked [140]. The right and left rack mount angles can then be removed. (Fig. 8)
- 8-3 Remove the knob marked [110B]. (Fig. 9)
- 8-4 Remove the six (6) screws marked [80]. The front panel can then be removed. (Fig. 9)



- 8-5 PN Circuit Board:  
Remove the four (4) screws marked [30]. The PN circuit board can then be removed. (Fig. 9)
- 8-6 SW Circuit Board:  
Remove the PSW knob marked [90]. (Fig. 9)  
Remove the two (2) screws marked [50B]. The SW circuit board can then be removed. (Fig. 9)

<Front View>

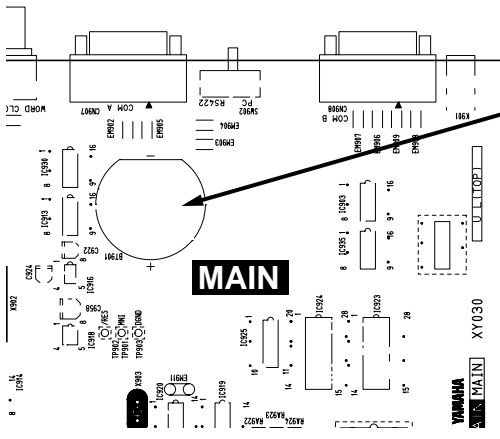


[30]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)      [80]: Oval Head Screw 4.0X8 MFZN2BL (VS153600)  
 [50B]: Bonding Screw 3.0X6 MFZN2BL (VS863000)

Fig. 9

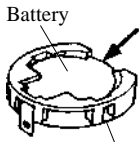
**9. Replacement of the Lithium Battery**

- 9-1 Remove the top cover. (See procedure 1.)
  - 9-2 Remove the MAIN circuit board. (See procedure 2.)
  - 9-3 The lithium battery can be replacement on the MAIN circuit board. (Fig. 10)
- \* The lithium battery is not a part of the MAIN circuit board. When you replace the MAIN circuit board, remove the lithium battery and install it in the new circuit board.



**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.



Battery  
 Battery holder

Fig. 10

## ■ LSI PIN DESCRIPTION

### ● YM3436DK (XG948E0) DIR2 (Digital Format Interface Receiver)

MAIN: IC921, 922

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	DOUT	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

### ● AK5392-VS-E2 (XV065A00) ADC (Analog to Digital Converter)

AD: IC105, 305, 505, 705

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VREFL	O	L ch standard voltage output (+3.75 V)	15	SDATA	O	Serial data output
2	GNDL	-	L ch Ground	16	FSYNC	I/O	Frame synchronization clock
3	VCOML	O	L ch common voltage (+2.5 V)	17	MCLK	I	Master clock input CMODE="H":384 fs CMODE="L":256 fs
4	AINL+	I	L ch analog (+) input	18	CMODE	I	Master clock select "L": MCLK=256 fs (12.288 MHz @fs=48 kHz) "H": MCLK=384 fs (18.432 MHz @fs=48 kHz)
5	AINL-	-	L ch analog (-) input	19	HPFE	I	HPF enable "L": OFF "H": ON
6	ZCAL	I	Zero calibration "L": VCOML, VCOMR "H": Analog input (AINL+/-, AINRR+/-)	20	TEST	I	TEST pin Connect it with DGND.
7	VD	-	Power supply for digital	21	BGND	-	Ground
8	DGND	-	Ground for digital	22	AGND	-	Ground for analog
9	CAL	O	Calibration status	23	VA	-	Power supply for analog (+5 V)
10	/RST	I	Reset	24	AINR-	I	R ch analog (+) input
11	SMODE2	I	Serial interface mode select	25	AINR+	I	R ch analog (-) input
12	SMODE1	I	MSB first, 2's complement SMODE2 SMODE1 MODE LRCK L L Slave mode H/L L H Master mode H/L H L Slave mode L/H H H Master mode L/H	26	VCOMR	O	R ch common voltage (-2.5 V)
13	LRCK	I/O	L/R ch select clock	27	GNDR	-	R ch ground
14	SCLK	I/O	Serial data clock	28	VREFR	O	R ch standard voltage output (+3.75 V)

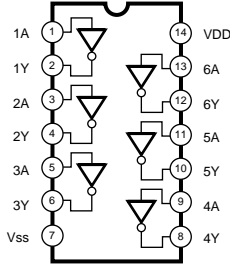
## ● HD6477042AF28 (XV731A00) CPU

MAIN: IC911

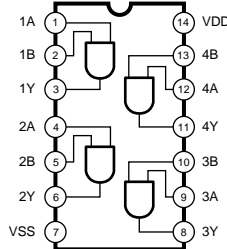
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	PE14	O	Port E	57	D11	I/O	Data bus
2	PE15	O	Port E	58	D10	I/O	
3	VSS	I	Ground	59	D9	I/O	
4	A0	O	Address bus	60	D8	I/O	Data bus
5	A1	O					
6	A2	O					
7	A3	O					
8	A4	O					
9	A5	O					
10	A6	O					
11	A7	O					
12	A8	O					
13	A9	O					
14	A10	O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

## IC BLOCK DIAGRAM

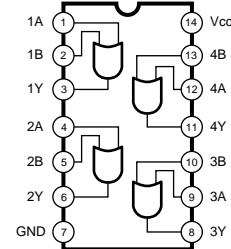
- **HD74LV04AFPEL** (IS000400)  
**HD74LVU04AFPEL** (XY102A00)  
Hex Inverter  
MAIN: IC914,920



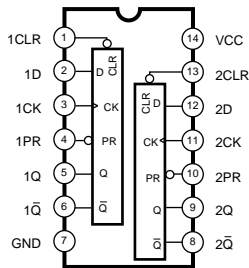
- **HD74LV08AFPEL** (IS000800)  
Quad 2 Input AND  
MAIN: IC912



- **HD74LV32AFPEL** (IS003200)  
Quad 2 Input OR  
MAIN: IC926

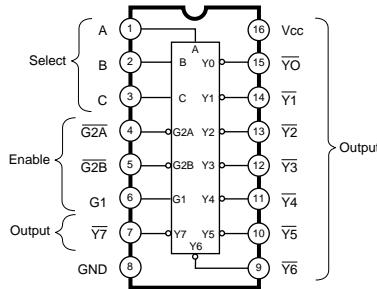


- **HD74LV74AFPEL** (IS007400)  
Dual D-Type Flip-Flop  
MAIN: IC907,919

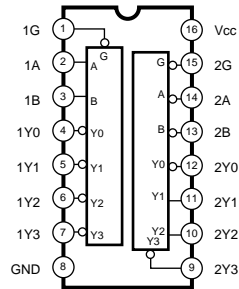


INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	Q̄
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	f	H	H	L
H	H	f	L	L	H
H	H	L	X	Q <sub>o</sub>	Q <sub>o</sub>

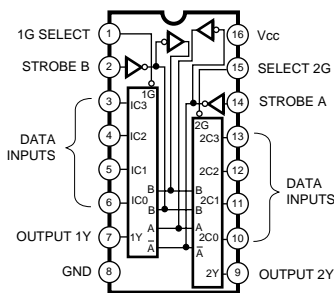
- **SN74LV138ANSR** (IS013810)  
**SN74LV138AFPEL** (IS013800)  
3 to 8 Demultiplexer  
MAIN: IC917  
HA: IC009



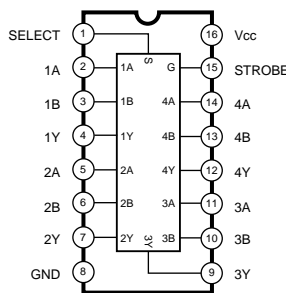
- **SN74LV139ANSR** (IS013910)  
Dual 2 to 4 Demultiplexer  
MAIN: IC915



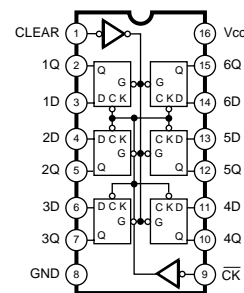
- **TC74HC153AFEL** (XY309A00)  
Dual 4 to 1 Data Selectors  
MAIN: IC910,913



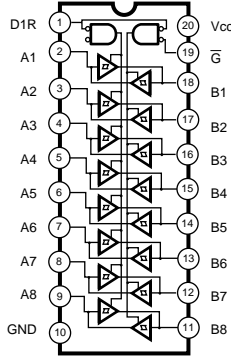
- **HD74LV157AFPEL** (IS015700)  
Quad 2 to 1 Multiplexer  
MAIN: IC935



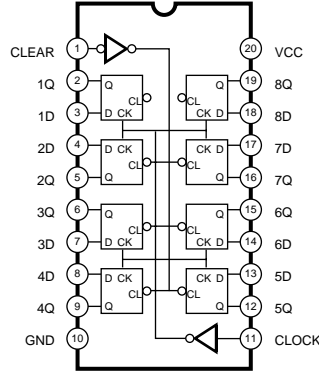
- **SN74LV174ANSR** (IS0174100)  
Hex D-Type Flip-Flop  
MAIN: IC929



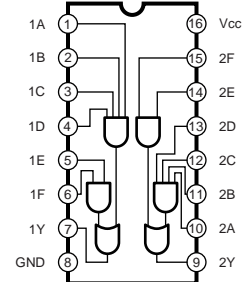
- **HD74LV245AFPEL (IS024500)**  
Octal 3-State Bus Transceiver  
MAIN: IC901,904-906,908,909,932-934  
AD: IC008  
HA: IC008



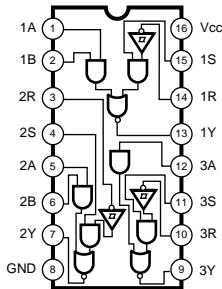
- **HD74LV273AFPEL (IS027300)**  
Octal D-Type Flir Flop  
MAIN: IC925-928  
HA: IC001-006



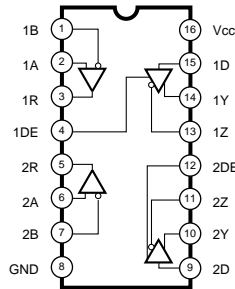
- **SN75121NSR (XU816A00)**  
Dual Line Driver  
MAIN: IC930



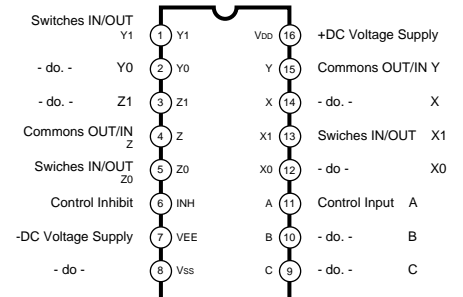
- **SN75124NS (XN976A00)**  
Triple Line Receiver  
MAIN: IC902



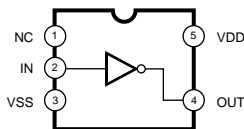
- **SN75C1168NSR (XU073A00)**  
Line Driver / Receiver  
MAIN: IC903



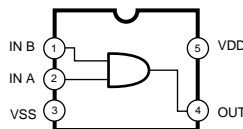
- **HD74HC4053AF(EL) (XY879A00)**  
Triple 2-Channel Multiplexer/Demultiplexer  
HA: IC102,202,302,402,502



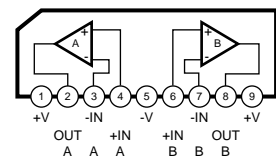
- **TC7S04F (XM182A00)**  
Inverter Gate  
AD: IC007



- **TC7S08F (XM616A00)**  
2 Input AND Gate  
HA: IC007



- **NJM072M (XC458A00)**  
Dual Operational Amplifier  
HA: IC103,203,303,403,503,603,703,803



- **NJM2082M(T1)** (XN797A00)  
**NJM2068MD-T1** (XJ553A00)  
**NJM4556AL** (XP844A00)  
Dual Operational Amplifier

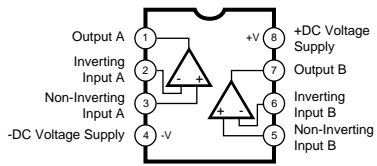
MAIN: IC918

AD: IC103,104,203,204,303,304,403,404,  
503,504,603,604,703,704,803,804

HA: IC101,201,301,401,501,601,701,801

PN: IC101,301,501,701

JK: IC101,201,301,401,501,601,701,801

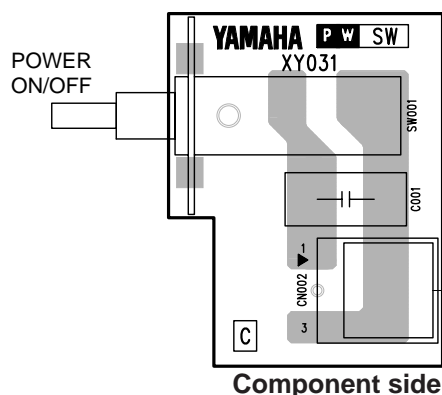


## ■ CIRCUIT BOARDS

AC Circuit Board (J, U, V) (XY031C0) .....	19
AC Circuit Board (H,W,B) (XY032C0) .....	19
AD Circuit Board (XY028A0).....	28
DC Circuit Board (J, U, V) (XY031C0) .....	34
DC Circuit Board (H,W,B) (XY032C0) .....	35
HA Circuit Board (XY029A0).....	24
JK Circuit Board (XY028A0) .....	29
MAIN Circuit Board (XY030A0).....	20
MYSL Circuit Board (XY030A0).....	21
PN Circuit Board (XY027B0).....	32
SW Circuit Board (J, U, V) (XY031C0) .....	19
SW Circuit Board (H,W,B) (XY032C0).....	19

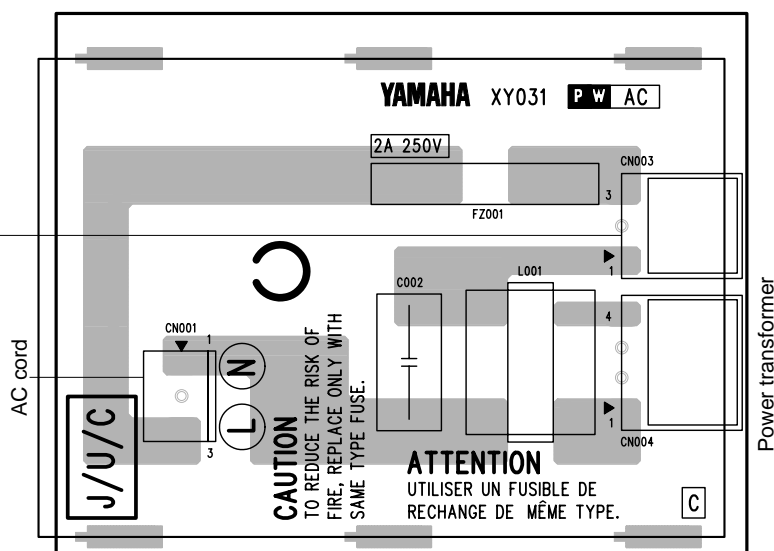
Note: See parts list for details of circuit board component parts.

### ● SW Circuit Board (J, U, V)



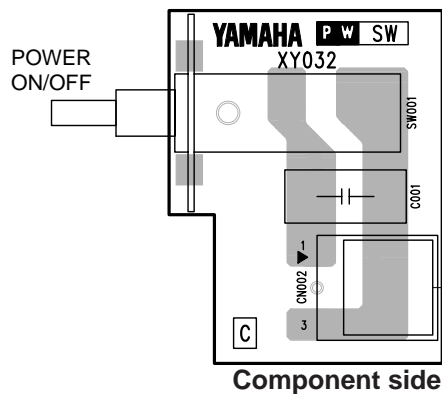
Component side

### ● AC Circuit Board (J, U, V)



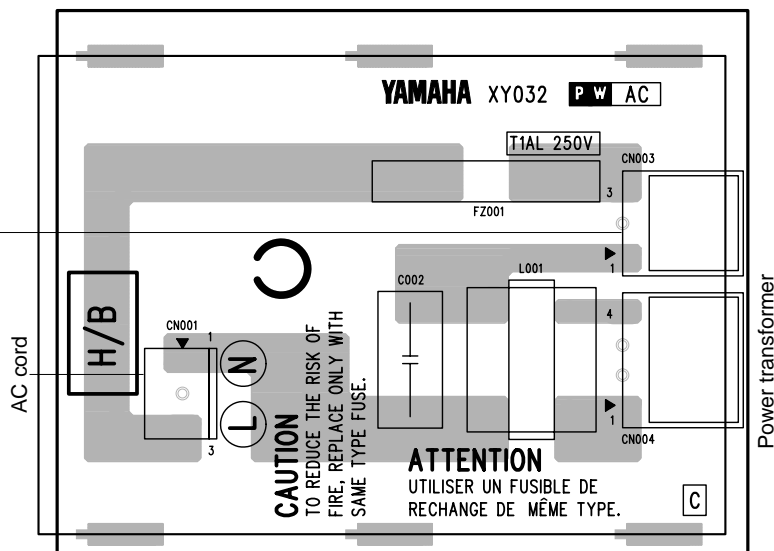
Component side

### ● SW Circuit Board (H, W, B)



Component side

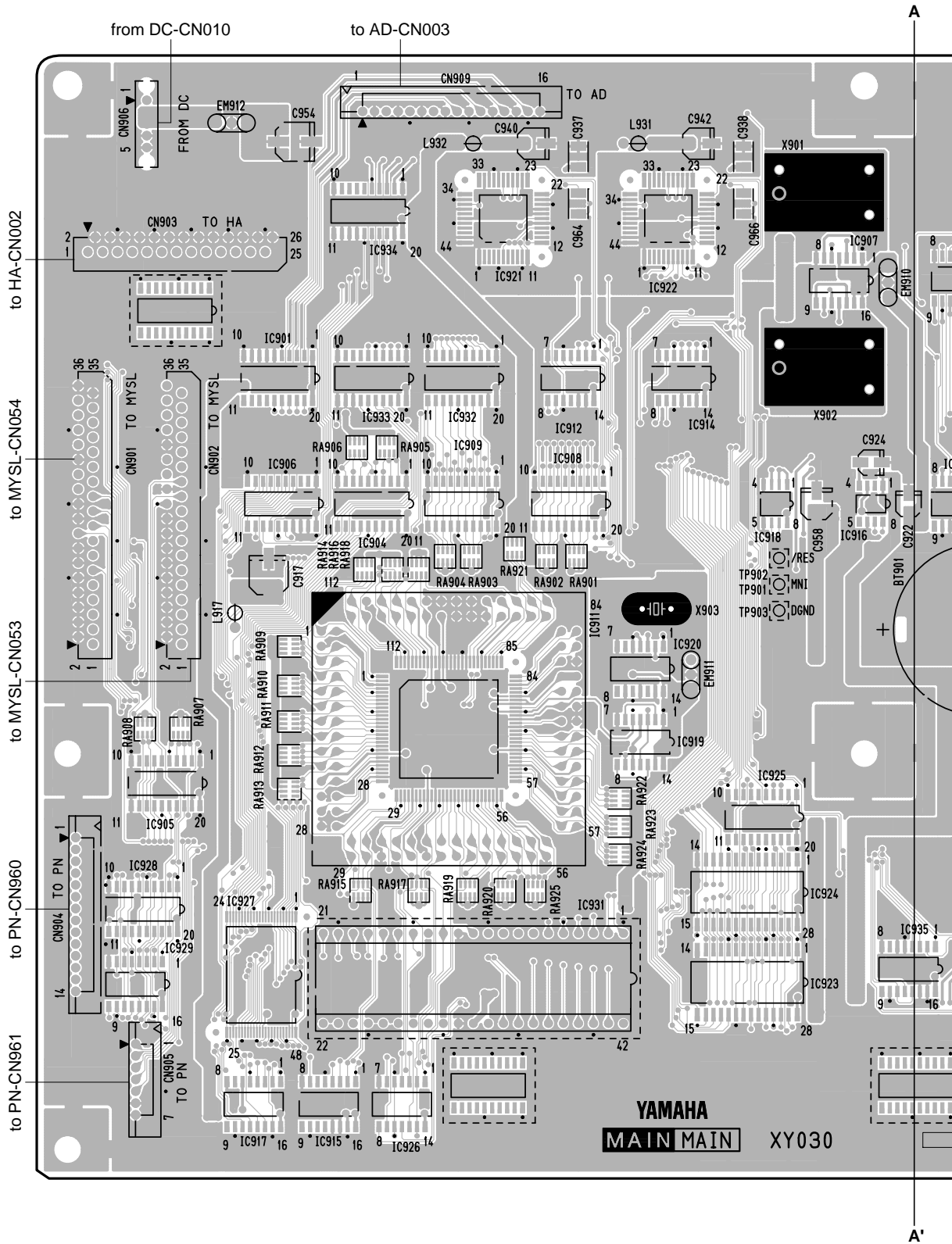
### ● AC Circuit Board (H, W, B)



Component side

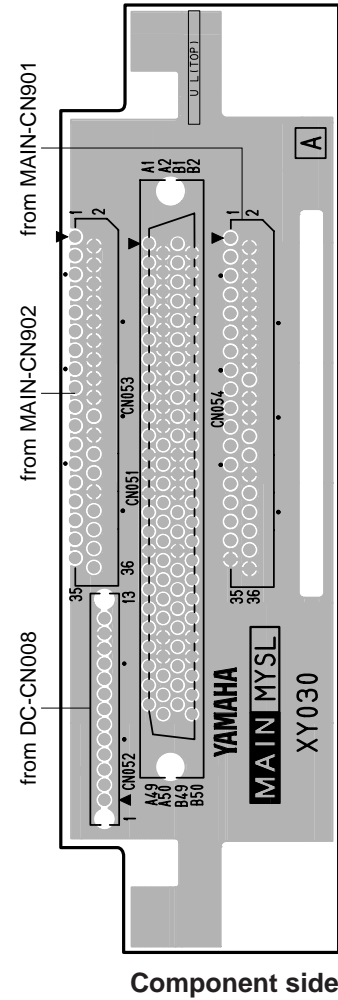
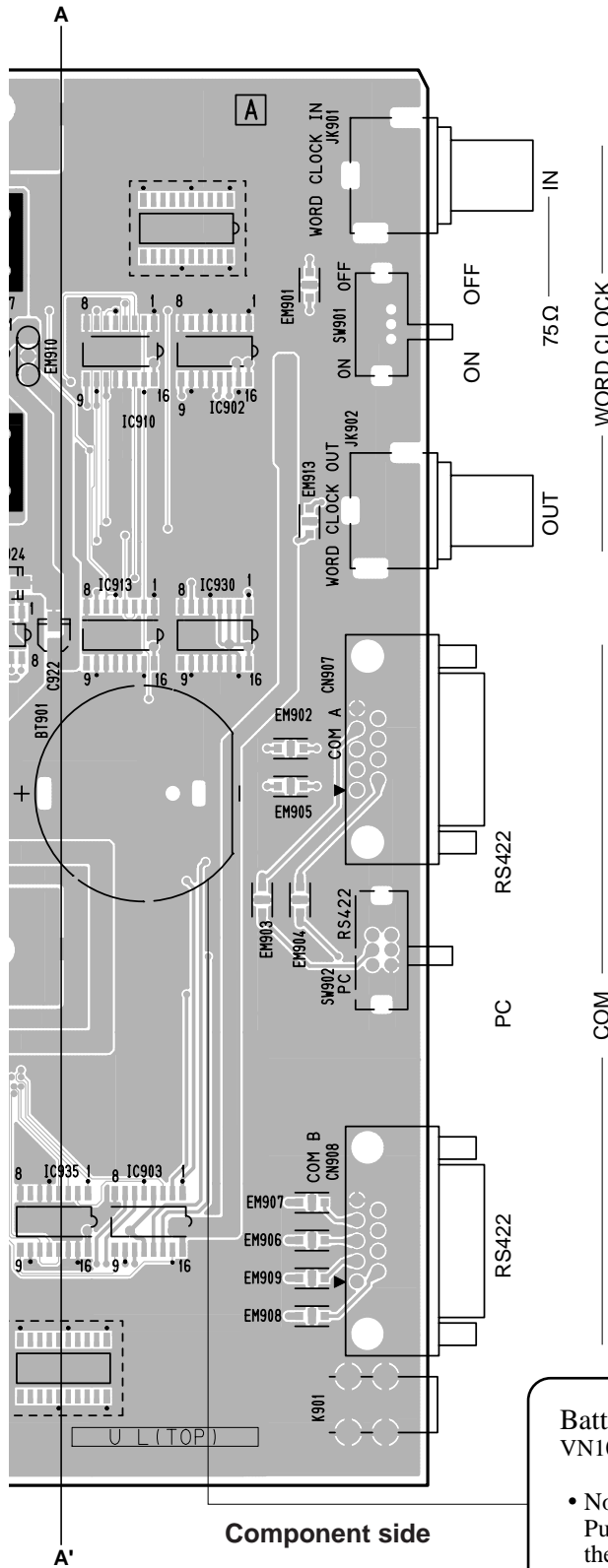
AC, SW(J,U,V): 3NA-V579140△  
 AC, SW(H,W,B): 3NA-V579150△

● MAIN Circuit Board



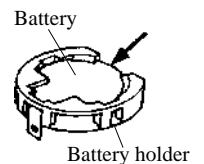


● MYSL Circuit Board

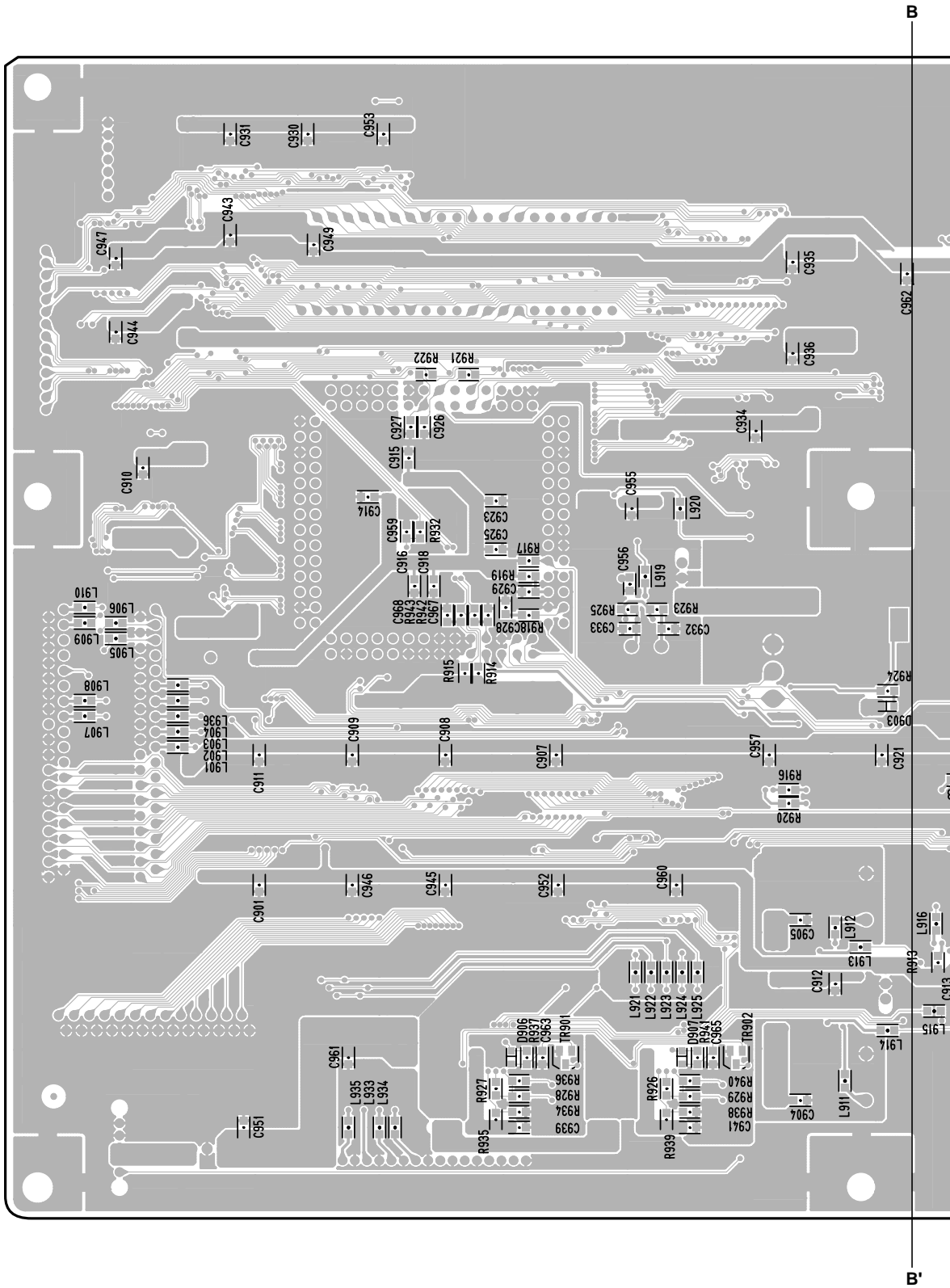


Battery VN103500  
 VN103600(Battery holder for VN103500)

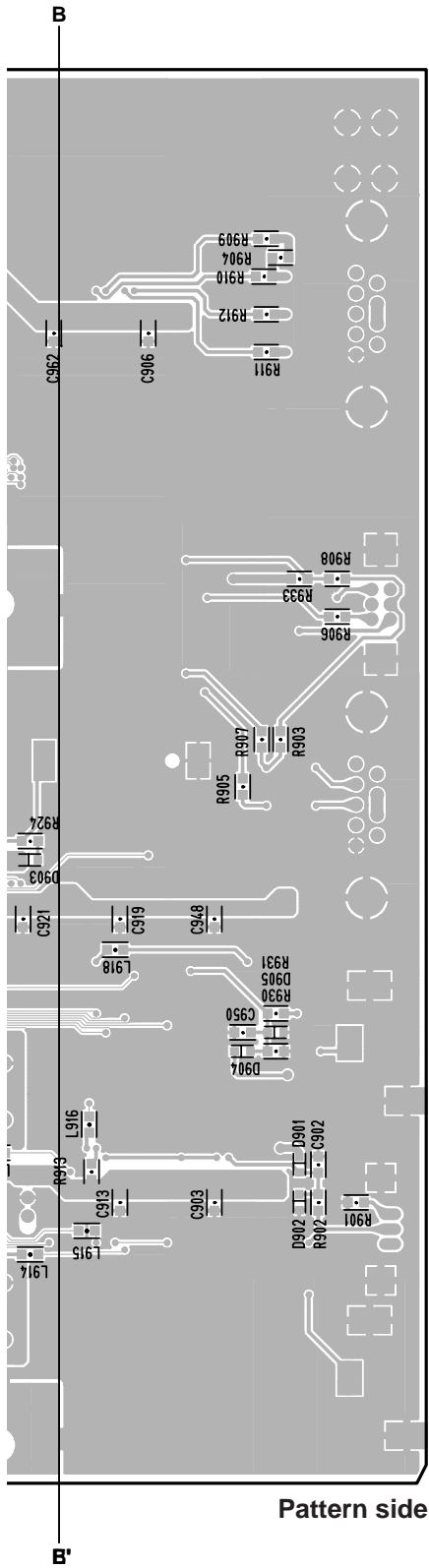
- Notice for back-up battery removal  
 Push the battery as shown in figure,  
 then the battery will pop up.
- Druk de batterij naar beneden zoals  
 aangeven in de tekening, de batterij  
 springt dan naar voren.



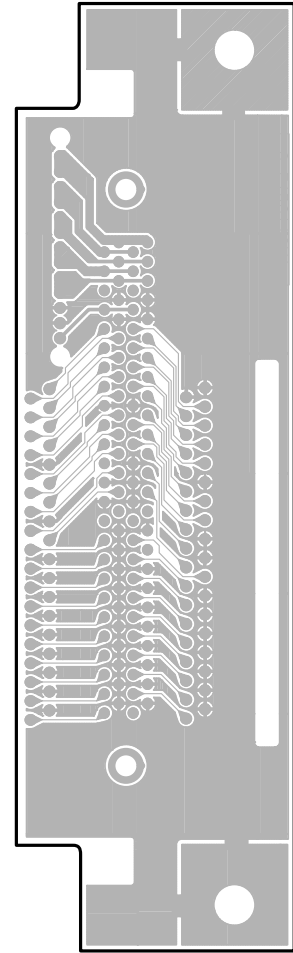
● MAIN Circuit Board



● MYSL Circuit Board

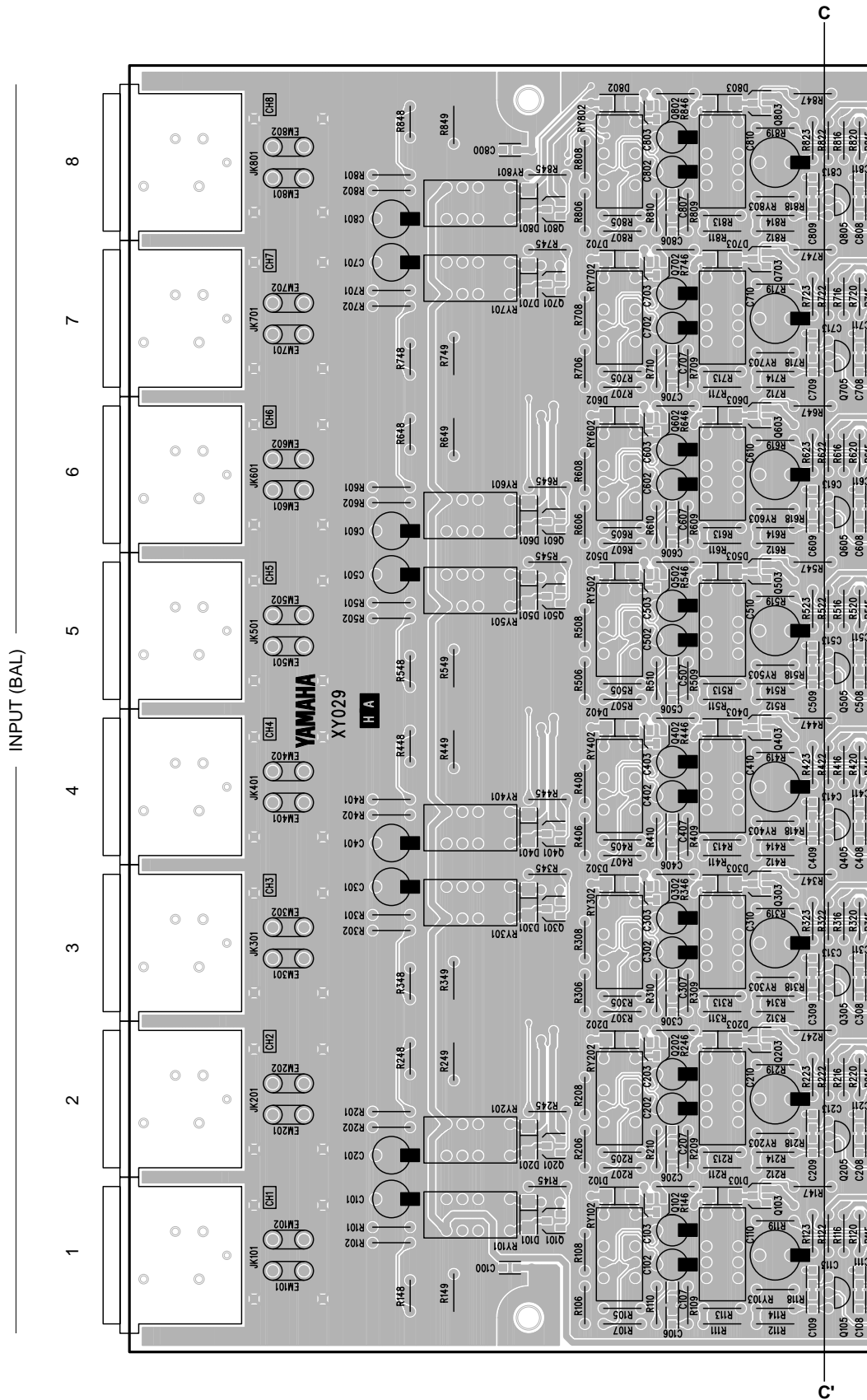


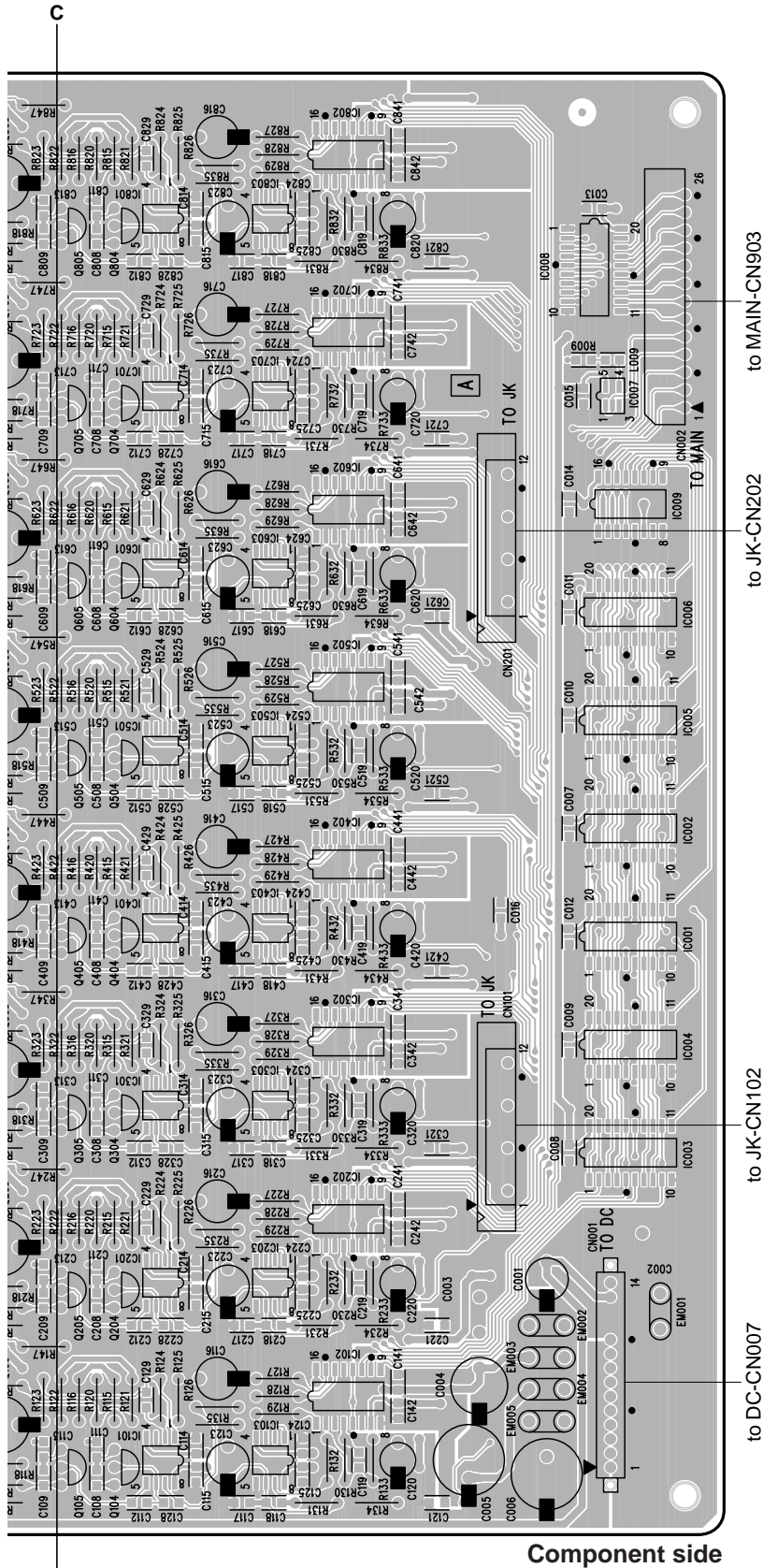
Pattern side



Pattern side

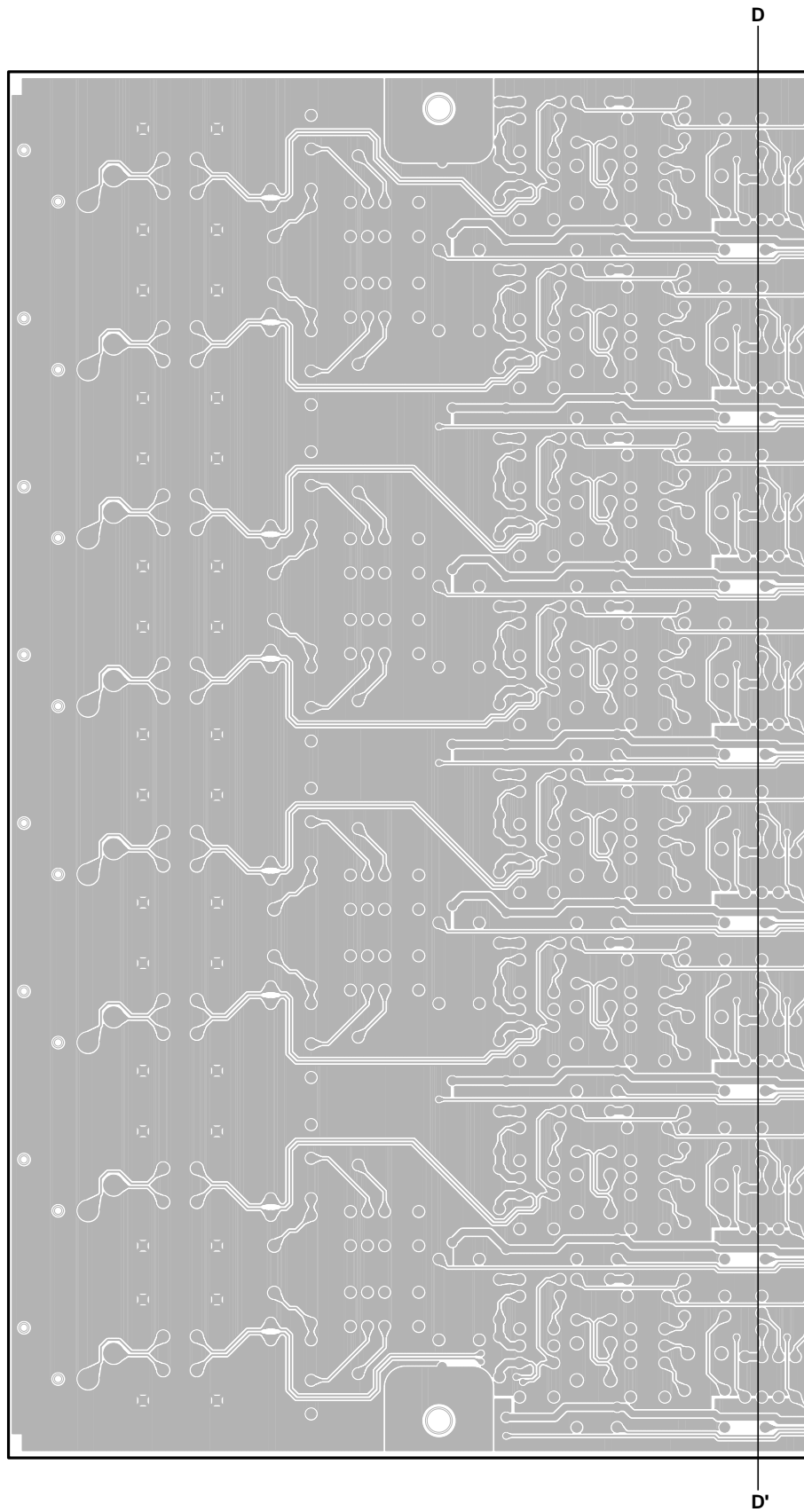
● HA Circuit Board

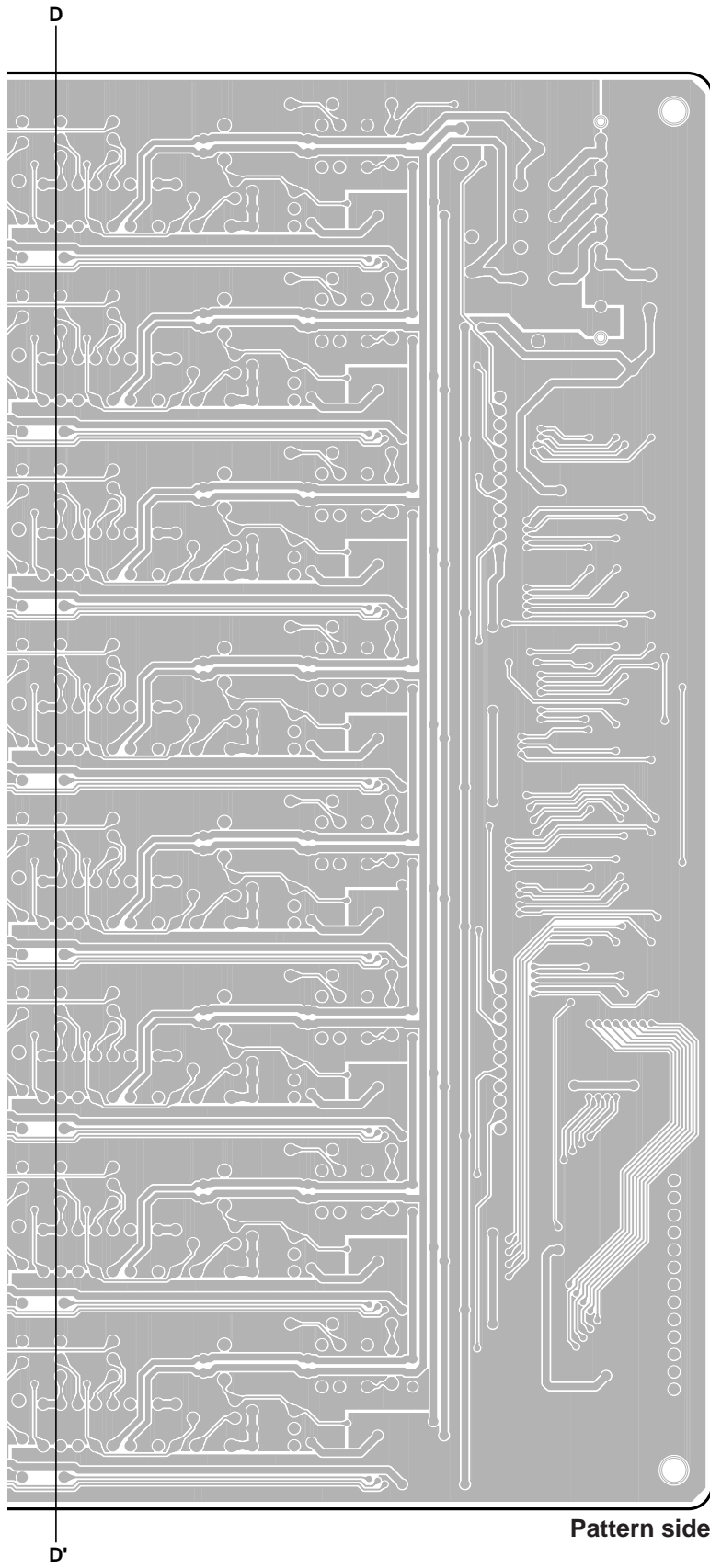




Component side

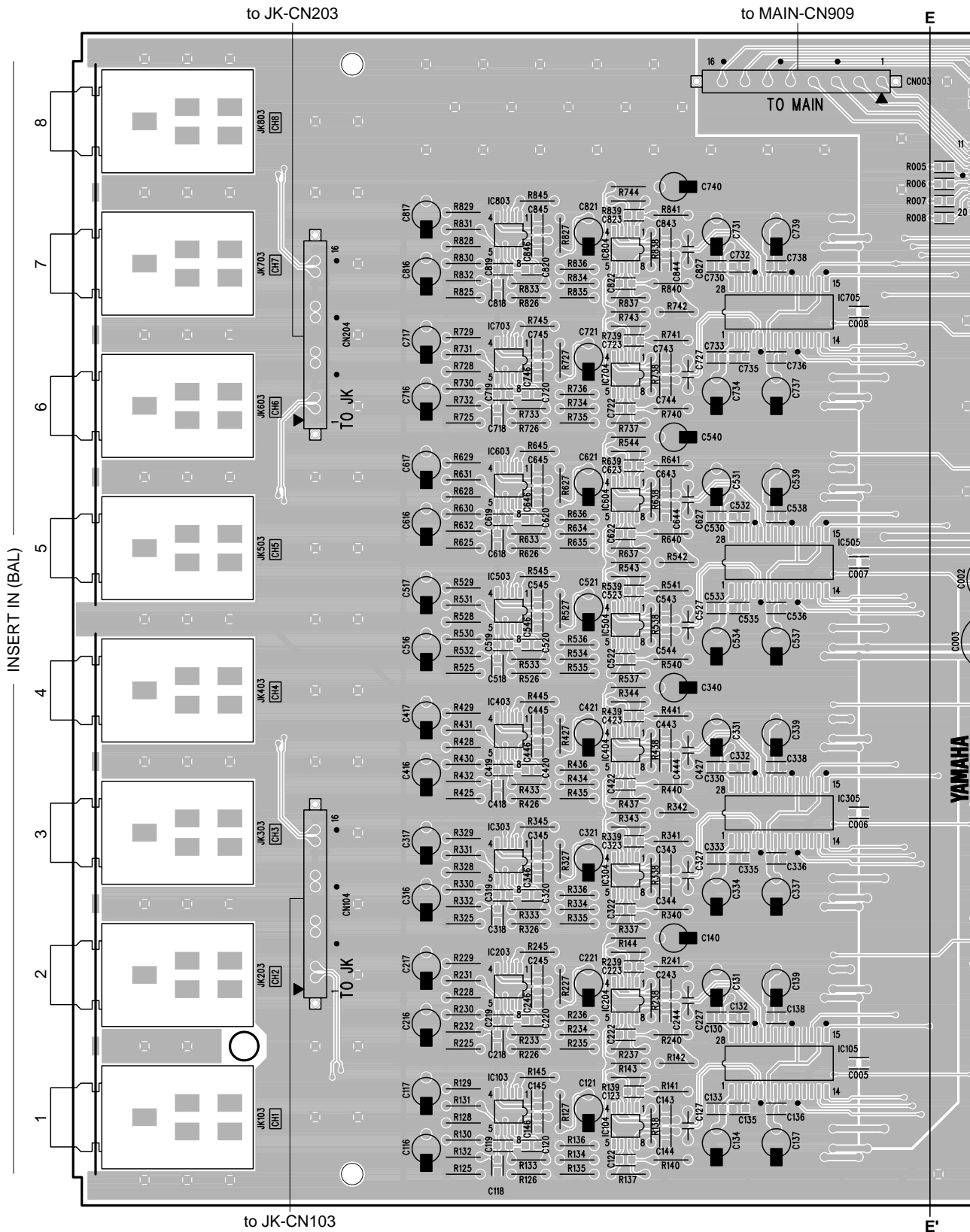
● HA Circuit Board





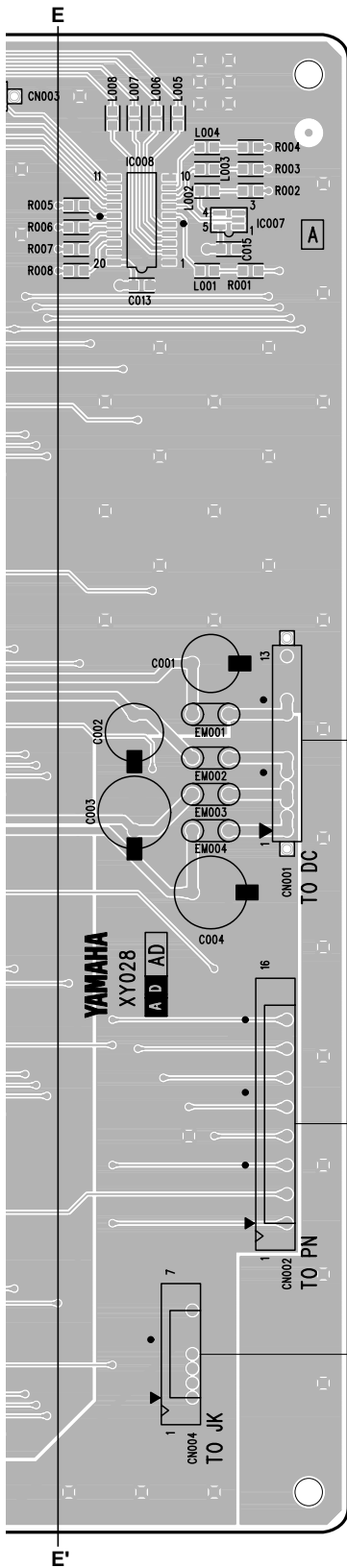


● AD Circuit Board



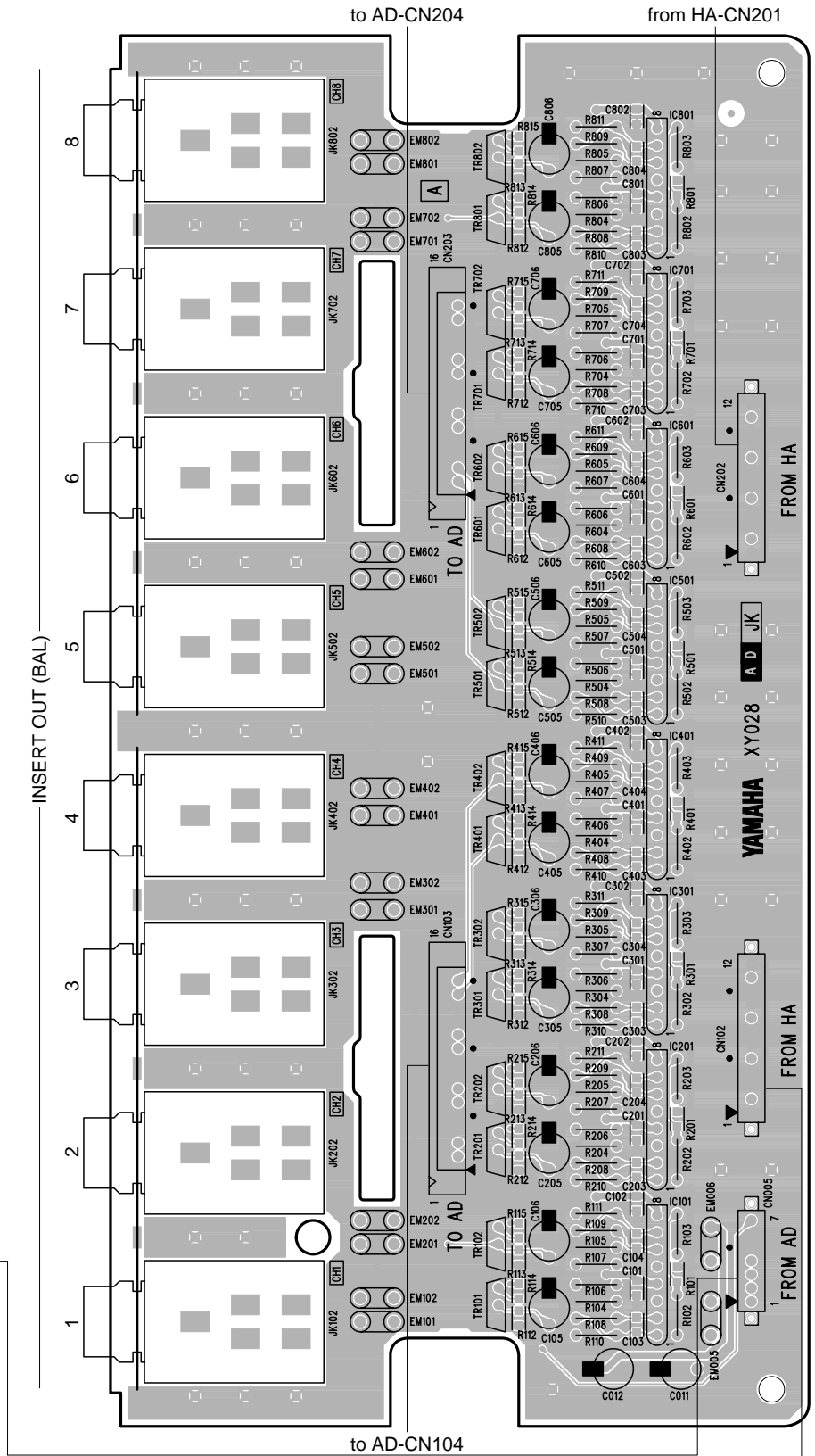


● JK Circuit Board



Component side

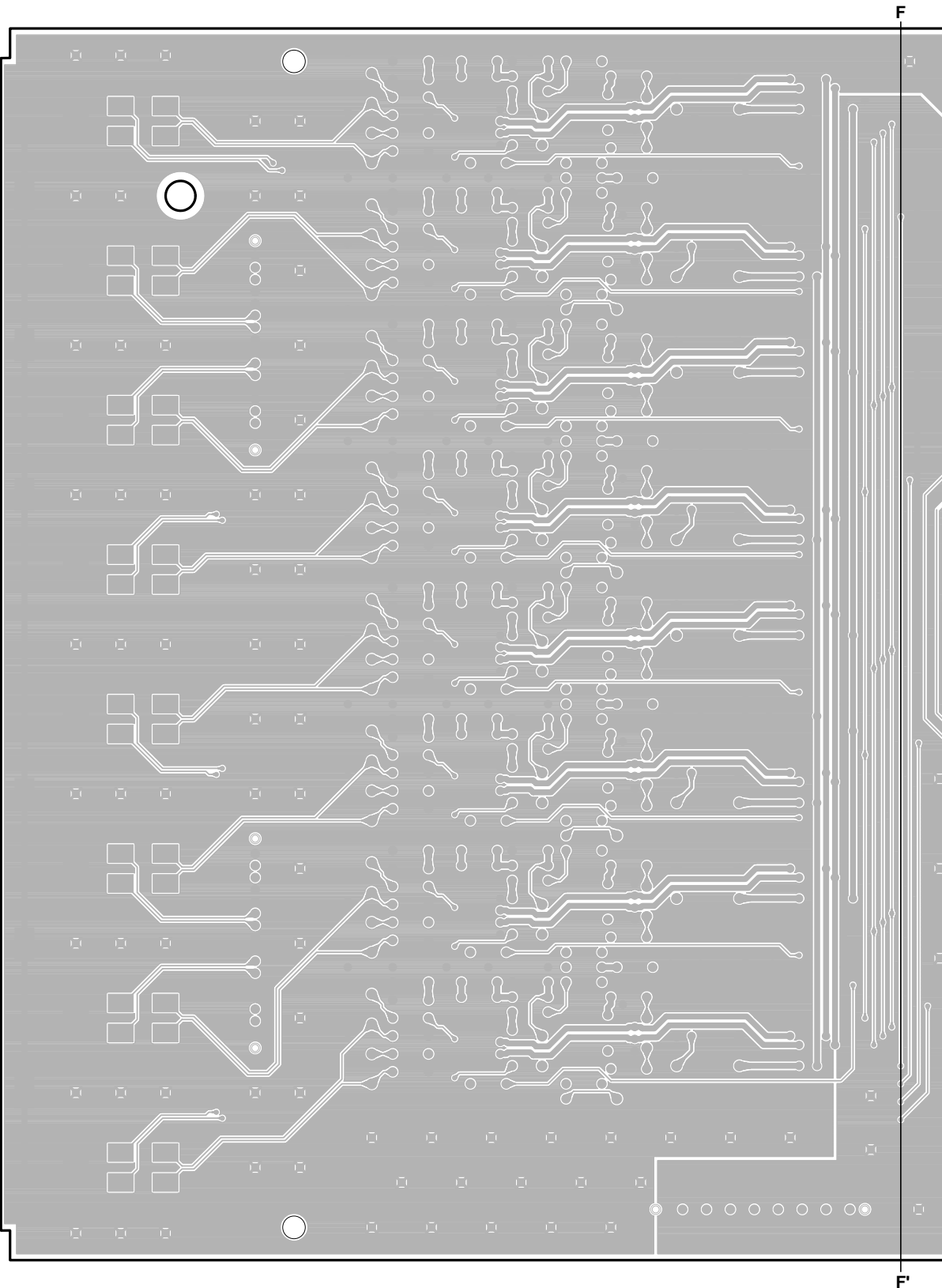
AD, JK: 3NA-V579120



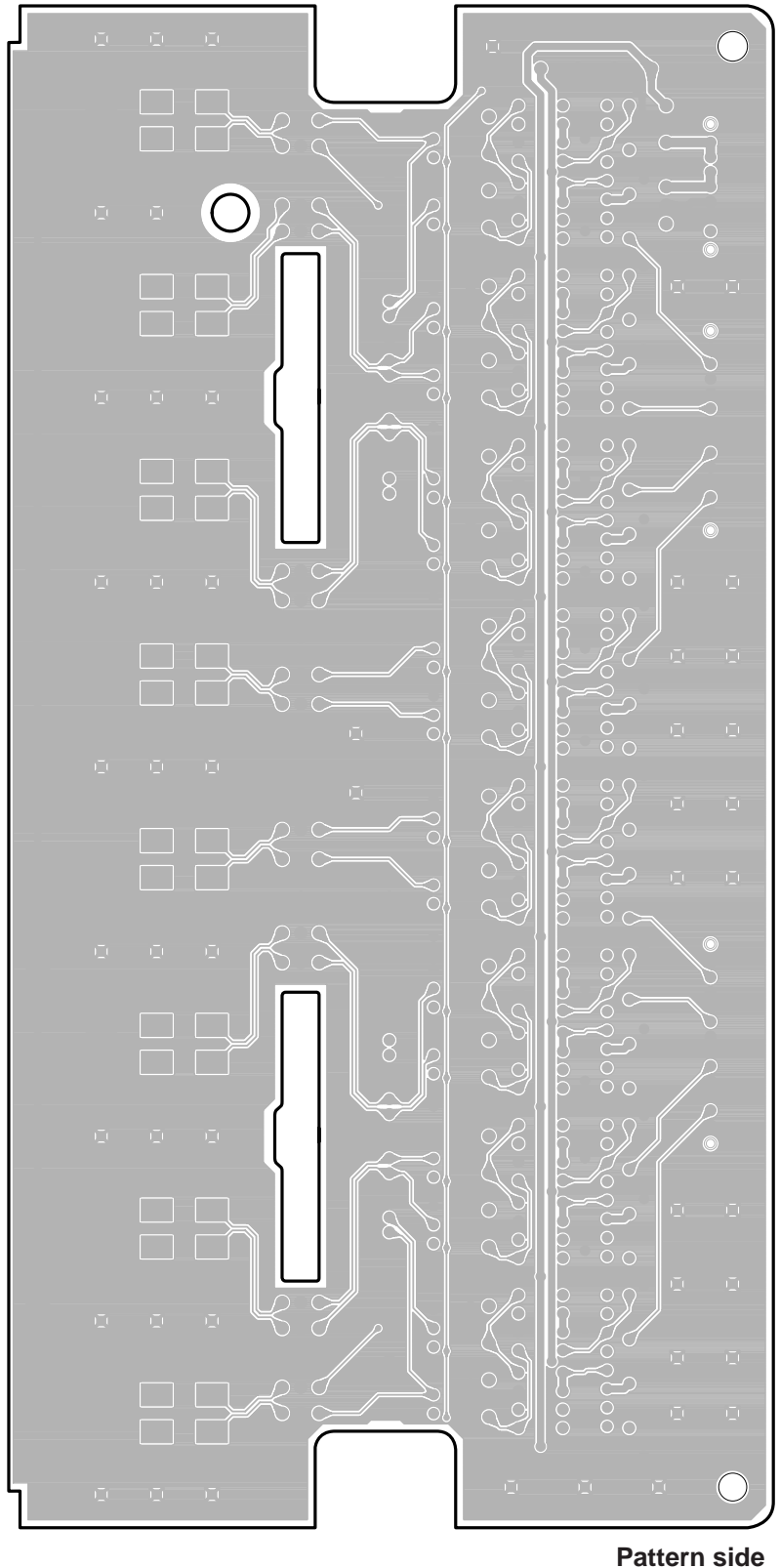
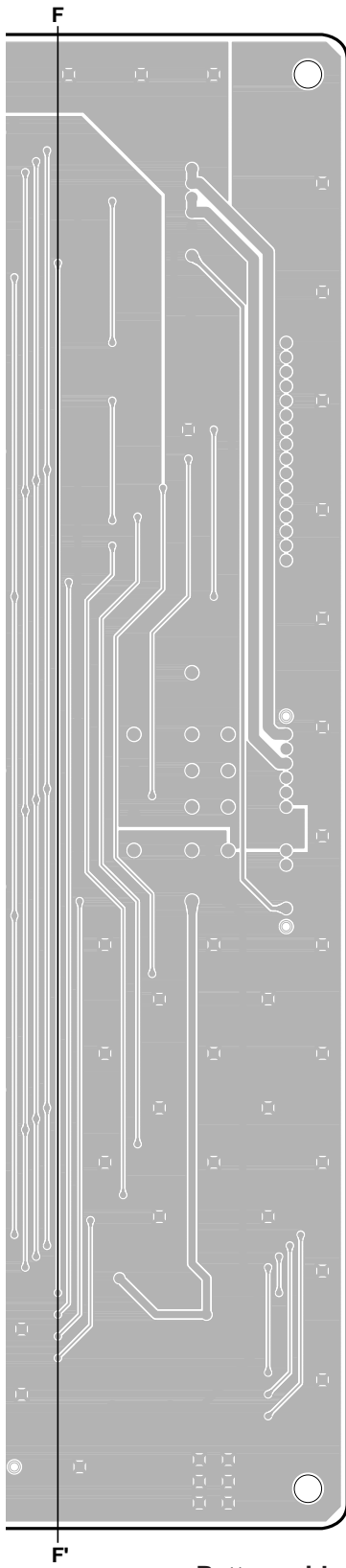
Component side

AD, JK: 3NA-V579120

● AD Circuit Board

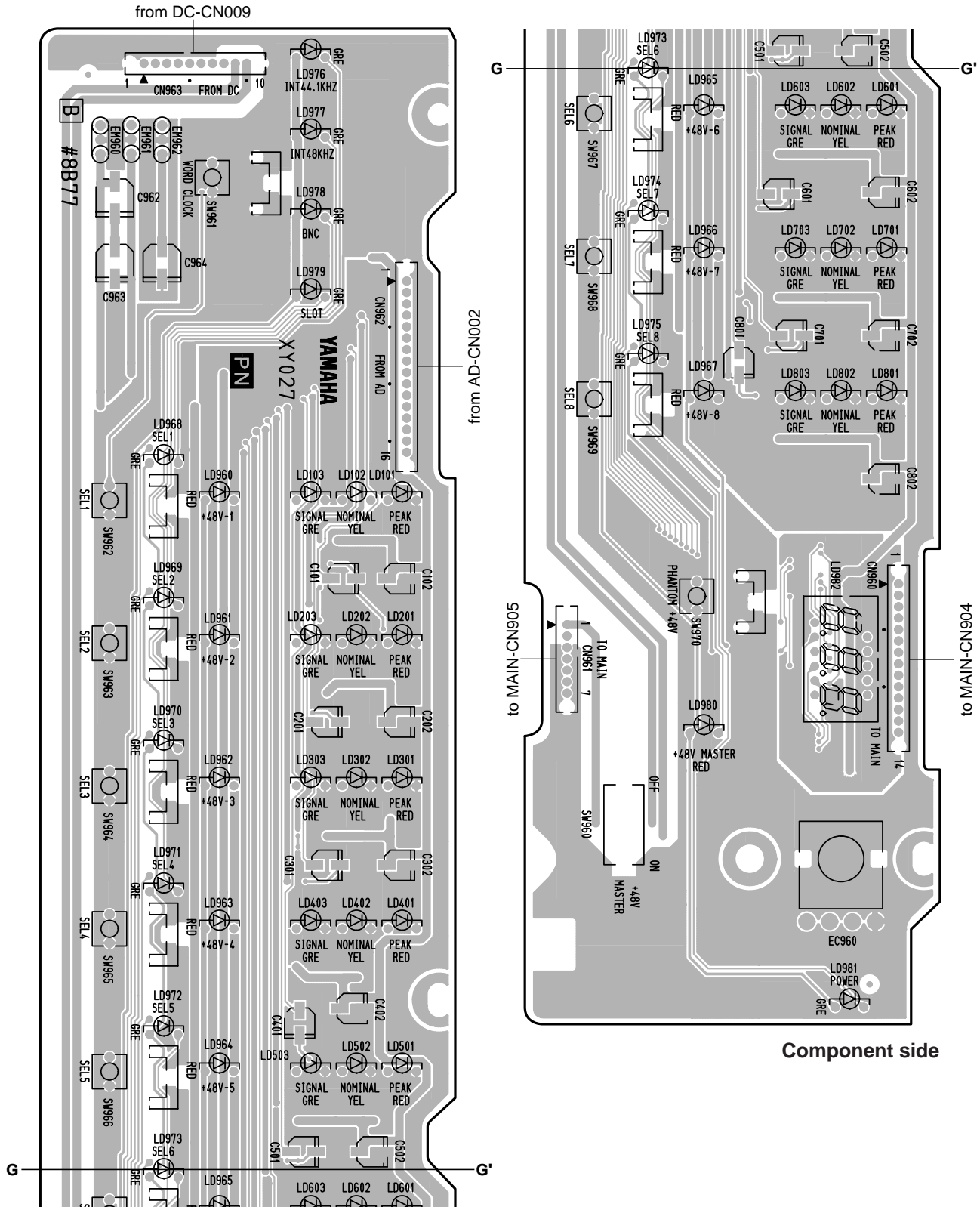


● JK Circuit Board

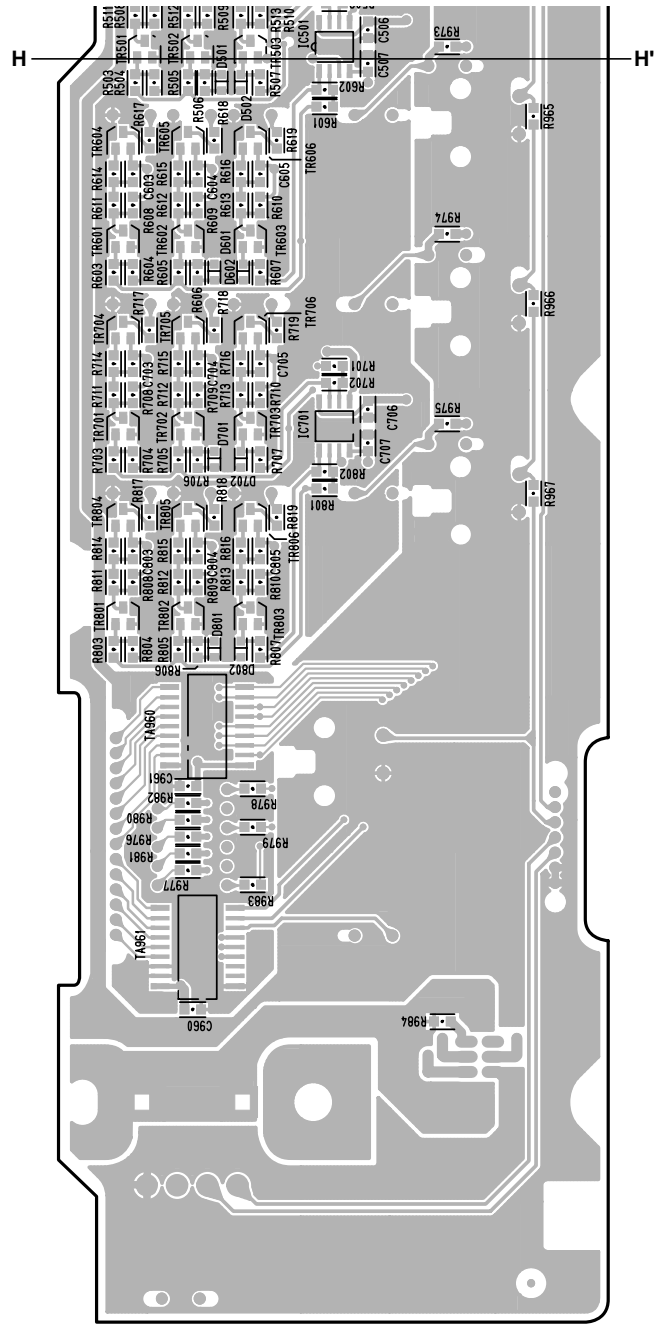
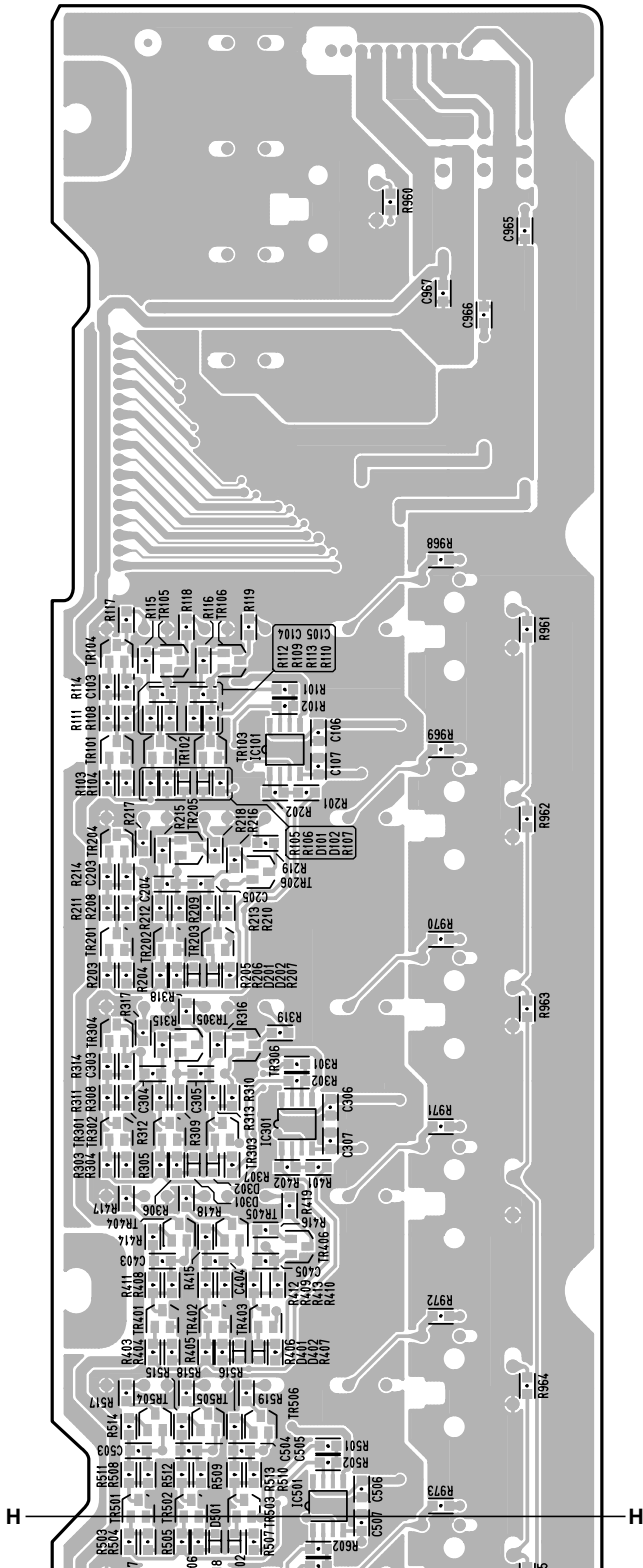


AD, JK: 3NA-V579120

● PN Circuit Board

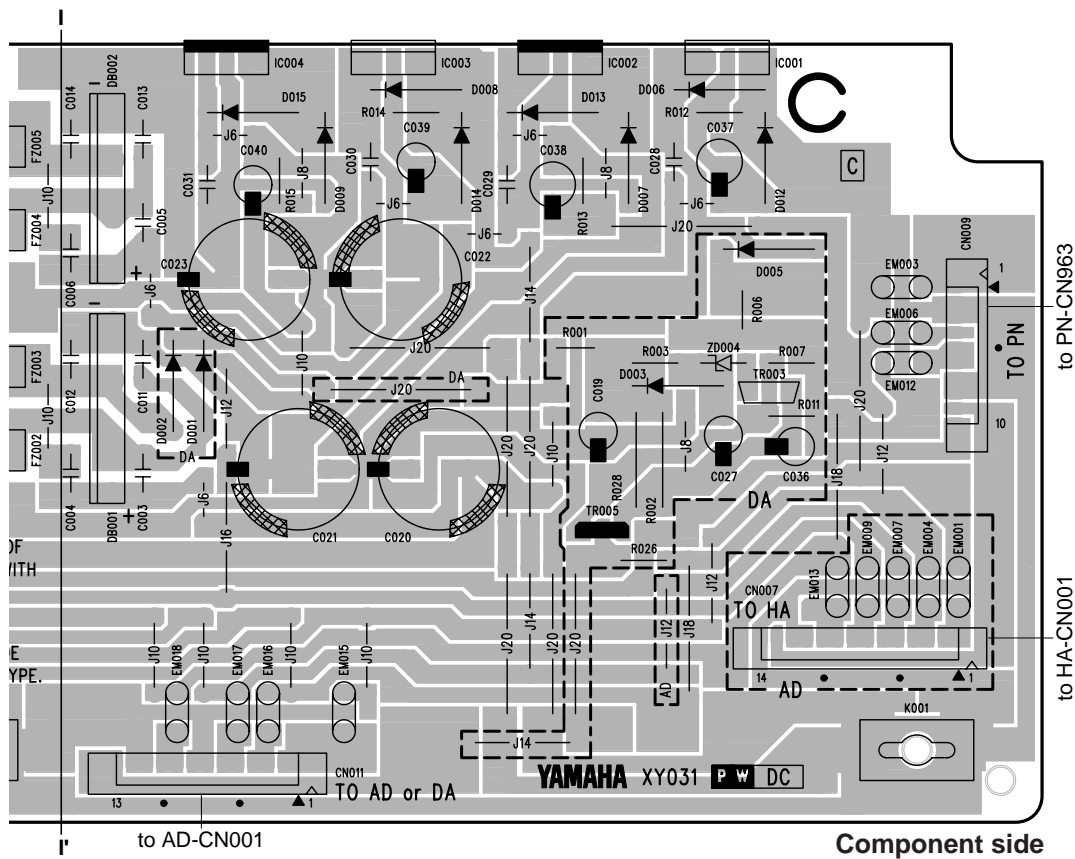
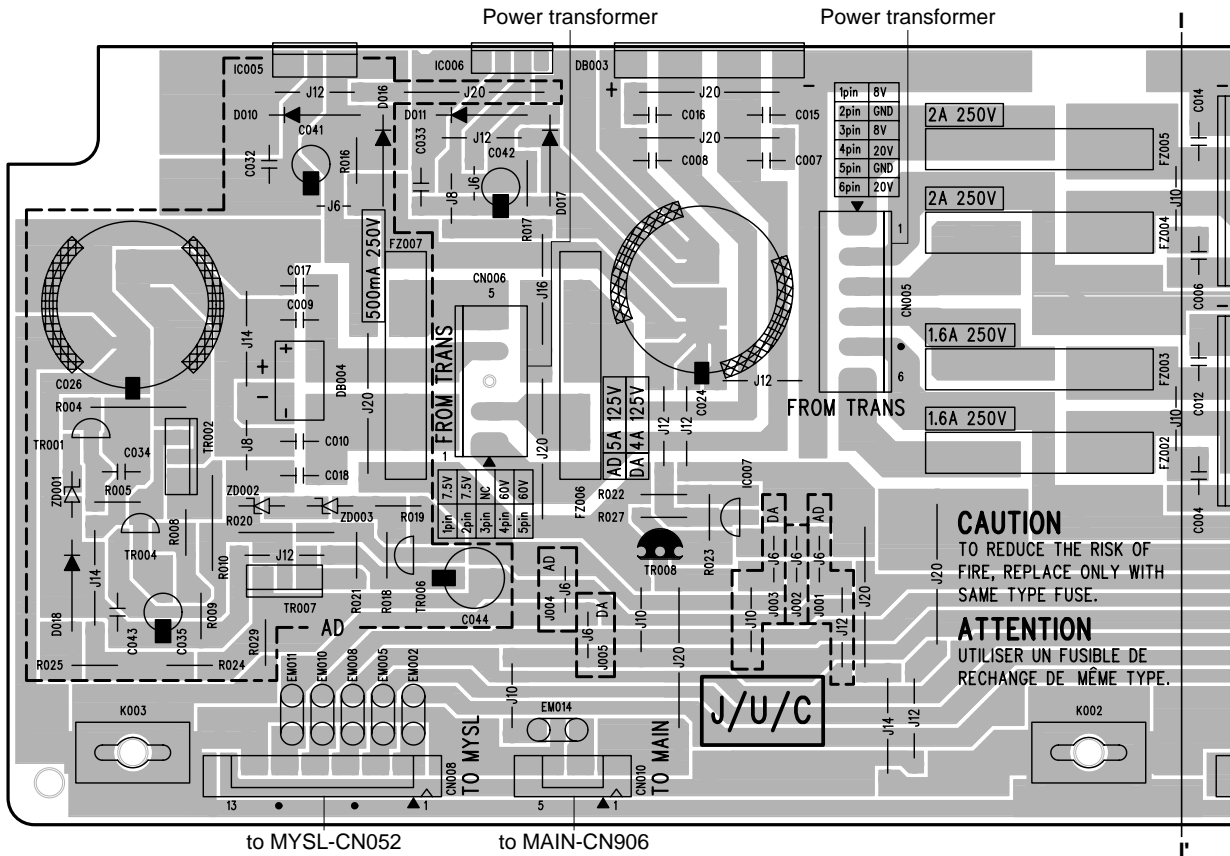


● PN Circuit Board

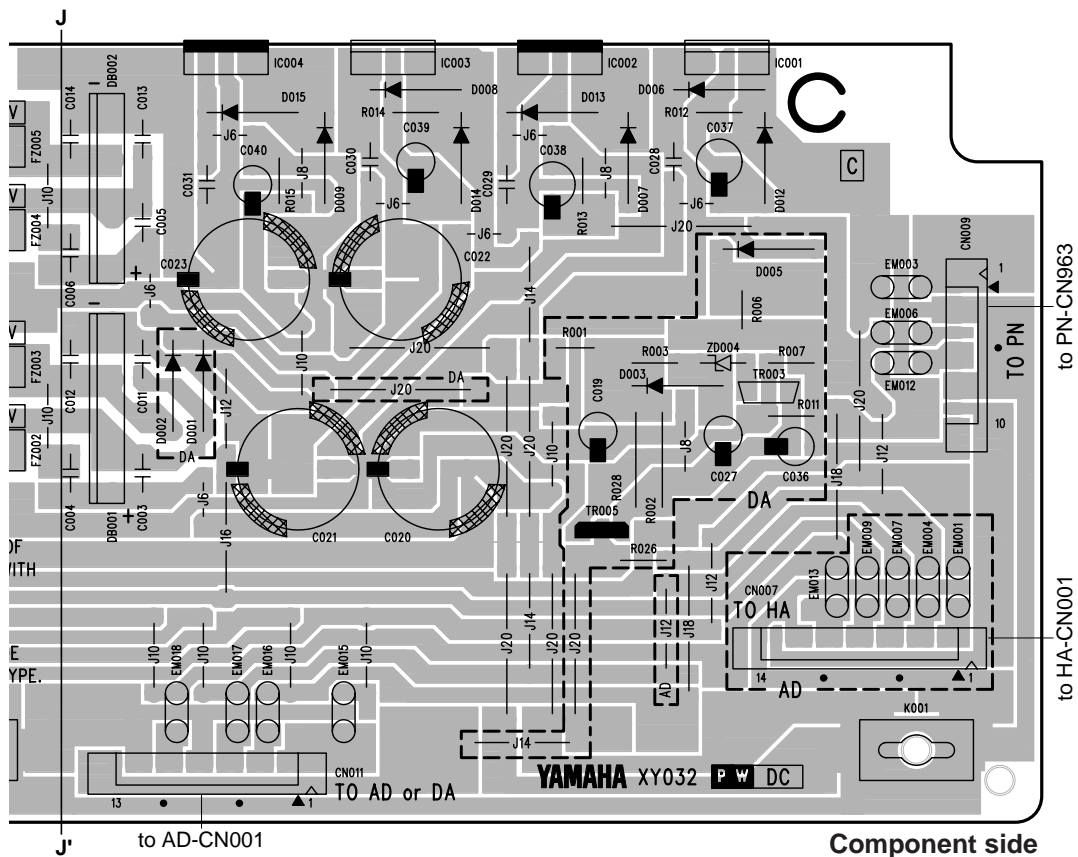
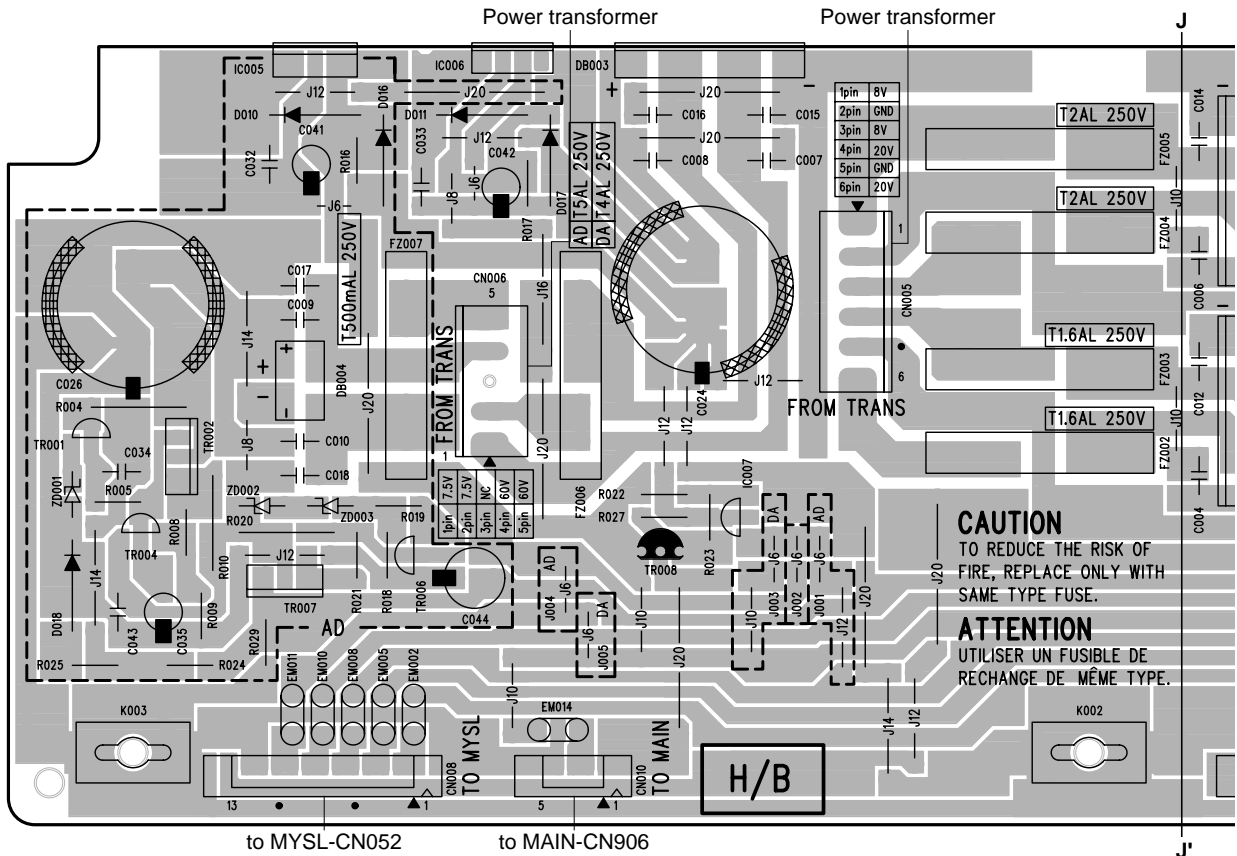


Pattern side

● DC Circuit Board (J, U, V)



● DC Circuit Board (H, W, B)





## ■ INSPECTION

### 1. Preparations

#### 1-1 Conditions

- The setting for AD824 is gain 10 dB, word clock INT 48 kHz.
- Word clock in 75 ohms is set to on.
- Signal input of only the CH to be measured.
- Input signal to NCH when measuring NCH.
- 0 dBu=0.775 Vrms
- The output impedance of the oscillator connected is 150 ohms.
- The input impedance of the oscilloscope and the level meter should be more than 100 k ohms.
- Noise measurement is corrected at 12.7 kHz, -6dB/OCT LPF.  
(This is a measurement of the average value and not the actual effect value.)
- Distortion measurement is corrected at 80 kHz, -6 dB/OCT LPF.
- Use DA824 and MY8-AE card and output signal.
- The load for DA824 output 1 to 8 is 600 ohms.
- DA824 output 1 to 8 is measured at the cannon connector.
- DA824 internal gain SW is +18 dB.

#### 1-2 Initialization

While pressing the [SEL4] key and [+48V] key, turn on the power switch. The system will start up and initialize.

### 2. Inspections

#### 2-1 INPUT1 to 8CH

##### (1) Gain

Input frequency	Input level	GAIN	Specified output level (DA824)	Permissible range
1 kHz	+10 dB	+10 dB	+4 dBu	+4 +/-1 dB
	+4 dB	+4 dB		
	-2 dB	-2 dB		
	-8 dB	-8 dB		
	-14 dB	-14 dB		
	-20 dB	-20 dB		
	-26 dB	-26 dB		
	-32 dB	-32 dB		
	-38 dB	-38 dB		
	-44 dB	-44 dB		
	-50 dB	-50 dB		
	-56 dB	-56 dB		
-62 dB	-62 dB			

##### (2) f characteristics

Conditions: Permissible range uses 1 kHz as a reference.

Input frequency	Input level	GAIN	Permissible range
20 Hz	+10 dBu	+10 dB	-1.5 to +1 dB
	-62 dBu	-62 dB	-3 to +1 dB
20 kHz	+10 dBu	+10 dB	-1.5 to +1 dB
	-62 dBu	-62 dB	-3 to +1 dB

##### (3) Distortion ratio

Input frequency	Input level	GAIN	Specified output level (DA824)	Permissible range
20 Hz	+10 dBu	+10 dB	+4 dBu	Less than 0.05 %
	-62 dBu	-62 dB	+4 dBu	Less than 0.1 %
20 kHz	+10 dBu	+10 dB	+4 dBu	Less than 0.05 %
	-62 dBu	-62 dB	+4 dBu	Less than 0.1 %
1 kHz	+24 dBu	+10 dB	+18 dBu	Less than 0.01 %
	-48 dBu	-62 dB	+18 dBu	Less than 0.05 %

##### (4) Residual noise

Conditions: Input 1 to 8 channels shorted using 150 ohms.

GAIN	Permissible range
+10 dB	Less than -90 dBu



**(5) Noise level EIN**

Conditions: CH IN 1 to 8 channels shorted using 150 ohms.

GAIN	Permissible range
-62 dB	Less than -62 dBu

However, if it does not enter within the permissible range shown above, the measured value shall be (gain per 1 kHz)  $\leq$  -128.

**(6) Difference between channels**

Specify so that it will be less than the difference in the gain range measured at (1).

Permissible range
Within 1 dB

**(7) Cross talk between odd channels and even channels**

Conditions: Input signal into odd channels.

Even channels shorted using 150 ohms.

Input frequency	Output level (Odd CH)	Permissible range (Even CH)
1 kHz	+16 dBu	Less than -54 dBu

Even channels are also the same.

**(8) Phantom**

Short XLR pin 2 and pin 3, connect a 10 kohms load between pins 2 and 1 and measure the voltage as shown below when the +48V master switch is turned on.

Permissible range
DC34 to 38V

Check that discharge starts quickly when the +48V master switch is turned off and when the [+48] key is set to off.

## 2-2 INSERT IN1 to 8CH

**(1) Maximum input**

Input frequency	Input level	Specified output level (DA824)	Permissible range
1 kHz	+24 dB	+18 dBu	18 +/-1 dBu

## 2-3 INSERT OUT1 to 8CH

Conditions: The load for AD824 insert out 1 to 8 channels is 10 kohms.

**(1) Maximum input**

Input frequency	Input level	Specified output level (AD824)	Permissible range
1 kHz	+24 dB	+24 dBu	24 +/-1 dBu

## 2-4 Operation confirmation of level meters 1 to 8

Conditions: Input specified level to AD824 input 1 to 8.

AD824 can also have simultaneous input of channels 1 to 8

Visually confirm the on and off of the peak, nominal and signal LEDs.

**(1) On (Lit)**

LED level	Input frequency	Input level	Reference output level (DA824)
PEAK	1 kHz	+23 dBu	+17 dBu
NOMINAL	1 kHz	+12 dBu	+6 dBu
SIGNAL	1 kHz	-8 dBu	-14 dBu

**(2) Off (Not lit)**

LED level	Input frequency	Input level	Reference output level (DA824)
PEAK	1 kHz	+18 dBu	+12 dBu
NOMINAL	1 kHz	+8 dBu	+2 dBu
SIGNAL	1 kHz	-12 dBu	-18 dBu

## 2-5 Jitter measurement

**(1) INTERNAL 44.1 kHz, 48 kHz**

- Insert MY8-AE card into the slot and connect to DSA1 via the D-sub-cannon converter box.
- Set AD824 word clock settings to 44.1 kHz and 48 kHz.

WORD CLOCK	Permissible range
44.1 kHz	Less than 5 nsec
48 kHz	Less than 5 nsec

(2) **BNC**

- Connect AD824 word clock out and DA824 word clock in.
- Insert MY8-AE card into the slot and connect to DSA1 via the D-sub-cannon converter box.
- Set AD824 word clock settings to BNC.
- Set AD824 word clock settings to 44.1 kHz and 48 kHz.

WORD CLOCK	Permissible range
44.1 kHz	Less than 5 nsec
48 kHz	Less than 5 nsec

2-6 **Fs operating range**

- Connect the oscillator to AD824 word clock in.
- Set AD824 word clock settings to BNC.

(1) **Fs=50.88 kHz (48 kHz+6 %)**

- Set the oscillator to 50.88 kHz.
- Conduct a listening test for one minute to check that there is no noise.

Input frequency	Input level (AD824)	Output level	Permissible range
1 kHz	+10 dBu	+4 dBu	+4 +/-1 dBu

(2) **Fs=39.69 kHz (44.1 kHz-10 %)**

- Set the oscillator to 39.69 kHz.
- Make the same input as 2-6 (1) and confirm that the same output level is attained. Or, conduct a listening test for one minute to check that there is no noise.

**3. Sound**

Perform a listening test to confirm the following items.

- INPUT1 to 8

**4. Initialization**

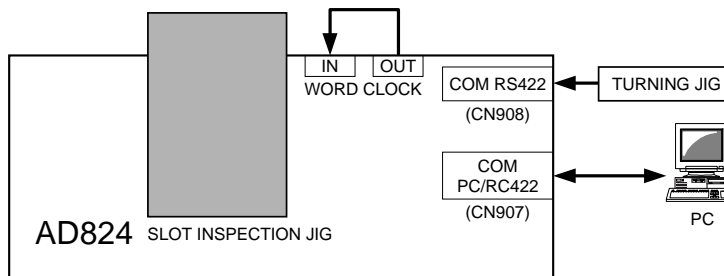
While pressing the [SEL4] key and [+48V] key, turn on the power switch. The system will start up and initialize.

Others, the SW that are not controlled by the CPU are as follows.

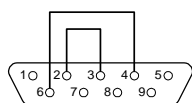
- +48V MASTER: OFF
- WORD CLOCK IN 75 ohms: ON
- PC RS422: RS422

## ■ TEST PROGRAM

### 1. Reparations



- Connect PC (operating MS Windows) to COM PC/RS422 terminal. The switch selects the PC.
- Use a BNC cable to connect the IN and OUT terminals of the word clock.
- Insert the slot inspection jig (TX800810) into the slot.
- Insert the turning jig into COM RS422 terminal (CN908). In the turning jig, DSUB 9 pins No. 2 and No.3, and No.4 and No. 6 are shorted and used.



DSUB9P Female Connector  
(DELC-J9SAF10L9 etc.)

#### <Menu of Test Program>

The test program inspects the following eleven items.

- |  |                        |
|--|------------------------|
| 1. SRAM ↔ CPU connection check         | (automatic inspection) |
| 2. SLOT ↔ CPU connection check         | (automatic inspection) |
| 3. SLOT clock relationship check       | (automatic inspection) |
| 4. SLOT power supply peripheral check  | (automatic inspection) |
| 5. WORD CLOCK IN/OUT connection check  | (automatic inspection) |
| 6. COM RS422 terminal connection check | (automatic inspection) |
| 7. LED connection check                | (visual)               |
| 8. SWITCH connection check             | (manual inspection)    |
| 9. GAIN encoder connection check       | (manual inspection)    |
| 10. COM PC/RS422 terminal check        | (visual)               |
| 11. Initializes memory                 |                        |

Execute the test program after loading DA824DIAG/V1.00 program.

**\* The test program cannot be loaded while the turning jig is attached to COM RS422 terminal (CN908).**

### 2. Test procedure execution program

Connect the PC and COM RS422 terminals/ CN903 with a Dsub 9-pin serial cross cable and start the terminal software (such as Hyper Terminal).

The setting for the communication format is

Bit Rate: 38400 bps  
Data length: 8 bits  
Stop bit: 1  
Parity: none

Next, while pressing [SEL3] and [SEL8] keys simultaneously, turn on the power. The AD824 will enter the test program mode and "d00" will flash on the 7segLED.

The following will appear on the terminal software.

(The version of the test program will be shown as x.xx.)

```
AD824_DIAG>      AD824 Diagnosis version Vx.xx
AD824_DIAG>
```

When in the test program execution, select the test program number for the gain encoder and the program can be executed each time the [+48V] key is pressed.

During selection, the number will flash on the 7segLED and will change to steady on when the program is completed.

The following is the list.

```
[d00]      Automatic inspection
[d01]      LED inspection
[d02]      SWITCH inspection
[d03] to [d07] is reserve.
[d08] displays the program version. (There is no need to execute during inspection.)
[d09]      Initializes memory
[d10]      System reset
```

### 3. [d00] Automatic inspection

Select the test program number [d00] with the gain encoder. The inspection will be automatically executed when the [+48V] key is pressed. Or, it can also be executed by entering

```
AD824_DIAG>d00
```

```
<Inspection items (test)>
```

1. SRAM ↔ CPU connection check
2. SLOT ↔ CPU connection check
3. SLOT clock relationship connection check
4. SLOT power supply peripheral check
5. COM RS422 terminals/ CN903 connection check
6. WORD CLOCK IN/OUT terminal connection check

During the program execution, [d-] will appear on the 7segLED.

The condition will also appear on the terminal software as shown below.

```
Check SRAM DATA  0000 0000 0000 0000  OK
Check SRAM ADDR   0000 0000 0000 000  OK
                  :
                  :
```

If the inspection ends normally, the following will appear on the terminal software.

```
DIAG[00] AUTO CHECK RESULT    OK
AD824_DIAG>
```

[d00] will also come on 7segLED.

If there is an error, the error list will appear on the terminal software

```
DIAG[00] AUTO CHECK RESULT    NG
ERROR LIST
[6]    COM B
```

After [E003] has flashed three times on the 7segLED, [d00] will be displayed steadily.

#### [ERROR LIST]

```
[1] SRAM DATA BUS  XXXX XXXX XXXX XXXX
    SRAM ADDR BUS   XXXX XXXX XXXX XXX
```

#### Results of SRAM (IC923, IC924) and CPU connection check

The first line on the screen shows the condition at the address bus from the left A15, A14 . . . A2, A1 (as viewed from the CPU)

The second line on the screen shows the condition at the data bus from the left D15, D14. . . D1, D0.

```
[2] SLOT DATA BUS  XXXX XXXX XXXX XXXX
    SLOT ADDR BUS   XXX XXXX XXX
    SLOT CONTROL    XXXX
```

**SLOT and CPU connection check**

The first line on the screen shows the condition at the data bus from the left D15, D14. . . D1, D0.

The second line on the screen shows the condition at the address bus from the left A15, A14 . . . A2, A1.

The third line on the screen shown the condition at other control lines from the left /CON-MY,/IRQ-MY, RX-MY, TX-MY.

For each item, an “0” is used to indicate normal and “X” is used to indicate an abnormality.

[3] SLOT CLOCK           XXX XXXX

**Connection check of slot clock line**

The condition is shown from the left as 256FS-MY, 128FS-MY, 64FS-MY, SYNC-MY, FS-MY, WCLK-MY.

For each item, an “0” is used to indicate normal and “X” is used to indicate an abnormality.

- [4] SLOT +20D
- SLOT +5D
- SLOT -5A
- SLOT +5A
- SLOT -15A
- SLOT +15A

**Slot power supply peripheral connection check**

Only the NG systems from the test results will be shown on the screen.

[5] WC BNC

Displayed on the screen when the results of the word clock IN terminal/ JK901 and CPU connection are NG.

[6] COM B

Displayed on the screen when the results of the COM RS422 terminals/ CN903 and CPU connection are NG.

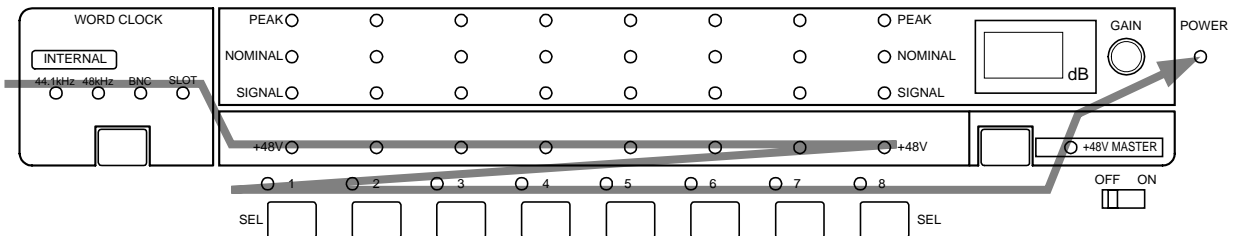
**4. [d01] LED inspection**

Select the test program number [d01] with the gain encoder. The LED inspection will be executed when the [+48V] key is pressed. Or, it can also be executed by entering

```
AD824_DIAG>d01
```

When this program number is executed, the following sequence will occur. Check them visually.

1. The LEDs in the drawing below will come on one at a time.
2. The 7segLED will come on one column at time “0,1,2,3,4,5,6,7,8.”
3. All LEDs, except the level LEDs, will flash 3 times.
4. [d01] on the 7segLED will come on.



In addition, the following will be displayed on the terminal software.

```
DIAG[01]LED CHECK.....
.....DONE
AD824_DIAG>
```

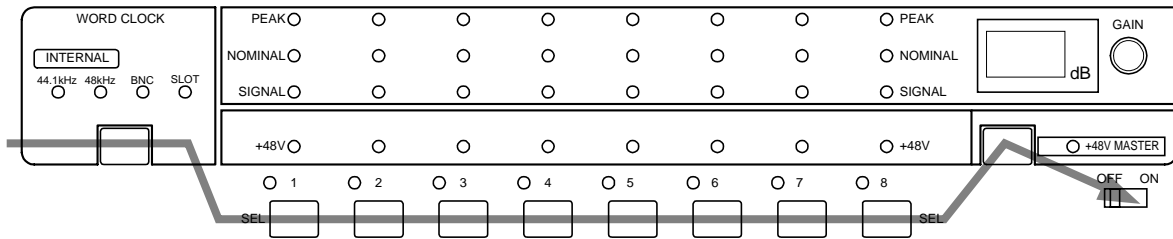
## 5. [d02] SWITCH inspection

Select the test program number [d02] with the gain encoder. The LED inspection will be executed when the [+48V] key is pressed. Or, it can also be executed by entering

```
AD824_DIAG>d02
```

1. The LED near the relevant switch flashes.
2. When the switch is pressed, the LED changes to steady on.
  - \* The +48V MASTER is inspected by changing the switch.
3. The LED for the next switch to be inspected flashes.
4. Steps 1 to 3 are repeated. If there is a problem with the connection, the time over functions and [E02] will flash three times on 7segLED and ends when [d02] is steady on.
 

If normal, it ends when [d02] is steady on.



If there is an error, the terminal software will display the switches that had errors.

```
DIAG[02] SWITCH CHECK NG or TIME OVER
WORD CLOCK (SW961)
SEL 1 (SW962)
...
SEL 8 (SW969)
+48V (SW970)
+48V MASTER (SW960)
AD824_DIAG>
```

## 6. [d08] Program version display.

Select the test program number [d08] with the gain encoder. When the [+48V] key is pressed, the program version will be displayed on 7segLED for approximately one second.

## 7. [d09] Initializes memory

Select the test program number [d09] with the gain encoder. When the [+48V] key is pressed, memory initialization is executed. Or, it can also be executed by entering

```
AD824_DIAG>d09
```

When this program number is executed, the following will be displayed on the terminal software.

```
DIAG[09] MEMORY INITIALIZE DONE
AD824_DIAG>
```

## 8. [d10] System reset

Select the test program number [d10] with the gain encoder. When the [+48V] key is pressed, the system is reset and it is possible to return to the normal operating mode.

Or, it can also be executed by entering

```
AD824_DIAG>reset
```

## ■ FLASH ROM UPGRADE

The AD824 is equipped with flash memory (MAIN: IC927). The software in the flash memory can be upgraded from the COM PC/RS422 terminal. Upgrades can also be performed from a Windows PC using the dedicated software.

When the power is turned on, a check is made to confirm that the system program is in the flash memory. If the proper system is present, it is executed. If the program is not present, or if there is an error, the program boot mode is entered automatically.

### \* Warning\*

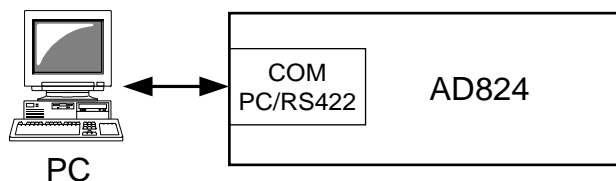
The program cannot be loaded while the turning jig is attached to COM RS422 terminal (CN908) and the inspection jig is attached to the slot.

Check that has been removed before performing the upgrade.

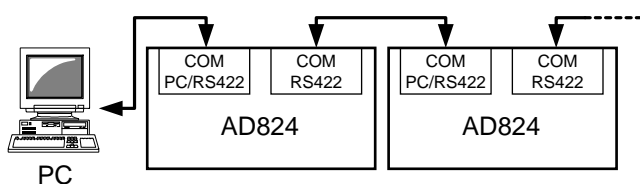
### 1. Connection

Connect the PC and AD824 COM PC/RS422 terminals by Dsub 9 pin serial cross cables.

A changeover switch of PC/RS422 selects PC.

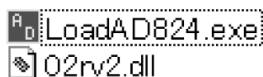


In addition, if connection is made in the following manner, upgrades can also be made to AD824 after the second unit. Note that a condition for this is that the device number has been set beforehand. (The software shown below is compatible up to the fourth unit.)



### 2. Software

LoadAD824/V1.0 is used as the software. When the folder is open, three files are displayed on the screen: LoadAD824.exe, TimeStamp.exe and 02rv2.dll. The two files requiring an upgrade are LoadAD824.exe and 02rv2.dll.

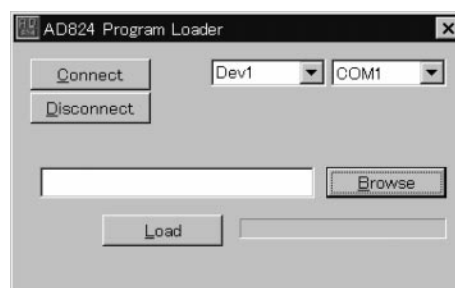


#### 2-1. Start the software

Click on LoadAD824.exe. The program will start and the following screen will be displayed.

It is also possible to switch the PC COM terminal that is connected by the dialogue box in the upper right. (The figure shows that COM1 is selected.)

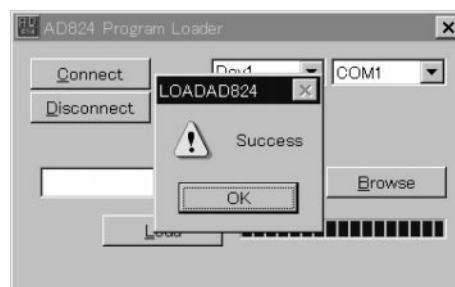
In addition, when loading the program to AD824 after the second unit, switching of the device number is done by the dialogue box at the upper center. (The figure shows that DEV 1 is selected.)



#### 2-2. Connection with AD824

Click the [Connect] switch and the AD824 program is loaded. The commands are sent and if the connection is successful, the following message will appear.

Click OK and the AD824 will display the device number and part of the version of the current program in the 7segLED. For example, if the device number is 1 and the program version is 1.00, "d01" and "r1.0" will light up alternately.



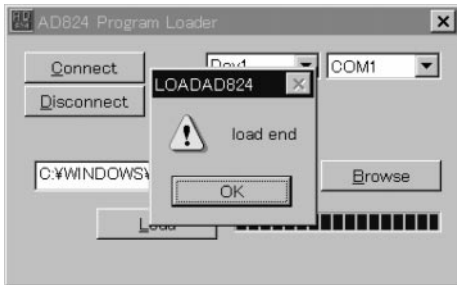
#### 2-3. Reading the files to be loaded

Click the [Browse] switch and the following window will open. Designate the files to be loaded to the AD824 and click the [Open] switch.



### 2-4. Loading the program

Click the [Load] switch and the program will start to load.  
When completed, the following message will be displayed.



### 2-5. Others

Click the [Disconnect] switch to reset the AD824 to the regular mode.



## ■ ERROR MESSAGES

The AD824 performs several diagnostic checks when it's turned on. If a problem is detected, one of the following error codes appears briefly on the GAIN display.

<i>E 1</i>	Internal backup-battery voltage low.
<i>E 2</i>	Internal memory data corrupt.
<i>E 3</i>	Internal backup-battery voltage low and internal memory data corrupt.

# AD CONVERTER

# AD 824

# PARTS LIST

## ■ CONTENTS



OVERALL ASSEMBLY .....	2
FRONT PANEL ASSEMBLY .....	4
REAR PANEL ASSEMBLY .....	5
DC ASSEMBLY .....	6
ELECTRICAL PARTS .....	7-31

## Notes: DESTINATION ABBREVIATIONS

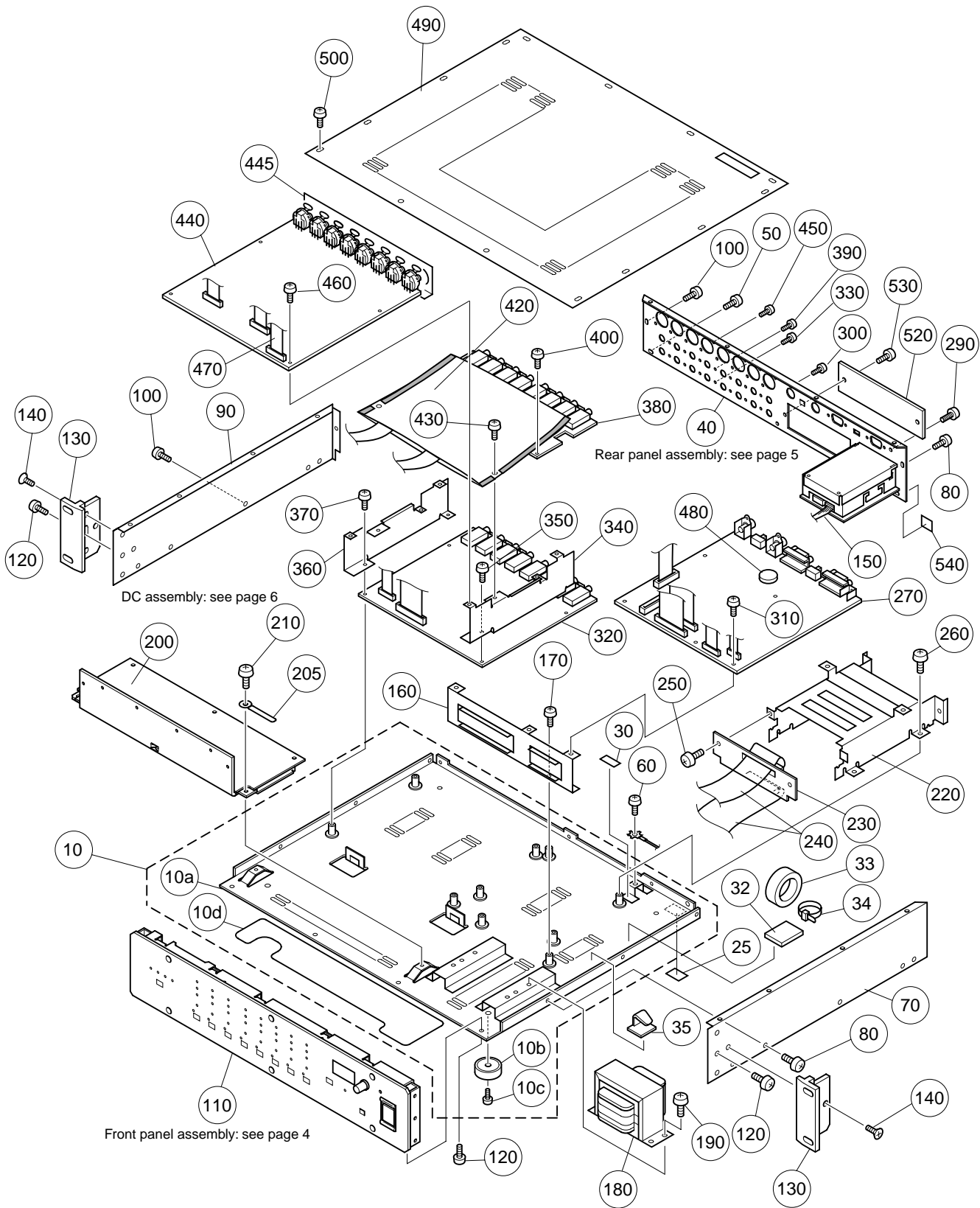
A: Australian model	M: South African model
B: British model	O: Chinese model
C: Canadian model	Q: South-east Asia model
D: German model	T: Taiwan model
E: European model	U: U.S.A. model
F: French model	V: General export model (110 V)
H: North European model	W: General export model (220 V)
I: Indonesian 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		AD824		
	--	Overall Assembly		J (V560980)		
	--	Overall Assembly		U,V (V560990)		
	--	Overall Assembly		H,W (V561000)		
	--	Overall Assembly		B (V561010)		
10	--	Bottom Assembly		(V580690)		
10a	V4067500	Bottom Chassis				10
10b	CB806590	Leg Black	BL		4	03
10c	VR138400	Bind Head Tapping Screw-B	4.0X12 MFZN2BL		4	01
10d	--	Protection Sheet		(V553110)		
25	--	Label		U,V (VA03930)		03
30	--	Label		H,W,B (V567270)		
32	CB835590	Holder		H,W,B		01
33	VC362700	Ferrite Core		H,W,B		04
34	CB069250	Cord Holder	BK-1	H,W,B		01
35	CB095100	Holder, Cord	K-103G			01
40	--	Rear Panel Assembly		J (V561020)		
40	--	Rear Panel Assembly		U,V (V561030)		
40	--	Rear Panel Assembly		H,W (V561040)		
40	--	Rear Panel Assembly		B (V561050)		
50	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		4	01
60	EG340360	Bind Head Screw	4.0X8 MFZN2BL	U,V,H,W,B		01
70	V4068400	Side Panel	RIGHT			10
80	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		4	01
90	V4605100	Side Panel	LEFT			10
100	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		4	01
110	--	Front Panel Assembly		J,U,V (V561060)		
110	--	Front Panel Assembly		H,W,B (V561070)		
120	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		6	01
130	V4705100	Rack Mount Angle			2	08
* 140	V6221000	Oval Head Screw	B4.0X10 MFZN2BL		6	
150	--	Connector Assembly	AC-SW	(V545950)		
160	--	PCB Support	MAIN	(V527400)		
170	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		2	01
△* 180	XY173A00	Power Transformer	J A	J		12
△* 180	XY174A00	Power Transformer	UL,CSA A	U,V		12
△* 180	XY175B00	Power Transformer	CEE A	H,W,B		12
190	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		4	01
* 200	V5610800	DC Assembly		J,U,V		
* 200	V5610900	DC Assembly		H,W,B		
205	CB817510	Cord Binder	S-14B			03
210	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		2	01
220	V4093800	Support, OPT				05
* 230	V5792200	Circuit Board	MYSL			
240	--	Connector Assembly	36P 140mm P=1.25	(MF13614)	2	
250	EG340360	Bind Head Screw	4.0X8 MFZN2BL		2	01
260	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		4	01
* 270	V5792100	Circuit Board	MAIN			
290	VS154500	Bonding Screw	4.0X8 MFZN2BL			01
300	VS863000	Bonding Screw	3.0X6 MFZN2BL		2	01
310	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		5	01
* 320	V5791900	Circuit Board	AD			
330	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		6	01
* 340	V5274100	PCB Holder	RIGHT			
350	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		2	01
360	--	PCB Holder	LEFT	(V527420)		
370	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		2	01
* 380	V5792000	Circuit Board	JK			
390	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		6	01
400	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		2	01
* 420	V5725100	Shield Sheet	AD			
430	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		2	01
* 440	V5791100	Circuit Board	HA			
445	--	Ground Film, AD		(V647450)		
450	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		16	01
460	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		4	01
470	MF126200	Connector Assembly	26P 200mm P=1.25			04
480	VN103500	Lithium Battery	CR2032			03
490	V5202400	Top Cover				11
500	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		14	01

\*: New Parts

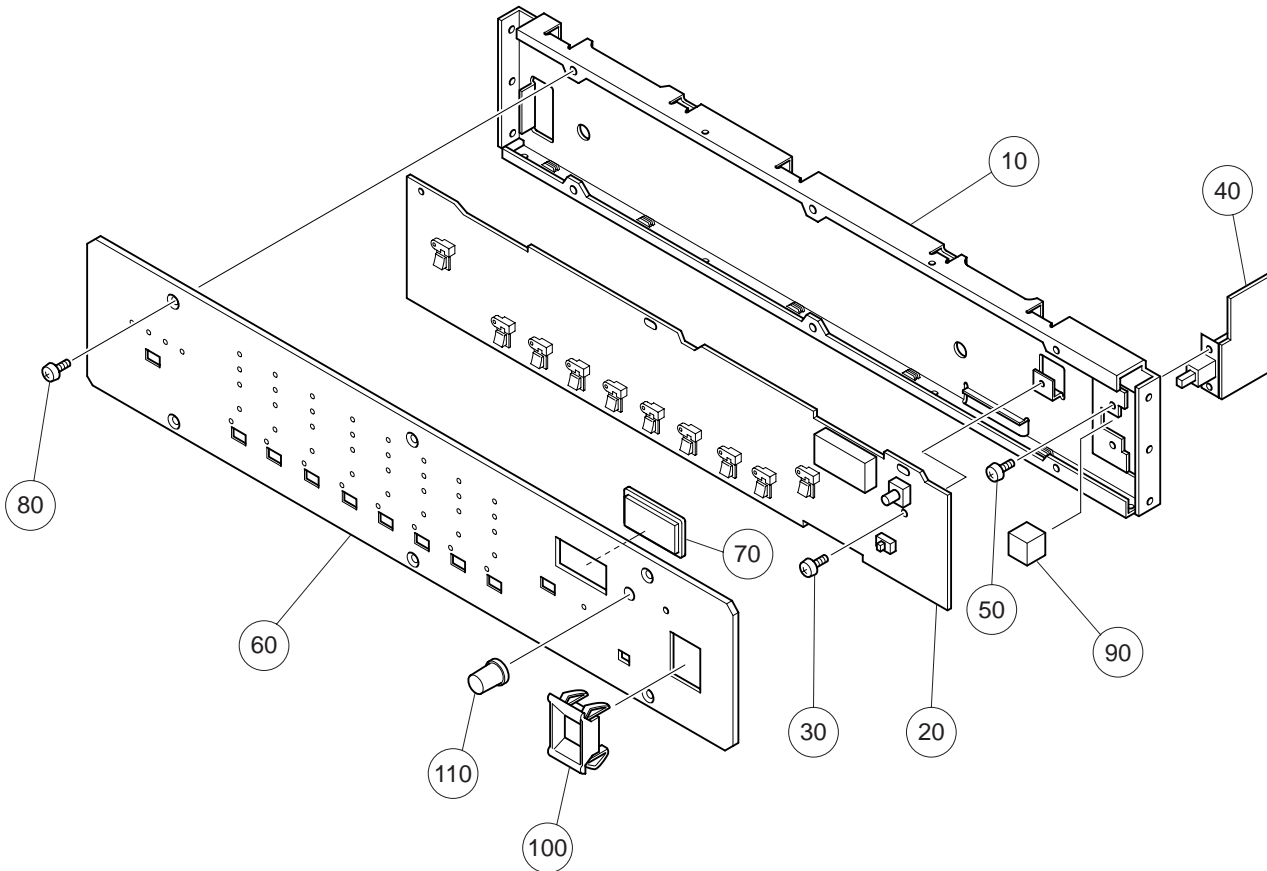
RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
520	VZ678500	IF Plate				05
530	VP156900	Bind Head Screw	A4.0X12 MFZN2BL		2	01
540	CB076120	Label		H,W,B		
		ACCESSORIES				
	V5436200	DSUB Cable	9P			07

\*: New Parts

RANK: Japan only

## FRONT PANEL ASSEMBLY

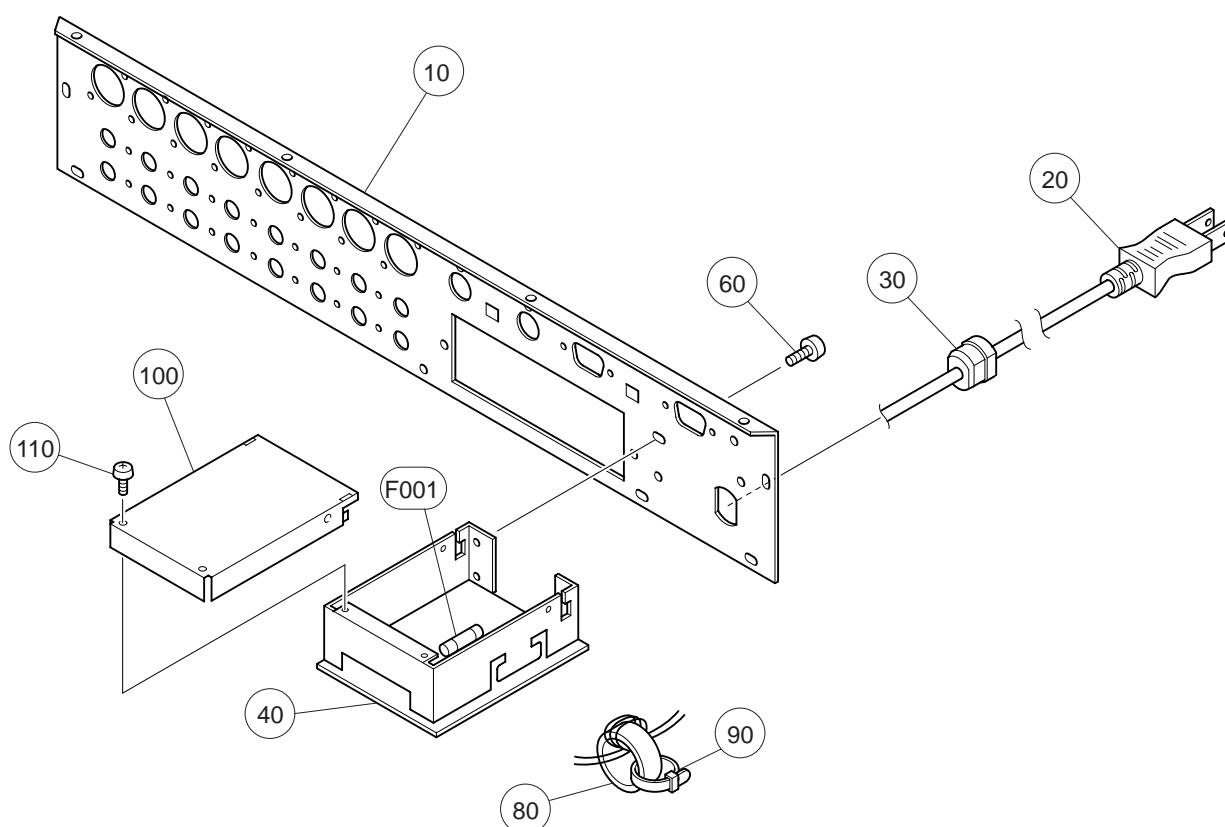


REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	--	FRONT PANEL ASSEMBLY		AD824		
	--	Front Panel Assembly		J,U,V (V561060)		
	--	Front Panel Assembly		H,W,B (V561070)		
10	V4067800	Sub Chassis				07
* 20	V5791000	Circuit Board	PN			
30	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		4	01
* 40	V5792500	Circuit Board	SW	J,U,V		
* 40	V5792800	Circuit Board	SW	H,W,B		
50	VS863000	Bonding Screw	3.0X6 MFZN2BL		2	01
* 60	V4067900	Front Panel				
* 70	V4068900	Cover				04
80	VS153600	Oval Head Screw	4.0X8 MFZN2BL		6	01
90	VL812900	Power Switch Knob		POWER ON/OFF		03
100	VL813000	Escutcheon, Power Switch				03
110	VM840900	Knob		GAIN		03

\*: New Parts

RANK: Japan only

# REAR PANEL ASSEMBLY

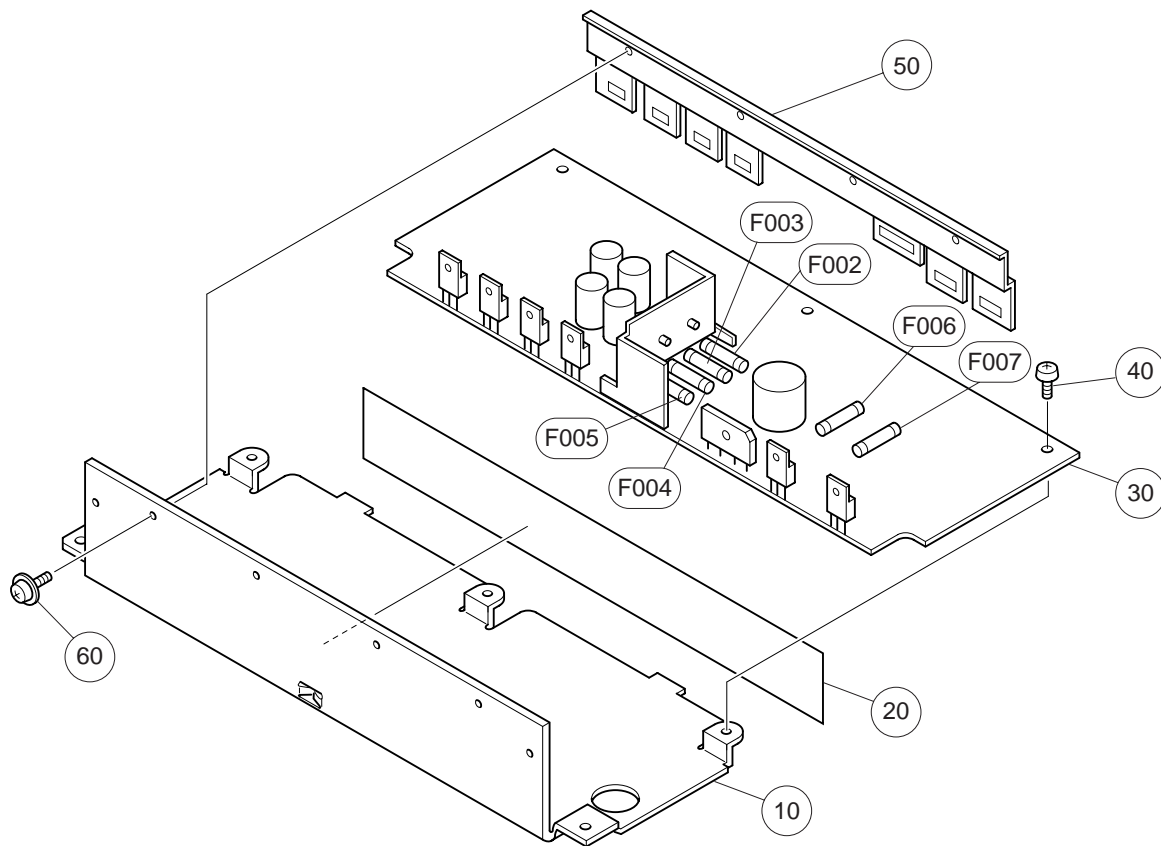


REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	--	REAR PANEL ASSEMBLY		AD824		
	--	Rear Panel Assembly		J (V561020)		
	--	Rear Panel Assembly		U,V (V561030)		
	--	Rear Panel Assembly		H,W (V561040)		
	--	Rear Panel Assembly		B (V561050)		
*	10	V4068100 Rear Panel	AD	J		07
*	10	V5254600 Rear Panel	AD	U,V		07
*	10	V5254700 Rear Panel	AD	H,W,B		07
△	20	VS228900 AC Cord Assembly	2P 15A	J		09
△	20	VS229000 AC Cord Assembly	3P 10A	U,V		10
△	20	VS229100 AC Cord Assembly	3P 6A	H,W		10
△	20	VS229200 AC Cord Assembly	3P 10A	B		11
	30	CB806850 Cord Strain Relief	SR-6N3-4	J		02
	30	CB811230 Cord Strain Relief	SR-6N-4	U,V		02
	30	CB032840 Cord Strain Relief	SR-5N-4	H,W,B		03
*	40	V5792300 Circuit Board	AC	J,U,V		
*	40	V5792600 Circuit Board	AC	H,W,B		
	60	VC688800 Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		3	01
	80	VC362700 Ferrite Core	FR25/15/12-1400L			04
	90	CB069250 Cord Holder	BK-1			01
	100	V5274400 AC Shield Cover				03
	110	VN413300 Bonding Tapping Screw-B	3.0X8 MFZN2BL		2	01
△	F001	KB003570 Fuse	2.00A JU	J,U,V		01
△	F001	KB003040 Fuse	1.00A S	H,W,B		01

\*: New Parts

RANK: Japan only

DC ASSEMBLY



REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
*	<b>V5610800</b>	DC ASSEMBLY		AD824		
*	<b>V5610900</b>	DC Assembly		J,U,V		
		DC Assembly		H,W,B		
10	--	Heat Sink		(V406870)		
20	<b>V4068800</b>	Insulation Sheet				03
* 30	<b>V5792400</b>	Circuit Board	DC	J,U,V		
* 30	<b>V5792700</b>	Circuit Board	DC	H,W,B		
40	<b>VN413300</b>	Bonding Tapping Screw-B	3.0X8 MFZN2BL		3	01
50	--	Holder, Transistor		(V406820)		
60	<b>EL200020</b>	Pan Head Screw	SP 4.0X8 MFZN2Y		4	01
△ F002	<b>KB003560</b>	Fuse	1.60A JU	J,U,V		01
△ F002	<b>KB003060</b>	Fuse	1.60A S	H,W,B		01
△ F003	<b>KB003560</b>	Fuse	1.60A JU	J,U,V		01
△ F003	<b>KB003060</b>	Fuse	1.60A S	H,W,B		01
△ F004	<b>KB003570</b>	Fuse	2.00A JU	J,U,V		01
△ F004	<b>KB003070</b>	Fuse	2.00A S	H,W,B		01
△ F005	<b>KB003570</b>	Fuse	2.00A JU	J,U,V		01
△ F005	<b>KB003070</b>	Fuse	2.00A S	H,W,B		01
△ F006	<b>KB003630</b>	Fuse	5.00A JU	J,U,V		01
△ F006	<b>KB003240</b>	Fuse	5.00A S	H,W,B		01
△ F007	<b>KB003470</b>	Fuse	500mA 250V JU	J,U,V		01
△ F007	<b>KB003010</b>	Fuse	500mA S	H,W,B		01

\*: New Parts

RANK: Japan only

# ELECTRICAL PARTS

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
		ELECTRICAL PARTS		AD824		
*	V5792300	Circuit Board	AC	J,U,V (XY031C0)		
*	V5792600	Circuit Board	AC	H,W,B (XY032C0)		
*	V5792400	Circuit Board	DC	J,U,V (XY031C0)		
*	V5792700	Circuit Board	DC	H,W,B (XY032C0)		
*	V5792500	Circuit Board	SW	J,U,V (XY031C0)		
*	V5792800	Circuit Board	SW	H,W,B (XY032C0)		
*	V5791900	Circuit Board	AD	(XY028A0)		
*	V5792000	Circuit Board	JK	(XY028A0)		
*	V5791100	Circuit Board	HA	(XY029A0)		
*	V5792100	Circuit Board	MAIN	(XY030A0)		
*	V5792200	Circuit Board	MYSL	(XY030A0)		
*	V5791000	Circuit Board	PN	(XY027B0)		
*	V5792300	Circuit Board	AC	J,U,V (XY031C0)		
*	V5792600	Circuit Board	AC	H,W,B (XY032C0)		
*	V5792400	Circuit Board	DC	J,U,V (XY031C0)		
*	V5792700	Circuit Board	DC	H,W,B (XY032C0)		
*	V5792500	Circuit Board	SW	J,U,V (XY031C0)		
*	V5792800	Circuit Board	SW	H,W,B (XY032C0)		
*	V5848200	Cap Screw-B	3.0X10 MFZN2BL		2	01
*	V5273900	AC Shield Plate				03
*	V5731700	Heat Sink	DB			
*	V5724900	Insulation Sheet	DB			01
	VA078900	Jumper Wire	0.55			
△	C001	V3311600	Capacitor	0.010 250V J.U.C.S		01
△	C002	V5170300	Capacitor	0.220 275V U.C.S		01
	C003	VS589000	Ceramic Capacitor-E	4700P 500V M		01
	-018	VS589000	Ceramic Capacitor-E	4700P 500V M		01
	C020	UR659220	Electrolytic Cap.	2200 35.0V		02
	C021	UR659220	Electrolytic Cap.	2200 35.0V		02
	C022	UR639470	Electrolytic Cap.	4700 16.0V		02
	C023	UR639470	Electrolytic Cap.	4700 16.0V		02
	C024	VT947800	Electrolytic Cap.	10000 16 USP		04
	C026	VT598700	Electrolytic Cap.	1000 100 USP		05
	C028	UA355100	Mylar Capacitor	0.1000 50V J		01
	-033	UA355100	Mylar Capacitor	0.1000 50V J		01
	C034	VS589000	Ceramic Capacitor-E	4700P 500V M		01
	C035	UR897100	Electrolytic Cap.	10.0 100.0V		01
	C037	UR858100	Electrolytic Cap.	100.00 35.0V		01
	-042	UR838100	Electrolytic Cap.	100.00 16.0V		01
	C043	VS589000	Ceramic Capacitor-E	4700P 500V M		01
	C044	UR897470	Electrolytic Cap.	47.0 100.0V		01
	CN001	LB932030	Base Post Connector	VH 3P TE		01
	CN002	LB933030	Base Post Connector	VH 3P SE		01
	CN003	LB933030	Base Post Connector	VH 3P SE		01
	CN004	LB933040	Base Post Connector	VH 4P SE		01
	CN005	LB932060	Base Post Connector	VH 6P TE		01
	CN006	LB932050	Base Post Connector	VH 5P TE		01
	CN007	VK025800	Wire Trap	52147 14P TE		01
	CN008	VK025700	Wire Trap	52147 13P TE		01
	CN009	VF728200	Wire Trap	52147 10P TE		01
	CN010	VK024900	Wire Trap	52147 5P TE		01
	CN011	VK025700	Wire Trap	52147 13P TE		01
	D006	VB481900	Diode	11ES4		01
	-018	VB481900	Diode	11ES4		01
	DB001	VT359600	Diode Stack	D3SBA20 4.0A 200V		03
	DB002	VT359600	Diode Stack	D3SBA20 4.0A 200V		03
	DB003	VN011300	Diode Stack	D3SBA20 4.0A 200V		03
	DB004	VB845300	Diode Stack	S1WB(A)60 1.0A 60		02
	EM001	FZ006970	LC Filter	LS MT Y223NB		02
	-018	FZ006970	LC Filter	LS MT Y223NB		02
	FZ001	VP206500	Fuse Holder	EYF-52BC		01
	-007	VP206500	Fuse Holder	EYF-52BC		01
	IC001	XD853A00	IC	NJM7815FA	REGULATOR +15V	03
	IC002	XD854A00	IC	NJM7915FA	REGULATOR -15V	03
	IC003	XR607A00	IC	UPC2405AHF	REGULATOR +5V	04
	IC004	XK309A00	IC	NJM7905FA	REGULATOR -5V	03
	IC005	XR607A00	IC	UPC2405AHF	REGULATOR +5V	04
	IC006	XH672A00	IC	PQ05RF2	REGULATOR +5V 2A	04

\*: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
IC007	XD631A00	IC	PST518B-TP	SYSTEM RESET		02
J001	VA078900	Jumper Wire	0.55			
J004	VA078900	Jumper Wire	0.55			
K001	BB069510	Land Terminal	#6951 A-8			01
-003	BB069510	Land Terminal	#6951 A-8			01
△ L001	VQ764500	Line Filter	PLAC1522R0R01B1			03
R004	VC749400	Metal Oxide Film Resistor	5.6K 1W J			01
R005	HF757220	Carbon Resistor	22.0K 1/4 J			01
R008	HF756560	Carbon Resistor	5.6K 1/4 J			01
R009	HF758100	Carbon Resistor	100.0K 1/4 J			01
R010	VC743400	Metal Oxide Film Resistor	22.0 1W J			01
R012	HF757100	Carbon Resistor	10.0K 1/4 J			01
-018	HF757100	Carbon Resistor	10.0K 1/4 J			01
R019	HF756220	Carbon Resistor	2.2K 1/4 J			01
R020	VC750200	Metal Oxide Film Resistor	12.0K 1W J			01
R021	HF756220	Carbon Resistor	2.2K 1/4 J			01
R022	HF757100	Carbon Resistor	10.0K 1/4 J			01
R023	HF757100	Carbon Resistor	10.0K 1/4 J			01
R024	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R025	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R027	HF756470	Carbon Resistor	4.7K 1/4 J			01
△ SW001	V3127000	Push Switch	ESB92S23B J.U.C.S	POWER ON/OFF		02
TR001	VS150800	Transistor	2SC3200 GR			01
TR002	VM923000	Transistor	2SD2015 *			03
TR004	VS150800	Transistor	2SC3200 GR			01
TR006	VS150800	Transistor	2SC3200 GR			01
TR007	VM923000	Transistor	2SD2015 *			03
TR008	IA101590	Transistor	2SA1015 O,Y			01
ZD001	VQ554100	Zener Diode	MTZJ7.5A 7.5V			01
ZD002	VQ558500	Zener Diode	MTZJ33B 33.0V			01
ZD003	VQ557800	Zener Diode	MTZJ27B 27.0V			01
* V5791900	Circuit Board	AD		(XY028A0)		
* V5792000	Circuit Board	JK		(XY028A0)		
V5274300	Jack Holder				4	01
* C001	V5829300	Electrolytic Cap. (chip)	100 16V 16SG100M+T			04
* C002	V5829300	Electrolytic Cap. (chip)	100 16V 16SG100M+T			04
* C003	V5829200	Electrolytic Cap. (chip)	100 20V 20SG100M+T			04
* C004	V5829200	Electrolytic Cap. (chip)	100 20V 20SG100M+T			04
C005	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-008	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
* C011	UU148100	Electrolytic Cap.	100.00 25.0V			
* C012	UU148100	Electrolytic Cap.	100.00 25.0V			
C013	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C015	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C101	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C102	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C103	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C104	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C105	UU148100	Electrolytic Cap.	100.00 25.0V			
* C106	UU148100	Electrolytic Cap.	100.00 25.0V			
C116	UU167100	Electrolytic Cap.	10.00 50.0V			01
C117	UU167100	Electrolytic Cap.	10.00 50.0V			01
C118	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
-120	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C121	UU167100	Electrolytic Cap.	10.00 50.0V			01
C122	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C123	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C127	UA353220	Mylar Capacitor	2200P 50V J			01
C130	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C131	UU167100	Electrolytic Cap.	10.00 50.0V			01
C132	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C133	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C134	UU167100	Electrolytic Cap.	10.00 50.0V			01
C135	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C136	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C137	UU167100	Electrolytic Cap.	10.00 50.0V			01
C138	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C139	UU147220	Electrolytic Cap.	22.00 25.0V			01
C140	UU147220	Electrolytic Cap.	22.00 25.0V			01

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C143	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-146	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C201	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C202	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C203	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C204	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C205	UU148100	Electrolytic Cap.	100.00 25.0V			
* C206	UU148100	Electrolytic Cap.	100.00 25.0V			
C216	UU167100	Electrolytic Cap.	10.00 50.0V			01
C217	UU167100	Electrolytic Cap.	10.00 50.0V			01
C218	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
-220	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C221	UU167100	Electrolytic Cap.	10.00 50.0V			01
C222	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C223	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C227	UA353220	Mylar Capacitor	2200P 50V J			01
C243	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-246	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C301	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C302	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C303	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C304	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C305	UU148100	Electrolytic Cap.	100.00 25.0V			
* C306	UU148100	Electrolytic Cap.	100.00 25.0V			
C316	UU167100	Electrolytic Cap.	10.00 50.0V			01
C317	UU167100	Electrolytic Cap.	10.00 50.0V			01
C318	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
-320	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C321	UU167100	Electrolytic Cap.	10.00 50.0V			01
C322	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C323	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C327	UA353220	Mylar Capacitor	2200P 50V J			01
C330	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C331	UU167100	Electrolytic Cap.	10.00 50.0V			01
C332	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C333	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C334	UU167100	Electrolytic Cap.	10.00 50.0V			01
C335	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C336	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C337	UU167100	Electrolytic Cap.	10.00 50.0V			01
C338	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C339	UU147220	Electrolytic Cap.	22.00 25.0V			01
C340	UU147220	Electrolytic Cap.	22.00 25.0V			01
C343	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-346	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C401	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C402	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C403	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C404	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C405	UU148100	Electrolytic Cap.	100.00 25.0V			
* C406	UU148100	Electrolytic Cap.	100.00 25.0V			
C416	UU167100	Electrolytic Cap.	10.00 50.0V			01
C417	UU167100	Electrolytic Cap.	10.00 50.0V			01
C418	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
-420	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C421	UU167100	Electrolytic Cap.	10.00 50.0V			01
C422	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C423	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C427	UA353220	Mylar Capacitor	2200P 50V J			01
C443	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-446	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C501	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C502	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C503	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C504	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C505	UU148100	Electrolytic Cap.	100.00 25.0V			
* C506	UU148100	Electrolytic Cap.	100.00 25.0V			
C516	UU167100	Electrolytic Cap.	10.00 50.0V			01
C517	UU167100	Electrolytic Cap.	10.00 50.0V			01
C518	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01

\*: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
-520	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C521	UU167100	Electrolytic Cap.	10.00 50.0V			01
C522	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C523	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C527	UA353220	Mylar Capacitor	2200P 50V J			01
C530	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C531	UU167100	Electrolytic Cap.	10.00 50.0V			01
C532	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C533	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C534	UU167100	Electrolytic Cap.	10.00 50.0V			01
C535	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C536	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C537	UU167100	Electrolytic Cap.	10.00 50.0V			01
C538	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C539	UU147220	Electrolytic Cap.	22.00 25.0V			01
C540	UU147220	Electrolytic Cap.	22.00 25.0V			01
C543	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-546	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C601	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C602	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C603	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C604	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C605	UU148100	Electrolytic Cap.	100.00 25.0V			01
* C606	UU148100	Electrolytic Cap.	100.00 25.0V			01
C616	UU167100	Electrolytic Cap.	10.00 50.0V			01
C617	UU167100	Electrolytic Cap.	10.00 50.0V			01
C618	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
-620	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C621	UU167100	Electrolytic Cap.	10.00 50.0V			01
C622	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C623	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C627	UA353220	Mylar Capacitor	2200P 50V J			01
C643	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-646	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C701	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C702	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C703	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C704	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C705	UU148100	Electrolytic Cap.	100.00 25.0V			01
* C706	UU148100	Electrolytic Cap.	100.00 25.0V			01
C716	UU167100	Electrolytic Cap.	10.00 50.0V			01
C717	UU167100	Electrolytic Cap.	10.00 50.0V			01
C718	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
-720	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C721	UU167100	Electrolytic Cap.	10.00 50.0V			01
C722	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C723	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C727	UA353220	Mylar Capacitor	2200P 50V J			01
C730	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C731	UU167100	Electrolytic Cap.	10.00 50.0V			01
C732	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C733	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C734	UU167100	Electrolytic Cap.	10.00 50.0V			01
C735	UB245220	Monolithic Ceramic Cap.	F 0.220 25V Z			01
C736	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C737	UU167100	Electrolytic Cap.	10.00 50.0V			01
C738	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C739	UU147220	Electrolytic Cap.	22.00 25.0V			01
C740	UU147220	Electrolytic Cap.	22.00 25.0V			01
C743	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-746	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C801	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C802	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C803	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C804	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
* C805	UU148100	Electrolytic Cap.	100.00 25.0V			01
* C806	UU148100	Electrolytic Cap.	100.00 25.0V			01
C816	UU167100	Electrolytic Cap.	10.00 50.0V			01
C817	UU167100	Electrolytic Cap.	10.00 50.0V			01
C818	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01

\*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
-820	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C821	UU167100	Electrolytic Cap.	10.00 50.0V			01
C822	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C823	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C827	UA353220	Mylar Capacitor	2200P 50V J			01
C843	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
-846	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
CN001	VI879100	Cable Holder	51048 13P TE			01
CN002	VJ861600	Wire Trap	52147 16P TE			01
CN003	VI879400	Cable Holder	51048 16P TE			01
CN004	VK025100	Wire Trap	52147 7P TE			01
CN005	VI878500	Cable Holder	51048 7P TE			01
CN102	VI879000	Cable Holder	51048 12P TE			01
CN103	VJ861600	Wire Trap	52147 16P TE			01
CN104	VI879400	Cable Holder	51048 16P TE			01
CN202	VI879000	Cable Holder	51048 12P TE			01
CN203	VJ861600	Wire Trap	52147 16P TE			01
CN204	VI879400	Cable Holder	51048 16P TE			01
EM001	FZ006970	LC Filter	LS MT Y223NB			02
-006	FZ006970	LC Filter	LS MT Y223NB			02
EM101	FZ006920	LC Filter	LS MT B271KB			01
EM102	FZ006920	LC Filter	LS MT B271KB			01
EM201	FZ006920	LC Filter	LS MT B271KB			01
EM202	FZ006920	LC Filter	LS MT B271KB			01
EM301	FZ006920	LC Filter	LS MT B271KB			01
EM302	FZ006920	LC Filter	LS MT B271KB			01
EM401	FZ006920	LC Filter	LS MT B271KB			01
EM402	FZ006920	LC Filter	LS MT B271KB			01
EM501	FZ006920	LC Filter	LS MT B271KB			01
EM502	FZ006920	LC Filter	LS MT B271KB			01
EM601	FZ006920	LC Filter	LS MT B271KB			01
EM602	FZ006920	LC Filter	LS MT B271KB			01
EM701	FZ006920	LC Filter	LS MT B271KB			01
EM702	FZ006920	LC Filter	LS MT B271KB			01
EM801	FZ006920	LC Filter	LS MT B271KB			01
EM802	FZ006920	LC Filter	LS MT B271KB			01
IC007	XM182A00	IC	TC7S04F	INVERTER		01
IC008	IS024500	IC	HD74LV245AFPEL	BUFFER		02
IC101	XP844A00	IC	NJM4556AL	OP AMP		02
IC103	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC104	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC105	XV065A00	IC	AK5392-VS-E2	DAC		12
IC201	XP844A00	IC	NJM4556AL	OP AMP		02
IC203	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC204	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC301	XP844A00	IC	NJM4556AL	OP AMP		02
IC303	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC304	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC305	XV065A00	IC	AK5392-VS-E2	DAC		12
IC401	XP844A00	IC	NJM4556AL	OP AMP		02
IC403	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC404	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC501	XP844A00	IC	NJM4556AL	OP AMP		02
IC503	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC504	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC505	XV065A00	IC	AK5392-VS-E2	DAC		12
IC601	XP844A00	IC	NJM4556AL	OP AMP		02
IC603	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC604	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC701	XP844A00	IC	NJM4556AL	OP AMP		02
IC703	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC704	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC705	XV065A00	IC	AK5392-VS-E2	DAC		12
IC801	XP844A00	IC	NJM4556AL	OP AMP		02
IC803	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC804	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
JK102	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 1		02
JK103	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 1		02
JK202	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 2		02
JK203	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 2		02

\*: New Parts

RANK: Japan only



REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
JK302	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 3		02
JK303	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 3		02
JK402	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 4		02
JK403	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 4		02
JK502	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 5		02
JK503	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 5		02
JK602	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 6		02
JK603	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 6		02
JK702	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 7		02
JK703	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 7		02
JK802	LB301920	Phone Jack	HLJ4306 STEREO	INSERT OUT(BAL) 8		02
JK803	LB301920	Phone Jack	HLJ4306 STEREO	INSERT IN(BAL) 8		02
L001	VS740100	Chip Inductance	BLM21B751S 2125			03
-008	VS740100	Chip Inductance	BLM21B751S 2125			03
R001	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
-008	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
R101	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R102	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-104	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R105	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R106	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R107	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R108	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R109	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R110	HF754750	Carbon Resistor	75.0 1/4 J			01
R111	HF754750	Carbon Resistor	75.0 1/4 J			01
R112	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R113	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R127	HF755100	Carbon Resistor	100.0 1/4 J			01
R128	HF758100	Carbon Resistor	100.0K 1/4 J			01
R129	HF758100	Carbon Resistor	100.0K 1/4 J			01
R130	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R131	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R132	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R133	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R134	HF754390	Carbon Resistor	39.0 1/4 J			01
R135	HF758100	Carbon Resistor	100.0K 1/4 J			01
R136	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R137	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R138	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R139	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R140	HF754470	Carbon Resistor	47.0 1/4 J			01
R141	HF754470	Carbon Resistor	47.0 1/4 J			01
R142	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R143	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R144	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R145	HF754390	Carbon Resistor	39.0 1/4 J			01
R201	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R202	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-204	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R205	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R206	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R207	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R208	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R209	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R210	HF754750	Carbon Resistor	75.0 1/4 J			01
R211	HF754750	Carbon Resistor	75.0 1/4 J			01
R212	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R213	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R227	HF755100	Carbon Resistor	100.0 1/4 J			01
R228	HF758100	Carbon Resistor	100.0K 1/4 J			01
R229	HF758100	Carbon Resistor	100.0K 1/4 J			01
R230	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R231	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R232	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R233	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R234	HF754390	Carbon Resistor	39.0 1/4 J			01
R235	HF758100	Carbon Resistor	100.0K 1/4 J			01
R236	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R237	VC327100	Metal Film Resistor	2.0K 1/4 F			01

\*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R238	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R239	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R240	HF754470	Carbon Resistor	47.0 1/4 J			01
R241	HF754470	Carbon Resistor	47.0 1/4 J			01
R245	HF754390	Carbon Resistor	39.0 1/4 J			01
R301	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R302	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-304	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R305	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R306	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R307	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R308	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R309	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R310	HF754750	Carbon Resistor	75.0 1/4 J			01
R311	HF754750	Carbon Resistor	75.0 1/4 J			01
R312	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R313	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R327	HF755100	Carbon Resistor	100.0 1/4 J			01
R328	HF758100	Carbon Resistor	100.0K 1/4 J			01
R329	HF758100	Carbon Resistor	100.0K 1/4 J			01
R330	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R331	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R332	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R333	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R334	HF754390	Carbon Resistor	39.0 1/4 J			01
R335	HF758100	Carbon Resistor	100.0K 1/4 J			01
R336	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R337	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R338	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R339	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R340	HF754470	Carbon Resistor	47.0 1/4 J			01
R341	HF754470	Carbon Resistor	47.0 1/4 J			01
R342	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R343	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R344	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R345	HF754390	Carbon Resistor	39.0 1/4 J			01
R401	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R402	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-404	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R405	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R406	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R407	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R408	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R409	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R410	HF754750	Carbon Resistor	75.0 1/4 J			01
R411	HF754750	Carbon Resistor	75.0 1/4 J			01
R412	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R413	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R427	HF755100	Carbon Resistor	100.0 1/4 J			01
R428	HF758100	Carbon Resistor	100.0K 1/4 J			01
R429	HF758100	Carbon Resistor	100.0K 1/4 J			01
R430	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R431	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R432	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R433	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R434	HF754390	Carbon Resistor	39.0 1/4 J			01
R435	HF758100	Carbon Resistor	100.0K 1/4 J			01
R436	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R437	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R438	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R439	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R440	HF754470	Carbon Resistor	47.0 1/4 J			01
R441	HF754470	Carbon Resistor	47.0 1/4 J			01
R445	HF754390	Carbon Resistor	39.0 1/4 J			01
R501	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R502	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-504	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R505	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R506	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R507	VC329700	Metal Film Resistor	24.0K 1/4 F			01

\*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R508	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R509	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R510	HF754750	Carbon Resistor	75.0 1/4 J			01
R511	HF754750	Carbon Resistor	75.0 1/4 J			01
R512	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R513	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R527	HF755100	Carbon Resistor	100.0 1/4 J			01
R528	HF758100	Carbon Resistor	100.0K 1/4 J			01
R529	HF758100	Carbon Resistor	100.0K 1/4 J			01
R530	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R531	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R532	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R533	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R534	HF754390	Carbon Resistor	39.0 1/4 J			01
R535	HF758100	Carbon Resistor	100.0K 1/4 J			01
R536	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R537	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R538	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R539	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R540	HF754470	Carbon Resistor	47.0 1/4 J			01
R541	HF754470	Carbon Resistor	47.0 1/4 J			01
R542	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R543	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R544	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R545	HF754390	Carbon Resistor	39.0 1/4 J			01
R601	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R602	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-604	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R605	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R606	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R607	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R608	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R609	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R610	HF754750	Carbon Resistor	75.0 1/4 J			01
R611	HF754750	Carbon Resistor	75.0 1/4 J			01
R612	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R613	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R627	HF755100	Carbon Resistor	100.0 1/4 J			01
R628	HF758100	Carbon Resistor	100.0K 1/4 J			01
R629	HF758100	Carbon Resistor	100.0K 1/4 J			01
R630	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R631	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R632	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R633	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R634	HF754390	Carbon Resistor	39.0 1/4 J			01
R635	HF758100	Carbon Resistor	100.0K 1/4 J			01
R636	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R637	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R638	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R639	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R640	HF754470	Carbon Resistor	47.0 1/4 J			01
R641	HF754470	Carbon Resistor	47.0 1/4 J			01
R645	HF754390	Carbon Resistor	39.0 1/4 J			01
R701	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R702	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-704	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R705	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R706	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R707	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R708	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R709	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R710	HF754750	Carbon Resistor	75.0 1/4 J			01
R711	HF754750	Carbon Resistor	75.0 1/4 J			01
R712	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R713	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R727	HF755100	Carbon Resistor	100.0 1/4 J			01
R728	HF758100	Carbon Resistor	100.0K 1/4 J			01
R729	HF758100	Carbon Resistor	100.0K 1/4 J			01
R730	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R731	VC328800	Metal Film Resistor	10.0K 1/4 F			01

\*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R732	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R733	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R734	HF754390	Carbon Resistor	39.0 1/4 J			01
R735	HF758100	Carbon Resistor	100.0K 1/4 J			01
R736	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R737	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R738	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R739	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R740	HF754470	Carbon Resistor	47.0 1/4 J			01
R741	HF754470	Carbon Resistor	47.0 1/4 J			01
R742	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R743	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R744	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R745	HF754390	Carbon Resistor	39.0 1/4 J			01
R801	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R802	VC328900	Metal Film Resistor	11.0K 1/4 F			01
-804	VC328900	Metal Film Resistor	11.0K 1/4 F			01
R805	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R806	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R807	VC329700	Metal Film Resistor	24.0K 1/4 F			01
R808	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R809	VC329600	Metal Film Resistor	22.0K 1/4 F			01
R810	HF754750	Carbon Resistor	75.0 1/4 J			01
R811	HF754750	Carbon Resistor	75.0 1/4 J			01
R812	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R813	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R827	HF755100	Carbon Resistor	100.0 1/4 J			01
R828	HF758100	Carbon Resistor	100.0K 1/4 J			01
R829	HF758100	Carbon Resistor	100.0K 1/4 J			01
R830	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R831	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R832	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R833	VC328100	Metal Film Resistor	5.1K 1/4 F			01
R834	HF754390	Carbon Resistor	39.0 1/4 J			01
R835	HF758100	Carbon Resistor	100.0K 1/4 J			01
R836	VC329200	Metal Film Resistor	15.0K 1/4 F			01
R837	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R838	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R839	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R840	HF754470	Carbon Resistor	47.0 1/4 J			01
R841	HF754470	Carbon Resistor	47.0 1/4 J			01
R845	HF754390	Carbon Resistor	39.0 1/4 J			01
W001	--	Ribbon Cable	P=2.0 #26 13P 70L	(V542940)		
W003	--	Ribbon Cable	P=2.0 #26 16P 100L	(V229820)		
W005	--	Jumper Wire	FVP=2.0C26SB7-100	(VV15350)		
W102	--	Jumper Wire	FVP=2.0C26SB12-200	(V584330)		
W104	--	Jumper Wire	FVP=2.0C26SB16-60	(V584340)		
W202	--	Jumper Wire	FVP=2.0C26SB12-200	(V584330)		
W204	--	Jumper Wire	FVP=2.0C26SB16-60	(V584340)		
* C001	V5791100	Circuit Board	HA	(XY029A0)		
C001	UR877470	Electrolytic Cap.	47.00 63.0V			
* C002	V5829300	Electrolytic Cap. (chip)	100 16V 16SG100M+T			04
* -004	V5829300	Electrolytic Cap. (chip)	100 16V 16SG100M+T			04
* C005	V5829200	Electrolytic Cap. (chip)	100 20V 20SG100M+T			04
* C006	V5829200	Electrolytic Cap. (chip)	100 20V 20SG100M+T			04
C007	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-016	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C100	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C101	UR877470	Electrolytic Cap.	47.00 63.0V			
C102	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C103	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C106	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C107	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C108	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C109	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C110	UR819100	Electrolytic Cap.	10006.3V			01
C111	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C112	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C113	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01

\*: New Parts

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REFNO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C114	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C115	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C116	UU148100	Electrolytic Cap.	100.00 25.0V			
C117	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C118	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C119	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C120	UU147470	Electrolytic Cap.	47.00 25.0V			
C121	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C123	UU148100	Electrolytic Cap.	100.00 25.0V			
C124	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C125	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C128	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C129	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C141	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C142	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C201	UR877470	Electrolytic Cap.	47.00 63.0V			
C202	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C203	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C206	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C207	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C208	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C209	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C210	UR819100	Electrolytic Cap.	10006.3V			01
C211	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C212	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C213	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C214	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C215	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C216	UU148100	Electrolytic Cap.	100.00 25.0V			
C217	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C218	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C219	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C220	UU147470	Electrolytic Cap.	47.00 25.0V			
C221	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C223	UU148100	Electrolytic Cap.	100.00 25.0V			
C224	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C225	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C228	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C229	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C241	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C242	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C301	UR877470	Electrolytic Cap.	47.00 63.0V			
C302	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C303	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C306	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C307	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C308	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C309	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C310	UR819100	Electrolytic Cap.	10006.3V			01
C311	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C312	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C313	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C314	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C315	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C316	UU148100	Electrolytic Cap.	100.00 25.0V			
C317	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C318	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C319	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C320	UU147470	Electrolytic Cap.	47.00 25.0V			
C321	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C323	UU148100	Electrolytic Cap.	100.00 25.0V			
C324	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C325	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C328	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C329	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C341	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C342	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C401	UR877470	Electrolytic Cap.	47.00 63.0V			
C402	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C403	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C406	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C407	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C408	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C409	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C410	UR819100	Electrolytic Cap.	10006.3V			01
C411	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C412	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C413	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C414	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C415	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C416	UU148100	Electrolytic Cap.	100.00 25.0V			
C417	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C418	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C419	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C420	UU147470	Electrolytic Cap.	47.00 25.0V			
C421	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C423	UU148100	Electrolytic Cap.	100.00 25.0V			
C424	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C425	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C428	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C429	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C441	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C442	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C501	UR877470	Electrolytic Cap.	47.00 63.0V			
C502	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C503	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C506	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C507	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C508	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C509	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C510	UR819100	Electrolytic Cap.	10006.3V			01
C511	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C512	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C513	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C514	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C515	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C516	UU148100	Electrolytic Cap.	100.00 25.0V			
C517	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C518	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C519	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C520	UU147470	Electrolytic Cap.	47.00 25.0V			
C521	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C523	UU148100	Electrolytic Cap.	100.00 25.0V			
C524	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C525	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C528	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C529	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C541	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C542	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C601	UR877470	Electrolytic Cap.	47.00 63.0V			
C602	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C603	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C606	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C607	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C608	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C609	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C610	UR819100	Electrolytic Cap.	10006.3V			01
C611	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C612	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C613	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C614	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C615	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C616	UU148100	Electrolytic Cap.	100.00 25.0V			
C617	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C618	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C619	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C620	UU147470	Electrolytic Cap.	47.00 25.0V			
C621	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C623	UU148100	Electrolytic Cap.	100.00 25.0V			
C624	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C625	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C628	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C629	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C641	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C642	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C701	UR877470	Electrolytic Cap.	47.00 63.0V			
C702	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C703	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C706	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C707	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C708	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C709	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C710	UR819100	Electrolytic Cap.	10006.3V			01
C711	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C712	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C713	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C714	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C715	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C716	UU148100	Electrolytic Cap.	100.00 25.0V			
C717	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C718	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C719	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C720	UU147470	Electrolytic Cap.	47.00 25.0V			
C721	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C723	UU148100	Electrolytic Cap.	100.00 25.0V			
C724	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C725	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C728	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C729	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C741	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C742	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C800	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C801	UR877470	Electrolytic Cap.	47.00 63.0V			
C802	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C803	VJ097400	Electrolytic Cap.-KL	10.00 50.0V			01
C806	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C807	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C808	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C809	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K			01
C810	UR819100	Electrolytic Cap.	10006.3V			01
C811	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C812	UB052220	Monolithic Ceramic Cap.	SL 220P 50V J			01
C813	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D			01
C814	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C815	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C816	UU148100	Electrolytic Cap.	100.00 25.0V			
C817	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C818	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C819	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
* C820	UU147470	Electrolytic Cap.	47.00 25.0V			
C821	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
* C823	UU148100	Electrolytic Cap.	100.00 25.0V			
C824	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C825	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C828	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C829	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J			01
C841	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C842	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
CN001	VI879200	Cable Holder	51048 14P TE			01
CN002	VN520900	Connector, FFC	52045 26P TE			02
CN101	VK025600	Wire Trap	52147 12P TE			01
CN201	VK025600	Wire Trap	52147 12P TE			01
D101	VS201100	Diode	D1F60			01
-103	VS201100	Diode	D1F60			01
D201	VS201100	Diode	D1F60			01
-203	VS201100	Diode	D1F60			01
D301	VS201100	Diode	D1F60			01
-303	VS201100	Diode	D1F60			01
D401	VS201100	Diode	D1F60			01
-403	VS201100	Diode	D1F60			01

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
D501	VS201100	Diode	D1F60			01
-503	VS201100	Diode	D1F60			01
D601	VS201100	Diode	D1F60			01
-603	VS201100	Diode	D1F60			01
D701	VS201100	Diode	D1F60			01
-703	VS201100	Diode	D1F60			01
D801	VS201100	Diode	D1F60			01
-803	VS201100	Diode	D1F60			01
EM001	FZ006970	LC Filter	LS MT Y223NB			02
-005	FZ006970	LC Filter	LS MT Y223NB			02
EM101	FZ006920	LC Filter	LS MT B271KB			01
EM102	FZ006920	LC Filter	LS MT B271KB			01
EM201	FZ006920	LC Filter	LS MT B271KB			01
EM202	FZ006920	LC Filter	LS MT B271KB			01
EM301	FZ006920	LC Filter	LS MT B271KB			01
EM302	FZ006920	LC Filter	LS MT B271KB			01
EM401	FZ006920	LC Filter	LS MT B271KB			01
EM402	FZ006920	LC Filter	LS MT B271KB			01
EM501	FZ006920	LC Filter	LS MT B271KB			01
EM502	FZ006920	LC Filter	LS MT B271KB			01
EM601	FZ006920	LC Filter	LS MT B271KB			01
EM602	FZ006920	LC Filter	LS MT B271KB			01
EM701	FZ006920	LC Filter	LS MT B271KB			01
EM702	FZ006920	LC Filter	LS MT B271KB			01
EM801	FZ006920	LC Filter	LS MT B271KB			01
EM802	FZ006920	LC Filter	LS MT B271KB			01
IC001	IS027300	IC	HD74LV273AFPEL	D-FF		02
-006	IS027300	IC	HD74LV273AFPEL	D-FF		02
IC007	XM616A00	IC	TC7S08F	AND		01
IC008	IS024500	IC	HD74LV245AFPEL	BUFFER		02
* IC009	IS013800	IC	HD74LV138AFPEL	DECODER		01
IC101	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC102	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC103	XC458A00	IC	NJM072M	OP AMP		03
IC201	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC202	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC203	XC458A00	IC	NJM072M	OP AMP		03
IC301	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC302	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC303	XC458A00	IC	NJM072M	OP AMP		03
IC401	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC402	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC403	XC458A00	IC	NJM072M	OP AMP		03
IC501	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC502	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC503	XC458A00	IC	NJM072M	OP AMP		03
IC601	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC602	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC603	XC458A00	IC	NJM072M	OP AMP		03
IC701	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC702	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC703	XC458A00	IC	NJM072M	OP AMP		03
IC801	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC802	XY879A00	IC	HD74HC4053AF(EL)	MULTIPLEXER		02
IC803	XC458A00	IC	NJM072M	OP AMP		03
JK101	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 1		04
JK201	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 2		04
JK301	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 3		04
JK401	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 4		04
JK501	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 5		04
JK601	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 6		04
JK701	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 7		04
JK801	VT838100	XLM Connector	NC3FAH1	INPUT(BAL) 8		04
L009	VS740100	Chip Inductance	BLM21B751S 2125	INPUT(BAL) 9		03
Q101	VV556400	Transistor	2SC2412K Q,R,S			01
-103	VV556400	Transistor	2SC2412K Q,R,S			01
Q104	IC224030	Transistor	2SC2240 GR,BL			01
Q105	IC224030	Transistor	2SC2240 GR,BL			01
Q201	VV556400	Transistor	2SC2412K Q,R,S			01
-203	VV556400	Transistor	2SC2412K Q,R,S			01

\*: New Parts

RANK: Japan only



REF.NO.	PART NO.	DESCRIPTION	REMARKS	QTY	RANK
Q204	IC224030	Transistor	2SC2240 GR,BL		01
Q205	IC224030	Transistor	2SC2240 GR,BL		01
Q301	VV556400	Transistor	2SC2412K Q,R,S		01
-303	VV556400	Transistor	2SC2412K Q,R,S		01
Q304	IC224030	Transistor	2SC2240 GR,BL		01
Q305	IC224030	Transistor	2SC2240 GR,BL		01
Q401	VV556400	Transistor	2SC2412K Q,R,S		01
-403	VV556400	Transistor	2SC2412K Q,R,S		01
Q404	IC224030	Transistor	2SC2240 GR,BL		01
Q405	IC224030	Transistor	2SC2240 GR,BL		01
Q501	VV556400	Transistor	2SC2412K Q,R,S		01
-503	VV556400	Transistor	2SC2412K Q,R,S		01
Q504	IC224030	Transistor	2SC2240 GR,BL		01
Q505	IC224030	Transistor	2SC2240 GR,BL		01
Q601	VV556400	Transistor	2SC2412K Q,R,S		01
-603	VV556400	Transistor	2SC2412K Q,R,S		01
Q604	IC224030	Transistor	2SC2240 GR,BL		01
Q605	IC224030	Transistor	2SC2240 GR,BL		01
Q701	VV556400	Transistor	2SC2412K Q,R,S		01
-703	VV556400	Transistor	2SC2412K Q,R,S		01
Q704	IC224030	Transistor	2SC2240 GR,BL		01
Q705	IC224030	Transistor	2SC2240 GR,BL		01
Q801	VV556400	Transistor	2SC2412K Q,R,S		01
-803	VV556400	Transistor	2SC2412K Q,R,S		01
Q804	IC224030	Transistor	2SC2240 GR,BL		01
Q805	IC224030	Transistor	2SC2240 GR,BL		01
R009	RD255100	Carbon Resistor (chip)	100.0 0.1 J		01
R101	VC328400	Metal Film Resistor	6.8K 1/4 F		01
R102	VC328400	Metal Film Resistor	6.8K 1/4 F		01
* R105	VC326000	Metal Film Resistor	620.0 1/4 F		01
R106	VC328000	Metal Film Resistor	4.7K 1/4 F		01
R107	VC327100	Metal Film Resistor	2.0K 1/4 F		01
R108	VC327100	Metal Film Resistor	2.0K 1/4 F		01
R109	HF754100	Carbon Resistor	10.0 1/4 J		01
R110	HF754100	Carbon Resistor	10.0 1/4 J		01
R111	VC330400	Metal Film Resistor	47.0K 1/4 F		01
R112	VC330400	Metal Film Resistor	47.0K 1/4 F		01
R113	HF754100	Carbon Resistor	10.0 1/4 J		01
R114	HF754100	Carbon Resistor	10.0 1/4 J		01
R115	VC327200	Metal Film Resistor	2.2K 1/4 F		01
R116	VC327200	Metal Film Resistor	2.2K 1/4 F		01
* R118	VC323600	Metal Film Resistor	75.00 1/4 F		01
R119	VC327600	Metal Film Resistor	3.3K 1/4 F		01
R120	VC328800	Metal Film Resistor	10.0K 1/4 F		01
R121	VC328600	Metal Film Resistor	8.2K 1/4 F		01
R122	VC328600	Metal Film Resistor	8.2K 1/4 F		01
R123	VC328800	Metal Film Resistor	10.0K 1/4 F		01
R124	VC328000	Metal Film Resistor	4.7K 1/4 F		01
R125	VC328000	Metal Film Resistor	4.7K 1/4 F		01
R126	HF754390	Carbon Resistor	39.0 1/4 J		01
R127	VC327400	Metal Film Resistor	2.7K 1/4 F		01
R128	VC328600	Metal Film Resistor	8.2K 1/4 F		01
R129	VC328600	Metal Film Resistor	8.2K 1/4 F		01
R130	VC328000	Metal Film Resistor	4.7K 1/4 F		01
R131	VC330000	Metal Film Resistor	33.0K 1/4 F		01
R132	HF755100	Carbon Resistor	100.0 1/4 J		01
R133	HF754390	Carbon Resistor	39.0 1/4 J		01
R134	HF758100	Carbon Resistor	100.0K 1/4 J		01
R135	HF758100	Carbon Resistor	100.0K 1/4 J		01
R145	HF757100	Carbon Resistor	10.0K 1/4 J		01
-147	HF757100	Carbon Resistor	10.0K 1/4 J		01
R148	HV755390	Flame Proof C. Resistor	390.0 1/4 J		01
R149	HF758100	Carbon Resistor	100.0K 1/4 J		01
R201	VC328400	Metal Film Resistor	6.8K 1/4 F		01
R202	VC328400	Metal Film Resistor	6.8K 1/4 F		01
* R205	VC326000	Metal Film Resistor	620.0 1/4 F		01
R206	VC328000	Metal Film Resistor	4.7K 1/4 F		01
R207	VC327100	Metal Film Resistor	2.0K 1/4 F		01
R208	VC327100	Metal Film Resistor	2.0K 1/4 F		01
R209	HF754100	Carbon Resistor	10.0 1/4 J		01

\*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R210	HF754100	Carbon Resistor	10.0 1/4 J			01
R211	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R212	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R213	HF754100	Carbon Resistor	10.0 1/4 J			01
R214	HF754100	Carbon Resistor	10.0 1/4 J			01
R215	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R216	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R218	VC323600	Metal Film Resistor	75.00 1/4 F			01
R219	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R220	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R221	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R222	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R223	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R224	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R225	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R226	HF754390	Carbon Resistor	39.0 1/4 J			01
R227	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R228	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R229	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R230	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R231	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R232	HF755100	Carbon Resistor	100.0 1/4 J			01
R233	HF754390	Carbon Resistor	39.0 1/4 J			01
R234	HF758100	Carbon Resistor	100.0K 1/4 J			01
R235	HF758100	Carbon Resistor	100.0K 1/4 J			01
R245	HF757100	Carbon Resistor	10.0K 1/4 J			01
-247	HF757100	Carbon Resistor	10.0K 1/4 J			01
R248	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R249	HF758100	Carbon Resistor	100.0K 1/4 J			01
R301	VC328400	Metal Film Resistor	6.8K 1/4 F			01
R302	VC328400	Metal Film Resistor	6.8K 1/4 F			01
* R305	VC326000	Metal Film Resistor	620.0 1/4 F			01
R306	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R307	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R308	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R309	HF754100	Carbon Resistor	10.0 1/4 J			01
R310	HF754100	Carbon Resistor	10.0 1/4 J			01
R311	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R312	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R313	HF754100	Carbon Resistor	10.0 1/4 J			01
R314	HF754100	Carbon Resistor	10.0 1/4 J			01
R315	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R316	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R318	VC323600	Metal Film Resistor	75.00 1/4 F			01
R319	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R320	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R321	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R322	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R323	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R324	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R325	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R326	HF754390	Carbon Resistor	39.0 1/4 J			01
R327	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R328	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R329	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R330	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R331	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R332	HF755100	Carbon Resistor	100.0 1/4 J			01
R333	HF754390	Carbon Resistor	39.0 1/4 J			01
R334	HF758100	Carbon Resistor	100.0K 1/4 J			01
R335	HF758100	Carbon Resistor	100.0K 1/4 J			01
R345	HF757100	Carbon Resistor	10.0K 1/4 J			01
-347	HF757100	Carbon Resistor	10.0K 1/4 J			01
R348	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R349	HF758100	Carbon Resistor	100.0K 1/4 J			01
R401	VC328400	Metal Film Resistor	6.8K 1/4 F			01
R402	VC328400	Metal Film Resistor	6.8K 1/4 F			01
* R405	VC326000	Metal Film Resistor	620.0 1/4 F			01
R406	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R407	VC327100	Metal Film Resistor	2.0K 1/4 F			01

\*: New Parts

RANK: Japan only

REFNO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R408	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R409	HF754100	Carbon Resistor	10.0 1/4 J			01
R410	HF754100	Carbon Resistor	10.0 1/4 J			01
R411	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R412	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R413	HF754100	Carbon Resistor	10.0 1/4 J			01
R414	HF754100	Carbon Resistor	10.0 1/4 J			01
R415	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R416	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R418	VC323600	Metal Film Resistor	75.00 1/4 F			01
R419	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R420	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R421	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R422	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R423	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R424	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R425	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R426	HF754390	Carbon Resistor	39.0 1/4 J			01
R427	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R428	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R429	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R430	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R431	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R432	HF755100	Carbon Resistor	100.0 1/4 J			01
R433	HF754390	Carbon Resistor	39.0 1/4 J			01
R434	HF758100	Carbon Resistor	100.0K 1/4 J			01
R435	HF758100	Carbon Resistor	100.0K 1/4 J			01
R445	HF757100	Carbon Resistor	10.0K 1/4 J			01
-447	HF757100	Carbon Resistor	10.0K 1/4 J			01
R448	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R449	HF758100	Carbon Resistor	100.0K 1/4 J			01
R501	VC328400	Metal Film Resistor	6.8K 1/4 F			01
R502	VC328400	Metal Film Resistor	6.8K 1/4 F			01
* R505	VC326000	Metal Film Resistor	620.0 1/4 F			01
R506	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R507	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R508	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R509	HF754100	Carbon Resistor	10.0 1/4 J			01
R510	HF754100	Carbon Resistor	10.0 1/4 J			01
R511	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R512	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R513	HF754100	Carbon Resistor	10.0 1/4 J			01
R514	HF754100	Carbon Resistor	10.0 1/4 J			01
R515	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R516	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R518	VC323600	Metal Film Resistor	75.00 1/4 F			01
R519	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R520	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R521	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R522	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R523	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R524	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R525	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R526	HF754390	Carbon Resistor	39.0 1/4 J			01
R527	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R528	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R529	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R530	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R531	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R532	HF755100	Carbon Resistor	100.0 1/4 J			01
R533	HF754390	Carbon Resistor	39.0 1/4 J			01
R534	HF758100	Carbon Resistor	100.0K 1/4 J			01
R535	HF758100	Carbon Resistor	100.0K 1/4 J			01
R545	HF757100	Carbon Resistor	10.0K 1/4 J			01
-547	HF757100	Carbon Resistor	10.0K 1/4 J			01
R548	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R549	HF758100	Carbon Resistor	100.0K 1/4 J			01
R601	VC328400	Metal Film Resistor	6.8K 1/4 F			01
R602	VC328400	Metal Film Resistor	6.8K 1/4 F			01
* R605	VC326000	Metal Film Resistor	620.0 1/4 F			01

\*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R606	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R607	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R608	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R609	HF754100	Carbon Resistor	10.0 1/4 J			01
R610	HF754100	Carbon Resistor	10.0 1/4 J			01
R611	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R612	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R613	HF754100	Carbon Resistor	10.0 1/4 J			01
R614	HF754100	Carbon Resistor	10.0 1/4 J			01
R615	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R616	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R618	VC323600	Metal Film Resistor	75.00 1/4 F			01
R619	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R620	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R621	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R622	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R623	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R624	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R625	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R626	HF754390	Carbon Resistor	39.0 1/4 J			01
R627	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R628	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R629	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R630	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R631	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R632	HF755100	Carbon Resistor	100.0 1/4 J			01
R633	HF754390	Carbon Resistor	39.0 1/4 J			01
R634	HF758100	Carbon Resistor	100.0K 1/4 J			01
R635	HF758100	Carbon Resistor	100.0K 1/4 J			01
R645	HF757100	Carbon Resistor	10.0K 1/4 J			01
-647	HF757100	Carbon Resistor	10.0K 1/4 J			01
R648	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R649	HF758100	Carbon Resistor	100.0K 1/4 J			01
R701	VC328400	Metal Film Resistor	6.8K 1/4 F			01
R702	VC328400	Metal Film Resistor	6.8K 1/4 F			01
* R705	VC326000	Metal Film Resistor	620.0 1/4 F			01
R706	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R707	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R708	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R709	HF754100	Carbon Resistor	10.0 1/4 J			01
R710	HF754100	Carbon Resistor	10.0 1/4 J			01
R711	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R712	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R713	HF754100	Carbon Resistor	10.0 1/4 J			01
R714	HF754100	Carbon Resistor	10.0 1/4 J			01
R715	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R716	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R718	VC323600	Metal Film Resistor	75.00 1/4 F			01
R719	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R720	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R721	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R722	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R723	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R724	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R725	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R726	HF754390	Carbon Resistor	39.0 1/4 J			01
R727	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R728	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R729	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R730	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R731	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R732	HF755100	Carbon Resistor	100.0 1/4 J			01
R733	HF754390	Carbon Resistor	39.0 1/4 J			01
R734	HF758100	Carbon Resistor	100.0K 1/4 J			01
R735	HF758100	Carbon Resistor	100.0K 1/4 J			01
R745	HF757100	Carbon Resistor	10.0K 1/4 J			01
-747	HF757100	Carbon Resistor	10.0K 1/4 J			01
R748	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R749	HF758100	Carbon Resistor	100.0K 1/4 J			01
R801	VC328400	Metal Film Resistor	6.8K 1/4 F			01

\*: New Parts

RANK: Japan only



REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R802	VC328400	Metal Film Resistor	6.8K 1/4 F			01
* R805	VC326000	Metal Film Resistor	620.0 1/4 F			01
R806	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R807	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R808	VC327100	Metal Film Resistor	2.0K 1/4 F			01
R809	HF754100	Carbon Resistor	10.0 1/4 J			01
R810	HF754100	Carbon Resistor	10.0 1/4 J			01
R811	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R812	VC330400	Metal Film Resistor	47.0K 1/4 F			01
R813	HF754100	Carbon Resistor	10.0 1/4 J			01
R814	HF754100	Carbon Resistor	10.0 1/4 J			01
R815	VC327200	Metal Film Resistor	2.2K 1/4 F			01
R816	VC327200	Metal Film Resistor	2.2K 1/4 F			01
* R818	VC323600	Metal Film Resistor	75.00 1/4 F			01
R819	VC327600	Metal Film Resistor	3.3K 1/4 F			01
R820	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R821	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R822	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R823	VC328800	Metal Film Resistor	10.0K 1/4 F			01
R824	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R825	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R826	HF754390	Carbon Resistor	39.0 1/4 J			01
R827	VC327400	Metal Film Resistor	2.7K 1/4 F			01
R828	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R829	VC328600	Metal Film Resistor	8.2K 1/4 F			01
R830	VC328000	Metal Film Resistor	4.7K 1/4 F			01
R831	VC330000	Metal Film Resistor	33.0K 1/4 F			01
R832	HF755100	Carbon Resistor	100.0 1/4 J			01
R833	HF754390	Carbon Resistor	39.0 1/4 J			01
R834	HF758100	Carbon Resistor	100.0K 1/4 J			01
R835	HF758100	Carbon Resistor	100.0K 1/4 J			01
R845	HF757100	Carbon Resistor	10.0K 1/4 J			01
-847	HF757100	Carbon Resistor	10.0K 1/4 J			01
R848	HV755390	Flame Proof C. Resistor	390.0 1/4 J			01
R849	HF758100	Carbon Resistor	100.0K 1/4 J			01
RY101	VU685600	Relay	DC NA- 5 W-K			06
-103	VU685600	Relay	DC NA- 5 W-K			06
RY201	VU685600	Relay	DC NA- 5 W-K			06
-203	VU685600	Relay	DC NA- 5 W-K			06
RY301	VU685600	Relay	DC NA- 5 W-K			06
-303	VU685600	Relay	DC NA- 5 W-K			06
RY401	VU685600	Relay	DC NA- 5 W-K			06
-403	VU685600	Relay	DC NA- 5 W-K			06
RY501	VU685600	Relay	DC NA- 5 W-K			06
-503	VU685600	Relay	DC NA- 5 W-K			06
RY601	VU685600	Relay	DC NA- 5 W-K			06
-603	VU685600	Relay	DC NA- 5 W-K			06
RY701	VU685600	Relay	DC NA- 5 W-K			06
-703	VU685600	Relay	DC NA- 5 W-K			06
RY801	VU685600	Relay	DC NA- 5 W-K			06
-803	VU685600	Relay	DC NA- 5 W-K			06
W001	--	Jumper Wire	FVP=2.0C26SB14-80	(VT64390)		06
*	V5792100	Circuit Board	MAIN	(XY030A0)		
*	V5792200	Circuit Board	MYSL	(XY030A0)		
BT901	VN103600	Battery Holder	CR2032			03
C901	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C902	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J			01
C903	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-916	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C917	UF018100	Electrolytic Cap. (chip)	100 6.3V			01
C918	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C919	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C921	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C922	UF037100	Electrolytic Cap. (chip)	10 16V			01
C923	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C924	UF037100	Electrolytic Cap. (chip)	10 16V			01
C925	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C926	UB053150	Monolithic Ceramic Cap.	SL 1500P 50V K			01
C927	UB053150	Monolithic Ceramic Cap.	SL 1500P 50V K			01

\*: New Parts

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C928	UB012470	Monolithic Ceramic Cap.	B 470P 50V K			01
C929	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-931	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C932	UB051150	Monolithic Ceramic Cap.	SL 15P 50V J			01
C933	UB051150	Monolithic Ceramic Cap.	SL 15P 50V J			01
C934	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-936	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C937	VR327300	Mylar Capacitor (chip)	0.0820 16V J			01
C938	VR327300	Mylar Capacitor (chip)	0.0820 16V J			01
C939	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C940	UF017470	Electrolytic Cap. (chip)	47 6.3V			01
C941	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C942	UF017470	Electrolytic Cap. (chip)	47 6.3V			01
C943	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-948	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C950	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J			01
C951	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-953	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C954	UF018100	Electrolytic Cap. (chip)	100 6.3V			01
C955	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-957	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C958	UF017470	Electrolytic Cap. (chip)	47 6.3V			01
C959	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-962	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C967	UB053150	Monolithic Ceramic Cap.	SL 1500P 50V K			01
C968	UB053150	Monolithic Ceramic Cap.	SL 1500P 50V K			01
CN051	VU328200	Plug	PHEC 100P TE	SLOT		05
CN052	VI879100	Cable Holder	51048 13P TE			01
CN053	VQ048500	Connector, FFC	52045 36P TE			02
CN054	VQ048500	Connector, FFC	52045 36P TE			02
CN901	VQ048500	Connector, FFC	52045 36P TE			02
CN902	VQ048500	Connector, FFC	52045 36P TE			02
CN903	VN520900	Connector, FFC	52045 26P TE			02
CN904	VK025800	Wire Trap	52147 14P TE			01
CN905	VK025100	Wire Trap	521477P TE			01
CN906	VI878300	Cable Holder	510485P TE			01
CN907	VU196300	Connector Socket	17LE-23090-27(D4CH)	COM RS422		04
CN908	VU196300	Connector Socket	17LE-23090-27(D4CH)	COM RS422		04
CN909	VJ861600	Wire Trap	52147 16P TE			01
D901	VT332900	Diode	1SS355 TE-17			01
-905	VT332900	Diode	1SS355 TE-17			01
EM901	VQ761400	EMI Filter (chip)	NFM40R01C101T1			01
-910	FZ006970	LC Filter	LS MT Y223NB			02
-912	FZ006970	LC Filter	LS MT Y223NB			02
EM913	VQ761400	EMI Filter (chip)	NFM40R01C101T1			01
IC901	IS024500	IC	HD74LV245AFPEL	BUFFER		02
IC902	XN976A00	IC	SN75124NS	LINE RECEIVER		05
IC903	XU073A00	IC	SN75C1168NSR	LINE DRIVER/RECEIVER		05
IC904	IS024500	IC	HD74LV245AFPEL	BUFFER		02
-906	IS024500	IC	HD74LV245AFPEL	BUFFER		02
IC907	IS007400	IC	HD74LV74AFPEL	D-FF		01
IC908	IS024500	IC	HD74LV245AFPEL	BUFFER		02
IC909	IS024500	IC	HD74LV245AFPEL	BUFFER		02
IC910	XY309A00	IC	TC74HC153AFEL	DATA SELECTOR		02
IC911	XV731A00	IC	HD6477042AF28	CPU		18
IC912	IS000800	IC	HD74LV08AFPEL	AND		01
IC913	XY309A00	IC	TC74HC153AFEL	DATA SELECTOR		02
IC914	IS000400	IC	HD74LV04AFPEL	INVERTER		01
IC915	IS013910	IC	SN74LV139ANSR	DECODER		01
IC916	XI686A00	IC	M62021FP	SYSTEM RESET		04
IC917	IS013810	IC	SN74LV138ANSR	DECODER		01
IC918	XN797A00	IC	NJM2082M(T1)	OP AMP		02
IC919	IS007400	IC	HD74LV74AFPEL	D-FF		01
IC920	XY102A00	IC	HD74LVU04AFPEL	INVERTER		01
IC921	XG948E00	IC	YM3436DK	DIR2		11
IC922	XG948E00	IC	YM3436DK	DIR2		11
IC923	XV411A00	IC	W24258S-70LE-EL10	SRAM 256K		07
IC924	XV411A00	IC	W24258S-70LE-EL10	SRAM 256K		07
IC925	IS027300	IC	HD74LV273AFPEL	D-FF		02
IC926	IS003200	IC	HD74LV32AFPEL	OR		01

\*: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
IC927	XU948A00	IC	MBM29F800BA-70PFTN	FLASH ROM 8M		14
IC928	IS027300	IC	HD74LV273AFPEL	D-FF		02
* IC929	IS017410	IC	SN74LV174ANSR	D-FF		01
IC930	XU816A00	IC	SN75121NSR	LINE DRIVER		05
IC932	IS024500	IC	HD74LV245AFPEL	BUFFER		02
-934	IS024500	IC	HD74LV245AFPEL	BUFFER		02
* IC935	IS015700	IC	HD74LV157AFPEL	MULTIPLEXER		01
JK901	VI552200	BNC Connector	1P YKS11-0	WORD CLOCK IN		05
JK902	VI552200	BNC Connector	1P YKS11-0	WORD CLOCK OUT		05
K901	VI474400	Terminal Plate				01
L901	VS740100	Chip Inductance	BLM21B751S 2125			03
-916	VS740100	Chip Inductance	BLM21B751S 2125			03
L917	GE300610	Ferrite Bead	BL02RN1-R62T4			01
L918	VS740100	Chip Inductance	BLM21B751S 2125			03
-925	VS740100	Chip Inductance	BLM21B751S 2125			03
L931	GE300610	Ferrite Bead	BL02RN1-R62T4			01
L932	GE300610	Ferrite Bead	BL02RN1-R62T4			01
L933	VS740100	Chip Inductance	BLM21B751S 2125			03
-936	VS740100	Chip Inductance	BLM21B751S 2125			03
R901	RD254750	Carbon Resistor (chip)	75.0 0.1 J			01
R902	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R903	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R904	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R905	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R906	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R907	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
-910	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R911	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R912	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R913	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R914	RD256470	Carbon Resistor (chip)	4.7K 0.1 J			01
R915	RD256470	Carbon Resistor (chip)	4.7K 0.1 J			01
R916	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R917	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R918	RD256300	Carbon Resistor (chip)	3.0K 0.1 J			01
R919	RD255200	Carbon Resistor (chip)	200.0 0.1 J			01
R920	RD259470	Carbon Resistor (chip)	4.7M 0.1 J			01
R921	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R922	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R923	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R924	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R925	RD259100	Carbon Resistor (chip)	1.0M 0.1 J			01
R926	RD256200	Carbon Resistor (chip)	2.0K 0.1 J			01
R927	RD256200	Carbon Resistor (chip)	2.0K 0.1 J			01
R928	VI195100	Metal Film Resistor (chip)	1.2K 0.1 J			01
R929	VI195100	Metal Film Resistor (chip)	1.2K 0.1 J			01
R930	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R931	RD253470	Carbon Resistor (chip)	4.7 0.1 J			01
R932	RD255200	Carbon Resistor (chip)	200.0 0.1 J			01
R933	RD256150	Carbon Resistor (chip)	1.5K 0.1 J			01
R934	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R938	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R942	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R943	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
RA901	RE047100	Resistor Array	10KX4			01
-925	RE047100	Resistor Array	10KX4			01
SW901	VR365100	Slide Switch	SSSF112-S06N1	W. CLOCK IN 75ohm ON/OFF		02
SW902	VQ545800	Slide Switch	SSSF04	COM PC/RS422		02
W052	--	Ribbon Cable	P=2.0 #26 13P 100L	(V542950)		
W905	--	Ribbon Cable	P=2.0 #26 5P 100L	(V542920)		
X901	VT641400	Quartz Crystal Unit	3119A-AQA8022.5792			08
X902	VQ248800	Quartz Crystal Unit	3119A-AQA8024.576M			10
X903	VL907400	Quartz Crystal Unit	19.6608MHz AT-51			04
*	V5791000	Circuit Board	PN	(XY027B0)		
	VT810300	Push Button Black	PRO R3 BL	WORD CLOCK	2	03
	VT839000	Push Button Gray	PRO R3 GY	PHANTOM +48V MASTER	8	03
*	V4069300	Spacer	7SEG.			
C101	UF047100	Electrolytic Cap. (chip)	10 25V			01
C102	UF047100	Electrolytic Cap. (chip)	10 25V			01

\*: New Parts

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C103	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-105	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C106	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C107	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C201	UF047100	Electrolytic Cap. (chip)	10 25V			01
C202	UF047100	Electrolytic Cap. (chip)	10 25V			01
C203	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-205	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C301	UF047100	Electrolytic Cap. (chip)	10 25V			01
C302	UF047100	Electrolytic Cap. (chip)	10 25V			01
C303	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-305	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C306	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C307	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C401	UF047100	Electrolytic Cap. (chip)	10 25V			01
C402	UF047100	Electrolytic Cap. (chip)	10 25V			01
C403	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-405	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C501	UF047100	Electrolytic Cap. (chip)	10 25V			01
C502	UF047100	Electrolytic Cap. (chip)	10 25V			01
C503	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-505	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C506	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C507	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C601	UF047100	Electrolytic Cap. (chip)	10 25V			01
C602	UF047100	Electrolytic Cap. (chip)	10 25V			01
C603	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-605	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C701	UF047100	Electrolytic Cap. (chip)	10 25V			01
C702	UF047100	Electrolytic Cap. (chip)	10 25V			01
C703	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-705	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C706	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C707	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z			01
C801	UF047100	Electrolytic Cap. (chip)	10 25V			01
C802	UF047100	Electrolytic Cap. (chip)	10 25V			01
C803	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-805	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C960	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C961	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
C962	UF047330	Electrolytic Cap. (chip)	33 25V			01
-964	UF047330	Electrolytic Cap. (chip)	33 25V			01
C965	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
-967	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z			01
CN960	VI879200	Cable Holder	51048 14P TE			01
CN961	VI878500	Cable Holder	51048 7P TE			01
CN962	VI879400	Cable Holder	51048 16P TE			01
CN963	VI878800	Cable Holder	51048 10P TE			01
D101	VT332900	Diode	1SS355 TE-17			01
D102	VT332900	Diode	1SS355 TE-17			01
D201	VT332900	Diode	1SS355 TE-17			01
D202	VT332900	Diode	1SS355 TE-17			01
D301	VT332900	Diode	1SS355 TE-17			01
D302	VT332900	Diode	1SS355 TE-17			01
D401	VT332900	Diode	1SS355 TE-17			01
D402	VT332900	Diode	1SS355 TE-17			01
D501	VT332900	Diode	1SS355 TE-17			01
D502	VT332900	Diode	1SS355 TE-17			01
D601	VT332900	Diode	1SS355 TE-17			01
D602	VT332900	Diode	1SS355 TE-17			01
D701	VT332900	Diode	1SS355 TE-17			01
D702	VT332900	Diode	1SS355 TE-17			01
D801	VT332900	Diode	1SS355 TE-17			01
D802	VT332900	Diode	1SS355 TE-17			01
EC960	VU594400	Rotary Encoder	EVQ-VBK-F01-24B	GAIN		04
EM960	FZ006970	LC Filter	LS MT Y223NB			02
EM961	FZ006970	LC Filter	LS MT Y223NB			02
EM962	FZ006970	LC Filter	LS MT Y223NB			02
IC101	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC301	XJ553A00	IC	NJM2068MD-T1	OP AMP		02

\*: New Parts

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REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
IC501	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC701	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
LD101	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 1		01
LD102	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 1		01
LD103	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 1		01
LD201	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 2		01
LD202	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 2		01
LD203	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 2		01
LD301	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 3		01
LD302	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 3		01
LD303	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 3		01
LD401	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 4		01
LD402	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 4		01
LD403	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 4		01
LD501	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 5		01
LD502	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 5		01
LD503	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 5		01
LD601	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 6		01
LD602	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 6		01
LD603	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 6		01
LD701	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 7		01
LD702	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 7		01
LD703	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 7		01
LD801	VT838500	LED	SLZ-135B-08-T1 RE	PEAK 8		01
LD802	V4845500	LED	SLZ-435B-08-T1 YE	NOMINAL 8		01
LD803	VU091400	LED	SLZ-235B-08-T1 GR	SIGNAL 8		01
LD960	VT838500	LED	SLZ-135B-08-T1 RE	+48V 1-8		01
-967	VT838500	LED	SLZ-135B-08-T1 RE			01
LD968	VU091400	LED	SLZ-235B-08-T1 GR	SEL 1-8		01
-979	VU091400	LED	SLZ-235B-08-T1 GR			01
LD980	VT838500	LED	SLZ-135B-08-T1 RE	+48V MASTER		01
LD981	VU091400	LED	SLZ-235B-08-T1 GR	POWER indicator		01
* LD982	V5526400	LED Display	LB-303DA			06
* R101	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R102	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R103	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R104	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R105	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R106	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R107	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R108	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-110	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R111	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-113	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R114	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-116	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R117	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-119	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R201	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R202	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R203	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R204	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R205	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R206	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R207	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R208	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-210	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R211	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-213	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R214	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-216	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R217	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-219	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R301	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R302	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R303	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R304	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R305	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R306	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R307	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01

\*: New Parts

RANK: Japan only

REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R308	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-310	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R311	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-313	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R314	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-316	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R317	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-319	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R401	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R402	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R403	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R404	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R405	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R406	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R407	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R408	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-410	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R411	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-413	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R414	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-416	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R417	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-419	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R501	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R502	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R503	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R504	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R505	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R506	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R507	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R508	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-510	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R511	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-513	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R514	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-516	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R517	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-519	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R601	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R602	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R603	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R604	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R605	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R606	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R607	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R608	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-610	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R611	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-613	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R614	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-616	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R617	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-619	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R701	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R702	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R703	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R704	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R705	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R706	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R707	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R708	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-710	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R711	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-713	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R714	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-716	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R717	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-719	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
* R801	VV324300	Carbon Resistor (chip)	24K 0.1 D			01
* R802	VV310400	Carbon Resistor (chip)	100K 0.1 D			01

\*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
* R803	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R804	VV311300	Carbon Resistor (chip)	11K 0.1 D			01
* R805	VV310400	Carbon Resistor (chip)	100K 0.1 D			01
* R806	VV356300	Carbon Resistor (chip)	56K 0.1 D			01
R807	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R808	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-810	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R811	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
-813	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R814	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
-816	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R817	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
-819	RD255390	Carbon Resistor (chip)	390.0 0.1 J			01
R960	RD256820	Carbon Resistor (chip)	8.2K 0.1 J			01
R961	RD256330	Carbon Resistor (chip)	3.3K 0.1 J			01
R962	RD256180	Carbon Resistor (chip)	1.8K 0.1 J			01
R963	RD256120	Carbon Resistor (chip)	1.2K 0.1 J			01
R964	RD256820	Carbon Resistor (chip)	8.2K 0.1 J			01
R965	RD256330	Carbon Resistor (chip)	3.3K 0.1 J			01
R966	RD256180	Carbon Resistor (chip)	1.8K 0.1 J			01
R967	RD256120	Carbon Resistor (chip)	1.2K 0.1 J			01
R968	RD254330	Carbon Resistor (chip)	33.0 0.1 J			01
-975	RD254330	Carbon Resistor (chip)	33.0 0.1 J			01
R976	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
-983	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R984	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
* SW960	V5537600	Slide Switch	SSSF022-S06N0	+48V MASTER OFF/ON		02
SW961	VV056000	Tact Switch	SKQNAE025A	WORD CLOCK,SEL 1-8		01
-970	VV056000	Tact Switch	SKQNAE025A			01
TA960	VQ248500	Transistor Array	TD62381F			04
TA961	VQ248400	Transistor Array	TD62783AF			04
TR101	VV556400	Transistor	2SC2412K Q,R,S			01
-103	VV556400	Transistor	2SC2412K Q,R,S			01
TR104	VV556500	Transistor	2SA1037K Q,R,S			01
-106	VV556500	Transistor	2SA1037K Q,R,S			01
TR201	VV556400	Transistor	2SC2412K Q,R,S			01
-203	VV556400	Transistor	2SC2412K Q,R,S			01
TR204	VV556500	Transistor	2SA1037K Q,R,S			01
-206	VV556500	Transistor	2SA1037K Q,R,S			01
TR301	VV556400	Transistor	2SC2412K Q,R,S			01
-303	VV556400	Transistor	2SC2412K Q,R,S			01
TR304	VV556500	Transistor	2SA1037K Q,R,S			01
-306	VV556500	Transistor	2SA1037K Q,R,S			01
TR401	VV556400	Transistor	2SC2412K Q,R,S			01
-403	VV556400	Transistor	2SC2412K Q,R,S			01
TR404	VV556500	Transistor	2SA1037K Q,R,S			01
-406	VV556500	Transistor	2SA1037K Q,R,S			01
TR501	VV556400	Transistor	2SC2412K Q,R,S			01
-503	VV556400	Transistor	2SC2412K Q,R,S			01
TR504	VV556500	Transistor	2SA1037K Q,R,S			01
-506	VV556500	Transistor	2SA1037K Q,R,S			01
TR601	VV556400	Transistor	2SC2412K Q,R,S			01
-603	VV556400	Transistor	2SC2412K Q,R,S			01
TR604	VV556500	Transistor	2SA1037K Q,R,S			01
-606	VV556500	Transistor	2SA1037K Q,R,S			01
TR701	VV556400	Transistor	2SC2412K Q,R,S			01
-703	VV556400	Transistor	2SC2412K Q,R,S			01
TR704	VV556500	Transistor	2SA1037K Q,R,S			01
-706	VV556500	Transistor	2SA1037K Q,R,S			01
TR801	VV556400	Transistor	2SC2412K Q,R,S			01
-803	VV556400	Transistor	2SC2412K Q,R,S			01
TR804	VV556500	Transistor	2SA1037K Q,R,S			01
-806	VV556500	Transistor	2SA1037K Q,R,S			01
W960	--	Jumper Wire	FVP=2.0C26SB14-270	(V201560)		
W961	--	Jumper Wire	FVP=2.0C26SB7-300	(VY68990)		
W962	--	Jumper Wire	FVP=2.0C26SB16-200	(V201570)		
W963	--	Ribbon Cable	P=2.0 #26 10P 170L	(V542980)		
△*	XY173A00	Power Transformer	J A	J		12
△*	XY174A00	Power Transformer	UL,CSA A	U,V		12

\*: New Parts

RANK: Japan only

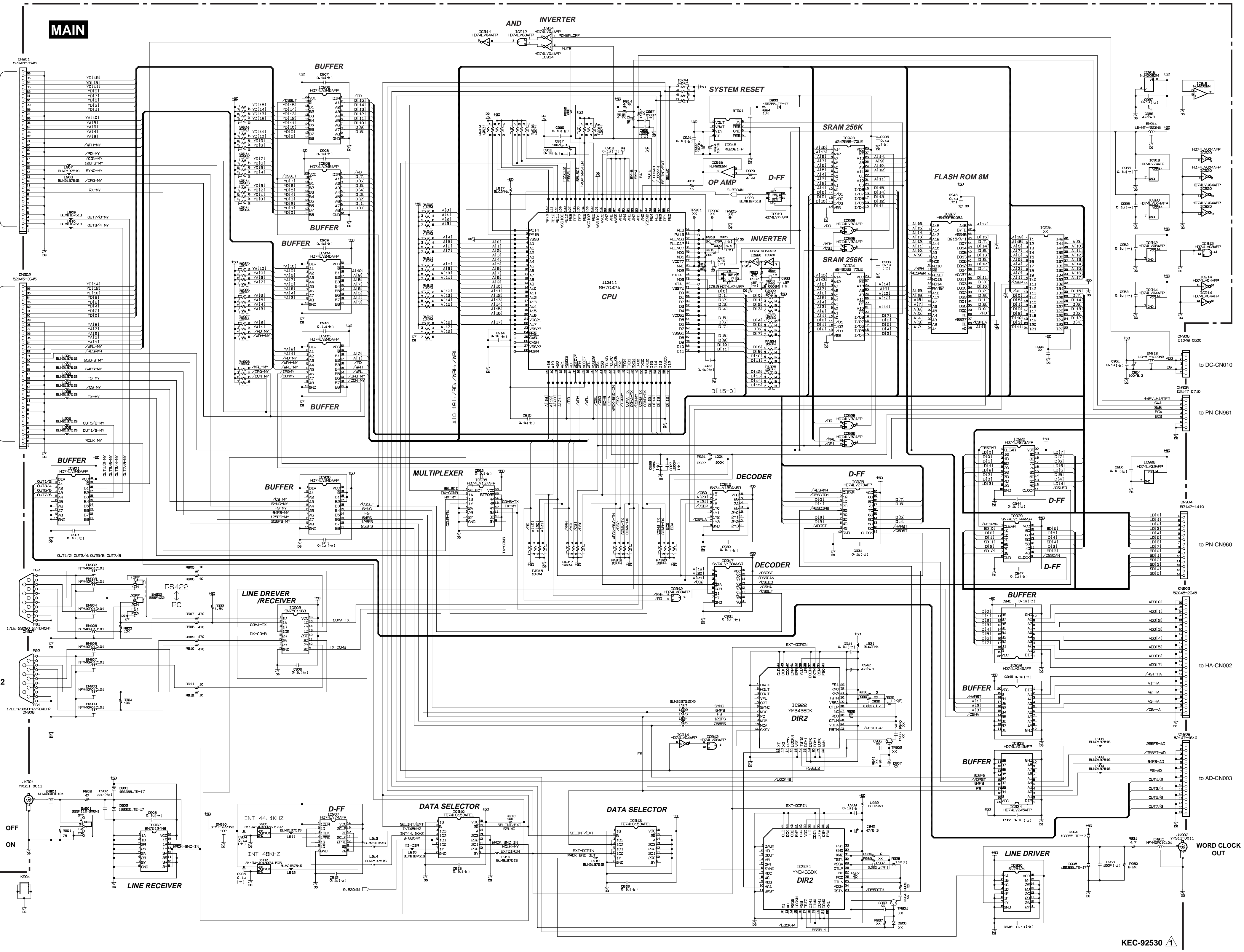
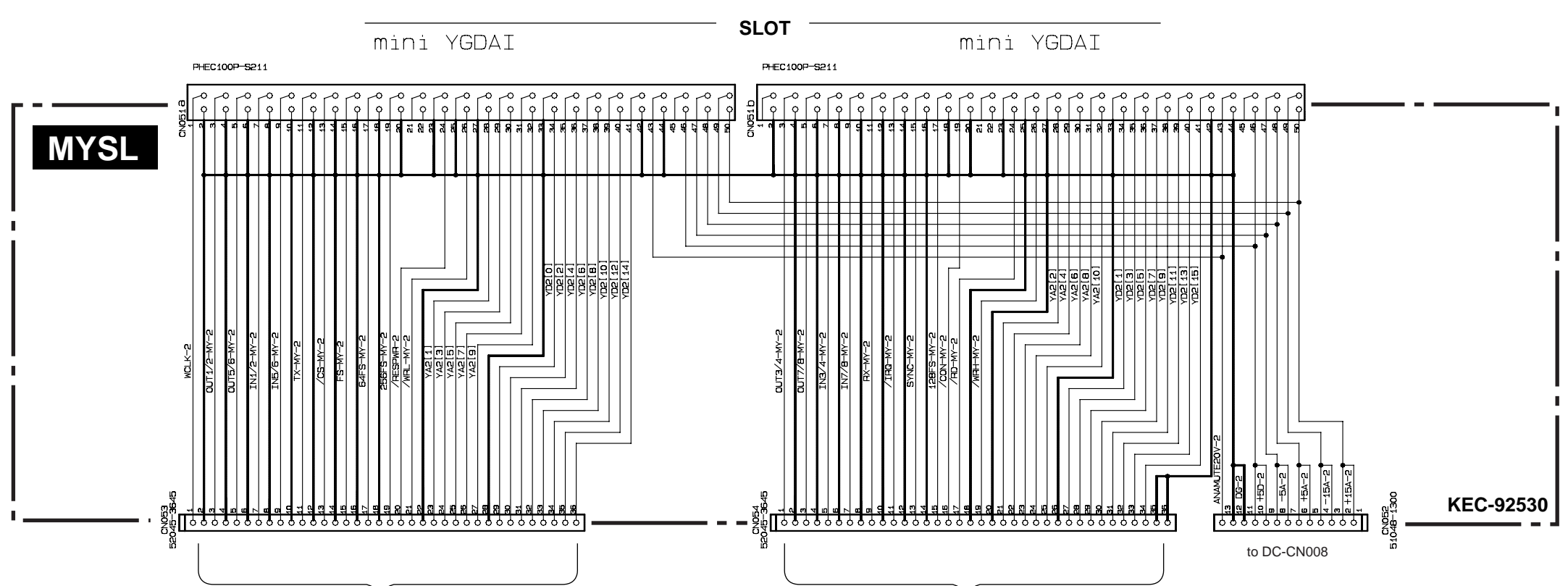
REF.NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
△ *	XY175B00	Power Transformer	CEE A	H,W,B		12
	VN103500	Lithium Battery	CR2032			03
△	VS228900	AC Cord Assembly	2P 15A	J		09
△	VS229000	AC Cord Assembly	3P 10A	U,V		10
△	VS229100	AC Cord Assembly	3P 6A	H,W		10
△	VS229200	AC Cord Assembly	3P 10A	B		11
△	F001	KB003570	Fuse	2.00A JU	J,U,V	01
△	F001	KB003040	Fuse	1.00A S	H,W,B	01
△	F002	KB003560	Fuse	1.60A JU	J,U,V	01
△	F002	KB003060	Fuse	1.60A S	H,W,B	01
△	F003	KB003560	Fuse	1.60A JU	J,U,V	01
△	F003	KB003060	Fuse	1.60A S	H,W,B	01
△	F004	KB003570	Fuse	2.00A JU	J,U,V	01
△	F004	KB003070	Fuse	2.00A S	H,W,B	01
△	F005	KB003570	Fuse	2.00A JU	J,U,V	01
△	F005	KB003070	Fuse	2.00A S	H,W,B	01
△	F006	KB003630	Fuse	5.00A JU	J,U,V	01
△	F006	KB003240	Fuse	5.00A S	H,W,B	01
△	F007	KB003470	Fuse	500mA 250V JU	J,U,V	01
△	F007	KB003010	Fuse	500mA S	H,W,B	01

\*: New Parts

RANK: Japan only



AD824 OVERALL CIRCUIT DIAGRAM 1/4 (MAIN, MYSL)



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

- [F] : Metal Film Resistor
- [C] : Ceramic Capacitor
- [M] : Mylar Capacitor
- XX : not installed

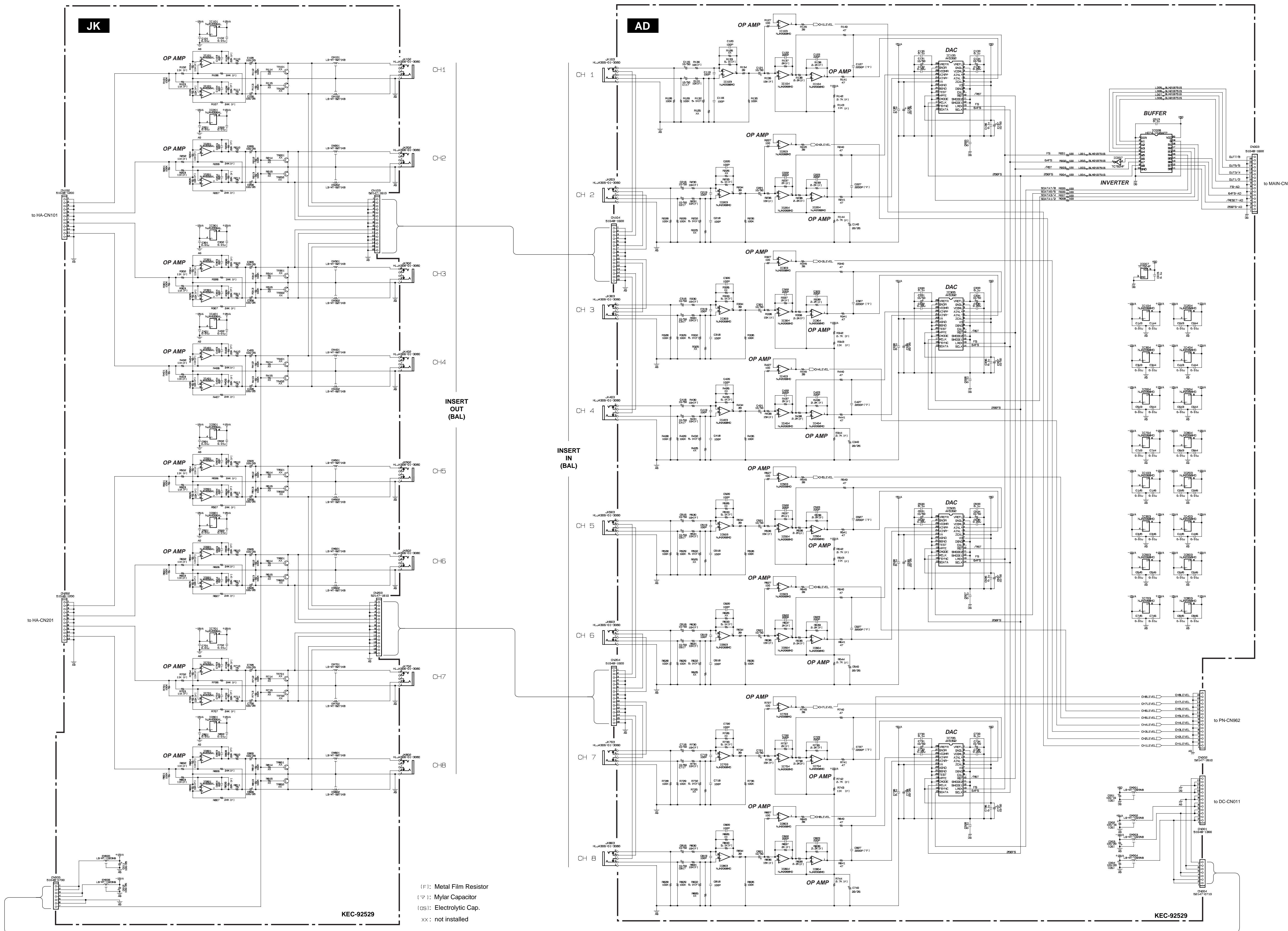
WORD CLOCK

75Ω

WORD CLOCK OUT

KEK-92530

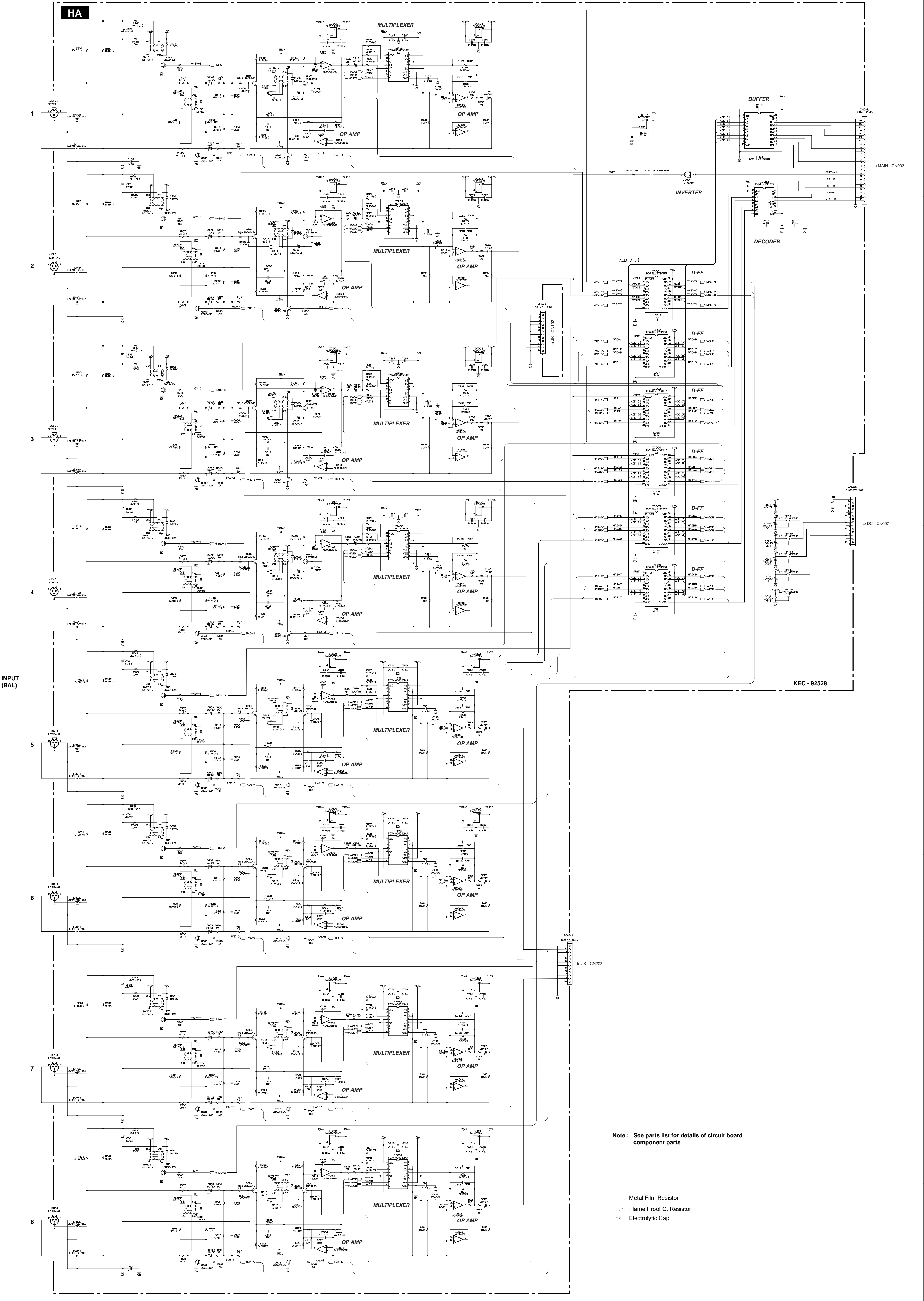




F: Metal Film Resistor  
 M: Mylar Capacitor  
 OS: Electrolytic Cap.  
 XX: not installed

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





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

- (R): Metal Film Resistor
- (P): Flame Proof C. Resistor
- (CS): Electrolytic Cap.



