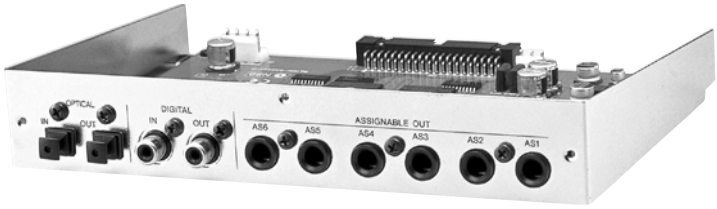
I/O EXPANSION BOARD

AIEB2

SERVICE MANUAL



www.electronicsrepair.net

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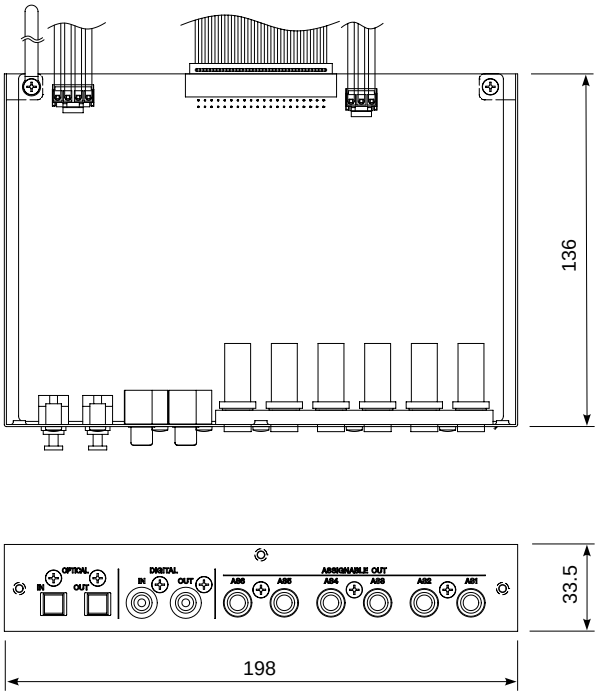
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YAMAHA
HAMAMATSU, JAPAN
1.498K-455 IT

PACKAGE CONTACT

- **AIEB2 Board**
- **Owners manual**

DIMENSIONS



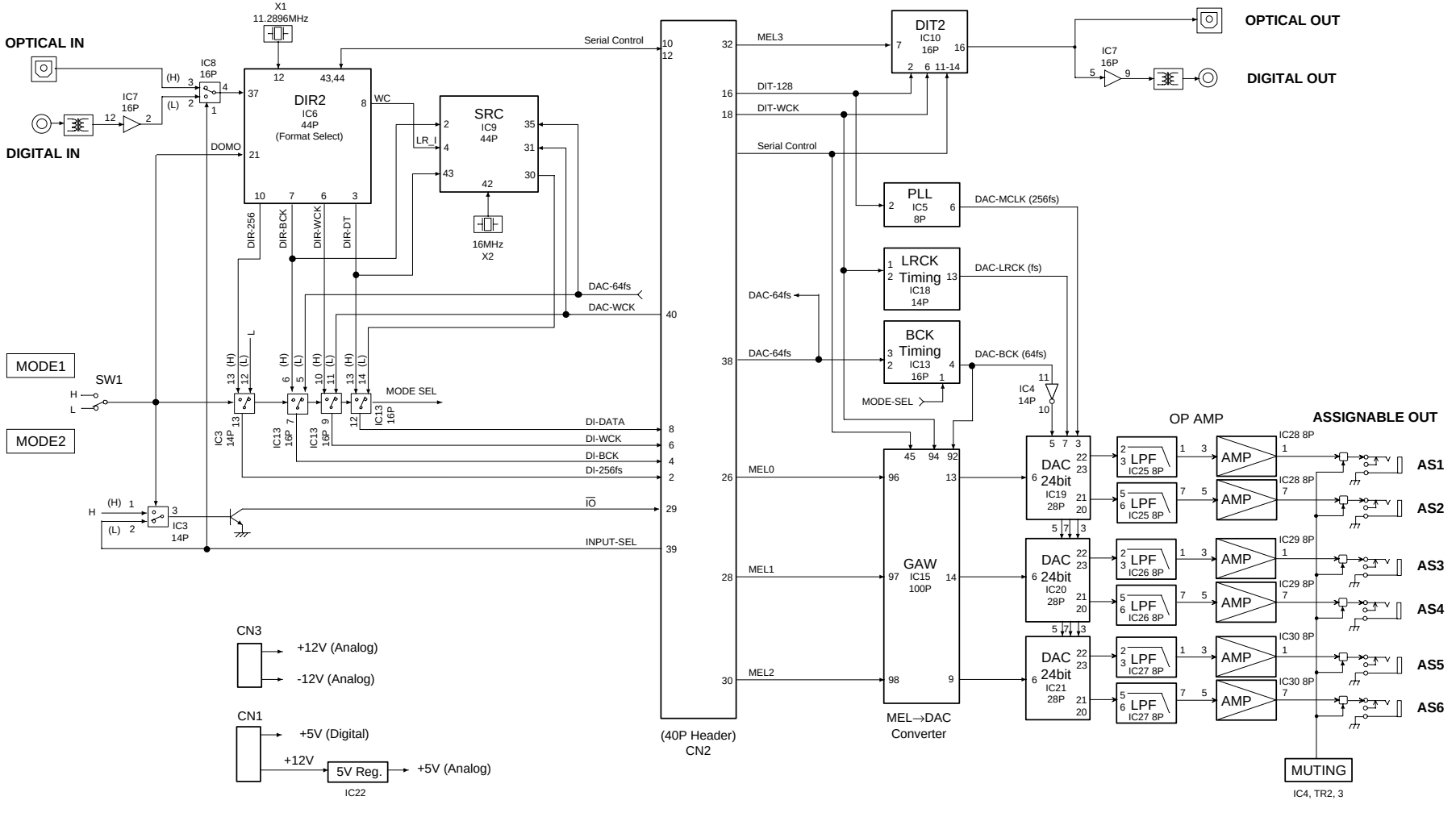
Units: mm

PANEL LAYOUT



❶ **[OPTICAL IN], [OPTICAL OUT] Connectors**
❷ **[DIGITAL IN], [DIGITAL OUT] Connectors**
❸ **[ASSIGNABLE OUT 1 ~ 6] Jacks**

BLOCK DIAGRAM

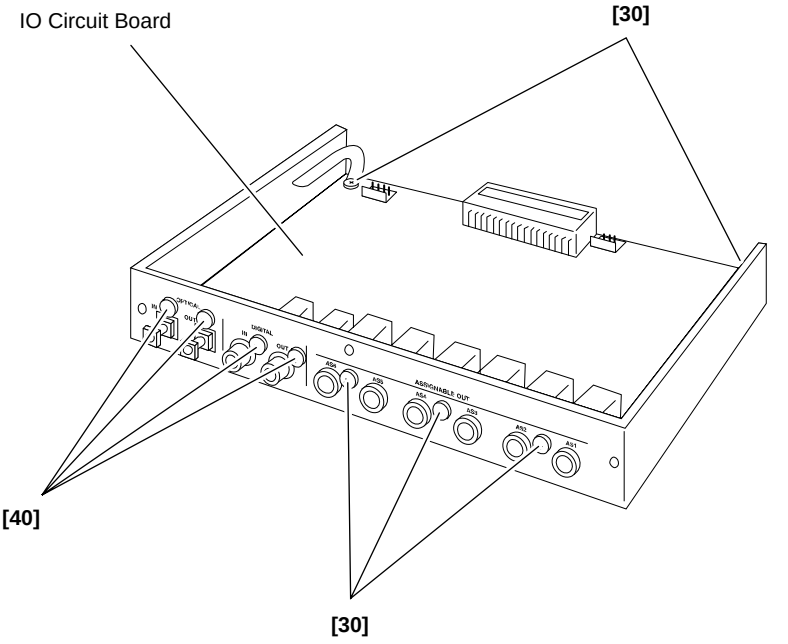


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DISASSEMBLY PROCEDURE

1. IO Circuit Board (Time required: About 3 minutes)

1-1 Remove the five (5) screws marked [30] and the four (4) screws marked [40]. The IO circuit board can then be removed. (Fig.1)



[30]:	Bind Head Tapping Screw-B	3.0X6 MFZN2BL (EP600230)
[40]:	Bind Head Tapping Screw-P	3.0X8 MFZN2BL (EP630220)

Fig.1

INSTALLING THE AIEB2

Note:

- For the A4000, A5000, and SU700, the installation procedure is the same as for the AIEB1.
  However for the SU700, the flat cable included with the SU700 must be reconnected.
- For the RS7000, the flat cable must be reconnected in the opposite direction.

For the RS7000 6
For the MOTIF 12
For the A5000/A4000 18
For the SU700 23

For the RS7000

The RS7000 provides slots, connectors, and installation space that can accommodate a variety of options for enhancing its performance and functionality, such as SIMM expansion memory and I/O expansion boards.

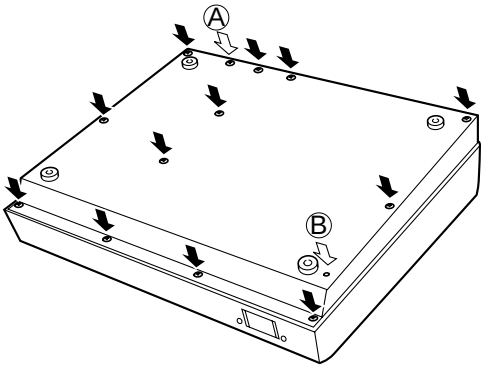
● Removing the Bottom Cover

Procedure

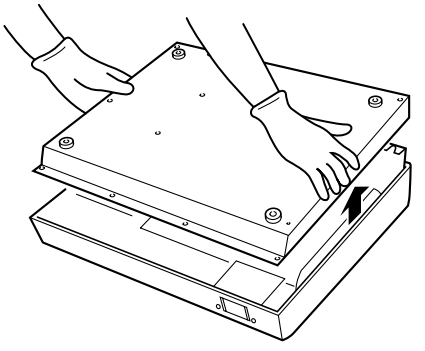
1. Be sure you have the following at hand before starting the installation.
   - **Phillips screwdriver:** Magnetic-tipped screwdriver is recommended.
   - **Workbench:** Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will prevent scratching.
   - **Gloves:** Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.
2. Switch off the RS7000 power, and unplug the power cord from the wall outlet.
3. Remove the screws holding the bottom cover in place.
   - Set the RS7000 upside down on the workbench and use a Phillips screwdriver to unscrew the 12 screws from the bottom (see illus-tration below).

⚠ CAUTION

Do not remove the screw marked Ⓐ in the illustration below. This screw is not relevant to removing the bot-tom cover. Holes Ⓑ in the diagram below have no connection with removing the bottom cover.



4. Holding both sides of the bottom cover with both hands, lift the bottom cover straight up to remove it.



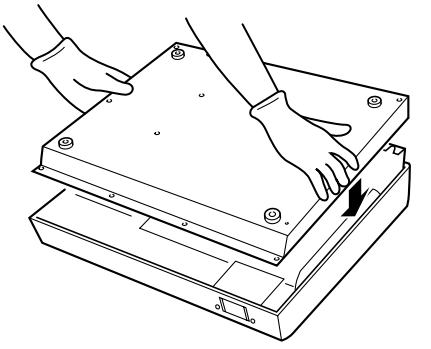
● Replacind the Bottom Cover

IMPORTANT

When replacing the bottom cover, be sure that you do not get cables caught or pulled between the cover and main unit. This could cause broken connections or malfunctions.

Procedure

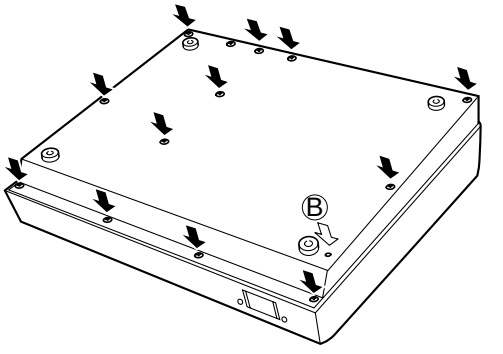
1. Holding both sides of the bottom cover with both hands, lower the cover straight down from above to its original position.



2. Use the original screws to re-attach the bottom cover.
   • Replace the twelve screws to fasten the bottom cover.

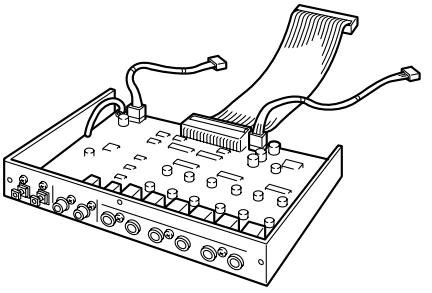
⚠ CAUTION

Do not use screws other than those removed in step 3. Other screws can damage the unit.
Holes B in the diagram below are not screw holes. Be careful not to insert screws into these holes.



3. Carefully turn the unit right side up.

● Installing the AIEB2 I/O Expansion Board

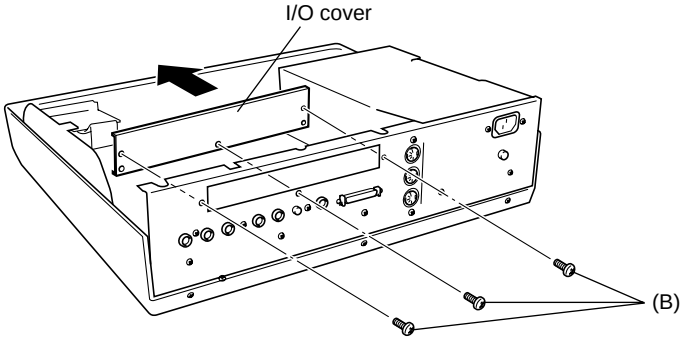


Procedure

1. Be sure that you have the following at hand before starting the installation.
   - **AIEB2 I/O expansion board:** Confirm that there are 3 cables extending from the board.
   - **Phillips screwdriver:** Magnetic-tipped screwdriver is recommended.
   - **Workbench:** Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
   - **Gloves:** Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.
2. Remove the bottom cover.
3. Remove the three screws (B) from the rear panel, and remove the I/O cover.

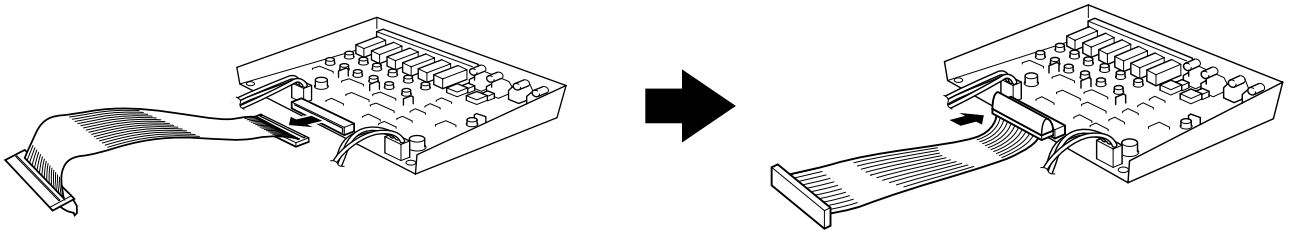
⚠ CAUTION

- The I/O cover may fall down when all three screws are removed, so be sure to hold the I/O cover with one hand while removing the screws.
- The I/O cover you removed will not be needed as long as the AIEB2 is installed, but the screws with which it was attached will be used to attach the AIEB2, so be careful not to misplace them.
- These screws (B) are of a different type than the twelve screws that fasten the bottom cover. Be careful not to confuse them with the bottom cover screws. The unit may be damaged if you use the incorrect screws.

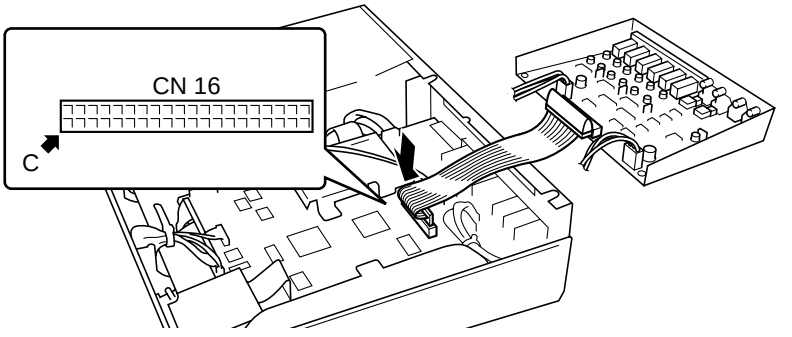


4. Plug in the flat cable backward.

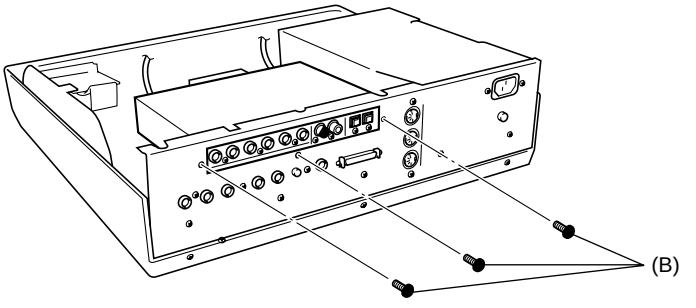
- Disconnect the flat cable.
- Insert the opposite plug into the connector.
  The connector has a cut-out that prevents it from being connected in an incorrect orientation.



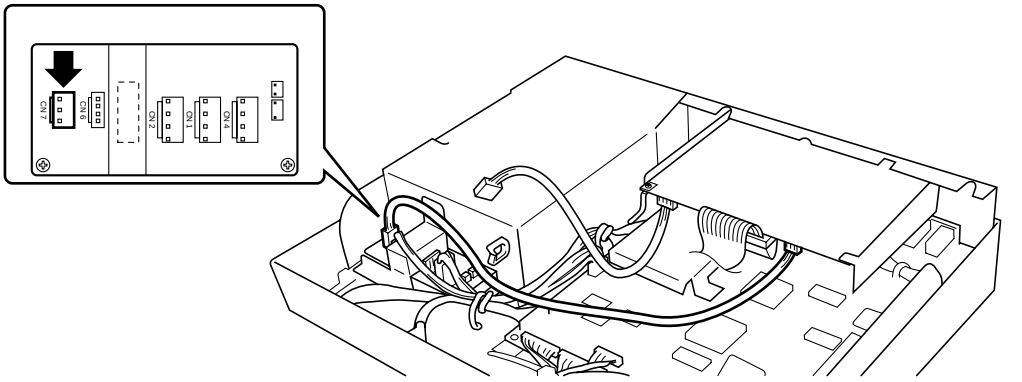
5. Connect the flat cable.
   - Connect the flat cable from the I/O expansion board (the thin, flat cable) to the corresponding connector on the RS7000's circuit board (marked "C" in the illustration below: CN16).
     The connector is "keyed" so that it will only go in one way.



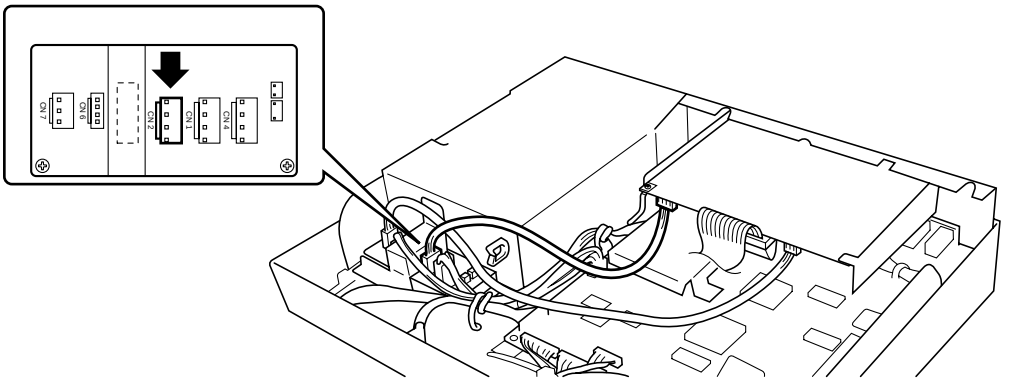
6. Insert the AIEB2 I/O expansion board.
   - Support the I/O expansion board as shown in the illustration below, and fasten it to the rear panel by screwing in the three screws
     (B) that you removed at Step 3 above.



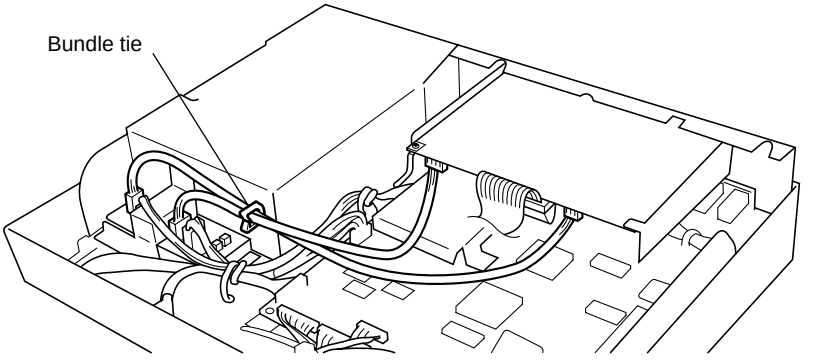
7. Connect the 3-wire red/white cable.
   - Of the two red/white cables that extend from the I/O expansion board, first connect the 3-wire cable to the connector shown in the illustration below (CN7: 3-pin). Make sure that the direction is correct, and do not try to force the connection.



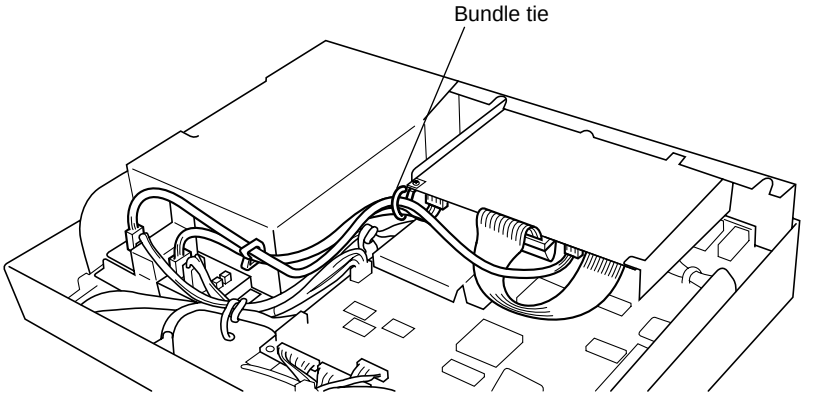
8. Connect the other red/white cable (4-wire) in the same way.
   - Connect the cable to the connector shown below (CN2: 4-pin).



9. Secure the cables to the bundle tie.
   - Run the 3-wire and 4-wire cables through the bundle tie (see illustration below), and secure them.

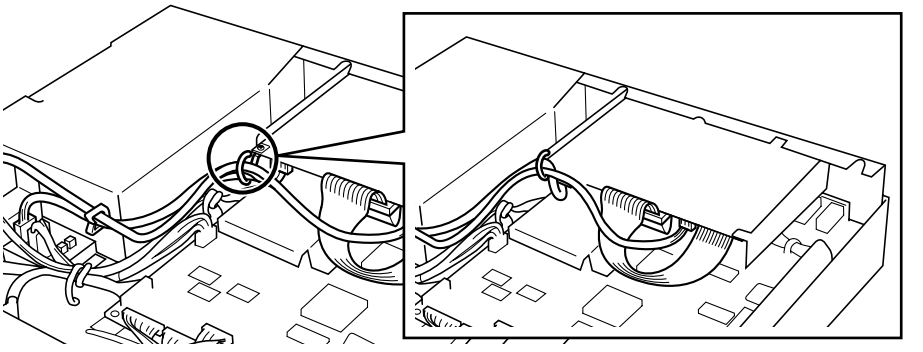


• Use the bundle tie to secure the 3-wire cable, and the 4-wire cable (see illustration below).



⚠ *CAUTION*

Make sure that the cables are bundled below the circuit board. If any cables are pinched between the cover and I/O expansion circuit board when the bottom cover is replaced, broken connections or malfunctions may occur.



Correct Incorrect

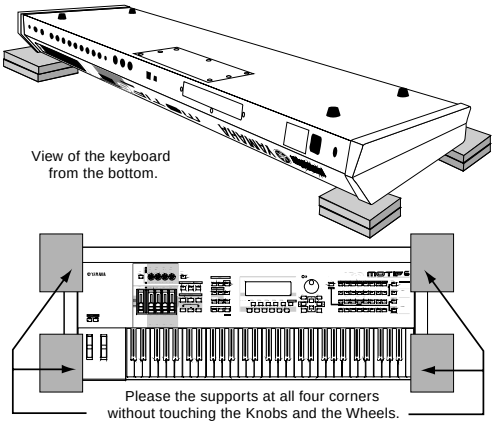
10. Replace the bottom cover.
11. Plug in the power cord.

For the MOTIF

Installing the AIEB2

1 Turn the MOTIF power off, and disconnect the AC power cord. Also, make sure to disconnect the MOTIF from any connected external devices.

2 Turn over the MOTIF so you can have direct access to the underside. To protect the Knobs and Wheels, place the keyboard so the four corners are supported by something that provides sufficient support like magazines or cushions.

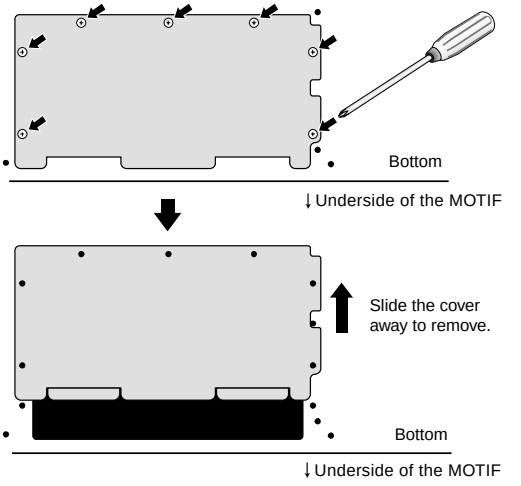


IMPORTANT Be careful not to drop or bump the keyboard and make sure that it is well balanced before proceeding.

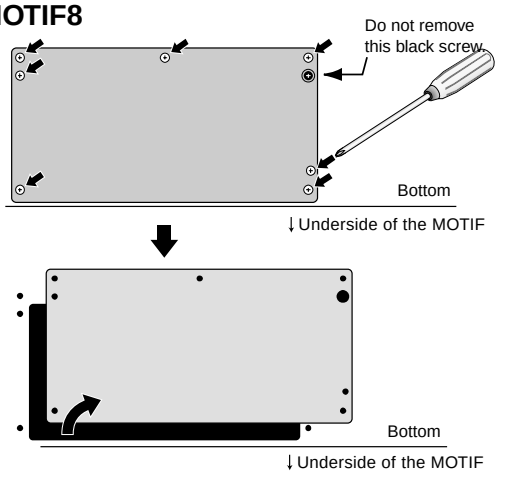
3 Remove the cover of the bottom. Unscrew the screws on the bottom using the driver by placing the back sides of the ripped over body facing to you (MOTIF6/ MOTIF7 has 7 screws and MOTIF 8 has 7 yellow screws.). Remove the cover from the body after unscrewing all the screws. For MOTIF6/MOTIF7 place the back side facing to you and slide the over toward front to remove the cover.

IMPORTANT Keep the removed screws in a safe place. They will be used when attaching the cover to the MOTIF again after installing the AIEB2.

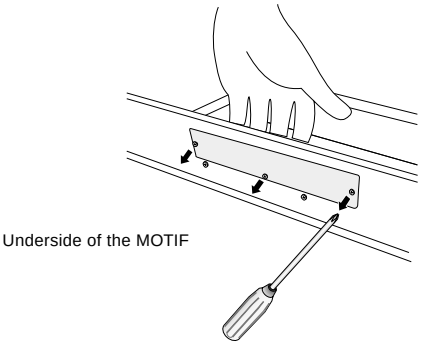
MOTIF6 / MOTIF7



MOTIF8

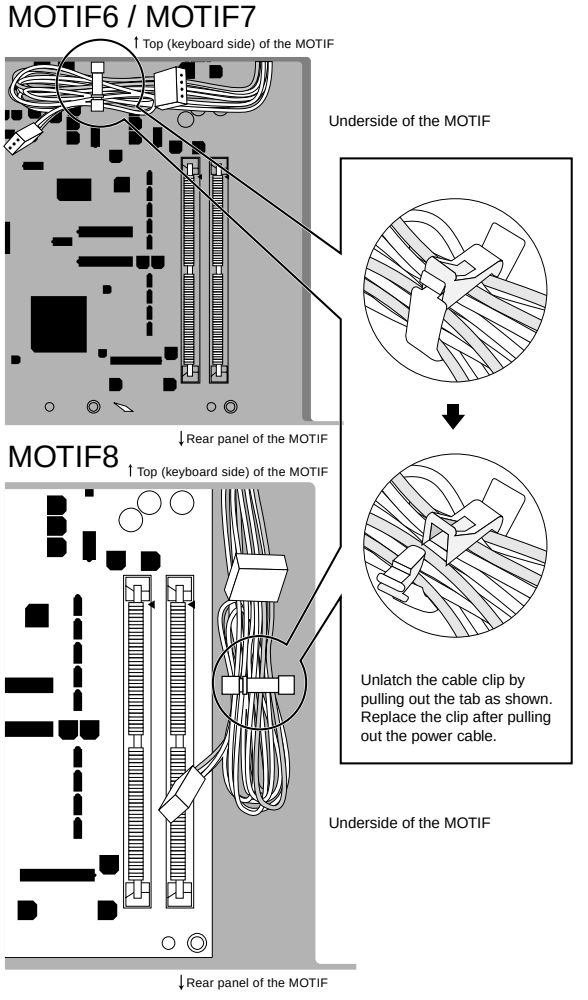


4 Remove the three screws from the rear cover while holding it from inside the MOTIF with your left hand.

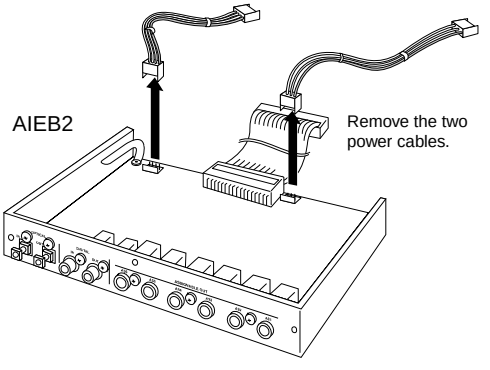


IMPORTANT Keep the removed screws in a safe place. They will be used when attaching the cover to the MOTIF again when the AIEB2 is removed in the future.

5 Remove the AIEB2 power cables from the hook-shaped cable clip in the MOTIF.

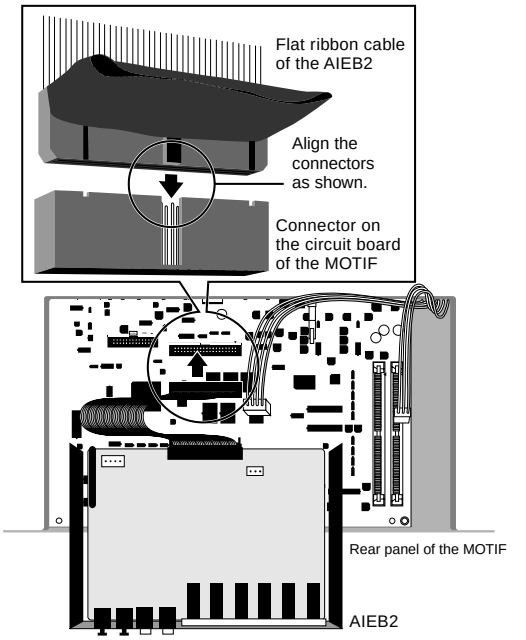


6 Remove the AIEB2 from its package. The AIEB2 has one flat ribbon cable and two power cables. Since these two power cables are used for the main body and are not needed when installing to the MOTIF, you can remove them from the AIEB2.

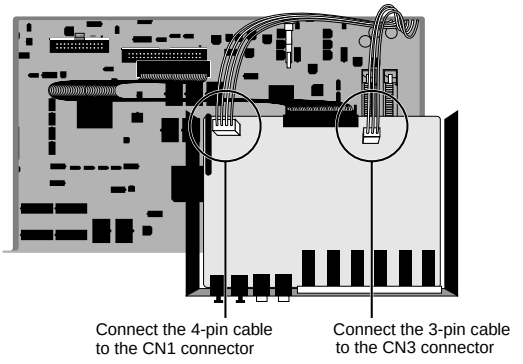


7 Connect the flat ribbon cable coming from AIEB2 to the circuit board of the MOTIF. Be careful to connect in the proper direction as shown.

IMPORTANT Make sure that the direction is correct and do not try to force the connection.



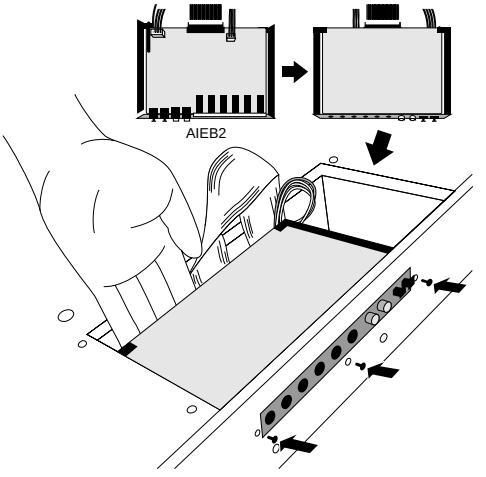
8 Connect the power cable coming from MOTIF to the AIEB2. Connect the 3-pin cable to the CN3 connector of the AIEB2, and the 4-pin cable to the CN1 connector.



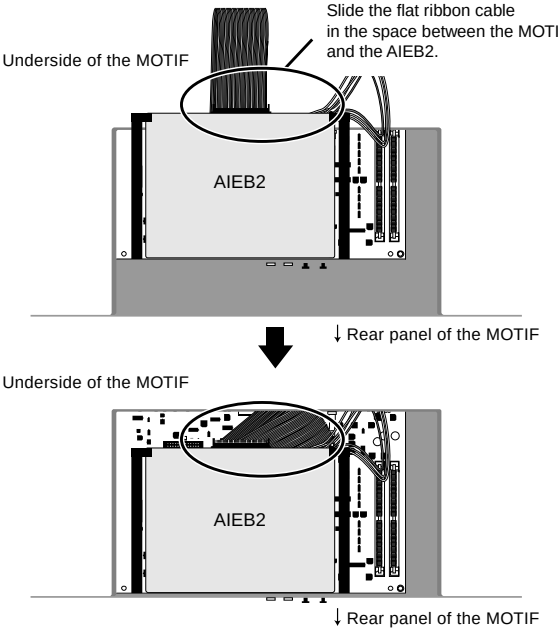
* Make sure to properly match the cables and connectors. Avoid applying excessive force when connecting.

9 Fasten the AIEB2 to the MOTIF. Flip the unit over, so that the bottom of the plate can be seen, and that each connector section of the AIEB2 can be seen from the back side of MOTIF. Supporting the unit with one hand, attach it to the rear of the MOTIF with the three screws you removed in step 4. If you start replacing the screws from the center screw, it will be easy to replace the remaining screws.

Flip over the AIEB2 taking care not to bend or damage the flat ribbon cable.



10 Let the ribbon cable fall into place between the AIEB2 and the circuit board of the MOTIF.



11 Re-install the cover you removed in earlier steps, in reverse order.

For the A5000/A4000

The A5000/A4000 features connectors and installation space which can accommodate a range of options for enhanced the performance and functionality - SIMM expansion memory, an I/O expansion board, Internal SCSI and IDE hard disk drives, ZIP drives, etc.

● Removing the Top Cover

[Procedure]

1. Be sure that you have the following at hand before starting the installation.

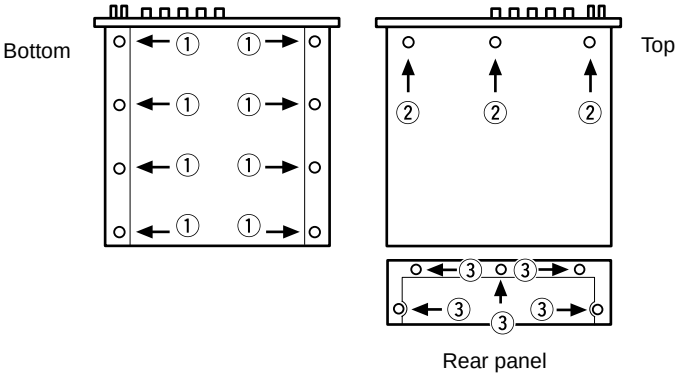
- **Phillips screwdriver:** Magnetic-tipped screwdriver is recommended.
- **Workbench:** Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- **Gloves:** Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

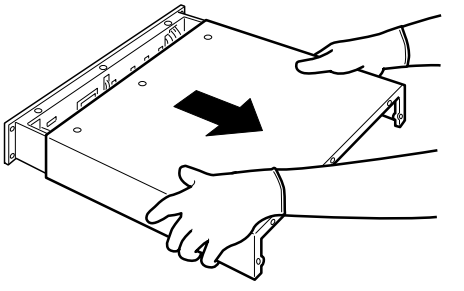
2. Switch off the A5000/A4000 power, and unplug the power cord from the wall outlet.

3. Remove the screws holding the A5000/A4000 top cover in place.

- Set the A5000/A4000 upside down on the workbench and unscrew the 8 screws (①) along the sides of the bottom (see illustration below). Then turn the A5000/A4000 right side up again and unscrew the 3 screws (②) along the top. Then unscrew the 5 screws (③) holding the cover to the rear panel.

4. Holding both sides of the top cover with both hands, carefully slide the cover straight back (over the rear panel) and off.



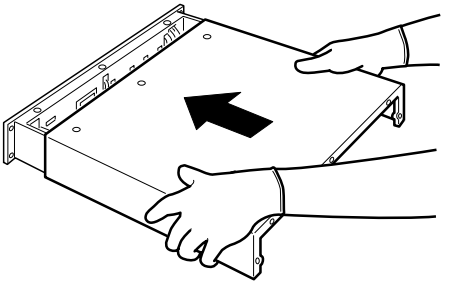


● Replacing the Top Cover

[Procedure]

1. Holding both sides of the top cover with both hands, carefully slide the cover back to its original position.

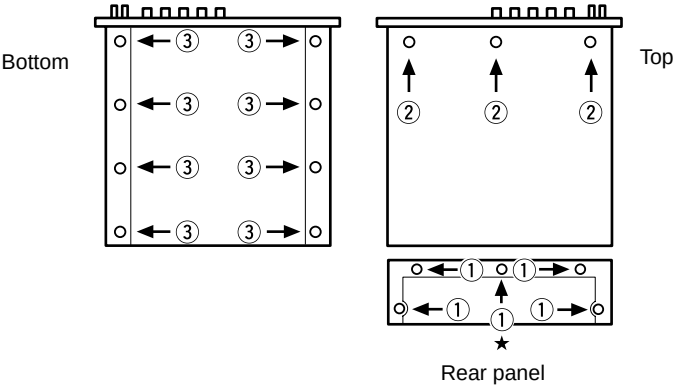
Note: When replacing the top cover be sure that you do not get cables caught between the cover and main unit, or apply unnecessary force to the cables or internal circuitry.



2. Use the original screws to re-attach the top cover.

- Use a "plus" screwdriver to replace the five screws ① in the rear panel. Tighten the central screw first ("★" in the illustration below).
- Then, facing the front of the unit attach the three screws across the top ② while applying pressure to the center of the rear-panel side of the top panel to hold it in place.
- Finally, turn the unit upside down and attach the 8 bottom-panel screws ③.

Note: Do not use screws other than those removed in step 3 (①, ②, ③, are the same screws). Other screws can damage the unit.



● Installing the AIEB2 I/O Expansion Board

[Procedure]

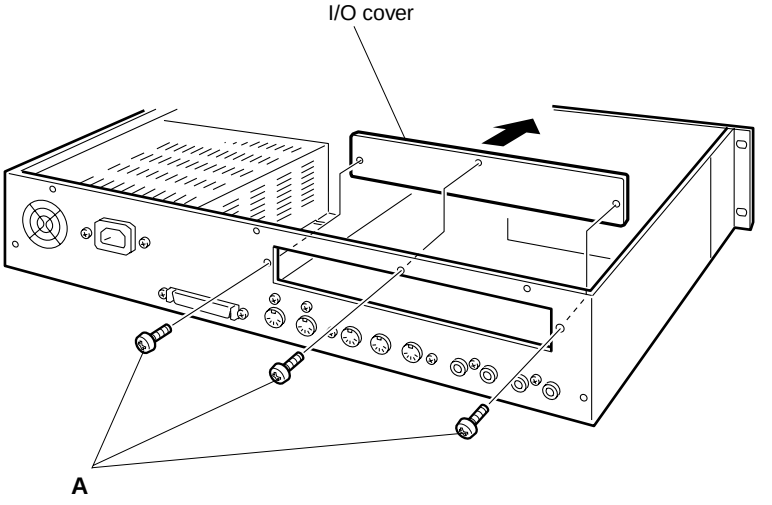
1. Be sure that you have the following at hand before starting the installation.

- AIEB2 I/O expansion board: Confirm that there are 3 cables extending from the board.
- Phillips screwdriver: Magnetic-tipped screwdriver is recommended.
- Workbench: Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- Gloves: Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

2. Remove the top cover.

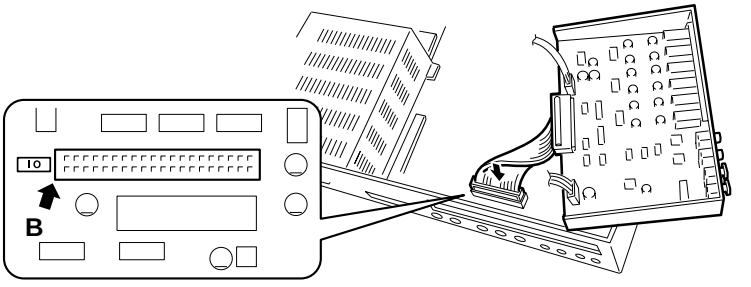
3. Now go to the rear panel and remove the 3 screws (A) holding the I/O cover in place. Take the I/O cover out.

Note
- The I/O cover may fall inside the unit when all 3 screws are removed, so be sure to hold the I/O cover with one hand while removing the screws.
- The I/O cover will not be needed as long as the AIEB2 is installed, but the screws with which it was attached will be used to attach the AIEB2, so be careful not to misplace them.



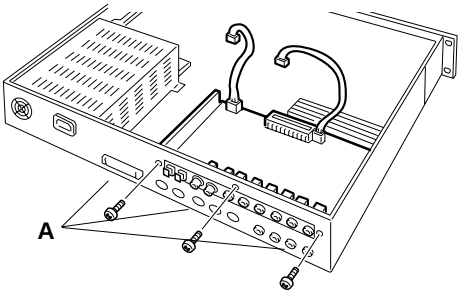
4. Connect the flat cable.

- Connect the flat cable from the I/O expansion board (the flat, thin cable) to the corresponding connector on the sampler's main circuit board (marked "B" in the illustration below, "IO" on the circuit board itself). The connector is "keyed" so that it will only go in one way.



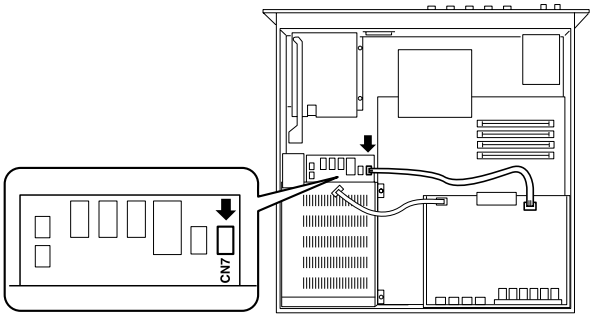
5. Insert the AIEB2 expansion board.

- Support the board as shown in the illustration below, and fasten it in to the rear panel by screwing in the three screws (A) that you removed at Step 3 above.



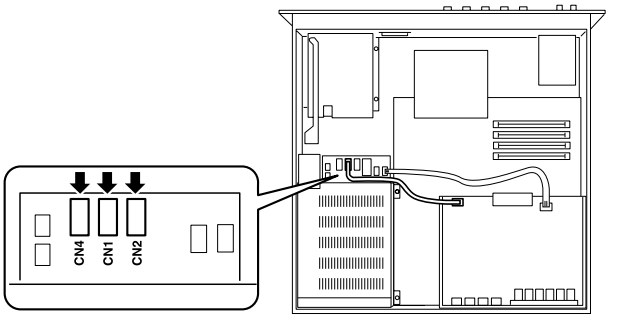
6. Connect the two red/white cables.

- First connect the 3-wire cable into the connector (CN7: 3-pin) indicated in the illustration below. (Note that these connectors can attach in one direction only. Make sure that the direction is correct and do not try to force the connection.)



7. In the same way, connect the other red-and-white cable (4-wire) to the CN1, CN2, or CN4 connector shown in the illustration.

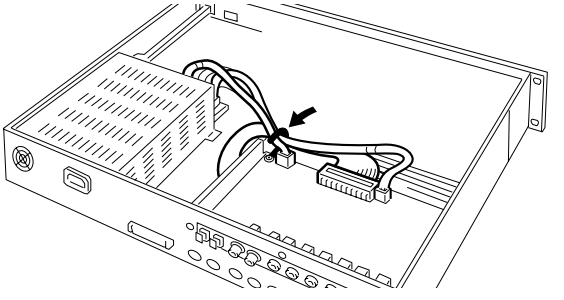
- If no internal hard disk or ZIP drive is installed, all three connectors will be available. Any of these connectors can be used.
- If at any time you need to disconnect any of these connectors, do so while pressing the release clip on the plug. Do not apply excessive force.



The expansion board is now fully installed.
There is no need to remove the expansion board when installing other devices.

8. Secure the red/white cables and the wide flat cable to the bundle tie.

- Run the flat cable, the 3-wire cable, and the 4-wire cable through the bundle tie (see illustration below). Adjust the tie so that the cables are secure.



9. Replace the top cover.

10. Plug in the power cord.

For the SU700

Before you can install an option, you need to open the SU700 by lifting and flipping over its top cover. When you have completed installation, you will need to reattach the cover.

● Flipping the Cover

1. Be sure that you have the following items on hand.

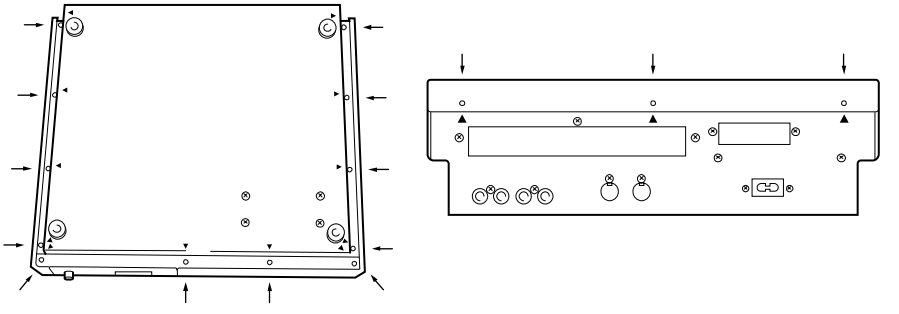
- SU700
- The option(s) that you plan to install
- Phillips screwdriver (preferably with magnetic tip)
- Stable work surface (workbench or table)
- Cloth or other soft material placed on the work surface, to protect the SU700 (and the work surface itself) from damage.

2. Be sure that the SU700 power switch is in OFF position, and that all cables have been disconnected from the SU700 jacks and external connectors.

3. Remove the 15 screws holding the top cover in place (12 screws along the bottom, and 3 smaller screws along the back rim). The screws are indicated by arrow marks printed on the unit.

Turn the SU700 upside down, and set it down softly on the cloth laid out on the work surface. Using the screwdriver, remove the 12 screws along the perimeter. Then turn the unit right side up again, slide it so that its rear side is facing toward you, and remove the 3 screws along the back rim of the cover.

Keep the screws in a safe place, as you will need to reinsert them when you have finished the installation. (Keep the 12 larger screws separate from the 3 smaller screws.)

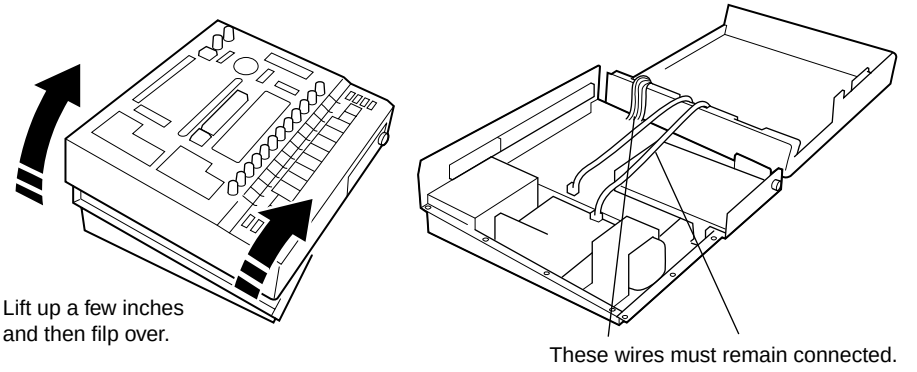


4. Separate the top cover from the lower unit.

Slide the SU700 around so it is facing you (its normal orientation). Grasp the left and right sides of the cover, and lift the cover slightly (about 2 inches) to free it from the lower unit. Then carefully bring the left side of the cover up and over, and lay the cover upside-down along the right side of the lower unit.

IMPORTANT

Be careful not to disturb the cables running between the top cover and the lower unit; these cables should remain connected during the entire installation procedure.



5. You are now ready to install your option(s).

6. When you have finished the installation, replace the top cover as described below.

● Closing the Cover

1. Carefully flip the cover over again and place it back in its original position, taking care to keep all cable connections undisturbed.

Proceed slowly and carefully, making sure that cables running between the cover and the lower unit remain connected, and that the cables fall into proper position within the unit. Be sure that cables do not become caught between the top cover and the lower unit.

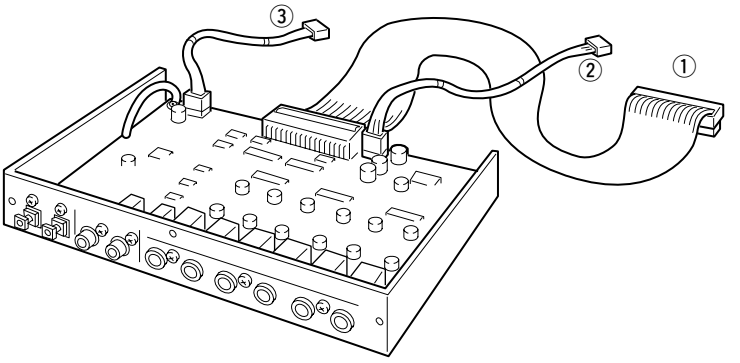
After setting the cover back in place, confirm that it fits correctly, and that the empty screw holes are in good alignment.

2. Replace the 3 small screws along the back rim of the cover.

3. Turn the SU700 upside down, and screw in the 12 larger screws along the bottom perimeter.

4. Turn the SU700 right side up again.

● Installing the AIEB2 I/O Expansion Board



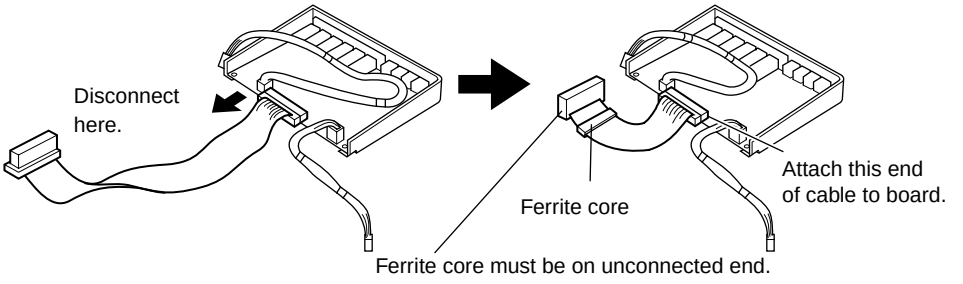
Preparation

1. The SU700 package includes a short flat cable and a short round 3-wire cable specially designed for use with the AIEB2 board. Be sure that you have these cables on hand. Note that one end of the short flat cable is "banded" (has a bulging ferrite core near the connector), while the other end has no band.

2. Remove the AIEB2 board from its package, and check that three cables are attached.
The board ships with three attached cables, as illustrated above.
① Long flat cable
② Long round 3-wire cable
③ Round 4-wire cable

3. Disconnect the long flat cable and the long round 3-wire cable from the board, and store or discard them. Note the location of the board connectors to which these cables were attached.
These cables are not appropriate for use in the SU700.

4. Connect the non-banded end of the short flat cable (described in Step 1 above) to the now-empty flat-cable connector on the board (connector "CN2").
Be sure to connect the non-banded end, leaving the banded end free.



Connect short flat cable and short 3-wire cable (supplied with the SU700 package) here.

5. Connect one end of the short 3-wire cable (described in Step 1) to the now-empty 3-pin connector on the board (connector "CN3").

6. If you have not yet done so, unfasten and lift off the top cover as described in "Flip-ping the Cover". Also be sure that you have a Phillips screwdriver at hand.

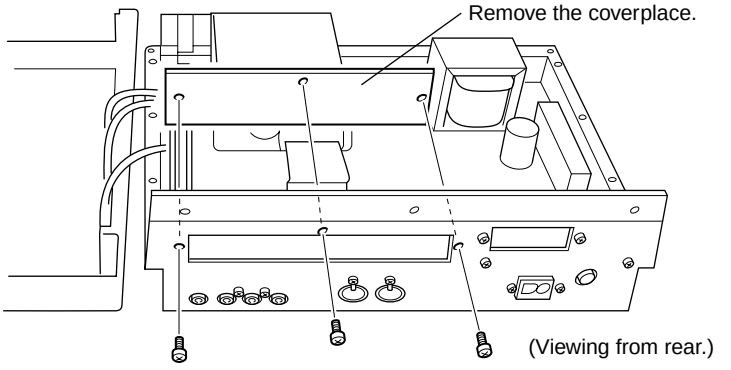
Installation

IMPORTANT

Please remember that if you are also installing SIMMs at this time, you must install the SIMMs before you install the AIEB2.

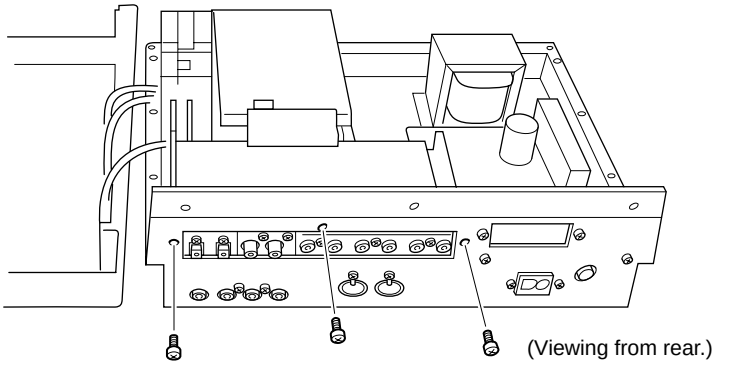
1. Remove the three screws holding the long coverplate to the rear panel. Take the coverplate out.

Keep the three screws handy; you will need them in a minute. You will not need the coverplate again unless you decide to remove the expansion board.



2. Fasten the board into the SU700.

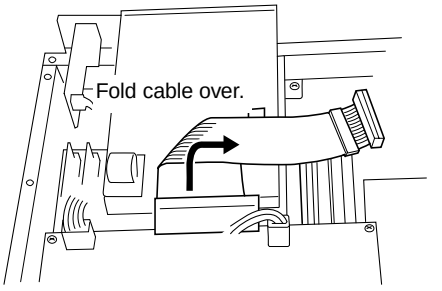
Hold the board so that it fits against the open slot along the rear panel (where the coverplate was). Fasten it to the rear panel by screwing in the three screws you removed in Step 1.



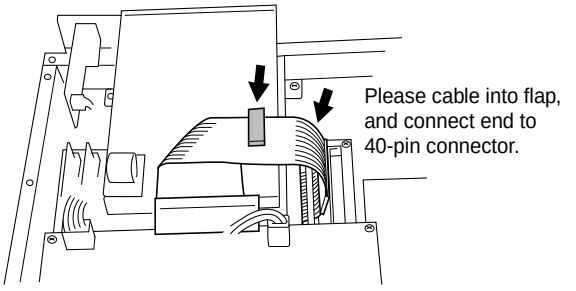
3. Arrange the flat cable so that it passes through the vertical flap on the FD drive, and connect the free end to the black 40-pin connector (“CN4”) located next to the FD drive.

Pull the cable toward the front of the SU700, then fold it 90 degrees over and to the left and pass it through the vertical plastic flap mounted on the top left of the FD drive (viewing from the front of the SU700). Connect the end of the cable to the 40-pin connector (“CN4”) on the main board. The connectors are notched to ensure that you connect in the right direction.

Fold the cable gently, using a rounded fold. Do not press down strongly to get a sharp fold, as this may damage the internal wiring.



(Viewing from rear.)

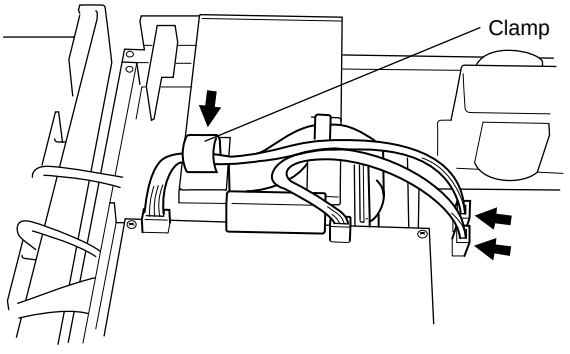


(Viewing from rear.)

4. Connect the free end of the 3-wire cable to the 3-pin connector (“CN6”) on the brown board.

5. Connect the free end of the 4-wire cable to the 4-pin connector (“CN5”) on the brown board, and pass the cable through the clamp mounted on the corner of the FD drive.

Open the clamp, set the cable inside it, and then close it so that it snaps shut.



(Viewing from rear.)

6. If you are finished with installation, replace and refasten the cover, as described in “Closing the Cover”.

NOTE:

Once the board is installed, the SU700 should display the message IO BOARD FOUND each time it starts up.

■ LSI PIN DESCRIPTION

● **YM3436DK** (XG948E0) **DIR2** (Digital Format Interface Receiver) IC6

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 (+5V)
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

● **AD1893JST** (XW839A00) **SRC** (Sample Rate Converter) IC9

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	NC		Not used	23	NC		Not used
2	BCLK_I	I	Bit clock for input data	24	MODE0_O	I	Serial data output mode selaction
3	WCLK_I	I	Word clock for input data	25	BKPOL_O	I	Bit clock output control
4	LR_I	I	L/R clock for input data	26	NC		Not used
5	NC		Not used	27	GND		Ground
6	VDD		Power supply	28	VDD		Power Supply (+5V)
7	GND		Ground	29	NC		Not used
8	NC		Not used	30	DATA_O	O	Serial data output
9	BKPOL_I	I	Bit clock input control	31	LR_O	I	L/R clock for output data
10	MODE0 _I	I	Serial data input mode selaction	32	WCLK_O	I	Word clock for output data
11	NC		Not used	33	NC		Not used
12	NC			34	NC		
13	MODE1 _I	I	Serial data input mode selaction	35	BCLK_0	I	Bit clock for output data
14	/RESET	I	System reset input	36	PWRDWN	I	Power down input
15	NC		Not used	37	NC		Not used
16	GND		Ground	38	SETSLW		
17	NC		Not used	39	NC		Not used
18	MUTE_I	I	Mute input	40	XTAL_O	O	Crystal oscillator connection
19	NC		Not used	41	NC		Not used
20	MUTE_O	O	Mute output	42	XTAI_I	I	Crystal oscillator connection
21	MODE1 _O	I	Serial data output mode selaction	43	DATA_I	I	Serial data input
22	NC		Not used	44	NC		Not used

● **LR38799** (XY489A00) **GAW** (Gate Array)

IC15

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	GND		Ground	51	GND		Ground
2	GND			52	GND		
	IN3 (SI3)	I	Serial data input	53	WR	I	Write enable
3			(MEL format: LSB first, Left-justified)	54	OE	I	Output enable
4	IN4 (/CLOCK)	I	Control signal input (clock)	55	D15	I/O	Data bus
5	IN5 (DATA)	I	Control signal input (data)	56	D0	I/O	
6	NC		Not used	57	D7	I/O	
7	NC			58	VDD		Power supply (+5V)
8	MODE	I	Mode select	59	GND		Ground
9	SEL0 (OUT2)	O	Serial data output (MSB first)	60	D8	I/O	Data bus
10	SEL1 (OUT3)	O		61	D14	I/O	
11	VDD		Power supply (+5V)	62	D1	I/O	
12	GND		Ground	63	D6	I/O	
13	OUT0	O	Serial data output (MSB first)	64	VDD		Power supply (+5V)
14	OUT1	O		65	GND		Ground
15	/SRAM	O	Chip enable	66	D9	I/O	Data bus
16	/ROM	O		67	D13	I/O	
17	GND		Ground	68	D2	I/O	
18	GND			69	D5	I/O	
19	PASYNC	O	Synchronizing serial output (DTI)	70	D10	O	
20	WC	O	Synchronizing serial output (PCI)	71	GND		Ground
21	LROUT	O	LR level shift data output (MEL format)	72	TESTMODE	I	Test pins
22	P0	O	Port	73	SCANEN	I	
23	P1	O		74	GND		Ground
24	GND		Ground	75	GND		
25	GND			76	VDD		Power supply (5V)
26	VDD		Power supply (+5V)	77	VDD		
27	VDD			78	D12	I/O	Data bus
28	P2	O	Port	79	D3	I/O	
29	P3	O		80	D4	I/O	
30	P4	O		81	D11	I/O	
31	NC		Not used	82	GND		Ground
32	NC			83	GND		
33	P5	O	Port	84	SCLK	I	Master clock (768 fs)
34	P6	O		85	VDD		Power supply (+5V)
35	P7	O		86	LRIN (MUTE)	I	LR level shift data input (MEL format)/MUTE signal input
36	GND		Ground				
37	VDD		Power supply (+5V)	87	SYI	I	Synchronizing signal input (SWP)
38	NC		Not used	88	/CS0	I	Chip select
39	NC			89	/IC	I	Initial clear (Low active)
40	MA19	I	Chip enable address input	90	NC		Not used
41	MA20	I		91	GND		Ground
42	CE	I	Chip enable	92	MCLK	I	Master clock (64 fs)
43	NC		Not used	93	VDD		Power supply (+5V)
44	NC			94	SYNC	I	Synchronizing signal input for serial data
45	A3	I	Address bus	95	NC		Not used
46	A2	I		96	IN0 (SI0)	I	Serial data input (MEL format: LSB first, Left-justified)
47	A1	I		97	IN1 (SI1)	I	
48	A0	I		98	IN2 (SI2)	I	
49	VDD		Power supply (+5V)	99	VDD		Power supply (+5V)
50	VDD			100	VDD		

● **YM3437C-F** (XM530A00) **DIT2** (Digital Format Interface Transmitter) IC10

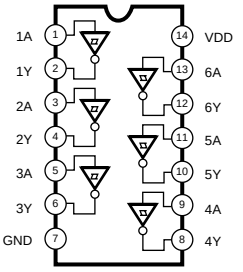
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	Vss		Ground	9	MUTE	I	Mute
2	MCLK	I	Master clock input	10	VFL	I	Validity flag
3	DM0	I	DIN/BCLK/WCLK format select	11	CCK	I	C,U bit clock input/C bit data input
4	DM1	I	DM1,DM0=0,0 DSP,LDSP (64 bit,LSB first) DM1,DM0=0,1stereo,DSP (64 bit,MSB first)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

● **AK4393-VF-E2** (XW029A00) **DAC** (Digital to Analog Converter) IC19-21

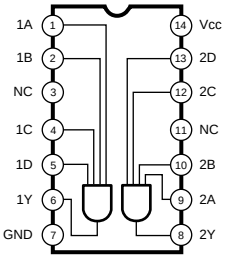
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DVSS	-	Digital ground	15	BVSS	-	Substrate ground
2	DVDD	-	Digital power supply	16	VREFL	I	Low level voltage reference
3	MCLK	I	Master clock	17	VREFH	I	High level voltage reference
4	/PD	I	Power down mode	18	AVDD	-	Analog power supply +5 V
5	BICK	I	Audio serial data clock	19	AVSS	-	Analog ground
6	SDATA	I	Audio serial data input	20	AOUTR-	O	Rch negative analog output
7	LRCK	I	L/R clock	21	AOUTR+	O	Rch positive analog output
8	SMUTE//CS	I	Soft mute	22	AOUTL-	O	Lch negative analog output
9	DFS	I	Double speed sampling mode	23	AOUTL+	O	Lch positive analog output
10	DEM0/CCLK	I	De-emphasis enable	24	VCOM	O	Common voltage output
11	DEM1/CDTI	I		25	P//S	I	Parallel/serial select
12	DIF0	I	Digital input format	26	CKS0	I	Master clock select
13	DIF1	I		27	CKS1	I	
14	DIF2	I		28	CKS2	I	

■ IC BLOCK DIAGRAM

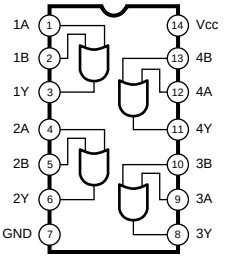
- **HD74LV14AFPEL** (IS001400)
  Hex Inverter
  IC4



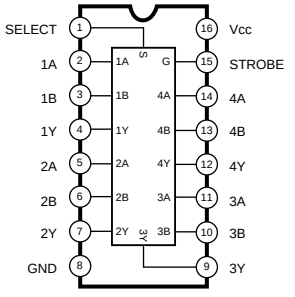
- **HD74LV21AFPEL** (IS002100)
  Dual 4 Input AND
  IC14



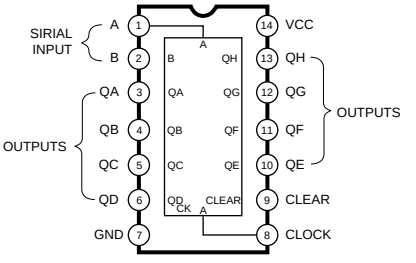
- **HD74LV32AFPEL** (IS003200)
  Quad 2 Input OR
  IC3



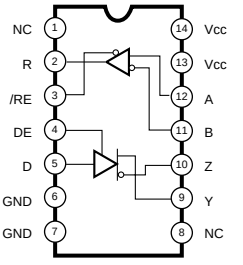
- **SN74ALS157ANSR** (X0605A00)
  HD74LV157AFPEL (IS015700)
  Quad 2 to 1 Multiplexer
  IC8, 13



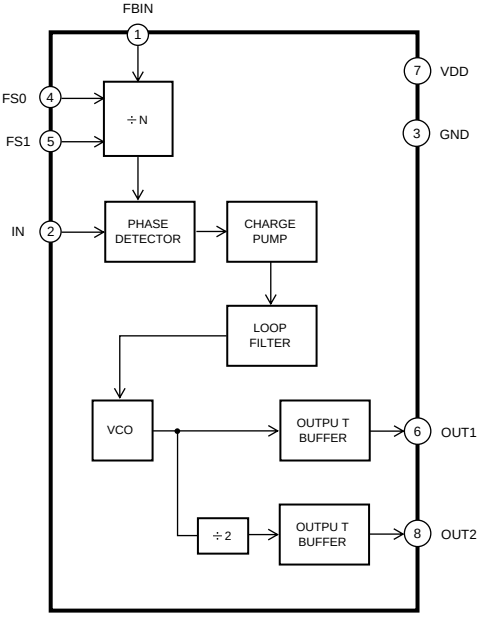
- **HD74LV164AFPEL** (IS016400)
  8-Bit Shift Register
  IC18



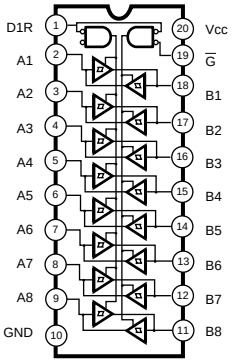
- **SN75ALS181NSR** (XS533A00)
  Line Driver
  IC7



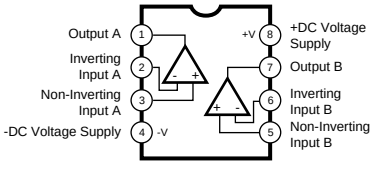
- **W194-70G** (XW492A00)
  Clock Generator
  IC5



- **HD74LV245ATELL** (XW744A00)
  Octal 3-State Bus Transceiver
  IC11, 12

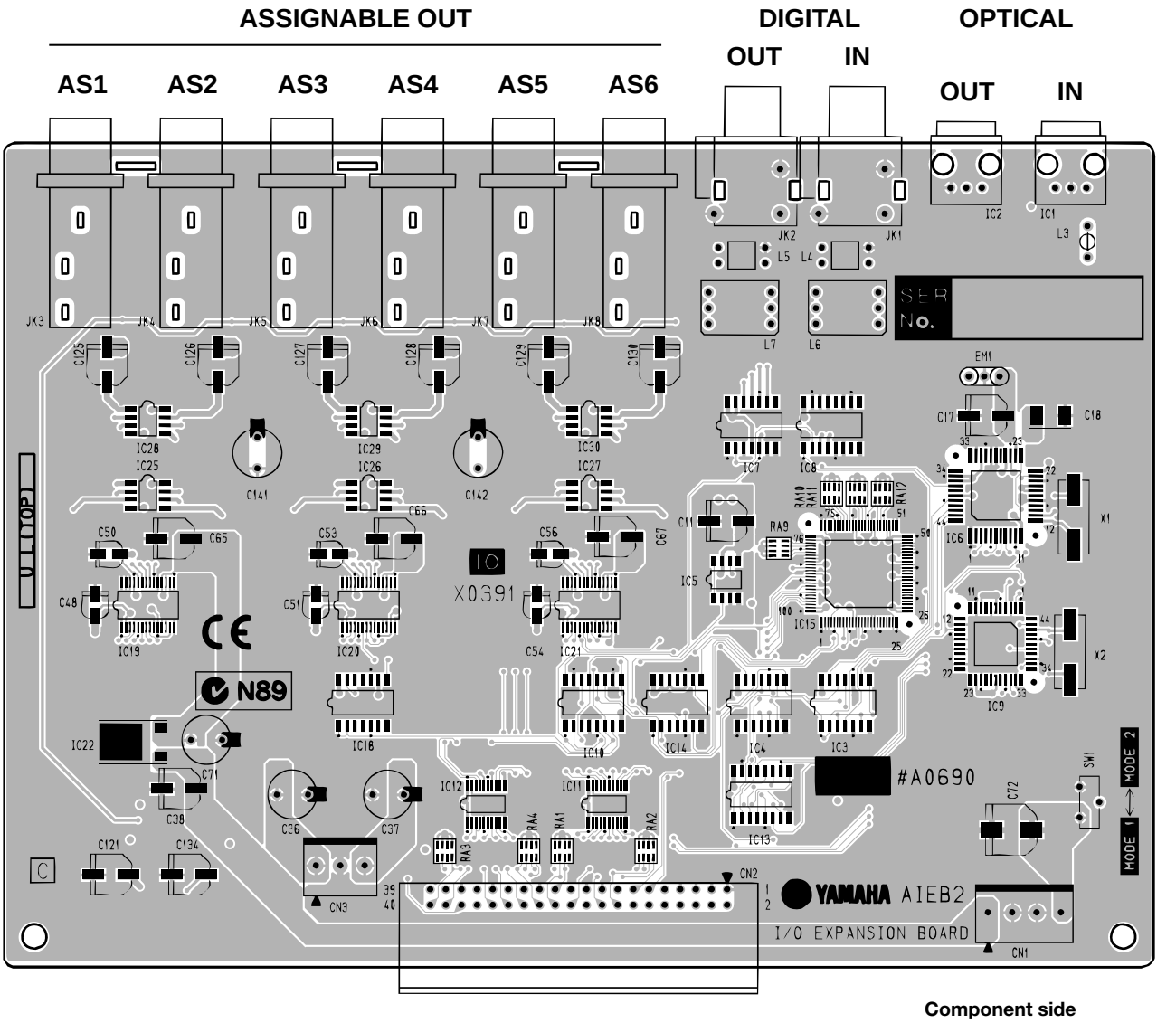


- **OP275GSR** (XV763A00)
  OPA2604AU (XT330A00)
  Dual Operational Amplifier
  IC25-27, 28-30



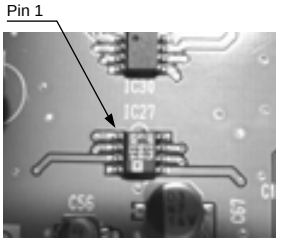
■ CIRCUIT BOARDS

• IO Circuit Board

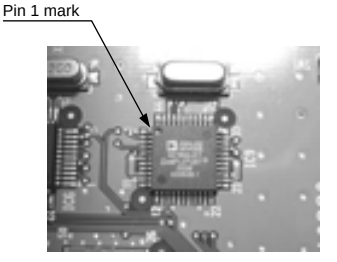


Component side

● IC25-27 installation detailed drawing



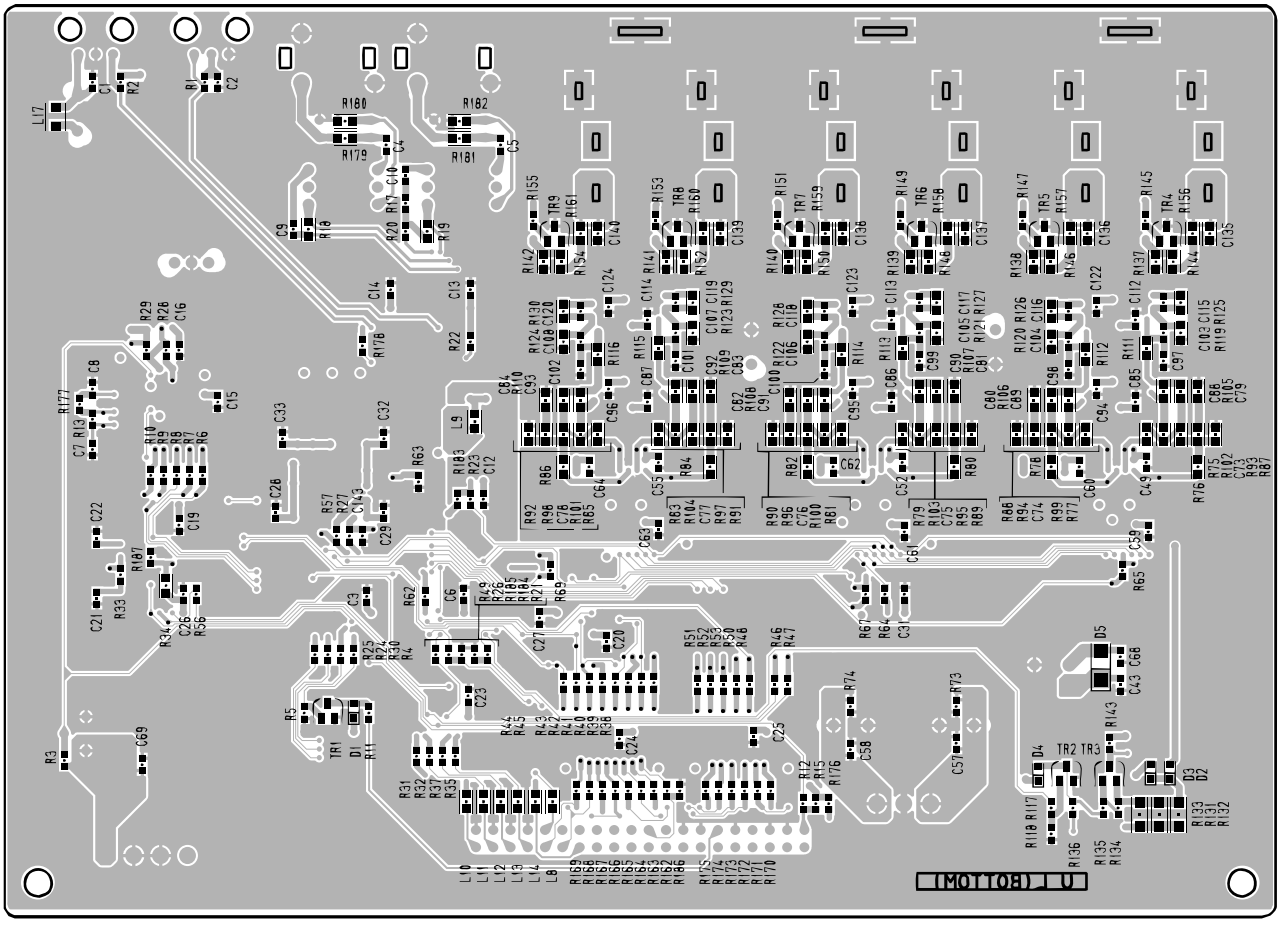
● IC9 installation detailed drawing



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

2NA-V772590 1

• IO Circuit Board



Pattern side

2NA-V772590 ⚠1

INSPECTIONS

1. Power Voltage, Current

Connect the connectors CN1, CN2 and CN3 to A4000, A5000 or RS7000.

	CN1	CN2	CN3
Connected to (A4000 or A5000)	Power unit CN1, CN2 or CN4	DM circuit board CN803	Power unit CN7
Connected to (RS7000)	Power unit CN2	DM circuit board CN16	Power unit CN7

With the above connections made, check that the voltage and current are as specified in the table below. (Connectors other than the above specified ones should be left unconnected. When measuring the voltage and current, wait for 10 seconds or more after turning on the power.)

Check point	Voltage	Current
CN3-1pin	+12V ± 0.6V	40mA ± 10mA
CN3-3pin	-12V ± 0.6V	45mA ± 10mA
CN1-1pin	+12V ± 0.6V	185mA ± 20mA
CN1-4pin	+5V ± 0.25V	135mA ± 20mA

2. Circuit Board Function Check by Test Modes

The functions of this circuit board can be checked by using the A4000 or A5000 built-in test program for MODE1 and the RS7000 built-in test program for MODE2.
For the details, refer to “TEST PROGRAM” in the A4000/A5000/RS7000 Service Manual.

The specified values in “TEST PROGRAM” for A4000/A5000 are based on use of AIEB1. Use the following values when using AIEB2.

C-18. ASSIGNABLE OUT 1 #5 Check Item
ASSIGNABLE OUT 1: 1kHz±1Hz, sine wave, 0.1% or less distortion, +6±2dBm (Load 10kΩ)
ASSIGNABLE OUT 2: -85dBm or less (Load 10kΩ)
C-19. ASSIGNABLE OUT 2 #5 Check Item
ASSIGNABLE OUT 2: 1kHz±1Hz, sine wave, 0.1% or less distortion, +6±2dBm (Load 10kΩ)
ASSIGNABLE OUT 1: -85dBm or less (Load 10kΩ)
C-20. ASSIGNABLE OUT 3 #5 Check Item
ASSIGNABLE OUT 3: 1kHz±1Hz, sine wave, 0.1% or less distortion, +6±2dBm (Load 10kΩ)
ASSIGNABLE OUT 4: -85dBm or less (Load 10kΩ)
C-21. ASSIGNABLE OUT 4 #5 Check Item
ASSIGNABLE OUT 4: 1kHz±1Hz, sine wave, 0.1% or less distortion, +6±2dBm (Load 10kΩ)
ASSIGNABLE OUT 3: -85dBm or less (Load 10kΩ)
C-22. ASSIGNABLE OUT 5 #5 Check Item
ASSIGNABLE OUT 5: 1kHz±1Hz, sine wave, 0.1% or less distortion, +6±2dBm (Load 10kΩ)
ASSIGNABLE OUT 6: -85dBm or less (Load 10kΩ)
C-23. ASSIGNABLE OUT 6 #5 Check Item
ASSIGNABLE OUT 6: 1kHz±1Hz, sine wave, 0.1% or less distortion, +6±2dBm (Load 10kΩ)
ASSIGNABLE OUT 5: -85dBm or less (Load 10kΩ)

3. Residual noise

With this unit incorporated in A4000, A5000 or RS7000, turn on the power of the main unit and check that the noise level, using a level gauge (with a JIS-C filter).The measured values should be as specified below.

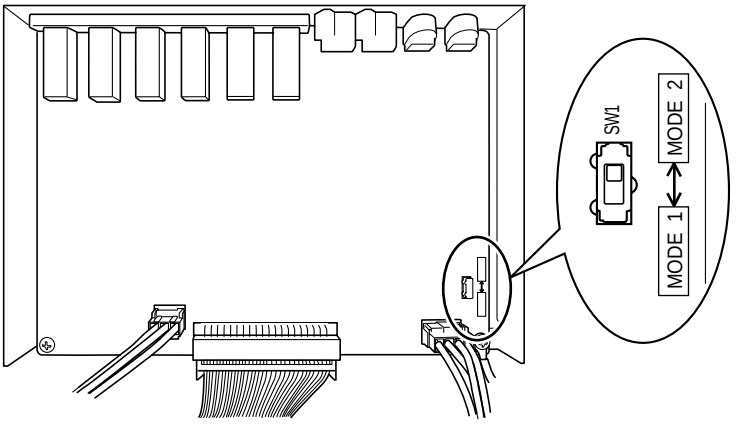
ASSIGNABLE OUT 1: -87dBm or less (Load 10kΩ)
ASSIGNABLE OUT 2: -87dBm or less (Load 10kΩ)
ASSIGNABLE OUT 3: -87dBm or less (Load 10kΩ)
ASSIGNABLE OUT 4: -87dBm or less (Load 10kΩ)
ASSIGNABLE OUT 5: -87dBm or less (Load 10kΩ)
ASSIGNABLE OUT 6: -87dBm or less (Load 10kΩ)

SETTING THE MODE SWITCH

There is a mode switch on the circuit board of the AIEB2. As described below, set it according to the device into which the AIEB2 is installed.

- For the A4000, A5000, or SU700, set it to "MODE 1".
- For the RS7000, MOTIF6, MOTIF7, or MOTIF8, set it to "MODE 2".
- For other products, refer to the manual of the product into which the AIEB2 will be installed.

NOTE: Operation will not be correct if the mode setting is wrong.



I/O EXPANSION BOARD

AIEB2

PARTS LIST

CONTENTS

OVERALL ASSEMBLY 2
ELECTRICAL PARTS ..... 3 – 5

Notes : DESTINATION ABBREVIATIONS

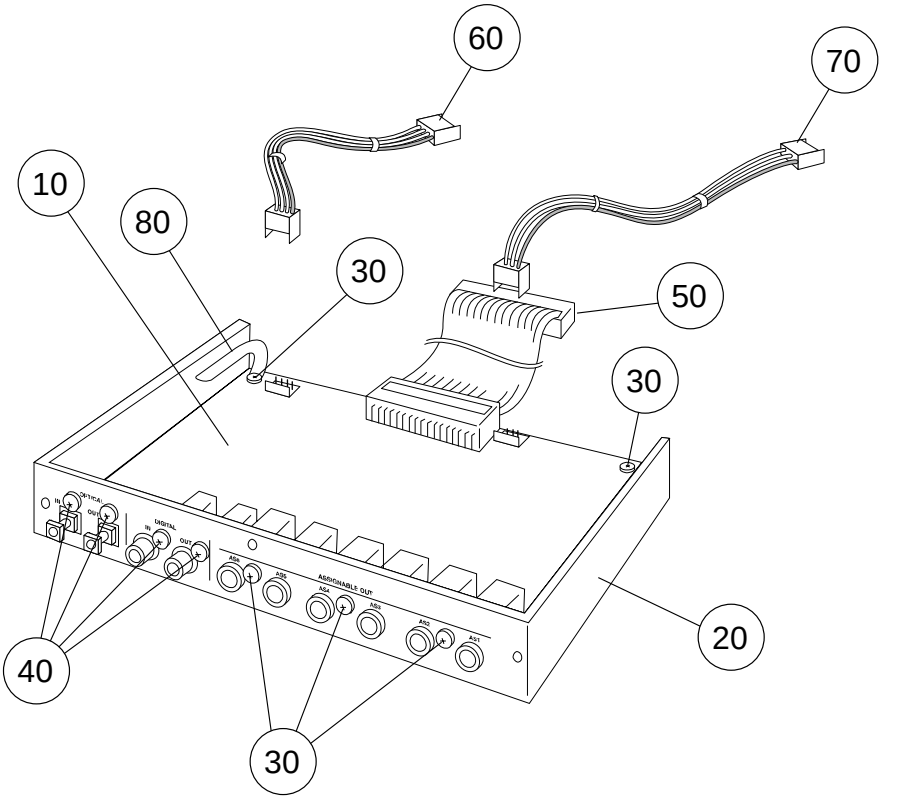
A : Australian model	M : South African model
B : British model	O : Chinese model
C : Canadian model	Q : South-east Asia model
D : German model	T : Taiwan model
E : European model	U : U.S.A. model
F : French model	V : General export model (110V)
H : North European model	W: General export model (220V)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

WARNING

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

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

OVERALL ASSEMBLY



	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			OVERALL ASSEMBLY			AIEB2		
		--	IO Board Assembly			(V800960)		
*	10	**V7725900**	Circuit Board	IO				
*	20	**V8019800**	IO Angle					
	30	**EP600230**	Bind Head Tapping Screw-B	3.0X6 MFZN2BL			5	01
	40	**EP630220**	Bind Head Tapping Screw-P	3.0X8 MFZN2BL			4	01
*	50	**V8010900**	Connector Assembly	MAIN-IO 40P L=140				
	60	**VV336600**	Connector Assembly	PS-IO(D) VH 4P				06
	70	**VV336700**	Connector Assembly	PS-IO(A) VH 3P				06
	80	**CB502030**	Cord Binder	S-75B				01

*: New Parts

RANK: Japan only

ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			ELECTRICAL PARTS			AIEB2		
*		**V7725900**	Circuit Board	IO		(X0391C0)		
*		**V7725900**	Circuit Board	IO		(X0391C0)		
		--	Holder, Jack	6		(VV44040)		
	C0001	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0003	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0004	**US135220**	Ceramic Capacitor-F (chip)	0.2200 16V Z				01
	C0005	**US135220**	Ceramic Capacitor-F (chip)	0.2200 16V Z				01
	C0006	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0007	**US061270**	Ceramic Capacitor-CH(chip)	27P 50V J				01
	C0008	**US061330**	Ceramic Capacitor-CH(chip)	33P 50V J				01
	C0009	**US135220**	Ceramic Capacitor-F (chip)	0.2200 16V Z				01
	C0010	**US135220**	Ceramic Capacitor-F (chip)	0.2200 16V Z				01
	C0011	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	C0012	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0016	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0017	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
*	C0018	**VR331100**	Mylar Capacitor (chip)	0.0470 50V J				
	C0019	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0020	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0021	**US061220**	Ceramic Capacitor-CH(chip)	22P 50V J				01
	C0022	**US061270**	Ceramic Capacitor-CH(chip)	27P 50V J				01
	C0023	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0029	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0031	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0033	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0036	**UU138470**	Electrolytic Cap.	470.00 16.0V				01
	C0037	**UU138470**	Electrolytic Cap.	470.00 16.0V				01
	C0038	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	C0043	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0048	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0049	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0050	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0051	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0052	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0053	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0054	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0055	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0056	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0057	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0064	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0065	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	-0067	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	C0068	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0069	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0071	**UU138470**	Electrolytic Cap.	470.00 16.0V				01
	C0072	**UF128470**	Electrolytic Cap. (chip)	470 10V UUR1A4				02
	C0073	**VR329600**	Mylar Capacitor (chip)	0.0027 50V J				01
	-0078	**VR329600**	Mylar Capacitor (chip)	0.0027 50V J				01
	C0079	**VR329100**	Mylar Capacitor (chip)	0.0010 50V J				01
	-0084	**VR329100**	Mylar Capacitor (chip)	0.0010 50V J				01
	C0085	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0087	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0088	**VR329100**	Mylar Capacitor (chip)	0.0010 50V J				01
	-0093	**VR329100**	Mylar Capacitor (chip)	0.0010 50V J				01
	C0094	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0096	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0112	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0114	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0115	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	-0120	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0121	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	C0122	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0124	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0125	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	-0130	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	C0134	**UF037470**	Electrolytic Cap. (chip)	47 16V				01
	C0141	**UU138470**	Electrolytic Cap.	470.00 16.0V				01
	C0142	**UU138470**	Electrolytic Cap.	470.00 16.0V				01

*: New Parts

RANK: Japan only

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	CN001	**LB932040**	Base Post Connector	VH 4P TE				01
	CN002	**VR623400**	Connector Header	HIF3FC-40PA2.54DS				03
	CN003	**LB932030**	Base Post Connector	VH 3P TE				01
	D0001	**VT332900**	Diode	1SS355 TE-17				01
	-0004	**VT332900**	Diode	1SS355 TE-17				01
	D0005	**VS201100**	Diode	D1F60				01
	EM001	**FZ006920**	LC Filter	MTB271KBTBM				01
	IC001	**V5454000**	IC	1P TORX178B		OPTICAL IN		05
	IC002	**V4164300**	IC	TOTX178A		OPTICAL OUT		04
	IC003	**IS003200**	IC	HD74LV32AFPEL		OR		01
	IC004	**IS001400**	IC	HD74LV14AFPEL		INVERTER		01
	IC005	**XW492A00**	IC	W194-70G		PLL (CLOCK GENERATOR)		
	IC006	**XG948E00**	IC	YM3436DK		DIR2		11
	IC007	**XS533A00**	IC	SN75ALS181NSR		LINE DRIVER		06
*	IC008	**X0605A00**	IC	SN74ALS157ANSR		MULTIPLEXER		
	IC009	**XW839A00**	IC	AD1893JST		SRC		09
	IC010	**XM530A00**	IC	YM3437C-F		DIT2		07
	IC011	**XW744A00**	IC	HD74LV245ATELL		BUFFER		02
	IC012	**XW744A00**	IC	HD74LV245ATELL		BUFFER		02
	IC013	**IS015700**	IC	HD74LV157AFPEL		MULTIPLEXER		01
	IC014	**IS002100**	IC	HD74LV21AFPEL		AND		01
*	IC015	**XY489A00**	IC	LR38799		GAW (GATE ARRAY)		
	IC018	**IS016400**	IC	HD74LV164AFPEL		REGISTER		02
	IC019	**XW029A00**	IC	AK4393-VF-E2		DAC		07
	-021	**XW029A00**	IC	AK4393-VF-E2		DAC		07
	IC022	**XS534A00**	IC	NJM78M05DLA(TE1)		REGULATOR +5V		02
	IC025	**XV763A00**	IC	OP275GSR		OP AMP		05
	-027	**XV763A00**	IC	OP275GSR		OP AMP		05
	IC028	**XT330A00**	IC	OPA2604AU		OP AMP		06
	-030	**XT330A00**	IC	OPA2604AU		OP AMP		06
	JK001	**VK437600**	Pin Connector	1P YKC21-3182		DIGITAL IN		02
	JK002	**VK437600**	Pin Connector	1P YKC21-3182		DIGITAL OUT		02
	JK003	**VB312600**	Phone Jack Black	YKB21-5012		ASSIGNABLE OUT AS1		02
	JK004	**VB312600**	Phone Jack Black	YKB21-5012		ASSIGNABLE OUT AS2		02
	JK005	**VB312600**	Phone Jack Black	YKB21-5012		ASSIGNABLE OUT AS3		02
	JK006	**VB312600**	Phone Jack Black	YKB21-5012		ASSIGNABLE OUT AS4		02
	JK007	**VB312600**	Phone Jack Black	YKB21-5012		ASSIGNABLE OUT AS5		02
	JK008	**VB312600**	Phone Jack Black	YKB21-5012		ASSIGNABLE OUT AS6		02
	L0003	**VI544200**	Coil	5.6uH LAP02TA5R6K				01
	L0006	**V7930100**	Pulse Transformer	TB06A015				05
	L0007	**V7930100**	Pulse Transformer	TB06A015				05
	L0008	**VR579900**	Chip Inductance	BK2125HS601-T				01
	L0009	**VU954000**	Chip Solid Inductance	BLM21P300SPT				01
	L0010	**RD250000**	Carbon Resistor (chip)	0.0 0.0 J				01
	-0014	**RD250000**	Carbon Resistor (chip)	0.0 0.0 J				01
	R0001	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	-0003	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	R0004	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
	R0006	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
	R0007	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	-0010	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	R0011	**RD355220**	Carbon Resistor (chip)	220 63M J				01
	R0012	**RD355220**	Carbon Resistor (chip)	220 63M J				01
	R0013	**RD359100**	Carbon Resistor (chip)	1.0M 63M J				01
	R0015	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
	R0017	**RD354390**	Carbon Resistor (chip)	39 63M J				01
	R0018	**RD254750**	Carbon Resistor (chip)	75.0 0.1 J				01
	R0019	**RD254430**	Carbon Resistor (chip)	43.0 0.1 J				01
	R0020	**RD355220**	Carbon Resistor (chip)	220 63M J				01
	R0021	**RD355220**	Carbon Resistor (chip)	220 63M J				01
	R0022	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	R0023	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	R0024	**RD354470**	Carbon Resistor (chip)	47 63M J				01
	R0025	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	R0026	**RD355220**	Carbon Resistor (chip)	220 63M J				01
	R0027	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	R0028	**RD356330**	Carbon Resistor (chip)	3.3K 63M J				01
	R0029	**RD355470**	Carbon Resistor (chip)	470 63M J				01
	R0030	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	-0032	**RD355100**	Carbon Resistor (chip)	100 63M J				01

✻: New Parts

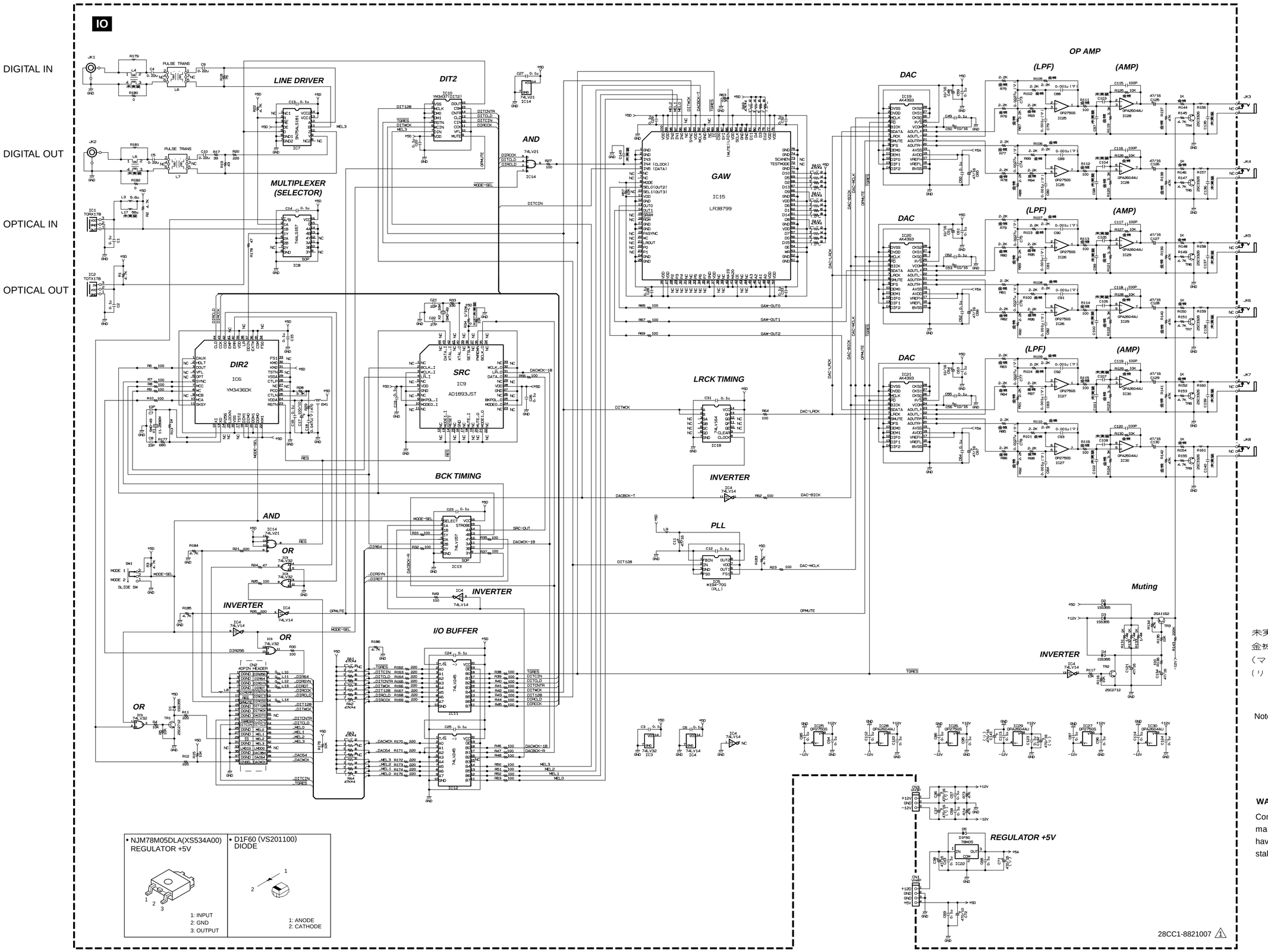
RANK: Japan only

REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
R0033	**RD355330**	Carbon Resistor (chip)	330 63M J				01
R0034	**RD250000**	Carbon Resistor (chip)	0.0 0.0 J				01
R0035	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0037	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0038	**RD355100**	Carbon Resistor (chip)	100 63M J				01
-0053	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0056	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0057	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
R0062	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0063	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
R0064	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0065	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0067	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0069	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0073	**RD357470**	Carbon Resistor (chip)	47K 63M J				01
R0074	**RD357470**	Carbon Resistor (chip)	47K 63M J				01
R0075	**VI195700**	Metal Film Resistor (chip)	2.2K 1/10 D				01
-0110	**VI195700**	Metal Film Resistor (chip)	2.2K 1/10 D				01
R0111	**VI192500**	Metal Film Resistor (chip)	100.0 1/10 D				01
-0116	**VI192500**	Metal Film Resistor (chip)	100.0 1/10 D				01
R0117	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
R0118	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
R0119	**VI196100**	Metal Film Resistor (chip)	3.3K 1/10 D				01
-0124	**VI196100**	Metal Film Resistor (chip)	3.3K 1/10 D				01
R0125	**VI197400**	Metal Film Resistor (chip)	10.0K 1/10 D				01
-0130	**VI197400**	Metal Film Resistor (chip)	10.0K 1/10 D				01
R0131	**RD156100**	Carbon Resistor (chip)	1.0K 1/4 J				
-0133	**RD156100**	Carbon Resistor (chip)	1.0K 1/4 J				
R0134	**RD357470**	Carbon Resistor (chip)	47K 63M J				01
R0135	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
R0136	**RD355100**	Carbon Resistor (chip)	100 63M J				01
R0137	**VI199000**	Metal Film Resistor (chip)	47.0K 1/10 D				01
-0142	**VI199000**	Metal Film Resistor (chip)	47.0K 1/10 D				01
R0143	**RD358220**	Carbon Resistor (chip)	220K 63M J				01
R0144	**VI194900**	Metal Film Resistor (chip)	1.0K 1/10 D				01
R0145	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
R0146	**VI194900**	Metal Film Resistor (chip)	1.0K 1/10 D				01
R0147	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
R0148	**VI194900**	Metal Film Resistor (chip)	1.0K 1/10 D				01
R0149	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
R0150	**VI194900**	Metal Film Resistor (chip)	1.0K 1/10 D				01
R0151	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
R0152	**VI194900**	Metal Film Resistor (chip)	1.0K 1/10 D				01
R0153	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
R0154	**VI194900**	Metal Film Resistor (chip)	1.0K 1/10 D				01
R0155	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
R0156	**VQ193600**	Chip Solid Inductance	BLM21A121SPT				01
-0161	**VQ193600**	Chip Solid Inductance	BLM21A121SPT				01
R0162	**RD355220**	Carbon Resistor (chip)	220 63M J				01
-0175	**RD355220**	Carbon Resistor (chip)	220 63M J				01
R0176	**RD357100**	Carbon Resistor (chip)	10K 63M J				01
R0177	**RD355680**	Carbon Resistor (chip)	680 63M J				01
R0178	**RD354470**	Carbon Resistor (chip)	47 63M J				01
R0179	**VQ193600**	Chip Solid Inductance	BLM21A121SPT				01
R0180	**RD250000**	Carbon Resistor (chip)	0.0 0.0 J				01
R0181	**VQ193600**	Chip Solid Inductance	BLM21A121SPT				01
R0182	**RD250000**	Carbon Resistor (chip)	0.0 0.0 J				01
R0183	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
-0186	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
RA001	**RE047470**	Resistor Array	47KX4				01
-004	**RE047470**	Resistor Array	47KX4				01
RA009	**RE047470**	Resistor Array	47KX4				01
-012	**RE047470**	Resistor Array	47KX4				01
SW001	**KA401270**	Slide Switch	SSS212		MODE1/MODE2		03
TR001	**VJ927100**	Transistor	2SC2712 Y				01
TR002	**VJ927100**	Transistor	2SC2712 Y				01
TR003	**VJ927200**	Transistor	2SA1162 O,Y				01
TR004	**VD303700**	Transistor	2SC3326 A,B TE85R				01
-009	**VD303700**	Transistor	2SC3326 A,B TE85R				01
X0001	**VP864800**	Quartz Crystal Unit	11.2896MHz SMD-49				04
X0002	**VP864900**	Quartz Crystal Unit	16MHz SMD-49				04

✻: New Parts

RANK: Japan only

■ AIEB2 OVERALL CIRCUIT DIAGRAM



未実装： not installed
金皮： Metal Film Resistor
（マ）： Mylar Capacitor
（リ）： Electrolytic Capacitor

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

WARNING

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