

7 Mechanical Parts & Removal

7.1 Over All Replaceable Parts

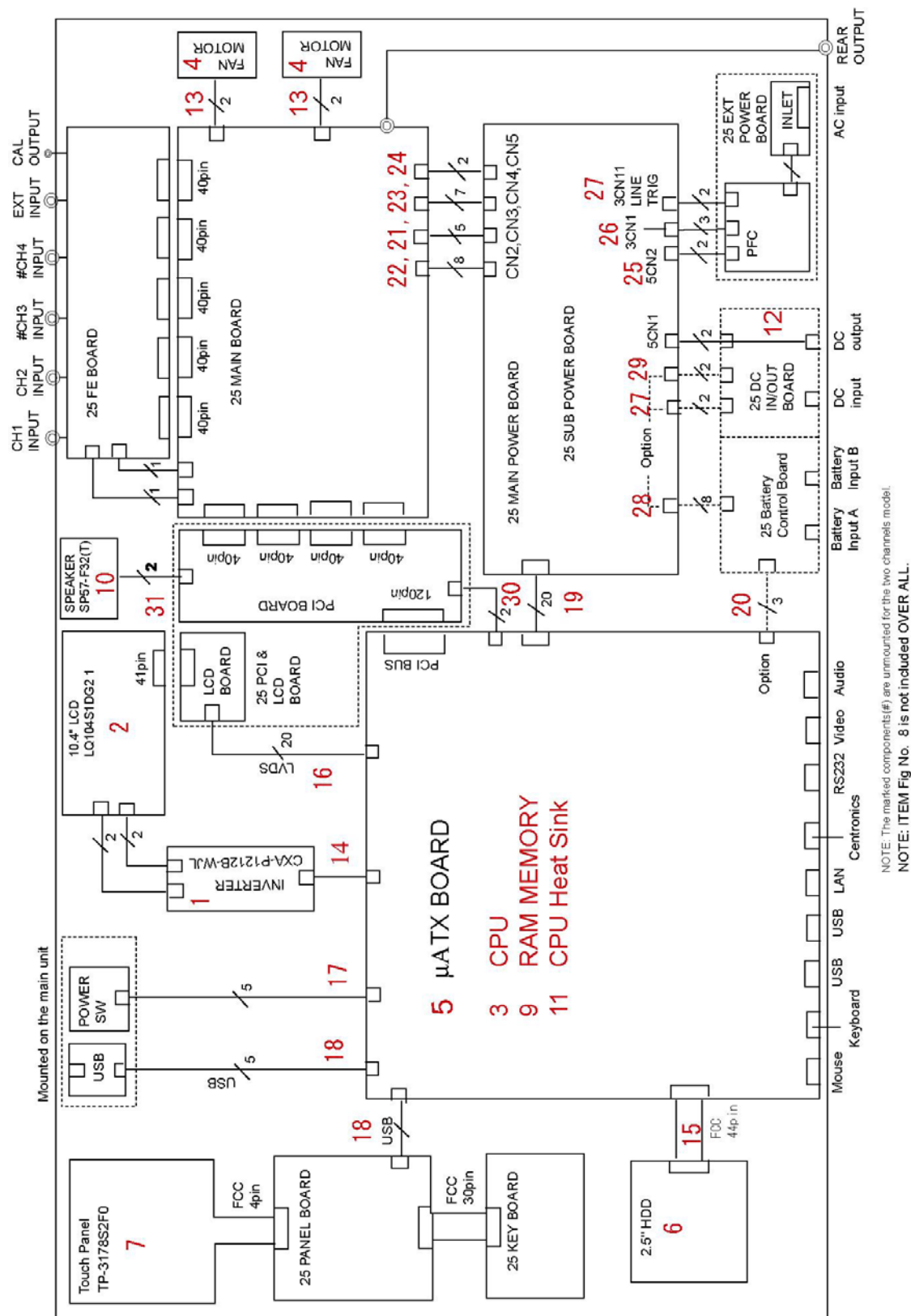
Item Fig. No	Part Number	Name	Description
1	IWDES040291	Inverter CXA-P1212B-WJL	INVERTER
2	IW211857902	WS4-LCD CIRCUIT	LCD MONITOR included
3	IWDIC561211	RB80526RY850128S L54Q	CPU
4	IWDMT620781	FBA08A12MO	FAN MOTOR
5	IWDZB100231	Mother board MB-266NI	MOTHER BOARD
6	IWDZB100221	Hard disk MHT2030AT	HDD
7	IW211857902	WS4-LCD CIRCUIT	TOUCH PANEL included
8	IWKRA247911	WINDOWS XP-E LICENSE	LICENSE SEAL
9	IWDIC590271	HD-215N256/A	RAM MEMORY
10	IWDSB020991	Speaker SP57-F-32 (T)	SPEAKER
11	IWMHN001441	25EX53X60-SA-U	CPU Heat sink
12	IWKHB200411	DC OUT CABLE	POWER – DC IN/OUT BOARD
13	IWKHB197321	FAN CABLE	FAN - MAIN
14	IWKHB198211	BACK LIGHT CABLE	INVERTER - μ ATX
15	IWKHB198341	IDE CABLE 4	HDD - μ ATX
16	IWKHB198411	LVDS CABLE	LCD - μ ATX
17	IWKHB198511	SW CABLE	SW - μ ATX
18	IWKHB198621	USB CABLE	PANEL- μ ATX & USB- μ ATX
19	IWKHB198721	μ ATX CABLE	POWER - μ ATX
20	IWKHB198811	SMBUS CABLE	BATT - μ ATX
21	IWKHB198921	POWER 12V/9V CABLE	POWER - MAIN
22	IWKHB199021	POWER 5V/2.5V CABLE	POWER - MAIN
23	IWKHB199121	SENSE CABLE	POWER - MAIN
24	IWKHB199211	FAN POWER CABLE	POWER – MAIN



Item Fig. No	Part Number	Name	Description
25	IWKHB199421	PFC OUTPUT CABLE 2	POWER - PFC
26	IWKHB199521	AUX OUTPUT CABLE 2	POWER - PFC
27	IWKHB199611	LINE TRG&5V STB CABLE	POWER - PFC
28	IWKHB199721	BATTERY CONTROL CABLE	POWER – Battery Control Board
29	IWKHB199821	BATTERY I/O CABLE	
30	IWKHB200011	SOUND OUT CABLE	μATX - PCI
31	IWKHB200111	SPEAKER CABLE	PCI - SPEAKER

NOTE: ITEM Fig No. 8 is not included OVER ALL.

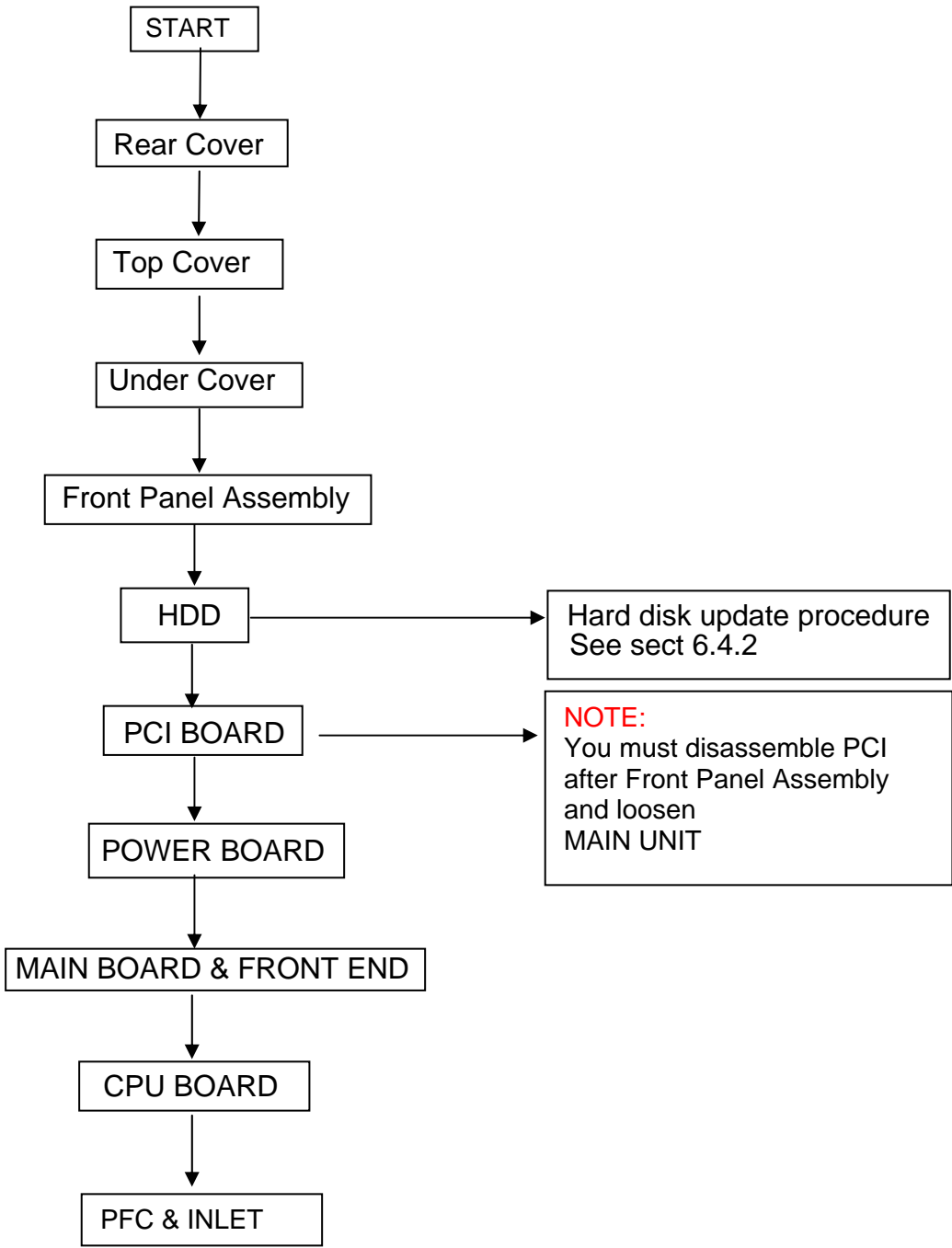
7.2 Over All Block Diagram





7.3 Disassembly Flow Charts

Note:
Power is always present on the CPU motherboard and inside the Power Supply whenever the power cord is plugged into a power source. Remove the power cord from the instrument before removing or inserting any connectors to the CPU motherboard. Extreme caution should be taken in protecting the LCD face from damage (e.g. scratch marks.) when handling, in particular when inserting or removing from the instrument.



7.4 OUTER Replaceable Parts

Item Fig. No	Part Number	Quantity	Description	*Location
1	IWMKB130069	15	SCREW KB (+) 3X6S	A1-6, B1-7,C1-2
2	IWKCM148511	4	WS FOOT BASE UL-I	C1-4
3	IWKGM030211	2	WS RUBBER FOOT UL-I	A2-2
4	IWMKB130089	4	SCREW KB (+) 3X8S	C1-4
5	IWMSQ920911	4	NYLON WASHER (2.8X7.5X0.5)	B1-2, C1-2
6	IWKCM148421	2	WS ANGLE FOOT UL-I	C1-2
7	IWMKD140101	2	SCREW KD (+) 4X10S	B1-2
8	IWKPL143911	1	FSN CUSHION B	B2
9	IWKPL145511	1	WS I-O CUSHION 153 UL-I	B2
10	IWKPL145611	2	WS I-O CUSHION 40 UL-I	B2-2
11	IWKBA806121	1	WS UNDER COVER	C1
12	IWKBA806221	1	WS TOP COVER	B1
13	IWMTH000791	1	HANDLE THA-238-L260 UL-I	B1
14	IWKRA227411	1	LABEL 12.5X50	B1
15	IWKRA250611	1	ETHERNET POST STICKER	B1
16	IWKRA226821	1	SERIAL NUMBER LABEL	A1

*Location

(ex) A1-6: It is shown to use 6 pieces in figure [A1].

7.5 REAR & SIDE Replaceable Parts

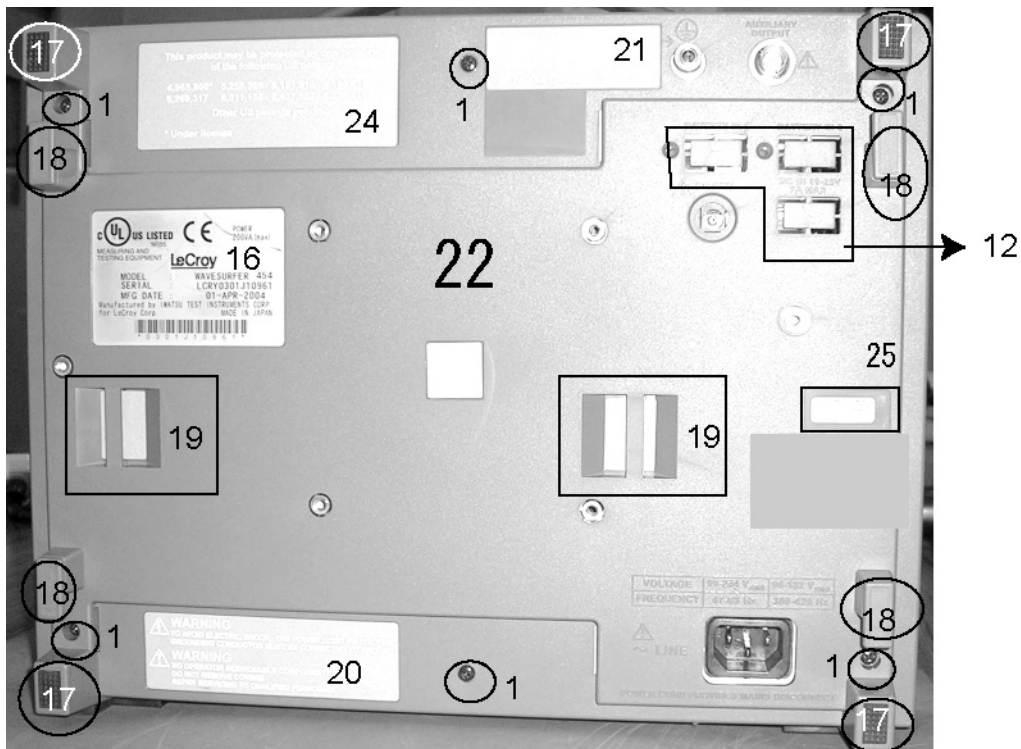
Item Fig. No	Part Number	Quantity	Description	Location
17	IWKGM029111	4	FSN RUBBER FOOT	A1-4
18	IWKCM149111	4	WS CORD HOOK UL-I	A1-4
19	IWKRA249511	2	WS HOLE LABEL UL-I	A1-2
20	IWKRA248111	1	WS WARNING LABEL UL-I	A1
21	IWKRA249211	1	WS BATTERY LABEL UL-I	A1
22	IWKCM148911	1	WS REAR PANEL UL-I	A1
23	IWKPA224411	1	WS I-O OVER LAY	B1
24	IWKRA248211	1	WS PATENT LABEL UL-1	A1
25	IWKRA247911	1	WINDOWS XP-E LICENSE G/ LICENSE SEAL	A1
26	IWMSQ901661	4	SCREW TT2 (+)3X8S	A2-4



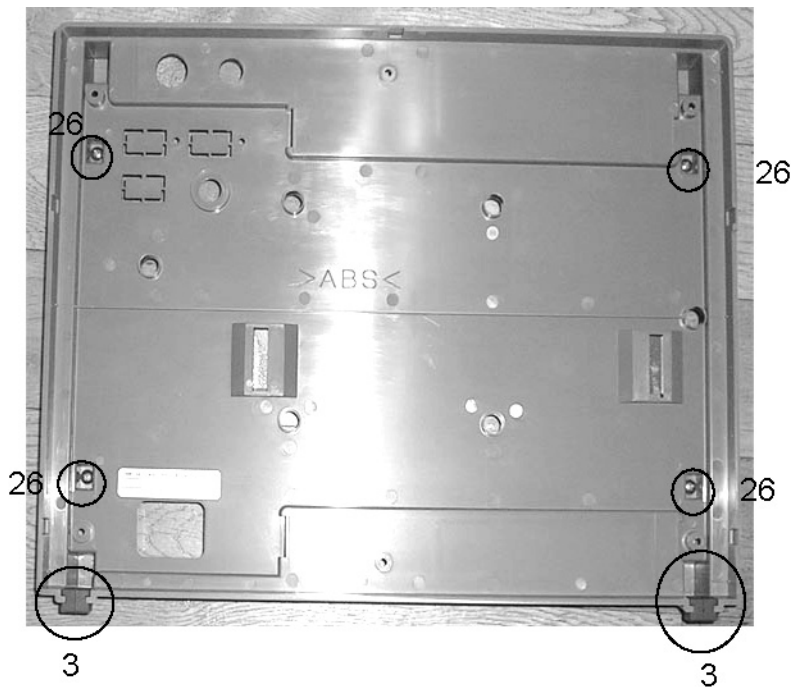
A. Removal of the Rear Cover Assembly

- A1 Remove the six KB (+) 3x6(BLACK) screws (Item Fig No.1) four underneath the plastic rear cover.

[A1]



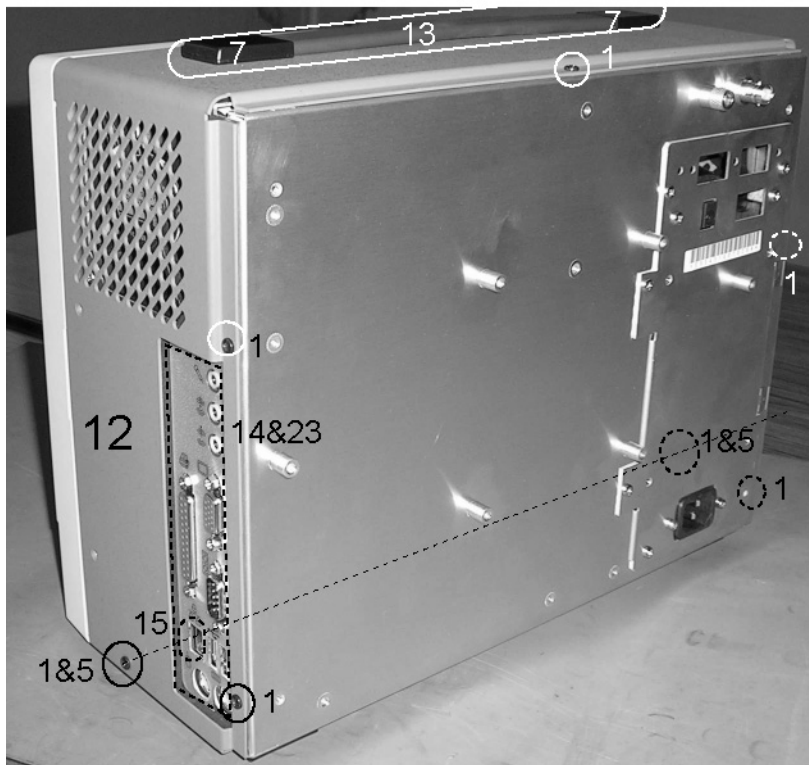
[A2]

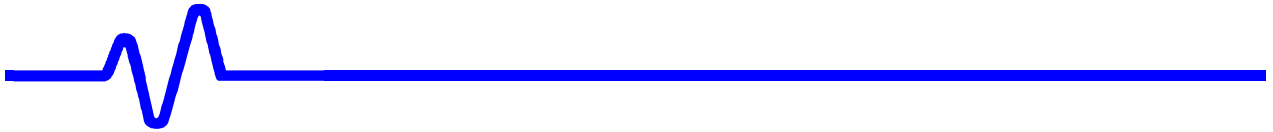


B. Removal of the Top Cover Assembly

- B1 Remove the six KB (+) 3x6(BLACK) screws (Item Fig No.1) (two with nylon washer, four on the top cover of left and right).

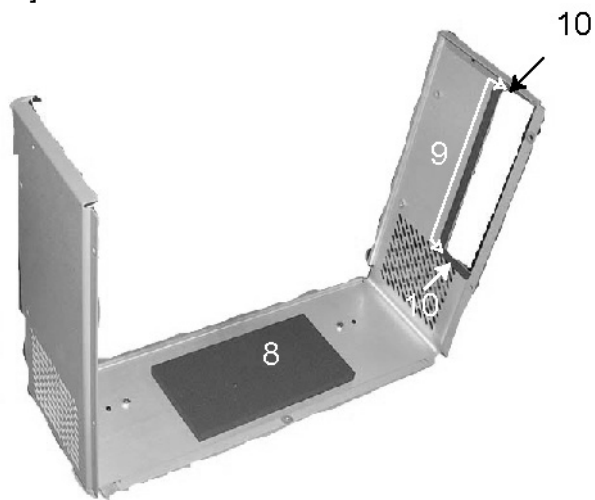
[B1]





B. Parts of the Top Cover Assembly

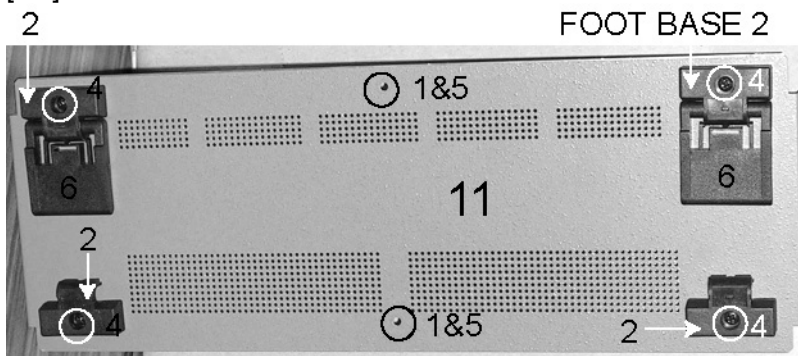
[B2]



C. Removal & Parts of the Lower Cover Assembly

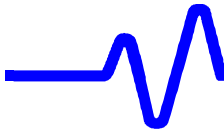
- C1 Remove the two KB (+) 3x6(BLACK) screws (Item Fig No.1) with nylon washer on the under cover.

[C1]



7.6 FRONT PANEL ASSEMBLY

Item Fig. No	Part Number	Quantity	Description	Location
1	IWMSQ901661	13	SCREW TT2 (+) 3X8S	E1-9, E2-4
2	IWMSQ901781	11	SCREW TAP bundle 2X6S(P)	E3-11
3	IWKGM030711	6	WS KNOB SPACER S	E4-6
4	IWKCM149211	6	RUBBER OVERMOLDED KNOB S	E4-6
5	IWKGM030611	3	WS NOBE SPACER ML	E4-3
6	IWTPS183211	3	SP WASHER	E1-3
7	IWKCM149411	2	RUBBER OVERMOLDED KNOB L	E4-2
8	IWKPS009711	2	RAG 70	E3-2
9	IWKCM149311	1	RUBBER OVERMOLDED KNOB M	E4
10	IWMHK002251	1	LOCK WIRE SADDLE LWS-2.5S	D4, E1
11	IWKBA805921	1	WS FRONT CHASSIS	E1
12	IWKBA806711	1	WS BEZEL PLATE	D2, D4
13	IWKGM029311	1	WS KEY RUBBER UL-I	E3
14	IWMZT007871	2	GASKET UC-3E0564 UL-I	E2-2
15	IWMZT006131	2	GASKET UC-300280 with tape	E1, E2
16	IWKGM030211	2	WS RUBBER FOOT UL-I	D2-2
17	IWKPA226011	1	WS422 NAME OVER LAY UL-1	E4
	IWKPA225911	1	WS424 NAME OVER LAY UL-1	
	IWKPA225811	1	WS432 NAME OVER LAY UL-1	
	IWKPA225711	1	WS434 NAME OVER LAY UL-1	
	IWKPA225611	1	WS452 NAME OVER LAY UL-1	
	IWKPA224211	1	WS454 NAME OVER LAY UL-1	
18	IWKPA226111	1	WS PROBUS OVERLAY 2CH	E4
	IWKPA224111	1	WS PROBUS OVERLAY 4CH	
19	IWKPA225711	1	WS CONTROL OVERLAY 2CH	E4
	IWKPA224011	1	WS CONTROL OVERLAY 4CH	
20	IWMKB130032	5	SCREW KB (+) 3X6S(NIP)	E1-5
21	IW528623002	1	NOISE SHIELD 43SM24	E1
22	IWKPA221221	1	LOGO PANEL	E4
23	IWKCM149511	1	WS PANEL COVER UL-1	E4
24	IWMZT007951	5	GRIP FINGER- 97-655-02	E1
25	IWKPA224311	1	WS INPUT OVERLAY UL-1	E4

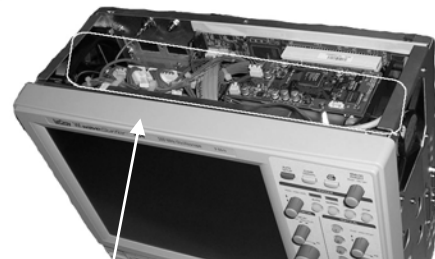
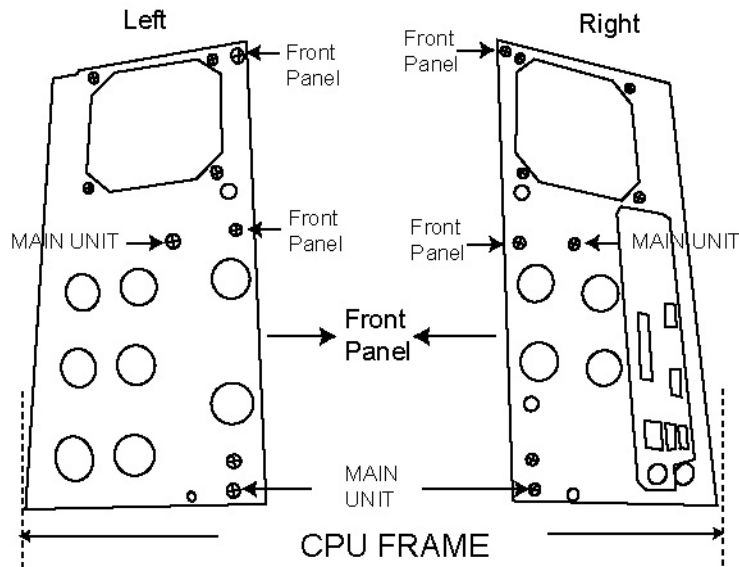


D. Removal of the Front Panel Assembly

Procedure:

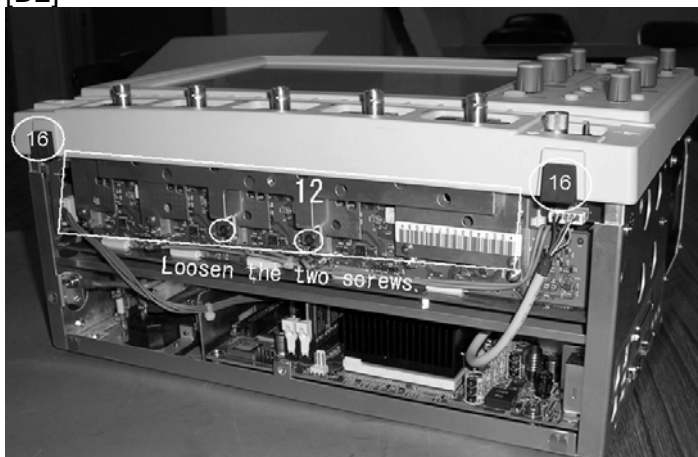
- Remove the four KB (+) 3x6 screws (Item Fig No.20) that secure the front panel assembly from the main chassis. D1
- Loose the two KB3X6 (Item Fig No.20) screws on the FRONT END ASSY. D2
- Carefully pivot up the Front Panel Assembly. D3
- Disconnect the four cables from the Front Panel Assembly like step1 to 4. D4

[D1] Remove the three KB (+) 3x6 screws on the each side frames R and L



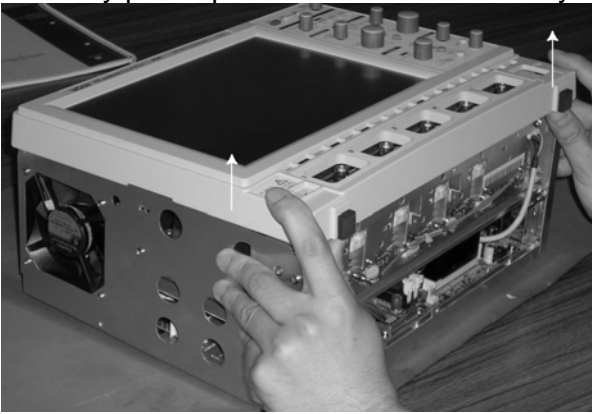
Extra care must be taken to make sure that no cables get pinched while pivoting up the Front Panel Assembly.

[D2]

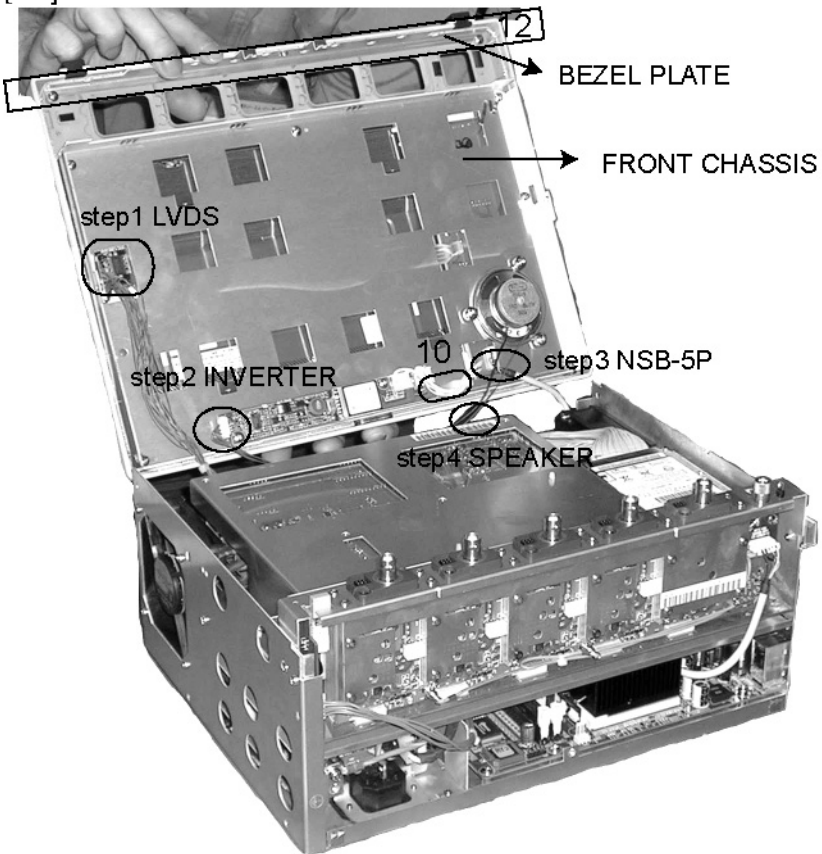


[D3]

Carefully pivot up the Front Panel Assembly not to pinch the codes.



[D4]



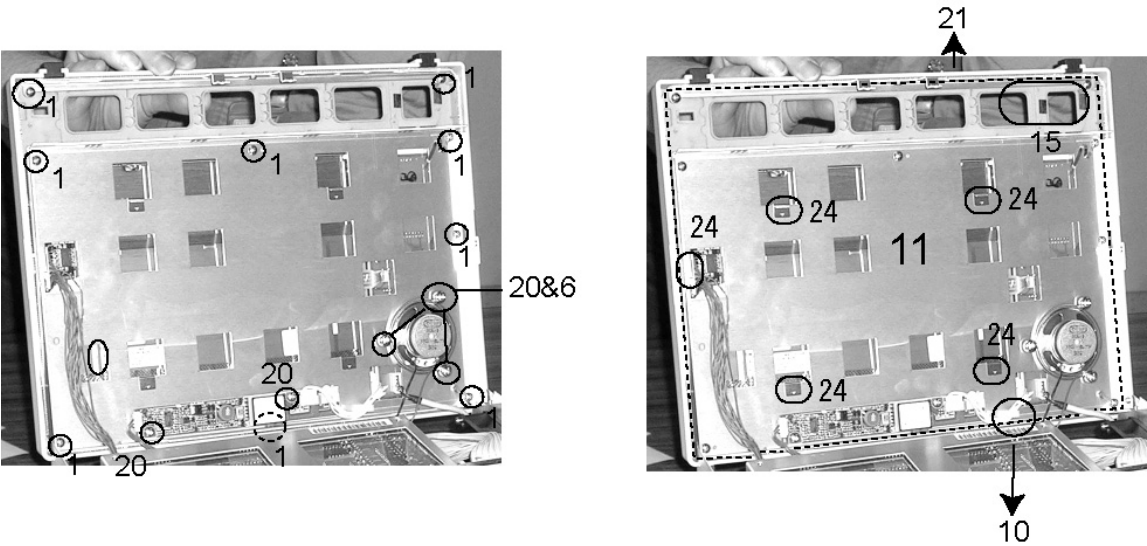
NOTE: When you remove the LVDS connector, pull it out straight not to bend the pins. .



E. Removal of the Front Panel Assembly Parts

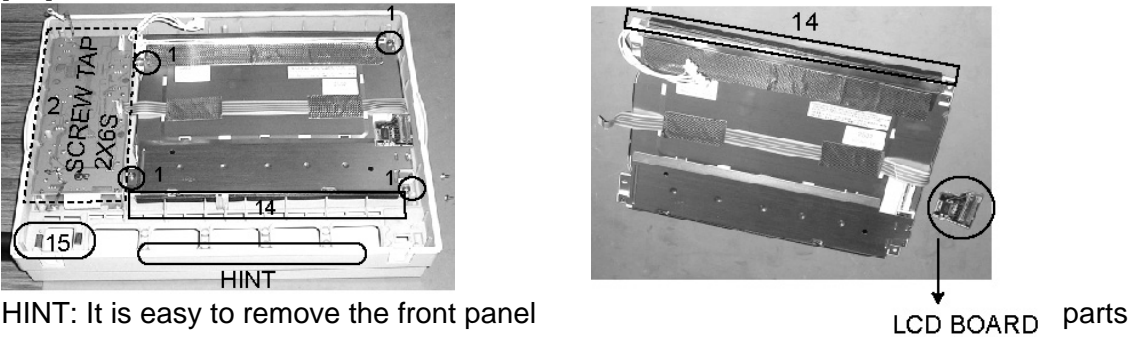
Fig. No	Removal Parts	Screws
E1	SPEAKER	Remove the three KB(+) 3X6S(NIP) screws on the front chassis.
E1	INVERTER	Remove the two KB(+) 3X6S(NIP) screws on the front chassis.
E1	BEZEL PLATE	Remove the two TT2(+) 3X8S screws on the front bezel.
E1	FRONT CHASSIS	Remove the seven TT2(+) 3X8S screws on the front bezel.
E2	LCD Assembly	Remove the four TT2(+) 3X8S screws on the front bezel.
E3	KEY BOARD Assembly	Remove the eleven 2X6S(P) screws on the front bezel.

[E1]

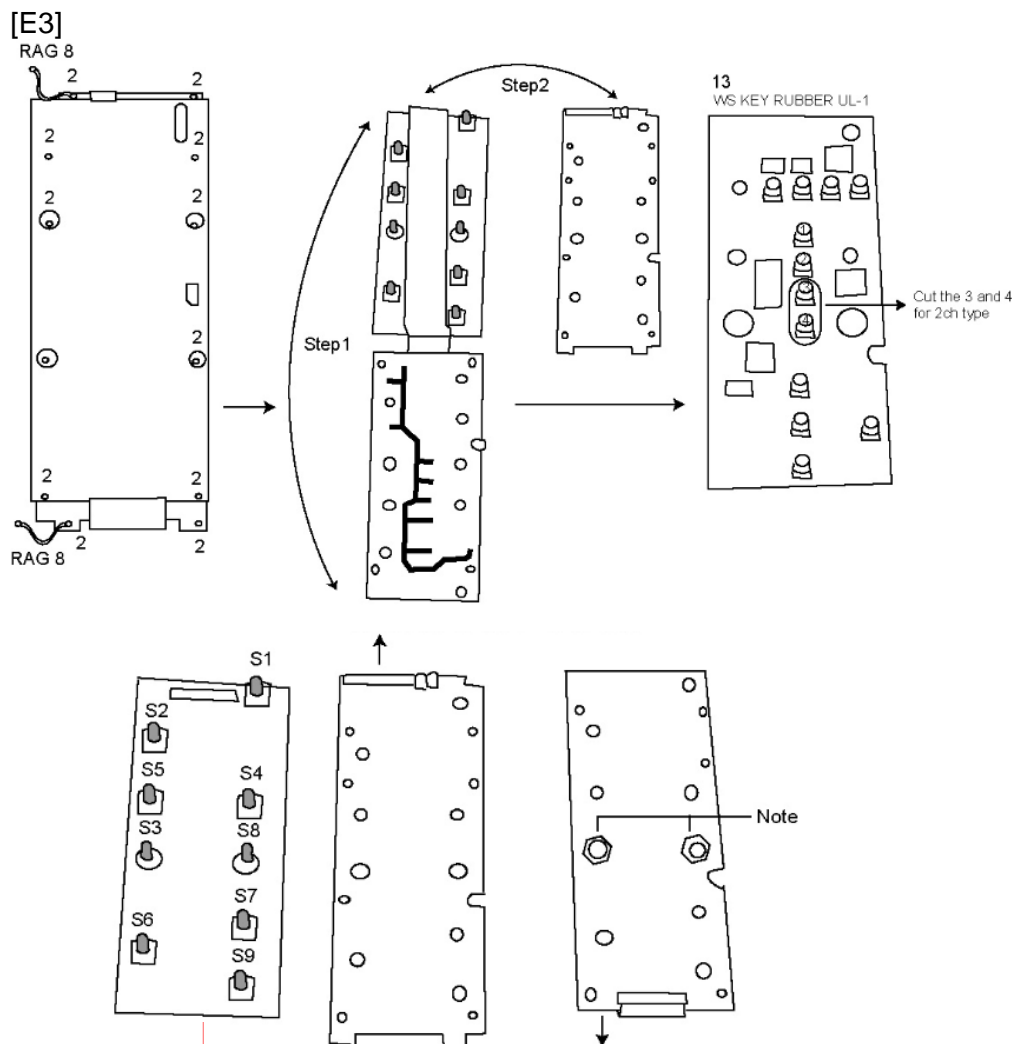


NOTE: When you assemble the Front Panel Assembly, the noise shield (21) is inserted in the groove at the edges of the front panel assy.

[E2]



using the protective front cover.



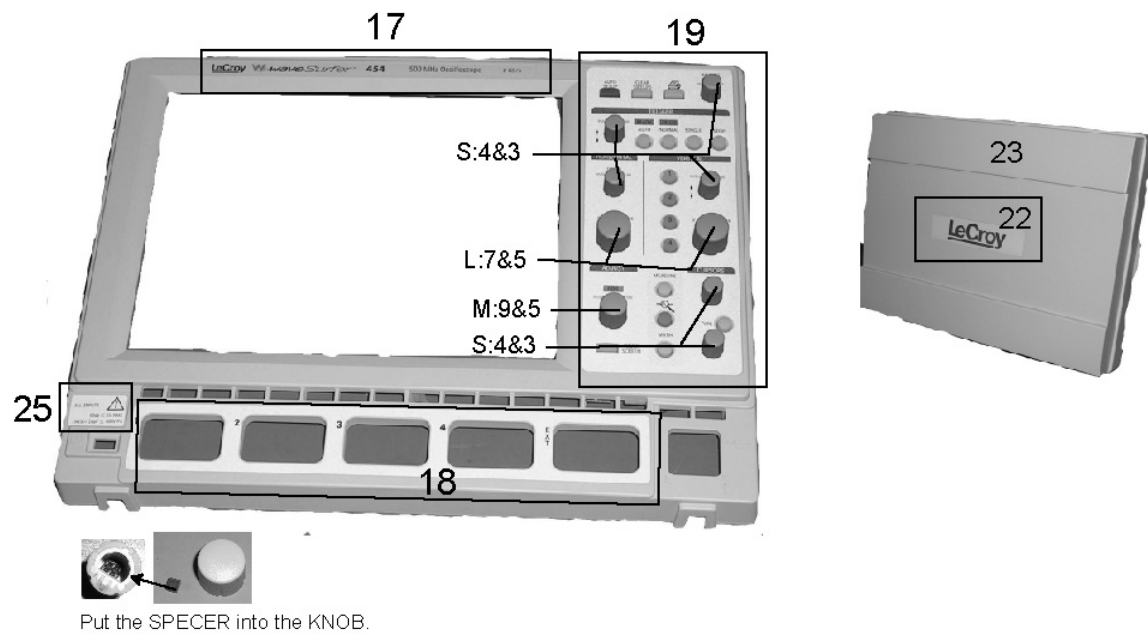
Note:

S3 and S8 are tightened together with these nuts through KEY PLATE, KEY SHEET, and KEY BOARD.

Item Fig. No	Part Number	Quantity	Description
S1-S2	IWDSW035701	2	Smooth, Push Button Encoder
S3	IWDME990431	1	Detented Encoder
S4-S7	IWDSW035701	4	Smooth, Push Button Encoder
S8	IWDME990431	1	Detented Encoder
S9	IWDSW035701	1	Smooth, Push Button Encoder
	IW211857904	1	4 channel keyboard
	IW211857905	1	4 channel keyboard
	IWKBA806011	1	Keyboard Plate
	IWKPL145421	1	Elastomeric Keypad



7.7 FRONT PANEL ASSY [E4]

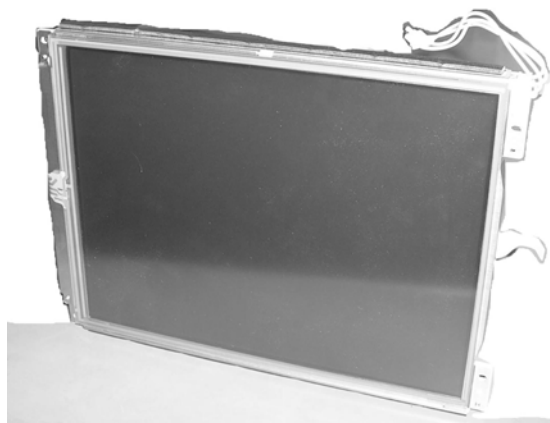


7.8 FRAME Replaceable Parts (MAIN BOARD, POWER BOARD, CPU BOARD)

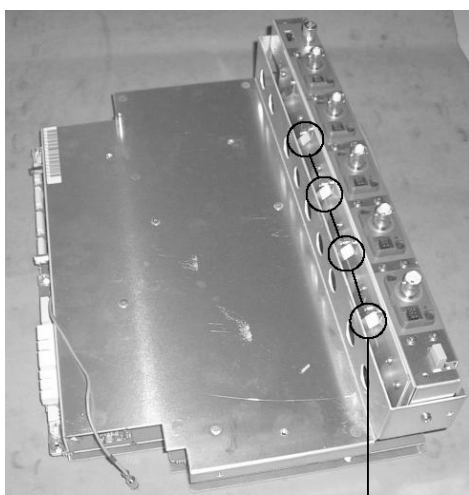
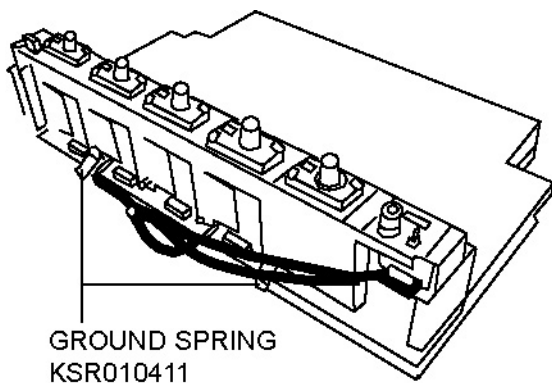
Item Fig. No	Part Number	Quantity	Description	Location
1	IWMKB130062	13	SCREW KB (+) 3X6S(NIP)	G1, G2-2
2	IWMKP130301	8	SCREW KP (+) 3X30S	J1
3	IWMSM430061	4	SM4-3X6	F1
4	IWAGM000111	4	Rubber Feet 16Ø	F1
5	IWMSM440081	3	SM4-4X8	J1
6	IWKBA805421	1	WS HDD PLATE	F1
7	IWKBA805511	1	WS MAIN CHASSIS	I2
8	IWKBA805621	1	WS CPU FRAME	J1, G1
9	IWKPA224411	1	WS I-O OVER LAY UL-I	G1
10	IWKBA807411	1	WS I-O SHEILD PLATE	J1
11	IWKAS094511	1	GRAND TERMINAL B	I2
12	IWDCN040801	1	BNC RECEPTACLE	I2
13	IWMZT006121	-	FINGER TWIST 97-555	G3

7.9 Spare Parts

Part Number	Description
IW211857900	WS4-Processor RB80526RY
IW211857902	WS4-LCD CIRCUIT
IW211857903	WS454 PANEL BOARD
IW211857904	WS4X4 KEY BOARD
IW211857905	WS4X2 KEY BOARD
IW211857918	WS454 MAIN UNIT
IW211857921	WS452 MAIN UNIT
IW211857923	WS422 MAIN UNIT
IW211857920	WS424 MAIN UNIT
IW211857922	WS432 MAIN UNIT
IW211857919	WS434 MAIN UNIT
IW211857914	WS454 MAIN POWER UNIT
IW211857915	WS454 PFC CIRCUIT
IW211857916	WS454 INLET CIRCUIT
IWDZB100221	Hard disk MHT2030AT
IW211857902	WS4-LCD CIRCUIT



IW211857918	WS454 FE/ACQ BOARD
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GROUND SPRING is included in MAIN UNIT.

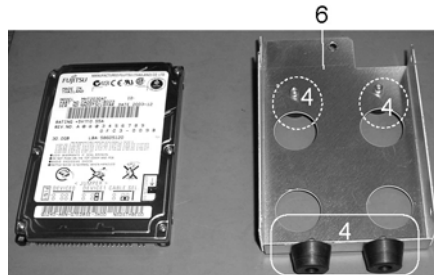
F. Removal & Parts of the HDD

- Disconnect the 44pin FCC cable from the HDD. F1
- Remove the one KB (+) 3x6S screw (Item Fig No.3) on the main chassis.

[F1]



Insert the connector to the left end.



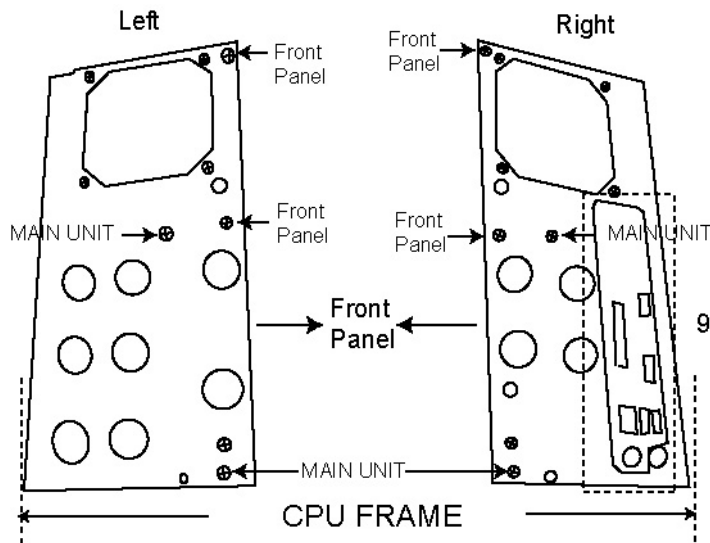
G. Removal & Parts of the PCI BOARD

- Loose the four KB3X6 screws (Item Fig No.1) on the main chassis. G1
- Disconnect the cable from the PCI BOARD. G2

When remove the MAIN board (See page 7-17)

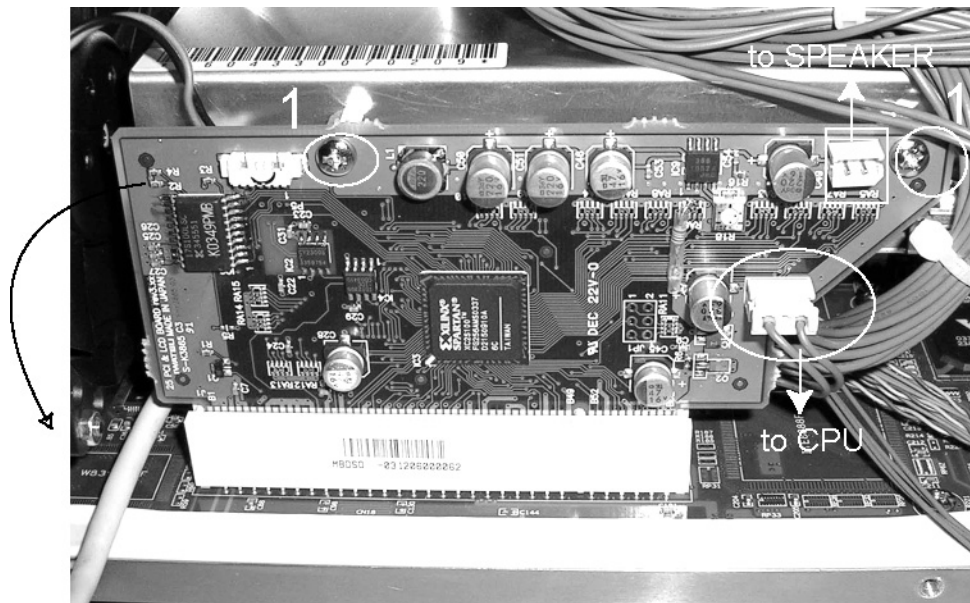
- Disconnect the four connectors from the main board. G3
- Carefully pull out the PCI BOARD from the CPU BOARD. G3

[G1]



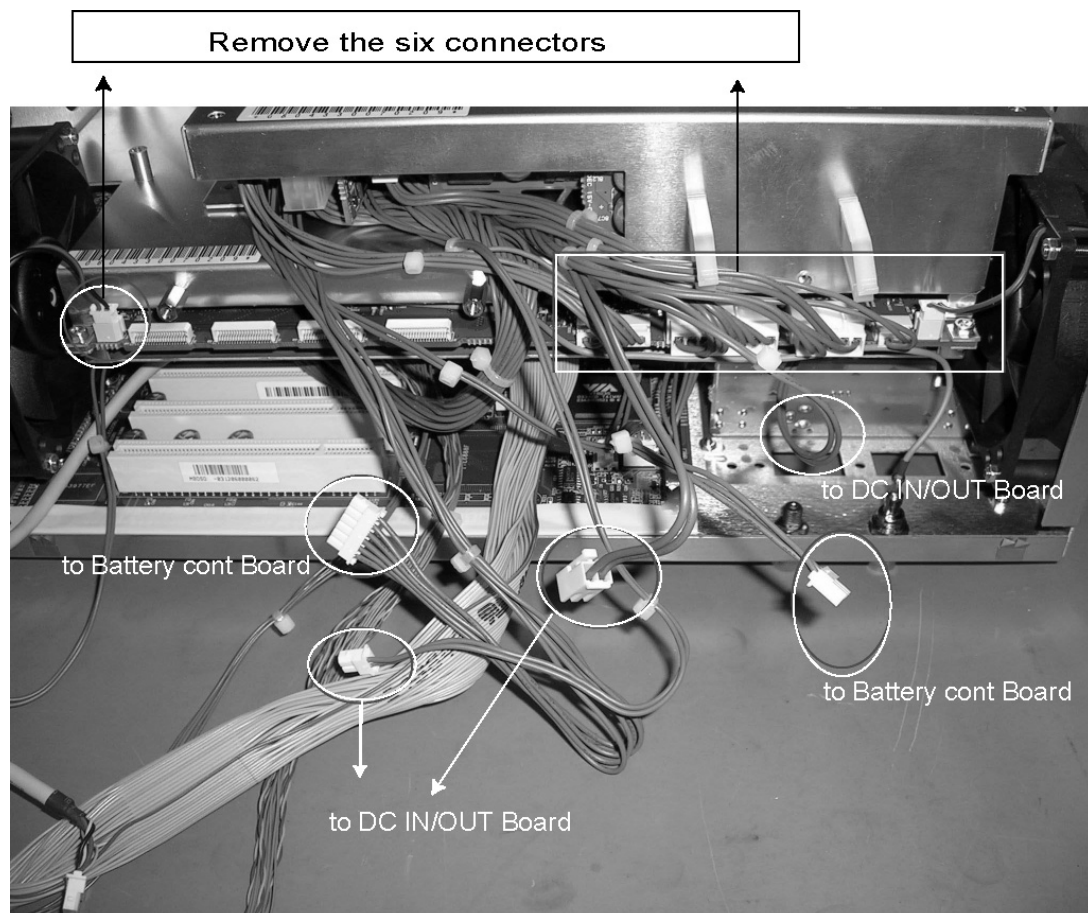


[G2]



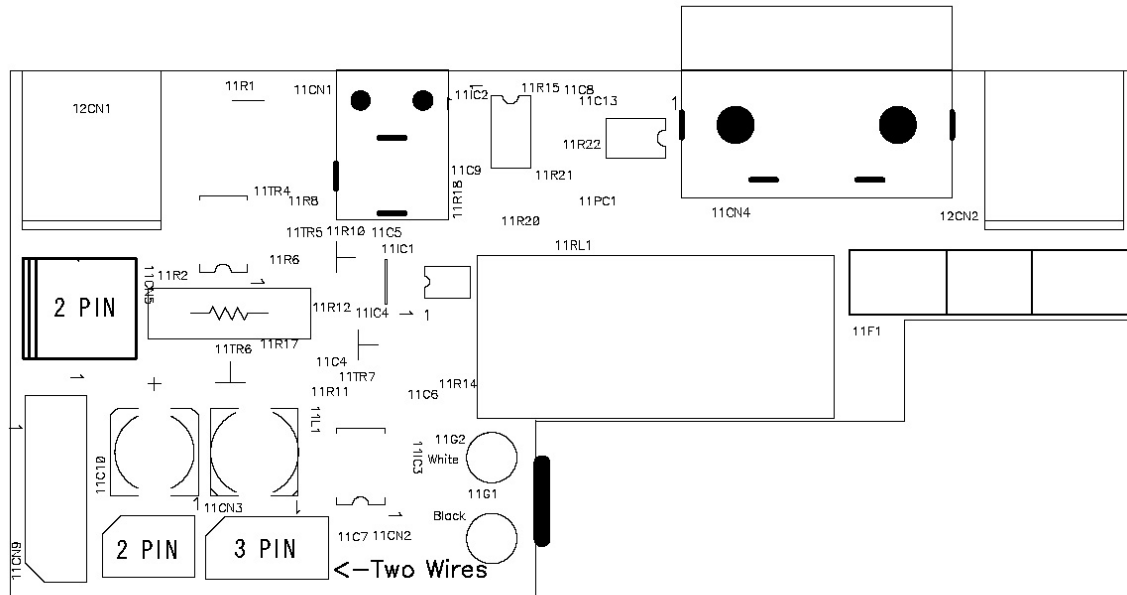
A strong stress shall not hang in the connector of the PCI board.

[G3]

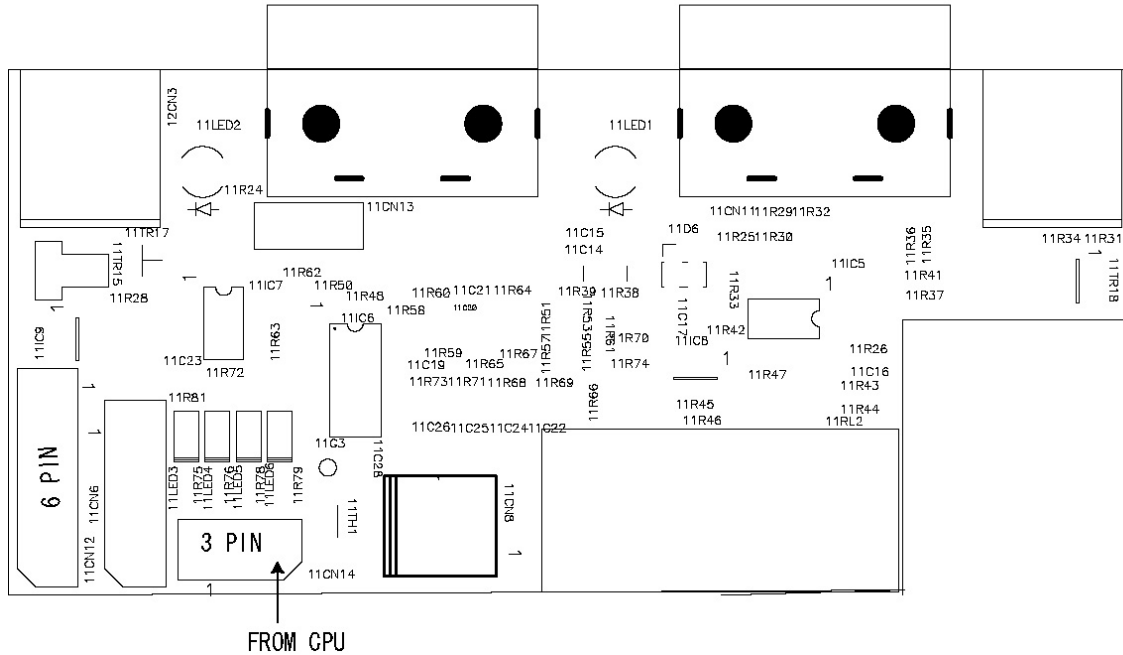


DC / IN OUT Board, Battery Control Board

DC IN / OUT Board



Battery control Board

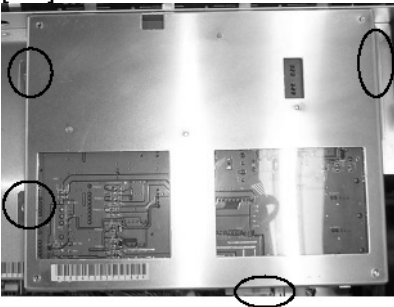




H. Removal of the Power Supply Assembly

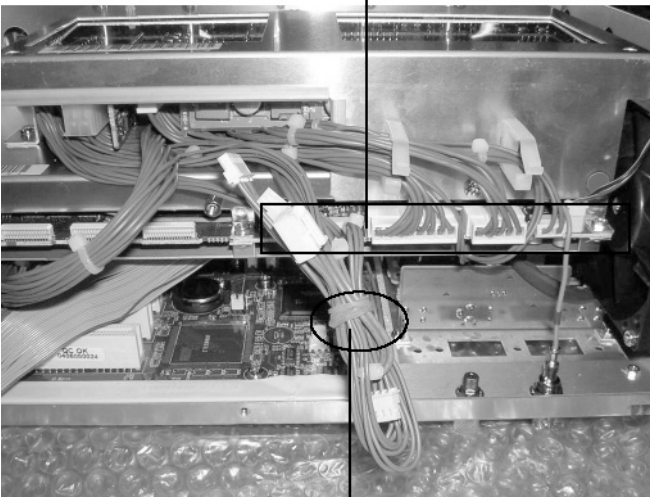
- Remove the four KB(+)3x6 screws on the Power case. H1
- Remove the five connectors in the box from the Power board (CN2, CN3, CN4, CN5). H 2
- Remove the cables from the cable holder. H2
- Remove the connector (CN11 LINE TRIG) on the Power board. H3
- Remove the connector (3CN1, 5CN4) on the Power board. H3

[H1]



[H2]

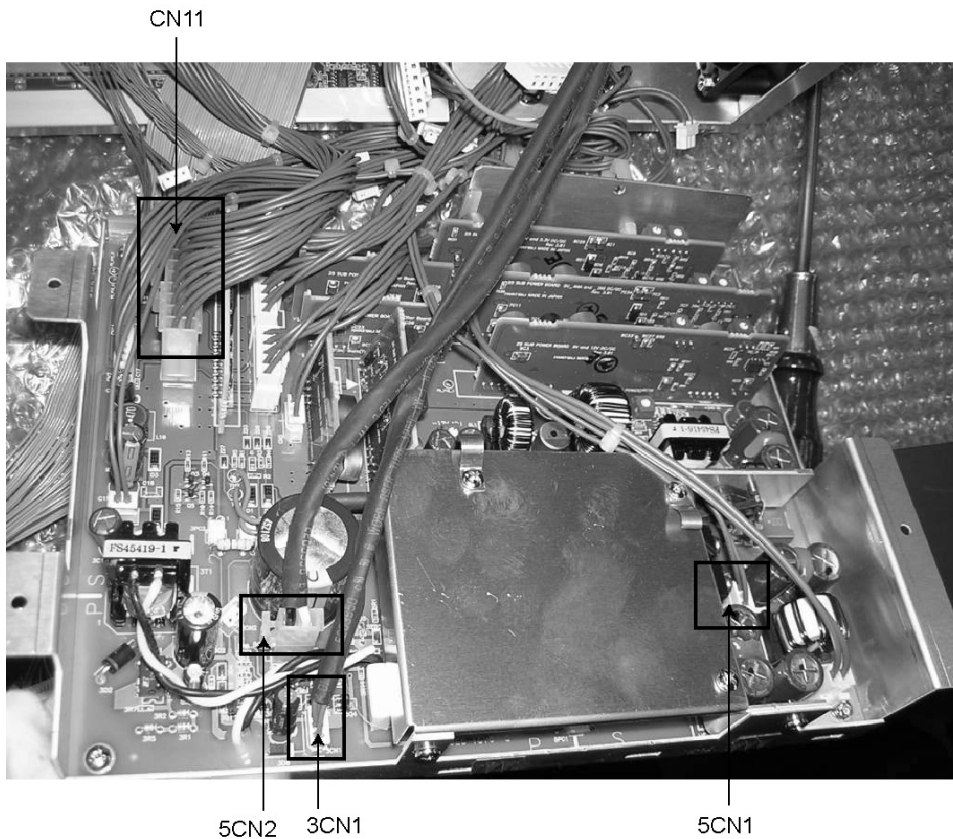
From POWER BOARD(CN4,CN2
CN3,CN5),FAN NOTOR



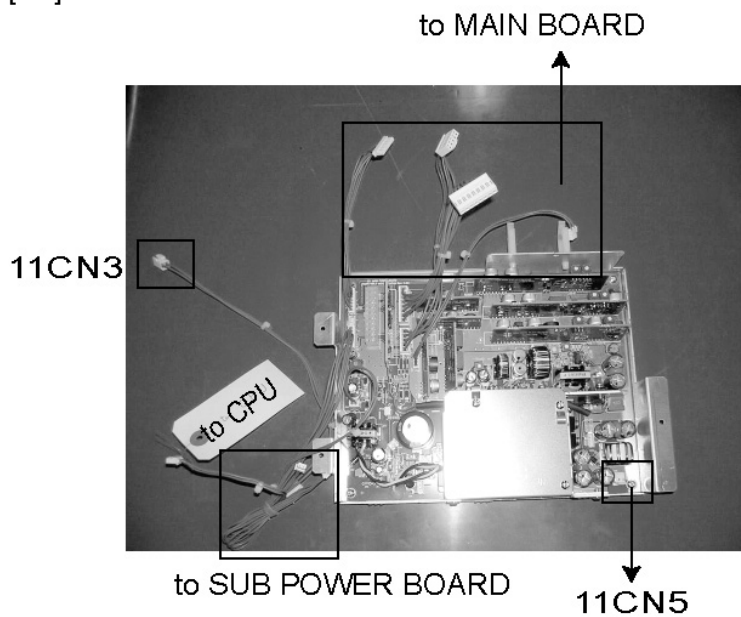
These cables are bundled temporarily.

[H3]

- Remove the four connectors

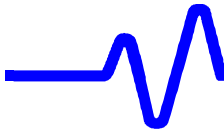


[H4]



Hint:

It is easy to assemble the power board by marking the option cables (tape or etc.).

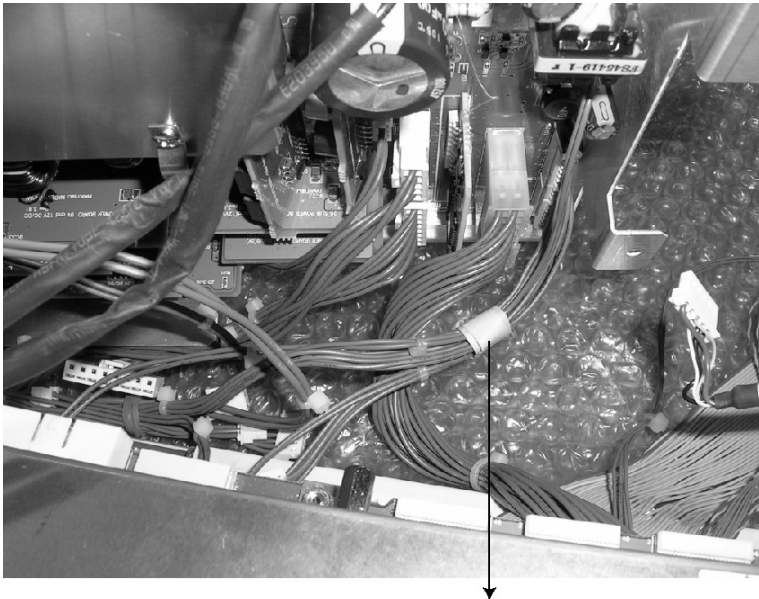


When the connector of the power supply is removed, it is comprehensible when the load side is removed.

Assembly of power board

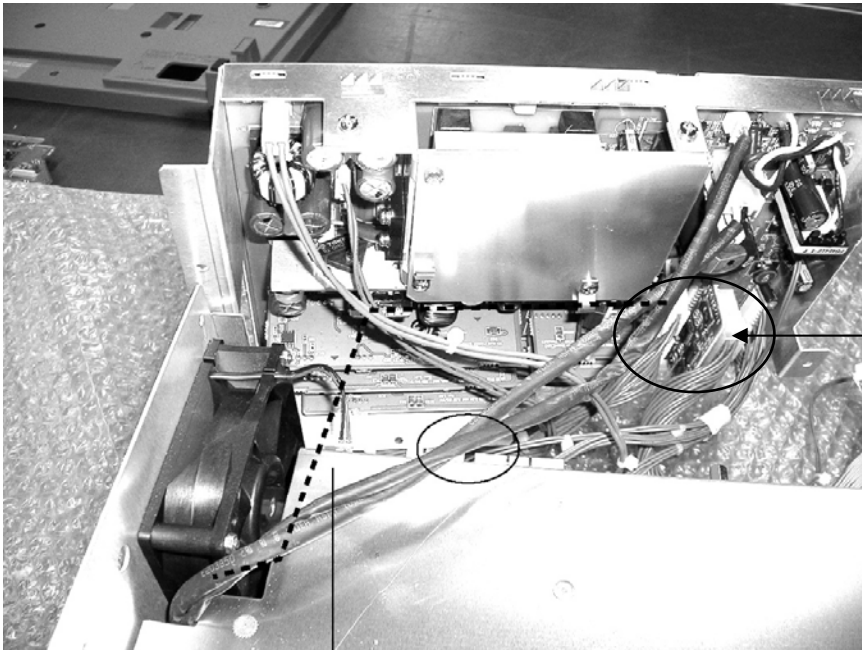
[H5]

- Connect the five connectors removed [H3] step.
- Wire the five cables removed [H3] step like the following figures.



This code group are
bundled temporarily

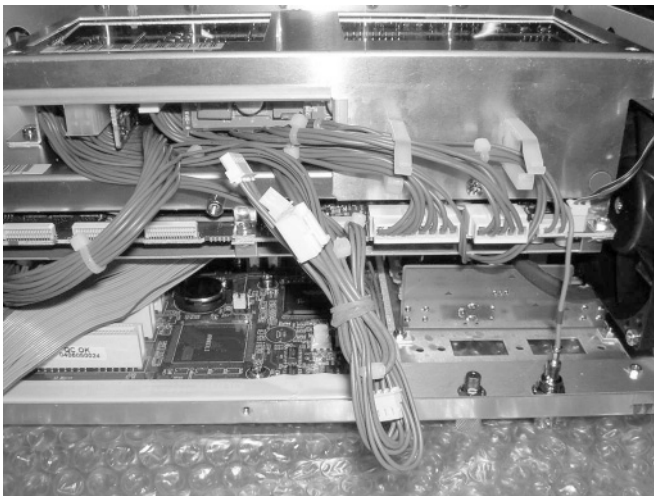
This code group are wired above 20 pin code group (to CPU).



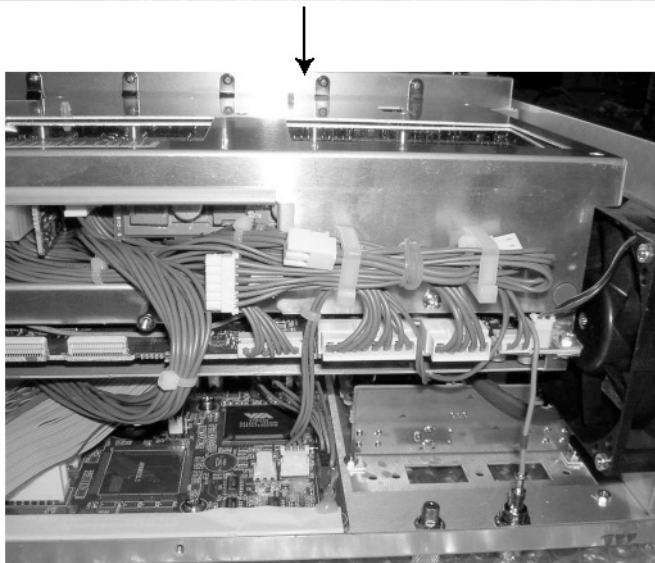
These
two
cables is
wired
under
this
chassis.

Two cables covered with the insulating tape where it goes to the PFC circuit is wired like the dotted line.

[H6]



Put the option cables into the cable holder last.

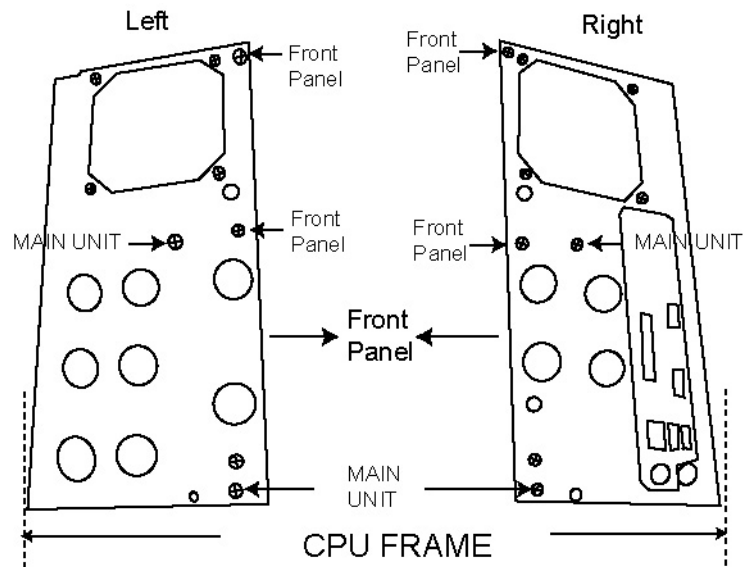




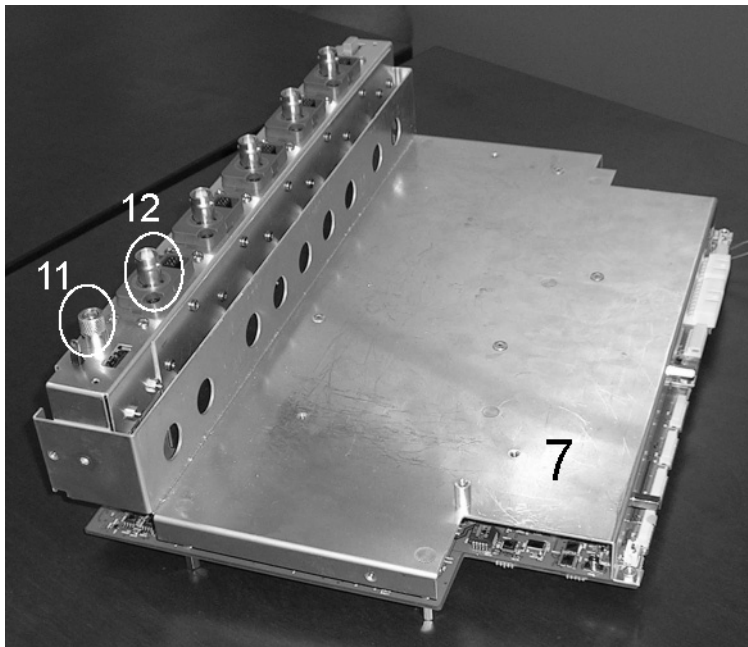
I. Removal of the MAIN Board

- Remove the connector (REAR OUT PUT) on the main chassis. I2
- Remove the two KB(+)3x6 screws (Item Fig No.1) on the main chassis. I1

[I1]



[I2]

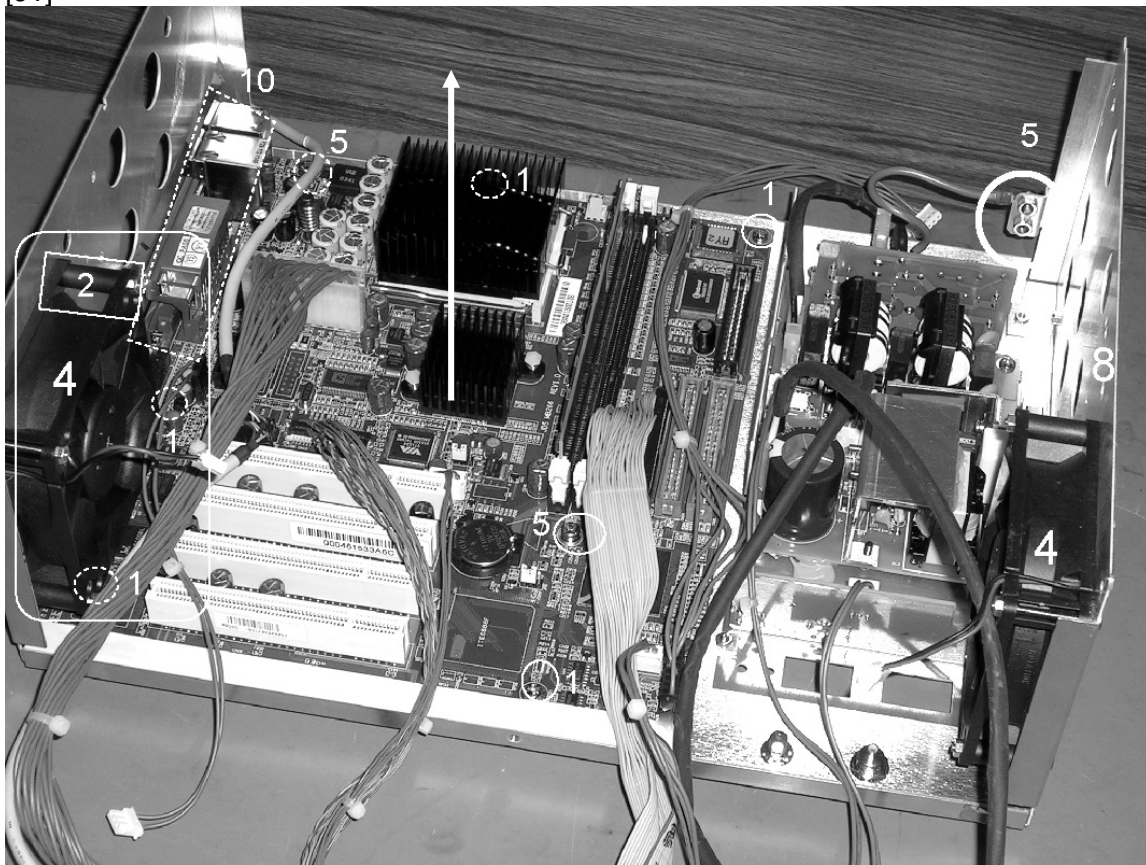


J. Removal of the CPU Board

- Remove the four KP(+) 3×30 (Item Fig No.2) screws which connect the fan to the CPU frame. J1
- Remove the seven screws(five KP 3×6 Item Fig No.1 and KP 4×8 Item Fig No.5) on the CPU board. J1

Caution : Batteries are mounted, so care should be taken to prevent short-circuiting.

[J1]



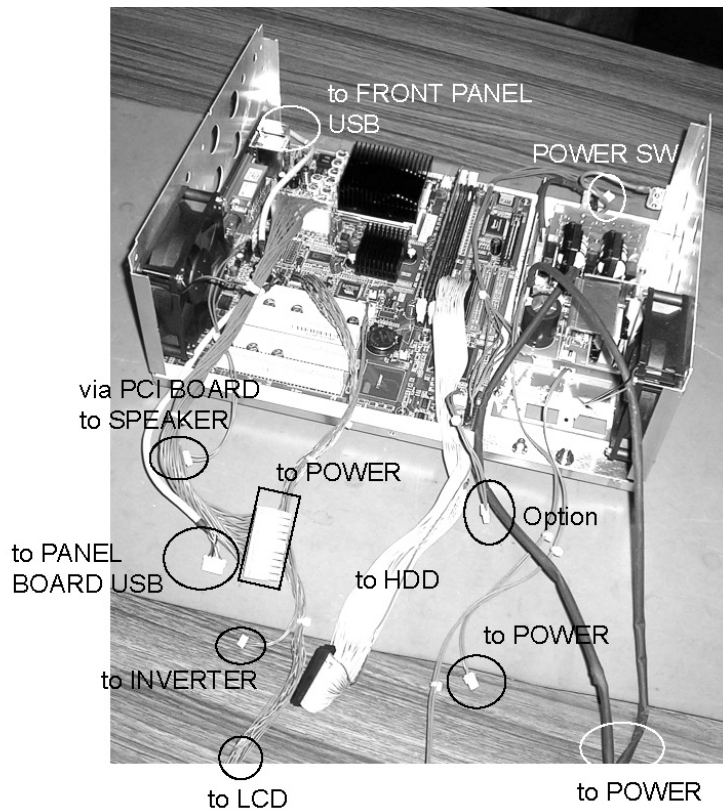
NOTE: The four KP(+) 3×30 screws is used per a FAN.

The 4 is in the Over All table, FAN MOTOR DMT620781.

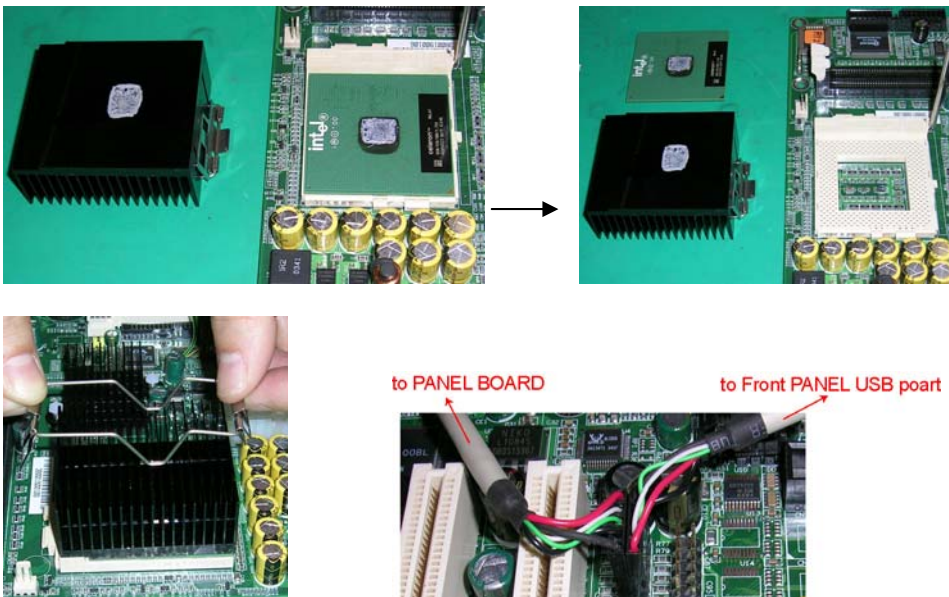
When CPU board is removed, it is possible to assemble the connectors without a mistake as fastening a tag.



[J2] CPU Board Cables



[J3] CPU & USB

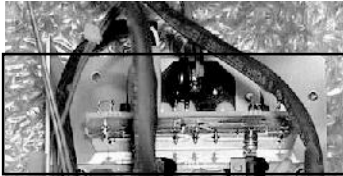


Please note the direction of the CPU heat sink stopper.

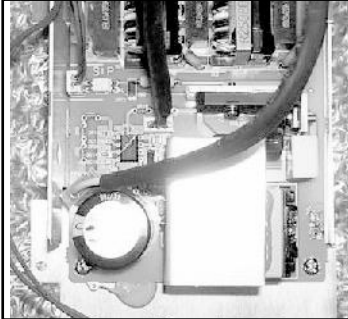
CAUTION:

Before connecting the USB cables, make sure that the power supply of the USB connector (red) is different by FRONT and SIDE PANEL.

K Remove of the PFC CIRCUIT



INLET CIRCUIT: IW211857916



PFC CIRCUIT: IW211857915



EXT OUTPUT CIRCUIT



Assembly Note :

Reassemble the unit in the reverse order, check that all screws are used and verify that all cables are correctly connected.

- **Fan:** Check the fan cable direction. Note the air flow, the fan extracts air from the unit and expels it.