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Sony Corporation

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Technical News

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Subject: How to fix and improve Power Supply Unit broken by Abnormal Cable or sequentially pressed CAM PW Button

[Applicable Model]

Model / Destination	Serial Number		Number of Unit
HDCU1500 CED	ALL		
HDCU1500 J4	ALL		
HDCU1500 SY3	ALL		
HDCU1500 SYL	ALL		
HDCU1700 CED	400001	- 400095	95
HDCU1700 SY3	30001	- 30017	17
HDCU1700 SYL	10001	- 10703	703
HDCU2500 CED	400001	- 400614	614
HDCU2500 SY3	30001	- 30260	260
HDCU2500 SYL	10001	- 11331	1331
HDFX100 CED	420001	- 420606	606
HDFX100 UC7	ALL	-	
HDFX200 CED	40001	- 40220	220
HDFX200 UC7	10001	- 10241	241

(Rev.4) The version of the PLD is upgraded, and the withstand voltage of the capacitor is increased.

[Description]

The power supply unit of the HAFX100/HAFX200 may be broken when the abnormal cable whose DC180V(H) terminal may contact with the GND terminal is used, or the camera whose DC180V(H) terminal may contact with the GND terminal of the TRIAX connector is connected.

Firstly, confirm the condition of the TRIAX cable and the camera and eliminate the cause of the symptom. Then, repair the power supply unit as described below.

Additionally, apply the improvement described below if there is possibility to use the abnormal cable whose DC180V(H) terminal and the GND terminal are connected.

It may rarely be possible for HDCU1500/HDCU1700/HDCU2500 that the CAM Power cannot be turned off when the CAM PW (camera power) button of the MSU-900/1000 (Rev.4) or the RCP-1501 is pressed sequentially in a short time (less than 1.5 seconds). In the case, repair the unit by referring to the following procedure.

[Symptom]

The “OPEN” or “SHORT” of the CABLE ALARM indicator on the front panel lights in red although the camera is connected.

[Parts/Tools Required]

The following parts are required to repair the power supply unit.

Change the capacitor to increase the margin of the withstand voltage (350V to 630V). (Rev.4)

Part No.	Part Name	Qty	Ref
1-116-752-21 or 1-165-883-21	CAP, CERAMIC(0.01MF) CAP, CERAMIC 10000PF (630V)	3	C2027, C2028, C2038
8-729-054-30	TRANSISTOR 2SJ585LS-CB11	1 or 2	Q2008, Q2009 (either one, or both)

(Rev.4)

The following parts are required to improve the repaired board or the board which is not implemented the improvement.

Part No.	Part Name	Qty	Ref
1-116-752-21 or 1-165-883-21	CAP, CERAMIC(0.01MF) CAP, CERAMIC 10000PF (630V)	3	C2027, C2028, C2038
8-729-054-30	TRANSISTOR 2SJ585LS-CB11	1	Q2012
1-218-823-91	RES, CHIP 100 (1608)	1	R2135

(Rev.4)

<Software File>

File name : E_000_005_48_02 -Correct the malfunction of the relay at power ON (Rev.4)

Target : IC8005 (PLD) on RE-274 board

Version : ~~V1.20~~ V1.30

* The file E_000_005_48_02 can be obtained by obtaining the file RE274_PLD.zip and extracting it.

Please contact to your local Sony's service office for obtaining the file. (Rev.4)

Tool : PLD download tool for USB

Part No. : J-7120-220-A

Tool : PC for upgrading the PLD

Install the following software files to the PC for upgrading
DLT_v35.exe (8,260KB) PLD download tool software V3.5

DLT30_install.pdf Instruction how to install Download Tool and the driver (Win2000/XP)

DLT30_install_E.pdf English version of the above document

* Please contact to your local Sony's service office for obtaining the software tool.

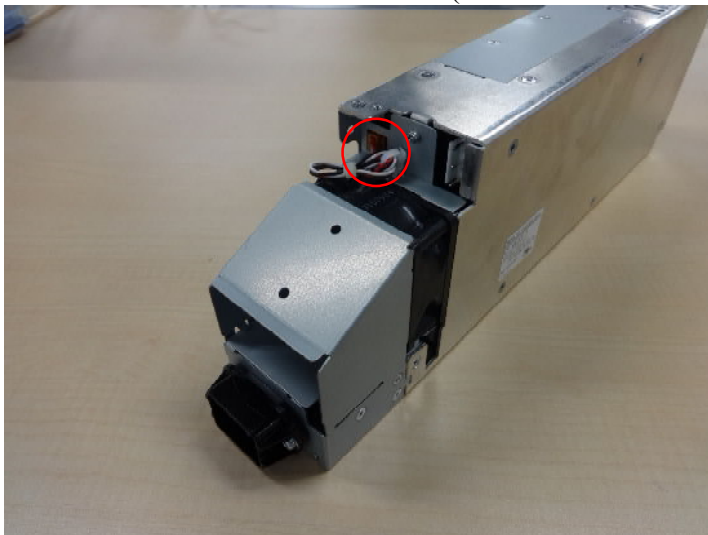
The improved parts are as follows. (Rev.4)

Part No.	Part Name
A-1768-442- B C	POWER BLOCK ASSY(D00)
A-1769-657- B C	PS-778D00 MOUNT
A-1771-369- B C	RE-274 COMPL

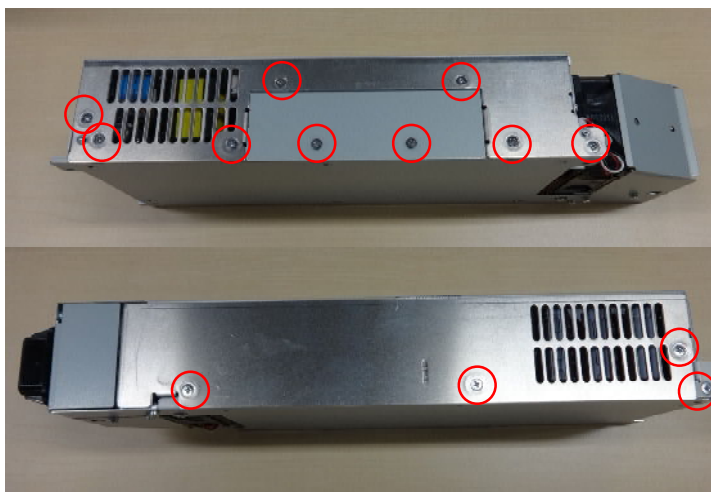
[Procedure]

How to repair the power supply unit

- Remove the power supply unit by referring to the section 1-9-1. Power Supply Unit in the Maintenance Manual of HDFX100.
In case of HDFX200, refer to the section 2-13. Power Block Assembly (D00).
In case of HDCU1500, refer to the section 2-2-1. Replacing the Power Supply Unit (HDCU1500).
In case of HDCU1700, refer to the section 4-2-1. Power Block Assembly (D00)
In case of HDCU2500, refer to the section 4-2-1. Power Block Assembly (D00)
- Remove the connector for the fan. (CN8003 on RE-274 board)



- Remove 13 screws shown in the photos below.
Turn off the power of the unit and wait one minute before removing the screws.



4. Removal of the connectors

Disconnect the connectors of CN601, CN6001, and CN6002 on RE-274 board.

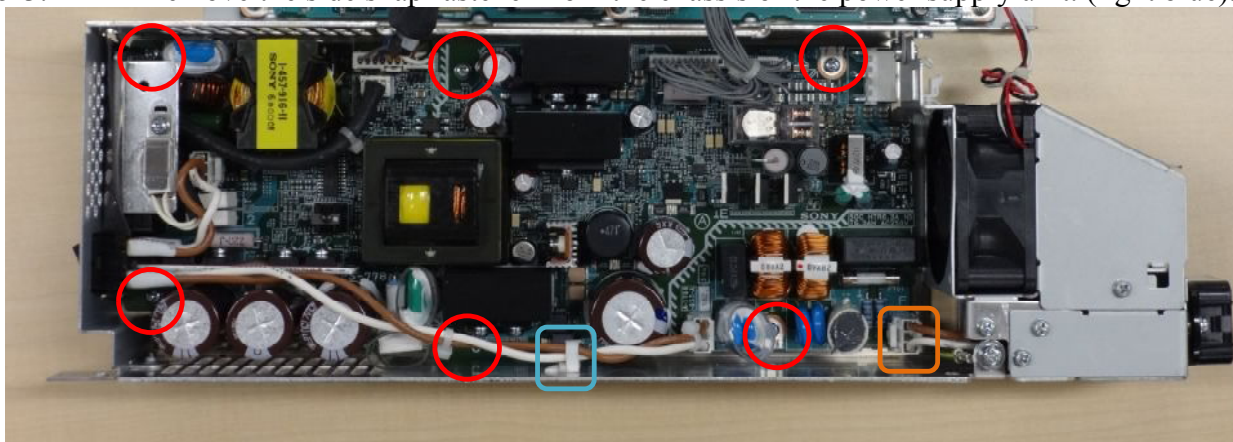


5. Removal of the PS-778 board

5-1. Remove 6 screws. (red circles)

5-2. Remove 1 connector (CN101) (orange)

5-3. Remove the side snap fastener from the chassis of the power supply unit. (light blue).



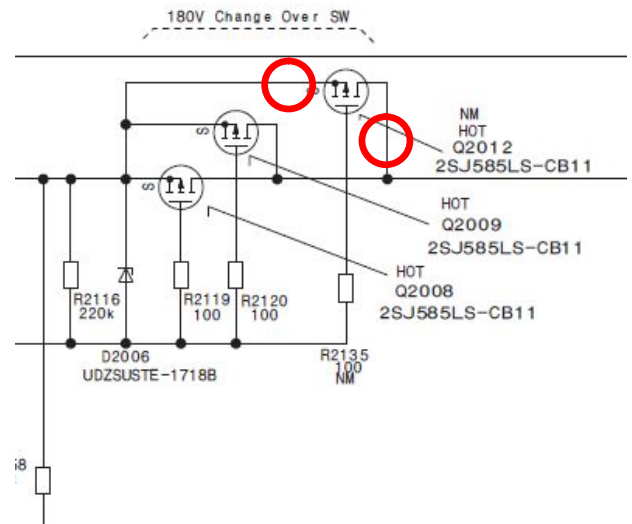
6. Replacement of FET

Measure the resistance between the source and the drain of the Q2012 on PS-778 board by the circuit tester.

(The Q2012 is not mounted on the board which is not implemented the improvement.)

In case of the normal board, it is about 200k Ω . In case it is almost short circuit, Q2008 or Q2009 is broken by shorting, replace them with the ones in the table below. It is not possible to specify either part is broken. The circuit is still short even after one FET is replaced, replace the other FET also.

Part No.	Part Name	Qty	Ref
8-729-054-30	TRANSISTOR 2SJ585LS-CB11	1 or 2	Q2008, Q2009 (either one, or both)



7. Replacement of the ceramic capacitors

When the FET is broken, the following ceramic capacitors may be also broken. Remove C2027, C2028, and C2038, and replace to the part in the table below. **Since the physical size of the capacitor with 630V of withstand voltage is big enough for the pattern on the board, be careful not to make a short-circuit with the adjacent patterns, and confirm if the circuit is not shorten with the circuit checker after replacement. (Rev.4)**

Part No.	Part Name	Qty	Ref
1-116-752-21 or 1-165-883-21	CAP, CERAMIC(0.01MF) CAP, CERAMIC 10000PF (630V)	3	C2027, C2028, C2038

(Rev.4)

How to improve the power supply unit

8. Replacement of the ceramic capacitors (This step can be skipped if they are already replaced when the FET is replaced in step 7.)

Part No.	Part Name	Qty	Ref
1-116-752-21 or 1-165-883-21	CAP, CERAMIC(0.01MF) CAP, CERAMIC 10000PF (630V)	3	C2027, C2028, C2038

9. Addition of FET

Part No.	Part Name	Qty	Ref
8-729-054-30	TRANSISTOR 2SJ585LS-CB11	1	Q2012
1-218-823-91	RES, CHIP 100 (1608)	1	R2135

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- A photograph of a laptop motherboard, likely from a Dell Inspiron 15R series, showing various components. A red circle highlights a small, dark, rectangular component on the motherboard, which is the subject of the repair. The motherboard is populated with various electronic components, including capacitors, resistors, and integrated circuits. A power supply unit is visible on the right side, and a SATA drive is connected to the bottom. The motherboard is resting on a light-colored surface.

12. Assemble the power supply unit by referring to "Notes on Disassembling the Power Block Assembly (D00)" on the page 1-13(E) of the Maintenance Manual of HAFX100.
Page 2-14(E) for HDCU1500
Page 4-10 for HDCU1700
Page 4-10 for HDCU2500

13. Tighten 13 screws removed in step 3.
14. Install the power supply unit by the reverse procedure of the removal.

[Confirmation]

Connect the HAFX100/HAFX200/HDCU1500/HDCU1700/HDCU2500 with the camera, and confirm if the power could be supplied to the camera.