



KONICA MINOLTA

Technical Information

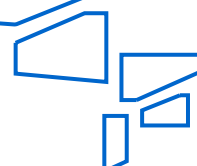
CSES-ID: **TNEU1600101EN**

Version 3.5

Status: 25. July 2016

Product: Zeus S, Minerva S BK

ZEUS S MFPB repair procedure "Error Codes C-D011 / C-D050 / C-FA14"





Background

BEU is experiencing a high MFPB Board failure rate. As a countermeasure KMI provided the repair procedure as described in this document.



Symptom

ZeusS is experiencing a high rate of Error Codes C-D011/D050/FA14.

A device which is suffering from the problem described in this document will show C-D011/D050/FA14 after turning on the devices main power switch or when the device recovers from power save mode.

- C-D011: Hard Disk equipment not within specification
- C-D050: HDD recovery timeout
- C-FA14: SATA Controller in maintenance mode. (USB_SATA program is abnormal).

Remark: Please be aware that C-FA14 will be shown for different problem and only the C-FA14 where the detailed error code leads to HDD problems is valid for this problem. See Appendix – C-D011/FA14 detailed error codes



Cause

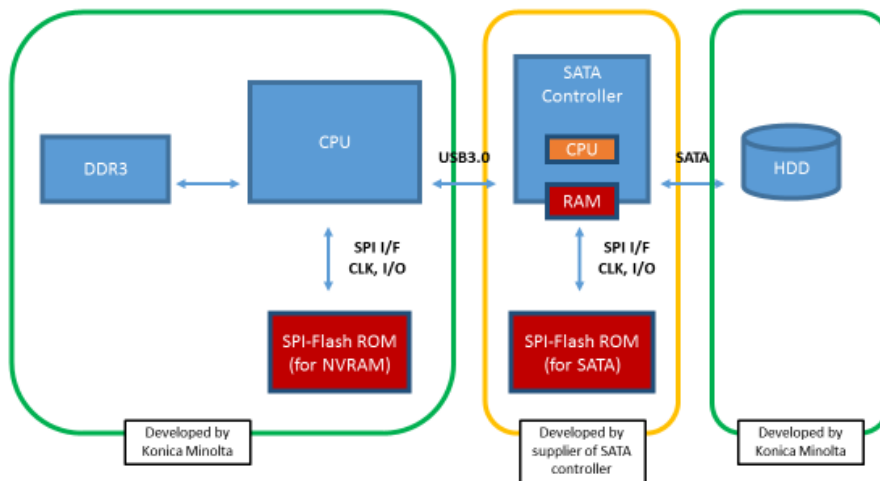
The garbled SATA Controller data problem has been identify as a problem in the SATA controller firmware. Which is caused by wrong treatment of SPI-Flash ROM of SATA controller. The problem appears when the following situation happens.

The SATA controller loads the SATA controller firmware from SPI Flash ROM, when main power switch will be turned on or when the device is recovering from power save mode. When detecting Secondary HDD is not installed, "0x00" value is overwritten into some area of the SPI-Flash ROM of SATA controller. This processing is not guaranteed by the SPI-Flash manufacturer and causing the discharge from memory portion gradually and leads into corrupted or garbled data in SPI Flash ROM of SATA controller. In case that the SATA Controller data are garbled a hash error will occur during program loading and the SATA controller switches to run in maintenance mode. (Under normal condition the SATA controller is running in normal mode). In case the controller is running in maintenance mode the firmware treats that in this condition a non-KM HDD is connected and an error code will be shown.

- C-D011 in case of detection after main power switch on
- C-D050 in case of detection after wake up from power save mode

Remark: When above condition happen, firmware versions before version Gxx-54 did show C-FA14. This has been changed to C-D011 from Version 54 onwards.

Block Diagram of MFP controller



Countermeasure Permanent

As permanent countermeasure KMI provides a new SATA Controller firmware A7AH0Y0-6403-G00-04. This program can be updated by use of below firmware that only updates SATA Controller firmware.

A7PU0Y0-F000-GXX-B0 Zeus S

A7950Y0-F000-GXX-B0 Minerva SBK

For machines, which are in C-D011 error, condition KMI will provide SATA Controller firmware recovery tool (Rescue Tool), which will repair the MFPB by writing new SATA Controller firmware to the MFPB.

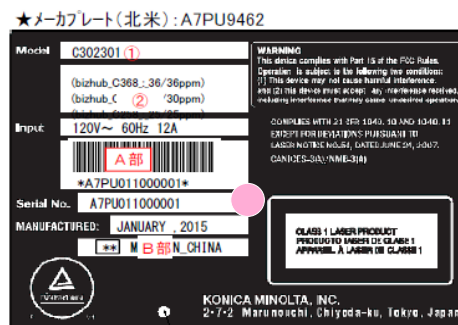
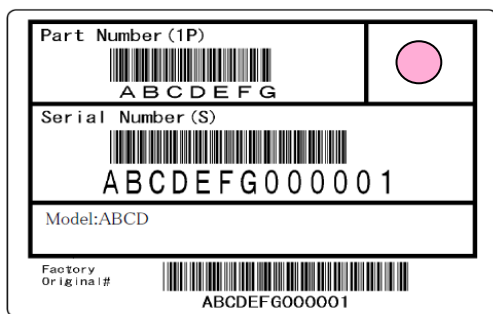
A7PU0Y0-F000-GXX-A8 Zeus S

*note: Former installed countermeasure firmware G00-A7 do not update the SATA Controller firmware!
The device will be automatically restored but the root cause persists.

-Serial number cut in production line

	021 (BEU)	121 (Develop)	321 (Olivetti)
bh pro 958 (A796) S/N Effective Date	A796021000086 and onwards	A796121000004 and onwards	
bh 758 (A795) S/N Effective Date	A795021000148 and onwards	A795121000008 and onwards	
C368 (A7PU) S/N Effective Date	A7PU021014677 and onwards May 12, 2016	A7PU121001344 and onwards May 23, 2016	A7PU32100391 and onwards May 13, 2016
C308 (A7PY) S/N Effective Date	A7PY021028646 and onwards May 09, 2016	A7PY121003375 and onwards May 11, 2016	A7PY321001761 and onwards June 3, 2016
C258 (A7R0) S/N Effective Date	A7R0021012053 and onwards May 10, 2016	A7R0121002196 and onwards May 09, 2016	A7R0321002701 and onwards

The pink dot will be added to box and machine label to indicate the updated devices





Field Action

- New machine installation **Zeus S**
 - install new SATA Controller firmware with **A7PU0Y0-F000-GXX-B0**
- New machine installation **Minerva SBK**
 - install new SATA Controller firmware with **A7950Y0-F000-GXX-B0**
- Next machine visit **Zeus S**
 - install new SATA Controller firmware with **A7PU0Y0-F000-GXX-B0**
- Machine visit because of a Service Call to fix C-D011/D050 or C-FA14
 - Perform recovery tool for the SATA controller **A7PU0Y0-F000-GXX-A8**

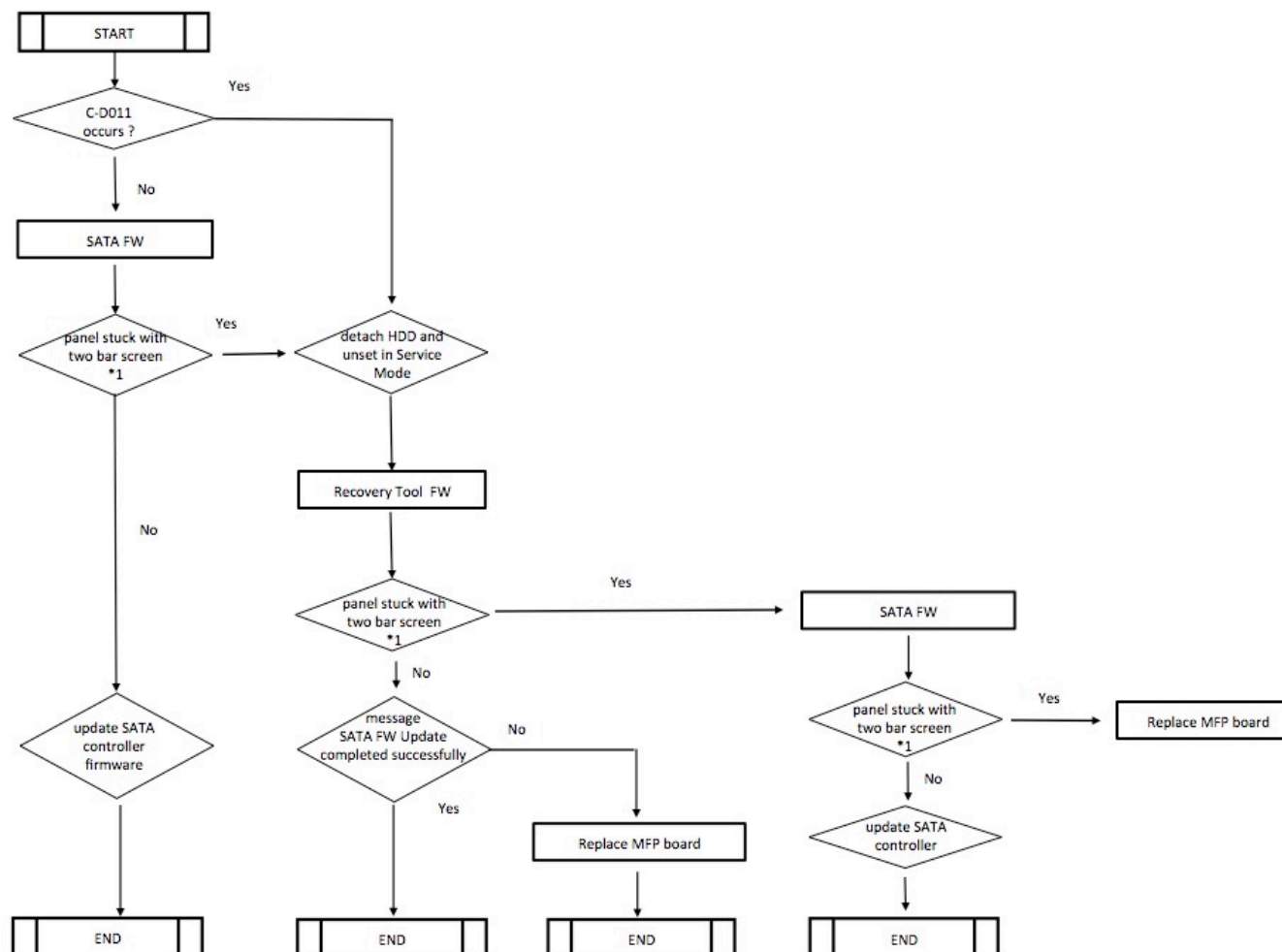


Zeus S MFPB Repair Procedure

Procedure to repair a MFP, which shows the (C-D011/D050/FA14) Problems, currently known as

- SATA Controller data corrupted
1. Preparation Work.
 - Copy FW0002 folder in the root folder of USB flash memory (**USB-SATA FW**)
 - **Download from CSES DLEU1606742EN << A7PU0Y0-F000-GXX-B0 >>**
 - Copy FW0002 folder in the root folder of another USB flash memory. (**USB-SATA Recovery**)
 - **Download from CSES DLEU1606742EN << A7PU0Y0-F000-GXX-A8 >>**

2. Flowchart



*1 note panel stuck should be detected after round about 3min

*2 note If successful update of SATA Controller firmware ends with C-D011 again , please refer Service Manual for other reason

3. Using of SATA Controller update firmware

1. Confirm the main switch is OFF
2. Insert the <**USB-SATA FW**> USB memory into USB slot.
3. Turn Main SW ON while pressing the "Stop" button.
4. "**firmware update screen.**" is shown
5. Touch " **Other FW Update** " button
6. Touch " **SATA Controller** " button
7. Touch "Start" button
8. After update is completed, turn the main SW off/ on
9. Please check that new version of SATA Controller FW is now **A7AH0Y0-6403-G00-04**

4. Using of SATA recovery tool

1. **Detach HDD and set in Service Mode HDD = unset**
2. Confirm the main switch is OFF
3. Insert the <**USB-SATA recovery**> USB memory into USB slot.
4. Turn Main SW ON while pressing the "Stop" button.
5. After approximate 2 min message " **SATA FW Update completed successfully** "
6. turn the main SW off/ on
7. Please check that new version of SATA Controller FW is now **A7AH0Y0-6403-G00-04**
8. In case of stuck at two bars, please use SATA Controller update firmware
9. In case of "**SATA FW Update completed Failed.**" Replace MFP board

5. Despite it is unlikely that the final procedure will fail to recover the SATA Controller. Should you still experience such a case, please contact your local Service & Support contact person.



Appendix – C-D011/ FA14 detailed error codes G00-A7

Please find below information about the detailed error codes for C-D011 and C-FA14 which are related to SATA controller / HDD errors

The detail codes are divided in to four groups. The detail code is recorded based on the condition of the SATA Controller. The following conditions are reflected in the below table

- A detailed code from group A or B will be recorded, when SATA controller starts in maintenance mode and the rewriting of the SATA controller data was successful
- A detailed code from group A or C will be recorded, when SATA controller starts in maintenance mode and the rewriting of the SATA controller data failed
- A detailed error code from group C will be recorded for errors which happen when the SATA controller is in normal mode.

SATA Controller Maintenance Mode detectet				SATA rewriting success full	SATA rewriting failed	D011 error if SATA Controller Data runs in normal mode							
A				B	C	D							
0x6610	0x6650	0x6690	0x66D0	0x661B	0x661C	0x6600	0x6620	0x6640	0x6660	0x6680	0x66A0	0x66C0	0x66E0
0x6611	0x6651	0x6691	0x66D1	0x665B	0x665C	0x6601	0x6621	0x6641	0x6661	0x6681	0x66A1	0x66C1	0x66E1
0x6612	0x6652	0x6692	0x66D2	0x669B	0x669C	0x6602	0x6622	0x6642	0x6662	0x6682	0x66A2	0x66C2	0x66E2
0x6613	0x6653	0x6693	0x66D3	0x66DB	0x66DC	0x6603	0x6623	0x6643	0x6663	0x6683	0x66A3	0x66C3	0x66E3
0x6614	0x6654	0x6694	0x66D4			0x6604	0x6624	0x6644	0x6664	0x6684	0x66A4	0x66C4	0x66E4
0x6615	0x6655	0x6695	0x66D5			0x6605	0x6625	0x6645	0x6665	0x6685	0x66A5	0x66C5	0x66E5
0x6616	0x6656	0x6696	0x66D6			0x6606	0x6626	0x6646	0x6666	0x6686	0x66A6	0x66C6	0x66E6
0x6617	0x6657	0x6697	0x66D7			0x6607	0x6627	0x6647	0x6667	0x6687	0x66A7	0x66C7	0x66E7
0x6618	0x6658	0x6698	0x66D8			0x6608	0x6628	0x6648	0x6668	0x6688	0x66A8	0x66C8	0x66E8
0x6619	0x6659	0x6699	0x66D9			0x6609	0x6629	0x6649	0x6669	0x6689	0x66A9	0x66C9	0x66E9
0x661A	0x665A	0x669A	0x66DA			0x660A	0x662A	0x664A	0x666A	0x668A	0x66AA	0x66CA	0x66EA

The detailed error codes of C-FA14 which are related to HDD are in the below range

Detail Code	Trouble Code	Description
0x6001 ~ 0x6200	FA14 (Thread software error)	HDD umount error



Appendix – KM Project names

	Project name	Konica Minolta
A3 - Color	Minerva 2nd 0/1	bizhub C754e/C654e
	Minerva 0/1:	bizhub C754/C654
	Zeus MLK X/0/1/2/3	bizhub C554e/C454e/C364e/C284e/C224e
	Zeus X/0/1/2/3:	bizhub C554/C454/C364/C284/C224
	Zeus S1/2/2.5	bizhub C368/C308/C258
	Helios 2/3	bizhub C287/C227
	Zeus5 H/L	bizhub C281/C221
A3 - B&W	Minerva S BK	bizhub 758/958
	Minerva BK 2nd 0/1	bizhub 754e/654e
	Minerva BK 0/1	bizhub 754/654
	Zeus BK X/0/1/2/3	bizhub 554e/454e/364e/284e/224e
	Taiga 0/1/2/3	bizhub 423/363/283/223
	Poseidon 1/2/3	bizhub 367/287/227
	Altair 1	bizhub 226
	Orion	bizhub 215

	Project name	Konica Minolta	Open Model
A4 - Color	Venus 1FS/1/2 MFP	bizhub C3850FS/C3850/C3350	
	Citrine MFP/PHH/AIO	bizhub C35/C35P/C25	mc4790MF/mc4750
	Citrine S SFP	bizhub C3100P	
	Citrine S AIO	bizhub C3110	
	Amber	mc1600W/1650EN/1680MF/1690MF	
	Sapphire-PA/PD	bizhub C20/C20P	mc4695MFDN/mc4650DN
A4 – B/W	Kronos 1/2 MFP	bizhub 4750/4050	
	Kronos 2/3 AIO	bizhub 4020/3320	
	Jade H/M/LR	bizhub 4700P/4000P/3301P	
	TaigaY 0 /1	bizhub 42/36	
	Opal	Bizhub 40P	
	Turnkey AIO/SFP	bizhub 20/20P	

[illegible]



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