



kontron

Application Note

Related Products	All Embedded Components boards with Award BIOS
Subject	Restoring and Updating of Award BIOS
Document Name	Flash_Award_E111.doc
Usage	Common
Revision	1.1

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2. General Information

The Award BIOS flash utility **AWDFLASH** gives you the ability to update your BIOS from a floppy disk without having to install a new ROM chip. Award **AWDFLASH** is a utility for “flashing” a BIOS BIN file to the Flash ROM installed on our modules that have a Award Bios.

Use Award AWDFLASH for the following tasks only:

- Update the current BIOS with a newer version
- Restore a BIOS when it has become corrupted

Note:

When using the Crisis Recovery Diskette for ETX modules in conjunction with a floppy drive you must use the ETX onboard floppy drive. The floppy-disk interface shares signals with the parallel-communication interface. The floppy interface is limited to one drive (drive_1). A standard floppy cable has two connectors for floppy drives. One connector has a non-twisted cable leading to it; the other has a twisted cable leading to it. When using the onboard floppy interface you must connect the floppy drive to the connector (drive_1) that has the non-twisted cable leading to it.

3. Updating a BIOS

You must request the Award **AWDFLASH** and **AWDUPD** utility and the corresponding BIOS-file from your local **Kontron Embedded Modules GmbH** support contact. The newest BIOS revision is also available in the Customer Section of the web page.

Note: The file BIOS.BIN is board specific. Only use this files for the corresponding board.

Install Award **AWDFLASH** and **ADWUPD** on a bootable hard disk, usb stick or floppy disk into a local directory, presumably **C:\AWDFLASH**.

The file BIOS.BIN is a standard BIOS image. If you need a certain BIOS then please contact your technical support team. You will get a file with the actual update BIOS called ***nameofthe-BIOS.BIN*** which should also be stored in the local directory containing the **AWD** utilities.

For flashing a new bios use the following parameter:

```
awdupd nameofthebios.bin /py/sn/Sb/cc/cp/R
```

py - programm yes

sn - save no (don't save old bios)

Sb - Skip bootblock

cc - clear CMOS

cp - clear ESCD

R - Reset after flashing

After the first reboot with the new Bios the Checksum of your system is not correct, press **<F1>** to resume or **** to enter your BIOS settings.

4. Restoring a BIOS

4.1 Creation of a Crisis Recovery Disk

You must request the Crises Disk Utility (**MLX8Cris.exe**) and the corresponding BIOS-file from your local **Kontron Embedded Modules GmbH** support contact.

Note: The file **BIOS.BIN** is board specific. Only use this file for the corresponding board.

To create the Crisis Recovery Diskette insert a clean diskette into the floppy drive and execute **MLX8Cris.exe** on your standard office PC. Now follow the instructions to create a Floppy:



Following files will be copied on the floppy:

autoexec.bat	Allows the system to boot in Crisis Recovery Mode
AWDFLASH.EXE	Programs the flash ROM
beep.exe	System file to enable sound output
BIOS.BIN	Actual BIOS image to be programmed into flash ROM
COMMAND.COM	System file
config.sys	System file
DRVSPACE.BIN	System file
IO.SYS	System file
MSDOS.SYS	System file

Table 1:

If the BIOS image (BIOS.BIN) changes due to an update or bug fix, or you get a new bios from your support team, you can easily update the Crisis Recovery Disk. Just copy the *nameofthe-**BIOS.BIN*** image onto the diskette and rename it to **BIOS.BIN**.

4.2 Checksum failure during booting

Updating the BIOS may create a possible hazard: power failures or fluctuations that occur during updating the Flash ROM can damage the BIOS code, making the system unbootable.

To prevent this possible hazard our boards are equipped with a boot block Flash ROM. The boot block region contains a fail-safe recovery routine. If the boot block code finds a corrupted BIOS (checksum failure), it boots into the crisis recovery mode and loads a BIOS image from a special crisis diskette.

4.3 System is unbootable

If the BIOS is damaged and the system is unbootable, you have to force the system to a Crisis Recovery with an update key. This key must be plugged into the serial interface (ETX COM1 only). With the Crisis Recovery Diskette in the floppy drive the BIOS is restored using the Bios image on the diskette. It is important to note that when using the Crisis Recovery Diskette for ETX modules in conjunction with a floppy drive you must use the ETX onboard floppy drive. The floppy-disk interface shares signals with the parallel-communication interface. The floppy interface is limited to one drive (drive_1). A standard floppy cable has two connectors for floppy drives. One connector has a non-twisted cable leading to it; the other has a twisted cable leading to it. When using the onboard floppy interface you must connect the floppy drive to the connector (drive_1) that has the non-twisted cable leading to it.

During Crisis Recovery you will not have any display. The system does not detect if the Crisis Recovery is finished, so after you see that the LED on the FDD is off for a short time you can switch the system off and remove the Crisis Recovery Disk and the update key, then switch the system on.

After the first reboot with the new Bios the Checksum is not correct, press F1 to resume or DEL to enter the BIOS settings.

4.4 Layout of Update Key

4.4.1 Key for Serial Port

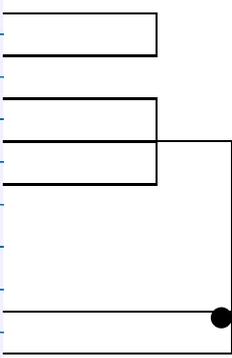
Function	Kontron 10 Pin No. *	D-Type-25 Pin No.	D-Type-9 Pin No.	
TD	5	2	3	<p>PLEASE CONNECT THE PINS AS FOLLOWS</p> 
RD	3	3	2	
RTS	4	4	7	
CTS	6	5	8	
DSR	2	6	6	
SG	9	7	5	
CD	1	8	1	
DTR	7	20	4	
RI	8	22	9	

Table 2

- See the manual of your specific product

5. Embedded Components Modules with Award BIOS

5.1 ETX Modules

Update Key: Serial Port, must be COM1 (see Table 2)

CPU Board	Crisis Tool	Comment
ETX-LX	MLX8Cris.exe	BIOS size 512 kB

6. Revision History

Date	Document Name	Subjects added, changed, deleted	Changed by
25.08.2006	Flash_Award_E110.doc	Initial Release	GUL
20.12.2006	Flash_Award_E110.doc	Updated '3.Updating a BIOS'	PRO