

Related Products	All Kontron Boards with IDE in use with flashdevice (on-board or externally)
Subject	Solving installation and usage problems with Linux when IDE Flashdevice is master and 2 nd device is slave on the same IDE port
Document Name	Linux-Installation-with-IDE-Flash_E111.doc
Usage	Public

1. REVISION HISTORY

Date	Document Name	Subjects added, changed, deleted	Changed by
25.05.03	Linux-Installation-with-IDE-Flash_E110.doc	Initial release	M. Unverdorben
30.05.03	Linux-Installation-with-IDE-Flash_E111.doc	Updated to installation and usage	M. Unverdorben

2. BASIC INFORMATION

It has often been reported that installations and usage of Linux with Kernel 2.4.xx don't work if an IDE flash device is master and an additional device is connected as slave, which contains the installation files.

The reason is "real" ATA devices use a signature map that detects the presence of master/slave devices during diagnostics execution. This is done in the BIOS. IDE Flash devices do not report this correctly and waiting for a 31 second time out is not acceptable. Therefore the kernel can't find the connected slave device.

Usually this can be worked around by connecting the installation device to the 2nd IDE port. This is not possible on X-board™ and DIMM-PC® because there is only one IDE port.

3. SOLUTION

A special boot option must be used for the installation kernel and also for the installed one, if the slave device is still used. The boot option is:

```
hdb=flash
```

Even though the flash device is "hda" you must still indicate "hdb" and not "hda".

More information about that issue can be found in the linux kernel mailing list:

<http://www.cs.helsinki.fi/linux/linux-kernel/2001-12/0405.html>