

Related Products	All with Phoenix BIOS and Darkboot feature
Subject	Darkboot Logo
Document Name	Darkboot_E112.doc
Usage	Common

1. REVISION HISTORY

Date	Document Name	Subjects added, changed, deleted	Changed by
09-Jul-01	JAP0044.DOC	Initial release	C. Hoch
30-Jul-01	JAP0044.DOC	Graphic Logo must be 640x480	C. Hoch
23-Aug-02	JAP0044.DOC	Changed to Kontron style	H. Bruhn
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3. USER INFORMATION

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3.2. General

For the circuits, descriptions and tables indicated no responsibility is assumed as far as patents or other rights of third parties are concerned.

The information in the following chapters describes the type of the boards and software and shall not be considered as assured characteristics.

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3.3. Warranty

Each product is tested carefully and thoroughly before being shipped. If, however, problems should occur during operation, please check your user specific settings of all boards included in your system. This is often the source of problems due to resource conflicts. If a board is defective, it can be sent to your supplier for repair.

Please take care of the following steps:

1. The board returned should have the factory default settings since a test is only possible with these settings.
2. In order to repair your board as fast as possible we require some additional information from you (detailed description of how and when did the problem occur, what is exactly the problem and so on).
3. Upon receipt of returned boards please be aware that your user specific settings could have been changed during repair.

Within the warranty period the repair is free of charge as long as the warranty conditions are observed. Because of the high test expenditure you will be charged with the test cost if no fault is found. Repair after the warranty period will be charged.

This **Kontron** product is warranted against defects in material and workmanship for the warranty period from the date of shipment. During the warranty period **Kontron** will at its option either repair or replace defective products.

For warranty service or repair the product must be returned to a service facility designated by **Kontron**.

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance or handling by buyer, unauthorized modification or misuse, operation outside of the product's environmental specifications or improper installation or maintenance.

Kontron will not be responsible for any defects or damages to other products not supplied by **Kontron** that are caused by a faulty **Kontron** product.

4. INTRODUCTION

Many **Kontron** products offer the so called "**Darkboot**" feature. This feature displays either a dark screen or a graphic logo during the power-on-self-test (POST) of the BIOS. The feature can be enabled in the BIOS setup of the corresponding board and is usually located in the "Boot" menu of the setup screen. Refer to the manual of your Kontron board for BIOS configuration. By default the **Darkboot** feature displays a dark screen. To display a special logo the BIOS of the corresponding Kontron board has to be patched.

The **Kontron** BIOS patch tool **JPATlxxx.EXE** (referred to as **JPAT.EXE** in the following) is a utility which allows to modify the system BIOS of **Kontron** CPU boards. Following modifications are supported:

- ◆ Adding or replacing the Darkboot logo

The graphic logo is embedded into the system BIOS. JPAT.EXE allows to add or replace this logo which will be displayed during the POST.

- ◆ Removing the darkboot logo

JPAT.EXE allows to remove an existing darkboot graphic logo from the system BIOS. This leads back to a 'true' darkboot when it is enabled in the setup, i.e. the screen stays dark during the POST.

The BIOS file can be either a 'BIOS.ROM' or 'BIOS.WPH' file. For this reason the BIOS file will be referred as BIOS.??? in the following document.

Please refer to the *Product Manual* of your specific **Kontron** board to see if this feature is supported.

5. REQUIREMENTS

◆ BIOS crisis recovery disk

The **Kontron** BIOS patch tool JPAT.EXE does not modify the system BIOS of a running **Kontron** CPU board directly. Instead it only modifies an available system BIOS ROM file on your disk. The new system BIOS.??? file with darkboot logo then can be programmed into the onboard BIOS flash ROM with the crisis recovery disk. A compressed archive of this crisis recovery disk exists for all **Kontron** CPU boards supporting JPAT.EXE. Contact your local dealer, a **Kontron** distributor, the **Kontron** web page or the **Kontron** support team to get an actual copy of this archive.

WARNING! The BIOS crisis recovery disk must fit to your **Kontron** CPU board. Don't do anything if you are not sure whether you got the correct disk.

◆ BIOS.??? file

On the crisis recovery disk you can find a file BIOS.??? which is a basic BIOS file for the corresponding CPU board, but this file may not be the latest revision of the BIOS file. Contact your local dealer, a **Kontron** distributor or the **Kontron** support team to get the latest BIOS revision for your board.

◆ Graphic logo file

For adding or replacing the darkboot graphic logo the new logo must be available as a 16 colors bitmap file (.BMP) with 640x480 pixels.

◆ PC running JPAT.EXE

JPAT.EXE is a 16-bit DOS program and should work on any PC running DOS, Windows3.x, Windows9x or Windows2000. It needs a moderate amount of conventional memory. In the unlikely case it reports a memory allocation error try to give it more conventional memory by moving or removing other programs and drivers.

JPAT.EXE needs to keep several files open while processing. If the program runs under DOS and reports a file I/O error although the specified files exist then increase the FILES statement in CONFIG.SYS. Also be sure that the access rights for the specified files are suitable.

JPAT.EXE needs to create a few temporary files in the directory it is called from, therefore you need to have enough disk space available to temporary hold this files and to create the new BIOS file.

6. JPAT COMMAND SYNTAX

6.1. General syntax

When executing the **Kontron** BIOS patch tool JPAT.EXE you must specify a function and depending on the function additional parameters and options. The general command syntax is:

JPAT <function> [function parameters] [options]

Following functions are supported:

6.2. LOGO

The LOGO function is used to add or replace a darkboot graphic logo. Required parameters are the filenames for the original system BIOS file, the darkboot graphic logo bitmap file and the modified system BIOS file.

Example: JPAT LOGO ORIG.??? LOGO.BMP BIOS.???

ORIG.???	name of the original system BIOS file
LOGO.BMP	name of the 16 colors bitmap file containing the darkboot graphic logo
BIOS.???	filename of the new system BIOS file that JPAT.EXE will create

Following options are available with the LOGO command:

- LD With this option JPAT.EXE displays the darkboot graphic logo before patching it into the system BIOS file. This is helpful to verify how the logo will be displayed by the BIOS before actually updating the target system. The -LD option is ignored if JPAT.EXE is running in batch mode (see -B option).
- LP Normally the darkboot feature uses the 16 standard colors to display the graphic logo. If the logo uses different colors then the -LP option must be added. This forces JPAT.EXE to add the color palette information of the bitmap file to the system BIOS file. The disadvantage of this option is that the darkboot graphic logo needs twice the space in the BIOS. When you are not sure whether this option is required for your logo then give a try without it and add the -LD option instead. This will display the logo and gives you the opportunity to verify that the logo will be displayed correctly.
- LX<num> This option allows to specify the X-coordinate of the upper left corner of the logo. Insert a decimal number (0-639) for <num>. If this option is omitted then the logo will be horizontally centered. Of course this option only makes sense if the logo is less than 640 pixel columns.
- LY<num> This option allows to specify the Y-coordinate of the upper left corner of the logo. Insert a decimal number (0-479) for <num>. If this option is omitted then the logo will be vertically centered. Of course this option only makes sense if the logo is less than 480 pixel rows.

6.3. DARK

The DARK function is used to remove a darkboot graphic logo in order to get a 'true' darkboot. Required parameters are the filenames for the original system BIOS file and the modified system BIOS file.

Example: JPAT DARK ORIG.??? BIOS.???

ORIG.??? name of the original system BIOS file

BIOS.??? filename of the new system BIOS file that JPAT.EXE will create

6.4. General options

JPAT.EXE supports the following general command options:

- B batch mode / With this option JPAT.EXE runs without any user queries if possible.
- H help switch / With this option JPAT.EXE display a short command summary help screen.
- ? help switch / With this option JPAT.EXE display a short command summary help screen.
- N no copyright message / With this option JPAT.EXE does not display the **Kontron** copyright message.
- S silent mode / With this option JPAT.EXE runs without any screen output except error messages.
- V verbose mode / With this option JPAT.EXE shows additional diagnostic information on the screen.

7. OPERATING INSTRUCTIONS

The following list shows the procedure how to modify a system BIOS:

1. Create a copy of the BIOS crisis recovery disk. NOTE! With the BIOS crisis recovery disk it is always possible to restore a working BIOS version on the CPU board in case the BIOS update fails. Therefore always keep the original BIOS crisis recovery disk and never do changes to it.
2. Copy the file BIOS.??? from the BIOS crisis recovery disk or the latest version of the BIOS file you additionally got from Kontron to the PC where you want to run the JPAT.EXE tool and rename it.

Example: `COPY /B A:BIOS.??? C:\TEMP\ORIG.ROM`

3. Run the JPAT.EXE tool with the desired command, parameters and options.

Example: `JPAT LOGO C:\TEMP\ORIG.??? LOGO.BMP C:\TEMP\BIOS.??? -LX100 -LY50`

4. Copy the modified system BIOS file back to the BIOS crisis recovery disk.

Example: `COPY /B C:\TEMP\BIOS.??? A:`

5. Boot DOS on the **Kontron** CPU board, i.e. the system where you want to do the BIOS update.
6. Insert the BIOS crisis recovery disk and run PHLASH to start the programming of the BIOS flash device.

Please also refer to another application note PHLASH_E???.PDF for more details about updating a **Kontron** board with Phoenix BIOS.

6. RESTRICTIONS

◆ Target system

The **Kontron** BIOS patch tool JPAT.EXE only works with **Kontron** system BIOS files based on the Phoenix BIOS and specially prepared for JPAT.EXE. Some older versions of **Kontron** system BIOSes don't support JPAT.EXE. Always ensure that you got the actual version of the BIOS crisis recovery disk and the latest BIOS file matching your system.

WARNING! Don't try to use JPAT.EXE with non-**Kontron** systems running Phoenix BIOS. A damage of the system may be the result.

◆ Darkboot graphic logo

The darkboot graphic logo is restricted to 640x480 pixels. Only 16 color bitmaps are supported. **Kontron** system BIOSes store the darkboot graphic logo in compressed form. The size of the compressed logo is restricted to 16kByte. Therefore the darkboot graphic logo should not be too complex. If you are creating a graphic logo with lots of colors and many color changes from pixel to pixel, it is possible that this complex logo may not fit into the 16kBytes when compressed.