

Config. program V1.00
Firmware for BDI2000 V1.01
Logic for BDI2000 V1.01

ABATRON

Date: April 4, 2000
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Enhancements

- Registers can be defined and access by name via Telnet (see manual).
- The special load format IMAGE has been added to load a complete Linux boot image.
- Support for IBM PowerPC 750 Lonestar Rev.3 added.
- Support for Motorola PowerPC 740P/750P Conan/Doyle added.
- Command line utility added to setup the BDI from any Linux / UNIX host (see manual).

Config. program V1.00
Firmware for BDI2000 V1.02
Logic for BDI2000 V1.01

ABATRON

Date: June 6, 2000
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Enhancements

- It is now possible to define a maximal transfer size for different address ranges (see manual)
- Default register names for MSR, CR and FPSCR has been added.
- New configuration parameter CPUYPE added (see manual).
- Support for MPC755 added.
- Register values can be swapped (see manual).
- Optimized reset sequence that can handle targets where HRESET also forces TRST.

Error Correction

- For MPC8240/8260 targets, the CORE TAP link module is now selected during a reset sequence.

Config. program V1.00
Firmware for BDI2000 V1.03
Logic for BDI2000 V1.01

ABATRON

Date: July 31, 2000
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Enhancements

- MMU support for Linux kernel debugging added (see manual).
- New Telnet command (BREAK) added to display and change current breakpoint mode.
- GDB binary downloading support added (X<memaddr>,<len>:bbbbbbbb).
- Automatic load of binary files now also supported.
- Download progress output at Telnet added.

Config. program V1.00
Firmware for BDI2000 V1.04
Logic for BDI2000 V1.01

ABATRON

Date: Sept 19, 2000
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Enhancements

- User selectable Telnet prompt added. The Telnet prompt can be defined in the configuration file and also interactively changed during a Telnet session.
- Memory access delay configuration parameter added. For very slow memory devices and fast clocked CPU's it can be necessary to increase the number of clocks used to access external memory via COP. This is mainly the case when the memory controller is left in its reset configuration with maximal number of wait states active.
- L1 cache coherent memory access added. For systems with only a L1 cache, flushing the data cache is therefore no longer necessary.
For this kind of targets you may add the line DCACHE NOFLUSH to the configuration file.
- Flash programming support for Atmel AT49 chips added.
- New flash erase modes support now chip and block erase.
- The flash programming function (PROG) now supports different file formats.
- Support for PowerPC 32bit data bus mode added.

Config. program V1.00
Firmware for BDI2000 V1.05
Logic for BDI2000 V1.02

ABATRON

Date: October 5, 2000
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Enhancements

- Improved JTAG controller logic. JTAG clock configuration parameter has changed.
- Support for IBM PPC750CX added.
Note: Level shifters are needed between the PPC750CX and the BDI2000 COP connector.
- New configuration parameter to define the boot address added.

Config. program V1.00
Firmware for BDI2000 V1.06
Logic for BDI2000 V1.02

ABATRON

Date: Nov 28, 2000
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Enhancements

- New Telnet command (CONFIG) added to display current BDI configuration.
- New Telnet command (FLASH) added to change the flash configuration interactively. This may be useful when running a Telnet script to program different flash memory systems on the target. For example if there is a 8bit boot flash and a 32bit main flash system.
- A HALT entered via Telnet sends a signal to GDB to inform it about the new target state. Stopping the target via Telnet may be necessary if GDB does not forward ctrlC to the BDI. This is sometimes the case when working with a GUI on top of GDB.
- With version 5.0, GDB can request additional register values based on the selected target processor type (GDB command „set processor“). The BDI now supports this extended register transfer. In order to be compatible with older GDB versions and to optimize the time used to read out register values, a new configuration parameter has been added. This parameter (REGLIST) allows to define groups of registers really read from the target. For example, you can define that you are interested in getting some SPR's but the BDI should not read the SR and BAT registers.

Error Correction

- Appropriate „eieio“ instructions added to the flash programming algorithm to enforce in-order execution of the flash accesses.

Config. program V1.01
Firmware for BDI2000 V1.07
Logic for BDI2000 V1.02

ABATRON

Date: Febr 8, 2001
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Enhancements

- New Telnet command (DUMP) added to upload a binary memory image.
- Support for MPC7400 added.

Error Correction

- Time-out in flash algorithm increased.
This was necessary because of the long programming time of Intel Strata flash chips.

Config. program V1.01
Firmware for BDI2000 V1.08
Logic for BDI2000 V1.02

ABATRON

Date: March 22, 2001
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Enhancements

- Faster programming for Intel StrataFlash.
- Support for MPC7410 added.
- Support for accessing L2 cache private memory added.
- Support for GDB protocol Z-packet added.

Error Correction

- Error in PPC755 scan chain definition corrected.

Config. program V1.01
Firmware for BDI2000 V1.09
Logic for BDI2000 V1.02

ABATRON

Date: May 8, 2001
Page: 1/1

Enhancements

- MMU support improved. Uses now directly the Linux page table instead of the PPC hash tables. See manual for more information about the new configuration parameter PTBASE.
- New init list entry added to write a 64bit value. Used to unlock flashes in a 64bit flash system.

Error Correction

- Error when host uses 64k TCP window corrected.
- Virtual address translation also applied to breakpoints set via GDB Z-packets.

Config. program V1.01
Firmware for BDI2000 V1.10
Logic for BDI2000 V1.02

ABATRON

Date: August 13, 2001
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Enhancements

- Linux MMU support has changed, see user's manual for more information.
- New configuration parameter (STARTUP) added, see user's manual for more information.
- New configuration parameter (PARITY) added, see user's manual for more information.

Error Correction

- Error when host uses 32k TCP window corrected.

Config. program V1.01
Firmware for BDI2000 V1.11
Logic for BDI2000 V1.02

ABATRON

Date: Dec. 10, 2001
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Enhancements

- The GDB „monitor“command can be used to access BDI Telnet commands.
- The RS232 port of the target can be routed via the BDI to a TCP/IP channel, see user's manual.
- The address range used for MMU default translation has been increased to 128MB.
- An alternate single step mode has been implemented. The alternate mode uses a hardware break-point to implement single step.

Error Correction

- The erase time-out for AMD flashes has been increased. This was necessary because of long chip erase time.

Config. program V1.02
Firmware for BDI2000 V1.13
Logic for BDI2000 V1.02

ABATRON

Date: March 7, 2002
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Enhancements

- Support for MPC4200 / MGT5100 added.
- Support for additional IBM PPC750CX PVR's added.
- The new Telnet command RDUMP writes the values of all user defined registers to a file on the host.
- New configuration parameter (WAKEUP) added to support targets that need some wake-up time after the BDI releases COP-HRESET.

Error Correction

- 750CX: Access to HID1 added.
- MPC82xx: Access to HID2 register corrected.

Config. program V1.03
Firmware for BDI2000 V1.14
Logic for BDI2000 V1.02

ABATRON

Date: October 2, 2002

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Enhancements

- Support for IBM PPC750FX added
- Processing of GDB monitor command improved.
- Support for AMD MirrorBit flash added.
- If the GDB monitor command is used to download an image via TFTP („mon load“), the BDI sends continuously dots to GDB to prevent a command time-out.
- A List of valid memory ranges can be defined to avoid invalid memory accesses via the JTAG interface (MMAP entry in the init list).
- The Windows setup tool is now a WIN32 application.
- BDI Firmware programming time improved for the Linux setup tool (bdisetup).

Error Correction

- Correct access to TGPR registers.
- MGT5100: Correct access to BAT registers.

Config. program V1.04
Firmware for BDI2000 V1.15
Logic for BDI2000 V1.02

ABATRON

Date: January 7, 2003

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Enhancements

- Support for MGT5200 and MPC8270/75/80 added.
- Support for data breakpoint via DABR added (Telnet command BD and BDT).
- Support for network configuration via BOOTP added.
- New init list entries allow to execute memory read accesses.
- New Telnet command (DCACHE) allows to display L1 data cache content.
- Support for 32 bit wide flash chips added.
- New Telnet command added to unlock multiple (same size, continuous) flash sectors with one command.
- Improved Telnet „erase“ command to erase multiple (same size, continuous) flash sectors with one command.

Error Correction

- Correct access to L1 data cache for 750FX, 7400 and 7410

Note:

The BDI's ethernet MAC address will change with this release.
The setup tool displays the new MAC address.

Config. program V1.04
Firmware for BDI2000 V1.16
Logic for BDI2000 V1.02

ABATRON

Date: April 1, 2003
Page: 1/1

Enhancements

- Support for MGT5200 Rev.1.0 completed
- Support for MPC8280/75/70 enhanced
- Improved Telnet interface with history buffer and line editing.

Error Correction

- Error when requesting BOOTP parameters corrected.

Config. program V1.04
Firmware for BDI2000 V1.17
Logic for BDI2000 V1.02

ABATRON

Date: July 23, 2003

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Enhancements

- The Telnet command „CONFIG“ allows to change the name of the configuration file name. The new name is stored in the BDI's flash and a boot sequence is started.

Error Correction

- Error in checksum calculation corrected (Telnet command MC).
- Correct access to the 82xx UPM array via Init list and Telnet.
- Error in MGT5200 support corrected. Some BDI's did not work correct with MGT5200 targets.

Config. program V1.04
Firmware for BDI2000 V1.18
Logic for BDI2000 V1.02

ABATRON

Date: July 30, 2003

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Error Correction

- Error when programming flash with workspace for MPC5200 and MPC8270/75/80 corrected. This error was newly introduced with the last V1.17 firmware version.

Config. program V1.05
Firmware for BDI2000 V1.19
Logic for BDI2000 V1.02

ABATRON

Date: March 3, 2004
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Enhancements

- The file names in the configuration file maybe relative to the configuration file path.
- The Telnet command „reset“ is now synchronous. This allows the use of it via a GDB monitor command. Also the handling of GDB monitor commands has been improved.
- The Telnet command „CONFIG“ allows to change the name and IP address of the configuration file. The new name and IP address is stored in the BDI's flash and a boot sequence is started.
- Support for multiple devices on the JTAG scan chain added (see new configuration parameters).
- Support for IBM PPC750GX added.
- For IBM 750FX/GX, L2 cache content can be displayed via Telnet
- For IBM 750FX/GX, L2 cache coherent memory access implemented, no need for DCACHE FLUSH anymore when L2 cache is active.
- New Telnet DELAY command added. Maybe useful when working with GDB command scripts.
- A data watchpoint (if supported by the processor) can be set via the GDB „watch“, „rwatch“ and „awatch“ commands (supported with GDB V6.0).

Config. program V1.05
Firmware for BDI2000 V1.20
Logic for BDI2000 V1.04

ABATRON

Date: June 9, 2004
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Enhancements

- The Telnet command „CONFIG“ allows to change all BDI network parameters. The new parameters are stored in the BDI's flash and a boot sequence is started.
- A new configuration parameter (QACK) allows to force the QACK pin low via the BDI.

Error Correction

- Programming MirrorBit flash in x16 mode works now also with workspace.
- An error when accessing 750GX L2 cache has been corrected.
- Downloading with workspace works now also for 750GX processors.

Config. program V1.05
Firmware for BDI2000 V1.21
Logic for BDI2000 V1.05

ABATRON

Date: May 13, 2005
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Enhancements

- The page table search algorithm now also supports systems where the L1 page table entries are physical addresses (NetBSD).
- Default kernel translation range has been increased to 256 MB.
- The flash unlock command has more features (see user's manual).
- The erase list accepts a new UNLOCK option (see user's manual).
- Telnet history buffer no longer filled with repeated commands.
- The number of supported JTAG devices on the scan chain has been increased to 31.
- Support for MPC83xx (e300) added.

Error Correction

- For virtual to physical address translation, also BAT 4 - 7 are searched when present.
- Correct address translation of GDB requested memory blocks that crosses a page boundary.

Config. program V1.06
Firmware for BDI2000 V1.22
Logic for BDI2000 V1.05

ABATRON

Date: Sept. 16, 2005
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Enhancements

- The Windows setup tools now allows to select a COM port in the range 1 - 19.

Error Correction

- MPC83xx (e300): Error when debugging with enabled address translation corrected.

Config. program V1.07
Firmware for BDI2000 V1.23
Logic for BDI2000 V1.05

ABATRON

Date: January 13, 2006
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Enhancements

- Support for MPC8360 / MPC8358 added.
- Enhanced flash erase support via configuration file (see user's manual).

Error Correction

- MPC83xx (e300): Error when debug mode is entered with MSR[TGPR] set corrected.

Config. program V1.07
Firmware for BDI2000 V1.24
Logic for BDI2000 V1.05

ABATRON

Date: April 3, 2006
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Enhancements

- Support for MPC832x (e300c2) added.

Config. program V1.07
Firmware for BDI2000 V1.25
Logic for BDI2000 V1.05

ABATRON

Date: July 24, 2006
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Enhancements

- MPC83xx: Memory access via Telnet is now possible while target is running.

Error Correction

- MPC83xx (e300c1): Work-around for debug problem caused by pending interrupts implemented.

Config. program V1.07
Firmware for BDI2000 V1.26
Logic for BDI2000 V1.05

ABATRON

Date: March 21, 2007
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Enhancements

- New RECONNECT option to the DEBUGPORT parameter added. When present, a Telnet/GDB (TCP) connection request to an already open TCP channel is accepted if the host IP is the same as the initial one. The old TCP channel will be closed immediately.
- An new option allows to define if the BDI should asserts or release HRESET during target power-up.
- New flash algorithm types added (S29M64X8, S29M32X16).
- The MirrorBit algorithm uses the write buffer also when no workspace is defined.
- For MPC83xx processors, True Little Endian support has been added.
- Support for MPC8313 (e300c3) added.
- New init list entry WREG PC added.

Config. program V1.07
Firmware for BDI2000 V1.27
Logic for BDI2000 V1.05

ABATRON

Date: Sept. 28, 2007
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Enhancements

- Support for MPC5121 (e300c4) added.
- RCW override sequence improved (COP-HRESET may assert also PORESET now).
- Telnet IAC option handling improved.
- Telnet accepts now multiple commands separated by a semi-colon on one line.
- Display of instruction cache content added for MPC83xx and MPC755.

Error Correction

- MPC83xx: Correct JTAG access sequences when additional devices are on the JTAG scan chain.

Config. program V1.07
Firmware for BDI2000 V1.28
Logic for BDI2000 V1.05

ABATRON

Date: January 11, 2008
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Enhancements

- Support for MPC837x (e300c4) added.
- Display decoded instruction cache content for MPC83xx and MPC755.

Config. program V1.07
Firmware for BDI2000 V1.29
Logic for BDI2000 V1.05

ABATRON

Date: Sept. 12, 2008
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Enhancements

- Support for MPC5121 Rev.2 added (new PVR)
- Time-out when waiting for reset released increased.
- Support for GDB p - packet (single register read) added.

Config. program V1.07
Firmware for BDI2000 V1.30
Logic for BDI2000 V1.05

ABATRON

Date: May 25, 2009
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Enhancements

- Support for IBM PPC750CL added.
- New Telnet command (MT) for a simple memory test added.

Error Correction

- MPC83xx: Error when writing to the floating point registers corrected.

Config. program V1.07
Firmware for BDI2000 V1.31
Logic for BDI2000 V1.05

ABATRON

Date: Oct. 29, 2009
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Enhancements

- Download speed via GDB improved.
- MPC83xx: FPSCR Read/Write support added.
- Maximal number of software breakpoints increased to 64.

Error Correction

- Correct GDB register packet for PPC750 (correct SPR index/offset).

Config. program V1.07
Firmware for BDI2000 V1.32
Logic for BDI2000 V1.05

ABATRON

Date: March 8, 2011
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Enhancements

- GDB remote protocol: NoAckMode supported and PacketSize increased.
- Telnet hex display of floating-point registers added.

Error Correction

- e300c1: An active/pending machine check (MC) event no longer crashes the processor during debug mode entry.

Config. program V1.07
Firmware for BDI2000 V1.33
Logic for BDI2000 V1.05

ABATRON

Date: February 1, 2012
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Enhancements

- Support for Spansion S29GL-S flash added (S29GLSX16 algorithm)

Error Correction

- MPC83xx: Error when reading TLB entries corrected. The displayed TLB content was not correct.

Config. program V1.07
Firmware for BDI2000 V1.34
Logic for BDI2000 V1.05

ABATRON

Date: Sept. 21, 2012
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Enhancements

- Support for Spansion S29VS-R flash added (S29VSRX16 algorithm)
- The WREG init list entry now accepts all names from the register definition file.
- The new Telnet command UPDATE allows to reload the BDI configuration and register definition file without rebooting the BDI.
- The JTAG clock frequency can be entered in Hertz and not only as an index.
- Maximal Telnet and GDB remote command length increased to 256 characters.
- GDB: The BDI now answers with 1 to the GDB qAttached packet.
- MPC83xx: The Telnet DTLB and ITLB commands support writing TLB entries.

Error Correction

- A too long GDB remote command (monitor command) no longer crashes the BDI.

Config. program V1.07
Firmware for BDI2000 V1.35
Logic for BDI2000 V1.06

ABATRON

Date: July 5, 2013

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Enhancements

- Maximal number of ELF program headers increased from 32 to 64.
- Telnet Keep Alive feature added.
After 60 seconds Telnet idle time (no prompt sent) the BDI sends a Telnet DO TIMING-MARK request. If the TCP connection is broken then after some retries the TCP/IP driver will close it. There is no need that the Telnet client sends any answer to the DO TIMING-MARK request. This implements a Keep Alive for the Telnet connection. After about 2 minutes or sooner you will be able to reconnect via Telnet to the BDI.
- The new Telnet "eprog" command automatically erases the used sectors based on the information in the ELF header (see user's manual).

Config. program ■ V1.02
Firmware for BDI2000 ■ V1.36
Logic for BDI2000 ■ V1.06

ABATRON

Date: February 2, 2015
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Enhancements

- Configuration and register definitions can be stored in the BDI internal Flash memory. In this case no TFTP server is necessary to load the configuration files.
- New Telnet QUERY command to display parts of the configuration.