

## **StorageTek SL3000**

Third Party Licenses and Notices

**E39383-03**

November 2013

StorageTek SL3000 Third Party Licenses and Notices

E39383-03

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# Contents

## 1 Third Party Technology Licenses and Notices

Third Party Licenses and Notices.....	1-1
blowfish .....	1-1
busybox.....	1-2
dhcp.....	1-2
dhcpcd .....	1-3
glibc .....	1-3
hwclock.....	1-8
linux kernel .....	1-12
Nbio.....	1-13
net-snmp.....	1-13
openssh .....	1-18
otpw .....	1-24
pam.....	1-24
portmap .....	1-26
rsync .....	1-28
SQLite 3.3.x JDBC Driver .....	1-28
sysklogd.....	1-29
Tini HttpServer.....	1-31
tinylogin.....	1-31
u-boot .....	1-33
zlib, Jean-loup Gailly and Mark Adler.....	1-43
StorageTek Library Console Third Party Licenses .....	1-43
Apache Axis .....	1-43
Apache Commons Net .....	1-43
Apache Jakarta Commons-CLI .....	1-43
Apache Jakarta HttpClient.....	1-44
Apache Jakarta Logging.....	1-44
J2SSH.....	1-44
JavaHelp .....	1-45
Java Web Service Developer Pack .....	1-45

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 *
 *dhcpcd is an RFC2131 and RFC1541 compliant DHCP client daemon.
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@@ HISTORY file:

THIS IS THE HISTORY OF THE HWCLOCK PROGRAM

02.05.17 BJH Versoin 2.16

Add error messages to explain the failure when the hardware clock is not advancing. Change timeout on busywait method of rtc tick detection to a time instead of a million iterations.

02.01.22 BJH Version 2.15

Credibility check on drift is 5 minutes per day or 30 minutes total instead of just 30 minutes total.

User can have any zero year he wants for his hardware clock. --epoch option specifies explicitly; adjtime file remembers. (--epoch formerly just affected --setepoch). Kernel epoch value no longer affects anythings (except --getepoch). --arc makes zero year assumed to be 1952.

01.08.18 BJH Version 2.14

Works on PCI (newer) sparcs.

01.05.05 BJH Version 2.13

Add --fast option.

Add --rtc option.

Use /dev/misc/rtc instead of /dev/rtc if it exists.

Validate that /dev/rtc, etc. is a character device special file.

Don't select direct ISA clock access method if not superuser.

Improve error and debugging messages concerning the search for a clock access method.

00.04.21 BJH Version 2.12

Put detailed explanation of failure of `open(/dev/rtc)` in `--debug` output.

Fix bug in the 2 second timeout from Version 2.11.

00.02.15 BJH Version 2.11

Put 2 second timeout on wait for clock tick via `/dev/rtc`. Some rtc drivers on some machines accept the "enable interrupt" `ioctl`, but aren't actually capable of delivering the interrupt, so this stops `Hwclock` from just hanging. When it times out, it reverts to a busywait for the clock tick.

00.12.02 BJH Version 2.10

Add fractional part of last adjustment time to `adjtime` file to improve accuracy. Thanks to James P Rutledge <jimrutledge@earthlink.net>.

Fix compilation bug on Sparc (don't `#include asm/io.h`).

Use `tm_isdst` instead of 'daylight' to determine if it's DST for `--show`. In glibc 2, 'daylight' tells only if DST exists; not if it is in effect.

00.05.29 BJH Version 2.9

Record System Time changes in `utmp`, `wtmp`.

00.05.22 BJH Version 2.8

Account for Hardware Clock setting 500 ms retroactively, which made `hwclock` always set the clock 500 ms fast. Also verify that the clock got set to the expected value.

Add `--correct` option.

Tell in man page how to interpret `--show` output.

Put correct program name in NAME section of man page.

Tell in README file about bug in Red Hat 6.0 that keeps distributed binary from working.

Tell in man page where to get `adjtimex`, `date`, and `tzset`.

Include version in all debug output.

Add local time zone name to `--show` output.

99.05.03 BJH Version 2.7

In `--hctosys`, account for uncorrected (accumulated) drift.

Move `tzset()` so the possible slow reading of files it does does not impact timing.

Correct check for improbably large drift so it checks the absolute value of the drift. Thanks aol12@rgfn.epcc.edu (James P. Rutledge).

Some debug output in days instead of seconds. Thanks aol12@rgfn.epcc.edu (James P. Rutledge).

99.04.09 BJH Version 2.6

Fix compilation errors with some compilers and kernel and libc interface headers. Make it work with glibc 2.

Work with KDHWCLK interface even if not compiled with kernel headers that say it's in the kernel. (As long as it's actually in the kernel at runtime!).

99.04.08 BJH Version 2.5

Make it work on Alphas without /dev/rtc. Thanks to David Mosberger <davidm@azstarnet.com>, Jay Estabrook <jestabro@amt.tay1.dec.com>, Martin Ostermann <ost@coments.rwth-aachen.de>, Andries Brouwer <aeb@cwil.nl>. Most of this code is lifted from another program called "clock" (not the original ancestor of hwclock) that has circulated for use on Alpha.

Make it work on Sparc.

Add --badyear option. Thanks to David J Coffin (dcoffin@shore.net) for the design of this.

Add --localtime option, local/UTC value in adjtime file, and defaults for local/utc.

Don't set CMOS memory Byte 50 (century byte). On some machines, that byte not only isn't used as a century byte, but it is used for something else.

Don't update the drift factor if the variation is so huge that it probably wasn't due to drift.

Compute drift factor with better precision.

98.08.12 BJH Version 2.4

Don't use century byte from Hardware Clock. Add comments telling why.

98.06.20 BJH Version 2.3.

Make --hctosys set the kernel timezone from TZ environment variable and/or /usr/lib/zoneinfo. From Klaus Ripke (klaus@ripke.com).

98.03.05 BJH. Version 2.2.

Add --getepoch and --setepoch.

Fix some word length things so it works on Alpha.

Make it work when /dev/rtc doesn't have the interrupt functions. In this case, busywait for the top of a second instead of blocking and waiting for the update complete interrupt.

Fix a bunch of bugs too numerous to mention.

97.06.01: BJH. Version 2.1. Read and write the century byte (Byte 50) of the ISA Hardware Clock when using direct ISA I/O. Problem

discovered by job (jei@iclnl.icl.nl).

Use the rtc clock access method in preference to the KDGHWCLK method.  
Problem discovered by Andreas Schwab <schwab@LS5.informatik.uni-dortmund.de>.

November 1996: Version 2.0.1. Modifications by Nicolai Langfeldt (janl@math.uio.no) to make it compile on linux 1.2 machines as well as more recent versions of the kernel. Introduced the NO\_CLOCK access method and wrote feature test code to detect absense of rtc headers.

Bryan Henderson based hwclock on the program "clock", in September 1996. While remaining mostly backward compatible with clock, hwclock added the following:

- You can set the hardware clock without also modifying the Linux system clock.
- You can read and set the clock with finer than 1 second precision.
- When you set the clock, hwclock automatically refigures the drift rate, based on how far off the clock was before you set it. (This is the drift rate that is used with the --adjust function to automatically adjust the clock periodically to compensate for drift).
- More mnemonic GNU-style command line options.
- Comments describing how the clock and program work to improve maintainability.
- Removed the old dead I/O code that worked without the inb/outh instructions and without the asm/io.h definitions.

The first version of hwclock was Version 2.

Here is the history section from the "clock" program at the time it was used as a basis for hwclock:

V1.0

V1.0 by Charles Hedrick, hedrick@cs.rutgers.edu, April 1992.

\*\*\*\*\*

V1.1

Modified for clock adjustments - Rob Hooft, hooft@chem.ruu.nl, Nov 1992  
Also moved error messages to stderr. The program now uses getopt.  
Changed some exit codes. Made 'gcc 2.3 -Wall' happy.

\*\*\*\*\*

V1.2

Applied patches by Harald Koenig (koenig@nova.tat.physik.uni-tuebingen.de)  
Patched and indented by Rob Hooft (hooft@EMBL-Heidelberg.DE)

A free quote from a MAIL-message (with spelling corrections):

"I found the explanation and solution for the CMOS reading 0xff problem in the 0.99pl13c (ALPHA) kernel: the RTC goes offline for a small amount

of time for updating. Solution is included in the kernel source (linux/kernel/time.c)."

"I modified clock.c to fix this problem and added an option (now default, look for USE\_INLINE\_ASM\_IO) that I/O instructions are used as inline code and not via /dev/port (still possible via #undef ...)."

With the new code, which is partially taken from the kernel sources, the CMOS clock handling looks much more "official".  
Thanks Harald (and Torsten for the kernel code)!

\*\*\*\*\*

V1.3

Canges from alan@spri.levels.unisa.edu.au (Alan Modra):

- a) Fix a few typos in comments and remove reference to making clock -u a cron job. The kernel adjusts cmos time every 11 minutes - see kernel/sched.c and kernel/time.c set\_rtc\_mmss(). This means we should really have a cron job updating /etc/adjtime every 11 mins (set last\_time to the current time and not\_adjusted to ???).
- b) Swapped arguments of outb() to agree with asm/io.h macro of the same name. Use outb() from asm/io.h as it's slightly better.
- c) Changed CMOS\_READ and CMOS\_WRITE to inline functions. Inserted cli()..sti() pairs in appropriate places to prevent possible errors, and changed ioperm() call to iopl() to allow cli.
- d) Moved some variables around to localise them a bit.
- e) Fixed bug with clock -ua or clock -us that cleared environment variable TZ. This fix also cured the annoying display of bogus day of week on a number of machines. (Use mktime(), ctime() rather than asctime() )
- f) Use settimeofday() rather than stime(). This one is important as it sets the kernel's timezone offset, which is returned by gettimeofday(), and used for display of MSDOS and OS2 file times.
- g) faith@cs.unc.edu added -D flag for debugging

V1.4: alan@SPRI.Levels.UniSA.Edu.Au (Alan Modra)

Wed Feb 8 12:29:08 1995, fix for years > 2000.

faith@cs.unc.edu added -v option to print version. \*/

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*
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*
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TinyLogin is a curious blend of code from a whole bunch of folks.

It was originally cobbled together by Sean Bastille <hightide@ginch.org>

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can be downloaded from: <ftp://ftp.ists.pwr.wroc.pl/pub/linux/shadow/>

The build system, and the way in which TinyLogin invokes its component applications has been totally rewritten, based on the build system used for BusyBox. The code has also been majorly reworked to make it more internally consistent, to make it use fewer global variables, etc, by Erik Andersen.

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Special thanks are due to Chip Rosenthal for his fine testing efforts; to Steve Simmons for his work in porting this code to BSD; and to Bill Kennedy for his contributions of LaserJet printer time and energies. Also, thanks for Dennis L. Mumaugh for the initial shadow password information and to Tony Walton (olapw@olgb1.oliv.co.uk) for the System V Release 4 changes. Effort in porting to SunOS has been contributed by Dr. Michael Newberry (miken@cs.adfa.oz.au) and Micheal J. Miller, Jr. (mke@kaber.drain.com). Effort in porting to AT&T UNIX System V Release 4 has been provided by Andrew Herbert (andrew@werple.pub.uu.oz.au). Special thanks to Marek Michalkiewicz (marekm@i17linuxb.ists.pwr.wroc.pl) for taking over the Linux port of this software.

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```

N: Dr. Bruno Achauer  
E: bruno@exet-ag.de  
D: Support for NetBSD (both as host and target system)

N: Guillaume Alexandre  
E: guillaume.alexandre@gespac.ch  
D: Add PCIPPC6 configuration

N: Swen Anderson  
E: sand@peppercon.de  
D: ERIC Support

N: Pantelis Antoniou  
E: panto@intracom.gr  
D: NETVIA & NETPHONE board support, ARTOS support.  
D: Support for Silicon Turnkey eXpress XTc

N: Pierre Aubert  
E: <p.aubert@staubli.com>  
D: Support for RPXClassic board

N: Yuli Barcohen  
E: yuli@arabellasw.com  
D: Unified support for Motorola MPC826xADS/MPC8272ADS/PQ2FADS boards.  
D: Support for Zephyr Engineering ZPC.1900 board.  
D: Support for Interphase iSPAN boards.  
D: Support for Analogue&Micro Adder boards.  
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W: <http://www.arabellasw.com>

N: Jerry van Baren  
E: <vanbaren@cideas.com>  
D: BedBug port to 603e core (MPC82xx). Code for enhanced memory test.

N: Pavel Bartusek  
E: <pba@sysgo.com>  
D: Reiserfs support  
W: <http://www.elinos.com>

N: Andre Beaudin  
E: <andre.beaudin@colubris.com>  
D: PCMCIA, Ethernet, TFTP

N: Jon Benediktsson  
E: jonb@marel.is  
D: Support for Marel V37 board

N: Raphael Bossek  
E: raphael.bossek@solutions4linux.de  
D: 8xxrom-0.3.0

N: Cliff Brake  
E: cliff.brake@gmail.com  
D: Port to Vibren PXA255 IDP platform  
W: <http://www.vibren.com>  
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N: Rick Bronson  
E: rick@efn.org

D: Atmel AT91RM9200DK and NAND support

N: David Brown  
E: DBrown03@harris.com  
D: Extensions to 8xxrom-0.3.0

N: Oliver Brown  
E: obrown@adventnetworks.com  
D: Port to the gw8260 board

N: Curt Brune  
E: curt@cucy.com  
D: Added support for Samsung S3C4510B CPU (ARM7tdmi based SoC)  
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N: Jonathan De Bruyne  
E: jonathan.debruyne@siemens.atea.be  
D: Port to Siemens IAD210 board

N: Ken Chou  
E: kchou@ieee.org  
D: Support for A3000 SBC board

N: Conn Clark  
E: clark@esteem.com  
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N: Magnus Damm  
E: damm@opensource.se  
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N: Richard Danter  
E: richard.danter@windriver.com  
D: Support for Wind River PPMC 7xx/74xx boards

N: George G. Davis  
E: gdavis@mvista.com  
D: Board ports for ADS GraphicsClient+ and Intel Assabet

N: Arun Dharankar  
E: ADharankar@ATTBI.Com  
D: threads /scheduler example code

N: Kári Davíðsson  
E: kd@flaga.is  
D: FLAGA DM Support

N: Wolfgang Denk  
E: wd@denx.de  
D: U-Boot initial version, continuing maintenance, ARMBot merge  
W: <http://www.denx.de>

N: Dan A. Dickey  
E: ddickey@charter.net  
D: FADS Support

N: James F. Dougherty  
E: jfd@GigabitNetworks.COM  
D: Port to the MOUSSE board



N: Dave Ellis  
E: DGE@sixnetio.com  
D: EEPROM Speedup, SXNI855T port

N: Thomas Elste  
E: info@elste.org  
D: Port for the ModNET50 Board, NET+50 CPU Port  
W: <http://www.imms.de>

N: Daniel Engström  
E: daniel@omicron.se  
D: x86 port, Support for sc520\_cdp board

N: Hayden Fraser  
E: Hayden.Fraser@freescale.com  
D: Support for ColdFire MCF5253  
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E: wg@denx.de  
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N: Peter Figuli  
E: peposh@etc.sk  
D: Support for WEP EP250 (PXA) board

N: Thomas Frieden  
E: ThomasF@hyperion-entertainment.com  
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E: niklaus.giger@netstal.com  
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E: paul.gortmaker@windriver.com  
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E: fgottschling@eltec.de  
D: Support for ELTEC MHPC/BAB7xx/ELPPC boards, cfb-console, i8042, SMI LynxEM  
W: [www.eltec.de](http://www.eltec.de)

N: Marius Groeger  
E: mgroeger@sysgo.de  
D: MBX Support, board specific function interface, EST SBC8260 support; initial support for StrongARM (LART), ARM720TDMI (implementa A7)  
W: [www.elinos.com](http://www.elinos.com)

N: Kirk Haderlie  
E: khaderlie@vividimage.com  
D: Added TFTP to 8xxrom (-> 0.3.1)

N: Chris Hallinan  
E: clh@netlplus.com  
D: DHCP Support

N: Anne-Sophie Harnois  
E: Anne-Sophie.Harnois@nextream.fr  
D: Port to Walnut405 board

N: Andreas Heppel  
E: aheppel@sysgo.de  
D: CPU Support for MPC 75x; board support for Eltec BAB750 [obsolete!]

N: August Hoeraendl  
E: august.hoeraendl@gmx.at  
D: Support for the logodl board (PXA2xx)

N: Josh Huber  
E: huber@alum.wpi.edu  
D: Port to the Galileo Evaluation Board, and the MPC74xx cpu series.  
W: <http://www.mclx.com/>

H: Stuart Hughes  
E: stuarth@lineo.com  
D: Port to MPC8260ADS board

H: Rich Ireland  
E: r.ireland@computer.org  
D: FPGA device configuration driver

N: Gary Jennejohn  
E: garyj@jennejohn.org, gj@denx.de  
D: Support for Samsung ARM920T S3C2400X, ARM920T "TRAB"  
W: [www.denx.de](http://www.denx.de)

N: Murray Jensen  
E: Murray.Jensen@csiro.au  
D: Initial 8260 support; GDB support  
D: Port to Cogent+Hymod boards; Hymod Board Database

N: Yoo. Jonghoon  
E: yooth@ipone.co.kr  
D: Added port to the RPXlite board

N: Mark Jonas  
E: mark.jonas@freescale.com  
D: Support for Freescale Total5200 platform  
W: <http://www.mobilegt.com/>

N: Sam Song  
E: samsongshu@yahoo.com.cn  
D: Port to the RPXlite\_DW board

N: Brad Kemp  
E: Brad.Kemp@seranoa.com  
D: Port to Windriver ppmc8260 board

N: Sangmoon Kim  
E: dogoil@etinsys.com  
D: Support for debris board  
D: Support for KVME080 board

N: Frederick W. Klatt  
E: fred.klatt@windriver.com  
D: Support for Wind River SBC8540/SBC8560 boards

N: Thomas Koeller  
E: tkoeller@gmx.net  
D: Port to Motorola Sandpoint 3 (MPC8240)

N: Raghu Krishnaprasad  
E: Raghu.Krishnaprasad@fci.com  
D: Support for Adder-II MPC852T evaluation board  
W: <http://www.forcecomputers.com>

N: Sergey Kubushyn  
E: ksi@koi8.net  
D: Support for various TI DaVinci based boards.

N: Bernhard Kuhn  
E: bkuhn@metrowerks.com  
D Support for Coldfire CPU; Support for Motorola M5272C3 and M5282EVB boards

N: Prakash Kumar  
E: prakash@embedx.com  
D Support for Intrinsyc CERF PXA250 board.

N: Thomas Lange  
E: thomas@corelatus.se  
D: Support for GTH, GTH2 and dbaulx00 boards; lots of PCMCIA fixes

N: Marc Leeman  
E: marc.leeman@barco.com  
D: Support for Barco Streaming Video Card (SVC) and Sample Compress Network (SCN)  
W: [www.barco.com](http://www.barco.com)

N: The LEOX team  
E: team@leox.org  
D: Support for LEOX boards, DS164x RTC  
W: <http://www.leox.org>

N: TsiChung Liew  
E: Tsi-Chung.Liew@freescale.com  
D: Support for ColdFire MCF523x, MCF532x, MCF5445x  
W: [www.freescale.com](http://www.freescale.com)

N: Leif Lindholm  
E: leif.lindholm@i3micro.com  
D: Support for AMD dbau1550 board.

N: Stephan Linz  
E: linz@li-pro.net  
D: Support for Nios Stratix Development Kit (DK-1S10)  
D: Support for SSV ADNP/ESC1 (Nios Cyclone)  
W: <http://www.li-pro.net>

N: Raymond Lo  
E: lo@routefree.com  
D: Support for DOS partitions

N: James MacAulay  
E: james.macaulay@amirix.com  
D: Support for Amirix AP1000  
W: [www.amirix.com](http://www.amirix.com)

N: Dan Malek  
E: dan@embeddedalley.com  
D: FADSROM, the grandfather of all of this  
D: Support for Silicon Turnkey eXpress XTc

N: Andrea "llandre" Marson  
E: andrea.marson@dave-tech.it  
D: Port to PPChameleonEVB board  
W: www.dave-tech.it

N: Reinhard Meyer  
E: r.meyer@emk-elektronik.de  
D: Port to EMK TOP860 Module

N: Jay Monkman  
E: jtm@smoothsmoothie.com  
D: EST SBC8260 support

N: Frank Morauf  
E: frank.morauf@salzbrenner.com  
D: Support for Embedded Planet RPX Super Board

N: David Müller  
E: d.mueller@elsoft.ch  
D: Support for Samsung ARM920T SMDK2410 eval board

N: Scott McNutt  
E: smcnutt@psyent.com  
D: Support for Altera Nios-32 CPU  
D: Support for Altera Nios-II CPU  
D: Support for Nios Cyclone Development Kit (DK-1C20)  
W: http://www.psyent.com

N: Rolf Offermanns  
E: rof@sysgo.de  
D: Initial support for SSV-DNP1110, SMC91111 driver  
W: www.elinos.com

N: John Otken  
E: jotken@softadvances.com  
D: Support for AMCC Luan 440SP board

N: Tolunay Orkun  
E: torkun@nextio.com  
D: Support for Cogent CSB272 & CSB472 boards

N: Keith Outwater  
E: keith\_outwater@mvis.com  
D: Support for generic/custom MPC860T boards (GEN860T, GEN860T\_SC)

N: Frank Panno  
E: fpanno@delphintech.com  
D: Support for Embedded Planet EP8260 Board

N: Denis Peter  
E: d.peter@mpl.ch  
D: Support for 4xx SCSI, floppy, CDROM, CT69000 video, ...  
D: Support for PIP405 board  
D: Support for MIP405 board

N: Dave Peverley  
E: dpeverley@mpc-data.co.uk  
W: <http://www.mpc-data.co.uk>  
D: OMAP730 P2 board support

N: Bill Pitts  
E: wlp@mindspring.com  
D: BedBug embedded debugger code

N: Daniel Poirot  
E: dan.poirot@windriver.com  
D: Support for the Wind River sbc405, sbc8240 board  
W: <http://www.windriver.com>

N: Stefan Roesse  
E: sr@denx.de  
D: AMCC PPC4xx Support  
W: <http://www.denx.de>

N: Erwin Rol  
E: erwin@muffin.org  
D: boot support for RTEMS

N: Paul Ruhland  
E: pruhland@rochester.rr.com  
D: Port to Logic Zoom LH7A40x SDK board(s)

N: Neil Russell  
E: caret@c-side.com  
D: Author of LiMon-1.4.2, which contributed some ideas

N: Travis B. Sawyer  
E: travis.sawyer@sandburst.com  
D: Support for AMCC PPC440GX, XES XPeditel000 440GX PrPMC board. AMCC 440gx Ref Platform (Ocotea)

N: Paolo Scaffardi  
E: arsenio@tin.it  
D: FADS823 configuration, MPC823 video support, I2C, wireless keyboard, lots more

N: Robert Schwebel  
E: r.schwebel@pengutronix.de  
D: Support for csb226, logodl and innokom boards (PXA2xx)

N: Aaron Sells  
E: sellsa@embeddedplanet.com  
D: Support for EP82xxM

N: Art Shipkowski  
E: art@videon-central.com  
D: Support for NetSilicon NS7520

N: Michal Simek  
E: monstr@monstr.eu  
D: Support for Microblaze, ML401, XUPV2P board  
W: [www.monstr.eu](http://www.monstr.eu)

N: Yasushi Shoji  
E: yashi@atmark-techno.com  
D: Support for Xilinx MicroBlaze, for Atmark Techno SUZAKU FPGA board

N: Kurt Stremerch  
E: kurt@exys.be  
D: Support for Exys XSEngine board

N: Andrea Scian  
E: andrea.scian@dave-tech.it  
D: Port to B2 board  
W: www.dave-tech.it

N: Timur Tabi  
E: timur@freescale.com  
D: Support for MPC8349E-mITX  
W: www.freescale.com

N: Rob Taylor  
E: robt@flyingpig.com  
D: Port to MBX860T and Sandpoint8240

N: Erik Theisen  
E: etheisen@mindspring.com  
D: MBX8xx and many other patches

N: Jim Thompson  
E: jim@musenki.com  
D: Support for MUSENKI board

N: Rune Torgersen  
E: <runet@innovsys.com>  
D: Support for Motorola MPC8266ADS board

N: Greg Ungerer  
E: greg.ungerer@opengear.com  
D: Support for ks8695 CPU, and OpenGear cmXXXX boards

N: David Updegraff  
E: dave@cray.com  
D: Port to Cray L1 board; DHCP vendor extensions

N: Christian Vejlbo  
E: christian.vejlbo@tellabs.com  
D: FADS860T ethernet support

N: Robert Whaley  
E: rwhaley@applieddata.net  
D: Port to ARM PXA27x adsvix SBC

N: Martin Winistoerfer  
E: martinwinistoerfer@gmx.ch  
D: Port to MPC555/556 microcontrollers and support for cmi board

N: Ming-Len Wu  
E: minglen\_wu@techware.com.tw  
D: Motorola MX1ADS board support  
W: <http://www.techware.com.tw/>

N: Xianghua Xiao  
E: x.xiao@motorola.com  
D: Support for Motorola 85xx(PowerQUICC III) chip, MPC8540ADS and MPC8560ADS boards.

N: John Zhan  
E: zhanz@sinovee.com  
D: Support for SinoVee Microsystems SC8xx SBC

N: Alex Zuepke  
E: azu@sysgo.de  
D: Overall improvements on StrongARM, ARM720TDMI; Support for Tuxscreen; initial PCMCIA support for ARM  
W: www.elinos.com

## **zlib, Jean-loup Gailly and Mark Adler**

The following software may be included in this product: zlib, Jean-loup Gailly and Mark Adler

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Copyright (C) <year> <name of author>
```

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```
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```

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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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```

```
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Ty Coon, President of Vice
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<one line to give the program's name and a brief idea of what it does.>
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```

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```
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Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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