

## ULTRIX FREEWARE CD-ROMS - Version 2.0 September 2002

RISC / VAX

Revision 1.02 - 01.09.02

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*These CD-ROMs are the results of my voluntary effort to gather and build “a few” packages for the almost archaeological platform DEC ULTRIX. The current version of ULTRIX is from 1995, and today we expect to find a new version of our favourite OS every or maybe every second year, so ULTRIX is a little behind (for those who might not know: the official ULTRIX project has been long dead, by now). I hope these CD-ROMs will be a little fix to the situation. I’m sure you’ll find at least some of these packages useful! – Joachim Buss.*

*Number of packages for ULTRIX/RISC: 164*

*Number of packages for ULTRIX/VAX: 81*

*Number of packages for OSF/MIPS: 11*

## 1.1 ULTRIX FREEWARE CD-ROMS

### 1.2 Contents of the binary CD-ROMs, Disc 1 and 2

<code>/bin-&lt;arch&gt;-&lt;os&gt;</code>	Here are my binaries, modified source code and some older prebuilt binaries, from various places.
<code>----./console</code>	Console applications.
<code>----./daemon</code>	Daemon (server) applications.
<code>----./library</code>	Development libraries.
<code>----./X11_clients</code>	X11 client applications.
<code>----./X11R5</code>	MIT X11R5 full distribution.
<code>----./X11R6.1</code>	MIT X11R6.1 full distribution (ULTRIX/RISC only).
<code>----./X11R6.3</code>	MIT X11R6.3 full distribution (ULTRIX/RISC only).
<code>/bzip2-binaries</code>	Binaries you may need to uncompress with.
<code>/screenshots</code>	Some screenshots from my DECstation running freeware programs (ULTRIX/RISC).
<code>/readme.pdf</code>	This file.
<code>/readme.ps</code>	Same as above but in ps (level 1) format (viewable with <i>DECwindows CDA Viewer in ULTRIX, OSF/1 or VMS</i> ).
<code>/index-&lt;arch&gt;-&lt;os&gt;.pdf</code>	List and details about the packages.
<code>/index-&lt;arch&gt;-&lt;os&gt;.ps</code>	Same as above but in ps (level 1) format.
<code>/building-software.pdf</code>	Read this if you're going to build new packages.
<code>/building-software.ps</code>	Same as above but in ps (level 1) format.
<code>/os-overview.pdf</code>	My comparison between DECstation OS's.
<code>/os-overview.ps</code>	Same as above but in ps (level 1) format.

### 1.3 Contents of the source CD-ROM, Disc 3:

<code>/distfiles</code>	Here is all the unmodified source code. The content of this CD-ROM is not in the ftp-archive, because these files are freely available at many other ftp-sites such as <a href="ftp://ftp.gnu.org">ftp://ftp.gnu.org</a> and <a href="ftp://ftp.netbsd.org">ftp://ftp.netbsd.org</a> .
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## 2 Acquiring the software

The newest versions of my CD-ROMs can be obtained directly from me, Joachim Buss (please have a look at the section “Contacts”, below), or downloaded (please have a look at the section “Links”, below). There might be other mirrors for this project soon.

## 3 System requirements

### 3.1 RISC Platform

Most of my software packages will work on all DEC RISC platforms (DECstations and DECsystems with MIPS CPUs) with ULTRIX/RISC V4.x installed. These packages were compiled and tested (not very thoroughly, though) on a DECstation 5000/260 128MB RAM with ULTRIX/RISC V4.5, so other versions of ULTRIX have not been tested. I suspect some packages may require the Y2K Patch Kit from DEC, so please install it first (if you don't have the Y2K Patch Kit, please see [building-software.pdf](#)). The RISC binaries can also be executed on other DECstation operating systems that provide support for ULTRIX binaries, such as NetBSD/pmax and DEC OSF/1 for MIPS.

### 3.2 VAX Platform

I think you can use almost any package on any VAX architecture machine that is running ULTRIX/RISC V4.x. I've compiled all my VAX packages on a VAXstation 3100 M30, the only VAX computer I have. I haven't tested any of my VAX packages on any other computer, so I can't be sure whether or not my binaries will work on other models of VAXen. Feedback would be greatly appreciated!

### 3.3 Requirements for reading/mounting the CD-ROM

The CD-ROMs were created on a PC, so I chose to use a genuine ISO 9660 (Level 2) file system, which allows long filenames. You should be able to mount the CD-ROM with the following command `"mount -r -t cdfs /dev/rz4c /cdrom"` from ULTRIX (assuming you have included support for the ISO 9660 file system in your running kernel, and assuming that your CD-ROM drive's SCSI ID is 4).

If you have trouble with this you might have an incompatible SCSI CD-ROM drive. Generally speaking, a DECstation running ULTRIX will only work with DEC original CD-ROM drives, while a VAXstation can support various other drives, such as older Toshiba, Sony and Panasonic drives (you can check out Dennis' site at <http://sites.inka.de/pcde/dec-cdrom-list.txt>). If this is your problem, I suggest that you copy the CD-ROM contents to your DECstation/VAX from another computer that can read my CD-ROMs.

### 3.4 *Disk space requirements*

Since all my compiled packages include source code as well as the binaries, the temporary disk space requirement for a "make install" is that of the uncompressed fully built package source tree. More extensive packages like the MIT X-window system will need hundreds of megabytes as temporary disk space. If you have a small hard disk drive (e.g. an RZ23 or maybe an RZ55) in your DECstation/VAX you can choose to extract *only* the binaries and install them in a directory of your choice, by hand. Another alternative would be to extract the directory trees on another UNIX/Linux machine that can act as an NFS server for your DEC computer.

The size requirement of an installed package is roughly double the size of the compressed packages or maybe a bit more, especially if the package contains a lot of small files (i.e. gcc-2.95.2 or the MIT X-window system). I haven't really had time to check this, but one thing is clear: all ULTRIX binaries are large because they're statically linked. RISC binaries are also much larger than VAX binaries because VAX is a CISC platform which uses shorter, more complicated instruction sets, and RISC (MIPS) runs faster with fewer instructions but needs larger amounts of binary code to do the same as VAX.

## 4 Installing the packages

### 4.1 *Uncompressing the archives*

You can uncompress any package archive with the command "bzip2 -d archive.tar.bz2; tar xf archive.tar". bzip2 is quite slow, especially on VAX, so I'd recommend uncompressing on another faster computer, if that is at all possible. You might want to install the GNU tar (and of course bzip2) first so you can use the command "tar jxf archive.tar.bz2" directly. This is supported with GNU tar version 1.13.25 and newer. For your convenience I have included bzip2 binaries for as many computer platforms as possible.

When the package directory tree has been extracted, you can enter it, and run the command "make install". This will copy the package files into their right places in your file structure. Many Makefiles require GNU make utility, so it's a good idea to install it first. Please have a look at the README (or INSTALL) files that comes with the packages separately, also.

### 4.2 *Where will all the files go?*

I've used the default prefix for almost all packages, in other words "/usr/local" and most binaries will go in "/usr/local/bin". You can add this to your PATH variable.

You can always extract and install any binary, by hand, anywhere you like. This will always work in ULTRIX, because the binaries don't require any shared libraries (i.e. the libraries have been linked into each and every binary file).

### 4.3 Dependencies

As mentioned above, there are no shared libraries in ULTRIX, so the only way these software components depend upon each other is if a program actually needs to run other programs. You will probably get some error messages complaining about this, in case something is missing.

I haven't had the time to test every single package much, so I can't guarantee that *every* package work in *every* configuration. The dependencies I've filled in the table [index.pdf](#), are merely my guesses!

### 4.4 Troubleshooting

First of all, make sure you have set you system clock to current date. If you don't have the Y2K Patch Kit, please see [building-software.pdf](#).

If the "make install" procedure fails you might have to set up some soft links so the build directory will think it is on one of my computers. Please look at the column "Build in" in the table [index.pdf](#), to figure out what soft links to make. You should set up the links so that your current build directory (extracted from one of my packages) will exist also in the same place as it did on my DECstation/VAXstation. Many packages won't install with ULTRIX `make` so I recommend that you always use GNU `make`.

## 5 Binaries from [starfish.osfn.org](http://starfish.osfn.org)

These are binaries built by Bert DeKnuydt in Belgium. Please see his documentation for more information, in the file "`<cdrom>/starfish.osfn.org/ultrix/index.html`".

## 6 Binaries for DEC OSF/1 on MIPS

Since all versions of DEC OSF/1 on MIPS are development releases, i.e. can be considered unstable beta releases, I include these are binaries for testing purposes only. Nevertheless, if you like OSF/1 better than ULTRIX or NetBSD, I see no reason why you could not use my OSF/1 on MIPS binaries (or this platform, for that matter). Please note that you can run most ULTRIX/RISC binaries directly on OSF/1 on MIPS, too.

## 7 Disclaimer - Use my binaries at your own risk!

These binary packages have been built under different configurations and under different circumstances. Many packages needed source code or `Makefile` modification to build. I can not guarantee that all the packages work flawlessly. Install only if you

have complete backup of your system! If you use these packages, it will be at your own risk!

## 8 Contribution

If you have managed to compile some nice software for ULTRIX/RISC or ULTRIX/VAX that you want to share with others and me, you can contact me. I would gladly see to it, that your contributing packages will be available for download!

If you've got a working cross-compiler environment available for Intel x86 or DEC Alpha that will build binaries for ULTRIX/RISC or ULTRIX/VAX I'm very interested in trying it out.

## 9 Contacts

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Dennis Grevenstein	<i>Computer enthusiast</i>	<a href="mailto:dennis@pcde.inka.de">dennis@pcde.inka.de</a>
Bert DeKnuydt	<i>Freeware "guru"</i>	
"Lord Isildur"	<i>DEC enthusiast</i>	<a href="mailto:isildur@vaxpower.org">isildur@vaxpower.org</a>

## 10 Links

My ULTRIX (RISC and VAX) Freeware Archive hosted by *Skynet, The University of Limerick Computer Society*, Ireland

[ftp://ftp.skynet.ie/ultrix\\_freeware](ftp://ftp.skynet.ie/ultrix_freeware)

[http://ftp.skynet.ie/pub/ultrix\\_freeware](http://ftp.skynet.ie/pub/ultrix_freeware)

mirrors at *Eagle Computing*, Sweden:

<ftp://ftp.eagle.y.se/pub/ultrix/freeware>

<ftp://ftp.xanthosmicrosystems.com/pub/ultrix/freeware>

<http://ftp.xanthosmicrosystems.com/pub/ultrix/freeware>

ULTRIX (RISC and VAX) Freeware Archive at *The Retro-Computing Society of Rhode Island Inc*, U.S.A.

<http://starfish.osfn.org/ultrix/index.html>

ULTRIX (RISC and VAX) Freeware Archive at *Gesellschaft zur Foerderung kommunikativer Medien*, Germany

<ftp://ftp.mayn.de/pub/dec/ultrix>