

PACKAGE NAME: base-files  
PACKAGE VERSION: 3.0.14  
RECIPE NAME: base-files  
LICENSE: GPLv2

PACKAGE NAME: base-passwd  
PACKAGE VERSION: 3.5.29  
RECIPE NAME: base-passwd  
LICENSE: GPLv2+

PACKAGE NAME: bash  
PACKAGE VERSION: 5.0  
RECIPE NAME: bash  
LICENSE: GPLv3+

PACKAGE NAME: busybox  
PACKAGE VERSION: 1.31.0  
RECIPE NAME: busybox  
LICENSE: GPLv2 & bzip2

PACKAGE NAME: busybox-udhcp  
PACKAGE VERSION: 1.31.0  
RECIPE NAME: busybox  
LICENSE: GPLv2 & bzip2

PACKAGE NAME: coreutils  
PACKAGE VERSION: 8.31  
RECIPE NAME: coreutils  
LICENSE: GPLv3+

PACKAGE NAME: dosfstools  
PACKAGE VERSION: 4.1  
RECIPE NAME: dosfstools  
LICENSE: GPLv3

PACKAGE NAME: e2fsprogs  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: e2fsprogs-badblocks  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2

PACKAGE NAME: e2fsprogs-e2fsck  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2

PACKAGE NAME: e2fsprogs-mke2fs  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2

PACKAGE NAME: f2fs-tools  
PACKAGE VERSION: 1.11.0  
RECIPE NAME: f2fs-tools  
LICENSE: GPLv2



PACKAGE NAME: glibc  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: glibc-gconv  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: glibc-gconv-ibm437  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: glibc-locale-en-gb  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: gmp  
PACKAGE VERSION: 6.1.2  
RECIPE NAME: gmp  
LICENSE: GPLv2+ | LGPLv3+

PACKAGE NAME: gptfdisk  
PACKAGE VERSION: 1.0.4  
RECIPE NAME: gptfdisk  
LICENSE: GPLv2

PACKAGE NAME: hdparm  
PACKAGE VERSION: 9.58  
RECIPE NAME: hdparm  
LICENSE: BSD

PACKAGE NAME: imx-kobs  
PACKAGE VERSION: 5.5+gitAUTOINC+269fdffcf9  
RECIPE NAME: imx-kobs  
LICENSE: GPLv2

PACKAGE NAME: imx-uuc  
PACKAGE VERSION: 0.5.1+gitAUTOINC+d6afb27e55  
RECIPE NAME: imx-uuc  
LICENSE: GPLv2

PACKAGE NAME: iproute2  
PACKAGE VERSION: 5.2.0  
RECIPE NAME: iproute2  
LICENSE: GPLv2+

PACKAGE NAME: libacl  
PACKAGE VERSION: 2.2.52  
RECIPE NAME: acl  
LICENSE: LGPLv2.1+

PACKAGE NAME: libattr  
PACKAGE VERSION: 2.4.47  
RECIPE NAME: attr  
LICENSE: LGPLv2.1+



PACKAGE NAME: libcap  
PACKAGE VERSION: 2.27  
RECIPE NAME: libcap  
LICENSE: BSD | GPLv2

PACKAGE NAME: libcap-ng  
PACKAGE VERSION: 0.7.9  
RECIPE NAME: libcap-ng  
LICENSE: GPLv2+ & LGPLv2.1+

PACKAGE NAME: libcomerr  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libe2p  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libelf  
PACKAGE VERSION: 0.177  
RECIPE NAME: elfutils  
LICENSE: GPLv2 | LGPLv3+

PACKAGE NAME: libext2fs  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libgcc  
PACKAGE VERSION: 9.2.0  
RECIPE NAME: libgcc  
LICENSE: GPL-3.0-with-GCC-exception

PACKAGE NAME: liblzma  
PACKAGE VERSION: 5.2.4  
RECIPE NAME: xz  
LICENSE: PD

PACKAGE NAME: libmnl  
PACKAGE VERSION: 1.0.4  
RECIPE NAME: libmnl  
LICENSE: LGPLv2.1+

PACKAGE NAME: libpam  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: libpam-locale-en-gb  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: libpam-runtime  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD



PACKAGE NAME: libss  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libstdc++  
PACKAGE VERSION: 9.2.0  
RECIPE NAME: gcc-runtime  
LICENSE: GPL-3.0-with-GCC-exception

PACKAGE NAME: libsystemd  
PACKAGE VERSION: 243.2  
RECIPE NAME: systemd  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: libtirpc  
PACKAGE VERSION: 1.1.4  
RECIPE NAME: libtirpc  
LICENSE: BSD

PACKAGE NAME: libwrap  
PACKAGE VERSION: 7.6  
RECIPE NAME: tcp-wrappers  
LICENSE: BSD

PACKAGE NAME: libxcrypt  
PACKAGE VERSION: 4.4.8  
RECIPE NAME: libxcrypt  
LICENSE: LGPLv2.1

PACKAGE NAME: locale-base-en-gb  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: locale-base-en-us  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: lzo  
PACKAGE VERSION: 2.10  
RECIPE NAME: lzo  
LICENSE: GPLv2+

PACKAGE NAME: mmc-utils  
PACKAGE VERSION: 0.1+gitAUTOINC+aef913e31b  
RECIPE NAME: mmc-utils  
LICENSE: GPLv2

PACKAGE NAME: mtd-utils  
PACKAGE VERSION: 2.1.1  
RECIPE NAME: mtd-utils  
LICENSE: GPLv2+

PACKAGE NAME: mtd-utils-ubifs  
PACKAGE VERSION: 2.1.1  
RECIPE NAME: mtd-utils  
LICENSE: GPLv2+



PACKAGE NAME: ncurses-libncursesw  
PACKAGE VERSION: 6.1+20190803  
RECIPE NAME: ncurses  
LICENSE: MIT

PACKAGE NAME: ncurses-libtinfo  
PACKAGE VERSION: 6.1+20190803  
RECIPE NAME: ncurses  
LICENSE: MIT

PACKAGE NAME: ncurses-terminfo-base  
PACKAGE VERSION: 6.1+20190803  
RECIPE NAME: ncurses  
LICENSE: MIT

PACKAGE NAME: nfs-utils  
PACKAGE VERSION: 2.4.1  
RECIPE NAME: nfs-utils  
LICENSE: MIT & GPLv2+ & BSD

PACKAGE NAME: nfs-utils-client  
PACKAGE VERSION: 2.4.1  
RECIPE NAME: nfs-utils  
LICENSE: MIT & GPLv2+ & BSD

PACKAGE NAME: nfs-utils-mount  
PACKAGE VERSION: 2.4.1  
RECIPE NAME: nfs-utils  
LICENSE: MIT & GPLv2+ & BSD

PACKAGE NAME: packagegroup-fsl-mfgtool-base  
PACKAGE VERSION: 1.0  
RECIPE NAME: packagegroup-fsl-mfgtool  
LICENSE: MIT

PACKAGE NAME: packagegroup-fsl-mfgtool-extfs  
PACKAGE VERSION: 1.0  
RECIPE NAME: packagegroup-fsl-mfgtool  
LICENSE: MIT

PACKAGE NAME: packagegroup-fsl-mfgtool-mtd  
PACKAGE VERSION: 1.0  
RECIPE NAME: packagegroup-fsl-mfgtool  
LICENSE: MIT

PACKAGE NAME: pam-plugin-deny  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-env  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-faildelay  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD



PACKAGE NAME: pam-plugin-group  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-lastlog  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-limits  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-mail  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-motd  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-nologin  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-permit  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-rootok  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-securetty  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-shells  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-unix  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-warn  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD



PACKAGE NAME: popd  
PACKAGE VERSION: 1.16  
RECIPE NAME: popd  
LICENSE: MIT

PACKAGE NAME: rpcbind  
PACKAGE VERSION: 1.2.5  
RECIPE NAME: rpcbind  
LICENSE: BSD

PACKAGE NAME: run-postinsts  
PACKAGE VERSION: 1.0  
RECIPE NAME: run-postinsts  
LICENSE: MIT

PACKAGE NAME: shadow  
PACKAGE VERSION: 4.6  
RECIPE NAME: shadow  
LICENSE: BSD | Artistic-1.0

PACKAGE NAME: shadow-base  
PACKAGE VERSION: 4.6  
RECIPE NAME: shadow  
LICENSE: BSD | Artistic-1.0

PACKAGE NAME: shadow-securetty  
PACKAGE VERSION: 4.6  
RECIPE NAME: shadow-securetty  
LICENSE: MIT

PACKAGE NAME: simg2img  
PACKAGE VERSION: git  
RECIPE NAME: simg2img  
LICENSE: Apache-2.0

PACKAGE NAME: update-alternatives-opkg  
PACKAGE VERSION: 0.4.2  
RECIPE NAME: opkg-utils  
LICENSE: GPLv2+

PACKAGE NAME: util-linux  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-addpart  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-agetty  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-blkdiscard  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-blkid  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-blkzone  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-blockdev  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-cal  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-cfdisk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-chcpu  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-chmem  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-choom  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-chrt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-col  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-colcrt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-colrm  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-column  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ctrlaltdel  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-delpart  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-dmesg  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-eject  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fallocate  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fdformat  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fdisk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fincore  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-findfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-findmnt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-flock  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-fsck  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fsck.cramfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fsfreeze  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fstrim  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-getopt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-hardlink  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-hexdump  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-hwclock  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ionice  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ipcmk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ipcrm  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ipcs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-isosize  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-kill  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-last  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lldattach  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libblkid  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libfdisk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libmount  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libsmartcols  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libuuid  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-logger  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-look  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-losetup  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-lsblk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lscpu  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lsipc  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lslocks  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lslogins  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lsmem  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lsns  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mcookie  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mesg  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mkfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mkfs.cramfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mkswap  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-more  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mount  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mountpoint  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-namei  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-nologin  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
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When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

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6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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<signature of Ty Coon>, 1 April 1990  
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Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.



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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.



2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.



Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.



6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot



use both them and the Library together in an executable that you distribute.



7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>
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```

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Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
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You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James
Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!



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Version 2, June 1991

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[This is the first released version of the library GPL. It is  
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Preamble

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code. If you link a program with the library, you must provide  
complete object files to the recipients so that they can relink them  
with the library, after making changes to the library and recompiling  
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Our method of protecting your rights has two steps: (1) copyright  
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Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.



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Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.



2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.



Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.



6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.



7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

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```

```
<signature of Ty Coon>, 1 April 1990
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[This is the first released version of the library GPL. It is  
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your  
freedom to share and change it. By contrast, the GNU General Public  
Licenses are intended to guarantee your freedom to share and change  
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some  
specially designated Free Software Foundation software, and to any  
other libraries whose authors decide to use it. You can use it for  
your libraries, too.

When we speak of free software, we are referring to freedom, not  
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have the freedom to distribute copies of free software (and charge for  
this service if you wish), that you receive source code or can get it  
if you want it, that you can change the software or use pieces of it  
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid  
anyone to deny you these rights or to ask you to surrender the rights.  
These restrictions translate to certain responsibilities for you if  
you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis  
or for a fee, you must give the recipients all the rights that we gave  
you. You must make sure that they, too, receive or can get the source  
code. If you link a program with the library, you must provide  
complete object files to the recipients so that they can relink them  
with the library, after making changes to the library and recompiling  
it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright  
the library, and (2) offer you this license which gives you legal  
permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain  
that everyone understands that there is no warranty for this free  
library. If the library is modified by someone else and passed on, we  
want its recipients to know that what they have is not the original  
version, so that any problems introduced by others will not reflect on  
the original authors' reputations.



Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.



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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.



2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.



Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.



6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.



7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

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#### END OF TERMS AND CONDITIONS



## Appendix: How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>  
Copyright (C) <year> <name of author>
```

```
This library is free software; you can redistribute it and/or  
modify it under the terms of the GNU Library General Public  
License as published by the Free Software Foundation; either  
version 2 of the License, or (at your option) any later version.
```

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but WITHOUT ANY WARRANTY; without even the implied warranty of  
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU  
Library General Public License for more details.
```

```
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License along with this library; if not, write to the Free  
Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston,  
MA 02110-1301, USA
```

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the  
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice
```

That's all there is to it!



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Version 2.1, February 1999

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as the successor of the GNU Library Public License, version 2, hence  
the version number 2.1.]

Preamble

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specially designated software packages--typically libraries--of the  
Free Software Foundation and other authors who decide to use it. You  
can use it too, but we suggest you first think carefully about whether  
this license or the ordinary General Public License is the better  
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,  
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you have the freedom to distribute copies of free software (and charge  
for this service if you wish); that you receive source code or can get  
it if you want it; that you can change the software and use pieces of  
it in new free programs; and that you are informed that you can do  
these things.

To protect your rights, we need to make restrictions that forbid  
distributors to deny you these rights or to ask you to surrender these  
rights. These restrictions translate to certain responsibilities for  
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis  
or for a fee, you must give the recipients all the rights that we gave  
you. You must make sure that they, too, receive or can get the source  
code. If you link other code with the library, you must provide  
complete object files to the recipients, so that they can relink them  
with the library after making changes to the library and recompiling  
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there is no warranty for the free library. Also, if the library is  
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that what they have is not the original version, so that the original  
author's reputation will not be affected by problems that might be  
introduced by others.



Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.



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2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

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- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.



6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot



use both them and the Library together in an executable that you distribute.



7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>  
Copyright (C) <year> <name of author>
```

```
This library is free software; you can redistribute it and/or  
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SA
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You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the  
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice
```

That's all there is to it!



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Version 2, June 1991

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[This is the first released version of the library GPL. It is  
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

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Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

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The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

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The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

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- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.



6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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## Appendix: How to Apply These Terms to Your New Libraries

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

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```

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```
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library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

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```

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```
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```

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```
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program 'Gnomovision' (a program to direct compilers to make passes
at assemblers) written by James Hacker.
```

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

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CMake was initially developed by Kitware with the following sponsorship:



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18. ENTIRE AGREEMENT. This Agreement constitutes the entire agreement between you and NXP regarding the subject matter of this Agreement, and supersedes all prior communications, negotiations, understandings, agreements or representations, either written or oral, if any. This Agreement may only be amended in written form, signed by you and NXP.

19. SEVERABILITY. If any provision of this Agreement is held for any reason to be invalid or unenforceable, then the remaining provisions of this Agreement will be unimpaired and, unless a modification or replacement of the invalid or unenforceable provision is further held to deprive you or NXP of a material benefit, in which case the Agreement will immediately terminate, the invalid or unenforceable provision will be replaced with a provision that is valid and enforceable and that comes closest to the intention underlying the invalid or unenforceable provision.

20. NO WAIVER. The waiver by NXP of any breach of any provision of this Agreement will not operate or be construed as a waiver of any other or a subsequent breach of the same or a different provision.

21. AUDIT. You will keep full, clear and accurate records with respect to your compliance with the limited license rights granted under this Agreement for three years following expiration or termination of this Agreement. NXP will have the right, either itself or through an independent certified public accountant to examine and audit, at NXP's expense, not more than once a year, and during normal business hours, all such records that may bear upon your compliance with the limited license rights granted above. You must make prompt adjustment to compensate for any errors and/or omissions disclosed by such examination or audit.

22. NOTICES. All notices and communications under this Agreement will be made in writing, and will be effective when received at the following addresses:

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5656 AG Eindhoven  
The Netherlands  
ATTN: Legal Department

You: The address provided at registration will be used.

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## APPENDIX A

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
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```
agere_sta_fw.bin -- 9.48 Hermes I
agere_ap_fw.bin  -- 9.48 Hermes I
```

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The Linux driver architecture was based on two modules, the MSF (Module specific functions) and the HCF (Hardware Control Functions). Included in the HCF is run-time firmware (binary format) which is downloaded into the RAM of the Hermes 1/2/2.5 WMAC.

This hex coded firmware is not based on any open source software and hence it is not subject to any Open Source License. The firmware was developed by Agere and runs on the DISC processor embedded within the Hermes 1/2/2.5 Wireless MAC devices.

Hope this helps.

Sincerely,

Viren Pathare  
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Chelsio Communication Terminator 4/5 ethernet controller firmware

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Firmware provided by Patrick Boettcher <pboettcher@dibcom.fr> to Devin Heitmueller <dheitmueller@kernellabs.com> on October 8, 2009.

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## WIS GO7007SB Public Linux Driver

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\*\*\* Please see the file RELEASE-NOTES for important last-minute updates \*\*\*

### 0. OVERVIEW AND LICENSING/DISCLAIMER

This driver kit contains Linux drivers for the WIS GO7007SB multi-format video encoder. Only kernel version 2.6.x is supported. The video stream is available through the Video4Linux2 API and the audio stream is available through the ALSA API (or the OSS emulation layer of the ALSA system).

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### 1. SYSTEM REQUIREMENTS

This driver requires Linux kernel 2.6. Kernel 2.4 is not supported. Using kernel 2.6.10 or later is recommended, as earlier kernels are known to have unstable USB 2.0 support.

A fully built kernel source tree must be available. Typically this will be linked from "/lib/modules/<KERNEL VERSION>/build" for convenience. If this link does not exist, an extra parameter will need to be passed to the 'make' command.

All vendor-built kernels should already be configured properly. However, for custom-built kernels, the following options need to be enabled in the kernel as built-in or modules:

CONFIG_HOTPLUG	- Support for hot-pluggable devices
CONFIG_MODULES	- Enable loadable module support
CONFIG_KMOD	- Automatic kernel module loading
CONFIG_FW_LOADER	- Hotplug firmware loading support



CONFIG_I2C	- I2C support
CONFIG_VIDEO_DEV	- Video For Linux
CONFIG_SOUND	- Sound card support
CONFIG_SND	- Advanced Linux Sound Architecture
CONFIG_USB	- Support for Host-side USB
CONFIG_USB_DEVICEFS	- USB device filesystem
CONFIG_USB_EHCI_HCD	- EHCI HCD (USB 2.0) support

Additionally, to use the example application, the following options need to be enabled in the ALSA section:

CONFIG_SND_MIXER_OSS	- OSS Mixer API
CONFIG_SND_PCM_OSS	- OSS PCM (digital audio) API

The hotplug scripts, along with the fxload utility, must also be installed. These scripts can be obtained from <<http://linux-hotplug.sourceforge.net/>>. Hotplugging is used for loading firmware into the Cypress EZ-USB chip using fxload and for loading firmware into the driver using the firmware agent.

## 2. COMPILING AND INSTALLING THE DRIVER

Most users should be able to compile the driver by simply running:

```
$ make
```

in the top-level directory of the driver kit. First the kernel modules will be built, followed by the example applications.

If the build system is unable to locate the kernel source tree for the currently-running kernel, or if the module should be built for a kernel other than the currently-running kernel, an additional parameter will need to be passed to make to specify the appropriate kernel source directory:

```
$ make KERNELSRC=/usr/src/linux-2.6.10-custom3
```

Once the compile completes, the driver and firmware files should be installed by running:

```
$ make install
```

The kernel modules will be placed in "/lib/modules/<KERNEL VERSION>/extra" and the firmware files will be placed in the appropriate hotplug firmware directory, usually /lib/firmware. In addition, USB maps and scripts will be placed in /etc/hotplug/usb to enable fxload to initialize the EZ-USB control chip when the device is connected.

## 3. PAL/SECAM TUNER CONFIGURATION (TV402U-EU only)

The PAL model of the Plextor ConvertX TV402U may require additional configuration to correctly select the appropriate TV frequency band and audio subchannel.

Users with a device other than the Plextor ConvertX TV402U-EU should skip this section.

The wide variety of PAL TV systems used in Europe requires that additional



information about the local TV standards be passed to the driver in order to properly tune TV channels. The two necessary parameters are (a) the PAL TV band, and (b) the audio subchannel format in use.

In many cases, the appropriate TV band selection is passed to the driver from applications. However, in some cases, the application only specifies that the driver should use PAL but not the specific information about the appropriate TV band. To work around this issue, the correct TV band may be specified in the "force\_band" parameter to the wis-sony-tuner module:

TV band	force_band
-----	-----
PAL B/G	B
PAL I	I
PAL D/K	D
SECAM L	L

If the "force\_band" parameter is specified, the driver will ignore any TV band specified by applications and will always use the band provided in the module parameter.

The other parameter that can be specified is the audio subchannel format. There are several stereo audio carrier systems in use, including NICAM and three varieties of A2. To receive audio broadcast on one of these stereo carriers, the "force\_mpx\_mode" parameter must be specified to the wis-sony-tuner module.

TV band	Audio subcarrier	force_mpx_mode
-----	-----	-----
PAL B/G	Mono (default)	1
PAL B/G	A2	2
PAL B/G	NICAM	3
PAL I	Mono (default)	4
PAL I	NICAM	5
PAL D/K	Mono (default)	6
PAL D/K	A2 (1)	7
PAL D/K	A2 (2)	8
PAL D/K	A2 (3)	9
PAL D/K	NICAM	10
SECAM L	Mono (default)	11
SECAM L	NICAM	12

If the "force\_mpx\_mode" parameter is not specified, the correct mono-only mode will be chosen based on the TV band. However, the tuner will not receive stereo audio or bilingual broadcasts correctly.

To pass the "force\_band" or "force\_mpx\_mode" parameters to the wis-sony-tuner module, the following line must be added to the modprobe configuration file, which varies from one Linux distribution to another.

```
options wis-sony-tuner force_band=B force_mpx_mode=2
```

The above example would force the tuner to the PAL B/G TV band and receive stereo audio broadcasts on the A2 carrier.

To verify that the configuration has been placed in the correct location, execute:

```
$ modprobe -c | grep wis-sony-tuner
```



If the configuration line appears, then modprobe will pass the parameters correctly the next time the wis-sony-tuner module is loaded into the kernel.

#### 4. TESTING THE DRIVER

Because few Linux applications are able to correctly capture from Video4Linux2 devices with only compressed formats supported, the new driver should be tested with the "gorecord" application in the apps/ directory.

First connect a video source to the device, such as a DVD player or VCR. This will be captured to a file for testing the driver. If an input source is unavailable, a test file can still be captured, but the video will be black and the audio will be silent.

This application will auto-detect the V4L2 and ALSA/OSS device names of the hardware and will record video and audio to an AVI file for a specified number of seconds. For example:

```
$ apps/gorecord -duration 60 capture.avi
```

If this application does not successfully record an AVI file, the error messages produced by gorecord and recorded in the system log (usually in /var/log/messages) should provide information to help resolve the problem.

Supplying no parameters to gorecord will cause it to probe the available devices and exit. Use the -help flag for usage information.

#### 5. USING THE DRIVER

The V4L2 device implemented by the driver provides a standard compressed format API, within the following criteria:

- \* Applications that only support the original Video4Linux1 API will not be able to communicate with this driver at all.
- \* No raw video modes are supported, so applications like xawtv that expect only uncompressed video will not function.
- \* Supported compression formats are: Motion-JPEG, MPEG1, MPEG2 and MPEG4.
- \* MPEG video formats are delivered as Video Elementary Streams only. Program Stream (PS), Transport Stream (TS) and Packetized Elementary Stream (PES) formats are not supported.
- \* Video parameters such as format and input port may not be changed while the encoder is active.
- \* The audio capture device only functions when the video encoder is actively capturing video. Attempts to read from the audio device when the encoder is inactive will result in an I/O error.
- \* The native format of the audio device is 48Khz 2-channel 16-bit little-endian PCM, delivered through the ALSA system. No audio compression is implemented in the hardware. ALSA may convert to other uncompressed formats on the fly.



The include/ directory contains a C header file describing non-standard features of the GO7007SB encoder, which are described below:

#### GO7007IOC\_S\_COMP\_PARAMS, GO7007IOC\_G\_COMP\_PARAMS

These ioctls are used to negotiate general compression parameters.

To query the current parameters, call the GO7007IOC\_G\_COMP\_PARAMS ioctl with a pointer to a struct go7007\_comp\_params. If the driver is not set to MPEG format, the EINVAL error code will be returned.

To change the current parameters, initialize all fields of a struct go7007\_comp\_params and call the GO7007\_IOC\_S\_COMP\_PARAMS ioctl with a pointer to this structure. The driver will return the current parameters with any necessary changes to conform to the limitations of the hardware or current compression mode. Any or all fields can be set to zero to request a reasonable default value. If the driver is not set to MPEG format, the EINVAL error code will be returned. When I/O is in progress, the EBUSY error code will be returned.

Fields in struct go7007\_comp\_params:

__u32 gop_size	The maximum number of frames in each Group Of Pictures; i.e. the maximum number of frames minus one between each key frame.
__u32 max_b_frames	The maximum number of sequential bidirectionally-predicted frames. (B-frames are not yet supported.)
enum go7007_aspect_ratio aspect_ratio	The aspect ratio to be encoded in the meta-data of the compressed format.  Choices are: GO7007_ASPECT_RATIO_1_1 GO7007_ASPECT_RATIO_4_3_NTSC GO7007_ASPECT_RATIO_4_3_PAL GO7007_ASPECT_RATIO_16_9_NTSC GO7007_ASPECT_RATIO_16_9_PAL
__u32 flags	Bit-wise OR of control flags (below)

Flags in struct go7007\_comp\_params:

GO7007_COMP_CLOSED_GOP	Only produce self-contained GOPs, used to produce streams appropriate for random seeking.
GO7007_COMP_OMIT_SEQ_HEADER	Omit the stream sequence header.

#### GO7007IOC\_S\_MPEG\_PARAMS, GO7007IOC\_G\_MPEG\_PARAMS

These ioctls are used to negotiate MPEG-specific stream parameters when the pixelformat has been set to V4L2\_PIX\_FMT\_MPEG.



To query the current parameters, call the `GO7007IOC_G_MPEG_PARAMS` ioctl with a pointer to a struct `go7007_mpeg_params`. If the driver is not set to MPEG format, the `EINVAL` error code will be returned.

To change the current parameters, initialize all fields of a struct `go7007_mpeg_params` and call the `GO7007_IOC_S_MPEG_PARAMS` ioctl with a pointer to this structure. The driver will return the current parameters with any necessary changes to conform to the limitations of the hardware or selected MPEG mode. Any or all fields can be set to zero to request a reasonable default value. If the driver is not set to MPEG format, the `EINVAL` error code will be returned. When I/O is in progress, the `EBUSY` error code will be returned.

Fields in struct `go7007_mpeg_params`:

```
enum go7007_mpeg_video_standard
    mpeg_video_standard    The MPEG video standard in which to
                           compress the video.

                           Choices are:
                           GO7007_MPEG_VIDEO_MPEG1
                           GO7007_MPEG_VIDEO_MPEG2
                           GO7007_MPEG_VIDEO_MPEG4

__u32
    flags                  Bit-wise OR of control flags (below)

__u32
    pali                  The profile and level indication to be
                           stored in the sequence header. This
                           is only used as an indicator to the
                           decoder, and does not affect the MPEG
                           features used in the video stream.
                           Not valid for MPEG1.

                           Choices for MPEG2 are:
                           GO7007_MPEG2_PROFILE_MAIN_MAIN

                           Choices for MPEG4 are:
                           GO7007_MPEG4_PROFILE_S_L0
                           GO7007_MPEG4_PROFILE_S_L1
                           GO7007_MPEG4_PROFILE_S_L2
                           GO7007_MPEG4_PROFILE_S_L3
                           GO7007_MPEG4_PROFILE_ARTS_L1
                           GO7007_MPEG4_PROFILE_ARTS_L2
                           GO7007_MPEG4_PROFILE_ARTS_L3
                           GO7007_MPEG4_PROFILE_ARTS_L4
                           GO7007_MPEG4_PROFILE_AS_L0
                           GO7007_MPEG4_PROFILE_AS_L1
                           GO7007_MPEG4_PROFILE_AS_L2
                           GO7007_MPEG4_PROFILE_AS_L3
                           GO7007_MPEG4_PROFILE_AS_L4
                           GO7007_MPEG4_PROFILE_AS_L5
```

Flags in struct `go7007_mpeg_params`:

```
GO7007_MPEG_FORCE_DVD_MODE    Force all compression parameters and
                                bitrate control settings to comply
                                with DVD MPEG2 stream requirements.
                                This overrides most compression and
                                bitrate settings!
```



GO7007\_MPEG\_OMIT\_GOP\_HEADER Omit the GOP header.

GO7007\_MPEG\_REPEAT\_SEQHEADER Repeat the MPEG sequence header at the start of each GOP.

GO7007IOC\_S\_BITRATE, GO7007IOC\_G\_BITRATE

These ioctls are used to set and query the target bitrate value for the compressed video stream. The bitrate may be selected by storing the target bits per second in an int and calling GO7007IOC\_S\_BITRATE with a pointer to the int. The bitrate may be queried by calling GO7007IOC\_G\_BITRATE with a pointer to an int where the current bitrate will be stored.

Note that this is the primary means of controlling the video quality for all compression modes, including V4L2\_PIX\_FMT\_MJPEG. The VIDIOC\_S\_JPEGCOMP ioctl is not supported.

---

### Installing the WIS PCI Voyager Driver

---

The WIS PCI Voyager driver requires several patches to the Linux 2.6.11.x kernel source tree before compiling the driver. These patches update the in-kernel SAA7134 driver to the newest development version and patch bugs in the TDA8290/TDA8275 tuner driver.

The following patches must be downloaded from Gerd Knorr's website and applied in the order listed:

```
http://dl.bytesex.org/patches/2.6.11-2/i2c-tuner
http://dl.bytesex.org/patches/2.6.11-2/i2c-tuner2
http://dl.bytesex.org/patches/2.6.11-2/v4l2-api-mpeg
http://dl.bytesex.org/patches/2.6.11-2/saa7134-update
```

The following patches are included with this SDK and can be applied in any order:

```
patches/2.6.11/saa7134-voyager.diff
patches/2.6.11/tda8275-newaddr.diff
patches/2.6.11/tda8290-ntsc.diff
```

Check to make sure the CONFIG\_VIDEO\_SAA7134 option is enabled in the kernel configuration, and build and install the kernel.

After rebooting into the new kernel, the GO7007 driver can be compiled and installed:

```
$ make SAA7134_BUILD=y
$ make install
$ modprobe saa7134-go7007
```

There will be two V4L video devices associated with the PCI Voyager. The first device (most likely /dev/video0) provides access to the raw video capture mode of the SAA7133 device and is used to configure the source video parameters and tune the TV tuner. This device can be used with xawtv or other V4L(2) video software as a standard uncompressed device.



The second device (most likely /dev/video1) provides access to the compression functions of the GO7007. It can be tested using the gorecord application in the apps/ directory of this SDK:

```
$ apps/gorecord -vdevice /dev/video1 -noaudio test.avi
```

Currently the frame resolution is fixed at 720x480 (NTSC) or 720x576 (PAL), and the video standard must be specified to both the raw and the compressed video devices (xawtv and gorecord, for example).

---

#### RELEASE NOTES FOR WIS GO7007SB LINUX DRIVER

---

Last updated: 5 November 2005

- Release 0.9.7 includes new support for using udev to run fxload. The install script should automatically detect whether the old hotplug scripts or the new udev rules should be used. To force the use of hotplug, run "make install USE\_UDEV=n". To force the use of udev, run "make install USE\_UDEV=y".
- Motion detection is supported but undocumented. Try the 'modet' app for a demonstration of how to use the facility.
- Using USB2.0 devices such as the TV402U with USB1.1 HCDs or hubs can cause buffer overruns and frame drops, even at low framerates, due to inconsistency in the bitrate control mechanism.
- On devices with an SAA7115, including the Plextor ConvertX, video height values of 96, 128, 160, 192, 256, 320, and 384 do not work in NTSC mode. All valid heights up to 512 work correctly in PAL mode.
- The WIS Star Trek and PCI Voyager boards have no support yet for audio or the TV tuner.



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```
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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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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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6. As an exception to the Sections above, you may also combine or link a "work t



that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that at this will lead to faster development of free libraries.



The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.



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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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Version 1.1 - 26 February 2007

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The Licensed Software may provide links to third party libraries or code (collectively "Third Party Software") to implement various functions. Third Party Software does not comprise part of the Licensed Software. In some cases, access to Third Party Software may be included with the Licensed Software. Such Third Party Software will be listed in the ".../src/3rdparty" source tree delivered with the Licensed Software or documented in the Licensed Software, as such may be amended from time to time. Licensee acknowledges that use or distribution of Third Party Software is in all respects subject to applicable license terms of applicable third party right holders.

#### 5. PRE-RELEASE CODE

The Licensed Software may contain pre-release code and functionality, or sample code marked or otherwise stated with appropriate designation such as â Technology Previewâ , â Alphaâ , â Betaâ , â Sampleâ etc. (â Pre-Release Codeâ ).

Such Pre-Release Code may be present complimentary for the Licensee, in order to provide experimental support or information for new platforms or preliminary versions of one or more new functionalities or for other similar reasons. The Pre-Release Code may not be at the level of performance and compatibility of a final, generally available, product offering. The Pre-Release Code may not operate correctly, may contain errors and may be substantially modified by The Qt Company prior to the first commercial product release, if any. The Qt Company

is under no obligation to make Pre-Release Code commercially available, or provide any Support or Updates relating thereto. The Qt Company assumes no liability whatsoever regarding any Pre-Release Code, but any use thereof is exclusively at Licenseeâ s own risk and expense.



For clarity, unless Licensed Software specifies different license terms for the respective Pre- Release Code, the Licensee is entitled to use such pre-release code pursuant to Section 3, just like other Licensed Software, provided however that in the event Add-on Products are included and available as such Pre-Release

Code, Licensee's right to use such Add-on Products is nevertheless subject to and conditional upon conclusion of separate agreement with The Qt Company.

#### 6. LIMITED WARRANTY AND WARRANTY DISCLAIMER

The Qt Company hereby represents and warrants that it has the power and authority to grant the rights and licenses granted to Licensee under this Agreement. Except as set forth above, the Licensed Software is licensed to Licensee "as is" and Licensee's exclusive remedy and The Qt Company's entire

liability for errors in the Licensed Software shall be limited, at The Qt Company's option, to correction of the error, replacement of the Licensed Software or return of the applicable fees paid for the defective Licensed Software for the time period during which the License is not able to utilize the

Licensed Software under the terms of this Agreement.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE QT COMPANY ON BEHALF OF ITSELF AND ITS LICENSORS, SUPPLIERS AND AFFILIATES, DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT WITH REGARD TO THE LICENSED SOFTWARE. THE QT COMPANY DOES NOT WARRANT THAT THE LICENSED SOFTWARE WILL SATISFY LICENSEE'S REQUIREMENTS OR THAT IT

IT WILL OPERATE WITHOUT DEFECT OR ERROR OR THAT THE OPERATION THEREOF WILL BE UNINTERRUPTED.

#### 7. INDEMNIFICATION AND LIMITATION OF LIABILITY

##### 7.1 Limitation of Liability

EXCEPT FOR (I) CASES OF GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, AND (II) BREACH OF CONFIDENTIALITY, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY LOSS OF PROFIT, LOSS OF DATA, LOSS OF BUSINESS OR GOODWILL OR ANY OTHER INDIRECT, SPECIAL, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE COST, DAMAGES OR EXPENSE OF ANY KIND, HOWSOEVER ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT.

EXCEPT FOR (I) CASES OF GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, AND (II) BREACH OF CONFIDENTIALITY, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL EITHER PARTY'S TOTAL AGGREGATE LIABILITY UNDER THIS AGREEMENT EXCEED

THE AGGREGATE LICENSE FEES PAID OR PAYABLE TO THE QT COMPANY FROM LICENSEE DURING THE PERIOD OF TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE EVENT RESULTING IN SUCH LIABILITY. THE PROVISIONS OF THIS SECTION 7 ALLOCATE THE RISKS UNDER THIS AGREEMENT BETWEEN THE QT COMPANY AND LICENSEE AND THE PARTIES HAVE RELIED UPON THE LIMITATIONS SET FORTH HEREIN IN DETERMINING WHETHER TO ENTER INTO THIS AGREEMENT. NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, LICENSEE SHALL ALWAYS BE LIABLE TO PAY THE APPLICABLE LICENSE FEES CORRESPONDING TO ITS ACTUAL USE OF LICENSED SOFTWARE.

#### 8. SUPPORT, UPDATES AND ONLINE SERVICES

Upon due payment of the agreed License Fees the Licensee will be eligible to



receive Support and Updates and to use the Online Services during the License Term, provided, however, that in the event the License Term is longer than 36 months, the initial payment includes Support for only the first 12 months, unless the Parties specifically otherwise agree.

Unless otherwise decided by The Company at its free and absolute discretion, Upgrades will not be included in the Support but may be available subject to additional fees. From time to time The Qt Company may change the Support terms,

provided that during the respective ongoing License Term the level of Support provided by The Qt Company may not be reduced without the consent of the Licensee. Unless otherwise agreed, The Qt Company shall not be responsible for providing any service or support to Customers.

#### 9. CONFIDENTIALITY

Each Party acknowledges that during the Term of this Agreement each Party may receive information about the other Party's business, business methods, business

plans, customers, business relations, technology, and other information, including the terms of this Agreement, that is confidential and of great value to the other Party, and the value of which would be significantly reduced if disclosed to third parties ("Confidential Information"). Accordingly, when a

Party (the "Receiving Party") receives Confidential Information from the other

Party (the "Disclosing Party"), the Receiving Party shall only disclose such

information to employees and Contractors on a need to know basis, and shall cause its employees and employees of its Affiliates to: (i) maintain any and all

Confidential Information in confidence; (ii) not disclose the Confidential Information to a third party without the Disclosing Party's prior written approval; and (iii) not, directly or indirectly, use the Confidential Information for any purpose other than for exercising its rights and fulfilling its responsibilities pursuant to this Agreement. Each Party shall take reasonable measures to protect the Confidential Information of the other Party, which measures shall not be less than the measures taken by such Party to protect its own confidential and proprietary information. Obligation of confidentiality shall not apply to information that (i) is or becomes generally known to the public through no act or omission of the Receiving Party; (ii) was in the Receiving Party's lawful possession prior to the disclosure hereunder and

was not subject to limitations on disclosure or use; (iii) is developed independently by employees or Contractors of the Receiving Party or other persons working for the Receiving Party who have not had access to the Confidential Information of the Disclosing Party, as proven by the written records of the Receiving Party; (iv) is lawfully disclosed to the Receiving Party without restrictions, by a third party not under an obligation of confidentiality; or (v) the Receiving Party is legally compelled to disclose, in

which case the Receiving Party shall notify the Disclosing Party of such compelled disclosure and assert the privileged and confidential nature of the information and cooperate fully with the Disclosing Party to limit the scope of disclosure and the dissemination of disclosed Confidential Information to the minimum extent necessary.

The obligations under this Section 9 shall continue to remain in force for a period of five (5) years after the last disclosure, and, with respect to trade secrets, for so long as such trade secrets are protected under applicable trade



secret laws.

## 10. FEES, DELIVERY AND PAYMENT

### 10.1 License Fees

License Fees are described in The Qt Company's standard price list, quote or Purchase Order confirmation or in an appendix hereto, as the case may be. The License Fees shall not be refunded or claimed as a credit in any event or for any reason whatsoever.

### 10.2 Ordering Licenses

Licensee may purchase Development Licenses and Distribution Licenses pursuant to

agreed pricing terms or, if no specific pricing terms have been agreed upon, at The Qt Company's standard pricing terms applicable at the time of purchase. Unless specifically otherwise provided, any pricing terms referenced in this Agreement shall be valid for twelve (12) months from the date of this Agreement.

Licensee shall submit all purchase orders for Development Licenses and Distribution Licenses to The Qt Company by email or any other method acceptable to The Qt Company (each such order is referred to herein as a "Purchase Order") for confirmation, whereupon the Purchase Order shall become binding between the Parties.

### 10.3 Distribution License Packs

Unless otherwise agreed, Distribution Licenses shall be purchased by way of Distribution License Packs. Upon due payment of the ordered Distribution License Pack(s), the Licensee will have an account of Distribution Licenses available for distributing the Redistributables in accordance with this Agreement. Each time Licensee distributes a copy of Redistributables, then one Distribution License is used, and Licensee's account of available Distribution

Licenses is decreased accordingly. Licensee may distribute copies of the Redistributables so long as Licensee has Distribution Licenses remaining on its account.

### 10.4 Payment Terms

License Fees and any other charges under this Agreement shall be paid by Licensee no later than thirty (30) days from the date of the applicable invoice from The Qt Company. The Qt Company will submit an invoice to Licensee after the date of this Agreement and/or after The Qt Company receives a Purchase Order

from Licensee. A late payment charge of the lower of (a) one percent per month;

or (b) the interest rate stipulated by applicable law, shall be charged on any unpaid balances that remain past due.

### 10.5 Taxes

All License Fees and other charges payable hereunder are gross amounts but exclusive of any value added tax, use tax, sales tax, withholding tax and other taxes, duties or tariffs ("Taxes") levied directly for the sale, delivery or use

of Licensed Software hereunder pursuant to any applicable law. Such applicable Taxes shall be paid by Licensee to The Qt Company, or, where applicable, in lieu

of payment of such Taxes to The Qt Company, Licensee shall provide an exemption certificate to The Qt Company and any applicable authority.



## 11 RECORD-KEEPING AND REPORTING OBLIGATIONS; AUDIT RIGHTS

### 11.1 Licensee's Record-keeping

Licensee shall at all times during the Term of this Agreement and for a period of seven (7) years thereafter maintain Licensee's Records in an accurate and up-to-date form. Licensee's Records shall be adequate to reasonably enable The

Qt Company to determine Licensee's compliance with the provisions of this Agreement. The records shall conform to general good accounting practices. Licensee shall, within thirty (30) days from receiving The Qt Company's request

to that effect, deliver to The Qt Company a report based on Licensee's Records

, such report to contain information, in sufficient detail, on (i) number and identity of users working with Licensed Software or Open Source Qt, (ii) copies of Redistributables distributed by Licensee during the most recent calendar quarter and/or any other term specified by The Qt Company, (iii) number of undistributed copies of Redistributables and corresponding number of unused Distribution Licenses remaining on Licensee's account, and (iv) any other information as The Qt Company may reasonably require from time to time.

### 11.2. The Qt Company's Audit Rights

The Qt Company or an independent auditor acting on behalf of The Qt Company's,

may, upon at least five (5) business days' prior written notice and at its expense, audit Licensee with respect to the Licensee's use of the Licensed Software, but not more frequently than once during each 6-month period. Such audit may be conducted by mail, electronic means or through an in-person visit to Licensee's place of business. Any such in-person audit shall be conducted during regular business hours at Licensee's facilities and shall not unreasonably interfere with Licensee's business activities. The Qt Company or the independent auditor acting on behalf of The Qt Company shall be entitled to inspect Licensee's Records and conduct necessary interviews of Licensee's relevant employees and Contractors. All such Licensee's Records and use thereof

shall be subject to an obligation of confidentiality under this Agreement. If an audit reveals that Licensee is using the Licensed Software beyond scope of the licenses Licensee has paid for, Licensee agrees to pay The Qt Company any amounts owed for such unauthorized use within 30 days from receipt of the corresponding invoice from The Qt Company. In addition, in the event the audit reveals a material violation of the terms of this Agreement (without limitation,

either (i) underpayment of more than 10 % of License Fees or 10,000 euros (whichever is more) or (ii) distribution of products, which include or result from Prohibited Combination, shall be deemed a material violation for purposes of this section), then the Licensee shall pay The Qt Company's reasonable cost of conducting such audit.

## 12 TERM AND TERMINATION

### 12.1 Agreement Term

This Agreement shall enter into force upon due acceptance by both Parties and remain in force for as long as there is any Development License(s) purchased under this Agreement in force (the Term), unless and until terminated pursuant to the terms of this Section 12.

### 12.2 Termination and suspension of rights

Either Party shall have the right to terminate this Agreement upon thirty (30)



days prior written notice if the other Party commits a material breach of any obligation of this Agreement and fails to remedy such breach within such notice period. Instead of termination, The Qt Company shall have the right to suspend or withhold grants of all rights to the Licensed Software hereunder, including but not limited to the Development Licenses, Distribution License, and Support, should Licensee fail to make payment in timely fashion or otherwise violates or is reasonably suspected to violate its obligations or terms of this Agreement, and where such violation or breach is not cured within five (5) business days following The Qt Company's written notice thereof.

#### 12.3 Mutual Right to Terminate

Either Party shall have the right to terminate this Agreement immediately upon written notice in the event that the other Party becomes insolvent, files for any form of bankruptcy, makes any assignment for the benefit of creditors, has a

receiver, administrative receiver or officer appointed over the whole or a substantial part of its assets, ceases to conduct business, or an act equivalent

to any of the above occurs under the laws of the jurisdiction of the other Party.

#### 12.4 Parties' Rights and Duties upon Termination

Upon expiry or termination of the Agreement Licensee shall cease and shall cause

all Designated Users (including those of its Affiliates and Contractors) to

cease using the Licensed Software and distribution of the Redistributables under

this Agreement. Notwithstanding the above, in the event the Agreement expires or is terminated:

- (i) as a result of The Qt Company choosing not to renew the Development License(s) as set forth in Section 3.1, then all valid licenses possessed by the Licensee at such date shall be extended to be valid in perpetuity under the terms of this Agreement and Licensee is entitled to purchase additional licenses as set forth in Section 10.2; or
- (ii) for reason other than by The Qt Company pursuant to item (i) above or pursuant to Section 12.2, then the Licensee is entitled, for a period of six (6) months after the effective date of termination, to continue distribution of Devices under the Distribution Licenses paid but unused at such effective date of termination.

Upon any such termination the Licensee shall destroy or return to The Qt Company

all copies of the Licensed Software and all related materials and will certify the same to The Qt Company upon its request, provided however that Licensee may retain and exploit such copies of the Licensed Software as it may reasonably require in providing continued support to Customers. Expiry or termination of this Agreement for any reason whatsoever shall not relieve Licensee of its obligation to pay any License Fees accrued or payable to The Qt Company prior to

the effective date of termination, and Licensee shall immediately pay to The Qt Company all such fees upon the effective date of termination. Termination of this Agreement shall not affect any rights of Customers to continue use of Applications and Devices (and therein incorporated Redistributables).

#### 12.5 Extension in case of bankruptcy

In the event The Qt Company is declared bankrupt under a final, non-cancellable decision by relevant court of law, and this Agreement is not, at the date of expiry of the Development License(s) pursuant to Section 3.1, assigned to party,



who has assumed The Qt Company's position as a legitimate licensor of Licensed Software under this Agreement, then all valid licenses possessed by the Licensee at such date of expiry, and which the Licensee has not notified for expiry, shall be extended to be valid in perpetuity under the terms of this Agreement.

### 13. GOVERNING LAW AND LEGAL VENUE

In the event this Agreement is in the name of The Qt Company Inc., a Delaware Corporation, then:

- (i) this Agreement shall be construed and interpreted in accordance with the laws of the State of California, USA, excluding its choice of law provisions;
- (ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and
- (iii) any dispute, claim or controversy arising out of or relating to this Agreement or the breach, termination, enforcement, interpretation or validity thereof, including the determination of the scope or applicability of this Agreement to arbitrate, shall be determined by arbitration in San Francisco, USA, before one arbitrator. The arbitration shall be administered by JAMS pursuant to JAMS' Streamlined Arbitration Rules and Procedures. Judgment on the Award may be entered in any court having jurisdiction. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

In the event this Agreement is in the name of The Qt Company Ltd., a Finnish Company, then:

- (i) this Agreement shall be construed and interpreted in accordance with the laws of Finland, excluding its choice of law provisions;
- (ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and
- (iii) any disputes, controversy or claim arising out of or relating to this Agreement, or the breach, termination or validity thereof shall be finally settled by arbitration in accordance with the Arbitration Rules of Finland Chamber of Commerce. The arbitration tribunal shall consist of one (1), or if either Party so requires, of three (3), arbitrators. The award shall be final and binding and enforceable in any court of competent jurisdiction. The arbitration shall be held in Helsinki, Finland and the process shall be conducted in the English language. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

### 14. GENERAL PROVISIONS

#### 14.1 No Assignment

Except in the case of a merger or sale of substantially all of its corporate assets, Licensee shall not be entitled to assign or transfer all or any of its rights, benefits and obligations under this Agreement without the prior written consent of The Qt Company, which shall not be unreasonably withheld or delayed. The Qt Company shall be entitled to freely assign or transfer any of its rights,

benefits or obligations under this Agreement. 14.2 No Third Party

Representations Licensee shall make no representations or warranties concerning the Licensed Software on behalf of The Qt Company. Any representation or warranty Licensee makes or purports to make on The Qt Company's behalf shall b



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void as to The Qt Company. 14.3 Surviving Sections Any terms and conditions that by their nature or otherwise reasonably should survive termination of this Agreement shall so be deemed to survive. Such sections include especially the following: 1, 2, 6, 7, 9, 11, 12.4, 13 and 14.

#### 14.4 Entire Agreement

This Agreement, the exhibits hereto, the License Certificate and any applicable Purchase Order accepted by The Qt Company constitute the complete agreement between the Parties and supersedes all prior or contemporaneous discussions, representations, and proposals, written or oral, with respect to the subject matters discussed herein. In the event of any conflict or inconsistency between

this Agreement and any Purchase Order, the terms of this Agreement will prevail over the terms of the Purchase Order with respect to such conflict or inconsistency. Parties specifically acknowledge and agree that this Agreement prevails over any click-to-accept or similar agreements the Designated Users may

need to accept online upon download of the Licensed Software, as may be required by The Qt Company's applicable processes relating to Licensed Software.

#### 14.5 Modifications

No modification of this Agreement shall be effective unless contained in a writing executed by an authorized representative of each Party. No term or condition contained in Licensee's Purchase Order (a "Deviating Terms") shall apply

unless The Qt Company has expressly agreed such Deviating Terms in writing. Unless and to the extent expressly agreed by The Qt Company, any such Deviating Terms shall be deemed void and with no legal effect. For clarity, delivery of the Licensed Software following the receipt of the Purchase Order including Deviating Terms shall not constitute acceptance of such Deviating Terms.

#### 14.6 Force Majeure

Except for the payment obligations hereunder, neither Party shall be liable to the other for any delay or non-performance of its obligations hereunder in the event and to the extent that such delay or non-performance is due to an event of

act of God, terrorist attack or other similar unforeseeable catastrophic event that prevents either Party from fulfilling its obligations under this Agreement and which such Party cannot avoid or circumvent (a "Force Majeure Event"). If the

Force Majeure Event results in a delay or non-performance of a Party for a period of three (3) months or longer, then either Party shall have the right to terminate this Agreement with immediate effect without any liability (except for

the obligations of payment arising prior to the event of Force Majeure) towards the other Party.

#### 14.7 Notices

Any notice given by one Party to the other shall be deemed properly given and deemed received if specifically acknowledged by the receiving Party in writing or when successfully delivered to the recipient by hand, fax, or special courier

during normal business hours on a business day to the addresses specified for each Party on the signature page. Each communication and document made or delivered by one Party to the other Party pursuant to this Agreement shall be in

the English language.



#### 14.8 Export Control

Licensee acknowledges that the Redistributables, as incorporated in Applications or Devices, may be subject to export control restrictions under the applicable laws of respective countries. Licensee shall fully comply with all applicable export license restrictions and requirements as well as with all laws and regulations relating to the Redistributables and exercise of licenses hereunder and shall procure all necessary governmental authorizations, including without limitation, all necessary licenses, approvals, permissions or consents, where necessary for the re-exportation of the Redistributables, Applications and/or Devices.

#### 14.9 No Implied License

There are no implied licenses or other implied rights granted under this Agreement, and all rights, save for those expressly granted hereunder, shall remain with The Qt Company and its licensors. In addition, no licenses or immunities are granted to the combination of the Licensed Software with any other software or hardware not delivered by The Qt Company under this Agreement.

#### 14.10 Attorney Fees

The prevailing Party in any action to enforce this Agreement shall be entitled to recover its attorney's fees and costs in connection with such action.

#### 14.11 Privacy

Licensee acknowledges and agrees that for the purpose of this Agreement, The Qt Company may collect, use, transfer and disclose personal data pertaining to Designated Users as well as any other employees and directors of the Licensee and its Contractors relevant for carrying out the intent of this Agreement. Such

personal data may be collected from the Licensee or directly from the relevant individuals. The Parties acknowledge that with regard to such personal data processed hereunder, The Qt Company shall be regarded as the Data Controller under the applicable Data Protection Legislation. The Qt Company shall process any such personal data in accordance with its privacy policies and practices, which will comply with all applicable requirements of the Data Protection Legislation.

#### 14.12 Severability

If any provision of this Agreement shall be adjudged by any court of competent jurisdiction to be unenforceable or invalid, that provision shall be limited or eliminated to the minimum extent necessary so that this Agreement shall otherwise remain in full force and effect and enforceable.

### APPENDICES

This Agreement includes Appendix 1 or/and Appendix 8, and possibly one or more of the appendices 3-5, depending on the product(s) purchased by the Licensee, what is stated in the quote or invoice, and/or what is stated in the Licensee's License Certificate.

### APPENDIX 1: LICENSED SOFTWARE

#### 1a. Licensed Software - Qt Toolkit

Module	Description
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Qt Core	Core non-graphical classes used by other modules.
Qt GUI	Base classes for graphical user interface (GUI) components.
Qt Multimedia	Classes for audio, video and camera functionality.
Qt Multimedia Widgets	Widget-based classes for implementing multimedia functionality.
Qt Network	Classes to make network programming easier and more portable.
Qt QML	Classes for QML and JavaScript languages.
Qt Quick	A declarative framework for building highly dynamic applications with custom user interfaces.
Qt Quick Controls 2	Provides lightweight QML types for creating performant user interfaces for desktop, embedded, and mobile devices.
Qt Quick Dialogs	Types for creating and interacting with system dialogs from a Qt Quick application.
Qt Quick Layouts	Layouts are items that are used to arrange Qt Quick 2 based items in the user interface.
Qt Quick Test	A unit test framework for QML applications.
Qt SQL	Classes for database integration using SQL.
Qt Test	Classes for unit testing Qt applications and libraries.
Qt Widgets	Classes to extend Qt GUI with C++ widgets.
Active Qt	Classes for applications which use ActiveX and COM
Qt 3D	Functionality for near-realtime simulation systems with support for 2D and 3D rendering.
Qt Android Extras	Provides platform-specific APIs for Android.
Qt Bluetooth	Provides access to Bluetooth hardware.
Qt Canvas 3D	Enables OpenGL-like 3D drawing calls from Qt Quick applications using JavaScript.
Qt Concurrent	Classes for writing multi-threaded programs without using low-level threading primitives.
Qt D-Bus	Classes for inter-process communication over the D-Bus protocol.
Qt Gamepad	Enables Qt applications to support the use of gamepad hardware.
Qt Graphical Effects	Graphical effects for use with Qt Quick 2.
Qt Help	Classes for integrating documentation into applications, similar to Qt Assistant.
Qt Image	Formats Plugins for additional image formats: TIFF, MNG, TGA, WBMP.
Qt Location	Displays map, navigation, and place content in a QML application.
Qt Mac Extras	Provides platform-specific APIs for macOS.
Qt Network Authorization	Provides support for OAuth-based authorization to online services.
Qt NFC	Provides access to Near-Field communication (NFC) hardware.
Qt Platform Headers	Provides classes that encapsulate platform-specific information.
Qt Positioning	Provides access to position, satellite and area monitoring classes.
Qt Print Support	Classes to make printing easier and more portable.
Qt Purchasing	Enables in-app purchase of products in Qt applications.
Qt for Python	Python bindings for Qt.
Qt Quick Controls	Reusable Qt Quick based UI controls to create classic desktop-style user interfaces.
Qt Quick Extras	Provides a specialized set of controls that can be used to build interfaces in Qt Quick.



Qt Quick Widgets	Provides a C++ widget class for displaying a Qt Quick user interface.
Qt SCXML	Provides classes and tools for creating state machines from SCXML files.
Qt Sensors	Provides access to sensor hardware and motion gesture recognition.
Qt Serial Bus	Provides access to serial industrial bus interface.
Qt Serial Port	Provides access to hardware and virtual serial ports.
Qt Speech	Provides support for accessibility features such as text-to-speech.
Qt SVG	Classes for displaying the contents of SVG files.
Qt UI Tools	Classes for loading QWidget based forms created in Qt Designer dynamically, at runtime.
Qt WebChannel	Provides access to QObject or QML objects from HTML clients for seamless integration of Qt applications with HTML/JavaScript clients.
Qt WebEngine	Classes and functions for embedding web content in applications using the Chromium browser project.
Qt WebSockets	Provides WebSocket communication.
Qt WebView	Displays web content in a QML application by using APIs native to the platform.
Qt Windows Extras	Provides platform-specific APIs for Windows.
Qt X11 Extras	Provides platform-specific APIs for X11.
Qt XML	C++ implementations of SAX and DOM.
Qt XML Patterns	Support for XPath, XQuery, XSLT and XML schema validation.
Qt Wayland Compositor	Provides a framework to develop a Wayland compositor.
Qt Charts UI	Components for displaying charts.
Qt Data Visualization	UI Components for creating 3D data visualizations.
Qt Virtual Keyboard	A framework for implementing different input methods as well as a QML virtual keyboard.

#### 1b. Licenses software â€” Embedded software development libraries

Module	Description
Boot 2 Qt stack	Yocto based Embedded Linux stack for selected target hardware.
Qt OTA	Client-side capability for device image updates Over The Air.
Device Utilities	Collection of APIs to manage the device; E.g. display, WiFi and Bluetooth settings.
Qt Debugging Bridge (QDB)	Daemon Enables host-target deployment, debugging, profiling and other features over USB. Up to developer to decide if this is left in the final solution.

#### 1c. Licensed Software - Qt Tools/Applications

Tool	Description
Qt Creator	The integrated development environment for Qt.
Qt Designer	Qt tool for designing and building graphical user interfaces.
Qt Linguist	Tool used to add translations to Qt applications.
Qt Assistant	Tool for viewing online documentation in Qt help-file format.
Qmake	Utility tool used to automate the generation of make files.
uic	User interface compiler for the Qt GUI toolkit.



rcc	Resource compiler used for embedding resources into Qt applications.
lupdate	Tool that finds the translatable strings in the specified source, header and Qt Designer interface files, and produces or updates translation files.
lrelease	Tool that produces translation files in the compact binary format used by localized Qt applications.
qlalr	Qt parser generator tool.
qdoc	Configurable documentation generation tool.
qmlscene	QML launcher tool.
qmlviewer	QML launcher tool.

#### 1d. Licenses software â Qt Tools/Applications specific to embedded software development

Tool	Description
Target toolchains	Cross compilation toolchains for supported target devices and operating systems.
Qt Debugging Bridge (QDB) Host Tools	Enables deployment, debugging, profiling and other features over USB from development host PC to target device.
qtconfig-gui	Qt Lite Configurator tool graphical interface.
Qt Emulator	Qt Emulator

#### 2. Parts of the Licensed Software that are permitted for distribution in object-code form only (â Redistributablesâ ) under this Agreement:

##### 2a. Qt for Application Development

- The Licensed Software's Qt Toolkit libraries defined in 1a
- The Licensed Software's installer framework

##### 2b. Qt for Device Creation

- Qt for Application Development Redistributables defined in 2a
- The Licensed Software's Embedded software development libraries defined in 1b

##### 2c. Qt 3D Studio

- The Licensed Software's Qt 3D Studio Runtime (â Qt53DStudioRuntime2â )

#### APPENDIX 3: ADDITIONS TO LICENSED SOFTWARE

##### 1. Licensed Software

In addition to what is provided under the definition of the Licensed Software, Parties agree that Licensed Software shall also include the following additional

software products of The Qt Company if included in the quote / invoice:

Additional software product	Description
Qt for Automation	A collection of software components and libraries targeted for the development of automation systems.
Qt Safe Renderer	Provides a UI rendering component that can be used to render safety- critical items as well



Qt Application Manager	as documentation and certification artifacts.
GammaRay	Daemon, that helps to create embedded Linux systems that have a highly complex UI setup.
	A software introspection tool for Qt applications.

2. Parts of the Licensed Software that are permitted for distribution in object-code form only (â Redistributablesâ ) under this Agreement:

- |                          |                          |   |
|--------------------------|--------------------------|---|
| - Qt for Automation      | The Licensed Softwareâ | s Qt for Automation libraries defined in 1      |
| - Qt Safe Renderer       | The Licensed Softwareâ | s Qt Safe Renderer libraries defined in 1       |
| - Qt Application Manager | The Licensed Softwareâ | s Qt Application Manager libraries defined in 1 |

All the above is considered as Redistributables and subject to applicable provisions and limitations including but not limited to what is defined in section 3.

#### APPENDIX 4: SMALL BUSINESS AND START-UP APPENDIX

The provisions of this Appendix 4 are applicable for Start-up Companies and for the Evaluation Term.

For the purpose of this Appendix 4, the following additional definitions shall be applicable:

â Trial Termâ shall mean a period of twelve (12) months.

â Start-up Companyâ means a company with a maximum annual revenue, including funding, equivalent to 100,000 USD (in applicable currency) during a respective calendar year, as evidenced by duly audited records of the Licensee and approved

by The Qt Company.

During the Trial Term, Section 3 shall apply with following modifications (â Trial Term Modificationsâ ):

- Licenses granted under Sections 3.1 and 3.2 shall be free of any charge. For clarity, License for distribution of Devices pursuant to Section 3.3 is subject to applicable License Fee for necessary Distribution Licenses;
- Development License under Section 3.1 is limited to a maximum of three (3) Designated Users; and
- Support is available subject to availability, as judged by The Qt Company at its free and absolute discretion, provided that support will be limited to a maximum of ten (10) tickets during the Trial Term.

Upon expiry of the Trial Term:

- a) This Appendix 4 is terminated, Trial Term Modifications cease to remain in force, Licenseeâ s Development Licenses shall be automatically converted into licenses subject to a License Fee (in the amount specified in the quote or in Appendix 2 and payable with a 30-day payment term) and Licenseeâ s rights and obligations under this Agreement shall continue to remain in force under the standard provisions of the Agreement, unless the Licensee notifies The Qt Company in writing no less than ninety (90) days before such expiry date that Licensee does not agree to such continuance, in which event the Agreement, and all rights of the Licensee thereunder,



- shall expire; provided however that
- b) in the event the Licensee still qualifies as a Start-up Company, the Licensee has an option (â Optionâ ), instead of what is stated in item a)
- above, to extend the Trial Term renewal is limited to one time and total duration of Trial Terms thus to 24 months after the effective date. Licensee shall notify The Qt Company in writing no less than ninety (90) days before the expiry date, if Licensee wish to exercise the Option.

#### APPENDIX 5: NON-COMMERCIAL USE APPENDIX

The provisions of this Appendix 5 are applicable for non-commercial use of the Licensed Software by the Licensee. For the purpose of this Appendix 5, the following additional definitions (replacing the relevant definition of the Agreement, where applicable) shall be applicable:

- â Demo Unitsâ shall mean
- (i) hardware development platform, which incorporates the Licensed Software along with Licenseeâ s software and/or hardware, and
  - (ii) prototype versions of Applications or Devices.
- â Designated User(s)â shall mean the employees and students of the Licensee.
- â Licensee Productsâ shall mean Applications and/or Devices.
- â Permitted Purposeâ shall mean
- (i) Licenseeâ s internal evaluation and testing of Licensed Software,
  - (ii) building Demo Units as well as
  - (iii) educational use.
- â Termâ shall mean a period of twelve (12) months or any such other period as may be agreed between the Parties.

For the purpose of this Appendix 5, the following changes shall be agreed with respect to relevant Sections of the Agreement:

- I. Recital (A) shall be replaced in its entirety to read as follows: â (A)

Licensee wishes to use the Licensed Software for the Permitted Purpose.â

- II. Section 3.1 shall be replaced in its entirety to read as follows: â The

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- III. Sections 3.2, 3.3, 8 and 10 shall be deleted.

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Except for the modifications specified above, this Appendix carries no change to the terms of the Agreement, which shall remain in full force.

#### APPENDIX 8: QT FOR DEVICE CREATION MCU APPENDIX

This Appendix 8 shall be applicable in case the Licensee and/or respective Designated User have purchased Qt for Device Creation MCU, either as an add-on or standalone package. In case Qt for Device Creation MCU is purchased as an addition to Qt for Device Creation, this appendix is an addition to Appendix 1. In any other case, this appendix replaces Appendix 1.

##### 1a. Licensed Software - Qt Toolkit

Module	Description
Qt Quick Controls 2	Provides lightweight QML types for creating performant user interfaces for desktop, embedded, and mobile devices.

##### 1b. Licensed software â Embedded software development libraries

Module	Description
Qt Quick Ultralite	Qt Quick Ultralite (QUL) rendering engine and sample source codes.
Qt Quick Ultralite Platform Adaptations	Platform adaptations including OS support that allow applications on QUL to run on microcontrollers

##### 1c. Licensed Software - Qt Tools/Applications

Tool	Description
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Qt Creator	The integrated development environment for Qt.
Qt Designer	Qt tool for designing and building graphical user interfaces.
Qt Linguist	Tool used to add translations to Qt applications.
Qt Assistant	Tool for viewing online documentation in Qt help-file format.
lupdate	Tool that finds the translatable strings in the specified source, header and Qt Designer interface files, and produces or updates translation files.
lrelease	Tool that produces translation files in the compact binary format used by localized Qt applications.

1d. Licensed software    Qt Tools/Applications specific to embedded software development

Tool	Description
Target toolchains	Cross compilation toolchains for supported target devices and operating systems.
qmlinterfaceextractor	Tool to generate QML from header file.
qml2cpp	Tool to convert QML to C++ files.
fontcompiler	Tool to compile font meta data and True Type fonts.

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

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```
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This program comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type 'show c' for details.
```

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\*\*\*\*\*  
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\*\*\*\*\*

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if known, for each piece of firmware distributed for use with the Linux  
kernel.

---

Driver: BCM-0bb4-0306 Cypress Bluetooth firmware for HTC Vive

File: brcm/BCM-0bb4-0306.hcd

Licence: Redistributable. See LICENCE.cypress for details.

---

Driver: ambassador -- Madge Ambassador (Collage PCI 155 Server) ATM NIC.

File: atmsar11.fw

Licence: Allegedly GPLv2+, but no source visible. Marked:

Madge Ambassador ATM Adapter microcode.  
Copyright (C) 1995-1999 Madge Networks Ltd.

This microcode data is placed under the terms of the GNU General  
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Debian system and in the file COPYING in the Linux kernel source.

We would prefer you not to distribute modified versions without  
consultation and not to ask for assembly/other microcode source.

---

Driver: snd-korg1212 -- Korg 1212 IO audio device

File: korg/k1212.dsp

Licence: Unknown

Found in alsa-firmware package in hex form; no licensing information.

---

Driver: snd-maestro3 -- ESS Allegro Maestro3 audio device

File: ess/maestro3\_assp\_kernel.fw  
File: ess/maestro3\_assp\_minisrc.fw

Licence: Unknown

Found in alsa-firmware package in hex form with a comment claiming to  
be GPLv2+, but without source -- and with another comment saying "ESS  
drops binary dsp code images on our heads, but we don't get to see  
specs on the dsp."

---



Driver: snd-ymfpci -- Yamaha YMF724/740/744/754 audio devices

File: yamaha/dsl\_ctrl.fw  
File: yamaha/dsl\_dsp.fw  
File: yamaha/dsle\_ctrl.fw

Licence: Unknown

Found alsa-firmware package in hex form, with the following comment:  
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---

Driver: advansys - AdvanSys SCSI

File: advansys/mcode.bin  
File: advansys/3550.bin  
File: advansys/38C0800.bin  
File: advansys/38C1600.bin

Licence: BSD, no source available.

Found in hex form in kernel source.

---

Driver: qlal280 - Qlogic QLA 1240/1x80/1x160 SCSI support

File: qllogic/1040.bin  
File: qllogic/1280.bin  
File: qllogic/12160.bin

Licence: Redistributable. See LICENCE.qlal280 for details

---

Driver: smctr -- SMC ISA/MCA Token Ring adapter

File: tr\_smctr.bin  
Version: 6.3C1  
Info: MCT.BIN v6.3C1 03/01/95

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  - \* with the use of SMC TokenRing adapters. There is no warranty
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- 

Driver: kaweth -- USB KLSI KL5USB101-based Ethernet device

File: kaweth/new\_code.bin  
File: kaweth/new\_code\_fix.bin  
File: kaweth/trigger\_code.bin  
File: kaweth/trigger\_code\_fix.bin

Licence: Redistributable. See LICENCE.kaweth for details

Found in hex form in the kernel source.



-----  
Driver: dvb-ttusb-budget -- Technotrend/Hauppauge Nova-USB devices

File: ttusb-budget/dspbootcode.bin

Licence: Unknown

Found in hex form in the kernel source.  
-----

Driver: keyspan -- USB Keyspan USA-xxx serial device

File: keyspan/mpwr.fw

File: keyspan/usa18x.fw

File: keyspan/usa19.fw

File: keyspan/usa19qi.fw

File: keyspan/usa19qw.fw

File: keyspan/usa19w.fw

File: keyspan/usa28.fw

File: keyspan/usa28xa.fw

File: keyspan/usa28xb.fw

File: keyspan/usa28x.fw

File: keyspan/usa49w.fw

File: keyspan/usa49wlc.fw

Converted from Intel HEX files, used in our binary representation of ihex.

Original licence information:

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-----  
Driver: keyspan\_pda -- USB Keyspan PDA single-port serial device

File: keyspan\_pda/keyspan\_pda.fw

Source: keyspan\_pda/keyspan\_pda.S

File: keyspan\_pda/xircom\_pgs.fw

Source: keyspan\_pda/xircom\_pgs.S



Source: keyspan\_pda/Makefile

Licence: GPLv2 or later. See GPL-2 and GPL-3 for details.

Compiled from original 8051 source into Intel HEX, used in our binary ihex form.

---

Driver: emi26 -- EMI 2|6 USB Audio interface

File: emi26/bitstream.fw

Version: 1.1.1.131

Info: DATE=2001dec06

File: emi26/firmware.fw

Version: 1.0.2.916

Info: DATE=12.02.2002

File: emi26/loader.fw

Converted from Intel HEX files, used in our binary representation of ihex.

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```
/*
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 *
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 * requires the inclusion of this statement.
 */
```

---

Driver: emi62 -- EMI 6|2m USB Audio interface

File: emi62/bitstream.fw

Version: 1.0.0.191

Info: DATE= 2002oct28

File: emi62/loader.fw

Version: 1.0.2.002

Info: DATE=10.01.2002

File: emi62/midi.fw

Version: 1.04.062

Info: DATE=16.10.2002

File: emi62/spdif.fw



Version: 1.04.062  
Info: DATE=16.10.2002

Converted from Intel HEX files, used in our binary representation of ihex.

Original licence information: None

---

Driver: ti\_usb\_3410\_5052 -- USB TI 3410/5052 serial device

File: ti\_3410.fw  
Info: firmware 9/10/04 FW3410\_Special\_StartWdogOnStartPort

File: ti\_5052.fw  
Info: firmware 9/18/04

Licence: Allegedly GPLv2+, but no source visible. Marked:  
Copyright (C) 2004 Texas Instruments

Found in hex form in kernel source.

---

Driver: ti\_usb\_3410\_5052 -- Multi-Tech USB cell modems

File: mts\_cdma.fw  
File: mts\_gsm.fw  
File: mts\_edge.fw

Licence: "all firmware components are redistributable in binary form"  
per support@multitech.com  
Copyright (C) 2005 Multi-Tech Systems, Inc.

Found in hex form in ftp://ftp.multitech.com/wireless/wireless\_linux.zip

---

Driver: ti\_usb\_3410\_5052 -- Multi-Tech USB fax modems

File: mts\_mt9234mu.fw  
File: mts\_mt9234zba.fw

Licence: Unknown

---

Driver: whiteheat -- USB ConnectTech WhiteHEAT serial device

File: whiteheat.fw  
Version: 4.06

File: whiteheat\_loader.fw

Licence: Allegedly GPLv2, but no source visible. Marked:  
Copyright (C) 2000-2002 ConnectTech Inc

Debug loader claims the following behaviour:  
Port 1 LED flashes when the vend\_ax program is running  
Port 2 LED flashes when any SETUP command arrives



Port 3 LED flashes when any valid VENDOR request occurs  
Port 4 LED flashes when the EXTERNAL RAM DOWNLOAD request occurs

Converted from Intel HEX files, used in our binary representation of ihex.

-----  
Driver: ip2 -- Computone IntelliPort Plus serial device

File: intelliport2.bin

Licence: Unknown

Found in hex form in kernel source.

-----  
Driver: cpia2 -- cameras based on Vision's CPiA2

File: cpia2/stv0672\_vp4.bin

Licence: Allegedly GPLv2+, but no source visible. Marked:

Copyright (C) 2001 STMicroelectronics, Inc.

Contact: steve.miller@st.com

Description: This file contains patch data for the CPiA2 (stv0672) VP4.

Found in hex form in kernel source.

-----  
Driver: dabusb -- Digital Audio Broadcasting (DAB) Receiver for USB and Linux

File: dabusb/firmware.fw

File: dabusb/bitstream.bin

Licence: Distributable

\* Copyright (C) 1999 BayCom GmbH

\*

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-----  
Driver: vicam -- USB 3com HomeConnect (aka vicam)

File: vicam/firmware.fw

Licence: Unknown

Found in hex form in kernel source.

-----  
Driver: io\_edgeport - USB Inside Out Edgeport Serial Driver

File: edgeport/boot.fw

File: edgeport/boot2.fw



File: edgeport/down.fw  
File: edgeport/down2.fw

Licence: Allegedly GPLv2+, but no source visible. Marked:  
/\*\*\*\*\*  
/\* Edgeport/4 Binary Image  
/\* Generated by HEX2C v1.06  
/\* Copyright (C) 1998 Inside Out Networks, All rights reserved.  
\*\*\*\*\*/

Found in hex form in kernel source.

-----

Driver: io\_ti - USB Inside Out Edgeport Serial Driver  
(TI Devices)

File: edgeport/down3.bin

Licence:  
/\*\*\*\*\*  
/\* Edgeport Binary Image (for TI based products)  
/\* Generated by TIBin2C v2.00 (watchport)  
/\* Copyright (C) 2001 Inside Out Networks, All rights reserved.  
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Found in hex form in kernel source.

-----

Driver: dsp56k - Atari DSP56k support

File: dsp56k/bootstrap.bin  
Source: dsp56k/bootstrap.asm  
Source: dsp56k/Makefile  
Source: dsp56k/concat-bootstrap.pl

Licence: GPLv2 or later. See GPL-2 and GPL-3 for details.

DSP56001 assembler, buildable with a56 from  
<http://www.zdomain.com/a56.html>

-----

Driver: snd-sbl6-csp - Sound Blaster 16/AWE CSP support

File: sbl6/mulaw\_main.csp  
File: sbl6/alaw\_main.csp  
File: sbl6/ima\_adpcm\_init.csp  
File: sbl6/ima\_adpcm\_playback.csp  
File: sbl6/ima\_adpcm\_capture.csp

Licence: Allegedly GPLv2+, but no source visible. Marked:  
/\*  
\* Copyright (c) 1994 Creative Technology Ltd.  
\* Microcode files for SB16 Advanced Signal Processor  
\*/

Found in hex form in kernel source.



---

Driver: qla2xxx - QLogic QLA2XXX Fibre Channel

File: ql2100\_fw.bin  
Version: 1.19.38 TP  
File: ql2200\_fw.bin  
Version: 2.02.08 TP  
File: ql2300\_fw.bin  
Version: 3.03.28 IPX  
File: ql2322\_fw.bin  
Version: 3.03.28 IPX  
File: ql2400\_fw.bin  
Version: 8.07.00 MID  
File: ql2500\_fw.bin  
Version: 8.07.00 MIDQ

Licence: Redistributable. See LICENCE.qla2xxx for details

Available from <http://ldriver.qlogic.com/firmware/>

---

Driver: orinoco - Agere/Prism/Symbol Orinoco support

File: agere\_sta\_fw.bin  
Version: 9.48 Hermes I  
File: agere\_ap\_fw.bin  
Version: 9.48 Hermes I

Licence: Redistributable. See LICENCE.agere for details

---

Driver: ar9170 - Atheros 802.11n "otus" USB

File: ar9170-1.fw  
File: ar9170-2.fw

Licence: Redistributable. See LICENCE.atheros\_firmware for details

---

Driver: ath9k\_htc - Atheros HTC devices (USB)

File: ar9271.fw  
File: ar7010.fw  
File: ar7010\_1\_1.fw  
File: htc\_9271.fw  
Version: 1.3.1  
File: htc\_7010.fw  
Version: 1.3.1

Licence: Redistributable. See LICENCE.atheros\_firmware for details

File: ath9k\_htc/htc\_7010-1.4.0.fw  
Version: 1.4.0  
File: ath9k\_htc/htc\_9271-1.4.0.fw  
Version: 1.4.0



Licence: Free software. See LICENCE.open-ath9k-htc-firmware for details

---

Driver: cassini - Sun Cassini

File: sun/cassini.bin

Licence: Unknown

Found in hex form in kernel source.

---

Driver: slicoss - Alacritech IS-NIC products

File: slicoss/gbdownload.sys

File: slicoss/gbrcvuocode.sys

File: slicoss/oasisdbgdownload.sys

File: slicoss/oasisdownload.sys

File: slicoss/oasisrcvuocode.sys

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---

Driver: sxg - Alacritech IS-NIC products

File: sxg/saharadownloadB.sys

File: sxg/saharadbdownloadB.sys

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-----  
Driver: cxgb3 - Chelsio Terminator 3 1G/10G Ethernet adapter

File: cxgb3/t3b\_psram-1.1.0.bin  
File: cxgb3/t3c\_psram-1.1.0.bin  
File: cxgb3/t3fw-7.0.0.bin  
File: cxgb3/t3fw-7.1.0.bin  
File: cxgb3/t3fw-7.4.0.bin  
File: cxgb3/t3fw-7.10.0.bin  
File: cxgb3/t3fw-7.12.0.bin

Licence: GPLv2 or OpenIB.org BSD license, no source visible  
-----

Driver: cxgb3 - Chelsio Terminator 3 1G/10G Ethernet adapter

File: cxgb3/ael2005\_opt\_edc.bin  
File: cxgb3/ael2005\_twx\_edc.bin  
File: cxgb3/ael2020\_twx\_edc.bin

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-----  
Driver: cxgb4 - Chelsio Terminator 4/5/6 1/10/25/40/100G Ethernet adapter

File: cxgb4/t4fw-1.14.4.0.bin  
File: cxgb4/t4fw-1.15.37.0.bin  
File: cxgb4/t4fw-1.24.3.0.bin  
Link: cxgb4/t4fw.bin -> t4fw-1.24.3.0.bin  
File: cxgb4/t5fw-1.14.4.0.bin  
File: cxgb4/t5fw-1.15.37.0.bin  
File: cxgb4/t5fw-1.24.3.0.bin  
Link: cxgb4/t5fw.bin -> t5fw-1.24.3.0.bin  
File: cxgb4/t6fw-1.24.3.0.bin  
Link: cxgb4/t6fw.bin -> t6fw-1.24.3.0.bin  
File: cxgb4/aql202\_fw.cld  
File: cxgb4/bcm8483.bin

Licence: Redistributable. See LICENCE.chelsio\_firmware for details  
-----

Driver: e100 -- Intel PRO/100 Ethernet NIC

File: e100/dl01m\_ucode.bin  
File: e100/dl01s\_ucode.bin  
File: e100/dl02e\_ucode.bin



Licence: Redistributable. See LICENCE.e100 for details

---

Driver: acenic -- Alteon AceNIC Gigabit Ethernet card

File: acenic/tg1.bin

File: acenic/tg2.bin

Licence: Unknown

Found in hex form in kernel source, but source allegedly available at  
<http://alteon.shareable.org/>

---

Driver: tg3 -- Broadcom Tigon3 based gigabit Ethernet cards

File: tigon/tg3.bin

File: tigon/tg3\_tso.bin

File: tigon/tg3\_tso5.bin

File: tigon/tg357766.bin

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---

Driver: starfire - Adaptec Starfire/DuraLAN support

File: adaptec/starfire\_rx.bin

File: adaptec/starfire\_tx.bin

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DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES  
ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM.

---

Driver: i2400m-usb - Intel 2400 Wireless WiMAX Connection over USB

File: i2400m-fw-usb-1.4.sbcf

File: i2400m-fw-usb-1.5.sbcf



File: i6050-fw-usb-1.5.sbcf

Licence: Redistributable. See LICENCE.i2400m for details

Also available from <http://linuxwimax.org/Download>

-----  
Driver: libertas - Marvell Libertas fullmac-type 802.11b/g cards

File: libertas/cf8381.bin  
File: libertas/cf8381\_helper.bin  
File: libertas/cf8385.bin  
File: libertas/cf8385\_helper.bin  
File: libertas/gspi8682.bin  
File: libertas/gspi8682\_helper.bin  
File: libertas/gspi8686\_v9.bin  
File: libertas/gspi8686\_v9\_helper.bin  
File: libertas/gspi8688.bin  
File: libertas/gspi8688\_helper.bin  
File: libertas/sd8385.bin  
File: libertas/sd8385\_helper.bin  
File: libertas/sd8682.bin  
File: libertas/sd8682\_helper.bin  
File: libertas/sd8686\_v8.bin  
File: libertas/sd8686\_v8\_helper.bin  
File: libertas/sd8686\_v9.bin  
File: libertas/sd8686\_v9\_helper.bin  
File: libertas/usb8388\_v5.bin  
File: libertas/usb8388\_v9.bin  
File: libertas/usb8682.bin  
File: mrvl/sd8688.bin  
Link: libertas/sd8688.bin -> ../mrvl/sd8688.bin  
File: mrvl/sd8688\_helper.bin  
Link: libertas/sd8688\_helper.bin -> ../mrvl/sd8688\_helper.bin

Licence: Redistributable. See LICENCE.Marvell for details. Extracted from Linux driver tarballs downloaded from Marvell's "Extranet" with permission.

-----  
Driver: libertas - Marvell Libertas 802.11b/g cards, OLPC firmware

File: libertas/lbtf\_sdio.bin  
Version: 9.0.7.p4

File: lbtf\_usb.bin  
Version: 5.132.3.p1

File: libertas/usb8388\_olpc.bin  
Version: 5.110.22.p23

Licence: Redistributable. See LICENCE.OLPC for details.

Available from <http://dev.laptop.org/pub/firmware/libertas/>

-----  
Driver: mw18k - Marvell Libertas softmac-type 802.11b/g/n cards



File: mwl8k/fmimage\_8687.fw  
File: mwl8k/helper\_8687.fw  
File: mwl8k/fmimage\_8366.fw  
File: mwl8k/fmimage\_8366\_ap-1.fw  
File: mwl8k/fmimage\_8366\_ap-2.fw  
File: mwl8k/fmimage\_8366\_ap-3.fw  
Version: 5.2.8.16  
File: mwl8k/helper\_8366.fw

File: mwl8k/fmimage\_8764\_ap-1.fw  
Version: 7.4.0.9

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-----  
Driver: mwifiex - Marvell Wi-Fi fullmac-type 802.11n/ac cards

File: mrvl/sd8787\_uapsta.bin  
Version: W14.68.35.p66

File: mrvl/usb8766\_uapsta.bin  
Version: 14.68.22.p16

File: mrvl/sd8797\_uapsta.bin  
Version: W14.68.29.p59

File: mrvl/usb8797\_uapsta.bin  
Version: W14.68.29.p60

File: mrvl/sd8897\_uapsta.bin  
Version: W15.68.19.17

File: mrvl/usb8897\_uapsta.bin  
Version: 15.68.4.p103

File: mrvl/pcie8897\_uapsta.bin  
Version: W15.68.19.p21

File: mrvl/sd8887\_uapsta.bin  
Version: W15.68.7.p189

File: mrvl/sd8801\_uapsta.bin  
Version: W14.68.36.p204

File: mrvl/usb8801\_uapsta.bin  
Version: W14.68.36.p138

File: mrvl/pcieuart8997\_combo\_v4.bin  
Version: W16.68.1.p179

File: mrvl/pcieusb8997\_combo\_v4.bin  
Version: W16.68.1.p195

File: mrvl/pcie8997\_wlan\_v4.bin  
Version: W16.68.1.p195

File: mrvl/usb8997\_combo\_v4.bin



Version: Wl6.68.1.pl83

File: mrvl/sd8997\_combo\_v4.bin

Version: Wl6.68.1.pl79

File: mrvl/sd8977\_combo\_v2.bin

Version: Wl6.68.1.pl95

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<http://git.marvell.com/?p=mvwifiex-firmware.git>

-----

Driver: iwlwifi - Intel Wireless Wifi

File: iwlwifi-3945-2.ucode

Version: 15.32.2.9

File: iwlwifi-4965-2.ucode

Version: 228.61.2.24

File: iwlwifi-5000-1.ucode

Version: 5.4.A.11 (aka 5.4.1.16)

File: iwlwifi-5000-2.ucode

Version: 8.24.2.12

File: iwlwifi-5000-5.ucode

Version: 8.83.5.1

File: iwlwifi-5150-2.ucode

Version: 8.24.2.2

File: iwlwifi-1000-3.ucode

Version: 128.50.3.1

File: iwlwifi-1000-5.ucode

Version: 39.31.5.1

File: iwlwifi-6000-4.ucode

Version: 9.221.4.1

File: iwlwifi-6050-4.ucode

Version: 9.201.4.1

File: iwlwifi-6050-5.ucode

Version: 41.28.5.1

File: iwlwifi-6000g2a-5.ucode

Version: 17.168.5.3

File: iwlwifi-6000g2a-6.ucode

Version: 18.168.6.1

File: iwlwifi-6000g2b-5.ucode

Version: 17.168.5.1

File: iwlwifi-6000g2b-6.ucode

Version: 18.168.6.1



File: iwlwifi-135-6.ucode  
Version: 18.168.6.1

File: iwlwifi-100-5.ucode  
Version: 39.31.5.1

File: iwlwifi-105-6.ucode  
Version: 18.168.6.1

File: iwlwifi-2030-6.ucode  
Version: 18.168.6.1

File: iwlwifi-2000-6.ucode  
Version: 18.168.6.1

File: iwlwifi-7260-7.ucode  
Version: 22.1.7.0

File: iwlwifi-7260-8.ucode  
Version: 22.24.8.0

File: iwlwifi-7260-9.ucode  
Version: 25.228.9.0

File: iwlwifi-7260-10.ucode  
Version: 23.15.10.0

File: iwlwifi-7260-12.ucode  
Version: 25.17.12.0

File: iwlwifi-7260-13.ucode  
Version: 25.30.13.0

File: iwlwifi-7260-16.ucode  
Version: 16.242414.0

File: iwlwifi-7260-17.ucode  
Version: 17.bfb58538.0

File: iwlwifi-3160-7.ucode  
Version: 22.1.7.0

File: iwlwifi-3160-8.ucode  
Version: 22.24.8.0

File: iwlwifi-3160-9.ucode  
Version: 25.228.9.0

File: iwlwifi-3160-10.ucode  
Version: 23.15.10.0

File: iwlwifi-3160-12.ucode  
Version: 25.17.12.0

File: iwlwifi-3160-13.ucode  
Version: 25.30.13.0

File: iwlwifi-3160-16.ucode  
Version: 16.242414.0



File: iwlwifi-3160-17.ucode  
Version: 17.bfb58538.0

File: iwlwifi-7265-8.ucode  
Version: 22.24.8.0

File: iwlwifi-7265-9.ucode  
Version: 25.228.9.0

File: iwlwifi-7265-10.ucode  
Version: 23.15.10.0

File: iwlwifi-7265-12.ucode  
Version: 25.17.12.0

File: iwlwifi-7265-13.ucode  
Version: 25.30.13.0

File: iwlwifi-7265-16.ucode  
Version: 16.242414.0

File: iwlwifi-7265-17.ucode  
Version: 17.bfb58538.0

File: iwlwifi-7265D-10.ucode  
Version: 23.15.10.0

File: iwlwifi-7265D-12.ucode  
Version: 25.17.12.0

File: iwlwifi-7265D-13.ucode  
Version: 25.30.13.0

File: iwlwifi-7265D-16.ucode  
Version: 16.242414.0

File: iwlwifi-7265D-17.ucode  
Version: 17.352738.0

File: iwlwifi-7265D-21.ucode  
Version: 21.302800.0

File: iwlwifi-7265D-22.ucode  
Version: 22.391740.0

File: iwlwifi-7265D-27.ucode  
Version: 27.541033.0

File: iwlwifi-7265D-29.ucode  
Version: 29.3e3b4de5.0

File: iwlwifi-3168-21.ucode  
Version: 21.302800.0

File: iwlwifi-3168-22.ucode  
Version: 22.391740.0

File: iwlwifi-3168-27.ucode  
Version: 27.541033.0



File: iwlwifi-3168-29.ucode  
Version: 29.3e3b4de5.0

File: iwlwifi-8000C-13.ucode  
Version: 25.30.13.0

File: iwlwifi-8000C-16.ucode  
Version: 16.242414.0

File: iwlwifi-8000C-21.ucode  
Version: 21.302800.0

File: iwlwifi-8000C-22.ucode  
Version: 22.391740.0

File: iwlwifi-8000C-27.ucode  
Version: 27.541033.0

File: iwlwifi-8000C-31.ucode  
Version: 31.560484.0

File: iwlwifi-8000C-34.ucode  
Version: 34.610288.0

File: iwlwifi-8000C-36.ucode  
Version: 36.8fd77bb3.0

File: iwlwifi-8265-21.ucode  
Version: 21.302800.0

File: iwlwifi-8265-22.ucode  
Version: 22.391740.0

File: iwlwifi-8265-27.ucode  
Version: 27.541033.0

File: iwlwifi-8265-31.ucode  
Version: 31.560484.0

File: iwlwifi-8265-34.ucode  
Version: 34.610288.0

File: iwlwifi-8265-36.ucode  
Version: 36.8fd77bb3.0

File: iwlwifi-9000-pu-b0-jf-b0-33.ucode  
Version: 33.610294.0

File: iwlwifi-9000-pu-b0-jf-b0-34.ucode  
Version: 34.ba501b11.0

File: iwlwifi-9000-pu-b0-jf-b0-38.ucode  
Version: 38.755cfdd8.0

File: iwlwifi-9000-pu-b0-jf-b0-41.ucode  
Version: 41.fc1a7aea.0

File: iwlwifi-9000-pu-b0-jf-b0-43.ucode  
Version: 43.95eb4e97.0



File: iwlwifi-9000-pu-b0-jf-b0-46.ucode  
Version: 46.a4ladfe7.0

File: iwlwifi-9260-th-b0-jf-b0-33.ucode  
Version: 33.610294.0

File: iwlwifi-9260-th-b0-jf-b0-34.ucode  
Version: 34.ba501b11.0

File: iwlwifi-9260-th-b0-jf-b0-38.ucode  
Version: 38.755cfdd8.0

File: iwlwifi-9260-th-b0-jf-b0-41.ucode  
Version: 41.fcla7aea.0

File: iwlwifi-9260-th-b0-jf-b0-43.ucode  
Version: 43.95eb4e97.0

File: iwlwifi-9260-th-b0-jf-b0-46.ucode  
Version: 46.a4ladfe7.0

File: iwlwifi-cc-a0-46.ucode  
Version: 46.3cfab8da.0

File: iwlwifi-cc-a0-48.ucode  
Version: 48.13675109.0

File: iwlwifi-Qu-b0-hr-b0-48.ucode  
Version: 48.13675109.0

File: iwlwifi-Qu-b0-jf-b0-48.ucode  
Version: 48.13675109.0

File: iwlwifi-Qu-c0-hr-b0-48.ucode  
Version: 48.13675109.0

File: iwlwifi-Qu-c0-jf-b0-48.ucode  
Version: 48.13675109.0

File: iwlwifi-QuZ-a0-hr-b0-48.ucode  
Version: 48.13675109.0

File: iwlwifi-QuZ-a0-jf-b0-48.ucode  
Version: 48.13675109.0

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Also available from <http://wireless.kernel.org/en/users/Drivers/iwlwifi#Firmware>

-----  
Driver: ipu3-imgu - Intel IPU3 (3rd Gen Image Processing Unit) driver

File: intel/irci\_irci\_ecr-master\_20161208\_0213\_20170112\_1500.bin  
Version: irci\_irci\_ecr-master\_20161208\_0213\_20170112\_1500  
md5sum: 59abc311fcea49c5a180b5a8a3917912d  
Link: intel/ipu3-fw.bin -> irci\_irci\_ecr-master\_20161208\_0213\_20170112\_1500.bin



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---

Driver: cx23lxx - Conexant Cx23100/101/102 USB broadcast A/V decoder

File: v4l-cx23lxx-avcore-01.fw

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---

Driver: tehuti - Tehuti Networks 10G Ethernet

File: tehuti/bdx.bin

Licence:

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Found in hex form in kernel source.

---

Driver: typhoon - 3cr990 series Typhoon

File: 3com/typhoon.bin

Licence:

```
/*
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```

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* COMBINATION WITH THE 3c990img.h MICROCODE SOFTWARE
*/

```

Found in hex form in kernel source.

-----

Driver: yam - YAM driver for AX.25

File: yam/1200.bin  
File: yam/9600.bin

Licence:  
\* (C) F6FBB 1998

Found in hex form in kernel source.

-----

Driver: 3c359 - 3Com 3C359 Token Link Velocity XL adapter

File: 3com/3C359.bin

Licence:

```

/*
* The firmware this driver downloads into the tokenring card is a
* separate program and is not GPL'd source code, even though the Linux
* side driver and the routine that loads this data into the card are.
*
* This firmware is licensed to you strictly for use in conjunction
* with the use of 3Com 3C359 TokenRing adapters. There is no
* warranty expressed or implied about its fitness for any purpose.
*/
/* 3c359_microcode.mac: 3Com 3C359 Tokenring microcode.
*
* Notes:
* - Loaded from xl_init upon adapter initialization.
*
* Available from 3Com as part of their standard 3C359 driver.
*/

```

Found in hex form in kernel source.

-----

Driver: pcnet\_cs - NE2000 compatible PCMCIA adapter

File: cis/LA-PCM.cis  
File: cis/PCMLM28.cis



File: cis/DP83903.cis  
File: cis/NE2K.cis  
File: cis/tamarack.cis  
File: cis/PE-200.cis  
File: cis/PE520.cis  
Source: cis/

Licence: Dual GPLv2/MPL

Originally developed by the pcmcia-cs project  
Copyright (C) 1998, 1999, 2000 David A. Hinds

---

Driver: 3c589\_cs - 3Com PCMCIA adapter

File: cis/3CXEM556.cis  
Source: cis/src/3CXEM556.cis

Licence: Dual GPLv2/MPL

Originally developed by the pcmcia-cs project  
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---

Driver: 3c574\_cs - 3Com PCMCIA adapter

File: cis/3CCFEM556.cis  
Source: cis/src/3CCFEM556.cis

Licence: Dual GPLv2/MPL

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---

Driver: serial\_cs - Serial PCMCIA adapter

File: cis/MT5634ZLX.cis  
File: cis/RS-COM-2P.cis  
File: cis/COMpad2.cis  
File: cis/COMpad4.cis  
Source: cis/src/MT5634ZLX.cis  
Source: cis/src/RS-COM-2P.cis  
Source: cis/src/COMpad2.cis  
Source: cis/src/COMpad4.cis

Licence: Dual GPLv2/MPL

Originally developed by the pcmcia-cs project  
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---

Driver: serial\_cs - Serial PCMCIA adapter

File: cis/SW\_555\_SER.cis  
File: cis/SW\_7xx\_SER.cis



File: cis/SW\_8xx\_SER.cis

Licence: GPLv3. See GPL-3 for details.

Copyright Sierra Wireless

---

Driver: smc91c92\_cs - SMC 91Cxx PCMCIA

File: ositech/Xilinx70D.bin

Licence: Allegedly GPL, but no source visible. Marked:

This file contains the firmware of Seven of Diamonds from OSITECH.  
(Special thanks to Kevin MacPherson of OSITECH)

Found in hex form in kernel source.

---

Driver: cx23418 - Conexant PCI Broadcast A/V with MPEG encoder

File: v4l-cx23418-apu.fw

File: v4l-cx23418-cpu.fw

File: v4l-cx23418-dig.fw

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---

Driver: cx23885 - Conexant PCI Express Broadcast A/V decoder

File: v4l-cx23885-avcore-01.fw

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---

Driver: cx23840 - Conexant sideport Broadcast A/V decoder

File: v4l-cx25840.fw

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---

Driver: qllogicpti - PTI Qlogic, ISP Driver

File: qllogic/ispl000.bin

Licence: Unknown

Found in hex form in kernel source.

---

Driver: myri\_sbus - MyriCOM Gigabit Ethernet

File: myricom/lanai.bin

Licence: Unknown

Found in hex form in kernel source.

---

Driver: bnx2x: Broadcom Everest

File: bnx2x-e1-4.8.53.0.fw

File: bnx2x-elh-4.8.53.0.fw

File: bnx2x-e1-5.2.7.0.fw

File: bnx2x-elh-5.2.7.0.fw

File: bnx2x-e1-5.2.13.0.fw

File: bnx2x-elh-5.2.13.0.fw

File: bnx2x/bnx2x-e1-6.0.34.0.fw

File: bnx2x/bnx2x-elh-6.0.34.0.fw

File: bnx2x/bnx2x-e2-6.0.34.0.fw

File: bnx2x/bnx2x-e1-6.2.5.0.fw

File: bnx2x/bnx2x-elh-6.2.5.0.fw

File: bnx2x/bnx2x-e2-6.2.5.0.fw

File: bnx2x/bnx2x-e1-6.2.9.0.fw

File: bnx2x/bnx2x-elh-6.2.9.0.fw

File: bnx2x/bnx2x-e2-6.2.9.0.fw

File: bnx2x/bnx2x-e2-7.0.20.0.fw

File: bnx2x/bnx2x-e1-7.0.20.0.fw

File: bnx2x/bnx2x-elh-7.0.20.0.fw

File: bnx2x/bnx2x-e2-7.0.23.0.fw

File: bnx2x/bnx2x-e1-7.0.23.0.fw

File: bnx2x/bnx2x-elh-7.0.23.0.fw

File: bnx2x/bnx2x-e2-7.0.29.0.fw

File: bnx2x/bnx2x-e1-7.0.29.0.fw

File: bnx2x/bnx2x-elh-7.0.29.0.fw

File: bnx2x/bnx2x-e2-7.2.16.0.fw

File: bnx2x/bnx2x-e1-7.2.16.0.fw

File: bnx2x/bnx2x-elh-7.2.16.0.fw

File: bnx2x/bnx2x-e2-7.2.51.0.fw



File: bnx2x/bnx2x-e1-7.2.51.0.fw  
File: bnx2x/bnx2x-elh-7.2.51.0.fw  
File: bnx2x/bnx2x-e1-7.8.2.0.fw  
File: bnx2x/bnx2x-elh-7.8.2.0.fw  
File: bnx2x/bnx2x-e2-7.8.2.0.fw  
File: bnx2x/bnx2x-e1-7.8.17.0.fw  
File: bnx2x/bnx2x-elh-7.8.17.0.fw  
File: bnx2x/bnx2x-e2-7.8.17.0.fw  
File: bnx2x/bnx2x-e1-7.8.19.0.fw  
File: bnx2x/bnx2x-elh-7.8.19.0.fw  
File: bnx2x/bnx2x-e2-7.8.19.0.fw  
File: bnx2x/bnx2x-e1-7.10.51.0.fw  
File: bnx2x/bnx2x-elh-7.10.51.0.fw  
File: bnx2x/bnx2x-e2-7.10.51.0.fw  
File: bnx2x/bnx2x-e1-7.12.30.0.fw  
File: bnx2x/bnx2x-elh-7.12.30.0.fw  
File: bnx2x/bnx2x-e2-7.12.30.0.fw  
File: bnx2x/bnx2x-e1-7.13.1.0.fw  
File: bnx2x/bnx2x-elh-7.13.1.0.fw  
File: bnx2x/bnx2x-e2-7.13.1.0.fw  
File: bnx2x/bnx2x-e1-7.13.11.0.fw  
File: bnx2x/bnx2x-elh-7.13.11.0.fw  
File: bnx2x/bnx2x-e2-7.13.11.0.fw

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Found in hex form in kernel source.

-----  
Driver: bnx2 - Broadcom NetXtremeII

File: bnx2/bnx2-mips-06-4.6.16.fw  
File: bnx2/bnx2-mips-06-5.0.0.j3.fw  
File: bnx2/bnx2-mips-06-5.0.0.j6.fw  
File: bnx2/bnx2-mips-06-6.0.15.fw  
File: bnx2/bnx2-mips-06-6.2.1.fw  
File: bnx2/bnx2-mips-06-6.2.3.fw  
File: bnx2/bnx2-mips-09-4.6.17.fw  
File: bnx2/bnx2-mips-09-5.0.0.j3.fw  
File: bnx2/bnx2-mips-09-5.0.0.j9.fw  
File: bnx2/bnx2-mips-09-5.0.0.j15.fw  
File: bnx2/bnx2-mips-09-6.0.17.fw  
File: bnx2/bnx2-mips-09-6.2.1.fw  
File: bnx2/bnx2-mips-09-6.2.1a.fw  
File: bnx2/bnx2-mips-09-6.2.1b.fw  
File: bnx2/bnx2-rv2p-06-4.6.16.fw  
File: bnx2/bnx2-rv2p-06-5.0.0.j3.fw  
File: bnx2/bnx2-rv2p-06-6.0.15.fw  
File: bnx2/bnx2-rv2p-09-4.6.15.fw



File: bnx2/bnx2-rv2p-09-5.0.0.j3.fw  
File: bnx2/bnx2-rv2p-09-5.0.0.j10.fw  
File: bnx2/bnx2-rv2p-09-6.0.17.fw  
File: bnx2/bnx2-rv2p-09ax-5.0.0.j3.fw  
File: bnx2/bnx2-rv2p-09ax-5.0.0.j10.fw  
File: bnx2/bnx2-rv2p-09ax-6.0.17.fw

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-----  
Driver: netxen\_nic - NetXen Multi port (1/10) Gigabit Ethernet NIC

File: phanfw.bin  
Version: 4.0.590

Licence: Redistributable. See LICENCE.phanfw for details.

Available from [http://ldriver.qlogic.com/firmware/netxen\\_nic/new/](http://ldriver.qlogic.com/firmware/netxen_nic/new/)

-----  
Driver: dvb-ttpci -- AV7110 cards

File: av7110/bootcode.bin  
Source: av7110/Boot.S  
Source: av7110/Makefile

Licence: GPLv2 or later. See GPL-2 and GPL-3 for details.

ARM assembly source code from <https://linuxtv.org/downloads/firmware/Boot.S>

-----  
Driver: snd-wavefront - ISA WaveFront sound card

File: yamaha/yss225\_registers.bin

Licence: Allegedly GPLv2+, but no source visible.

Found in hex form in kernel source, with the following comment:  
Copyright (c) 1998-2002 by Paul Davis <pbd@op.net>

-----  
Driver: rt61pci - Ralink RT2561, RT2561S, RT2661 wireless MACs

File: rt2561.bin  
File: rt2561s.bin  
File: rt2661.bin



Licence: Redistributable. See LICENCE.ralink-firmware.txt for details

Downloaded from <http://www.ralinktech.com/ralink/Home/Support/Linux.html>

-----  
Driver: rt73usb - Ralink RT2571W, RT2671 wireless MACs

File: rt73.bin

Licence: Redistributable. See LICENCE.ralink-firmware.txt for details

Downloaded from <http://www.ralinktech.com/ralink/Home/Support/Linux.html>

-----  
Driver: mt7601u - MediaTek MT7601U Wireless MACs

File: mt7601u.bin

Version: 34

Licence: Redistributable. See LICENCE.ralink\_a\_mediatek\_company\_firmware for details

Downloaded from <http://www.mediatek.com/en/downloads/>

-----  
Driver: rt2800pci - Ralink RT2860, RT2890, RT3090, RT3290, RT5390 wireless MACs

File: rt2860.bin

Version: 40

File: rt3290.bin

Version: 37

Licence: Redistributable. See LICENCE.ralink-firmware.txt for details

Binary file supplied originally by Shiang Tu <[shiang\\_tu@ralinktech.com](mailto:shiang_tu@ralinktech.com)>, latest from <http://www.mediatek.com/en/downloads1/downloads/>

-----  
Driver: rt2860sta - Ralink RT3090 wireless MACs

Link: rt3090.bin -> rt2860.bin

Licence: Redistributable. See LICENCE.ralink-firmware.txt for details

-----  
Driver: rt2800usb - Ralink RT2870, RT3070, RT3071, RT3072, RT5370 wireless MACs

File: rt2870.bin

Version: 36

Licence: Redistributable. See LICENCE.ralink-firmware.txt for details

Binary file supplied originally by Shiang Tu <[shiang\\_tu@ralinktech.com](mailto:shiang_tu@ralinktech.com)>, latest from <http://www.mediatek.com/en/downloads1/downloads/>



---

Driver: rt2870sta - Ralink RT2870, RT3070, RT3071 wireless MACs

Link: rt3070.bin -> rt2870.bin

File: rt3071.bin

Licence: Redistributable. See LICENCE.ralink-firmware.txt for details

rt3071.bin is a copy of bytes 4096-8191 of rt2870.bin for compatibility.

---

Driver: usbdux/usbduxfast/usbduxsigma - usbdux data acquisition cards

File: usbdux\_firmware.bin

File: usbduxfast\_firmware.bin

File: usbduxsigma\_firmware.bin

Source: usbdux/

Licence: GPLv2. See GPL-2 for details.

Provided from the author, Bernd Porr <BerndPorr@f2s.com>

---

Driver: xc4000 - Xceive 4000 Tuner driver

File: dvb-fe-xc4000-1.4.1.fw

Version: 1.4.1

Licence: Redistributable. See LICENCE.xc4000 for details

---

Driver: xc5000 - Xceive 5000 Tuner driver

File: dvb-fe-xc5000-1.6.114.fw

Version: 1.6.114

File: dvb-fe-xc5000c-4.1.30.7.fw

Version: 4.1.30.7

Licence: Redistributable. See LICENCE.xc5000 and LICENCE.xc5000c for details

---

Driver: dib0700 - DiBcom dib0700 USB DVB bridge driver

File: dvb-usb-dib0700-1.20.fw

Version: 1.20

Licence: Redistributable. See LICENSE.dib0700 for details

---

Driver: ath3k - DFU Driver for Atheros bluetooth chipset AR3011

File: ath3k-1.fw

Version: 1.0



Fix EEPROM radio table issue and change PID to 3005

Licence: Redistributable. See LICENCE.atheros\_firmware for details

-----  
Driver: mga - Matrox G200/G400/G550

File: matrox/g200\_warp.fw

File: matrox/g400\_warp.fw

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Found in hex form in kernel source.

-----  
Driver: r128 - ATI Rage 128

File: r128/r128\_cce.bin

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\* DEALINGS IN THE SOFTWARE.

Found in decimal form in kernel source.

-----  
Driver: radeon - ATI Radeon

File: radeon/R100\_cp.bin  
File: radeon/R200\_cp.bin  
File: radeon/R300\_cp.bin  
File: radeon/R420\_cp.bin  
File: radeon/RS600\_cp.bin  
File: radeon/RS690\_cp.bin  
File: radeon/R520\_cp.bin  
File: radeon/R600\_pfp.bin  
File: radeon/R600\_me.bin  
File: radeon/RV610\_pfp.bin  
File: radeon/RV610\_me.bin  
File: radeon/RV630\_pfp.bin  
File: radeon/RV630\_me.bin  
File: radeon/RV620\_pfp.bin  
File: radeon/RV620\_me.bin  
File: radeon/RV635\_pfp.bin  
File: radeon/RV635\_me.bin  
File: radeon/RV670\_pfp.bin  
File: radeon/RV670\_me.bin  
File: radeon/RS780\_pfp.bin  
File: radeon/RS780\_me.bin  
File: radeon/RV770\_pfp.bin  
File: radeon/RV770\_me.bin  
File: radeon/RV730\_pfp.bin  
File: radeon/RV730\_me.bin  
File: radeon/RV710\_pfp.bin  
File: radeon/RV710\_me.bin

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Found in hex form in kernel source.

-----  
Driver: radeon - ATI Radeon

File: radeon/R600\_rlc.bin  
File: radeon/R600\_uvd.bin  
File: radeon/RS780\_uvd.bin  
File: radeon/R700\_rlc.bin  
File: radeon/RV710\_uvd.bin  
File: radeon/RV710\_smc.bin  
File: radeon/RV730\_smc.bin  
File: radeon/RV740\_smc.bin  
File: radeon/RV770\_smc.bin  
File: radeon/RV770\_uvd.bin  
File: radeon/CEDAR\_me.bin  
File: radeon/CEDAR\_pfp.bin  
File: radeon/CEDAR\_rlc.bin  
File: radeon/CEDAR\_smc.bin  
File: radeon/CYPRESS\_me.bin  
File: radeon/CYPRESS\_pfp.bin  
File: radeon/CYPRESS\_rlc.bin  
File: radeon/CYPRESS\_uvd.bin  
File: radeon/CYPRESS\_smc.bin  
File: radeon/JUNIPER\_me.bin  
File: radeon/JUNIPER\_pfp.bin  
File: radeon/JUNIPER\_rlc.bin  
File: radeon/JUNIPER\_smc.bin  
File: radeon/REDWOOD\_me.bin  
File: radeon/REDWOOD\_pfp.bin  
File: radeon/REDWOOD\_rlc.bin  
File: radeon/REDWOOD\_smc.bin  
File: radeon/PALM\_me.bin  
File: radeon/PALM\_pfp.bin  
File: radeon/SUMO\_rlc.bin  
File: radeon/SUMO\_uvd.bin  
File: radeon/BARTS\_mc.bin  
File: radeon/BARTS\_me.bin  
File: radeon/BARTS\_pfp.bin  
File: radeon/BARTS\_smc.bin  
File: radeon/BTC\_rlc.bin  
File: radeon/CAICOS\_mc.bin  
File: radeon/CAICOS\_me.bin  
File: radeon/CAICOS\_pfp.bin  
File: radeon/CAICOS\_smc.bin  
File: radeon/TURKS\_mc.bin  
File: radeon/TURKS\_me.bin  
File: radeon/TURKS\_pfp.bin  
File: radeon/TURKS\_smc.bin  
File: radeon/CAYMAN\_mc.bin  
File: radeon/CAYMAN\_me.bin  
File: radeon/CAYMAN\_pfp.bin  
File: radeon/CAYMAN\_rlc.bin  
File: radeon/CAYMAN\_smc.bin  
File: radeon/SUMO\_pfp.bin



File: radeon/SUMO\_me.bin  
File: radeon/SUMO2\_pfp.bin  
File: radeon/SUMO2\_me.bin  
File: radeon/ARUBA\_me.bin  
File: radeon/ARUBA\_pfp.bin  
File: radeon/ARUBA\_rlc.bin  
File: radeon/PITCAIRN\_ce.bin  
File: radeon/PITCAIRN\_mc.bin  
File: radeon/PITCAIRN\_mc2.bin  
File: radeon/PITCAIRN\_me.bin  
File: radeon/PITCAIRN\_pfp.bin  
File: radeon/PITCAIRN\_rlc.bin  
File: radeon/PITCAIRN\_smc.bin  
File: radeon/TAHITI\_ce.bin  
File: radeon/TAHITI\_mc.bin  
File: radeon/TAHITI\_mc2.bin  
File: radeon/TAHITI\_me.bin  
File: radeon/TAHITI\_pfp.bin  
File: radeon/TAHITI\_rlc.bin  
File: radeon/TAHITI\_uvd.bin  
File: radeon/TAHITI\_smc.bin  
File: radeon/TAHITI\_vce.bin  
File: radeon/VERDE\_ce.bin  
File: radeon/VERDE\_mc.bin  
File: radeon/VERDE\_mc2.bin  
File: radeon/VERDE\_me.bin  
File: radeon/VERDE\_pfp.bin  
File: radeon/VERDE\_rlc.bin  
File: radeon/VERDE\_smc.bin  
File: radeon/OLAND\_ce.bin  
File: radeon/OLAND\_mc.bin  
File: radeon/OLAND\_mc2.bin  
File: radeon/OLAND\_me.bin  
File: radeon/OLAND\_pfp.bin  
File: radeon/OLAND\_rlc.bin  
File: radeon/OLAND\_smc.bin  
File: radeon/HAINAN\_ce.bin  
File: radeon/HAINAN\_mc.bin  
File: radeon/HAINAN\_mc2.bin  
File: radeon/HAINAN\_me.bin  
File: radeon/HAINAN\_pfp.bin  
File: radeon/HAINAN\_rlc.bin  
File: radeon/HAINAN\_smc.bin  
File: radeon/BONAIRE\_ce.bin  
File: radeon/BONAIRE\_mc.bin  
File: radeon/BONAIRE\_mc2.bin  
File: radeon/BONAIRE\_me.bin  
File: radeon/BONAIRE\_mec.bin  
File: radeon/BONAIRE\_pfp.bin  
File: radeon/BONAIRE\_rlc.bin  
File: radeon/BONAIRE\_sdma.bin  
File: radeon/BONAIRE\_uvd.bin  
File: radeon/BONAIRE\_smc.bin  
File: radeon/BONAIRE\_vce.bin  
File: radeon/KABINI\_ce.bin  
File: radeon/KABINI\_me.bin  
File: radeon/KABINI\_mec.bin  
File: radeon/KABINI\_pfp.bin  
File: radeon/KABINI\_rlc.bin  
File: radeon/KABINI\_sdma.bin



File: radeon/KAVERI\_ce.bin  
File: radeon/KAVERI\_me.bin  
File: radeon/KAVERI\_mec.bin  
File: radeon/KAVERI\_pfp.bin  
File: radeon/KAVERI\_rlc.bin  
File: radeon/KAVERI\_sdma.bin  
File: radeon/HAWAII\_ce.bin  
File: radeon/HAWAII\_mc.bin  
File: radeon/HAWAII\_mc2.bin  
File: radeon/HAWAII\_me.bin  
File: radeon/HAWAII\_mec.bin  
File: radeon/HAWAII\_pfp.bin  
File: radeon/HAWAII\_rlc.bin  
File: radeon/HAWAII\_sdma.bin  
File: radeon/HAWAII\_smc.bin  
File: radeon/MULLINS\_ce.bin  
File: radeon/MULLINS\_me.bin  
File: radeon/MULLINS\_mec.bin  
File: radeon/MULLINS\_pfp.bin  
File: radeon/MULLINS\_rlc.bin  
File: radeon/MULLINS\_sdma.bin  
File: radeon/pitcairn\_ce.bin  
File: radeon/pitcairn\_k\_smc.bin  
File: radeon/pitcairn\_mc.bin  
File: radeon/pitcairn\_me.bin  
File: radeon/pitcairn\_pfp.bin  
File: radeon/pitcairn\_rlc.bin  
File: radeon/pitcairn\_smc.bin  
File: radeon/tahiti\_ce.bin  
File: radeon/tahiti\_k\_smc.bin  
File: radeon/tahiti\_mc.bin  
File: radeon/tahiti\_me.bin  
File: radeon/tahiti\_pfp.bin  
File: radeon/tahiti\_rlc.bin  
File: radeon/tahiti\_smc.bin  
File: radeon/verde\_ce.bin  
File: radeon/verde\_k\_smc.bin  
File: radeon/verde\_mc.bin  
File: radeon/verde\_me.bin  
File: radeon/verde\_pfp.bin  
File: radeon/verde\_rlc.bin  
File: radeon/verde\_smc.bin  
File: radeon/oland\_ce.bin  
File: radeon/oland\_k\_smc.bin  
File: radeon/oland\_mc.bin  
File: radeon/oland\_me.bin  
File: radeon/oland\_pfp.bin  
File: radeon/oland\_rlc.bin  
File: radeon/oland\_smc.bin  
File: radeon/hainan\_ce.bin  
File: radeon/hainan\_k\_smc.bin  
File: radeon/hainan\_mc.bin  
File: radeon/hainan\_me.bin  
File: radeon/hainan\_pfp.bin  
File: radeon/hainan\_rlc.bin  
File: radeon/hainan\_smc.bin  
File: radeon/bonaire\_ce.bin  
File: radeon/bonaire\_k\_smc.bin  
File: radeon/bonaire\_mc.bin  
File: radeon/bonaire\_me.bin



File: radeon/bonaire\_mec.bin  
File: radeon/bonaire\_pfp.bin  
File: radeon/bonaire\_rlc.bin  
File: radeon/bonaire\_sdma.bin  
File: radeon/bonaire\_sdma1.bin  
File: radeon/bonaire\_smc.bin  
File: radeon/bonaire\_uvd.bin  
File: radeon/bonaire\_vce.bin  
File: radeon/kabini\_ce.bin  
File: radeon/kabini\_me.bin  
File: radeon/kabini\_mec.bin  
File: radeon/kabini\_pfp.bin  
File: radeon/kabini\_rlc.bin  
File: radeon/kabini\_sdma.bin  
File: radeon/kabini\_sdma1.bin  
File: radeon/kabini\_uvd.bin  
File: radeon/kabini\_vce.bin  
File: radeon/kaveri\_ce.bin  
File: radeon/kaveri\_me.bin  
File: radeon/kaveri\_mec.bin  
File: radeon/kaveri\_mec2.bin  
File: radeon/kaveri\_pfp.bin  
File: radeon/kaveri\_rlc.bin  
File: radeon/kaveri\_sdma.bin  
File: radeon/kaveri\_sdma1.bin  
File: radeon/kaveri\_uvd.bin  
File: radeon/kaveri\_vce.bin  
File: radeon/hawaii\_ce.bin  
File: radeon/hawaii\_k\_smc.bin  
File: radeon/hawaii\_mc.bin  
File: radeon/hawaii\_me.bin  
File: radeon/hawaii\_mec.bin  
File: radeon/hawaii\_pfp.bin  
File: radeon/hawaii\_rlc.bin  
File: radeon/hawaii\_sdma.bin  
File: radeon/hawaii\_sdma1.bin  
File: radeon/hawaii\_smc.bin  
File: radeon/hawaii\_uvd.bin  
File: radeon/hawaii\_vce.bin  
File: radeon/mullins\_ce.bin  
File: radeon/mullins\_me.bin  
File: radeon/mullins\_mec.bin  
File: radeon/mullins\_pfp.bin  
File: radeon/mullins\_rlc.bin  
File: radeon/mullins\_sdma.bin  
File: radeon/mullins\_sdma1.bin  
File: radeon/mullins\_uvd.bin  
File: radeon/mullins\_vce.bin  
File: radeon/banks\_k\_2\_smc.bin  
File: radeon/si58\_mc.bin

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-----  
Driver: amdgpu - AMD Radeon

File: amdgpu/tahiti\_ce.bin  
File: amdgpu/tahiti\_k\_smc.bin  
File: amdgpu/tahiti\_mc.bin



File: amdgpu/tahiti\_me.bin  
File: amdgpu/tahiti\_pfp.bin  
File: amdgpu/tahiti\_rlc.bin  
File: amdgpu/tahiti\_smc.bin  
File: amdgpu/pitcairn\_ce.bin  
File: amdgpu/pitcairn\_k\_smc.bin  
File: amdgpu/pitcairn\_mc.bin  
File: amdgpu/pitcairn\_me.bin  
File: amdgpu/pitcairn\_pfp.bin  
File: amdgpu/pitcairn\_rlc.bin  
File: amdgpu/pitcairn\_smc.bin  
File: amdgpu/verde\_ce.bin  
File: amdgpu/verde\_k\_smc.bin  
File: amdgpu/verde\_mc.bin  
File: amdgpu/verde\_me.bin  
File: amdgpu/verde\_pfp.bin  
File: amdgpu/verde\_rlc.bin  
File: amdgpu/verde\_smc.bin  
File: amdgpu/hainan\_ce.bin  
File: amdgpu/hainan\_k\_smc.bin  
File: amdgpu/hainan\_mc.bin  
File: amdgpu/hainan\_me.bin  
File: amdgpu/hainan\_pfp.bin  
File: amdgpu/hainan\_rlc.bin  
File: amdgpu/hainan\_smc.bin  
File: amdgpu/oland\_ce.bin  
File: amdgpu/oland\_k\_smc.bin  
File: amdgpu/oland\_mc.bin  
File: amdgpu/oland\_me.bin  
File: amdgpu/oland\_pfp.bin  
File: amdgpu/oland\_rlc.bin  
File: amdgpu/oland\_smc.bin  
File: amdgpu/si58\_mc.bin  
File: amdgpu/banks\_k\_2\_smc.bin  
File: amdgpu/bonaire\_ce.bin  
File: amdgpu/bonaire\_k\_smc.bin  
File: amdgpu/bonaire\_mc.bin  
File: amdgpu/bonaire\_me.bin  
File: amdgpu/bonaire\_mec.bin  
File: amdgpu/bonaire\_pfp.bin  
File: amdgpu/bonaire\_rlc.bin  
File: amdgpu/bonaire\_sdma.bin  
File: amdgpu/bonaire\_sdma1.bin  
File: amdgpu/bonaire\_smc.bin  
File: amdgpu/bonaire\_uvd.bin  
File: amdgpu/bonaire\_vce.bin  
File: amdgpu/hawaii\_ce.bin  
File: amdgpu/hawaii\_k\_smc.bin  
File: amdgpu/hawaii\_mc.bin  
File: amdgpu/hawaii\_me.bin  
File: amdgpu/hawaii\_mec.bin  
File: amdgpu/hawaii\_pfp.bin  
File: amdgpu/hawaii\_rlc.bin  
File: amdgpu/hawaii\_sdma.bin  
File: amdgpu/hawaii\_sdma1.bin  
File: amdgpu/hawaii\_smc.bin  
File: amdgpu/hawaii\_uvd.bin  
File: amdgpu/hawaii\_vce.bin  
File: amdgpu/kabini\_ce.bin  
File: amdgpu/kabini\_me.bin



File: amdgpu/kabini\_mec.bin  
File: amdgpu/kabini\_pfp.bin  
File: amdgpu/kabini\_rlc.bin  
File: amdgpu/kabini\_sdma.bin  
File: amdgpu/kabini\_sdma1.bin  
File: amdgpu/kabini\_uvd.bin  
File: amdgpu/kabini\_vce.bin  
File: amdgpu/mullins\_ce.bin  
File: amdgpu/mullins\_me.bin  
File: amdgpu/mullins\_mec.bin  
File: amdgpu/mullins\_pfp.bin  
File: amdgpu/mullins\_rlc.bin  
File: amdgpu/mullins\_sdma.bin  
File: amdgpu/mullins\_sdma1.bin  
File: amdgpu/mullins\_uvd.bin  
File: amdgpu/mullins\_vce.bin  
File: amdgpu/kaveri\_ce.bin  
File: amdgpu/kaveri\_me.bin  
File: amdgpu/kaveri\_mec.bin  
File: amdgpu/kaveri\_mec2.bin  
File: amdgpu/kaveri\_pfp.bin  
File: amdgpu/kaveri\_rlc.bin  
File: amdgpu/kaveri\_sdma.bin  
File: amdgpu/kaveri\_sdma1.bin  
File: amdgpu/kaveri\_uvd.bin  
File: amdgpu/kaveri\_vce.bin  
File: amdgpu/topaz\_ce.bin  
File: amdgpu/topaz\_k\_smc.bin  
File: amdgpu/topaz\_mc.bin  
File: amdgpu/topaz\_me.bin  
File: amdgpu/topaz\_mec2.bin  
File: amdgpu/topaz\_mec.bin  
File: amdgpu/topaz\_pfp.bin  
File: amdgpu/topaz\_rlc.bin  
File: amdgpu/topaz\_sdma1.bin  
File: amdgpu/topaz\_sdma.bin  
File: amdgpu/topaz\_smc.bin  
File: amdgpu/tonga\_ce.bin  
File: amdgpu/tonga\_k\_smc.bin  
File: amdgpu/tonga\_mc.bin  
File: amdgpu/tonga\_me.bin  
File: amdgpu/tonga\_mec2.bin  
File: amdgpu/tonga\_mec.bin  
File: amdgpu/tonga\_pfp.bin  
File: amdgpu/tonga\_rlc.bin  
File: amdgpu/tonga\_sdma1.bin  
File: amdgpu/tonga\_sdma.bin  
File: amdgpu/tonga\_smc.bin  
File: amdgpu/tonga\_uvd.bin  
File: amdgpu/tonga\_vce.bin  
File: amdgpu/carrizo\_ce.bin  
File: amdgpu/carrizo\_me.bin  
File: amdgpu/carrizo\_mec2.bin  
File: amdgpu/carrizo\_mec.bin  
File: amdgpu/carrizo\_pfp.bin  
File: amdgpu/carrizo\_rlc.bin  
File: amdgpu/carrizo\_sdma1.bin  
File: amdgpu/carrizo\_sdma.bin  
File: amdgpu/carrizo\_uvd.bin  
File: amdgpu/carrizo\_vce.bin



File: amdgpu/fiji\_ce.bin  
File: amdgpu/fiji\_mc.bin  
File: amdgpu/fiji\_me.bin  
File: amdgpu/fiji\_mec2.bin  
File: amdgpu/fiji\_mec.bin  
File: amdgpu/fiji\_pfp.bin  
File: amdgpu/fiji\_rlc.bin  
File: amdgpu/fiji\_sdma1.bin  
File: amdgpu/fiji\_sdma.bin  
File: amdgpu/fiji\_smc.bin  
File: amdgpu/fiji\_uvd.bin  
File: amdgpu/fiji\_vce.bin  
File: amdgpu/stone\_ce.bin  
File: amdgpu/stone\_me.bin  
File: amdgpu/stone\_mec.bin  
File: amdgpu/stone\_pfp.bin  
File: amdgpu/stone\_rlc.bin  
File: amdgpu/stone\_sdma.bin  
File: amdgpu/stone\_uvd.bin  
File: amdgpu/stone\_vce.bin  
File: amdgpu/polaris10\_ce.bin  
File: amdgpu/polaris10\_ce\_2.bin  
File: amdgpu/polaris10\_mc.bin  
File: amdgpu/polaris10\_k\_mc.bin  
File: amdgpu/polaris10\_me.bin  
File: amdgpu/polaris10\_me\_2.bin  
File: amdgpu/polaris10\_mec2.bin  
File: amdgpu/polaris10\_mec2\_2.bin  
File: amdgpu/polaris10\_mec.bin  
File: amdgpu/polaris10\_mec\_2.bin  
File: amdgpu/polaris10\_pfp.bin  
File: amdgpu/polaris10\_pfp\_2.bin  
File: amdgpu/polaris10\_rlc.bin  
File: amdgpu/polaris10\_sdma1.bin  
File: amdgpu/polaris10\_sdma.bin  
File: amdgpu/polaris10\_smc.bin  
File: amdgpu/polaris10\_k\_smc.bin  
File: amdgpu/polaris10\_k2\_smc.bin  
File: amdgpu/polaris10\_smc\_sk.bin  
File: amdgpu/polaris10\_uvd.bin  
File: amdgpu/polaris10\_vce.bin  
File: amdgpu/polaris11\_ce.bin  
File: amdgpu/polaris11\_ce\_2.bin  
File: amdgpu/polaris11\_mc.bin  
File: amdgpu/polaris11\_k\_mc.bin  
File: amdgpu/polaris11\_me.bin  
File: amdgpu/polaris11\_me\_2.bin  
File: amdgpu/polaris11\_mec2.bin  
File: amdgpu/polaris11\_mec2\_2.bin  
File: amdgpu/polaris11\_mec.bin  
File: amdgpu/polaris11\_mec\_2.bin  
File: amdgpu/polaris11\_pfp.bin  
File: amdgpu/polaris11\_pfp\_2.bin  
File: amdgpu/polaris11\_rlc.bin  
File: amdgpu/polaris11\_sdma1.bin  
File: amdgpu/polaris11\_sdma.bin  
File: amdgpu/polaris11\_smc.bin  
File: amdgpu/polaris11\_k\_smc.bin  
File: amdgpu/polaris11\_k2\_smc.bin  
File: amdgpu/polaris11\_smc\_sk.bin



File: amdgpu/polaris11\_uvd.bin  
File: amdgpu/polaris11\_vce.bin  
File: amdgpu/polaris12\_ce.bin  
File: amdgpu/polaris12\_ce\_2.bin  
File: amdgpu/polaris12\_mc.bin  
File: amdgpu/polaris12\_k\_mc.bin  
File: amdgpu/polaris12\_me.bin  
File: amdgpu/polaris12\_me\_2.bin  
File: amdgpu/polaris12\_mec.bin  
File: amdgpu/polaris12\_mec\_2.bin  
File: amdgpu/polaris12\_mec2.bin  
File: amdgpu/polaris12\_mec2\_2.bin  
File: amdgpu/polaris12\_pfp.bin  
File: amdgpu/polaris12\_pfp\_2.bin  
File: amdgpu/polaris12\_rlc.bin  
File: amdgpu/polaris12\_sdma.bin  
File: amdgpu/polaris12\_sdma1.bin  
File: amdgpu/polaris12\_smc.bin  
File: amdgpu/polaris12\_k\_smc.bin  
File: amdgpu/polaris12\_uvd.bin  
File: amdgpu/polaris12\_vce.bin  
File: amdgpu/vegam\_ce.bin  
File: amdgpu/vegam\_me.bin  
File: amdgpu/vegam\_mec.bin  
File: amdgpu/vegam\_mec2.bin  
File: amdgpu/vegam\_pfp.bin  
File: amdgpu/vegam\_rlc.bin  
File: amdgpu/vegam\_sdma.bin  
File: amdgpu/vegam\_sdma1.bin  
File: amdgpu/vegam\_smc.bin  
File: amdgpu/vegam\_uvd.bin  
File: amdgpu/vegam\_vce.bin  
File: amdgpu/vegal0\_acg\_smc.bin  
File: amdgpu/vegal0\_asd.bin  
File: amdgpu/vegal0\_ce.bin  
File: amdgpu/vegal0\_gpu\_info.bin  
File: amdgpu/vegal0\_me.bin  
File: amdgpu/vegal0\_mec.bin  
File: amdgpu/vegal0\_mec2.bin  
File: amdgpu/vegal0\_pfp.bin  
File: amdgpu/vegal0\_rlc.bin  
File: amdgpu/vegal0\_sdma.bin  
File: amdgpu/vegal0\_sdma1.bin  
File: amdgpu/vegal0\_smc.bin  
File: amdgpu/vegal0\_sos.bin  
File: amdgpu/vegal0\_uvd.bin  
File: amdgpu/vegal0\_vce.bin  
File: amdgpu/vegal2\_asd.bin  
File: amdgpu/vegal2\_ce.bin  
File: amdgpu/vegal2\_gpu\_info.bin  
File: amdgpu/vegal2\_me.bin  
File: amdgpu/vegal2\_mec.bin  
File: amdgpu/vegal2\_mec2.bin  
File: amdgpu/vegal2\_pfp.bin  
File: amdgpu/vegal2\_rlc.bin  
File: amdgpu/vegal2\_sdma.bin  
File: amdgpu/vegal2\_sdma1.bin  
File: amdgpu/vegal2\_smc.bin  
File: amdgpu/vegal2\_sos.bin  
File: amdgpu/vegal2\_uvd.bin



File: amdgpu/vega12\_vce.bin  
File: amdgpu/vega20\_asd.bin  
File: amdgpu/vega20\_ce.bin  
File: amdgpu/vega20\_me.bin  
File: amdgpu/vega20\_mec.bin  
File: amdgpu/vega20\_mec2.bin  
File: amdgpu/vega20\_pfp.bin  
File: amdgpu/vega20\_rlc.bin  
File: amdgpu/vega20\_sdma.bin  
File: amdgpu/vega20\_sdma1.bin  
File: amdgpu/vega20\_smc.bin  
File: amdgpu/vega20\_sos.bin  
File: amdgpu/vega20\_uvd.bin  
File: amdgpu/vega20\_vce.bin  
File: amdgpu/raven\_asd.bin  
File: amdgpu/raven\_ce.bin  
File: amdgpu/raven\_gpu\_info.bin  
File: amdgpu/raven\_me.bin  
File: amdgpu/raven\_mec.bin  
File: amdgpu/raven\_mec2.bin  
File: amdgpu/raven\_pfp.bin  
File: amdgpu/raven\_rlc.bin  
File: amdgpu/raven\_sdma.bin  
File: amdgpu/raven\_vcn.bin  
File: amdgpu/raven\_dmcu.bin  
File: amdgpu/picasso\_asd.bin  
File: amdgpu/picasso\_ce.bin  
File: amdgpu/picasso\_gpu\_info.bin  
File: amdgpu/picasso\_me.bin  
File: amdgpu/picasso\_mec.bin  
File: amdgpu/picasso\_mec2.bin  
File: amdgpu/picasso\_pfp.bin  
File: amdgpu/picasso\_rlc.bin  
File: amdgpu/picasso\_rlc\_am4.bin  
File: amdgpu/picasso\_sdma.bin  
File: amdgpu/picasso\_vcn.bin  
File: amdgpu/raven2\_asd.bin  
File: amdgpu/raven2\_ce.bin  
File: amdgpu/raven2\_gpu\_info.bin  
File: amdgpu/raven2\_me.bin  
File: amdgpu/raven2\_mec.bin  
File: amdgpu/raven2\_mec2.bin  
File: amdgpu/raven2\_pfp.bin  
File: amdgpu/raven2\_rlc.bin  
File: amdgpu/raven2\_sdma.bin  
File: amdgpu/raven2\_vcn.bin

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-----  
Driver: s2255drv

File: f2255usb.bin  
Version: 1.2.8

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Driver: rtl8192e - Realtek 8192 PCI wireless driver

File: RTL8192E/boot.img

File: RTL8192E/data.img

File: RTL8192E/main.img

Licence: Redistributable, provided by Realtek in their driver source download.

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Driver: lgs8gxx - Legend Silicon GB20600 demodulator driver

File: lgs8g75.fw

Licence: Unknown

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Driver: ib\_qib - QLogic Infiniband

File: qllogic/sd7220.fw

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Found in hex form in kernel source.

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Driver: qed - QLogic 4xxxx Ethernet Driver Core Module.

File: qed/qed\_init\_values\_zipped-8.4.2.0.bin  
File: qed/qed\_init\_values\_zipped-8.7.3.0.bin  
File: qed/qed\_init\_values\_zipped-8.10.5.0.bin  
File: qed/qed\_init\_values-8.10.9.0.bin  
File: qed/qed\_init\_values\_zipped-8.10.10.0.bin  
File: qed/qed\_init\_values-8.14.6.0.bin  
File: qed/qed\_init\_values\_zipped-8.15.3.0.bin  
File: qed/qed\_init\_values-8.18.9.0.bin  
File: qed/qed\_init\_values\_zipped-8.20.0.0.bin  
File: qed/qed\_init\_values-8.20.0.0.bin  
File: qed/qed\_init\_values-8.30.12.0.bin  
File: qed/qed\_init\_values\_zipped-8.33.1.0.bin  
File: qed/qed\_init\_values\_zipped-8.33.11.0.bin  
File: qed/qed\_init\_values-8.33.12.0.bin  
File: qed/qed\_init\_values\_zipped-8.37.2.0.bin  
File: qed/qed\_init\_values\_zipped-8.37.7.0.bin  
File: qed/qed\_init\_values-8.37.7.0.bin

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Driver: ueagle-atm - Driver for USB ADSL Modems based on Eagle IV Chipset

File: ueagle-atm/CMV4p.bin.v2  
File: ueagle-atm/DSP4p.bin  
File: ueagle-atm/eagleIV.fw  
Version: 1.0

Licence: Redistributable. See LICENCE.ueagle-atm4-firmware for details

---

Driver: ueagle-atm - Driver for USB ADSL Modems based on Eagle I,II,III

File: ueagle-atm/930-fpga.bin  
File: ueagle-atm/CMVeiWO.bin  
File: ueagle-atm/CMVepFR10.bin  
File: ueagle-atm/DSP9p.bin  
File: ueagle-atm/eagleIII.fw  
File: ueagle-atm/adi930.fw  
File: ueagle-atm/CMVep.bin  
File: ueagle-atm/CMVepFR.bin  
File: ueagle-atm/DSPei.bin



File: ueagle-atm/CMV9i.bin  
File: ueagle-atm/CMVepES03.bin  
File: ueagle-atm/CMVepIT.bin  
File: ueagle-atm/DSepPep.bin  
File: ueagle-atm/CMV9p.bin  
File: ueagle-atm/CMVepES.bin  
File: ueagle-atm/CMVepWO.bin  
File: ueagle-atm/eagleI.fw  
File: ueagle-atm/CMVei.bin  
File: ueagle-atm/CMVepFR04.bin  
File: ueagle-atm/DSP9i.bin  
File: ueagle-atm/eagleII.fw  
Version: 1.1

Licence: Redistributable. Based on  
<https://mail.gna.org/public/eagleusb-dev/2004-11/msg00172.html>

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Driver: vxge - Exar X3100 Series 10GbE PCIe I/O Virtualized Server Adapter

File: vxge/X3fw.ncf  
File: vxge/X3fw-pxe.ncf  
Version: 1.8.1

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-----  
Driver: brcmsmac - Broadcom 802.11n softmac wireless LAN driver.

File: brcm/bcm43xx-0.fw  
File: brcm/bcm43xx\_hdr-0.fw  
Version: 610.812

Licence: Redistributable. See LICENCE.broadcom\_bcm43xx for details.

-----  
Driver: brcmfmac - Broadcom 802.11n fullmac wireless LAN driver.

File: brcm/bcm4329-fullmac-4.bin  
File: brcm/brcmfmac43236b.bin  
File: brcm/brcmfmac4329-sdio.bin  
File: brcm/brcmfmac4330-sdio.bin  
File: brcm/brcmfmac4334-sdio.bin  
File: brcm/brcmfmac4335-sdio.bin  
File: brcm/brcmfmac4339-sdio.bin  
File: brcm/brcmfmac43241b0-sdio.bin  
File: brcm/brcmfmac43241b4-sdio.bin  
File: brcm/brcmfmac43241b5-sdio.bin  
File: brcm/brcmfmac43242a.bin  
File: brcm/brcmfmac43143.bin



File: brcm/brcmfmac43143-sdio.bin  
File: brcm/brcmfmac43430a0-sdio.bin  
File: brcm/brcmfmac43455-sdio.bin  
File: brcm/brcmfmac4350c2-pcie.bin  
File: brcm/brcmfmac4350-pcie.bin  
File: brcm/brcmfmac4356-sdio.bin  
File: brcm/brcmfmac43569.bin  
File: brcm/brcmfmac43570-pcie.bin  
File: brcm/brcmfmac4358-pcie.bin  
File: brcm/brcmfmac43602-pcie.bin  
File: brcm/brcmfmac43602-pcie.ap.bin  
File: brcm/brcmfmac4366b-pcie.bin  
File: brcm/brcmfmac4366c-pcie.bin  
File: brcm/brcmfmac4371-pcie.bin

Licence: Redistributable. See LICENCE.broadcom\_bcm43xx for details.

File: brcm/brcmfmac43340-sdio.bin  
File: brcm/brcmfmac43362-sdio.bin  
File: brcm/brcmfmac43430-sdio.bin  
File: brcm/brcmfmac4354-sdio.bin  
File: brcm/brcmfmac4356-pcie.bin  
File: brcm/brcmfmac4373-sdio.bin  
File: brcm/brcmfmac4373.bin

Licence: Redistributable. See LICENCE.cypress for details.

File: "brcm/brcmfmac4330-sdio.Prowise-PT301.txt"  
File: "brcm/brcmfmac43340-sdio.meegopad-t08.txt"  
File: "brcm/brcmfmac43362-sdio.cubietech,cubietruck.txt"  
File: "brcm/brcmfmac43362-sdio.lemaker,bananapro.txt"  
File: "brcm/brcmfmac43430a0-sdio.jumper-ezpad-mini3.txt"  
File: "brcm/brcmfmac43430a0-sdio.ONDA-V80 PLUS.txt"  
File: "brcm/brcmfmac43430-sdio.AP6212.txt"  
File: "brcm/brcmfmac43430-sdio.Hampoo-D2D3\_Vi8A1.txt"  
File: "brcm/brcmfmac43430-sdio.MUR1DX.txt"  
File: "brcm/brcmfmac43430-sdio.raspberrypi,3-model-b.txt"  
File: "brcm/brcmfmac43455-sdio.raspberrypi,3-model-b-plus.txt"  
File: "brcm/brcmfmac4356-pcie.gpd-win-pocket.txt"

Licence: GPLv2. See GPL-2 for details.

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Driver: tda7706 - FM radio Highly integrated tuner for AM/FM car-radio

File: TDA7706\_OM\_v2.5.1\_boot.txt  
File: TDA7706\_OM\_v3.0.2\_boot.txt

Licence: Redistributable. See LICENCE.tda7706-firmware.txt for details.  
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Driver: wll1251 - Texas Instruments 802.11 WLAN driver for WiLink4 chips

File: ti-connectivity/wll1251-fw.bin  
Version: 4.0.4.3.7

File: ti-connectivity/wll1251-nvs.bin



Licence: Redistributable. See LICENCE.wll251 for details.

The published NVS files are for testing only. Every device needs to have a unique NVS which is properly calibrated for best results.

The driver expects to find the firmwares under a ti-connectivity subdirectory. So if your system looks for firmwares in /lib/firmware, the firmwares for wll2xx chips must be located in /lib/firmware/ti-connectivity/.

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Driver: wll2xx - Texas Instruments 802.11 WLAN driver for WiLink6/7 chips

File: ti-connectivity/wll271-fw.bin  
Version: 6.1.0.50.350 (STA-only)  
File: ti-connectivity/wll271-fw-2.bin  
Version: 6.1.5.50.74 (STA-only)  
File: ti-connectivity/wll271-fw-ap.bin  
Version: 6.2.1.0.54 (AP-only)  
File: ti-connectivity/wll27x-fw-3.bin  
Version: 6.3.0.0.77  
File: ti-connectivity/wll27x-fw-plt-3.bin  
Version: 6.3.0.0.77 (PLT-only)  
File: ti-connectivity/wll27x-fw-4-sr.bin  
Version: 6.3.5.0.98 (Single-role)  
File: ti-connectivity/wll27x-fw-4-mr.bin  
Version: 6.5.2.0.15 (Multi-role)  
File: ti-connectivity/wll27x-fw-4-plt.bin  
Version: 6.3.5.0.98 (PLT-only)  
File: ti-connectivity/wll27x-fw-5-sr.bin  
Version: 6.3.10.0.142 (Single-role)  
File: ti-connectivity/wll27x-fw-5-mr.bin  
Version: 6.5.7.0.50 (Multi-role)  
File: ti-connectivity/wll27x-fw-5-plt.bin  
Version: 6.3.10.0.142 (PLT-only)

File: ti-connectivity/wll28x-fw.bin  
Version: 7.1.5.50.74 (STA-only)  
File: ti-connectivity/wll28x-fw-ap.bin  
Version: 7.2.1.0.54 (AP-only)  
File: ti-connectivity/wll28x-fw-3.bin  
Version: 7.3.0.0.77  
File: ti-connectivity/wll28x-fw-plt-3.bin  
Version: 7.3.0.0.77  
File: ti-connectivity/wll28x-fw-4-sr.bin  
Version: 7.3.5.0.98 (Single-role)  
File: ti-connectivity/wll28x-fw-4-mr.bin  
Version: 7.5.2.0.15 (Multi-role)  
File: ti-connectivity/wll28x-fw-4-plt.bin  
Version: 7.3.5.0.98 (PLT)  
File: ti-connectivity/wll28x-fw-5-sr.bin  
Version: 7.3.10.0.142 (Single-role)  
File: ti-connectivity/wll28x-fw-5-mr.bin  
Version: 7.5.7.0.50 (Multi-role)  
File: ti-connectivity/wll28x-fw-5-plt.bin  
Version: 7.3.10.2.142 (PLT-only)

File: ti-connectivity/wll27x-nvs.bin  
File: ti-connectivity/wll28x-nvs.bin



Link: ti-connectivity/wl12xx-nvs.bin -> wl127x-nvs.bin

Link: ti-connectivity/wl1271-nvs.bin -> wl127x-nvs.bin

Licence: Redistributable. See LICENCE.ti-connectivity for details.

The NVS file includes two parts:

- radio calibration
- HW configuration parameters (aka. INI values)

The published NVS files are for testing only. Every device needs to have a unique NVS which is properly calibrated for best results. You can find more information about NVS generation for your device here:

<http://wireless.kernel.org/en/users/Drivers/wl12xx/calibrator>

If you're using a wl127x based device, use a symbolic link called wl1271-nvs.bin that links to the wl127x-nvs.bin file. If you are using wl128x, link to wl128x-nvs.bin instead.

The driver expects to find the firmwares under a ti-connectivity subdirectory. So if your system looks for firmwares in /lib/firmware, the firmwares for wl12xx chips must be located in /lib/firmware/ti-connectivity/.

---

Driver: wl18xx - Texas Instruments 802.11 WLAN driver for WiLink8 chips

File: ti-connectivity/wl18xx-fw.bin

Version: 8.2.0.0.100

File: ti-connectivity/wl18xx-fw-2.bin

Version: 8.5.0.0.55

File: ti-connectivity/wl18xx-fw-3.bin

Version: 8.8.0.0.13

File: ti-connectivity/wl18xx-fw-4.bin

Version: 8.9.0.0.79

Licence: Redistributable. See LICENCE.ti-connectivity for details.

The driver expects to find the firmwares under a ti-connectivity subdirectory. So if your system looks for firmwares in /lib/firmware, the firmwares for wl18xx chips must be located in /lib/firmware/ti-connectivity/.

---

Driver: TI\_ST - Texas Instruments bluetooth driver

File: ti-connectivity/TIInit\_6.2.31.bts

Version: 2.44 (TI\_P31.123)

File: ti-connectivity/TIInit\_6.6.15.bts

Version: 2.14 (TI\_P6\_15.93)

File: ti-connectivity/TIInit\_7.2.31.bts

Licence: Redistributable. See LICENCE.ti-connectivity for details.

TIInit\_7.2.31.bts version 7.2.31

In order to use that file copy it to /lib/firmware/ti-connectivity.



-----  
Driver: tlg2300 - Telgent 2300 V4L/DVB driver.

File: tlg2300\_firmware.bin

Licence: Redistributable.

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-----  
Driver: r8712u - Realtek 802.11n WLAN driver for RTL8712U

File: rtlwifi/rtl8712u.bin

Info: From Vendor's rtl8712\_8188\_8191\_8192SU\_usb\_linux\_v7\_0.20100831  
Reverted rtl8188C\_8192C\_8192D\_usb\_linux\_v3.4.2\_3727.20120404

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8192ce - Realtek 802.11n WLAN driver for RTL8192CE

File: rtlwifi/rtl8192cfw.bin

File: rtlwifi/rtl8192cfwU.bin

File: rtlwifi/rtl8192cfwU\_B.bin

Info: From Vendor's realtek/rtlwifi\_linux\_mac80211\_0019.0320.2014V628 driver

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8192cu - Realtek 802.11n WLAN driver for RTL8192CU

File: rtlwifi/rtl8192cufw.bin

File: rtlwifi/rtl8192cufw\_A.bin

File: rtlwifi/rtl8192cufw\_B.bin

File: rtlwifi/rtl8192cufw\_TMSC.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8192se - Realtek 802.11n WLAN driver for RTL8192SE

Info: updated from rtl\_92ce\_92se\_92de\_linux\_mac80211\_0004.0816.2011 driver version

File: rtlwifi/rtl8192sefw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.  
-----



Driver: rtl8192de - Realtek 802.11n WLAN driver for RTL8192DE

Info: Updated from Realtek version rtl\_92ce\_92se\_92de\_8723ae\_linux\_mac80211\_0007.0809.2012

File: rtlwifi/rtl8192defw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: rtl8723e - Realtek 802.11n WLAN driver for RTL8723E

Info: Taken from Realtek version rtl\_92ce\_92se\_92de\_8723ae\_linux\_mac80211\_0007.0809.2012

File: rtlwifi/rtl8723fw.bin

File: rtlwifi/rtl8723fw\_B.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: rtl8723be - Realtek 802.11n WLAN driver for RTL8723BE

Info: From Vendor's realtek/rtlwifi\_linux\_mac80211\_0019.0320.2014V628 driver

File: rtlwifi/rtl8723befw.bin

Info: Update to version 36 - Sent by Realtek

File: rtlwifi/rtl8723befw\_36.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: rtl8723de - Realtek 802.11ac WLAN driver for RTL8723DE

Info: Supplied by Vendor at [https://github.com/pkshih/rtlwifi\\_rtl8723de](https://github.com/pkshih/rtlwifi_rtl8723de)

File: rtlwifi/rtl8723defw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: r8723au - Realtek 802.11n WLAN driver for RTL8723AU

Info: Taken from Realtek driver rtl8723A\_WiFi\_linux\_v4.1.3\_6044.20121224  
Firmware is embedded in the driver as data statements. This info  
has been extracted into a binary file.

File: rtlwifi/rtl8723aufw\_A.bin

File: rtlwifi/rtl8723aufw\_B.bin

File: rtlwifi/rtl8723aufw\_B\_NoBT.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: rtl8188ee - Realtek 802.11n WLAN driver for RTL8188EE

Info: Taken from Realtek version rtl\_92ce\_92se\_92de\_8723ae\_88ee\_linux\_mac80211\_0010.0109.2013

File: rtlwifi/rtl8188efw.bin



Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8188eu - Realtek 802.11n WLAN driver for RTL8188EU

Info: Taken from Realtek version RTL8188EUS\_linux\_v4.1.4\_6773.20130222

File: rtlwifi/rtl8188eufw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8821ae - Realtek 802.11n WLAN driver for RTL8821AE

Info: From Vendor's realtek/rtlwifi\_linux\_mac80211\_0019.0320.2014V628 driver

File: rtlwifi/rtl8821aefw.bin

File: rtlwifi/rtl8821aefw\_wowlan.bin

Info: Update to version 29 - Sent by Realtek

File: rtlwifi/rtl8821aefw\_29.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8822be - Realtek 802.11n WLAN driver for RTL8822BE

Info: Sent to Larry Finger by Realtek engineer Ping-Ke Shih <pkshih@realtek.com>

File: rtlwifi/rtl8822befw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtw88 - Realtek 802.11ac WLAN driver for RTL8822BE and RTL8822CE

Info: Sent to Larry Finger by Realtek engineer Yan-Hsuan Chuang <yhchuang@realtek.com>

File: rtw88/rtw8822b\_fw.bin

File: rtw88/rtw8822c\_fw.bin

File: rtw88/rtw8822c\_wow\_fw.bin

File: rtw88/README

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----  
Driver: rtl8192ee - Realtek 802.11n WLAN driver for RTL8192EE

Info: Initial version taken from Realtek version

rtl\_92ce\_92se\_92de\_8723ae\_88ee\_8723be\_92ee\_linux\_mac80211\_0017.1224.2013

Updated Jan. 14, 2015 with file added by Realtek to

[http://github.com/lwfinger/rtlwifi\\_new.git](http://github.com/lwfinger/rtlwifi_new.git).

File: rtlwifi/rtl8192eefw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.



Driver: rtl8723bs - Realtek 802.11n WLAN driver for RTL8723BS

Info: Firmware files extracted from data statements in Realtek driver  
v4.3.5.5\_12290.20140916\_BTCEX20140507-4E40.

File: rtlwifi/rtl8723bs\_bt.bin

File: rtlwifi/rtl8723bs\_nic.bin

File: rtlwifi/rtl8723bs\_ap\_wowlan.bin

File: rtlwifi/rtl8723bs\_wowlan.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: rtl8xxxu - Realtek 802.11n WLAN driver for RTL8XXX USB devices

Info: rtl8723au taken from Realtek driver

rtl8723A\_WiFi\_linux\_v4.1.3\_6044.20121224

Firmware is embedded in the driver as data statements. This info  
has been extracted into a binary file.

File: rtlwifi/rtl8723aufw\_A.bin

File: rtlwifi/rtl8723aufw\_B.bin

File: rtlwifi/rtl8723aufw\_B\_NoBT.bin

Info: rtl8723bu taken from Realtek driver

rtl8723BU\_WiFi\_linux\_v4.3.16\_14189.20150519\_BTCEX20150119-5844

Firmware is embedded in the driver as data statements. This info  
has been extracted into a binary file.

File: rtlwifi/rtl8723bu\_nic.bin

File: rtlwifi/rtl8723bu\_wowlan.bin

File: rtlwifi/rtl8723bu\_ap\_wowlan.bin

Info: rtl8192eu taken from Realtek driver

rtl8192EU\_linux\_v4.3.1.1\_11320.20140505

Firmware is embedded in the driver as data statements. This info  
has been extracted into a binary file.

File: rtlwifi/rtl8192eu\_nic.bin

File: rtlwifi/rtl8192eu\_wowlan.bin

File: rtlwifi/rtl8192eu\_ap\_wowlan.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

-----

Driver: r8169 - RealTek 8169/8168/8101 ethernet driver.

File: rtl\_nic/rtl8168d-1.fw

File: rtl\_nic/rtl8168d-2.fw

File: rtl\_nic/rtl8105e-1.fw

File: rtl\_nic/rtl8168e-1.fw

File: rtl\_nic/rtl8168e-2.fw

File: rtl\_nic/rtl8168e-3.fw

Version: 0.0.4

File: rtl\_nic/rtl8168f-1.fw

Version: 0.0.5

File: rtl\_nic/rtl8168f-2.fw

Version: 0.0.4



File: rtl\_nic/rtl8411-1.fw  
Version: 0.0.3

File: rtl\_nic/rtl8411-2.fw  
Version: 0.0.1

File: rtl\_nic/rtl8402-1.fw  
Version: 0.0.1

File: rtl\_nic/rtl8106e-1.fw  
Version: 0.0.1

File: rtl\_nic/rtl8106e-2.fw  
Version: 0.0.1

File: rtl\_nic/rtl8168g-1.fw  
Version: 0.0.3

File: rtl\_nic/rtl8168g-2.fw  
Version: 0.0.1

File: rtl\_nic/rtl8168g-3.fw  
Version: 0.0.1

File: rtl\_nic/rtl8168h-1.fw  
Version: 0.0.2

File: rtl\_nic/rtl8168h-2.fw  
Version: 0.0.2

File: rtl\_nic/rtl8107e-1.fw  
Version: 0.0.2

File: rtl\_nic/rtl8107e-2.fw  
Version: 0.0.2

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- \* notice is accompanying it.

---

Driver: vt6656 - VIA VT6656 USB wireless driver

File: vntwusb.fw

Licence: Redistributable. See LICENCE.via\_vt6656 for details.

---

Driver: DFU Driver for Atheros bluetooth chipset AR3012

File: ar3k/AthrBT\_0x01020001.dfu  
File: ar3k/ramps\_0x01020001\_26.dfu  
File: ar3k/AthrBT\_0x01020200.dfu  
File: ar3k/ramps\_0x01020200\_26.dfu



File: ar3k/ramps\_0x01020200\_40.dfu  
File: ar3k/AthrBT\_0x31010000.dfu  
File: ar3k/ramps\_0x31010000\_40.dfu  
File: ar3k/AthrBT\_0x11020000.dfu  
File: ar3k/ramps\_0x11020000\_40.dfu  
File: ar3k/ramps\_0x01020201\_26.dfu  
File: ar3k/ramps\_0x01020201\_40.dfu  
File: ar3k/AthrBT\_0x41020000.dfu  
File: ar3k/ramps\_0x41020000\_40.dfu  
File: ar3k/AthrBT\_0x11020100.dfu  
File: ar3k/ramps\_0x11020100\_40.dfu  
File: ar3k/AthrBT\_0x31010100.dfu  
File: ar3k/ramps\_0x31010100\_40.dfu

Licence: Redistributable. See LICENCE.atheros\_firmware for details

-----

Driver: DFU Driver for Atheros bluetooth chipset AR3012

File: ar3k/AthrBT\_0x01020201.dfu  
File: ar3k/1020201coex/ramps\_0x01020201\_26\_HighPriority.dfu

Licence: Redistributable. See LICENSE.QualcommAtheros\_ar3k for details

-----

Driver:Atheros AR300x UART HCI Bluetooth Chip driver

File: ar3k/1020201/PS\_ASIC.pst  
File: ar3k/1020201/RamPatch.txt  
File: ar3k/1020200/ar3kbdaddr.pst  
File: ar3k/1020200/PS\_ASIC.pst  
File: ar3k/1020200/RamPatch.txt  
File: ar3k/30101/ar3kbdaddr.pst  
File: ar3k/30101/PS\_ASIC.pst  
File: ar3k/30101/RamPatch.txt  
File: ar3k/30000/ar3kbdaddr.pst  
File: ar3k/30000/PS\_ASIC.pst  
File: ar3k/30000/RamPatch.txt

Licence: Redistributable. See LICENCE.atheros\_firmware for details

-----

Driver: ath6kl - Atheros support for AR6003

File: ath6k/AR6004/hwl.3/fw-3.bin  
File: ath6k/AR6004/hwl.3/bdata.bin  
File: ath6k/AR6004/hwl.2/fw-2.bin  
File: ath6k/AR6004/hwl.2/bdata.bin  
File: ath6k/AR6003/hwl.0/otp.bin.z77  
File: ath6k/AR6003/hwl.0/bdata.SD31.bin  
File: ath6k/AR6003/hwl.0/bdata.SD32.bin  
File: ath6k/AR6003/hwl.0/data.patch.bin  
File: ath6k/AR6003/hwl.0/bdata.WB31.bin  
File: ath6k/AR6003/hwl.0/athwlan.bin.z77  
File: ath6k/AR6003/hw2.1.1/fw-2.bin  
File: ath6k/AR6003/hw2.1.1/fw-3.bin  
File: ath6k/AR6003/hw2.1.1/otp.bin



File: ath6k/AR6003/hw2.1.1/athwlan.bin  
File: ath6k/AR6003/hw2.1.1/endpointping.bin  
File: ath6k/AR6003/hw2.1.1/bdata.SD31.bin  
File: ath6k/AR6003/hw2.1.1/bdata.SD32.bin  
File: ath6k/AR6003/hw2.1.1/data.patch.bin  
File: ath6k/AR6003/hw2.1.1/bdata.WB31.bin  
File: ath6k/AR6003/hw2.0/otp.bin.z77  
File: ath6k/AR6003/hw2.0/bdata.SD31.bin  
File: ath6k/AR6003/hw2.0/bdata.SD32.bin  
File: ath6k/AR6003/hw2.0/data.patch.bin  
File: ath6k/AR6003/hw2.0/bdata.WB31.bin  
File: ath6k/AR6003/hw2.0/athwlan.bin.z77  
File: ath6k/AR6002/eeprom.data  
File: ath6k/AR6002/eeprom.bin  
File: ath6k/AR6002/athwlan.bin.z77  
File: ath6k/AR6002/data.patch.hw2\_0.bin

Licence: Redistributable. See LICENCE.atheros\_firmware for details

-----

Driver: ath10k - Qualcomm Atheros support for QCA988x family of chips

File: ath10k/QCA988X/hw2.0/board.bin  
File: ath10k/QCA988X/hw2.0/firmware-4.bin  
Version: 10.2.4.45  
Licence: ath10k/QCA988X/hw2.0/notice\_ath10k\_firmware-4.txt  
File: ath10k/QCA988X/hw2.0/firmware-5.bin  
Version: 10.2.4-1.0-00045  
Licence: ath10k/QCA988X/hw2.0/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA6174/hw2.1/board.bin  
File: ath10k/QCA6174/hw2.1/board-2.bin  
File: ath10k/QCA6174/hw2.1/firmware-5.bin  
Version: SW\_RM.1.1.1-00157-QCARMSWPZ-1  
Licence: ath10k/QCA6174/hw2.1/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA6174/hw3.0/board.bin  
File: ath10k/QCA6174/hw3.0/board-2.bin  
File: ath10k/QCA6174/hw3.0/firmware-4.bin  
Version: WLAN.RM.2.0-00180-QCARMSWPZ-1  
Licence: ath10k/QCA6174/hw3.0/notice\_ath10k\_firmware-4.txt  
File: ath10k/QCA6174/hw3.0/firmware-6.bin  
Version: WLAN.RM.4.4.1-00140-QCARMSWPZ-1  
Licence: ath10k/QCA6174/hw3.0/notice\_ath10k\_firmware-6.txt  
File: ath10k/QCA9377/hw1.0/board.bin  
File: ath10k/QCA9377/hw1.0/board-2.bin  
File: ath10k/QCA9377/hw1.0/firmware-5.bin  
Version: WLAN.TF.1.0-00002-QCATFSWPZ-5  
Licence: ath10k/QCA9377/hw1.0/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA99X0/hw2.0/board.bin  
File: ath10k/QCA99X0/hw2.0/firmware-5.bin  
Version: 10.4.1.00030-1  
Licence: ath10k/QCA99X0/hw2.0/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA4019/hw1.0/board-2.bin  
File: ath10k/QCA4019/hw1.0/firmware-5.bin  
Version: 10.4-3.6-00140  
Licence: ath10k/QCA4019/hw1.0/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA9887/hw1.0/board.bin  
File: ath10k/QCA9887/hw1.0/firmware-5.bin  
Version: 10.2.4-1.0-00045  
Licence: ath10k/QCA9887/hw1.0/notice\_ath10k\_firmware-5.txt



File: ath10k/QCA9888/hw2.0/board-2.bin  
File: ath10k/QCA9888/hw2.0/firmware-5.bin  
Version: 10.4-3.9.0.2-00040  
Licence: ath10k/QCA9888/hw2.0/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA9984/hw1.0/board-2.bin  
File: ath10k/QCA9984/hw1.0/firmware-5.bin  
Version: 10.4-3.9.0.2-00046  
Licence: ath10k/QCA9984/hw1.0/notice\_ath10k\_firmware-5.txt  
File: ath10k/QCA9377/hw1.0/firmware-6.bin  
Version: WLAN.TF.2.1-00021-QCARMSWP-1  
Licence: ath10k/QCA9377/hw1.0/notice\_ath10k\_firmware-6.txt

Licence: Redistributable. See LICENSE.QualcommAtheros\_ath10k for details

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Driver: myril0ge - Myril0GE 10GbE NIC driver

File: myril0ge\_eth\_z8e.dat  
File: myril0ge\_ethp\_z8e.dat  
File: myril0ge\_rss\_eth\_z8e.dat  
File: myril0ge\_rss\_ethp\_z8e.dat  
File: myril0ge\_eth\_big\_z8e.dat  
File: myril0ge\_ethp\_big\_z8e.dat  
File: myril0ge\_rss\_eth\_big\_z8e.dat  
File: myril0ge\_rss\_ethp\_big\_z8e.dat  
Version: 1.4.57

License: Redistributable. See LICENSE.myril0ge\_firmware for details.

---

Driver: ath6kl - Atheros support for AR6003 WiFi-Bluetooth combo module

File: ath6k/AR6003.1/hw2.1.1/athwlan.bin  
File: ath6k/AR6003.1/hw2.1.1/bdata.SD31.bin  
File: ath6k/AR6003.1/hw2.1.1/bdata.SD32.bin  
File: ath6k/AR6003.1/hw2.1.1/bdata.WB31.bin  
File: ath6k/AR6003.1/hw2.1.1/data.patch.bin  
File: ath6k/AR6003.1/hw2.1.1/endpointping.bin  
File: ath6k/AR6003.1/hw2.1.1/otp.bin

License: Redistributable. See LICENSE.atheros\_firmware for details

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Driver: ath6kl - Atheros support for AR3001 WiFi-Bluetooth combo module

File: ar3k/30101coex/ar3kbdaddr.pst  
File: ar3k/30101coex/PS\_ASIC\_aclLowPri.pst  
File: ar3k/30101coex/PS\_ASIC\_aclHighPri.pst  
File: ar3k/30101coex/PS\_ASIC.pst  
File: ar3k/30101coex/RamPatch.txt

License: Redistributable. See LICENSE.atheros\_firmware for details

---

Driver: drxk - Micronas DRX-K demodulator driver



File: dvb-usb-terratec-h5-drxxk.fw

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-----  
Driver: ene-ub6250 -- ENE UB6250 SD card reader driver

File: ene-ub6250/sd\_init1.bin  
File: ene-ub6250/sd\_init2.bin  
File: ene-ub6250/sd\_rdwr.bin  
File: ene-ub6250/ms\_init.bin  
File: ene-ub6250/msp\_rdwr.bin  
File: ene-ub6250/ms\_rdwr.bin

Licence: Redistributable. See LICENCE.ene\_firmware for details.

-----  
Driver: isci -- Intel C600 SAS controller driver

File: isci/isci\_firmware.bin  
Source: isci/

Licence: GPLv2. See GPL-2 for details.

-----  
Driver: ar5523 -- Atheros AR5523 based USB Wifi dongles

File: ar5523.bin

Licence: Redistributable. See LICENCE.atheros\_firmware for details

-----  
Driver: s5p-mfc - Samsung MFC video encoder/decoder driver

File: s5p-mfc.fw  
File: s5p-mfc-v6.fw  
File: s5p-mfc-v6-v2.fw  
File: s5p-mfc-v7.fw  
File: s5p-mfc-v8.fw

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Driver: carl9170 -- Atheros AR9170 802.11 draft-n USB driver

File: carl9170-1.fw  
Version: 1.9.6  
Source: carl9170fw/

Downloaded from <http://linuxwireless.org/en/users/Drivers/carl9170>

Licence: GPLv2. Some build scripts use the New BSD (3-clause) licence.. See GPLv2 for details.

---

Driver: snd-hda-codec-ca0132 - Creative Sound Core3D codec

File: ctefx.bin  
File: ctspeq.bin

Licence: Redistributable. See LICENCE.ca0132 for details

Found also in alsa-firmware package.

---

Driver: btusb - Bluetooth USB driver

File: intel/ibt-hw-37.7.bseq  
Version: 1316.02.00  
File: intel/ibt-hw-37.7.10-fw-1.80.2.3.d.bseq  
Version: BT\_WilkinsPeak\_B3\_REL\_87\_0001  
File: intel/ibt-hw-37.7.10-fw-1.0.2.3.d.bseq  
Version: BT\_WilkinsPeak\_B3\_REL\_87\_0001  
File: intel/ibt-hw-37.7.10-fw-1.80.1.2d.d.bseq  
Version: BT\_WilkinsPeak\_B5\_REL\_42\_0001  
File: intel/ibt-hw-37.7.10-fw-1.0.1.2d.d.bseq  
Version: BT\_WilkinsPeak\_B5\_REL\_42\_0001  
File: intel/ibt-hw-37.8.bseq  
Version: 1339\_02.00  
File: intel/ibt-hw-37.8.10-fw-1.10.2.27.d.bseq  
Version: BT\_StonePeak\_C0\_REL\_59\_0001  
File: intel/ibt-hw-37.8.10-fw-1.10.3.11.e.bseq  
Version: BT\_StonePeak\_D0\_REL\_50\_0002  
File: intel/ibt-hw-37.8.10-fw-22.50.19.14.f.bseq  
Version: BT\_StonePeak\_D1\_REL\_52\_00005  
File: intel/ibt-11-5.ddc  
Version: LnP/SfP\_REL0522  
File: intel/ibt-11-5.sfi  
Version: BT\_LightningPeak\_REL0487  
File: intel/ibt-12-16.ddc  
Version: BT\_WindStormPeak\_REL0306  
File: intel/ibt-12-16.sfi  
Version: BT\_WindStormPeak\_REL0306  
File: intel/ibt-17-16-1.sfi  
Version: BT\_JeffersonPeak\_B0\_B0\_REL0472



File: intel/ibt-17-16-1.ddc  
Version: BT\_JeffersonPeak\_B0\_B0\_REL0472  
File: intel/ibt-17-2.sfi  
Version: BT\_JeffersonPeak\_B0\_B0\_REL0472  
File: intel/ibt-17-2.ddc  
Version: BT\_JeffersonPeak\_B0\_B0\_REL0472  
File: intel/ibt-17-0-1.sfi  
Version: BT\_JeffersonPeak\_A0\_B0\_REL0201  
File: intel/ibt-17-0-1.ddc  
Version: BT\_JeffersonPeak\_A0\_B0\_REL0201  
File: intel/ibt-17-1.sfi  
Version: BT\_JeffersonPeak\_A0\_B0\_REL0201  
File: intel/ibt-17-1.ddc  
Version: BT\_JeffersonPeak\_A0\_B0\_REL0201  
File: intel/ibt-18-16-1.sfi  
Version: BT\_ThunderPeak\_B0\_B0\_REL0472  
File: intel/ibt-18-16-1.ddc  
Version: BT\_ThunderPeak\_B0\_B0\_REL0472  
File: intel/ibt-18-2.sfi  
Version: BT\_ThunderPeak\_B0\_B0\_REL0472  
File: intel/ibt-18-2.ddc  
Version: BT\_ThunderPeak\_B0\_B0\_REL0472  
File: intel/ibt-18-0-1.sfi  
Version: BT\_ThunderPeak\_A0\_B0\_REL0201  
File: intel/ibt-18-0-1.ddc  
Version: BT\_ThunderPeak\_A0\_B0\_REL0201  
File: intel/ibt-18-1.sfi  
Version: BT\_ThunderPeak\_A0\_B0\_REL0201  
File: intel/ibt-18-1.ddc  
Version: BT\_ThunderPeak\_A0\_B0\_REL0201  
File: intel/ibt-20-0-3.sfi  
Version: BT\_CyclonePeak\_A0\_REL0310  
File: intel/ibt-20-0-3.ddc  
Version: BT\_CyclonePeak\_A0\_REL0310  
File: intel/ibt-20-1-3.sfi  
Version: BT\_CyclonePeak\_A0\_REL0310  
File: intel/ibt-20-1-3.ddc  
Version: BT\_CyclonePeak\_A0\_REL0310  
File: intel/ibt-20-1-4.sfi  
Version: BT\_CyclonePeak\_A0\_REL0310  
File: intel/ibt-20-1-4.ddc  
Version: BT\_CyclonePeak\_A0\_REL0310  
File: intel/ibt-19-0-0.sfi  
Version: BT\_Quasar\_REL0310  
File: intel/ibt-19-0-0.ddc  
Version: BT\_Quasar\_REL0310  
File: intel/ibt-19-0-1.sfi  
Version: BT\_Quasar\_REL0310  
File: intel/ibt-19-0-1.ddc  
Version: BT\_Quasar\_REL0310  
File: intel/ibt-19-0-4.sfi  
Version: BT\_HarrisonPeak\_REL0310  
File: intel/ibt-19-0-4.ddc  
Version: BT\_HarrisonPeak\_REL0310  
File: intel/ibt-19-16-4.sfi  
Version: BT\_HarrisonPeak\_REL0310  
File: intel/ibt-19-16-4.ddc  
Version: BT\_HarrisonPeak\_REL0310  
File: intel/ibt-19-32-1.sfi  
Version: BT\_HarrisonPeak\_REL0310



File:intel/ibt-19-32-1.ddc  
Version: BT\_HarrisonPeak\_REL0310  
File:intel/ibt-19-32-0.sfi  
Version: BT\_HarrisonPeak\_REL0310  
File:intel/ibt-19-32-0.ddc  
Version: BT\_HarrisonPeak\_REL0310

Licence: Redistributable. See LICENCE.ibt\_firmware for details

File: rtl\_bt/rtl8192ee\_fw.bin  
File: rtl\_bt/rtl8192eu\_fw.bin  
File: rtl\_bt/rtl8723a\_fw.bin  
File: rtl\_bt/rtl8723b\_fw.bin  
File: rtl\_bt/rtl8723bs\_fw.bin  
File: rtl\_bt/rtl8723bs\_config-OBDA8723.bin  
File: rtl\_bt/rtl8761a\_fw.bin  
File: rtl\_bt/rtl8812ae\_fw.bin  
File: rtl\_bt/rtl8821a\_fw.bin  
File: rtl\_bt/rtl8822b\_fw.bin  
File: rtl\_bt/rtl8822b\_config.bin  
File: rtl\_bt/rtl8723d\_fw.bin  
File: rtl\_bt/rtl8723d\_config.bin  
File: rtl\_bt/rtl8821c\_fw.bin  
File: rtl\_bt/rtl8821c\_config.bin  
File: rtl\_bt/rtl8822cu\_fw.bin

Licence: Redistributable. See LICENCE.rtlwifi\_firmware.txt for details.

Found in vendor driver, linux\_bt\_usb\_2.11.20140423\_8723be.rar  
From [https://github.com/troy-tan/driver\\_store](https://github.com/troy-tan/driver_store)  
Files rtl\_bt/rtl8822b\_\* came directly from Realtek. These files are  
updated on April 14, 2017.  
Files rtl\_bt/rtl8821c\_\* and rtl\_bt/rtl8723d\_\* came directly from Realtek.  
File rtl\_bt/rtl8822cu\_fw.bin came directly from Realtek.  
updated on February 24, 2019  
File rtl\_bt/rtl8822cu\_fw.bin came directly from Realtek.

-----  
Driver: btmtd\_usb - Bluetooth USB driver

File: mt7650.bin

Licence: Redistributable. See LICENCE.ralink\_a\_mEDIATEK\_company\_firmware for details

-----  
Driver: rp2 -- Comtrol RocketPort 2 serial driver

File: rp2.fw

Licence: Redistributable.

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---

Driver: go7007

File: go7007/s2250-1.fw  
File: go7007/s2250-2.fw  
Link: s2250.fw -> go7007/s2250-2.fw  
Link: s2250\_loader.fw -> go7007/s2250-1.fw

Licence:

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File: go7007/go7007fw.bin  
File: go7007/go7007tv.bin  
File: go7007/lr192.fw  
File: go7007/px-m402u.fw  
File: go7007/px-tv402u.fw  
File: go7007/wis-startrek.fw

Licence: Redistributable. See LICENCE.go7007 for details

---

Driver: ccp - Platform Security Processor (PSP) device

File: amd/amd\_sev\_fam17h\_model0xh.sbin  
Version: 2019-02-13

License: Redistributable. See LICENSE.amd-sev for details

---

Driver: microcode\_amd - AMD CPU Microcode Update Driver for Linux

File: amd-ucode/microcode\_amd.bin  
Version: 2013-07-10  
File: amd-ucode/microcode\_amd\_fam15h.bin  
Version: 2018-05-24  
File: amd-ucode/microcode\_amd\_fam16h.bin  
Version: 2014-10-28  
File: amd-ucode/microcode\_amd\_fam17h.bin  
Version: 2018-11-28

License: Redistributable. See LICENSE.amd-ucode for details

---

Driver: mxu11x0 - MOXA UPort 11x0 USB Serial hub driver



File: moxa/moxa-1110.fw  
File: moxa/moxa-1130.fw  
File: moxa/moxa-1131.fw  
File: moxa/moxa-1150.fw  
File: moxa/moxa-1151.fw

License: Redistributable. See LICENCE.moxa for details

---

Driver: mxuport - MOXA UPort USB Serial hub driver

File: moxa/moxa-1250.fw  
File: moxa/moxa-1251.fw  
File: moxa/moxa-1410.fw  
File: moxa/moxa-1450.fw  
File: moxa/moxa-1451.fw  
File: moxa/moxa-1613.fw  
File: moxa/moxa-1618.fw  
File: moxa/moxa-1653.fw  
File: moxa/moxa-1658.fw

License: Redistributable. See LICENCE.moxa for details

---

Driver: cw1200 - ST-E CW1100/CW1200 WLAN driver

File: wsm\_22.bin  
Version: WSM395  
Licence: Redistributable. See LICENCE.cw1200 for details.

File: sdd\_sagrad\_1091\_1098.bin

License:  
Copyright (c) 2011-2013 Sagrad, Inc.

This SDD ("Static Dynamic Data") file is licensed strictly for use with the Sagrad WiFi modules (such as the SG901-1091/1098) that utilize the cw1200 driver. There is no warranty expressed or implied about its fitness for any purpose.

Permission is hereby granted for the distribution of this SDD file as part of Linux or other Open Source operating system kernel in text or binary form as required.

(Please note that the actual device firmware is separately licensed)

---

Driver: BFA/BNB - QLogic BR-series Adapter FC/FCOE drivers

File: cbfw-3.2.1.1.bin  
File: ctfw-3.2.1.1.bin  
File: ct2fw-3.2.1.1.bin  
File: cbfw-3.2.3.0.bin  
File: ctfw-3.2.3.0.bin  
File: ct2fw-3.2.3.0.bin  
File: cbfw-3.2.5.1.bin



File: ctfw-3.2.5.1.bin  
File: ct2fw-3.2.5.1.bin

Licence:

This file contains firmware data derived from proprietary unpublished source code.

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Copyright (c) 2014-2015 QLogic Corporation.

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---

Driver: qat - Intel(R) QAT crypto accelerator

File: qat\_895xcc.bin  
File: qat\_895xcc\_mmmp.bin  
File: qat\_c3xxx.bin  
File: qat\_c3xxx\_mmmp.bin  
File: qat\_c62x.bin  
File: qat\_c62x\_mmmp.bin  
Link: qat\_mmmp.bin -> qat\_895xcc\_mmmp.bin

Licence: Redistributable. See LICENCE.qat\_firmware for details

---

Driver: rsi -- Redpine Signals Inc 91x driver

File: rsi\_91x.fw

File: rsi/rs9113\_wlan\_qspi.rps  
Version: 1.6.1

File: rsi/rs9113\_wlan\_bt\_dual\_mode.rps  
Version: 1.6.1

File: rsi/rs9113\_ap\_bt\_dual\_mode.rps  
Version: 1.6.1

File: rsi/rs9116\_wlan.rps  
Version: 1.0.5b

File: rsi/rs9116\_wlan\_bt\_classic.rps  
Version: 1.0.5b

Licence:

- \* Firmware is:
- \*     Derived from proprietary unpublished source code,
- \*     Copyright (C) 2019 Redpine Signals Inc.



\*  
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\*       provided this copyright notice is accompanying it.

---

Driver: xhci-rcar -- Renesas R-Car Gen2/3 USB 3.0 host controller driver

File: r8a779x\_usb3\_v1.dlmem  
File: r8a779x\_usb3\_v2.dlmem  
File: r8a779x\_usb3\_v3.dlmem

Licence: Redistributable. See LICENCE.r8a779x\_usb3 for details.

---

Driver: snd\_soc\_sst\_acpi

File: intel/fw\_sst\_0f28.bin-48kHz\_i2s\_master

License: Redistributable. See LICENCE.fw\_sst\_0f28 for details

---

Driver: as102 - Abilis Systems Single DVB-T Receiver

File: as102\_data1\_st.hex  
File: as102\_data2\_st.hex

License: Redistributable. See LICENCE.Abilis for details

---

Driver: it9135 -- ITEtech IT913x DVB-T USB driver

File: dvb-usb-it9135-01.fw  
File: dvb-usb-it9135-02.fw

Licence: Redistributable. See LICENCE.it913x for details

---

Driver: snd\_soc\_sst\_acpi

File: intel/IntcSST2.bin  
Version: 8.4.1.77

License: Redistributable. See LICENCE.IntcSST2 for details

---

Driver: snd\_intel\_sst\_core

File: intel/fw\_sst\_0f28.bin  
File: intel/fw\_sst\_0f28\_ssp0.bin

License: Redistributable. See LICENCE.fw\_sst\_0f28 for details

---



Driver: snd\_intel\_sst\_core

File: intel/fw\_sst\_22a8.bin

Version: 01.0B.02.02

License: Redistributable. See LICENCE.fw\_sst\_0f28 for details

---

Driver: snd-soc-skl

File: intel/dsp\_fw\_release\_v969.bin

Version: 8.20.00.969

File: intel/dsp\_fw\_release\_v3402.bin

Version: 9.21.00.3402\_161

Link: intel/dsp\_fw\_release.bin -> intel/dsp\_fw\_release\_v3402.bin

License: Redistributable. See LICENCE.adsp\_sst for details

File: intel/dsp\_fw\_bxt\_n\_v2219.bin

Version: 9.22.01.2219\_64

File: intel/dsp\_fw\_bxt\_n\_v3366.bin

Version: 9.22.01.3366\_157

Link: intel/dsp\_fw\_bxt\_n.bin -> intel/dsp\_fw\_bxt\_n\_v3366.bin

License: Redistributable. See LICENCE.adsp\_sst for details

File: intel/dsp\_fw\_kbl\_v701.bin

Version: 9.21.00.701

File: intel/dsp\_fw\_kbl\_v1037.bin

Version: 09.21.00.1037

File: intel/dsp\_fw\_kbl\_v2042.bin

Version: 9.21.00.2042\_46

File: intel/dsp\_fw\_kbl\_v2630.bin

Version: 9.21.00.2630\_97

File: intel/dsp\_fw\_kbl\_v3266.bin

Version: 9.21.00.3266\_144

File: intel/dsp\_fw\_kbl\_v3420.bin

Version: 9.21.00.3420\_163

File: intel/dsp\_fw\_kbl\_v3402.bin

Version: 9.21.00.3402\_161

Link: intel/dsp\_fw\_kbl.bin -> dsp\_fw\_kbl\_v3402.bin

License: Redistributable. See LICENCE.adsp\_sst for details

File: intel/dsp\_fw\_glk\_v1814.bin

Version: 9.92.01.1814

File: intel/dsp\_fw\_glk\_v2880.bin

Version: 9.22.00.2880

File: intel/dsp\_fw\_glk\_v2768.bin

Version: 9.22.01.2768

File: intel/dsp\_fw\_glk\_v3366.bin

Version: 9.22.01.3366\_157

Link: intel/dsp\_fw\_glk.bin -> dsp\_fw\_glk\_v3366.bin

File: intel/dsp\_fw\_cnl\_v1191.bin

Version: 10.00.00.1191

File: intel/dsp\_fw\_cnl\_v1858.bin

Version: 10.23.00.1858



File: intel/dsp\_fw\_cnl.bin  
Link: intel/dsp\_fw\_cnl.bin -> intel/dsp\_fw\_cnl\_v1858.bin  
License: Redistributable. See LICENCE.adsp\_sst for details

---

Driver: smsmdtv - Siano MDTV Core module

File: cmmb\_vega\_12mhz.inp  
File: cmmb\_venice\_12mhz.inp  
File: dvb\_nova\_12mhz.inp  
File: dvb\_nova\_12mhz\_b0.inp  
File: isdbt\_nova\_12mhz.inp  
File: isdbt\_nova\_12mhz\_b0.inp  
File: isdbt\_rio.inp  
File: smslxxx-hcw-55xxx-dvbt-02.fw  
File: smslxxx-hcw-55xxx-isdbt-02.fw  
File: smslxxx-nova-a-dvbt-01.fw  
File: smslxxx-nova-b-dvbt-01.fw  
File: smslxxx-stellar-dvbt-01.fw  
File: tdm\_b\_nova\_12mhz.inp

Licence: Redistributable. See LICENCE.siano for details

---

Driver: xhci-tegra -- NVIDIA Tegra XHCI driver

File: nvidia/tegra124/xusb.bin  
Version: v45.46

File: nvidia/tegra210/xusb.bin  
Version: v50.10

Licence: Redistributable. See LICENCE.nvidia for details

---

Driver: tegra-vic -- NVIDIA Tegra VIC driver

File: nvidia/tegra124/vic03\_ucose.bin  
File: nvidia/tegra210/vic04\_ucose.bin  
File: nvidia/tegra186/vic04\_ucose.bin

Licence: Redistributable. See LICENCE.nvidia for details

---

Driver: atusb - ATUSB IEEE 802.15.4 transceiver driver

File: atusb/atusb-0.2.dfu  
Version: 0.2  
File: atusb/atusb-0.3.dfu  
Version: 0.3  
File: atusb/rzusb-0.3.bin  
Version: 0.3  
Info: atusb/ChangeLog

Licence: GPLv2 or later. See GPLv2 and GPLv3 for details.



-----  
Driver: qca - Qualcomm Atheros Bluetooth support for QCA61x4 chips

File: qca/nvm\_usb\_00000201.bin  
File: qca/nvm\_usb\_00000200.bin  
File: qca/nvm\_usb\_00000300.bin  
File: qca/nvm\_usb\_00000302.bin  
File: qca/nvm\_00130300.bin  
File: qca/nvm\_00130302.bin  
File: qca/rampatch\_usb\_00000200.bin  
File: qca/rampatch\_usb\_00000201.bin  
File: qca/rampatch\_usb\_00000300.bin  
File: qca/rampatch\_usb\_00000302.bin  
File: qca/rampatch\_00130300.bin  
File: qca/rampatch\_00130302.bin  
File: qca/crbtlfw21.tlv  
File: qca/crnv21.bin  
File: qca/nvm\_00440302.bin  
File: qca/rampatch\_00440302.bin

Licence: Redistributable. See LICENSE.QualcommAtheros\_ath10k and qca/NOTICE.txt for details  
-----

Driver: liquidio -- Cavium LiquidIO driver

File: liquidio/lio\_23xx\_nic.bin  
Version: v1.7.2

File: liquidio/lio\_23xx\_vsw.bin  
Version: v1.7.2

File: liquidio/lio\_210nv\_nic.bin  
Version: v1.7.2

File: liquidio/lio\_210sv\_nic.bin  
Version: v1.7.2

File: liquidio/lio\_410nv\_nic.bin  
Version: v1.7.2

Licence: Redistributable. See LICENSE.cavium\_liquidio for details  
-----

Driver: nitrox -- Cavium CNN55XX crypto driver

File: cavium/cnn55xx\_ae.fw  
Version: v01

File: cavium/cnn55xx\_se.fw  
Version: v10

Licence: Redistributable. See LICENSE.cavium for details  
-----



Driver: i915 -- Intel Integrated Graphics driver

File: i915/skl\_dmc\_ver1\_23.bin

File: i915/skl\_dmc\_ver1\_26.bin

File: i915/skl\_dmc\_ver1\_27.bin

File: i915/skl\_dmc\_ver1.bin

Version: DMC API/ABI ver 1 - release 27 for Skylake

File: i915/bxt\_dmc\_ver1\_07.bin

File: i915/bxt\_dmc\_ver1.bin

Version: DMC API/ABI ver 1 - release 07 for Broxton

File: i915/kbl\_dmc\_ver1\_01.bin

File: i915/kbl\_dmc\_ver1.bin

Version: DMC API/ABI ver 1 - release 01 for Kabylake

File: i915/kbl\_dmc\_ver1\_04.bin

File: i915/kbl\_dmc\_ver1\_04.bin

Version: DMC API/ABI ver 1 - release 04 for Kabylake

File: i915/skl\_guc\_ver1.bin

Version: Guc API/ABI ver 1 - release 1059 for Skylake

File: i915/skl\_guc\_ver4.bin

Version: Guc API/ABI ver 4 - release 3 for Skylake

File: i915/skl\_guc\_ver6\_1.bin

File: i915/skl\_guc\_ver6.bin

Version: Guc API/ABI ver 6 - release 1 for Skylake

File: i915/skl\_guc\_ver9\_33.bin

Version: Guc API/ABI ver 9 - release 33 for Skylake

File: i915/skl\_guc\_32.0.3.bin

Version: Guc API/ABI ver 32 - release 0 for Skylake

File: i915/skl\_guc\_33.0.0.bin

Version: Guc API/ABI ver 33 - release 0 for Skylake

File: i915/skl\_huc\_ver01\_07\_1398.bin

Version: HuC API/ABI ver 1 - release 7 for Skylake

File: i915/bxt\_huc\_ver01\_07\_1398.bin

Version: HuC API/APB ver 1 - release 7 for Broxton

File: i915/bxt\_huc\_ver01\_8\_2893.bin

Version: HuC API/APB ver 1 - release 8 for Broxton

File: i915/kbl\_huc\_ver02\_00\_1810.bin

Version: HuC API/APB ver 2 - for Kabylake

File: i915/bxt\_guc\_ver8\_7.bin

Version: Guc API/APB ver 8 - release 7 for Broxton

File: i915/bxt\_guc\_ver9\_29.bin

Version: Guc API/APB ver 9 - release 29 for Broxton

File: i915/bxt\_guc\_32.0.3.bin

Version: Guc API/APB ver 32 - release 0 for Broxton



File: i915/bxt\_guc\_33.0.0.bin  
Version: Guc API/APB ver 33 - release 0 for Broxton

File: i915/kbl\_guc\_ver9\_14.bin  
Version: Guc API/APB ver 9 release 14 for Kabylake

File: i915/kbl\_guc\_ver9\_39.bin  
Version: Guc API/APB ver 9 release 39 for Kabylake

File: i915/kbl\_guc\_32.0.3.bin  
Version: Guc API/APB ver 32 release 0 for Kabylake

File: i915/kbl\_guc\_33.0.0.bin  
Version: Guc API/APB ver 33 release 0 for Kabylake

File: i915/glk\_guc\_32.0.3.bin  
Version: Guc API/APB ver 32 release 0 for Geminilake

File: i915/glk\_guc\_33.0.0.bin  
Version: Guc API/APB ver 33 release 0 for Geminilake

File: i915/glk\_huc\_ver03\_01\_2893.bin  
Version: Huc API/APB ver 3 release 1 for Geminilake

File: i915/glk\_dmc\_ver1\_04.bin  
Version: DMC API/ABI ver 1 - release 04 for Geminilake

File: i915/cnl\_dmc\_ver1\_06.bin  
Version: DMC API/ABI ver 1 - release 06 for Cannonlake

File: i915/cnl\_dmc\_ver1\_07.bin  
Version: DMC API/ABI ver 1 - release 07 for Cannonlake

File: i915/icl\_dmc\_ver1\_07.bin  
Version: DMC API/ABI ver 1 - release 07 for icelake

File: i915/icl\_guc\_32.0.3.bin  
Version: Guc API/APB ver 32 release 0 for Icelake

File: i915/icl\_guc\_33.0.0.bin  
Version: Guc API/APB ver 33 release 0 for Icelake

File: i915/icl\_huc\_ver8\_4\_3238.bin  
Version: Huc API/APB ver 8 release 4 for Icelake  
License: Redistributable. See LICENSE.i915 for details

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Driver: nouveau - NVIDIA GPU driver

File: nvidia/gk20a/fecs\_data.bin  
File: nvidia/gk20a/fecs\_inst.bin  
File: nvidia/gk20a/gpccs\_data.bin  
File: nvidia/gk20a/gpccs\_inst.bin  
File: nvidia/gk20a/sw\_bundle\_init.bin  
File: nvidia/gk20a/sw\_ctx.bin  
File: nvidia/gk20a/sw\_method\_init.bin  
File: nvidia/gk20a/sw\_nonctx.bin  
File: nvidia/gm200/acr/bl.bin  
File: nvidia/gm200/acr/ucode\_load.bin



File: nvidia/gm200/acr/ucode\_unload.bin  
File: nvidia/gm200/gr/fecs\_bl.bin  
File: nvidia/gm200/gr/fecs\_data.bin  
File: nvidia/gm200/gr/fecs\_inst.bin  
File: nvidia/gm200/gr/fecs\_sig.bin  
File: nvidia/gm200/gr/gpccs\_bl.bin  
File: nvidia/gm200/gr/gpccs\_data.bin  
File: nvidia/gm200/gr/gpccs\_inst.bin  
File: nvidia/gm200/gr/gpccs\_sig.bin  
File: nvidia/gm200/gr/sw\_bundle\_init.bin  
File: nvidia/gm200/gr/sw\_ctx.bin  
File: nvidia/gm200/gr/sw\_method\_init.bin  
File: nvidia/gm200/gr/sw\_nonctx.bin  
File: nvidia/gm204/acr/bl.bin  
File: nvidia/gm204/acr/ucode\_load.bin  
File: nvidia/gm204/acr/ucode\_unload.bin  
File: nvidia/gm204/gr/fecs\_bl.bin  
File: nvidia/gm204/gr/fecs\_data.bin  
File: nvidia/gm204/gr/fecs\_inst.bin  
File: nvidia/gm204/gr/fecs\_sig.bin  
File: nvidia/gm204/gr/gpccs\_bl.bin  
File: nvidia/gm204/gr/gpccs\_data.bin  
File: nvidia/gm204/gr/gpccs\_inst.bin  
File: nvidia/gm204/gr/gpccs\_sig.bin  
File: nvidia/gm204/gr/sw\_bundle\_init.bin  
File: nvidia/gm204/gr/sw\_ctx.bin  
File: nvidia/gm204/gr/sw\_method\_init.bin  
File: nvidia/gm204/gr/sw\_nonctx.bin  
File: nvidia/gm206/acr/bl.bin  
File: nvidia/gm206/acr/ucode\_load.bin  
File: nvidia/gm206/acr/ucode\_unload.bin  
File: nvidia/gm206/gr/fecs\_bl.bin  
File: nvidia/gm206/gr/fecs\_data.bin  
File: nvidia/gm206/gr/fecs\_inst.bin  
File: nvidia/gm206/gr/fecs\_sig.bin  
File: nvidia/gm206/gr/gpccs\_bl.bin  
File: nvidia/gm206/gr/gpccs\_data.bin  
File: nvidia/gm206/gr/gpccs\_inst.bin  
File: nvidia/gm206/gr/gpccs\_sig.bin  
File: nvidia/gm206/gr/sw\_bundle\_init.bin  
File: nvidia/gm206/gr/sw\_ctx.bin  
File: nvidia/gm206/gr/sw\_method\_init.bin  
File: nvidia/gm206/gr/sw\_nonctx.bin  
File: nvidia/gm20b/acr/bl.bin  
File: nvidia/gm20b/acr/ucode\_load.bin  
File: nvidia/gm20b/gr/fecs\_bl.bin  
File: nvidia/gm20b/gr/fecs\_data.bin  
File: nvidia/gm20b/gr/fecs\_inst.bin  
File: nvidia/gm20b/gr/fecs\_sig.bin  
File: nvidia/gm20b/gr/gpccs\_data.bin  
File: nvidia/gm20b/gr/gpccs\_inst.bin  
File: nvidia/gm20b/gr/sw\_bundle\_init.bin  
File: nvidia/gm20b/gr/sw\_ctx.bin  
File: nvidia/gm20b/gr/sw\_method\_init.bin  
File: nvidia/gm20b/gr/sw\_nonctx.bin  
File: nvidia/gm20b/pmu/desc.bin  
File: nvidia/gm20b/pmu/image.bin  
File: nvidia/gm20b/pmu/sig.bin  
File: nvidia/gp100/acr/bl.bin  
File: nvidia/gp100/acr/ucode\_load.bin



File: nvidia/gp100/acr/ucode\_unload.bin  
File: nvidia/gp100/gr/fecs\_bl.bin  
File: nvidia/gp100/gr/fecs\_data.bin  
File: nvidia/gp100/gr/fecs\_inst.bin  
File: nvidia/gp100/gr/fecs\_sig.bin  
File: nvidia/gp100/gr/gpccs\_bl.bin  
File: nvidia/gp100/gr/gpccs\_data.bin  
File: nvidia/gp100/gr/gpccs\_inst.bin  
File: nvidia/gp100/gr/gpccs\_sig.bin  
File: nvidia/gp100/gr/sw\_bundle\_init.bin  
File: nvidia/gp100/gr/sw\_ctx.bin  
File: nvidia/gp100/gr/sw\_method\_init.bin  
File: nvidia/gp100/gr/sw\_nonctx.bin  
File: nvidia/gp102/acr/bl.bin  
File: nvidia/gp102/acr/ucode\_load.bin  
File: nvidia/gp102/acr/ucode\_unload.bin  
File: nvidia/gp102/acr/unload\_bl.bin  
File: nvidia/gp102/gr/fecs\_bl.bin  
File: nvidia/gp102/gr/fecs\_data.bin  
File: nvidia/gp102/gr/fecs\_inst.bin  
File: nvidia/gp102/gr/fecs\_sig.bin  
File: nvidia/gp102/gr/gpccs\_bl.bin  
File: nvidia/gp102/gr/gpccs\_data.bin  
File: nvidia/gp102/gr/gpccs\_inst.bin  
File: nvidia/gp102/gr/gpccs\_sig.bin  
File: nvidia/gp102/gr/sw\_bundle\_init.bin  
File: nvidia/gp102/gr/sw\_ctx.bin  
File: nvidia/gp102/gr/sw\_method\_init.bin  
File: nvidia/gp102/gr/sw\_nonctx.bin  
File: nvidia/gp102/nvdec/scrubber.bin  
File: nvidia/gp102/sec2/desc.bin  
File: nvidia/gp102/sec2/image.bin  
File: nvidia/gp102/sec2/sig.bin  
File: nvidia/gp102/sec2/desc-1.bin  
File: nvidia/gp102/sec2/image-1.bin  
File: nvidia/gp102/sec2/sig-1.bin  
File: nvidia/gp104/acr/bl.bin  
File: nvidia/gp104/acr/ucode\_load.bin  
File: nvidia/gp104/acr/ucode\_unload.bin  
File: nvidia/gp104/acr/unload\_bl.bin  
File: nvidia/gp104/gr/fecs\_bl.bin  
File: nvidia/gp104/gr/fecs\_data.bin  
File: nvidia/gp104/gr/fecs\_inst.bin  
File: nvidia/gp104/gr/fecs\_sig.bin  
File: nvidia/gp104/gr/gpccs\_bl.bin  
File: nvidia/gp104/gr/gpccs\_data.bin  
File: nvidia/gp104/gr/gpccs\_inst.bin  
File: nvidia/gp104/gr/gpccs\_sig.bin  
File: nvidia/gp104/gr/sw\_bundle\_init.bin  
File: nvidia/gp104/gr/sw\_ctx.bin  
File: nvidia/gp104/gr/sw\_method\_init.bin  
File: nvidia/gp104/gr/sw\_nonctx.bin  
File: nvidia/gp104/nvdec/scrubber.bin  
File: nvidia/gp104/sec2/desc.bin  
File: nvidia/gp104/sec2/image.bin  
File: nvidia/gp104/sec2/sig.bin  
File: nvidia/gp104/sec2/desc-1.bin  
File: nvidia/gp104/sec2/image-1.bin  
File: nvidia/gp104/sec2/sig-1.bin  
File: nvidia/gp106/acr/bl.bin



File: nvidia/gpl06/acr/ucode\_load.bin  
File: nvidia/gpl06/acr/ucode\_unload.bin  
File: nvidia/gpl06/acr/unload\_bl.bin  
File: nvidia/gpl06/gr/fecs\_bl.bin  
File: nvidia/gpl06/gr/fecs\_data.bin  
File: nvidia/gpl06/gr/fecs\_inst.bin  
File: nvidia/gpl06/gr/fecs\_sig.bin  
File: nvidia/gpl06/gr/gpccs\_bl.bin  
File: nvidia/gpl06/gr/gpccs\_data.bin  
File: nvidia/gpl06/gr/gpccs\_inst.bin  
File: nvidia/gpl06/gr/gpccs\_sig.bin  
File: nvidia/gpl06/gr/sw\_bundle\_init.bin  
File: nvidia/gpl06/gr/sw\_ctx.bin  
File: nvidia/gpl06/gr/sw\_method\_init.bin  
File: nvidia/gpl06/gr/sw\_nonctx.bin  
File: nvidia/gpl06/nvdec/scrubber.bin  
File: nvidia/gpl06/sec2/desc.bin  
File: nvidia/gpl06/sec2/image.bin  
File: nvidia/gpl06/sec2/sig.bin  
File: nvidia/gpl06/sec2/desc-1.bin  
File: nvidia/gpl06/sec2/image-1.bin  
File: nvidia/gpl06/sec2/sig-1.bin  
File: nvidia/gpl07/acr/bl.bin  
File: nvidia/gpl07/acr/ucode\_load.bin  
File: nvidia/gpl07/acr/ucode\_unload.bin  
File: nvidia/gpl07/acr/unload\_bl.bin  
File: nvidia/gpl07/gr/fecs\_bl.bin  
File: nvidia/gpl07/gr/fecs\_data.bin  
File: nvidia/gpl07/gr/fecs\_inst.bin  
File: nvidia/gpl07/gr/fecs\_sig.bin  
File: nvidia/gpl07/gr/gpccs\_bl.bin  
File: nvidia/gpl07/gr/gpccs\_data.bin  
File: nvidia/gpl07/gr/gpccs\_inst.bin  
File: nvidia/gpl07/gr/gpccs\_sig.bin  
File: nvidia/gpl07/gr/sw\_bundle\_init.bin  
File: nvidia/gpl07/gr/sw\_ctx.bin  
File: nvidia/gpl07/gr/sw\_method\_init.bin  
File: nvidia/gpl07/gr/sw\_nonctx.bin  
File: nvidia/gpl07/nvdec/scrubber.bin  
File: nvidia/gpl07/sec2/desc.bin  
File: nvidia/gpl07/sec2/image.bin  
File: nvidia/gpl07/sec2/sig.bin  
File: nvidia/gpl07/sec2/desc-1.bin  
File: nvidia/gpl07/sec2/image-1.bin  
File: nvidia/gpl07/sec2/sig-1.bin  
File: nvidia/gpl0b/acr/bl.bin  
File: nvidia/gpl0b/acr/ucode\_load.bin  
File: nvidia/gpl0b/gr/fecs\_bl.bin  
File: nvidia/gpl0b/gr/fecs\_data.bin  
File: nvidia/gpl0b/gr/fecs\_inst.bin  
File: nvidia/gpl0b/gr/fecs\_sig.bin  
File: nvidia/gpl0b/gr/gpccs\_bl.bin  
File: nvidia/gpl0b/gr/gpccs\_data.bin  
File: nvidia/gpl0b/gr/gpccs\_inst.bin  
File: nvidia/gpl0b/gr/gpccs\_sig.bin  
File: nvidia/gpl0b/gr/sw\_bundle\_init.bin  
File: nvidia/gpl0b/gr/sw\_ctx.bin  
File: nvidia/gpl0b/gr/sw\_method\_init.bin  
File: nvidia/gpl0b/gr/sw\_nonctx.bin  
File: nvidia/gpl0b/pmu/desc.bin



File: nvidia/gp10b/pmu/image.bin  
File: nvidia/gp10b/pmu/sig.bin  
File: nvidia/gp108/acr/bl.bin  
File: nvidia/gp108/acr/ucode\_load.bin  
File: nvidia/gp108/acr/ucode\_unload.bin  
File: nvidia/gp108/acr/unload\_bl.bin  
File: nvidia/gp108/gr/fecs\_bl.bin  
File: nvidia/gp108/gr/fecs\_data.bin  
File: nvidia/gp108/gr/fecs\_inst.bin  
File: nvidia/gp108/gr/fecs\_sig.bin  
File: nvidia/gp108/gr/gpccs\_bl.bin  
File: nvidia/gp108/gr/gpccs\_data.bin  
File: nvidia/gp108/gr/gpccs\_inst.bin  
File: nvidia/gp108/gr/gpccs\_sig.bin  
File: nvidia/gp108/gr/sw\_bundle\_init.bin  
File: nvidia/gp108/gr/sw\_ctx.bin  
File: nvidia/gp108/gr/sw\_method\_init.bin  
File: nvidia/gp108/gr/sw\_nonctx.bin  
File: nvidia/gp108/nvdec/scrubber.bin  
File: nvidia/gp108/sec2/desc.bin  
File: nvidia/gp108/sec2/image.bin  
File: nvidia/gp108/sec2/sig.bin  
File: nvidia/gv100/acr/bl.bin  
File: nvidia/gv100/acr/ucode\_load.bin  
File: nvidia/gv100/acr/ucode\_unload.bin  
File: nvidia/gv100/acr/unload\_bl.bin  
File: nvidia/gv100/gr/fecs\_bl.bin  
File: nvidia/gv100/gr/fecs\_data.bin  
File: nvidia/gv100/gr/fecs\_inst.bin  
File: nvidia/gv100/gr/fecs\_sig.bin  
File: nvidia/gv100/gr/gpccs\_bl.bin  
File: nvidia/gv100/gr/gpccs\_data.bin  
File: nvidia/gv100/gr/gpccs\_inst.bin  
File: nvidia/gv100/gr/gpccs\_sig.bin  
File: nvidia/gv100/gr/sw\_bundle\_init.bin  
File: nvidia/gv100/gr/sw\_ctx.bin  
File: nvidia/gv100/gr/sw\_method\_init.bin  
File: nvidia/gv100/gr/sw\_nonctx.bin  
File: nvidia/gv100/nvdec/scrubber.bin  
File: nvidia/gv100/sec2/desc.bin  
File: nvidia/gv100/sec2/image.bin  
File: nvidia/gv100/sec2/sig.bin

File: nvidia/tu10x/typec/ccg\_primary.cyacd  
File: nvidia/tu10x/typec/ccg\_secondary.cyacd  
File: nvidia/tu10x/typec/ccg\_boot.cyacd

Licence: Redistributable. See LICENCE.nvidia for details

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Driver: wilc1000 - Atmel 802.11n WLAN driver for WILC1000

File: atmel/wilc1000\_fw.bin  
File: atmel/wilc1000\_ap\_fw.bin  
File: atmel/wilc1000\_p2p\_fw.bin  
File: atmel/wilc1000\_wifi\_firmware.bin

License: Redistributable. See LICENSE.atmel for details



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Driver: hfil - Intel OPA Gen 1 adapter

File: hfil\_dc8051.fw  
Version: 1.27.0  
File: hfil\_fabric.fw  
Version: 0x1055  
File: hfil\_pcie.fw  
Version: 0x4755  
File: hfil\_sbus.fw  
Version: 0x10130001

Licence: Redistributable. See LICENSE.hfil\_firmware for details  
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Driver: knav\_qmss\_queue - TI Keystone 2 QMSS driver

File: ti-keystone/ks2\_qmss\_pdsp\_acc48\_k2\_le\_1\_0\_0\_9.bin

Licence: Redistributable. See LICENSE.ti-keystone for details.  
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Driver: mwlwifi - Marvell mac80211 driver for 80211ac cards.

File: mwlwifi/88W8864.bin  
Version: 7.2.8.6

File: mwlwifi/88W8897.bin  
Version: 8.2.0.10

Licence: Redistributable. See LICENSE.Marvell for details.  
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Driver: mtk-vpu - Mediatek VPU video processing unit driver

File: vpu\_d.bin  
File: vpu\_p.bin

Licence: Redistributable.

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OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.  
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Driver: btmtk - MediaTek Bluetooth Driver



File: mediatek/mt7622pr2h.bin  
Version: 20180621204904  
File: mediatek/mt7668pr2h.bin  
Version: 20180517181834

Licence: Redistributable. See LICENCE.mediatek for details.

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Driver: rk3399-dptx - ROCKCHIP rk3399 dptx firmware

File: rockchip/dptx.bin  
Version: 3.1

Licence: Redistributable. See LICENCE.rockchip for details.

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Driver: mt76x0 - MediaTek MT76x0 Wireless MACs

File: mediatek/mt7610u.bin  
File: mediatek/mt7610e.bin  
Version: 2.6  
File: mediatek/mt7650e.bin  
Version: 1.0.07-b370

Licence: Redistributable. See LICENCE.mediatek for details.

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Driver: mt76x2e - MediaTek MT76x2 Wireless MACs

File: mt7662.bin  
Version: 1.9

File: mt7662\_rom\_patch.bin  
Version: 0.0.2\_P69

Licence: Redistributable. See LICENCE.ralink\_a\_mediatek\_company\_firmware for details

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Driver: mt76x2u - MediaTek MT76x2u Wireless MACs

File: mediatek/mt7662u.bin  
Version: 1.5

File: mediatek/mt7662u\_rom\_patch.bin  
Version: 0.0.2\_P48

Licence: Redistributable. See LICENCE.mediatek for details.

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Driver: mt7615e - MediaTek MT7615e Wireless MACs

File: mediatek/mt7615\_n9.bin  
Version: 20190114  
File: mediatek/mt7615\_cr4.bin



Version: 20190114  
File: mediatek/mt7615\_rom\_patch.bin  
Version: 20190114

Licence: Redistributable. See LICENCE.mediatek for details.

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Driver: nfp - Netronome Flow Processor

Link: netronome/nic\_AMDA0081-0001\_1x40.nffw -> nic/nic\_AMDA0081-0001\_1x40.nffw  
Link: netronome/nic\_AMDA0097-0001\_2x40.nffw -> nic/nic\_AMDA0097-0001\_2x40.nffw  
Link: netronome/nic\_AMDA0099-0001\_2x10.nffw -> nic/nic\_AMDA0099-0001\_2x10.nffw  
Link: netronome/nic\_AMDA0081-0001\_4x10.nffw -> nic/nic\_AMDA0081-0001\_4x10.nffw  
Link: netronome/nic\_AMDA0097-0001\_4x10\_1x40.nffw -> nic/nic\_AMDA0097-0001\_4x10\_1x40.nffw  
Link: netronome/nic\_AMDA0099-0001\_1x10\_1x25.nffw -> nic/nic\_AMDA0099-0001\_1x10\_1x25.nffw  
Link: netronome/nic\_AMDA0099-0001\_2x25.nffw -> nic/nic\_AMDA0099-0001\_2x25.nffw  
Link: netronome/nic\_AMDA0096-0001\_2x10.nffw -> nic/nic\_AMDA0096-0001\_2x10.nffw  
Link: netronome/nic\_AMDA0097-0001\_8x10.nffw -> nic/nic\_AMDA0097-0001\_8x10.nffw  
Link: netronome/nic\_AMDA0058-0011\_2x40.nffw -> nic/nic\_AMDA0058-0011\_2x40.nffw  
Link: netronome/nic\_AMDA0058-0012\_2x40.nffw -> nic/nic\_AMDA0058-0012\_2x40.nffw  
Link: netronome/nic\_AMDA0078-0011\_1x100.nffw -> nic/nic\_AMDA0078-0011\_1x100.nffw

File: netronome/nic/nic\_AMDA0081-0001\_1x40.nffw  
File: netronome/nic/nic\_AMDA0097-0001\_2x40.nffw  
File: netronome/nic/nic\_AMDA0099-0001\_2x10.nffw  
File: netronome/nic/nic\_AMDA0081-0001\_4x10.nffw  
File: netronome/nic/nic\_AMDA0097-0001\_4x10\_1x40.nffw  
File: netronome/nic/nic\_AMDA0099-0001\_1x10\_1x25.nffw  
File: netronome/nic/nic\_AMDA0099-0001\_2x25.nffw  
File: netronome/nic/nic\_AMDA0096-0001\_2x10.nffw  
File: netronome/nic/nic\_AMDA0097-0001\_8x10.nffw  
File: netronome/nic/nic\_AMDA0058-0011\_2x40.nffw  
File: netronome/nic/nic\_AMDA0058-0012\_2x40.nffw  
File: netronome/nic/nic\_AMDA0078-0011\_1x100.nffw  
File: netronome/nic-sriov/nic\_AMDA0081-0001\_1x40.nffw  
File: netronome/nic-sriov/nic\_AMDA0097-0001\_2x40.nffw  
File: netronome/nic-sriov/nic\_AMDA0099-0001\_2x10.nffw  
File: netronome/nic-sriov/nic\_AMDA0081-0001\_4x10.nffw  
File: netronome/nic-sriov/nic\_AMDA0097-0001\_4x10\_1x40.nffw  
File: netronome/nic-sriov/nic\_AMDA0099-0001\_1x10\_1x25.nffw  
File: netronome/nic-sriov/nic\_AMDA0099-0001\_2x25.nffw  
File: netronome/nic-sriov/nic\_AMDA0096-0001\_2x10.nffw  
File: netronome/nic-sriov/nic\_AMDA0097-0001\_8x10.nffw  
File: netronome/nic-sriov/nic\_AMDA0058-0011\_2x40.nffw  
File: netronome/nic-sriov/nic\_AMDA0058-0012\_2x40.nffw  
File: netronome/nic-sriov/nic\_AMDA0078-0011\_1x100.nffw

Version: v2.1.16.1

File: netronome/flower/nic\_AMDA0099.nffw  
File: netronome/flower/nic\_AMDA0096.nffw  
File: netronome/flower/nic\_AMDA0097.nffw  
File: netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0081.nffw -> netronome/flower/nic\_AMDA0097.nffw  
Link: netronome/flower/nic\_AMDA0081-0001\_1x40.nffw -> netronome/flower/nic\_AMDA0081.nffw  
Link: netronome/flower/nic\_AMDA0097-0001\_2x40.nffw -> netronome/flower/nic\_AMDA0097.nffw



097.nffw  
Link: netronome/flower/nic\_AMDA0099-0001\_2x10.nffw -> netronome/flower/nic\_AMDA0099.nffw  
Link: netronome/flower/nic\_AMDA0081-0001\_4x10.nffw -> netronome/flower/nic\_AMDA0081.nffw  
Link: netronome/flower/nic\_AMDA0097-0001\_4x10\_1x40.nffw -> netronome/flower/nic\_AMDA0097.nffw  
Link: netronome/flower/nic\_AMDA0099-0001\_2x25.nffw -> netronome/flower/nic\_AMDA0099.nffw  
Link: netronome/flower/nic\_AMDA0096-0001\_2x10.nffw -> netronome/flower/nic\_AMDA0096.nffw  
Link: netronome/flower/nic\_AMDA0097-0001\_8x10.nffw -> netronome/flower/nic\_AMDA0097.nffw  
Link: netronome/flower/nic\_AMDA0099-0001\_1x10\_1x25.nffw -> netronome/flower/nic\_AMDA0099.nffw  
Link: netronome/flower/nic\_AMDA0058-0011\_1x100.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0011\_2x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0011\_4x10\_1x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0011\_8x10.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0012\_1x100.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0012\_2x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0012\_4x10\_1x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0058-0012\_8x10.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0011\_1x100.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0011\_2x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0011\_4x10\_1x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0011\_8x10.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0012\_1x100.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0012\_2x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0012\_4x10\_1x40.nffw -> netronome/flower/nic\_AMDA0058.nffw  
Link: netronome/flower/nic\_AMDA0078-0012\_8x10.nffw -> netronome/flower/nic\_AMDA0058.nffw

Version: AOTC-2.10.A.38

File: netronome/bpf/nic\_AMDA0081-0001\_1x40.nffw  
File: netronome/bpf/nic\_AMDA0097-0001\_2x40.nffw  
File: netronome/bpf/nic\_AMDA0099-0001\_2x10.nffw  
File: netronome/bpf/nic\_AMDA0081-0001\_4x10.nffw  
File: netronome/bpf/nic\_AMDA0097-0001\_4x10\_1x40.nffw  
File: netronome/bpf/nic\_AMDA0099-0001\_1x10\_1x25.nffw  
File: netronome/bpf/nic\_AMDA0099-0001\_2x25.nffw  
File: netronome/bpf/nic\_AMDA0096-0001\_2x10.nffw  
File: netronome/bpf/nic\_AMDA0097-0001\_8x10.nffw  
File: netronome/bpf/nic\_AMDA0058-0011\_2x40.nffw



File: netronome/bpf/nic\_AMD0058-0012\_2x40.nffw  
File: netronome/bpf/nic\_AMD0078-0011\_1x100.nffw

Version: v2.0.6.124

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Driver: wil6210 - Qualcomm Atheros support for llad family of chips

File: wil6210.fw  
File: wil6210.brd  
Version: 5.2.0.18

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Driver: venus - Qualcomm Venus video codec accelerator

File: qcom/venus-1.8/venus.mdt  
File: qcom/venus-1.8/venus.b00  
File: qcom/venus-1.8/venus.b01  
File: qcom/venus-1.8/venus.b02  
File: qcom/venus-1.8/venus.b03  
File: qcom/venus-1.8/venus.b04

Version: 1.8-00109

File: qcom/venus-4.2/venus.mdt  
File: qcom/venus-4.2/venus.b00  
File: qcom/venus-4.2/venus.b01  
File: qcom/venus-4.2/venus.b02  
File: qcom/venus-4.2/venus.b03  
File: qcom/venus-4.2/venus.b04

Version: 4.2

File: qcom/venus-5.2/venus.mdt  
File: qcom/venus-5.2/venus.b00  
File: qcom/venus-5.2/venus.b01  
File: qcom/venus-5.2/venus.b02  
File: qcom/venus-5.2/venus.b03  
File: qcom/venus-5.2/venus.b04  
File: qcom/venus-5.2/venus.mbn

Version: 5.2-00023

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Driver: imx-sdma - support for i.MX SDMA driver

File: imx/sdma/sdma-imx6q.bin



Version: 3.3  
File: imx/sdma/sdma-imx7d.bin  
Version: 4.2

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Driver: adreno - Qualcomm Adreno GPU firmware

File: qcom/a300\_pfp.fw  
Link: a300\_pfp.fw -> qcom/a300\_pfp.fw  
File: qcom/a300\_pm4.fw  
Link: a300\_pm4.fw -> qcom/a300\_pm4.fw  
File: qcom/a530\_pfp.fw  
File: qcom/a530\_pm4.fw  
File: qcom/a530v3\_gpmu.fw2  
File: qcom/a530\_zap.b00  
File: qcom/a530\_zap.b01  
File: qcom/a530\_zap.b02  
File: qcom/a530\_zap.mdt

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Driver: mlxsw\_spectrum - Mellanox Spectrum switch

File: mellanox/mlxsw\_spectrum-13.1420.122.mfa2  
File: mellanox/mlxsw\_spectrum-13.1530.152.mfa2  
File: mellanox/mlxsw\_spectrum-13.1620.192.mfa2  
File: mellanox/mlxsw\_spectrum-13.1702.6.mfa2  
File: mellanox/mlxsw\_spectrum-13.1703.4.mfa2  
File: mellanox/mlxsw\_spectrum-13.1910.622.mfa2  
File: mellanox/mlxsw\_spectrum-13.2000.1122.mfa2

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Driver: cdns-mhdp - Cadence MHDP DP bridge

File: cadence/mhdp8546.bin

Version: 1.2.15

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Driver: fsl-mc bus - NXP Management Complex Bus Driver

File: dpaa2/mc/mc\_10.10.0\_ls1088a.itb

File: dpaa2/mc/mc\_10.10.0\_ls2088a.itb

File: dpaa2/mc/mc\_10.10.0\_lx2160a.itb

File: dpaa2/mc/mc\_10.14.3\_ls1088a.itb

File: dpaa2/mc/mc\_10.14.3\_ls2088a.itb

File: dpaa2/mc/mc\_10.14.3\_lx2160a.itb

File: dpaa2/mc/mc\_10.16.2\_ls1088a.itb

File: dpaa2/mc/mc\_10.16.2\_ls2088a.itb

File: dpaa2/mc/mc\_10.16.2\_lx2160a.itb

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Driver: msc-phy - Microchip PHY drivers

File: microchip/mscc\_vsc8574\_revb\_int8051\_29e8.bin

File: microchip/mscc\_vsc8584\_revb\_int8051\_fb48.bin

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Driver: meson-vdec - Amlogic video decoder

File: meson/vdec/g12a\_h264.bin

File: meson/vdec/g12a\_vp9.bin

File: meson/vdec/gxbb\_h264.bin

File: meson/vdec/gxl\_h263.bin

File: meson/vdec/gxl\_h264.bin

File: meson/vdec/gxl\_hevc.bin

File: meson/vdec/gxl\_hevc\_mmu.bin

File: meson/vdec/gxl\_mjpeg.bin

File: meson/vdec/gxl\_mpeg12.bin

File: meson/vdec/gxl\_mpeg4\_5.bin

File: meson/vdec/gxm\_h264.bin



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Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work



based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The

executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten



lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the

work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to

produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library.

A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified



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e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

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7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

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```

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version 2.1 of the License, or (at your option) any later version.
```

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Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
```

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```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!



```

\input texinfo          @c -*-texinfo-*-
@comment %**start of header
@setfilename libunistring.info
@documentencoding UTF-8
@settitle GNU libunistring
@finalout
@c Indices:
@c   am = autoconf macro   @amindex
@c   cp = concept          @cindex
@c   fn = function         @findex
@c   tp = type             @tindex
@c Unused predefined indices:
@c   ky = keystroke        @kindex
@c   pg = program          @pindex
@c   vr = variable         @vindex
@defcodeindex am
@syncodeindex am cp
@syncodeindex fn cp
@syncodeindex tp cp
@ifclear texi2html
@firstparagraphindent insert
@end ifclear
@c texi2html-1.76 does not support @arrow{}.
@ifset texi2html
@macro arrow{}
â
@end macro
@end ifset
@comment %**end of header

@include version.texi

@c Location of the POSIX specification on the web.
@set POSIXURL http://pubs.opengroup.org/onlinepubs/9699919799

@c Macro for referencing a POSIX header.
@ifinfo
@macro posixheader{header}
@code{<\header\>}
@end macro
@end ifinfo
@ifnotinfo
@macro posixheader{header}
@uref{@value{POSIXURL}/basedefs/\header\ .html,,@code{<\header\>}}
@end macro
@end ifnotinfo

@c Macro for referencing a POSIX function.
@c We don't write it as func(), see section "GNU Manuals" of the
@c GNU coding standards.
@ifinfo
@macro posixfunc{func}
@code{\func\}
@end macro
@end ifinfo
@ifnotinfo
@macro posixfunc{func}
@uref{@value{POSIXURL}/functions/\func\ .html,,@code{\func\}}
@end macro
@end ifnotinfo

```



```

@c Macro for referencing a normal function.
@c We don't write it as func(), see section "GNU Manuals" of the
@c GNU coding standards.
@macro func{func}
@code{\func\}
@end macro

```

```

@c Macro for an advisory ragged line break in TeX mode.
@c Needed because there are long unbreakable pieces of text (such as URLs or
@c formulas), TeX is too shy to move them to a new line. TeX considers only
@c two choices: a line break in aligned mode (which it rejects due to aesthetic
@c reasons) and writing into the margin. What we want in many cases is a line
@c break without filling the first line. Like what @* delivers. But we want it
@c only when needed, so that it disappears when unrelated changes in the same
@c paragraph cause a line break in a nearby position. And we need it only in
@c TeX mode. info and HTML modes are fine.
@c This trick is from Karl Berry.
@iftex
@macro texnl
@hfil@penalty9000@hfilneg
@end macro
@end iftex
@ifnottex
@macro texnl
@end macro
@end ifnottex

```

```

@ifinfo
@dircategory Software development
@direntry
* GNU libunistring: (libunistring).      Unicode string library.
@end direntry
@end ifinfo

```

```

@ifinfo
This manual is for GNU libunistring.

```

```

@ignore
@c This was: @copying but it triggers a makeinfo 4.13 bug
Copyright (C) 2001-2018 Free Software Foundation, Inc.

```

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```

@end ignore

```



@end ifinfo

@titlepage

@title GNU libunistring, version @value{VERSION}

@subtitle updated @value{UPDATED}

@subtitle Edition @value{EDITION}, @value{UPDATED}

@author Bruno Haible

@ifnohtml

@page

@vskip 0pt plus 1filll

@c @insertcopying

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@end ifnohtml

@end titlepage

@c Table of Contents

@contents

@ifnottex

@node Top

@top GNU libunistring

@end ifnottex

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* Introduction::	Who may need Unicode strings?
* Conventions::	Conventions used in this manual
* untypes.h::	Elementary types
* unistr.h::	Elementary Unicode string functions
* unicnv.h::	Conversions between Unicode and encodings
* unistdio.h::	Output with Unicode strings
* uniname.h::	Names of Unicode characters
* unictype.h::	Unicode character classification and properties
* uniwidth.h::	Display width
* unigbrk.h::	Grapheme cluster breaking
* uniwbrk.h::	Word breaks in strings
* unilbrk.h::	Line breaking
* uninorm.h::	Normalization forms
* unicase.h::	Case mappings
* uniregex.h::	Regular expressions
* Using the library::	How to link with the library and use it?
* More functionality::	More advanced functionality



\* The wchar\_t mess::                   Why @code{wchar\_t \*} strings are useless  
\* Licenses::                           Licenses  
  
\* Index::                               General Index

@detailmenu

--- The Detailed Node Listing ---

## Introduction

\* Unicode::                            What is Unicode?  
\* Unicode and i18n::                   Unicode and internationalization  
\* Locale encodings::                   What is a locale encoding?  
\* In-memory representation::           How to represent strings in memory?  
\* char \* strings::                     What to keep in mind with @code{char \*} strings  
\* Unicode strings::                    How are Unicode strings represented?

## unistr.h

\* Elementary string checks::  
\* Elementary string conversions::  
\* Elementary string functions::  
\* Elementary string functions with memory allocation::  
\* Elementary string functions on NUL terminated strings::

## Elementary string functions

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\* Copying Unicode strings::  
\* Comparing Unicode strings::  
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\* Counting characters::

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\* Length::  
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\* Duplicating a NUL terminated Unicode string::  
\* Searching for a character in a NUL terminated Unicode string::  
\* Searching for a substring::  
\* Tokenizing::

## unictype.h

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\* Canonical combining class::  
\* Bidi class::  
\* Decimal digit value::  
\* Digit value::  
\* Numeric value::  
\* Mirrored character::  
\* Arabic shaping::  
\* Properties::  
\* Scripts::  
\* Blocks::  
\* ISO C and Java syntax::  
\* Classifications like in ISO C::



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- \* Bit mask API::

## Properties

- \* Properties as objects::
- \* Properties as functions::

## unigbrk.h

- \* Grapheme cluster breaks in a string::
- \* Grapheme cluster break property::

## uniwbrk.h

- \* Word breaks in a string::
- \* Word break property::

## uninorm.h

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- \* Composition of characters::
- \* Normalization of strings::
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## Using the library

- \* Installation::
- \* Compiler options::
- \* Include files::
- \* Autoconf macro::
- \* Reporting problems::

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@end detailmenu  
@end menu

@node Introduction  
@chapter Introduction

This library provides functions for manipulating Unicode strings and for manipulating C strings according to the Unicode standard.



It consists of the following parts:

```
@table @code
@item <unistr.h>
elementary string functions
@item <uniconv.h>
conversion from/to legacy encodings
@item <unistdio.h>
formatted output to strings
@item <uniname.h>
character names
@item <unictype.h>
character classification and properties
@item <uniwidth.h>
string width when using nonproportional fonts
@item <unigbrk.h>
grapheme cluster breaks
@item <uniwbrk.h>
word breaks
@item <unilbrk.h>
line breaking algorithm
@item <uninorm.h>
normalization (composition and decomposition)
@item <unicase.h>
case folding
@item <uniregex.h>
regular expressions (not yet implemented)
@end table
```

```
@cindex use cases
@cindex value, of libunistring
libunistring is for you if your application involves non-trivial text
processing, such as upper/lower case conversions, line breaking, operations
on words, or more advanced analysis of text. Text provided by the user can,
in general, contain characters of all kinds of scripts. The text processing
functions provided by this library handle all scripts and all languages.
```

libunistring is for you if your application already uses the ISO C / POSIX  
@posixheader{ctype.h}, @posixheader{wctype.h} functions and the text it  
operates on is provided by the user and can be in any language.

libunistring is also for you if your application uses Unicode strings as  
internal in-memory representation.

```
@menu
* Unicode::                What is Unicode?
* Unicode and i18n::        Unicode and internationalization
* Locale encodings::        What is a locale encoding?
* In-memory representation:: How to represent strings in memory?
* char * strings::          What to keep in mind with @code{char *} strings
* Unicode strings::         How are Unicode strings represented?
@end menu
```

```
@node Unicode
@section Unicode
```

```
@cindex Unicode
Unicode is a standardized repertoire of characters that contains characters
from all scripts of the world, from Latin letters to Chinese ideographs
and Babylonian cuneiform glyphs. It also specifies how these characters
```



are to be rendered on a screen or on paper, and how common text processing (word selection, line breaking, uppercasing of page titles etc.) is supposed to behave on Unicode text.

Unicode also specifies three ways of storing sequences of Unicode characters in a computer whose basic unit of data is an 8-bit byte:

@cindex UTF-8

@cindex UTF-16

@cindex UTF-32

@cindex UCS-4

@table @asis

@item UTF-8

Every character is represented as 1 to 4 bytes.

@item UTF-16

Every character is represented as 1 to 2 units of 16 bits.

@item UTF-32, a.k.a. UCS-4

Every character is represented as 1 unit of 32 bits.

@end table

For encoding Unicode text in a file, UTF-8 is usually used. For encoding Unicode strings in memory for a program, either of the three encoding forms can be reasonably used.

Unicode is widely used on the web. Prior to the use of Unicode, web pages were in many different encodings (ISO-8859-1 for English, French, Spanish, ISO-8859-2 for Polish, ISO-8859-7 for Greek, KOI8-R for Russian, GB2312 or BIG5 for Chinese, ISO-2022-JP-2 or EUC-JP or Shift\_JIS for Japanese, and many many others). It was next to impossible to create a document that contained Chinese and Polish text in the same document. Due to the many encodings for Japanese, even the processing of pure Japanese text was error prone.

References:

@itemize @bullet

@item

The Unicode standard:@texnl{} @url{<http://www.unicode.org/>}

@item

Definition of UTF-8:@texnl{} @url{<http://www.rfc-editor.org/rfc/rfc3629.txt>}

@item

Definition of UTF-16:@texnl{} @url{<http://www.rfc-editor.org/rfc/rfc2781.txt>}

@item

Markus Kuhn's UTF-8 and Unicode FAQ:@texnl{} @url{<http://www.cl.cam.ac.uk/~mgk25/unicode.html>}

@end itemize

@node Unicode and i18n

@section Unicode and Internationalization

@cindex internationalization

Internationalization is the process of changing the source code of a program so that it can meet the expectations of users in any culture, if culture specific data (translations, images etc.) are provided.

Use of Unicode is not strictly required for internationalization, but it makes internationalization much easier, because operations that need to look at specific characters (like hyphenation, spell checking, or the automatic conversion of double-quotes to opening and closing double-quote characters) don't need to consider multiple possible encodings of the text.

Use of Unicode also enables multilingualization: the ability of having text in multiple languages present in the same document or even in the same line



of text.

But use of Unicode is not everything. Internationalization usually consists of four features:

@itemize @bullet

@item

Use of Unicode where needed for text processing. This is what this library is for.

@item

Use of message catalogs for messages shown to the user, This is what GNU gettext is about.

@item

Use of locale specific conventions for date and time formats, for numeric formatting, or for sorting of text. This can be done adequately with the POSIX APIs and the implementation of locales in the GNU C library.

@item

In graphical user interfaces, adapting the GUI to the default text direction of the current locale (see

@url{[https://en.wikipedia.org/wiki/Right-to-left,right-to-left\\_languages](https://en.wikipedia.org/wiki/Right-to-left,right-to-left_languages)}).

@end itemize

@node Locale encodings

@section Locale encodings

@cindex locale

A locale is a set of cultural conventions. According to POSIX, for a program, at any moment, there is one locale being designated as the ``current locale''. (Actually, POSIX supports also one locale per thread, but this feature is not yet universally implemented and not widely used.)

@cindex locale categories

The locale is partitioned into several aspects, called the ``categories'' of the locale. The main various aspects are:

@itemize @bullet

@item

The character encoding and the character properties. This is the

@code{LC\_CTYPE} category.

@item

The sorting rules for text. This is the @code{LC\_COLLATE} category.

@item

The language specific translations of messages. This is the

@code{LC\_MESSAGES} category.

@item

The formatting rules for numbers, such as the decimal separator. This is the @code{LC\_NUMERIC} category.

@item

The formatting rules for amounts of money. This is the @code{LC\_MONETARY} category.

@item

The formatting of date and time. This is the @code{LC\_TIME} category.

@end itemize

@cindex locale encoding

In particular, the @code{LC\_CTYPE} category of the current locale determines the character encoding. This is the encoding of @samp{char \*} strings.

We also call it the ``locale encoding''. GNU libunistring has a function, @func{locale\_charset}, that returns a standardized (platform independent) name for this encoding.

All locale encodings used on glibc systems are essentially ASCII compatible: Most graphic ASCII characters have the same representation, as a single byte,



in that encoding as in ASCII.

Among the possible locale encodings are UTF-8 and GB18030. Both allow to represent any Unicode character as a sequence of bytes. UTF-8 is used in most of the world, whereas GB18030 is used in the People's Republic of China, because it is backward compatible with the GB2312 encoding that was used in this country earlier.

The legacy locale encodings, ISO-8859-15 (which supplanted ISO-8859-1 in most of Europe), ISO-8859-2, KOI8-R, EUC-JP, etc., are still in use in some places, though.

UTF-16 and UTF-32 are not used as locale encodings, because they are not ASCII compatible.

@node In-memory representation

@section Choice of in-memory representation of strings

There are three ways of representing strings in memory of a running program.

@itemize @bullet

@item

As @samp{char \*} strings. Such strings are represented in locale encoding. This approach is employed when not much text processing is done by the program. When some Unicode aware processing is to be done, a string is converted to Unicode on the fly and back to locale encoding afterwards.

@item

As UTF-8 or UTF-16 or UTF-32 strings. This implies that conversion from locale encoding to Unicode is performed on input, and in the opposite direction on output. This approach is employed when the program does a significant amount of text processing, or when the program has multiple threads operating on the same data but in different locales.

@item

As @samp{wchar\_t \*}, a.k.a. @code{''wide strings''}. This approach is misguided, see @ref{The wchar\_t mess}.

@end itemize

Of course, a @samp{char \*} string can, in some cases, be encoded in UTF-8. You will use the data type depending on what you can guarantee about how it's encoded: If a string is encoded in the locale encoding, or if you don't know how it's encoded, use @samp{char \*}. If, on the other hand, you can @emph{guarantee} that it is UTF-8 encoded, then you can use the UTF-8 string type, @code{uint8\_t \*}, for it.

The five types @code{char \*}, @code{uint8\_t \*}, @code{uint16\_t \*}, @code{uint32\_t \*}, and @code{wchar\_t \*} are incompatible types at the C level. Therefore, @code{gcc -Wall} will produce a warning if, by mistake, your code contains a mismatch between these types. In the context of using GNU libunistring, even a warning about a mismatch between @code{char \*} and @code{uint8\_t \*} is a sign of a bug in your code that you should not try to silence through a cast.

@node char \* strings

@section @samp{char \*} strings

@cindex C string functions

The classical C strings, with its C library support standardized by ISO C and POSIX, can be used in internationalized programs with some precautions. The problem with this API is that many of the C library functions for strings don't work correctly on strings in locale



encodings, leading to bugs that only people in some cultures of the world will experience.

@cindex locale, multibyte

The first problem with the C library API is the support of multibyte locales. According to the locale encoding, in general, every character is represented by one or more bytes (up to 4 bytes in practice --- but use @code{MB\_LEN\_MAX} instead of the number 4 in the code). When every character is represented by only 1 byte, we speak of an ``unibyte locale'', otherwise of a ``multibyte locale''. It is important to realize that the majority of Unix installations nowadays use UTF-8 or GB18030 as locale encoding; therefore, the majority of users are using multibyte locales.

@cindex char, type

The important fact to remember is:

@cartouche

@emph{A @samp{char} is a byte, not a character.}

@end cartouche

As a consequence:

@itemize @bullet

@item

The @posixheader{ctype.h} API is useless in this context; it does not work in multibyte locales.

@item

The @posixfunc{strlen} function does not return the number of characters in a string. Nor does it return the number of screen columns occupied by a string after it is output. It merely returns the number of @emph{bytes} occupied by a string.

@item

Truncating a string, for example, with @posixfunc{strncpy}, can have the effect of truncating it in the middle of a multibyte character. Such a string will, when output, have a garbled character at its end, often represented by a hollow box.

@item

@posixfunc{strchr} and @posixfunc{strrchr} do not work with multibyte strings if the locale encoding is GB18030 and the character to be searched is a digit.

@item

@posixfunc{strstr} does not work with multibyte strings if the locale encoding is different from UTF-8.

@item

@posixfunc{strcspn}, @posixfunc{strpbrk}, @posixfunc{strspn} cannot work correctly in multibyte locales: they assume the second argument is a list of single-byte characters. Even in this simple case, they do not work with multibyte strings if the locale encoding is GB18030 and one of the characters to be searched is a digit.

@item

@posixfunc{strsep} and @posixfunc{strtok\_r} do not work with multibyte strings unless all of the delimiter characters are ASCII characters < 0x30.

@item

The @posixfunc{strcasecmp}, @posixfunc{strncasecmp}, and @posixfunc{strcasestr} functions do not work with multibyte strings.

@end itemize

The workarounds can be found in GNU glibc

@url{http://www.gnu.org/software/glibc/}.

@itemize @bullet

@item



gnulib has modules @samp{mbchar}, @samp{mbiter}, @samp{mbuiter} that represent multibyte characters and allow to iterate across a multibyte string with the same ease as through a unibyte string.

@item

gnulib has functions @func{mbslen} and @func{mbswidth} that can be used instead of @posixfunc{strlen} when the number of characters or the number of screen columns of a string is requested.

@item

gnulib has functions @func{mbschr} and @func{mbsrchr} that are like @posixfunc{strchr} and @posixfunc{strrchr}, but work in multibyte locales.

@item

gnulib has a function @func{mbsstr}, like @posixfunc{strstr}, but works in multibyte locales.

@item

gnulib has functions @func{mbscspn}, @func{mbspbrk}, @func{mbsspn} that are like @posixfunc{strcspn}, @posixfunc{strpbrk}, @posixfunc{strspn}, but work in multibyte locales.

@item

gnulib has functions @func{mbssep} and @func{mbstok\_r} that are like @posixfunc{strsep} and @posixfunc{strtok\_r} but work in multibyte locales.

@item

gnulib has functions @func{mbscasecmp}, @func{mbsncasecmp}, @func{mbspcasecmp}, and @func{mbscasestr} that are like @posixfunc{strcasecmp}, @posixfunc{strncasecmp}, and @posixfunc{strcasestr}, but work in multibyte locales. Still, the function @code{ulc\_casecmp} is preferable to these functions; see below.

@end itemize

The second problem with the C library API is that it has some assumptions built-in that are not valid in some languages:

@itemize @bullet

@item

It assumes that there are only two forms of every character: uppercase and lowercase. This is not true for Croatian, where the character @sc{LETTER DZ WITH CARON} comes in three forms:  
 @sc{LATIN CAPITAL LETTER DZ WITH CARON} (DZ),  
 @sc{LATIN CAPITAL LETTER D WITH SMALL LETTER Z WITH CARON} (Dz),  
 @sc{LATIN SMALL LETTER DZ WITH CARON} (dz).

@item

It assumes that uppercasing of 1 character leads to 1 character. This is not true for German, where the @sc{LATIN SMALL LETTER SHARP S}, when uppercased, becomes @samp{SS}.

@item

It assumes that there is 1:1 mapping between uppercase and lowercase forms. This is not true for the Greek sigma: @sc{GREEK CAPITAL LETTER SIGMA} is the uppercase of both @sc{GREEK SMALL LETTER SIGMA} and @sc{GREEK SMALL LETTER FINAL SIGMA}.

@item

It assumes that the upper/lowercase mappings are position independent. This is not true for the Greek sigma and the Lithuanian i.

@end itemize

The correct way to deal with this problem is

@enumerate

@item

to provide functions for titlecasing, as well as for upper- and lowercasing,

@item

to view case transformations as functions that operates on strings, rather than on characters.



@end enumerate

This is implemented in this library, through the functions declared in @code{<unicase.h>}, see @ref{unicase.h}.

@node Unicode strings

@section Unicode strings

libunistring supports Unicode strings in three representations:

@cindex UTF-8, strings

@cindex UTF-16, strings

@cindex UTF-32, strings

@itemize @bullet

@item

UTF-8 strings, through the type @samp{uint8\_t \*}. The units are bytes (@code{uint8\_t}).

@item

UTF-16 strings, through the type @samp{uint16\_t \*}, The units are 16-bit memory words (@code{uint16\_t}).

@item

UTF-32 strings, through the type @samp{uint32\_t \*}. The units are 32-bit memory words (@code{uint32\_t}).

@end itemize

As with C strings, there are two variants:

@itemize @bullet

@item

Unicode strings with a terminating NUL character are represented as a pointer to the first unit of the string. There is a unit containing a 0 value at the end. It is considered part of the string for all memory allocation purposes, but is not considered part of the string for all other logical purposes.

@item

Unicode strings where embedded NUL characters are allowed. These are represented by a pointer to the first unit and the number of units (not bytes!) of the string. In this setting, there is no trailing zero-valued unit used as ``end marker``.

@end itemize

@node Conventions

@chapter Conventions

This chapter explains conventions valid throughout the libunistring library.

@cindex argument conventions

Variables of type @code{char \*} denote C strings in locale encoding.

See @ref{Locale encodings}.

Variables of type @code{uint8\_t \*} denote UTF-8 strings. Their units are bytes.

Variables of type @code{uint16\_t \*} denote UTF-16 strings, without byte order mark. Their units are 2-byte words.

Variables of type @code{uint32\_t \*} denote UTF-32 strings, without byte order mark. Their units are 4-byte words.

Argument pairs @code{(@var{s}, @var{n})} denote a string

@code{@var{s}[0..@var{n}-1]} with exactly @var{n} units.



All functions with prefix @samp{ulc\_} operate on C strings in locale encoding.

All functions with prefix @samp{u8\_} operate on UTF-8 strings.

All functions with prefix @samp{ul6\_} operate on UTF-16 strings.

All functions with prefix @samp{u32\_} operate on UTF-32 strings.

For every function with prefix @samp{u8\_}, operating on UTF-8 strings, there is also a corresponding function with prefix @samp{ul6\_}, operating on UTF-16 strings, and a corresponding function with prefix @samp{u32\_}, operating on UTF-32 strings. Their description is analogous; in this documentation we describe only the function that operates on UTF-8 strings, for brevity.

A declaration with a variable @var{n} denotes the three concrete declarations with @var{n} = 8, @var{n} = 16, @var{n} = 32.

All parameters starting with @samp{str} and the parameters of functions starting with @code{u8\_str}/@code{ul6\_str}/@code{u32\_str} denote a NUL terminated string.

@cindex return value conventions

Error values are always returned through the @code{errno} variable, usually with a return value that indicates the presence of an error (NULL for functions that return an pointer, or -1 for functions that return an @code{int}).

Functions returning a string result take a @code{(@var{resultbuf}, @var{lengthp})} argument pair. If @var{resultbuf} is not NULL and the result fits into @code{\*@var{lengthp}} units, it is put in @var{resultbuf}, and @var{resultbuf} is returned. Otherwise, a freshly allocated string is returned. In both cases, @code{\*@var{lengthp}} is set to the length (number of units) of the returned string. In case of error, NULL is returned and @code{errno} is set.

```
@include untypes.texi
@include unistr.texi
@include uniconv.texi
@include unistdio.texi
@include uniname.texi
@include unictype.texi
@include uniwidth.texi
@include unigbrk.texi
@include uniwbrk.texi
@include unilbrk.texi
@include uninorm.texi
@include unicase.texi
@include uniregex.texi
```

@node Using the library

@chapter Using the library

This chapter explains some practical considerations, regarding the installation and compiler options that are needed in order to use this library.

@menu



```
* Installation::
* Compiler options::
* Include files::
* Autoconf macro::
* Reporting problems::
@end menu
```

```
@node Installation
@section Installation
```

```
@cindex dependencies
```

Before you can use the library, it must be installed. First, you have to make sure all dependencies are installed. They are listed in the file @file{DEPENDENCIES}.

```
@cindex installation
```

Then you can proceed to build and install the library, as described in the file @file{INSTALL}. For installation on Windows systems, please refer to the file @file{INSTALL.windows}.

```
@node Compiler options
@section Compiler options
```

Let's denote as @code{LIBUNISTRING\_PREFIX} the value of the @samp{--prefix} option that you passed to @code{configure} while installing this package. If you didn't pass any @samp{--prefix} option, then the package is installed in @file{/usr/local}.

Let's denote as @code{LIBUNISTRING\_INCLUDEDIR} the directory where the include files were installed. This is usually the same as @code{\${LIBUNISTRING\_PREFIX@}/include}. Except that if you passed an @samp{--includedir} option to @code{configure}, it is the value of that option.

Let's further denote as @code{LIBUNISTRING\_LIBDIR} the directory where the library itself was installed. This is the value that you passed with the @samp{--libdir} option to @code{configure}, or otherwise the same as @code{\${LIBUNISTRING\_PREFIX@}/lib}. Recall that when building in 64-bit mode on a 64-bit GNU/Linux system that supports executables in either 64-bit mode or 32-bit mode, you should have used the option @code{--libdir=\${LIBUNISTRING\_PREFIX@}/lib64}.

```
@cindex compiler options
```

So that the compiler finds the include files, you have to pass it the option @code{-I\${LIBUNISTRING\_INCLUDEDIR@}}.

So that the compiler finds the library during its linking pass, you have to pass it the options @code{-L\${LIBUNISTRING\_LIBDIR@} -lunistring}. On some systems, in some configurations, you also have to pass options needed for linking with @code{libiconv}. The autoconf macro @code{gl\_LIBUNISTRING} (see @ref{Autoconf macro}) deals with this particularity.

```
@node Include files
@section Include files
```

Most of the include files have been presented in the introduction, see @ref{Introduction}, and subsequent detailed chapters.

Another include file is @code{<unistring/version.h>}. It contains the



version number of the libunistring library.

@deftypevr Macro int `_LIBUNISTRING_VERSION`

This constant contains the version of libunistring that is being used at compile time. It encodes the major and minor parts of the version number only. These parts are encoded in the form `@code{(major<<8) + minor}`.

@end deftypevr

@deftypevr Constant int `_libunistring_version`

This constant contains the version of libunistring that is being used at run time. It encodes the major and minor parts of the version number only. These parts are encoded in the form `@code{(major<<8) + minor}`.

@end deftypevr

It is possible that `@code{_libunistring_version}` is greater than `@code{_LIBUNISTRING_VERSION}`. This can happen when you use `@code{libunistring}` as a shared library, and a newer, binary backward-compatible version has been installed after your program that uses `@code{libunistring}` was installed.

@node Autoconf macro

@section Autoconf macro

@cindex autoconf macro

GNU Gnulib provides an autoconf macro that tests for the availability of `@code{libunistring}`. It is contained in the Gnulib module

`@samp{libunistring}`, see `@texnl{}`

`@url{http://www.gnu.org/software/gnulib/MODULES.html#module=libunistring}`.

@amindex `gl_LIBUNISTRING`

The macro is called `@code{gl_LIBUNISTRING}`. It searches for an installed libunistring. If found, it sets and AC\_SUBSTs `@code{HAVE_LIBUNISTRING=yes}` and the `@code{LIBUNISTRING}` and `@code{LTLIBUNISTRING}` variables and augments the `@code{CPPFLAGS}` variable, and defines the C macro

`@code{HAVE_LIBUNISTRING}` to 1. Otherwise, it sets and AC\_SUBSTs

`@code{HAVE_LIBUNISTRING=no}` and `@code{LIBUNISTRING}` and `@code{LTLIBUNISTRING}` to empty.

The complexities that `@code{gl_LIBUNISTRING}` deals with are the following:

@itemize @bullet

@item

On some operating systems, in some configurations, libunistring depends on `@code{libiconv}`, and the options for linking with libiconv must be mentioned explicitly on the link command line.

@item

GNU `@code{libunistring}`, if installed, is not necessarily already in the search path (`@code{CPPFLAGS}` for the include file search path, `@code{LDFLAGS}` for the library search path).

@item

GNU `@code{libunistring}`, if installed, is not necessarily already in the run time library search path. To avoid the need for setting an environment variable like `@code{LD_LIBRARY_PATH}`, the macro adds the appropriate run time search path options to the `@code{LIBUNISTRING}` variable. This works on most systems.

@end itemize

@node Reporting problems



@section Reporting problems

@cindex bug reports

@cindex bug tracker

@cindex mailing list

If you encounter any problem, please don't hesitate to send a detailed bug report to the @code{bug-libunistring@gnu.org} mailing list. You can alternatively also use the bug tracker at the project page @url{https://savannah.gnu.org/projects/libunistring}.

Please always include the version number of this library, and a short description of your operating system and compilation environment with corresponding version numbers.

For problems that appear while building and installing @code{libunistring}, for which you don't find the remedy in the @file{INSTALL} file, please include a description of the options that you passed to the @samp{configure} script.

@node More functionality

@chapter More advanced functionality

@cindex bidirectional reordering

For bidirectional reordering of strings, we recommend the GNU FriBidi library: @url{http://www.fribidi.org/}.

@cindex rendering

For the rendering of Unicode strings outside of the context of a given toolkit (KDE/Qt or GNOME/Gtk), we recommend the Pango library:

@url{http://www.pango.org/}.

@include wchar\_t.texi

@node Licenses

@appendix Licenses

@cindex Licenses

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@itemize @bullet

@item

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@itemize @bullet

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@appendixsec GNU GENERAL PUBLIC LICENSE

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@include gpl.texi

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@include lgpl.texi

@page

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@include fdl.texi

@node Index

@unnumbered Index

@printindex cp

@bye

@c Local Variables:

@c indent-tabs-mode: nil

@c whitespace-check-buffer-indent: nil

@c End:



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Fast discrete Fourier and cosine transforms and inverses  
author: Monty <xiphmont@mit.edu>  
modifications by: Monty  
last modification date: Jul 1 1996

/\* These Fourier routines were originally based on the Fourier routines of the same names from the NETLIB bihar and fftpack fortran libraries developed by Paul N. Swarztrauber at the National Center for Atmospheric Research in Boulder, CO USA. They have been reimplemented in C and optimized in a few ways for OggSquish. \*/

/\* As the original fortran libraries are public domain, the C Fourier routines in this file are hereby released to the public domain as well. The C routines here produce output exactly equivalent to the original fortran routines. Of particular interest are the facts



that (like the original fortran), these routines can work on  
arbitrary length vectors that need not be powers of two in  
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## THE BASIC LIBRARY FUNCTIONS

-----

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Cambridge, England.

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PACKAGE VERSION: 3.0.14  
RECIPE NAME: base-files  
LICENSE: GPLv2

PACKAGE NAME: base-passwd  
PACKAGE VERSION: 3.5.29  
RECIPE NAME: base-passwd  
LICENSE: GPLv2+

PACKAGE NAME: bash  
PACKAGE VERSION: 5.0  
RECIPE NAME: bash  
LICENSE: GPLv3+

PACKAGE NAME: busybox  
PACKAGE VERSION: 1.31.0  
RECIPE NAME: busybox  
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PACKAGE NAME: busybox-udhcp  
PACKAGE VERSION: 1.31.0  
RECIPE NAME: busybox  
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PACKAGE NAME: coreutils  
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PACKAGE NAME: dosfstools  
PACKAGE VERSION: 4.1  
RECIPE NAME: dosfstools  
LICENSE: GPLv3

PACKAGE NAME: e2fsprogs  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: e2fsprogs-badblocks  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2

PACKAGE NAME: e2fsprogs-e2fsck  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2

PACKAGE NAME: e2fsprogs-mke2fs  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2

PACKAGE NAME: f2fs-tools  
PACKAGE VERSION: 1.11.0  
RECIPE NAME: f2fs-tools  
LICENSE: GPLv2



PACKAGE NAME: glibc  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: glibc-gconv  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: glibc-gconv-ibm437  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: glibc-locale-en-gb  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: gmp  
PACKAGE VERSION: 6.1.2  
RECIPE NAME: gmp  
LICENSE: GPLv2+ | LGPLv3+

PACKAGE NAME: gptfdisk  
PACKAGE VERSION: 1.0.4  
RECIPE NAME: gptfdisk  
LICENSE: GPLv2

PACKAGE NAME: hdparm  
PACKAGE VERSION: 9.58  
RECIPE NAME: hdparm  
LICENSE: BSD

PACKAGE NAME: imx-kobs  
PACKAGE VERSION: 5.5+gitAUTOINC+269fdffcf9  
RECIPE NAME: imx-kobs  
LICENSE: GPLv2

PACKAGE NAME: imx-uuc  
PACKAGE VERSION: 0.5.1+gitAUTOINC+d6afb27e55  
RECIPE NAME: imx-uuc  
LICENSE: GPLv2

PACKAGE NAME: iproute2  
PACKAGE VERSION: 5.2.0  
RECIPE NAME: iproute2  
LICENSE: GPLv2+

PACKAGE NAME: libacl  
PACKAGE VERSION: 2.2.52  
RECIPE NAME: acl  
LICENSE: LGPLv2.1+

PACKAGE NAME: libattr  
PACKAGE VERSION: 2.4.47  
RECIPE NAME: attr  
LICENSE: LGPLv2.1+



PACKAGE NAME: libcap  
PACKAGE VERSION: 2.27  
RECIPE NAME: libcap  
LICENSE: BSD | GPLv2

PACKAGE NAME: libcap-ng  
PACKAGE VERSION: 0.7.9  
RECIPE NAME: libcap-ng  
LICENSE: GPLv2+ & LGPLv2.1+

PACKAGE NAME: libcomerr  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libe2p  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libelf  
PACKAGE VERSION: 0.177  
RECIPE NAME: elfutils  
LICENSE: GPLv2 | LGPLv3+

PACKAGE NAME: libext2fs  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libgcc  
PACKAGE VERSION: 9.2.0  
RECIPE NAME: libgcc  
LICENSE: GPL-3.0-with-GCC-exception

PACKAGE NAME: liblzma  
PACKAGE VERSION: 5.2.4  
RECIPE NAME: xz  
LICENSE: PD

PACKAGE NAME: libmnl  
PACKAGE VERSION: 1.0.4  
RECIPE NAME: libmnl  
LICENSE: LGPLv2.1+

PACKAGE NAME: libpam  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: libpam-locale-en-gb  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: libpam-runtime  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD



PACKAGE NAME: libss  
PACKAGE VERSION: 1.45.3  
RECIPE NAME: e2fsprogs  
LICENSE: GPLv2 & LGPLv2 & BSD & MIT

PACKAGE NAME: libstdc++  
PACKAGE VERSION: 9.2.0  
RECIPE NAME: gcc-runtime  
LICENSE: GPL-3.0-with-GCC-exception

PACKAGE NAME: libsystemd  
PACKAGE VERSION: 243.2  
RECIPE NAME: systemd  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: libtirpc  
PACKAGE VERSION: 1.1.4  
RECIPE NAME: libtirpc  
LICENSE: BSD

PACKAGE NAME: libwrap  
PACKAGE VERSION: 7.6  
RECIPE NAME: tcp-wrappers  
LICENSE: BSD

PACKAGE NAME: libxcrypt  
PACKAGE VERSION: 4.4.8  
RECIPE NAME: libxcrypt  
LICENSE: LGPLv2.1

PACKAGE NAME: locale-base-en-gb  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: locale-base-en-us  
PACKAGE VERSION: 2.30  
RECIPE NAME: glibc-locale  
LICENSE: GPLv2 & LGPLv2.1

PACKAGE NAME: lzo  
PACKAGE VERSION: 2.10  
RECIPE NAME: lzo  
LICENSE: GPLv2+

PACKAGE NAME: mmc-utils  
PACKAGE VERSION: 0.1+gitAUTOINC+aef913e31b  
RECIPE NAME: mmc-utils  
LICENSE: GPLv2

PACKAGE NAME: mtd-utils  
PACKAGE VERSION: 2.1.1  
RECIPE NAME: mtd-utils  
LICENSE: GPLv2+

PACKAGE NAME: mtd-utils-ubifs  
PACKAGE VERSION: 2.1.1  
RECIPE NAME: mtd-utils  
LICENSE: GPLv2+



PACKAGE NAME: ncurses-libncursesw  
PACKAGE VERSION: 6.1+20190803  
RECIPE NAME: ncurses  
LICENSE: MIT

PACKAGE NAME: ncurses-libtinfo  
PACKAGE VERSION: 6.1+20190803  
RECIPE NAME: ncurses  
LICENSE: MIT

PACKAGE NAME: ncurses-terminfo-base  
PACKAGE VERSION: 6.1+20190803  
RECIPE NAME: ncurses  
LICENSE: MIT

PACKAGE NAME: nfs-utils  
PACKAGE VERSION: 2.4.1  
RECIPE NAME: nfs-utils  
LICENSE: MIT & GPLv2+ & BSD

PACKAGE NAME: nfs-utils-client  
PACKAGE VERSION: 2.4.1  
RECIPE NAME: nfs-utils  
LICENSE: MIT & GPLv2+ & BSD

PACKAGE NAME: nfs-utils-mount  
PACKAGE VERSION: 2.4.1  
RECIPE NAME: nfs-utils  
LICENSE: MIT & GPLv2+ & BSD

PACKAGE NAME: packagegroup-fsl-mfgtool-base  
PACKAGE VERSION: 1.0  
RECIPE NAME: packagegroup-fsl-mfgtool  
LICENSE: MIT

PACKAGE NAME: packagegroup-fsl-mfgtool-extfs  
PACKAGE VERSION: 1.0  
RECIPE NAME: packagegroup-fsl-mfgtool  
LICENSE: MIT

PACKAGE NAME: packagegroup-fsl-mfgtool-mtd  
PACKAGE VERSION: 1.0  
RECIPE NAME: packagegroup-fsl-mfgtool  
LICENSE: MIT

PACKAGE NAME: pam-plugin-deny  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-env  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-faildelay  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD



PACKAGE NAME: pam-plugin-group  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-lastlog  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-limits  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-mail  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-motd  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-nologin  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-permit  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-rootok  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-securetty  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-shells  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-unix  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD

PACKAGE NAME: pam-plugin-warn  
PACKAGE VERSION: 1.3.1  
RECIPE NAME: libpam  
LICENSE: GPLv2+ | BSD



PACKAGE NAME: popd  
PACKAGE VERSION: 1.16  
RECIPE NAME: popd  
LICENSE: MIT

PACKAGE NAME: rpcbind  
PACKAGE VERSION: 1.2.5  
RECIPE NAME: rpcbind  
LICENSE: BSD

PACKAGE NAME: run-postinsts  
PACKAGE VERSION: 1.0  
RECIPE NAME: run-postinsts  
LICENSE: MIT

PACKAGE NAME: shadow  
PACKAGE VERSION: 4.6  
RECIPE NAME: shadow  
LICENSE: BSD | Artistic-1.0

PACKAGE NAME: shadow-base  
PACKAGE VERSION: 4.6  
RECIPE NAME: shadow  
LICENSE: BSD | Artistic-1.0

PACKAGE NAME: shadow-securetty  
PACKAGE VERSION: 4.6  
RECIPE NAME: shadow-securetty  
LICENSE: MIT

PACKAGE NAME: simg2img  
PACKAGE VERSION: git  
RECIPE NAME: simg2img  
LICENSE: Apache-2.0

PACKAGE NAME: update-alternatives-opkg  
PACKAGE VERSION: 0.4.2  
RECIPE NAME: opkg-utils  
LICENSE: GPLv2+

PACKAGE NAME: util-linux  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-addpart  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-agetty  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-blkdiscard  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-blkid  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-blkzone  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-blockdev  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-cal  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-cfdisk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-chcpu  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-chmem  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-choom  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-chrt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-col  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-colcrt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-colrm  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-column  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ctrlaltdel  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-delpart  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-dmesg  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-eject  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fallocate  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fdformat  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fdisk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fincore  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-findfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-findmnt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-flock  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-fsck  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fsck.cramfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fsfreeze  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-fstrim  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-getopt  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-hardlink  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-hexdump  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-hwclock  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ionice  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ipcmk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ipcrm  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-ipcs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-isosize  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-kill  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-last  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lldattach  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libblkid  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libfdisk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libmount  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libsmartcols  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-libuuid  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-logger  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-look  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-losetup  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-lsblk  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lscpu  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lsipc  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lslocks  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lslogins  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lsmem  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-lsns  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mcookie  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mesg  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mkfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mkfs.cramfs  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mkswap  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause



PACKAGE NAME: util-linux-more  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mount  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-mountpoint  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-namei  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-nologin  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-nsenter  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-partx  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-pivot-root  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
LICENSE: GPLv2+ & LGPLv2.1+ & BSD-3-Clause & BSD-4-Clause

PACKAGE NAME: util-linux-prlimit  
PACKAGE VERSION: 2.34  
RECIPE NAME: util-linux  
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Any price or other term specified for a Renewal Term shall be valid only for the specified time.

The Qt Company may request the Licensee to place a purchase order corresponding to a quote by The Qt Company for the relevant Renewal Term.

In the event Licensee does not prevent auto-renewal pursuant the above, but a Renewal Term is nevertheless not duly ordered within 30 days from the date of the respective quote from The Qt Company and/or the respective License Fee paid by due date specified in The Qt Company's respective invoice, The Qt Company shall apply a reinstatement fee equal to ten percent (10 %) of the total value of the License Fees of the Development Licenses for the expired term to be added to the License Fee of the respective Renewal Term.

In the event Licensee chooses not to renew a Development License for a Renewal Term by notifying The Qt Company thereof no less than ninety (90) days before expiry of the respective License Term, Licensee may still reinstate such expired Development Licenses for a Renewal Term subject to applicable renewal Term License Fees until thirty (30) days from the expiry of the initially agreed License Term or preceding Renewal Term. After such thirty (30) day period a Development License shall be subject to applicable License Fees for a new Development License and not any Renewal Term License Fees.

### 3.2. Distribution of Applications

Subject to the terms of this Agreement, The Qt Company grants to Licensee a worldwide, non-exclusive, non-transferable, revocable (for cause pursuant to this Agreement) right and license, valid for the Term, to

- (i) distribute, by itself or through its Contractors, Redistributables as installed, incorporated or integrated into Applications for execution on the Deployment Platforms, and
- (ii) grant sublicenses to Redistributables, as distributed hereunder, for Customers solely for Customer's internal use and to the extent necessary in order for the Customers to use the Applications for their respective intended purposes.

Right to distribute the Redistributables as part of an Application as provided herein is not royalty-bearing but is conditional upon the Licensee not having any unpaid License Fees for Development Licenses owed to The Qt Company at the time of distribution of any Redistributables to Customers.

### 3.3. Distribution of Devices

Subject to the terms of this Agreement, The Qt Company grants to Licensee a worldwide, non-exclusive, non-transferable, revocable (for cause pursuant to this Agreement) right and license, valid for the Term, to

- (i) distribute, by itself or through one or more tiers of Contractors, Redistributables as installed, incorporated or integrated, or intended to be installed, incorporated or integrated into Devices for execution on the Deployment Platforms, and
- (ii) grant sublicenses to Redistributables, as distributed hereunder,



for Customers solely for Customer's internal use and to the extent necessary in order for the Customers to use the Devices for their respective intended purposes.

Right to distribute the Redistributables with Devices as provided herein is conditional upon the Licensee (i) not having any unpaid License Fees for Development Licenses owed to The Qt Company, and (ii) having purchased and paid corresponding Distribution Licenses at the time of distribution of any Redistributables to Customers.

### 3.4. Further Requirements

The licenses granted above in this Section 3 by The Qt Company to Licensee are conditional and subject to Licensee's compliance with the following terms:

- (i) Licensee shall not remove or alter any copyright, trademark or other proprietary rights notice(s) contained in any portion of the Licensed Software;
- (ii) Applications must add primary and substantial functionality to the Licensed Software so as not to compete with the Licensed Software;
- (iii) Applications may not pass on functionality which in any way makes it possible for others to create software with the Licensed Software; provided however that Licensee may use the Licensed Software's scripting and QML ("Qt Quick") functionality solely in order to enable scripting, themes and styles that augment the functionality and appearance of the Application(s) without adding primary and substantial functionality to the Application(s);
- (iv) Licensee shall not use Licensed Software in any manner or for any purpose that infringes, misappropriates or otherwise violates any Intellectual property or right of any third party, or that violates any applicable law;
- (v) Licensee shall not use The Qt Company's or any of its suppliers' names, logos, or trademarks to market Applications, except that Licensee may use "Built with Qt" logo to indicate that Application(s) was developed using the Licensed Software;
- (vi) Licensee shall not distribute, sublicense or disclose source code of Licensed Software to any third party (provided however that Licensee may appoint employee(s) of Contractors as Designated Users to use Licensed Software pursuant to this Agreement). Such right may be available for the Licensee subject to a separate software development kit ("SDK") license agreement to be concluded with The Qt Company;
- (vii) Licensee shall not grant the Customers a right to (i) make copies of the Redistributables except when and to the extent required to use the Applications and/or Devices for their intended purpose, (ii) modify the Redistributables or create derivative works thereof, (iii) decompile, disassemble or otherwise reverse engineer Redistributables, or (iv) redistribute any copy or portion of the Redistributables to any third party, except as part of the onward sale of the Device on which the Redistributables are installed;
- (viii) Licensee shall not and shall cause that its Affiliates or Contractors shall not use Licensed Software in any Prohibited Combination, unless Licensee has received an advance written permission from The Qt Company to do so. Absent such written permission, any and all distribution by the Licensee during the Term of a hardware device or product a) which incorporate or integrate any part of Licensed Software or Open Source Qt; or b) where the main user interface or substantial functionality is provided by software built with Licensed Software or Open Source Qt or otherwise depends on the Licensed Software or Open Source Qt, shall be considered to be Device distribution under this



Agreement and shall be dependent on Licensee's compliance thereof (including but not limited to obligation to pay applicable License Fees for such distribution). Notwithstanding what is provided above in this sub-section (viii), Licensee is entitled to use and combine Qt 3D Studio and/or Qt Design Studio with Open Source Qt ("Permitted Combination") for its internal evaluation purposes, provided that Licensee shall in no way transfer, publish, disclose, display or otherwise make available any software or work resulting from such Permitted Combination;

- (ix) Licensee shall cause all of its Affiliates and Contractors entitled to make use of the licenses granted under this Agreement, to be contractually bound to comply with the relevant terms of this Agreement and not to use the Licensed Software beyond the terms hereof and for any purposes other than operating within the scope of their services for Licensee. Licensee shall be responsible for any and all actions and omissions of its Affiliates and Contractors relating to the Licensed Software and use thereof (including but not limited to payment of all applicable License Fees);
- (x) Except when and to the extent explicitly provided in this Section 3, Licensee shall not transfer, publish, disclose, display or otherwise make available the Licensed Software; and
- (xi) Licensee shall not attempt or enlist a third party to conduct or attempt to conduct any of the above.

Above terms shall not be applicable if and to the extent they conflict with any mandatory provisions of any applicable laws.

Any use of Licensed Software beyond the provisions of this Agreement is strictly prohibited and requires an additional license from The Qt Company.

#### 4. THIRD-PARTY SOFTWARE

The Licensed Software may provide links to third party libraries or code (collectively "Third-Party Software") to implement various functions. Third-Party Software does not comprise part of the Licensed Software. In some cases, access to Third-Party Software may be included with the Licensed Software. Such Third-Party Software will be listed in the ".../src/3rdparty" source tree delivered with the Licensed Software or documented in the Licensed Software, as such may be amended from time to time. Licensee acknowledges that use or distribution of Third-Party Software is in all respects subject to applicable license terms of applicable third-party right holders.

#### 5. PRE-RELEASE CODE

The Licensed Software may contain pre-release code and functionality, or sample code marked or otherwise stated with appropriate designation such as "Technology Preview", "Alpha", "Beta", "Sample" etc. ("Pre-Release Code").

Such Pre-Release Code may be present complimentary for the Licensee, in order to provide experimental support or information for new platforms or preliminary versions of one or more new functionalities or for other similar reasons. The Pre-Release Code may not be at the level of performance and compatibility of a final, generally available, product offering. The Pre-Release Code may not operate correctly, may contain errors and may be substantially modified by The Qt Company prior to the first commercial product release, if any. The Qt Company is under no obligation to make Pre-Release Code commercially available, or provide any Support or Updates relating thereto. The Qt Company assumes no liability whatsoever regarding any Pre-Release Code, but any use thereof is exclusively at Licensee's own risk and expense.

For clarity, unless Licensed Software specifies different license terms for the respective Pre-Release Code, the Licensee is entitled to use such pre-release



code pursuant to Section 3, just like other Licensed Software, provided however that in the event Add-on Products are included and available as such Pre-Release Code, Licensee's right to use such Add-on Products is nevertheless subject to and conditional upon conclusion of separate agreement with The Qt Company.

#### 6. LIMITED WARRANTY AND WARRANTY DISCLAIMER

The Qt Company hereby represents and warrants that it has the power and authority to grant the rights and licenses granted to Licensee under this Agreement.

Except as set forth above, the Licensed Software is licensed to Licensee "as is" and Licensee's exclusive remedy and The Qt Company's entire liability for errors in the Licensed Software shall be limited, at The Qt Company's option, to correction of the error, replacement of the Licensed Software or return of the applicable fees paid for the defective Licensed Software for the time period during which the License is not able to utilize the Licensed Software under the terms of this Agreement.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE QT COMPANY ON BEHALF OF ITSELF AND ITS LICENSORS, SUPPLIERS AND AFFILIATES, DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT WITH REGARD TO THE LICENSED SOFTWARE. THE QT COMPANY DOES NOT WARRANT THAT THE LICENSED SOFTWARE WILL SATISFY LICENSEE'S REQUIREMENTS OR THAT IT WILL OPERATE WITHOUT DEFECT OR ERROR OR THAT THE OPERATION THEREOF WILL BE UNINTERRUPTED.

#### 7. INDEMNIFICATION AND LIMITATION OF LIABILITY

##### 7.1. Limitation of Liability

EXCEPT FOR (I) CASES OF GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, AND (II) BREACH OF CONFIDENTIALITY, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY LOSS OF PROFIT, LOSS OF DATA, LOSS OF BUSINESS OR GOODWILL OR ANY OTHER INDIRECT, SPECIAL, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE COST, DAMAGES OR EXPENSE OF ANY KIND, HOWSOEVER ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT.

EXCEPT FOR (I) CASES OF GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, AND (II) BREACH OF CONFIDENTIALITY, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL EITHER PARTY'S TOTAL AGGREGATE LIABILITY UNDER THIS AGREEMENT EXCEED THE AGGREGATE LICENSE FEES PAID OR PAYABLE TO THE QT COMPANY FROM LICENSEE DURING THE PERIOD OF TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE EVENT RESULTING IN SUCH LIABILITY.

THE PROVISIONS OF THIS SECTION 7 ALLOCATE THE RISKS UNDER THIS AGREEMENT BETWEEN THE QT COMPANY AND LICENSEE AND THE PARTIES HAVE RELIED UPON THE LIMITATIONS SET FORTH HEREIN IN DETERMINING WHETHER TO ENTER INTO THIS AGREEMENT.

NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, LICENSEE SHALL ALWAYS BE LIABLE TO PAY THE APPLICABLE LICENSE FEES CORRESPONDING TO ITS ACTUAL USE OF LICENSED SOFTWARE.

#### 8. SUPPORT, UPDATES AND ONLINE SERVICES

Upon due payment of the agreed License Fees the Licensee will be eligible to receive Support and Updates and to use the Online Services during the License Term, provided, however, that in the event the License Term is longer than 36 months, the initial payment includes Support for only the first 12 months, unless the Parties specifically otherwise agree.



Unless otherwise decided by The Company at its free and absolute discretion, Upgrades will not be included in the Support but may be available subject to additional fees.

From time to time The Qt Company may change the Support terms, provided that during the respective ongoing License Term the level of Support provided by The Qt Company may not be reduced without the consent of the Licensee.

Unless otherwise agreed, The Qt Company shall not be responsible for providing any service or support to Customers.

## 9. CONFIDENTIALITY

Each Party acknowledges that during the Term of this Agreement each Party may receive information about the other Party's business, business methods, business plans, customers, business relations, technology, and other information, including the terms of this Agreement, that is confidential and of great value to the other Party, and the value of which would be significantly reduced if disclosed to third parties ("Confidential Information").

Accordingly, when a Party (the "Receiving Party") receives Confidential Information from the other Party (the "Disclosing Party"), the Receiving Party shall only disclose such information to employees and Contractors on a need to know basis, and shall cause its employees and employees of its Affiliates to:

(i) maintain any and all Confidential Information in confidence; (ii) not disclose the Confidential Information to a third party without the Disclosing Party's prior written approval; and (iii) not, directly or indirectly, use the Confidential Information for any purpose other than for exercising its rights and fulfilling its responsibilities pursuant to this Agreement. Each Party shall take reasonable measures to protect the Confidential Information of the other Party, which measures shall not be less than the measures taken by such Party to protect its own confidential and proprietary information.

Obligation of confidentiality shall not apply to information that (i) is or becomes generally known to the public through no act or omission of the Receiving Party; (ii) was in the Receiving Party's lawful possession prior to the disclosure hereunder and was not subject to limitations on disclosure or use; (iii) is developed independently by employees or Contractors of the Receiving Party or other persons working for the Receiving Party who have not had access to the Confidential Information of the Disclosing Party, as proven by the written records of the Receiving Party; (iv) is lawfully disclosed to the Receiving Party without restrictions, by a third party not under an obligation of confidentiality; or (v) the Receiving Party is legally compelled to disclose, in which case the Receiving Party shall notify the Disclosing Party of such compelled disclosure and assert the privileged and confidential nature of the information and cooperate fully with the Disclosing Party to limit the scope of disclosure and the dissemination of disclosed Confidential Information to the minimum extent necessary.

The obligations under this Section 9 shall continue to remain in force for a period of five (5) years after the last disclosure, and, with respect to trade secrets, for so long as such trade secrets are protected under applicable trade secret laws.

## 10. FEES, DELIVERY AND PAYMENT

### 10.1. License Fees

License Fees are described in The Qt Company's standard price list, quote or Purchase Order confirmation or in an appendix hereto, as the case may be.

The License Fees shall not be refunded or claimed as a credit in any event or for any reason whatsoever.



#### 10.2. Ordering Licenses

Licensee may purchase Development Licenses and Distribution Licenses pursuant to agreed pricing terms or, if no specific pricing terms have been agreed upon, at The Qt Company's standard pricing terms applicable at the time of purchase. Unless specifically otherwise provided, any pricing terms referenced in this Agreement shall be valid for twelve (12) months from the date of this Agreement.

Licensee shall submit all purchase orders for Development Licenses and Distribution Licenses to The Qt Company by email or any other method acceptable to The Qt Company (each such order is referred to herein as a "Purchase Order") for confirmation, whereupon the Purchase Order shall become binding between the Parties.

#### 10.3. Distribution License Packs

Unless otherwise agreed, Distribution Licenses shall be purchased by way of Distribution License Packs.

Upon due payment of the ordered Distribution License Pack(s), the Licensee will have an account of Distribution Licenses available for distributing the Redistributables in accordance with this Agreement.

Each time Licensee distributes a copy of Redistributables, then one Distribution License is used, and Licensee's account of available Distribution Licenses is decreased accordingly. Licensee may distribute copies of the Redistributables so long as Licensee has Distribution Licenses remaining on its account.

#### 10.4. Payment Terms

License Fees and any other charges under this Agreement shall be paid by Licensee no later than thirty (30) days from the date of the applicable invoice from The Qt Company.

The Qt Company will submit an invoice to Licensee after the date of this Agreement and/or after The Qt Company receives a Purchase Order from Licensee.

A late payment charge of the lower of (a) one percent per month; or (b) the interest rate stipulated by applicable law, shall be charged on any unpaid balances that remain past due.

#### 10.5. Taxes

All License Fees and other charges payable hereunder are gross amounts but exclusive of any value added tax, use tax, sales tax, withholding tax and other taxes, duties or tariffs ("Taxes") levied directly for the sale, delivery or use of Licensed Software hereunder pursuant to any applicable law. Such applicable Taxes shall be paid by Licensee to The Qt Company, or, where applicable, in lieu of payment of such Taxes to The Qt Company, Licensee shall provide an exemption certificate to The Qt Company and any applicable authority.

### 11. RECORD-KEEPING AND REPORTING OBLIGATIONS; AUDIT RIGHTS

#### 11.1. Licensee's Record-keeping

Licensee shall at all times during the Term of this Agreement and for a period of seven (7) years thereafter maintain Licensee's Records in an accurate and up-to-date form. Licensee's Records shall be adequate to reasonably enable The Qt Company to determine Licensee's compliance with the provisions of this Agreement. The records shall conform to general good accounting practices.

Licensee shall, within thirty (30) days from receiving The Qt Company's request to that effect, deliver to The Qt Company a report based on Licensee's Records,



such report to contain information, in sufficient detail, on (i) number and identity of users working with Licensed Software or Open Source Qt, (ii) copies of Redistributables distributed by Licensee during the most recent calendar quarter and/or any other term specified by The Qt Company, (iii) number of undistributed copies of Redistributables and corresponding number of unused Distribution Licenses remaining on Licensee's account, and (iv) any other information as The Qt Company may reasonably require from time to time.

#### 11.2. The Qt Company's Audit Rights

The Qt Company or an independent auditor acting on behalf of The Qt Company's, may, upon at least five (5) business days' prior written notice and at its expense, audit Licensee with respect to the Licensee's use of the Licensed Software, but not more frequently than once during each 6-month period. Such audit may be conducted by mail, electronic means or through an in-person visit to Licensee's place of business. Any such in-person audit shall be conducted during regular business hours at Licensee's facilities and shall not unreasonably interfere with Licensee's business activities. The Qt Company or the independent auditor acting on behalf of The Qt Company shall be entitled to inspect Licensee's Records and conduct necessary interviews of Licensee's relevant employees and Contractors. All such Licensee's Records and use thereof shall be subject to an obligation of confidentiality under this Agreement.

If an audit reveals that Licensee is using the Licensed Software beyond scope of the licenses Licensee has paid for, Licensee agrees to pay The Qt Company any amounts owed for such unauthorized use within 30 days from receipt of the corresponding invoice from The Qt Company. In addition, in the event the audit reveals a material violation of the terms of this Agreement (without limitation, either (i) underpayment of more than 10 % of License Fees or 10,000 euros (whichever is more) or (ii) distribution of products, which include or result from Prohibited Combination, shall be deemed a material violation for purposes of this section), then the Licensee shall pay The Qt Company's reasonable cost of conducting such audit.

### 12. TERM AND TERMINATION

#### 12.1. Agreement Term

This Agreement shall enter into force upon due acceptance by both Parties and remain in force for as long as there is any Development License(s) purchased under this Agreement in force ("Term"), unless and until terminated pursuant to the terms of this Section 12.

#### 12.2. Termination and suspension of rights

Either Party shall have the right to terminate this Agreement upon thirty (30) days prior written notice if the other Party commits a material breach of any obligation of this Agreement and fails to remedy such breach within such notice period.

Instead of termination, The Qt Company shall have the right to suspend or withhold grants of all rights to the Licensed Software hereunder, including but not limited to the Development Licenses, Distribution License, and Support, should Licensee fail to make payment in timely fashion or otherwise violates or is reasonably suspected to violate its obligations or terms of this Agreement, and where such violation or breach is not cured within five (5) business days following The Qt Company's written notice thereof.

#### 12.3. Mutual Right to Terminate

Either Party shall have the right to terminate this Agreement immediately upon written notice in the event that the other Party becomes insolvent, files for any form of bankruptcy, makes any assignment for the benefit of creditors, has a receiver, administrative receiver or officer appointed over the whole or a substantial part of its assets, ceases to conduct business, or an act



equivalent to any of the above occurs under the laws of the jurisdiction of the other Party.

#### 12.4. Parties' Rights and Duties upon Termination

Upon expiry or termination of the Agreement, Licensee shall cease and shall cause all Designated Users (including those of its Affiliates' and Contractors') to cease using the Licensed Software and distribution of the Redistributables under this Agreement.

Notwithstanding the above, in the event the Agreement expires or is terminated:

- (i) as a result of The Qt Company choosing not to renew the Development License(s) as set forth in Section 3.1, then all valid licenses possessed by the Licensee at such date shall be extended to be valid in perpetuity under the terms of this Agreement and Licensee is entitled to purchase additional licenses as set forth in Section 10.2; or
- (ii) for reason other than by The Qt Company pursuant to item (i) above or pursuant to Section 12.2, then the Licensee is entitled, for a period of six (6) months after the effective date of termination, to continue distribution of Devices under the Distribution Licenses paid but unused at such effective date of termination.

Upon any such termination the Licensee shall destroy or return to The Qt Company all copies of the Licensed Software and all related materials and will certify the same to The Qt Company upon its request, provided however that Licensee may retain and exploit such copies of the Licensed Software as it may reasonably require in providing continued support to Customers.

Expiry or termination of this Agreement for any reason whatsoever shall not relieve Licensee of its obligation to pay any License Fees accrued or payable to The Qt Company prior to the effective date of termination, and Licensee shall immediately pay to The Qt Company all such fees upon the effective date of termination. Termination of this Agreement shall not affect any rights of Customers to continue use of Applications and Devices (and therein incorporated Redistributables).

#### 12.5. Extension in case of bankruptcy

In the event The Qt Company is declared bankrupt under a final, non-cancellable decision by relevant court of law, and this Agreement is not, at the date of expiry of the Development License(s) pursuant to Section 3.1, assigned to party, who has assumed The Qt Company's position as a legitimate licensor of Licensed Software under this Agreement, then all valid licenses possessed by the Licensee at such date of expiry, and which the Licensee has not notified for expiry, shall be extended to be valid in perpetuity under the terms of this Agreement.

#### 13. GOVERNING LAW AND LEGAL VENUE

In the event this Agreement is in the name of The Qt Company Inc., a Delaware Corporation, then:

- (i) this Agreement shall be construed and interpreted in accordance with the laws of the State of California, USA, excluding its choice of law provisions;
- (ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and
- (iii) any dispute, claim or controversy arising out of or relating to this Agreement or the breach, termination, enforcement, interpretation or validity thereof, including the determination of the scope or applicability of this Agreement to arbitrate, shall be determined by arbitration in San Francisco, USA, before one arbitrator. The arbitration shall be administered by JAMS pursuant



to JAMS' Streamlined Arbitration Rules and Procedures. Judgment on the Award may be entered in any court having jurisdiction. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

In the event this Agreement is in the name of The Qt Company Ltd., a Finnish Company, then:

- (i) this Agreement shall be construed and interpreted in accordance with the laws of Finland, excluding its choice of law provisions;
- (ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and
- (iii) any disputes, controversy or claim arising out of or relating to this Agreement, or the breach, termination or validity thereof shall be finally settled by arbitration in accordance with the Arbitration Rules of Finland Chamber of Commerce. The arbitration tribunal shall consist of one (1), or if either Party so requires, of three (3), arbitrators. The award shall be final and binding and enforceable in any court of competent jurisdiction. The arbitration shall be held in Helsinki, Finland and the process shall be conducted in the English language. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

#### 14. GENERAL PROVISIONS

##### 14.1. No Assignment

Except in the case of a merger or sale of substantially all of its corporate assets, Licensee shall not be entitled to assign or transfer all or any of its rights, benefits and obligations under this Agreement without the prior written consent of The Qt Company, which shall not be unreasonably withheld or delayed. The Qt Company shall be entitled to freely assign or transfer any of its rights, benefits or obligations under this Agreement.

##### 14.2. No Third-Party Representations

Licensee shall make no representations or warranties concerning the Licensed Software on behalf of The Qt Company. Any representation or warranty Licensee makes or purports to make on The Qt Company's behalf shall be void as to The Qt Company.

##### 14.3. Surviving Sections

Any terms and conditions that by their nature or otherwise reasonably should survive termination of this Agreement shall so be deemed to survive. Such sections include especially the following: 1, 2, 6, 7, 9, 11, 12.4, 13 and 14.

##### 14.4. Entire Agreement

This Agreement, the exhibits hereto, the License Certificate and any applicable Purchase Order accepted by The Qt Company constitute the complete agreement between the Parties and supersedes all prior or contemporaneous discussions, representations, and proposals, written or oral, with respect to the subject matters discussed herein.

In the event of any conflict or inconsistency between this Agreement and any Purchase Order, the terms of this Agreement will prevail over the terms of the Purchase Order with respect to such conflict or inconsistency.

Parties specifically acknowledge and agree that this Agreement prevails over any click-to-accept or similar agreements the Designated Users may need to accept online upon download of the Licensed Software, as may be required by The Qt Company's applicable processes relating to Licensed Software.



#### 14.5. Modifications

No modification of this Agreement shall be effective unless contained in a writing executed by an authorized representative of each Party. No term or condition contained in Licensee's Purchase Order ("Deviating Terms") shall apply unless The Qt Company has expressly agreed such Deviating Terms in writing. Unless and to the extent expressly agreed by The Qt Company, any such Deviating Terms shall be deemed void and with no legal effect. For clarity, delivery of the Licensed Software following the receipt of the Purchase Order including Deviating Terms shall not constitute acceptance of such Deviating Terms."

#### 14.6. Force Majeure

Except for the payment obligations hereunder, neither Party shall be liable to the other for any delay or non-performance of its obligations hereunder in the event and to the extent that such delay or non-performance is due to an event of act of God, terrorist attack or other similar unforeseeable catastrophic event that prevents either Party for fulfilling its obligations under this Agreement and which such Party cannot avoid or circumvent ("Force Majeure Event"). If the Force Majeure Event results in a delay or non-performance of a Party for a period of three (3) months or longer, then either Party shall have the right to terminate this Agreement with immediate effect without any liability (except for the obligations of payment arising prior to the event of Force Majeure) towards the other Party.

#### 14.7. Notices

Any notice given by one Party to the other shall be deemed properly given and deemed received if specifically acknowledged by the receiving Party in writing or when successfully delivered to the recipient by hand, fax, or special courier during normal business hours on a business day to the addresses specified for each Party on the signature page. Each communication and document made or delivered by one Party to the other Party pursuant to this Agreement shall be in the English language.

#### 14.8. Export Control

Licensee acknowledges that the Redistributables, as incorporated in Applications or Devices, may be subject to export control restrictions under the applicable laws of respective countries. Licensee shall fully comply with all applicable export license restrictions and requirements as well as with all laws and regulations relating to the Redistributables and exercise of licenses hereunder and shall procure all necessary governmental authorizations, including without limitation, all necessary licenses, approvals, permissions or consents, where necessary for the re-exportation of the Redistributables, Applications and/or Devices.

#### 14.9. No Implied License

There are no implied licenses or other implied rights granted under this Agreement, and all rights, save for those expressly granted hereunder, shall remain with The Qt Company and its licensors. In addition, no licenses or immunities are granted to the combination of the Licensed Software with any other software or hardware not delivered by The Qt Company under this Agreement.

#### 14.10. Attorney Fees

The prevailing Party in any action to enforce this Agreement shall be entitled to recover its attorney's fees and costs in connection with such action.

#### 14.11. Privacy

Licensee acknowledges and agrees that for the purpose of this Agreement, The Qt Company may collect, use, transfer and disclose personal data pertaining to Designated Users as well as any other employees and directors of the Licensee



and its Contractors relevant for carrying out the intent of this Agreement. Such personal data may be collected from the Licensee or directly from the relevant individuals. The Parties acknowledge that with regard to such personal data processed hereunder, The Qt Company shall be regarded as the Data Controller under the applicable Data Protection Legislation. The Qt Company shall process any such personal data in accordance with its privacy policies and practices, which will comply with all applicable requirements of the Data Protection Legislation.

#### 14.12. Severability

If any provision of this Agreement shall be adjudged by any court of competent jurisdiction to be unenforceable or invalid, that provision shall be limited or eliminated to the minimum extent necessary so that this Agreement shall otherwise remain in full force and effect and enforceable.

#### APPENDICES

The Agreement includes Appendix 1, and possibly one or more of the appendices 3-5, depending on the product(s) purchased by the Licensee, what is stated in the quote or invoice, and/or what is stated in the Licensee's License Certificate.

#### APPENDIX 1

The modules and/or tools that are included in the respective product - Qt for Application Development (QtAD), Qt for Device Creation (QtDC), Qt for MCUs (QtMCU), Qt 3D Studio (Qt3DS) and Qt Design Studio (QtDS) - are marked with 'X' in the below table.

Parts of the product that are permitted for distribution in object-code form only ("Redistributables") are marked with 'R' in the below table.

Modules/Tools	QtAD	QtDC	QtMCU	Qt3DS	QtDS
Qt Core	X,R	X,R			
Qt GUI	X,R	X,R			
Qt Multimedia	X,R	X,R			
Qt Multimedia Widgets	X,R	X,R			
Qt Network	X,R	X,R			
Qt QML	X,R	X,R			
Qt Quick	X,R	X,R			
Qt Quick Controls 2	X,R	X,R			
Qt Quick Dialogs	X,R	X,R			
Qt Quick Layouts	X,R	X,R			
Qt Quick Test	X,R	X,R			
Qt SQL	X,R	X,R			
Qt Test	X,R	X,R			



Qt Widgets	X,R	X,R		
Active Qt	X,R	X,R		
Qt 3D	X,R	X,R		
Qt Android Extras	X,R	X,R		
Qt Bluetooth	X,R	X,R		
Qt Canvas 3D	X,R	X,R		
Qt Concurrent	X,R	X,R		
Qt D-Bus	X,R	X,R		
Qt Gamepad	X,R	X,R		
Qt Graphical Effects	X,R	X,R		
Qt Help	X,R	X,R		
Qt Image Formats	X,R	X,R		
Qt Location	X,R	X,R		
Qt Mac Extras	X,R	X,R		
Qt Network Authorization	X,R	X,R		
Qt NFC	X,R	X,R		
Qt Platform Headers	X,R	X,R		
Qt Positioning	X,R	X,R		
Qt Print Support	X,R	X,R		
Qt Purchasing	X,R	X,R		
Qt for Python	X,R	X,R		
Qt Quick Controls	X,R	X,R		
Qt Quick Extras	X,R	X,R		
Qt Quick Widgets	X,R	X,R		
Qt SCXML	X,R	X,R		
Qt Sensors	X,R	X,R		
Qt Serial Bus	X,R	X,R		
Qt Serial Port	X,R	X,R		
Qt Speech	X,R	X,R		
Qt SVG	X,R	X,R		



Qt UI Tools	X,R	X,R		
Qt WebChannel	X,R	X,R		
Qt WebEngine	X,R	X,R		
Qt WebSockets	X,R	X,R		
Qt WebView	X,R	X,R		
Qt Windows Extras	X,R	X,R		
Qt X11 Extras	X,R	X,R		
Qt XML	X,R	X,R		
Qt XML Patterns	X,R	X,R		
Qt Wayland Compositor	X,R	X,R		
Qt Charts	X,R	X,R		
Qt Data Visualization	X,R	X,R		
Qt Virtual Keyboard	X,R	X,R		
Boot 2 Qt stack		X,R		
Qt OTA		X,R		
Device Utilities		X,R		
Qt Debugging Bridge (QDB) Daemon		X,R		
Qt Quick Ultralite Controls			X,R	
Qt Quick Ultralite			X,R	
Qt Creator	X	X	X	
Qt Designer (Qt Widget Designer)	X	X		
Qt Quick Designer (Qt Creator plugin)	X	X	X	
Qt Linguist	X	X	X	
Qt Assistant	X	X	X	
lupdate	X	X	X	
lrelease	X	X	X	
qmake	X	X		
uic	X	X		
rcc	X	X		
qlalr	X	X		



qdoc	X	X			
qmlscene	X	X			
qmlviewer	X	X			
Target toolchains		X	X		
Qt Debugging Bridge (QDB) Host Tools		X			
qtconfig-gui		X			
Qt Emulator		X			
qmlinterfacegenerator			X		
qmltocpp			X		
qulfontcompiler			X		
Qt53DStudioRuntime2				X,R	
Qt 3D Studio				X	
Qt Design Studio					X

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byteorder.h, randombytes.c, test-byteorder.c  
test-alg-pbkdf-hmac-sha256.c  
gen-crypt-h.awk, gen-map.awk, gen-vers.awk  
test-badsetting.c, test-crypt-badargs.c, test-getrandom-fallbacks.c,  
test-getrandom-interface.c, test-symbols-compat.sh,  
test-symbols-renames.sh, test-symbols-static.sh  
m4/zw\_alignment.m4, m4/zw\_static\_assert.m4, m4/zw\_endianness.m4,  
m4/zw\_ld\_wrap.m4, m4/skip-if-exec-format-error
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test-alg-des.c, test-alg-md4.c (adaption of test-alg-md5.c),  
test-alg-md5.c, test-alg-sha256.c, test-alg-sha512.c, test-crypt-des.c,  
test-crypt-md5.c, test-crypt-sha256.c, test-crypt-sha512.c,  
test-des-cases.h, test-des-obsolete{,\_r}.c, test-gensalt.c,  
test-crypt-nthash.c (adaption of test-crypt-des.c),  
test-crypt-sunmd5.c (adaption of test-crypt-des.c),  
test-crypt-pbkdf1-sha1.c (adaption of test-crypt-des.c)

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-----  
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It is possible that the license of the GPL pieces may be changed for



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If you submit patches, and have strong preferences about licensing, please  
express them.



```

#
# /etc/login.defs - Configuration control definitions for the shadow package.
#
#       $Id: login.defs 3038 2009-07-23 20:41:35Z nekral-guest $
#
#
# Delay in seconds before being allowed another attempt after a login failure
# Note: When PAM is used, some modules may enforce a minimal delay (e.g.
#       pam_unix enforces a 2s delay)
#
FAIL_DELAY                3
#
# Enable logging and display of /var/log/faillog login failure info.
#
#FAILLOG_ENAB              yes
#
# Enable display of unknown usernames when login failures are recorded.
#
LOG_UNKFAIL_ENAB          no
#
# Enable logging of successful logins
#
LOG_OK_LOGINS              no
#
# Enable logging and display of /var/log/lastlog login time info.
#
#LASTLOG_ENAB              yes
#
# Enable checking and display of mailbox status upon login.
#
# Disable if the shell startup files already check for mail
# ("mailx -e" or equivalent).
#
##MAIL_CHECK_ENAB          yes
#
# Enable additional checks upon password changes.
#
#OBSCURE_CHECKS_ENAB       yes
#
# Enable checking of time restrictions specified in /etc/porttime.
#
#PORTTIME_CHECKS_ENAB      yes
#
# Enable setting of ulimit, umask, and niceness from passwd gecos field.
#
#QUOTAS_ENAB               yes
#
# Enable "syslog" logging of su activity - in addition to sulog file logging.
# SYSLOG_SG_ENAB does the same for newgrp and sg.
#

```



```
SYSLOG_SU_ENAB          yes
SYSLOG_SG_ENAB          yes
```

```
#
# If defined, either full pathname of a file containing device names or
# a ":" delimited list of device names.  Root logins will be allowed only
# upon these devices.
```

```
#
CONSOLE                  /etc/securetty
#CONSOLE                  console:tty01:tty02:tty03:tty04
```

```
#
# If defined, all su activity is logged to this file.
```

```
#
#SULOG_FILE              /var/log/sulog
```

```
#
# If defined, ":" delimited list of "message of the day" files to
# be displayed upon login.
```

```
#
#MOTD_FILE                /etc/motd
#MOTD_FILE                /etc/motd:/usr/lib/news/news-motd
```

```
#
# If defined, this file will be output before each login prompt.
```

```
#
#ISSUE_FILE              /etc/issue
```

```
#
# If defined, file which maps tty line to TERM environment parameter.
# Each line of the file is in a format something like "vt100 tty01".
```

```
#
#TTYTYPE_FILE            /etc/ttytype
```

```
#
# If defined, login failures will be logged here in a utmp format.
# last, when invoked as lastb, will read /var/log/btmp, so...
```

```
#
#FTMP_FILE               /var/log/btmp
```

```
#
# If defined, name of file whose presence which will inhibit non-root
# logins.  The contents of this file should be a message indicating
# why logins are inhibited.
```

```
#
#NOLOGINS_FILE           /etc/nologin
```

```
#
# If defined, the command name to display when running "su -".  For
# example, if this is defined as "su" then a "ps" will display the
# command is "-su".  If not defined, then "ps" would display the
# name of the shell actually being run, e.g. something like "-sh".
```

```
#
SU_NAME                  su
```

```
#
# *REQUIRED*
# Directory where mailboxes reside, _or_ name of file, relative to the
# home directory.  If you _do_ define both, #MAIL_DIR takes precedence.
```

```
#
```



```

#MAIL_DIR      /var/spool/mail
MAIL_FILE      .mail

#
# If defined, file which inhibits all the usual chatter during the login
# sequence.  If a full pathname, then hushed mode will be enabled if the
# user's name or shell are found in the file.  If not a full pathname, then
# hushed mode will be enabled if the file exists in the user's home directory.
#
HUSHLOGIN_FILE .hushlogin
#HUSHLOGIN_FILE /etc/hushlogins

#
# If defined, either a TZ environment parameter spec or the
# fully-rooted pathname of a file containing such a spec.
#
#ENV_TZ         TZ=CST6CDT
#ENV_TZ         /etc/tzname

#
# If defined, an HZ environment parameter spec.
#
# for Linux/x86
#ENV_HZ         HZ=100
# For Linux/Alpha...
#ENV_HZ         HZ=1024

#
# *REQUIRED* The default PATH settings, for superuser and normal users.
#
# (they are minimal, add the rest in the shell startup files)
ENV_SUPATH      PATH=/sbin:/bin:/usr/sbin:/usr/bin
ENV_PATH        PATH=/bin:/usr/bin

#
# Terminal permissions
#
#         TTYGROUP      Login tty will be assigned this group ownership.
#         TTYPERM       Login tty will be set to this permission.
#
# If you have a "write" program which is "setgid" to a special group
# which owns the terminals, define TTYGROUP to the group number and
# TTYPERM to 0620.  Otherwise leave TTYGROUP commented out and assign
# TTYPERM to either 622 or 600.
#
TTYGROUP        tty
TTYPERM         0600

#
# Login configuration initializations:
#
#         ERASECHAR      Terminal ERASE character ('\010' = backspace).
#         KILLCHAR       Terminal KILL character ('\025' = CTRL/U).
#         ULIMIT         Default "ulimit" value.
#
# The ERASECHAR and KILLCHAR are used only on System V machines.
# The ULIMIT is used only if the system supports it.
# (now it works with setrlimit too; ulimit is in 512-byte units)
#
# Prefix these values with "0" to get octal, "0x" to get hexadecimal.

```



```

#
ERASECHAR      0177
KILLCHAR       025
#ULIMIT        2097152

# Default initial "umask" value for non-PAM enabled systems.
# UMASK is also used by useradd and newusers to set the mode of new home
# directories.
# 022 is the default value, but 027, or even 077, could be considered
# better for privacy. There is no One True Answer here: each sysadmin
# must make up her mind.
UMASK          022

#
# Password aging controls:
#
#      PASS_MAX_DAYS      Maximum number of days a password may be used.
#      PASS_MIN_DAYS      Minimum number of days allowed between password changes.

#      PASS_MIN_LEN       Minimum acceptable password length.
#      PASS_WARN_AGE      Number of days warning given before a password expires.
#
PASS_MAX_DAYS   99999
PASS_MIN_DAYS   0
#PASS_MIN_LEN   5
PASS_WARN_AGE   7

#
# If "yes", the user must be listed as a member of the first gid 0 group
# in /etc/group (called "root" on most Linux systems) to be able to "su"
# to uid 0 accounts. If the group doesn't exist or is empty, no one
# will be able to "su" to uid 0.
#
#SU_WHEEL_ONLY  no

#
# If compiled with cracklib support, where are the dictionaries
#
#CRACKLIB_DICTPATH      /var/cache/cracklib/cracklib_dict

#
# Min/max values for automatic uid selection in useradd
#
UID_MIN          1000
UID_MAX          60000
# System accounts
SYS_UID_MIN      101
SYS_UID_MAX      999

#
# Min/max values for automatic gid selection in groupadd
#
GID_MIN          1000
GID_MAX          60000
# System accounts
SYS_GID_MIN      101
SYS_GID_MAX      999

#
# Max number of login retries if password is bad

```



```

#
LOGIN_RETRIES          5

#
# Max time in seconds for login
#
LOGIN_TIMEOUT          60

#
# Maximum number of attempts to change password if rejected (too easy)
#
#PASS_CHANGE_TRIES     5

#
# Warn about weak passwords (but still allow them) if you are root.
#
#PASS_ALWAYS_WARN      yes

#
# Number of significant characters in the password for crypt().
# Default is 8, don't change unless your crypt() is better.
# Ignored if MD5_CRYPT_ENAB set to "yes".
#
#PASS_MAX_LEN          8

#
# Require password before chfn/chsh can make any changes.
#
#CHFN_AUTH              yes

#
# Which fields may be changed by regular users using chfn - use
# any combination of letters "frwh" (full name, room number, work
# phone, home phone). If not defined, no changes are allowed.
# For backward compatibility, "yes" = "rwh" and "no" = "frwh".
#
CHFN_RESTRICT          rwh

#
# Password prompt (%s will be replaced by user name).
#
# XXX - it doesn't work correctly yet, for now leave it commented out
# to use the default which is just "Password: ".
#LOGIN_STRING           "%s's Password: "

#
# Only works if compiled with MD5_CRYPT defined:
# If set to "yes", new passwords will be encrypted using the MD5-based
# algorithm compatible with the one used by recent releases of FreeBSD.
# It supports passwords of unlimited length and longer salt strings.
# Set to "no" if you need to copy encrypted passwords to other systems
# which don't understand the new algorithm. Default is "no".
#
# Note: If you use PAM, it is recommended to use a value consistent with
# the PAM modules configuration.
#
# This variable is deprecated. You should use ENCRYPT_METHOD.
#
#MD5_CRYPT_ENAB no

```



```

#
# Only works if compiled with ENCRYPTMETHOD_SELECT defined:
# If set to MD5 , MD5-based algorithm will be used for encrypting password
# If set to SHA256, SHA256-based algorithm will be used for encrypting password
# If set to SHA512, SHA512-based algorithm will be used for encrypting password
# If set to DES, DES-based algorithm will be used for encrypting password (default)
# Overrides the MD5_CRYPT_ENAB option
#
# Note: If you use PAM, it is recommended to use a value consistent with
# the PAM modules configuration.
#
#ENCRYPT_METHOD DES

#
# Only works if ENCRYPT_METHOD is set to SHA256 or SHA512.
#
# Define the number of SHA rounds.
# With a lot of rounds, it is more difficult to brute forcing the password.
# But note also that it more CPU resources will be needed to authenticate
# users.
#
# If not specified, the libc will choose the default number of rounds (5000).
# The values must be inside the 1000-999999999 range.
# If only one of the MIN or MAX values is set, then this value will be used.
# If MIN > MAX, the highest value will be used.
#
# SHA_CRYPT_MIN_ROUNDS 5000
# SHA_CRYPT_MAX_ROUNDS 5000

#
# List of groups to add to the user's supplementary group set
# when logging in on the console (as determined by the CONSOLE
# setting). Default is none.
#
# Use with caution - it is possible for users to gain permanent
# access to these groups, even when not logged in on the console.
# How to do it is left as an exercise for the reader...
#
#CONSOLE_GROUPS          floppy:audio:cdrom

#
# Should login be allowed if we can't cd to the home directory?
# Default in no.
#
DEFAULT_HOME            yes

#
# If this file exists and is readable, login environment will be
# read from it. Every line should be in the form name=value.
#
#ENVIRON_FILE            /etc/environment

#
# If defined, this command is run when removing a user.
# It should remove any at/cron/print jobs etc. owned by
# the user to be removed (passed as the first argument).
#
#USERDEL_CMD             /usr/sbin/userdel_local

```



```
#
# Enable setting of the umask group bits to be the same as owner bits
# (examples: 022 -> 002, 077 -> 007) for non-root users, if the uid is
# the same as gid, and username is the same as the primary group name.
#
# This also enables userdel to remove user groups if no members exist.
#
USERGROUPS_ENAB yes

#
# If set to a non-nul number, the shadow utilities will make sure that
# groups never have more than this number of users on one line.
# This permit to support split groups (groups split into multiple lines,
# with the same group ID, to avoid limitation of the line length in the
# group file).
#
# 0 is the default value and disables this feature.
#
#MAX_MEMBERS_PER_GROUP 0

#
# If useradd should create home directories for users by default (non
# system users only)
# This option is overridden with the -M or -m flags on the useradd command
# line.
#
CREATE_HOME      yes
```



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```
MOD_DEPTH      = .  
topsrcdir      = @top_srcdir@  
srcdir         = @srcdir@  
VPATH          = @srcdir@
```

```
include $(MOD_DEPTH)/config/autoconf.mk
```

```
DIRS = config pr lib
```

```
ifdef MOZILLA_CLIENT  
# Make nsinstall use absolute symlinks by default for Mozilla OSX builds  
# http://bugzilla.mozilla.org/show\_bug.cgi?id=193164  
ifeq ($(OS_ARCH), Darwin)  
ifndef NSDISTMODE  
NSDISTMODE=absolute_symlink  
export NSDISTMODE  
endif  
endif  
endif
```

```
DIST_GARBAGE = config.cache config.log config.status
```

```
all:: config.status export
```

```
include $(topsrcdir)/config/rules.mk
```

```
config.status:: configure  
ifeq ($(OS_ARCH), WINNT)  
    sh $(srcdir)/configure --no-create --no-recursion  
else
```



```
#
# MANIFEST.in file to enable inclusion of unit test data files and config
#
# NDG HTTPS Client Package
#
# P J Kershaw 17/01/12
#
# Copyright (C) 2012 STFC
#
# Licence: BSD - See LICENCE file for details
recursive-include ndg/httpsclient/test *.crt *.key *.sh README
recursive-include documentation Makefile
```



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```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
<title>Eclipse Foundation Software User Agreement</title>
</head>
```

```
<body lang="EN-US">
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```

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```

```
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```

```
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may contain a list of the names and version numbers of the Plug-ins
and/or Fragments associated with that Feature.</li>
```

```
<li>Features may also include other Features ("Included Features"). Within a Feature, files named "feature.xml" may contain a list of
the names and version numbers of Included Features.</li>
```

```
</ul>
```



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Theodore Ts'o  
23-June-2007

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```
<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
```

```
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Library General Public
License as published by the Free Software Foundation; either
version 2 of the License, or (at your option) any later version.
```

```
This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Library General Public License for more details.
```

```
You should have received a copy of the GNU Library General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 US
```

A

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```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!



```
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# Andern Research Labs
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#
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# along with this program; if not, write to the Free Software
# Foundation, Inc., 59 Temple Place - Suite 330,
```



base-files  
base-passwd  
bash  
busybox  
busybox-udhcp  
coreutils  
dosfstools  
e2fsprogs  
e2fsprogs-badblocks  
e2fsprogs-e2fsck  
e2fsprogs-mke2fs  
f2fs-tools  
glibc-gconv  
glibc-gconv-ibm437  
glibc-locale-en-gb  
gptfdisk  
hdparm  
imx-kobs  
imx-uuc  
iproute2  
libacl1  
libattr1  
libblkid1  
libc6  
libcap-ng0  
libcap2  
libcom-err2  
libcrypt2  
libe2p2  
libelf1  
libext2fs2  
libfdisk1  
libgcc1  
libgmp10  
liblzma5  
liblzo2-2  
libmnl0  
libmount1  
libncursesw5  
libpam  
libpam-locale-en-gb  
libpam-runtime  
libpopt0  
libsmartcols1  
libss2  
libstdc++6  
libsystemd0  
libtinfo5  
libtirpc3  
libuuid1  
libwrap0  
libz1  
locale-base-en-gb  
locale-base-en-us  
mmc-utils  
mtd-utils  
mtd-utils-ubifs  
ncurses-terminfo-base  
nfs-utils  
nfs-utils-client



nfs-utils-mount  
packagegroup-fsl-mfgtool-base  
packagegroup-fsl-mfgtool-extfs  
packagegroup-fsl-mfgtool-mtd  
pam-plugin-deny  
pam-plugin-env  
pam-plugin-faildelay  
pam-plugin-group  
pam-plugin-lastlog  
pam-plugin-limits  
pam-plugin-mail  
pam-plugin-motd  
pam-plugin-nologin  
pam-plugin-permit  
pam-plugin-rootok  
pam-plugin-securetty  
pam-plugin-shells  
pam-plugin-unix  
pam-plugin-warn  
rpcbind  
run-postinsts  
shadow  
shadow-base  
shadow-securetty  
simg2img  
update-alternatives-opkg  
util-linux  
util-linux-addpart  
util-linux-agetty  
util-linux-blkdiscard  
util-linux-blkid  
util-linux-blkzone  
util-linux-blockdev  
util-linux-cal  
util-linux-cfdisk  
util-linux-chcpu  
util-linux-chmem  
util-linux-choom  
util-linux-chrt  
util-linux-col  
util-linux-colcrt  
util-linux-colrm  
util-linux-column  
util-linux-ctrlaltdel  
util-linux-delpart  
util-linux-dmesg  
util-linux-eject  
util-linux-fallocate  
util-linux-fdformat  
util-linux-fdisk  
util-linux-fincore  
util-linux-findfs  
util-linux-findmnt  
util-linux-flock  
util-linux-fsck  
util-linux-fsck.cramfs  
util-linux-fsfreeze  
util-linux-fstrim  
util-linux-getopt  
util-linux-hardlink



util-linux-hexdump  
util-linux-hwclock  
util-linux-ionice  
util-linux-ipcmk  
util-linux-ipcrm  
util-linux-ipc  
util-linux-isosize  
util-linux-kill  
util-linux-last  
util-linux-ldattach  
util-linux-logger  
util-linux-look  
util-linux-losetup  
util-linux-lsblk  
util-linux-lscpu  
util-linux-lsipc  
util-linux-lslocks  
util-linux-lslogins  
util-linux-lsmem  
util-linux-lsns  
util-linux-mcookie  
util-linux-mesg  
util-linux-mkfs  
util-linux-mkfs.cramfs  
util-linux-mkswap  
util-linux-more  
util-linux-mount  
util-linux-mountpoint  
util-linux-namei  
util-linux-nologin  
util-linux-nsenter  
util-linux-partx  
util-linux-pivot-root  
util-linux-prlimit  
util-linux-raw  
util-linux-readprofile  
util-linux-rename  
util-linux-renice  
util-linux-resizepart  
util-linux-rev  
util-linux-rfkill  
util-linux-rtcwake  
util-linux-runuser  
util-linux-script  
util-linux-scriptreplay  
util-linux-setarch  
util-linux-setpriv  
util-linux-setsid  
util-linux-setterm  
util-linux-sfdisk  
util-linux-su  
util-linux-sulogin  
util-linux-swaplabel  
util-linux-swapon  
util-linux-swapon  
util-linux-switch-root  
util-linux-taskset  
util-linux-ul  
util-linux-umount  
util-linux-unshare



util-linux-utmpdump  
util-linux-uudd  
util-linux-uuidgen  
util-linux-uuidparse  
util-linux-wall  
util-linux-wdctl  
util-linux-whereis  
util-linux-wipefs  
util-linux-write  
util-linux-zramctl



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Metadata-Version: 1.0  
Name: phue  
Version: 1.1  
Summary: A Philips Hue Python library  
Home-page: <https://github.com/studioimaginaire/phue>  
Author: Nathanaël L'caudé  
Author-email: UNKNOWN  
License: MIT  
Description: UNKNOWN  
Platform: UNKNOWN



```
<?xml version="1.0" encoding="UTF-8"?>
<protocol name="presentation_time">
<!-- wrap:70 -->
```

```
<copyright>
  Copyright ' 2013-2014 Collabora, Ltd.
```

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```
</copyright>
```



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## Python-CStruct

=====

### C-style structs for Python

Convert C struct definitions into Python classes with methods for serializing/deserializing.

The usage is very simple: create a class subclassing `cstruct.CStruct` and add a C struct definition as a string in the `__struct__` field.

The C struct definition is parsed at runtime and the struct format string is generated. The class offers the method "unpack" for deserializing a string of bytes into a Python object and the method "pack" for serializing the values into a string.

#### Example

-----

The following program reads the DOS partition information from a disk.

```
'''python
#!/usr/bin/python
import cstruct

class Position(cstruct.CStruct):
    __byte_order__ = cstruct.LITTLE_ENDIAN
    __struct__ = """
        unsigned char head;
        unsigned char sector;
        unsigned char cyl;
    """

class Partition(cstruct.CStruct):
    __byte_order__ = cstruct.LITTLE_ENDIAN
    __struct__ = """
        unsigned char status;          /* 0x80 - active */
        struct Position start;
        unsigned char partition_type;
        struct Position end;
        unsigned int start_sect;       /* starting sector counting from 0 */
        unsigned int sectors;          /* nr of sectors in partition */
    """

    def print_info(self):
        print("bootable: %s" % ((self.status & 0x80) and "Y" or "N"))
        print("partition_type: %02X" % self.partition_type)
        print("start: head: %X sector: %X cyl: %X" % (self.start.head, self.start.sector, self.start.cyl))
        print("end: head: %X sector: %X cyl: %X" % (self.end.head, self.end.sector, self.end.cyl))
        print("starting sector: %08X" % self.start_sect)
        print("size MB: %s" % (self.sectors / 2 / 1024))

class MBR(cstruct.CStruct):
    __byte_order__ = cstruct.LITTLE_ENDIAN
    __struct__ = """
        char unused[440];
        unsigned char disk_signature[4];
        unsigned char usually_nulls[2];
        struct Partition partitions[4];
        char signature[2];
    """
```



```

"""

def print_info(self):
    print("disk signature: %s" % "".join(["%02X" % x for x in self.disk_signature]))
    print("usually nulls: %s" % "".join(["%02X" % x for x in self.usually_nulls]))
    for i, partition in enumerate(self.partitions):
        print("")
        print("partition: %s" % i)
        partition.print_info()

disk = "mbr"
with open(disk, "rb") as f:
    mbr = MBR()
    data = f.read(len(mbr))
    mbr.unpack(data)
    mbr.print_info()
'''

```



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-- Wolfgang Denk

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To make this easier, such license headers in the source files will be replaced with a single line reference to Unique License Identifiers as defined by the Linux Foundation's SPDX project [1].

If a "SPDX-License-Identifier:" line references more than one Unique License Identifier, then this means that the respective file can be used under the terms of either of these licenses, i. e. with

SPDX-License-Identifier: GPL-2.0+ OR BSD-3-Clause

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We use the SPDX Unique License Identifiers here; these are available at [2].

License identifier syntax  
-----

#### 1. Placement:

The SPDX license identifier in U-Boot files shall be added at the first possible line in a file which can contain a comment. For the majority or files this is the first line, except for scripts which require the '#!PATH\_TO\_INTERPRETER' in the first line. For those scripts the SPDX identifier goes into the second line.



## 2. Style:

The SPDX license identifier is added in form of a comment. The comment style depends on the file type::

```
C source: // SPDX-License-Identifier: <SPDX License Expression>
C header: /* SPDX-License-Identifier: <SPDX License Expression> */
ASM:      /* SPDX-License-Identifier: <SPDX License Expression> */
scripts:  # SPDX-License-Identifier: <SPDX License Expression>
.rst:     .. SPDX-License-Identifier: <SPDX License Expression>
.dts{i}:  // SPDX-License-Identifier: <SPDX License Expression>
```

If a specific tool cannot handle the standard comment style, then the appropriate comment mechanism which the tool accepts shall be used. This is the reason for having the `"/\* \*/"` style comment in C header files. There was build breakage observed with generated `.lds` files where `'ld'` failed to parse the C++ comment. This has been fixed by now, but there are still older assembler tools which cannot handle C++ style comments.

|

## 3. Syntax:

A `<SPDX License Expression>` is either an SPDX short form license identifier found on the SPDX License List, or the combination of two SPDX short form license identifiers separated by "WITH" when a license exception applies. When multiple licenses apply, an expression consists of keywords "AND", "OR" separating sub-expressions and surrounded by `"(", ")"`.

License identifiers for licenses like [L]GPL with the 'or later' option are constructed by using a "+" for indicating the 'or later' option::

```
// SPDX-License-Identifier: GPL-2.0+
// SPDX-License-Identifier: LGPL-2.1+
```

WITH should be used when there is a modifier to a license needed. For example, the linux kernel UAPI files use the expression::

```
// SPDX-License-Identifier: GPL-2.0 WITH Linux-syscall-note
// SPDX-License-Identifier: GPL-2.0+ WITH Linux-syscall-note
```

Other examples using WITH exceptions found in the linux kernel are::

```
// SPDX-License-Identifier: GPL-2.0 WITH mif-exception
// SPDX-License-Identifier: GPL-2.0+ WITH GCC-exception-2.0
```

Exceptions can only be used with particular License identifiers. The valid License identifiers are listed in the tags of the exception text file.

OR should be used if the file is dual licensed and only one license is to be selected. For example, some dtsi files are available under dual licenses::

```
// SPDX-License-Identifier: GPL-2.0 OR BSD-3-Clause
```

Examples from U-Boot for license expressions in dual licensed files::



```
// SPDX-License-Identifier: GPL-2.0 OR MIT
// SPDX-License-Identifier: GPL-2.0+ OR BSD-3-Clause
```

AND should be used if the file has multiple licenses whose terms all apply to use the file. For example, if code is inherited from another project and permission has been given to put it in U-Boot, but the original license terms need to remain in effect::

```
// SPDX-License-Identifier: (GPL-2.0 WITH Linux-syscall-note) AND MIT
```

Another other example where both sets of license terms need to be adhered to is::

```
// SPDX-License-Identifier: GPL-1.0+ AND LGPL-2.1+
```

```
[1] http://spdx.org/
[2] http://spdx.org/licenses/
```

Full name		SPDX Identifier	OSI Approved
File name	URI		
=====			
=====			
GNU General Public License v2.0 only		GPL-2.0	Y
gpl-2.0.txt	<a href="http://www.gnu.org/licenses/gpl-2.0.txt">http://www.gnu.org/licenses/gpl-2.0.txt</a>		
GNU General Public License v2.0 or later		GPL-2.0+	Y
gpl-2.0.txt	<a href="http://www.gnu.org/licenses/gpl-2.0.txt">http://www.gnu.org/licenses/gpl-2.0.txt</a>		
GNU Library General Public License v2 or later		LGPL-2.0+	Y
lgpl-2.0.txt	<a href="http://www.gnu.org/licenses/old-licenses/lgpl-2.0.txt">http://www.gnu.org/licenses/old-licenses/lgpl-2.0.txt</a>		
GNU Lesser General Public License v2.1 or later		LGPL-2.1+	Y
lgpl-2.1.txt	<a href="http://www.gnu.org/licenses/old-licenses/lgpl-2.1.txt">http://www.gnu.org/licenses/old-licenses/lgpl-2.1.txt</a>		
eCos license version 2.0		eCos-2.0	
eCos-2.0.txt	<a href="http://www.gnu.org/licenses/ecos-license.html">http://www.gnu.org/licenses/ecos-license.html</a>		
BSD 2-Clause License		BSD-2-Clause	Y
bsd-2-clause.txt	<a href="http://spdx.org/licenses/BSD-2-Clause">http://spdx.org/licenses/BSD-2-Clause</a>		
BSD 3-clause "New" or "Revised" License		BSD-3-Clause	Y
bsd-3-clause.txt	<a href="http://spdx.org/licenses/BSD-3-Clause#licenseText">http://spdx.org/licenses/BSD-3-Clause#licenseText</a>		
IBM PIBS (PowerPC Initialization and		IBM-pibs	
ibm-pibs.txt			
Boot Software) license			
ISC License		ISC	Y
isc.txt	<a href="https://spdx.org/licenses/ISC">https://spdx.org/licenses/ISC</a>		
SIL OPEN FONT LICENSE (OFL-1.1)		OFL-1.1	Y
OFL.txt	<a href="https://spdx.org/licenses/OFL-1.1.html">https://spdx.org/licenses/OFL-1.1.html</a>		
X11 License		X11	
x11.txt	<a href="https://spdx.org/licenses/X11.html">https://spdx.org/licenses/X11.html</a>		



```
=====
terminaltables
=====
```

Easily draw tables in terminal/console applications from a list of lists of strings. Supports multi-line rows.

- \* Python 2.6, 2.7, PyPy, PyPy3, 3.3, 3.4, and 3.5 supported on Linux and OS X.
- \* Python 2.7, 3.3, 3.4, and 3.5 supported on Windows (both 32 and 64 bit versions of Python).

ð Full documentation: <https://robpol86.github.io/terminaltables>

```
.. image:: https://img.shields.io/appveyor/ci/Robpol86/terminaltables/master.svg?style=flat-square&label=AppVeyor%20CI
    :target: https://ci.appveyor.com/project/Robpol86/terminaltables
    :alt: Build Status Windows
```

```
.. image:: https://img.shields.io/travis/Robpol86/terminaltables/master.svg?style=flat-square&label=Travis%20CI
    :target: https://travis-ci.org/Robpol86/terminaltables
    :alt: Build Status
```

```
.. image:: https://img.shields.io/codecov/c/github/Robpol86/terminaltables/master.svg?style=flat-square&label=Codecov
    :target: https://codecov.io/gh/Robpol86/terminaltables
    :alt: Coverage Status
```

```
.. image:: https://img.shields.io/pypi/v/terminaltables.svg?style=flat-square&label=Latest
    :target: https://pypi.python.org/pypi/terminaltables
    :alt: Latest Version
```

Quickstart  
=====

Install:

```
.. code:: bash

    pip install terminaltables
```

Usage:

```
.. code::

    from terminaltables import AsciiTable
    table_data = [
        ['Heading1', 'Heading2'],
        ['row1 column1', 'row1 column2'],
        ['row2 column1', 'row2 column2'],
        ['row3 column1', 'row3 column2']
    ]
    table = AsciiTable(table_data)
    print table.table

+-----+-----+
| Heading1 | Heading2 |
+-----+-----+
| row1 column1 | row1 column2 |
| row2 column1 | row2 column2 |
```



row3 column1   row3 column2
+-----+-----+

## Example Implementations

=====

```
.. image:: docs/examples.png?raw=true
   :alt: Example Scripts Screenshot
```

Source code for examples: `example1.py <<https://github.com/Robpol86/terminaltables/blob/master/example1.py>>`\_,  
`example2.py <<https://github.com/Robpol86/terminaltables/blob/master/example2.py>>`\_, and  
`example3.py <<https://github.com/Robpol86/terminaltables/blob/master/example3.py>>`\_

.. changelog-section-start

## Changelog

=====

This project adheres to `Semantic Versioning <<http://semver.org/>>`\_.

3.1.0 - 2016-10-16  
-----

### Added

- \* ``git --porcelain``-like table by liiight: <https://github.com/Robpol86/terminaltables/pull/31>

3.0.0 - 2016-05-30  
-----

### Added

- \* Support for <https://pypi.python.org/pypi/colorama>
- \* Support for <https://pypi.python.org/pypi/termcolor>
- \* Support for RTL characters (Arabic and Hebrew).
- \* Support for non-string items in ``table\_data`` like integers.

### Changed

- \* Refactored again, but this time entire project including tests.

### Removed

- \* ``padded\_table\_data`` property and ``join\_row()``. Moving away from repeated string joining/splitting.

### Fixed

- \* ``set\_terminal\_title()`` Unicode handling on Windows.
- \* <https://github.com/Robpol86/terminaltables/issues/18>
- \* <https://github.com/Robpol86/terminaltables/issues/20>
- \* <https://github.com/Robpol86/terminaltables/issues/23>
- \* <https://github.com/Robpol86/terminaltables/issues/26>

2.1.0 - 2015-11-02  
-----

### Added

- \* GitHub Flavored Markdown table by bcho: <https://github.com/Robpol86/terminaltables/pull/12>
- \* Python 3.5 support (Linux/OS X and Windows).



2.0.0 - 2015-10-11

-----

Changed

- \* Refactored code. No new features.
- \* Breaking changes: ``UnixTable``/``WindowsTable``/``WindowsTableDouble`` moved. Use ``SingleTable``/``DoubleTable`` instead.

1.2.1 - 2015-09-03

-----

Fixed

- \* CJK character width fixed by zqqf16 and bcho: <https://github.com/Robpol86/terminaltables/pull/9>

1.2.0 - 2015-05-31

-----

Added

- \* Bottom row separator.

1.1.1 - 2014-11-03

-----

Fixed

- \* Python 2.7 64-bit terminal width bug on Windows.

1.1.0 - 2014-11-02

-----

Added

- \* Windows support.
- \* Double-lined table.

1.0.2 - 2014-09-18

-----

Added

- \* ``table\_width`` and ``ok`` properties.

1.0.1 - 2014-09-12

-----

Added

- \* Terminal width/height defaults for testing.
- \* ``terminaltables.DEFAULT\_TERMINAL\_WIDTH``
- \* ``terminaltables.DEFAULT\_TERMINAL\_HEIGHT``

1.0.0 - 2014-09-11

-----

\* Initial release.

.. changelog-section-end



```
#####
#                                     About                                     #
#####

Author:    Todd Whiteman
Date:      28th April, 2010
Version:   2.0.1
License:   MIT
Homepage:  http://twhiteman.netfirms.com/des.html

This is a pure python implementation of the DES encryption algorithm.
It's pure python to avoid portability issues, since most DES
implementations are programmed in C (for performance reasons).

Triple DES class is also implemented, utilising the DES base. Triple DES
is either DES-EDE3 with a 24 byte key, or DES-EDE2 with a 16 byte key.
See the "About triple DES" section below more info on this algorithm.

The code below is not written for speed or performance, so not for those
needing a fast des implementation, but rather a handy portable solution ideal
for small usages. It takes my AMD2000+ machine 1 second per 2.5 kilobyte to
encrypt or decrypt using the DES method. Thats very SLOW!!

#####
#                                     Installation                               #
#####

1. Extract the files from the pyDes archive.
2. Run the following command:
    python setup.py install

If you'd like to run the tests, run the command:
    python test_pydes.py

Note:    On Unix, you'd run this command from a shell prompt; on Windows, you
         have to open a command prompt window ('DOS box') and do it there;

#####
#                                     About triple DES                           #
#####

Triple DES is just running the DES algorithm 3 times over the data with the
specified key. The supplied key is split up into 3 parts, each part being 8
bytes long (the mandatory key size for DES).

The triple DES algorithm uses the DES-EDE3 method when a 24 byte key is
supplied. This means there are three DES operations in the sequence
encrypt-decrypt-encrypt with the three different keys. The first key will be
bytes 1 to 8, the second key bytes 9 to 16 and the third key bytes 17 to 24.

If a 16 byte key is supplied instead, the triple DES method used will be
DES-EDE2. This means there are three DES operations in the sequence
encrypt-decrypt-encrypt, but the first and third operations use the same key.
The first/third key will be bytes 1 to 8 and the second key bytes 9 to 16.

#####
#                                     Credits                                     #
#####
```



```
#####
```

Thanks go to:

- David Broadwell: Ideas, comments and suggestions
- Mario Wolff: Finding and debugging triple des CBC errors.
- Santiago Palladino: Providing the PKCS5 padding technique.
- Shaya: Fixing triple des CBC errors with PAD\_PKCS5.
- Yoav Aner: For spotting a triple des CBC IV error.

```
#####  
#                               pyDes usage                               #  
#####
```

Class initialization

-----

```
pyDes.des(key, [mode], [IV], [pad], [padmode])  
pyDes.triple_des(key, [mode], [IV], [pad], [padmode])
```

key       -> Bytes containing the encryption key. 8 bytes for DES, 16 or 24 bytes for Triple DES

mode       -> Optional argument for encryption type, can be either pyDes.ECB (Electronic Code Book) or pyDes.CBC (Cypher Block Chaining)

IV        -> Optional Initial Value bytes, must be supplied if using CBC mode. Length must be 8 bytes.

pad       -> Optional argument, set the pad character (PAD\_NORMAL) to use during all encrypt/decrypt operations done with this instance.

padmode   -> Optional argument, set the padding mode (PAD\_NORMAL or PAD\_PKCS5) to use during all encrypt/decrypt operations done with this instance.

I recommend to use PAD\_PKCS5 padding, as then you never need to worry about any padding issues, as the padding can be removed unambiguously upon decrypting data that was encrypted using PAD\_PKCS5 padmode.

Common methods

-----

```
encrypt(data, [pad], [padmode])  
decrypt(data, [pad], [padmode])
```

data       -> Bytes to be encrypted/decrypted

pad        -> Optional argument. Only when using padmode of PAD\_NORMAL. For encryption, adds this characters to the end of the data block when data is not a multiple of 8 bytes. For decryption, will remove the trailing characters that match this pad character from the last 8 bytes of the unencrypted data block.

padmode   -> Optional argument, set the padding mode, must be one of PAD\_NORMAL or PAD\_PKCS5). Defaults to PAD\_NORMAL.

Example

-----

```
from pyDes import *  
  
data = "Please encrypt my data"  
k = des("DESCRYPT", CBC, "\0\0\0\0\0\0\0\0", pad=None, padmode=PAD_PKCS5)  
# For Python3, you'll need to use bytes, i.e.:  
# data = b"Please encrypt my data"  
# k = des(b"DESCRYPT", CBC, b"\0\0\0\0\0\0\0\0", pad=None, padmode=PAD_PKCS5)  
d = k.encrypt(data)  
print "Encrypted: %r" % d
```



```
print "Decrypted: %r" % k.decrypt(d)
assert k.decrypt(d, padmode=PAD_PKCS5) == data
```

See the module source (pyDes.py) for more examples of use.  
You can also run the pyDes.py file without arguments to see a simple test.

Note: This code was not written for high-end systems needing a fast  
implementation, but rather a handy portable solution with small usage.



LICENSE: GPLv2 & LGPLv2.1

PR: r5

PV: 2.1.0



```

#!/usr/bin/env python
# -*- encoding: utf-8 -*-
from __future__ import absolute_import
from __future__ import print_function

import io
import re
from glob import glob
from os.path import basename
from os.path import dirname
from os.path import join
from os.path import splitext

from setuptools import find_packages
from setuptools import setup

def read(*names, **kwargs):
    return io.open(
        join(dirname(__file__), *names),
        encoding=kwargs.get('encoding', 'utf8')
    ).read()

setup(
    name='ubus',
    version='0.0.2',
    license='LGPLv2+',
    description='python ubus interface',
    long_description='%s\n%s' % (
        re.compile('^.. start-badges.*^.. end-badges', re.M | re.S).sub('', read(
            'README.rst')),
        re.sub(':[a-z]+:~?(.*)', r'''\1'', read('CHANGELOG.rst'))
    ),
    author='Teemu Rytilahti',
    author_email='tpr@iki.fi',
    url='https://github.com/rytilahti/python-ubus',
    packages=find_packages('src'),
    package_dir={'': 'src'},
    py_modules=[splitext(basename(path))[0] for path in glob('src/*.py')],
    include_package_data=True,
    zip_safe=False,
    classifiers=[
        # complete classifier list: http://pypi.python.org/pypi?%3Aaction=list_c
lassifiers
        'Development Status :: 2 - Pre-Alpha',
        'Intended Audience :: Developers',
        'License :: OSI Approved :: GNU Lesser General Public License v2 or late
r (LGPLv2+)',
        'Operating System :: Unix',
        'Operating System :: POSIX',
        'Programming Language :: Python',
        'Programming Language :: Python :: 3',
        'Programming Language :: Python :: 3.3',
        'Programming Language :: Python :: 3.4',
        'Programming Language :: Python :: 3.5',
        'Programming Language :: Python :: 3.6',
        'Topic :: Utilities',
    ],
    keywords=[

```



```
        'ubus', 'openwrt', 'ddwrt',
    ],
    install_requires=[
        'click',
    ],
    extras_require={
    },
    entry_points={
        'console_scripts': [
            'pyubus = ubus.cli:main',
        ]
    },
)
```



\*uganda\* \*Uganda\* \*copying\* \*copyright\* \*license\*

## SUMMARY

\*iccf\* \*ICCF\*

Vim is Charityware. You can use and copy it as much as you like, but you are encouraged to make a donation for needy children in Uganda. Please see |kcc| below or visit the ICCF web site, available at these URLs:

<http://iccf-holland.org/>  
<http://www.vim.org/iccf/>  
<http://www.iccf.nl/>

You can also sponsor the development of Vim. Vim sponsors can vote for features. See |sponsor|. The money goes to Uganda anyway.

The Open Publication License applies to the Vim documentation, see |manual-copyright|.

=== begin of license ===

## VIM LICENSE

- I) There are no restrictions on distributing unmodified copies of Vim except that they must include this license text. You can also distribute unmodified parts of Vim, likewise unrestricted except that they must include this license text. You are also allowed to include executables that you made from the unmodified Vim sources, plus your own usage examples and Vim scripts.
- II) It is allowed to distribute a modified (or extended) version of Vim, including executables and/or source code, when the following four conditions are met:
  - 1) This license text must be included unmodified.
  - 2) The modified Vim must be distributed in one of the following five ways:
    - a) If you make changes to Vim yourself, you must clearly describe in the distribution how to contact you. When the maintainer asks you (in any way) for a copy of the modified Vim you distributed, you must make your changes, including source code, available to the maintainer without fee. The maintainer reserves the right to include your changes in the official version of Vim. What the maintainer will do with your changes and under what license they will be distributed is negotiable. If there has been no negotiation then this license, or a later version, also applies to your changes. The current maintainer is Bram Moolenaar <Bram@vim.org>. If this changes it will be announced in appropriate places (most likely vim.sf.net, www.vim.org and/or comp.editors). When it is completely impossible to contact the maintainer, the obligation to send him your changes ceases. Once the maintainer has confirmed that he has received your changes they will not have to be sent again.
    - b) If you have received a modified Vim that was distributed as mentioned under a) you are allowed to further distribute it unmodified, as mentioned at I). If you make additional changes the text under a) applies to those changes.
    - c) Provide all the changes, including source code, with every copy of the modified Vim you distribute. This may be done in the form of a



context diff. You can choose what license to use for new code you add. The changes and their license must not restrict others from making their own changes to the official version of Vim.

- d) When you have a modified Vim which includes changes as mentioned under c), you can distribute it without the source code for the changes if the following three conditions are met:
    - The license that applies to the changes permits you to distribute the changes to the Vim maintainer without fee or restriction, and permits the Vim maintainer to include the changes in the official version of Vim without fee or restriction.
    - You keep the changes for at least three years after last distributing the corresponding modified Vim. When the maintainer or someone who you distributed the modified Vim to asks you (in any way) for the changes within this period, you must make them available to him.
    - You clearly describe in the distribution how to contact you. This contact information must remain valid for at least three years after last distributing the corresponding modified Vim, or as long as possible.
  - e) When the GNU General Public License (GPL) applies to the changes, you can distribute the modified Vim under the GNU GPL version 2 or any later version.
- 3) A message must be added, at least in the output of the ":version" command and in the intro screen, such that the user of the modified Vim is able to see that it was modified. When distributing as mentioned under 2)e) adding the message is only required for as far as this does not conflict with the license used for the changes.
  - 4) The contact information as required under 2)a) and 2)d) must not be removed or changed, except that the person himself can make corrections.

III) If you distribute a modified version of Vim, you are encouraged to use the Vim license for your changes and make them available to the maintainer, including the source code. The preferred way to do this is by e-mail or by uploading the files to a server and e-mailing the URL. If the number of changes is small (e.g., a modified Makefile) e-mailing a context diff will do. The e-mail address to be used is <maintainer@vim.org>

IV) It is not allowed to remove this license from the distribution of the Vim sources, parts of it or from a modified version. You may use this license for previous Vim releases instead of the license that they came with, at your option.

=== end of license ===

Note:

- If you are happy with Vim, please express that by reading the rest of this file and consider helping needy children in Uganda.
- If you want to support further Vim development consider becoming a |sponsor|. The money goes to Uganda anyway.
- According to Richard Stallman the Vim license is GNU GPL compatible. A few minor changes have been made since he checked it, but that should not make a difference.
- If you link Vim with a library that goes under the GNU GPL, this limits further distribution to the GNU GPL. Also when you didn't actually change



anything in Vim.

- Once a change is included that goes under the GNU GPL, this forces all further changes to also be made under the GNU GPL or a compatible license.
- If you distribute a modified version of Vim, you can include your name and contact information with the "--with-modified-by" configure argument or the MODIFIED\_BY define.

=====

Kibaale Children's Centre	*kcc*	*Kibaale*	*charity*
---------------------------	-------	-----------	-----------

Kibaale Children's Centre (KCC) is located in Kibaale, a small town in the south of Uganda, near Tanzania, in East Africa. The area is known as Rakai District. The population is mostly farmers. Although people are poor, there is enough food. But this district is suffering from AIDS more than any other part of the world. Some say that it started there. Estimations are that 10 to 30% of the Ugandans are infected with HIV. Because parents die, there are many orphans. In this district about 60,000 children have lost one or both parents, out of a population of 350,000. And this is still continuing.

The children need a lot of help. The KCC is working hard to provide the needy with food, medical care and education. Food and medical care to keep them healthy now, and education so that they can take care of themselves in the future. KCC works on a Christian base, but help is given to children of any religion.

The key to solving the problems in this area is education. This has been neglected in the past years with president Idi Amin and the following civil wars. Now that the government is stable again, the children and parents have to learn how to take care of themselves and how to avoid infections. There is also help for people who are ill and hungry, but the primary goal is to prevent people from getting ill and to teach them how to grow healthy food.

Most of the orphans are living in an extended family. An uncle or older sister is taking care of them. Because these families are big and the income (if any) is low, a child is lucky if it gets healthy food. Clothes, medical care and schooling is beyond its reach. To help these needy children, a sponsorship program was put into place. A child can be financially adopted. For a few dollars a month KCC sees to it that the child gets indispensable items, is healthy, goes to school and KCC takes care of anything else that needs to be done for the child and the family that supports it.

Besides helping the child directly, the environment where the child grows up needs to be improved. KCC helps schools to improve their teaching methods. There is a demonstration school at the centre and teacher trainings are given. Health workers are being trained, hygiene education is carried out and households are stimulated to build a proper latrine. I helped setting up a production site for cement slabs. These are used to build a good latrine. They are sold below cost price.

There is a small clinic at the project, which provides children and their family with medical help. When needed, transport to a hospital is offered. Immunization programs are carried out and help is provided when an epidemic is breaking out (measles and cholera have been a problem).

\*donate\*

Summer 1994 to summer 1995 I spent a whole year at the centre, working as a volunteer. I have helped to expand the centre and worked in the area of water and sanitation. I learned that the help that the KCC provides really helps. When I came back to Holland, I wanted to continue supporting KCC. To do this



I'm raising funds and organizing the sponsorship program. Please consider one of these possibilities:

1. Sponsor a child in primary school: 17 euro a month (or more).
2. Sponsor a child in secondary school: 25 euro a month (or more).
3. Sponsor the clinic: Any amount a month or quarter
4. A one-time donation

Compared with other organizations that do child sponsorship the amounts are very low. This is because the money goes directly to the centre. Less than 5% is used for administration. This is possible because this is a small organization that works with volunteers. If you would like to sponsor a child, you should have the intention to do this for at least one year.

How do you know that the money will be spent right? First of all you have my personal guarantee as the author of Vim. I trust the people that are working at the centre, I know them personally. Furthermore, the centre has been co-sponsored and inspected by World Vision, Save the Children Fund and is now under the supervision of Pacific Academy Outreach Society. The centre is visited about once a year to check the progress (at our own cost). I have visited the centre myself many times, starting in 1993. The visit reports are on the ICCF web site.

If you have any further questions, send me e-mail: <Bram@vim.org>.

The address of the centre is:

Kibaale Children's Centre  
p.o. box 1658  
Masaka, Uganda, East Africa

Sending money:

\*iccf-donations\*

Check the ICCF web site for the latest information! See |iccf| for the URL.

USA:

The methods mentioned below can be used.  
Sending a check to the Nehemiah Group Outreach Society (NGOS) is no longer possible, unfortunately. We are looking for another way to get you an IRS tax receipt.  
For sponsoring a child contact KCF in Canada (see below). US checks can be sent to them to lower banking costs.

Canada:

Contact Kibaale Children's Fund (KCF) in Surrey, Canada. They take care of the Canadian sponsors for the children in Kibaale. KCF forwards 100% of the money to the project in Uganda. You can send them a one time donation directly. Please send me a note so that I know what has been donated because of Vim. Ask KCF for information about sponsorship.  
Kibaale Children's Fund c/o Pacific Academy  
10238-168 Street  
Surrey, B.C. V4N 1Z4  
Canada  
Phone: 604-581-5353

If you make a donation to Kibaale Children's Fund (KCF) you will receive a tax receipt which can be submitted with your tax return.

Holland:

Transfer to the account of "Stichting ICCF Holland" in Lisse. This will allow for tax deduction if you live in Holland.  
Postbank, nr. 4548774



IBAN: NL95 INGB 0004 5487 74

Germany: It is possible to make donations that allow for a tax return. Check the ICCF web site for the latest information:  
<http://iccf-holland.org/germany.html>

World: Use a postal money order. That should be possible from any country, mostly from the post office. Use this name (which is in my passport): "Abraham Moolenaar". Use Euro for the currency if possible.

Europe: Use a bank transfer if possible. Your bank should have a form that you can use for this. See "Others" below for the swift code and IBAN number.  
Any other method should work. Ask for information about sponsorship.

Credit Card: You can use PayPal to send money with a Credit card. This is the most widely used Internet based payment system. It's really simple to use. Use this link to find more info:  
[https://www.paypal.com/en\\_US/mrb/pal=XAC62PML3GF8Q](https://www.paypal.com/en_US/mrb/pal=XAC62PML3GF8Q)  
The e-mail address for sending the money to is:  
[Bram@iccf-holland.org](mailto:Bram@iccf-holland.org)  
For amounts above 400 Euro (\$500) sending a check is preferred.

Others: Transfer to one of these accounts if possible:  
Postbank, account 4548774  
Swift code: INGB NL 2A  
IBAN: NL95 INGB 0004 5487 74  
under the name "stichting ICCF Holland", Lisse  
If that doesn't work:  
Rabobank Lisse, account 3765.05.117  
Swift code: RABO NL 2U  
under the name "Bram Moolenaar", Lisse  
Otherwise, send a check in euro or US dollars to the address below. Minimal amount: \$70 (my bank does not accept smaller amounts for foreign check, sorry)

Address to send checks to:  
Bram Moolenaar  
Finsterruetihof 1  
8134 Adliswil  
Switzerland

This address is expected to be valid for a long time.



```
# (c) 2003, 2004 Phil Blundell <pb@handhelds.org>
#
# SPDX-License-Identifier: GPL-2.0-or-later
#
```

```
initd="/etc/init.d"
etcd="/etc/rc"
notreally=0
force=0
dostart=0
verbose=0
```



```
/*
* Public include file for the UUID library
*
* Copyright (C) 1996, 1997, 1998 Theodore Ts'o.
*
* %Begin-Header%
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, and the entire permission notice in its entirety,
*    including the disclaimer of warranties.
* 2. Redistributions in binary form must reproduce the above copyright
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*    documentation and/or other materials provided with the distribution.
* 3. The name of the author may not be used to endorse or promote
*    products derived from this software without specific prior
*    written permission.
*
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* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
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* BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
* LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
* USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
* DAMAGE.
* %End-Header%
```