

*Qik*DRIVE & *Qik*CACHE

Linux 2.4.x Software Installation Guide

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Software Installation

Thank you for purchasing a *QikDRIVE* or *QikCACHE* PCI card. From this point on the *QikCACHE* will be referred to as a *QikDRIVE* as installation instructions are the same for both products. The only difference between the two devices is that the *QikCACHE* does not have secondary power support for retaining data.

The *QikDRIVE* is shipped with a driver that supports Microsoft, Linux and Solaris operating systems. This manual contains instructions on how to install the *QikDRIVE* on RedHat Linux operating systems.

New drivers and the latest revision of current drivers for your *QikDRIVE* can be downloaded from the Platypus Technology web page.

www.platypus.net

From this URL select *Support* and then select *Drivers* to find the latest drivers. If you experience any difficulty, contact Platypus Technology technical support as described on page 8.

Installation Procedure

After proper installation of the *QikDRIVE*, the *QikDriver* can be installed.

In order for the *QikDRIVE* to run properly, current versions of `mod-utils` and `util-linux` need to be installed. To check that the most recent versions have been installed on your PC, type **`fdformat --version`** and ensure the version is higher or equal to **2.10o**, and that **`insmod -V`** gives a value greater than or equal to **2.4.1**. If they are not at these values, check the document `/usr/src/linux/Documentation/Changes` for information on how to obtain updates.

To install the *QikDriver* into a system running Linux 2.4.x, use the following procedures:

1. Turn on the computer, boot Linux and log in as ***root***
2. Determine the version of the kernel that is being used on your system:
`uname -r`
3. Copy the appropriate version of the driver (depending on your kernel version) and place it in a working directory. (The driver's filename contains the required version number.)
4. Untar the tarball for the kernel being used on the system into a temporary directory.

For example, if you are using kernel version 2.2.16 and are using `/var/tmp` as the working directory

```
root# cd /var/tmp
```

```
root# tar xvzf qikdrive_linux_2.2.16.i386.tgz
```

5. Copy the module object into the kernel module directory. Note that you will need to insert your kernel version into the command sequence below

```
root# cp qikdrive.o
```

```
/lib/modules/<kernel_version>/block
```

6. Create the device nodes with the supplied script while still in the working directory

```
root# ./load
```

7. Copy the *QikDRIVE* monitor application to a suitable execution directory. For example:

```
root# cd /var/log
```

```
root# mkdir qikmon
```

```
root# cd qikmon
```

```
root# cp /var/tmp/qikdrive/qms
```

The *QikDRIVE* monitoring application must be run periodically to collect statistics from the driver. Note that the driver statistics will not overflow for at least 2 hours of peak operation however, the frequency of updates will affect the currency of the statistics in the error logs.

One way to achieve this is to run the application as a *cron* job in a user account. For example

```
0 * * * * cd /var/log/qikmon; ./qms
```

runs *QikMon* every hour

```
*/5 * * * * cd /var/log/qikmon; ./qms
```

runs *QikMon* every 5 minutes

8. Create a mount-point on the system for the drive

```
mkdir /mnt/qd0
```

repeat this process until the required number of mount points have been created.

9. Create the file system on the drive (the file system must be re-created each time the *QikDRIVE* loses power).

The following example formats the drive as an *ext2* (native Linux) file system

```
root# mkfs -t ext2 /dev/qda
```

Note: Device initialisation may take a couple of seconds after a cold boot.

10. The drive can now be mounted, either manually as a regular file system

```
root# mount -t ext2 /dev/qda /mnt/qd0
```

or automatically, by placing an appropriate entry into /etc/fstab

```
/dev/qda    /mnt/qd0    ext2  noauto,owner    00
```

To use the *Qik*DRIVE for the swap file device you also have to modify /etc/fstab

Diagnostics and Error Logging

Driver Log File

When installed on a Linux platform, the *QikDriver* logs informational messages and error statistics to the **/proc** file system. The data is written into the file

/proc/qdx

(The x must be replaced by an 'a' for the first *QikDRIVE*, 'b' for the second, etc.)

QikMON

The *QikMON* application, run as a **cron** job, periodically extracts the statistics from the **/proc** file system and logs them to both machine-readable data files and user-readable text files.

These *QikMON* application logs are written to the directory in which the application executable is installed.

For example:

/var/log/qikmon/qik8_0000001742.dat

/var/log/qikmon/qik8_0000001742.txt

/var/log/qikmon/qiklog.txt

The files are created for each installed *QikDRIVE* in this directory, identified by the serial number of the card.

qiklog.txt

qiklog.txt is a single error file, containing correctable and uncorrectable read errors from all *QikDRIVE* devices.

ECC errors are categorised by SDRAM DIMM module and may be used to quickly identify any suspect or failed memory modules.

Together the log files contain useful information for the diagnostics of problematic installations. In this case, the files may be duplicated and forwarded to support engineers in problem resolution.

Contacting Platypus Technology

If you have tried the solutions recommended in this manual and are still experiencing problems with your *QikDRIVE* please contact Platypus Technology Technical Support using the contact details below.

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