*Qik*DRIVE

&

*Qik*CACHE

Linux Software Installation

User Guide

P/N: UI00805

Product Use

Platypus Technology Holdings Ltd products are not intended for use in medical, life saving or life sustaining applications.

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Software Installation

Thank you for purchasing a *Qik*DRIVE or *Qik*CACHE PCI card. From this point on the *Qik*CACHE will be referred as a *Qik*DRIVE as installation instructions are the same for both products. The only difference being that the *Qik*CACHE does not have secondary power support for retaining information. If you have purchased a *Qik*CACHE, ignore any references to secondary power.

The *Qik*DRIVE is shipped with a driver that supports Microsoft operating systems and drivers for the Linux operating system. In this case it is the RedHat Linux Operating System which is supported. Follow the instructions below to correctly install the driver for the operating system installed on your system.

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

<div align="center">www.platypus.net</div>

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 9.

Installation Procedure

Making sure that the QikDrive board is installed properly in the system the next step is to install the driver.

To install the *Qik*DRIVE driver into a system running Linux follow the following procedure.

1. Turn on the computer, boot Linux and log in as the **root** user.

2. Determine the version of the kernel which is being used on your system

   ```
   uname -a
   ```

3. Copy the version of the driver appropriate to the version of the kernel to a temporary directory

   The name to the driver will contain 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 temporary directory:

   ```
   root# cd /var/tmp
   root# mkdir qikdrive
   root# cd qikdrive
   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 temporary working directory…

```
root# ./load qikdrive_major=60
```

7. Copy the *Qik*DRIVE 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 *Qik*DRIVE 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 *Qik*Mon every hour

```
*/5 * * * * cd /var/log/qikmon; ./qms
```
runs *Qik*Mon every 5 minutes

8. Add the module configuration information to the ***/etc/conf.modules*** (or /etc/modules.conf, depending on your distribution) file. You may also choose the block major number for the *Qik*DRIVE device. The following example uses block major number 60...

```
alias block-major-60 qikdrive
options qikdrive qikdrive_major=60
```

9. Create a mount-point on the system for the drive. For example...

```
root# cd /mnt
root# mkdir qd0
```

10. The module dependencies have to be rebuild. Usually this is done automatically by a call to depmod at boot time. Therefore rebooting Linux will do this. Alternatively call depmod manually to start the rebuild process.

```
root# depmod -a
```

11. You will have to make the file system on the drive now, and each time the drive loses power in the future. The following example formats the drive as an **ext2** (native Linux) file system…

```
root# mkfs –t ext2 /dev/qda
```

Note: This may take a few seconds to respond after a cold boot while the device initialises itself.

12. You may now mount the drive. For example, mounting the drive manually as a regular file system…

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

Alternatively you can place an appropriate entry into /etc/fstab to have the drive mounted automatically.

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 *Qik*DRIVE driver logs informational messages and error statistics to the **/proc** file system. The data is written into the file:

```
/proc/qdx
```

The x has to be replaced by an 'a' for the first *Qik*DRIVE, 'b' for the second, etc.

Qik*Mon*

The *Qik*Mon 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 *Qik*Mon 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 *Qik*DRIVE in this directory, identified by the serial number of the card.

qiklog.txt

A single error file, **qiklog.txt**, containing correctable and uncorrectable read errors from all *Qik*DRIVE 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 to assist in problem resolution.

Contacting Platypus Technology

If you have tried the solutions recommended in this manual and are still having problems getting the *Qik*DRIVE to work properly, please contact Platypus Technology Technical Support as described below.

Contact Via Internet

www.platypus.net

UNITED KINGDOM

Platypus Technology Ltd.
Unit 3, Tealgate, Charnham Park
Hungerford Berkshire RG17 0YT, UK
Telephone   +44 (0) 1488 689 211
Facsimile   +44 (0) 1488 689 212
Email   support@platypus.net

UNITED STATES

Platypus Technology Inc.
79 East Wilder Road
West Lebanon, New Hampshire 03784
Telephone   +1 603 298 7455
Facsimile   +1 603 298 7457
Toll Free   +1 877 718 8900
Email   support@platypus.net

AUSTRALIA

Platypus Technology Pty. Ltd.
ACN 056 130 182
Level 2, 38 Oxley Street
Crows Nest NSW 2065
Telephone   +612 9460 6860
Facsimile   +612 9439 7045
Email   support@platypus.net