

**NAME**

**u3g** - USB support for 3G and 4G datacards

**SYNOPSIS**

To compile this driver into the kernel, place the following lines in your kernel configuration file:

```
device usb  
device ucom  
device u3g
```

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

```
u3g_load="YES"
```

If neither of the above is done, the driver will automatically be loaded by devd(8) when the device is connected.

**DESCRIPTION**

The **u3g** driver provides support for the multiple USB-to-serial interfaces exposed by many 3G USB/PCCard modems.

The device is accessed through the ucom(4) driver which makes it behave like a tty(4).

**HARDWARE**

The **u3g** driver supports the following adapters:

- ⊕ Option GT 3G Fusion, GT Fusion Quad, etc. (only 3G part, not WLAN)
- ⊕ Option GT 3G, GT 3G Quad, etc.
- ⊕ Vodafone Mobile Connect Card 3G
- ⊕ Vodafone Mobile Broadband K3772-Z
- ⊕ Qualcomm Inc. CDMA MSM
- ⊕ Qualcomm Inc. GOBI 1000, 2000 and 3000 devices with MDM1000 or MDM2000 chipsets
- ⊕ QUECTEL BGX, ECX, EGX, EMX, EPX, RGX series.
- ⊕ Quectel EM160R (see CAVEATS)
- ⊕ Huawei B190, E180v, E220, E3372, E3372v153, E5573Cs322, ('<Huawei Mobile>')
- ⊕ Novatel U740, MC950D, X950D, etc.
- ⊕ Sierra MC875U, MC8775U, etc.
- ⊕ Panasonic CF-F9 GOBI

(See `/sys/dev/usb/serial/u3g.c` for the complete list of supported cards for each vendor mentioned above.)

The supported 3G cards provide the necessary modem port for ppp, or mpd connections as well as extra ports (depending on the specific device) to provide other functions (additional command port, diagnostic port, SIM toolkit port).

In some of these devices a mass storage device supported by the umass(4) driver is present which contains Windows and Mac OS X drivers. The device starts up in disk mode (TruInstall, ZeroCD, etc.) and requires additional commands to switch it to modem mode. If your device is not switching automatically, please try to add quirks. See usbconfig(8) and usb\_quirk(4).

## FILES

*/dev/ttyU\*.\** for callin ports  
*/dev/ttyU\*.\*.init*  
*/dev/ttyU\*.\*.lock*  
corresponding callin initial-state and lock-state devices

*/dev/cuaU\*.\** for callout ports  
*/dev/cuaU\*.\*.init*  
*/dev/cuaU\*.\*.lock*  
corresponding callout initial-state and lock-state devices

## EXAMPLES

Connect to the Internet using the default configuration:

```
ppp -background u3g
```

## SEE ALSO

tty(4), ucom(4), usb(4), usb\_quirk(4), devd(8), ppp(8), usbconfig(8)

## HISTORY

The **u3g** driver appeared in FreeBSD 7.2, is based on the uark(4) driver, and written by Andrea Guzzo <aguzzo@anywi.com> in September 2008.

## AUTHORS

The **u3g** driver was written by Andrea Guzzo <aguzzo@anywi.com> and Nick Hibma <n\_hibma@FreeBSD.org>. Hardware for testing was provided by AnyWi Technologies, Leiden, NL.

## CAVEATS

The Quectel EM160R is not officially supported in PPP mode. In order to use it in PPP mode, the ctsrts option needs to be turned off, for example, by adding:

```
set ctsrts off
```

to */etc/ppp/ppp.conf* in the correct section.

## **BUGS**

The automatic mode switch from disk mode to modem mode does not work unless the driver is either built into the kernel or loaded before the device is connected.

The GOBI-based devices require the gobi loader available from the *sysutils/gobi\_loader* port.