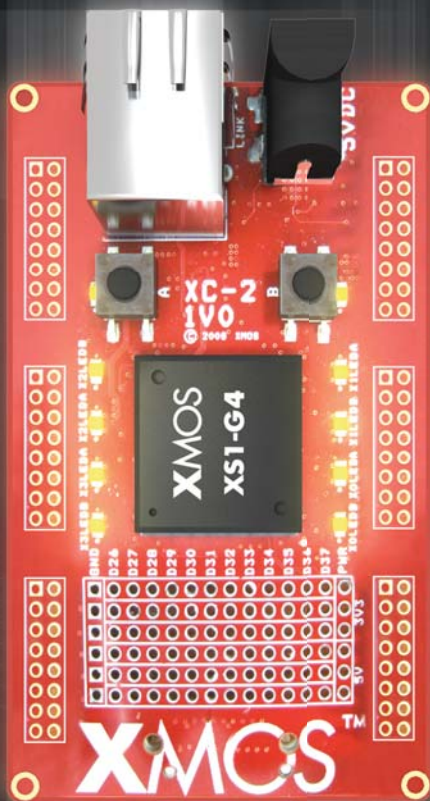


XMOS™

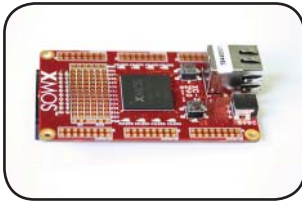


XC-2 Ethernet Kit

XC-2 Ethernet Kit

The XC-2 Ethernet Kit is a rapid and cost effective route for developing Ethernet-based products in XMOS Silicon. Based around the four-core XS1-G4 programmable device, the XC-2 Kit provides the hardware needed to connect to a 10/100 Ethernet system using an RJ45 socket.

The XC-2 Ethernet Kit includes:



XC-2 Development Board



XTAG Connector



USB Cable



5V Power Supply

Getting Started

The XC-2 Kit includes a webserver application written in C and XC. The XS1-G4 serves the website, and drives the protocol stack and ethernet hardware.

To use the webserver you need to plug the XC-2 card into a local network or your PC. Make sure that you disable any firewall you may have running before trying to connect to the website. If you do not want to run the webserver please go to the *Debugging the XC-2 Card* section on page 5.

Connect the XC-2 to a network using DHCP



Plug-in the XC-2 using the 5V power supply. The PLL LED on the bottom of the board lights up to indicate that the board has been powered up.



Connect the XC-2 to your network using an ethernet cable (not supplied). An LED pattern flashes to show live connectivity.



The X1LEDA LED lights up to show that the application is running. The X2LEDB LED lights up to show the card is successfully connected to the network.

Open your browser and go to:

<http://xc2.local>.



Use the menu options to explore the device capabilities. You can flash the LEDs on the XC-2, read real-time information about board features, and change the board to use a static or automatic IP configuration.

Connect the XC-2 directly to a PC

Make sure that the XC-2 power supply is disconnected.

Configure your PC to connect to a valid static IP address on the 192.168.0 subnet, for example 192.168.0.101.

Connect the XC-2 to your PC using an Ethernet cable.

Hold down firmly Button A on the XC-2 and plug-in the 5V power supply to the XC-2 card. Keep Button A held down until the LEDs stop flashing to force the card into static IP mode.

Open your browser and go to <http://192.168.0.100>, the default static IP address of the XC-2 card.

Webserver application - XC-2 buttons

The type of IP address used to connect to the webserver is set in the Configuration page of the *xc2.local* website. Use the XC-2 buttons to override this setting when you start the device:

- Button A - uses a static IP address (default 192.168.0.100)
- Button B - uses an automatic IP address

Troubleshooting the webserver application

LEDs do not light up

- Check that the power supply is connected correctly

X2LEDB LED does not light up

- Check the ethernet cable is connected correctly to the XC-2
- If there is no DHCP server on network, it may take up to a minute to obtain an IP address

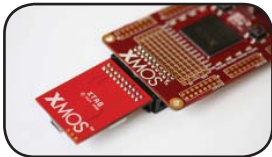
X2LEDB LED lights up but browser cannot load <http://xc2.local>

- Disable any firewall you may have running
- Configure your PC and XC-2 to use a static IP address. See the previous section *Connect the XC-2 directly to a PC*.

Debugging the XC-2 Card

The XC-2 Kit includes an XTAG connector and USB cable that can be used for loading and debugging programs on the hardware via JTAG. You can connect the XTAG device to an XC-2 at anytime.

Connect the XC-2 using a JTAG interface



Connect the XC-2 to the XTAG using the IDC connector.



Connect the XTAG to your development system using the USB cable.

Log into a shell with root permissions, open the file `/etc/fstab` and add the line:

```
none /proc/bus/usb usbfs defaults,devmode=0666 0 0
```

Unmount the USB file system, for example:

```
umount /proc/bus/usb
```

Remount the USB file system, for example:

```
mount /proc/bus/usb
```

Log out from root access

When you have installed the drivers, you need to install the development tools which include a part of the GNU debugger and utilities for loading programs onto the card.

Install the software development tools

1. Download the software development tools from:
www.xmos.com/downloads

2. Install to tools to the directory /home/user. Type:

```
tar -xzf DesktopTools version.tgz -C /home/user
```

The archive is unpacked into the subdirectory XMOS/
DesktopTools/version/. This

3. Go to this directory and type:

```
source SetEnv
```

4. Type the following command:

```
xrun --listdevices
```

All the XMOS devices attached to your system are listed.

Next Steps

Information on using the XC-2 and development tools is available from www.xmos.com/support including:

XC-2 Ethernet Kit Tutorial - how to write programs in XC for the XC-2 card

Desktop Tools User Guide - how to use the development tools

XC-2 Hardware Manual - hardware features on the XC-2 board

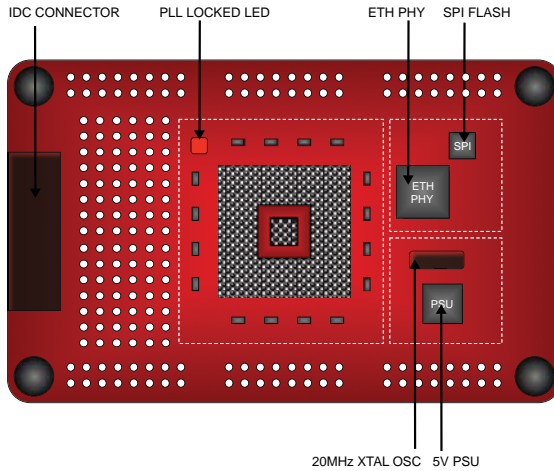
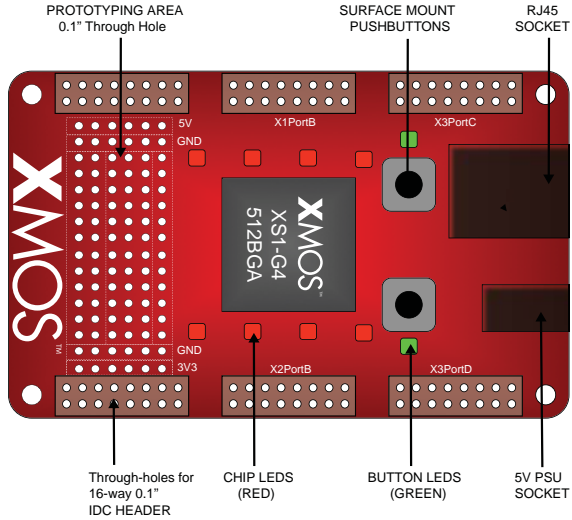
Further information on configuring the USB drivers and additional documentation is available from:

www.xmos.com/support

Firmware Updates

You can check the webserver firmware version using the Board Information page on the *xc2.local* website. Check www.xmos.com/xc2 for any firmware updates and instructions on how to update the device.

XC-2 Card Features



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