FOX Board
EMBEDDED LINUX SYSTEM

FOX Board is a "ready-to-run" Embedded Linux System, perfect to create mini WEB servers, network devices, TCP/IP gateways or CPU units for OEM embedded devices.

A fully Open Source environment is freely available to customize and build your own kernel image or to develop user applications using standard GNU tools.

RoHS Compliant

ACME SYSTEMS
www.acmesystems.it

Visit the Acme Systems web site
http://www.acmesystems.it
to read more about FOX Board, application notes, extension boards, SDK, forum, enthusiast sites, wikies, blogs, etc. etc.

Corporate Patron
Free Software Foundation

MAIN FEATURES

Preinstalled Linux 2.6 with Web, FTP, SSH and Telnet server. Fully Open Source SDK.

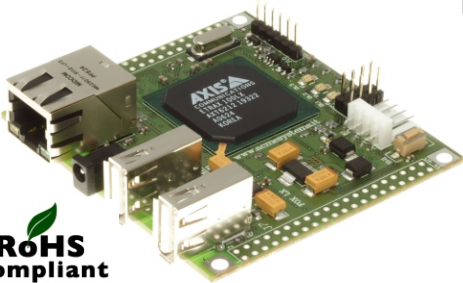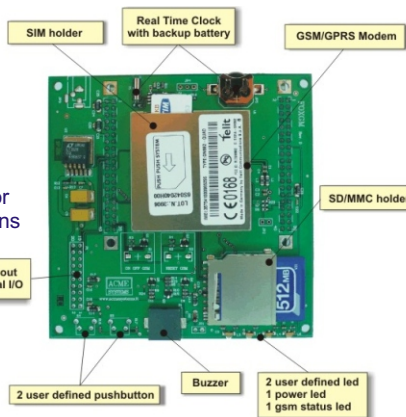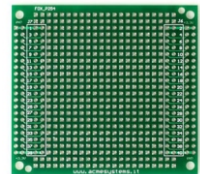**CPU**
Axis ETRAX 100LX, 32 bit, 100MIPS, RISC architecture.

MEMORY
8MB FLASH 32MB RAM

I/O PORTS
1 Ethernet, 2 USB 1.1 ports, 1 console. 2x40 pin strip headers step 2.54 mm (100mils) with: general I/O ports, I2C bus, SPI, 2 serial for carrier and add-on boards..

SIZE
66 x 72mm (2.6 x 2.8 inch).

POWER REQUIREMENTS
5 Volt, 1 Watt.

Flash image fully upgradable through local LAN, console port, WEB and FTP.

FOX BOARD ACCESSORIES

FOXZB
Add-on board with MMC socket, Realt time clock,

FOXGM
Carrier board for GPRS applications

SIM holder
Real Time Clock with backup battery
GSM/GPRS Modem
SD/MMC holder
Audio in, out and general I/O
2 user defined pushbutton
Buzzer
2 user defined led
1 power led
1 gsm status led

FOXP254

TUXCASE
TUX shaped case for the FOX Board

FOXCONS
RS232 adapter for FOX console interface

PS5V1A
Switching power supply Available with EU, US, UK and Australian AC

FOXCASE
Plastic enclosure

More and more ideas on: http://www.acmesystems.it

The FOX Board is shipped with a ready to run image of Linux. In this quick guide we show the first steps to get started with your new jewel.

The FOX Board requires a regulated +5 Volt DC power supply through the J14 connector using a commercial power supply or **alternatively** on J2 connector using a floppy like power connector. Dedicated power supplies are available on http://www.acmesystems.it.

Warning: do not use a cheap unregulated wall power supply equipment. It could damage the FOX board and all the USB peripherals connected into it. Only a well regulated +5Volt power supply must be used.

The FOX Board alone needs typically a peak current of 280mA so a 5 Volt DC 500mA power supply should be more than sufficient for many cases. Otherwise if you connect one or two peripherals to the available USB ports you have to know the current that this peripherals need to choose the right power supply. The green LED DL3 indicates the power on state.

Plug your LAN cable to the RJ45 connector J11. This is a 10/100Mbit Ethernet port. The yellow
LED DL2 will blink to indicate LAN activity.

Now you can try to get access to the FOX board with your Web Browser, Telnet, FTP or SSH client. The default IP address of the FOX Board could be change due to the factory image mountet on it:

If you are using a default image the IP address is : **192.68.0.90**
If you are using a **foXServe** image the IP address is: **192.168.0.96**

The factory default login is: User=**root** Password=**pass**

Further information about the FOX Board and the default image can be found on:
http://www.acmesystems.it/?id=14

Further information about the foXServe image can be found on:
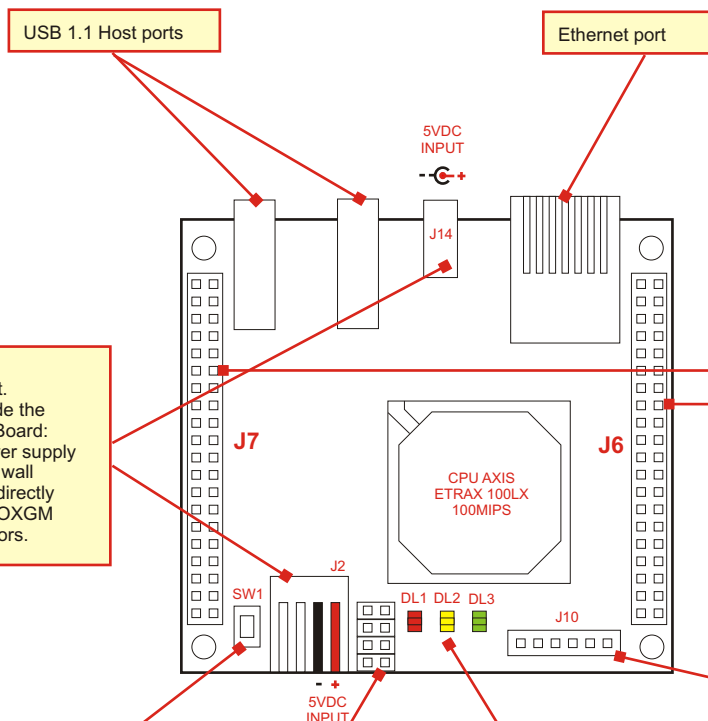**http://www.foxserve.it**
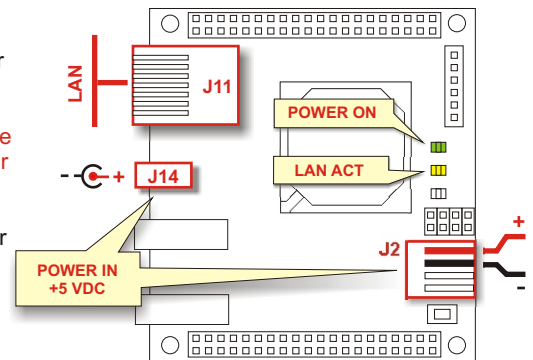
What is foXSserve ?

foXServe is special Linux image for the FOX Board LX832 made by **KDev** (www.kdev.it) that includes Apache, PHP and SQLite.

foXServe is an Open Source project freely available for all the FOX Board LX users (only the model LX832) on the web site: **www.foxserve.it**.

www.kdev.it

USB 1.1 Host ports

Ethernet port

5VDC INPUT

J6, J7:Extension sockets for carrier and add-on boards. Signals for I/O, I2C, SPI, serial and parallel ports. Not all the interfaces can be used at the same time. All the logic levels are at 3.3 Volt (5 Volt tolerant).

Carrier boards are extension like FOXGM that are placed below the FOX Board. In that case you have to weld two 20x2 pin stream headers (male) in the bottom side of the board.

Add-on boards are extension like FOXZB that are placed over the FOX Board. In that case you have to weld two 20x2 pin stream sockets (female) on the topside of the board.

See the pinout on:
http://www.acmesystems.it/?id=18

J2: 5 volt DC power input.
J14: 5 volt DC power input.
There are 3 ways to provide the power supply to the FOX Board: using J2 with a floppy power supply like FPS; using J14 with a wall adapter like PS5V1A and directly from a carrier board like FOXGM trought J6 and J7 connectors.

J7

J6

CPU AXIS
ETRAX 100LX
100MIPS

SW1

J2

DL1 DL2 DL3

J10

5VDC INPUT

J10: ttyS0 serial port used as system console port. 115200 baud N81. 3.3Volt. Designed for FOXCONS accessory.

SW1: Hold this button down during the power-on to restore the factory default /etc contents.

Shutdown: If closed the FOX turns off
Reset: if closed resets the CPU
Serial boot: if closed at start-up enables the serial flashing
Ethernet boot: if closed at start-up enables the LAN flashing

DL1 RED LED is a user defined led that could be controlled by your application software. Its normal state is off. At startup it is used by the Kernel to indicate an initial error state of the board. Typically it blinks when the MAC address of the ethernet adapter is not configured.

DL2 YELLOW LED shows the LAN traffic on the Ethernet connector.

DL3 GREEN LED is connected directly to the power supply so it shows the power on state.

LAN

J11

POWER ON

J14

LAN ACT

J2

POWER IN +5 VDC