

## LPC2468 OEM BOARD LAN Webserver Reference Application

### 1 Abstract

This is a users guide for the sevenstax Internet Solution demonstration using the LAN interface of **Embedded Artists' LPC2468 Evaluation Board** with the NXP **LPC2468** core.

The demonstration software includes a full featured test bench. This allows you to try several network protocols like TCP, UDP, ICMP (ping), Webserver downloads, HTTP Authentication, Auto-IP, Multicast DNS, DNS Service-Discovery, NetBIOS Name Service, Telnet, TFTP and more.

Although you can use the demo without it, we recommend to install **Apples Bonjour Plugin** to your system. This enables you to take a closer look the demo's sevenstaxZeroConf features. Please see <http://developer.apple.com/networking/bonjour/download/> for details.

### 2 How to connect to the board

1. If a **DHCP Server is available**, you can simply connect the board to the next switch via a patch cable. No PC settings have to be changed.
2. If you **directly connect to a PC with WinXP** using a crosslink cable, you have to change your PC's TCP/IP network properties to "Automatic IP address / Alternative Configuration". The PC will reinitialise it's network connectivity using a link-local IP address, which takes about 60 sec.
3. If you **directly connect to a PC with Win2k** using a crosslink cable, you have to manually change your PC's TCP/IP network properties to the link-local IP address 169.254.1.1 with subnet mask 255.255.0.0.
4. If you like to see additional information while the embedded software works, connect USB cable to board to the USB port that connects to UART #0 through the FTDI chip. Please make sure that the jumpers TxD0 and RxD0 are placed on the left side where CPU is printed. Also, the jumpers P2.10 and RESET must not be closed. Terminal's COM-PortSettings: 115.200 bps, 8/N/1
5. Reset the board with a power cycle

sevenstaxTCP/IP will now start its network initialization. It first tries to find a DHCP server to get a dynamic IP address. If this fails, it will try the link-local IP (Auto-IP) address 169.254.1.0. Depending on the network environment, this takes about 8..15 seconds.

### 3 Find out the boards IP address

1. The easiest way is to simple write "**ping EmbeddedArtists**" in a command shell window. sevenstaxNBNS will answer this request with its valid IP address.
2. Another way is to take a closer look into the **terminal window**, where a line like "=="> Our IP address is: 169.254.1.0 (Auto-IP)" should appear after about 10 seconds.
3. But the most comfortable way is to open the MS-Internet-Explorers **Bonjour** Sidebar. You will see the Bonjour Service "EmbeddedArtists". A simple double-click on it will establish a connection to the boards webserver. The current IP address will be shown at the page headers right side.

If the board is being reseted without a LAN connection, the boards IP address always is 169.254.1.0.

### 4 Use of the demonstration

The embedded webserver demonstration is made to guide you with self explanatory pages:

1. Start it by typing <http://EmbeddedArtists/> (the boards NetBIOS name) into your browsers URL line. Simply follow the given **navigation tree**, detailed information and hints.
2. **TFTP and Telnet** can be used via the self explaining embedded webpages, too.
3. Feel free to carry out some experiments on sevenstaxZeroConf via the "**mDNS**", "**DNS-SD**" and "**NetBIOS**" pages
4. Advanced network users might want to change the boards **network configuration** via the "Auto-IP" page.
5. If you have an adequate tool (like e.g. the free tools located at <http://www.simplecomtools.com/>), you can try to connect the boards listen ports: The boards **TCP and UDP port 7** simply reflects any data being sent to it (**ECHO**).