LP-8x4x Quick Start

v1.7, July 2017

Supported Models

- LP-8141: 1 slot
- LP-8441: 4 slots
- LP-8841: 8 slots

Technical Support

LP-8x4x User Manual:

CD:\LinPAC\Napdos\lp-8x4x\User_Manual

ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-8x4x/user_manual/

What's in the box?

The package includes the following items:



LP-8x4x module



microSD card



CD



Screw Driver



RS-232 Cable



Quick start

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1 Configuring the Operating Mode

There are four basic operation modes for running LP-8x4x that can be determined through a rotary switch, operating mode selection as below:



Rotary Switch Position	Operation Mode
0 : Normal mode	Default
1 : Quick mode	Quick boot
2 : OS update mode	Update OS image
3 : Debug mode	Development by ICP DAS
Others	Reserved

- **Normal mode (Default)**

  Use this mode to perform additional tasks and configuration. Programs are also executed in this mode.

- **Quick mode**

  Quick mode is used to bypass the LP-8x4x boot screen when booting form a microSD/microSDHC card, so as to speed up the booting process.

- **OS update mode**

  Note that the Linux OS image is only suitable for the LP-8x4x. If the LP-8x4x cannot be booted or operated in normal mode, use this mode to update OS image again. Ensure that you backup any important files, before updating the OS image. For more information, refer to the “LP-8x4x OS update manual”.

- **Debug mode**

  This mode is only for use by ICP DAS during development of the device.

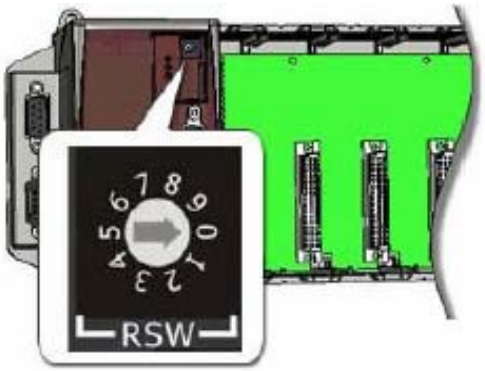
- **Others (Reserved)**

  Rotary switch positions 4~9 are reserved.

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2 Preparing start-up

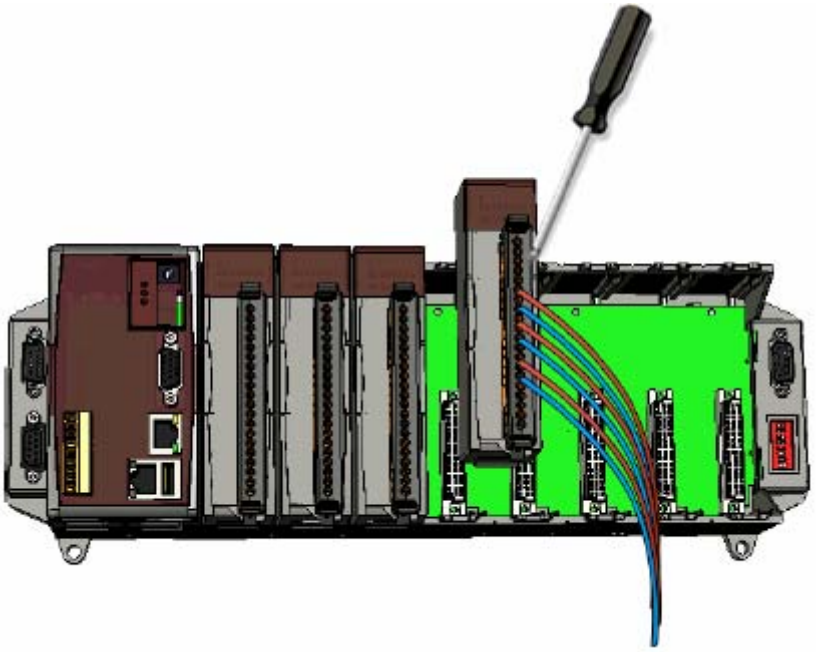
Step 1: Make sure the rotary switch placed in the '**0**' position.



Step 2: Plug in your USB keyboard, mouse, microSD card, VGA monitor and LAN.

Step 3: Insert the high profile I-8K/87K series I/O modules into the LP-8x4x slots.

(Only high profile I-8K and I-87K series modules can be plugged)



Step 4: Connect the COM2, COM3 or the COM4 ports to your devices controlled if necessary.

Step 5: Make sure your PC has workable serial port and network settings.

Step 6: Connect the DC power and turn it on.

(The input range of power supply is +10 to +30VDC)

Step 7: The LP-8x4x will start up, more detail information, refer to the software user's manual for further operations and for developing your own applications.

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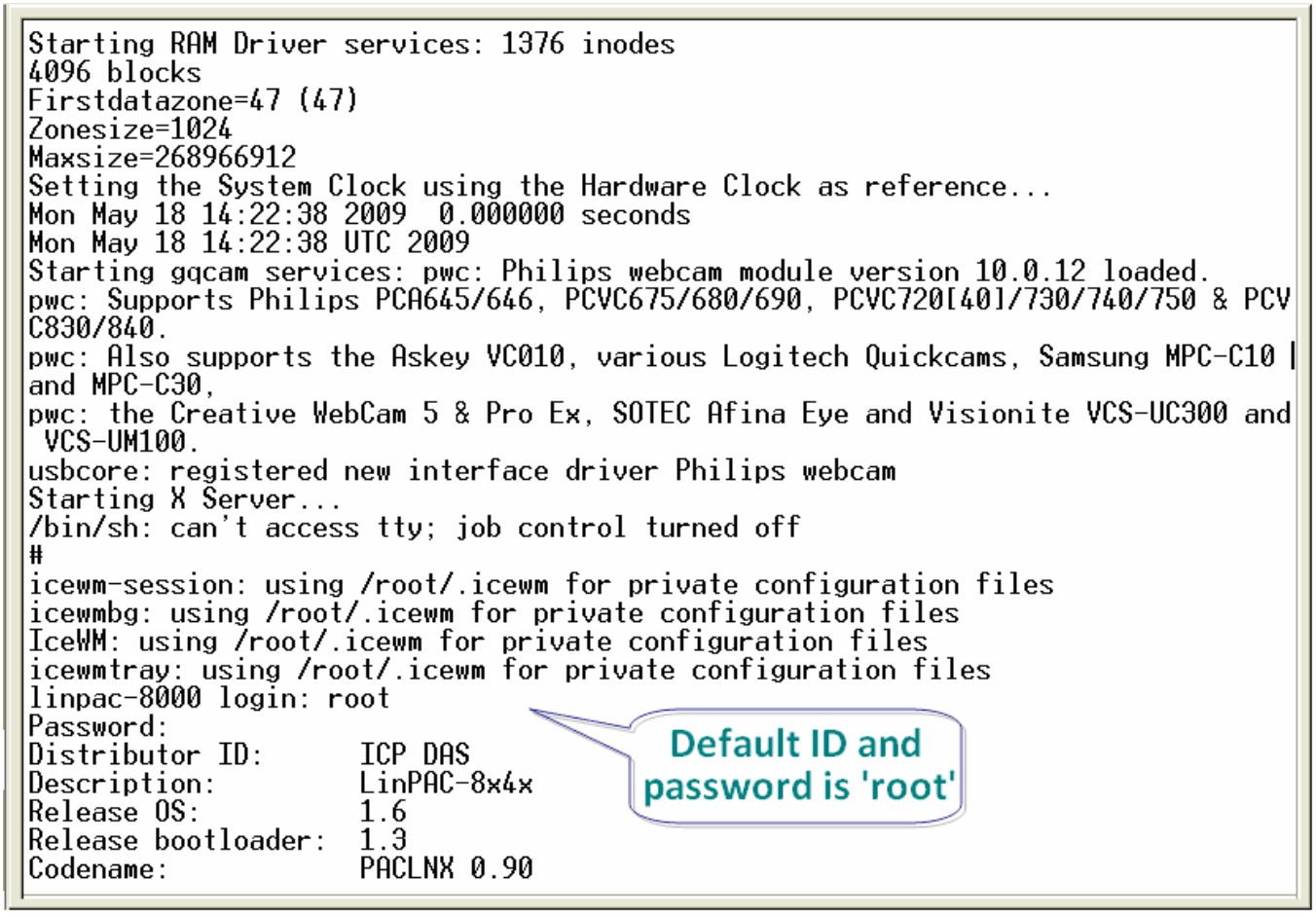
3 Connect the LP-8x4x to a Windows PC

➲ Open **HyperTerminal** by clicking on '**Start** → **Programs** → **Accessories** → **Communications** → **Hyper Terminal**'

➲ In the 'COM properties' dialog box, set the parameters for COM 1 to **115200 bps**, **8 data bits**, **no parity, 1 stop bit and no flow control**, and then press the OK button to save the settings.

➲ **Turn on the LP-8x4x power**, and the following message will be displayed to indicate that the configuration process has been completed.

➲ Press 'Enter' key, you will see 'linpac-8000 login:' prompt.



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4 Connect the LP-8x4x to a Linux PC

Install HyperTerminal tool on the Linux PC, such as minicom, or gtkterm, etc. Using Minicom as an example:

In the terminal window, type '**minicom -s**' to enter the Minicom configuration menu. To configure the COM1 port, use the keyboard arrow keys to select the menu item labeled '**Serial port setup**' and then press '**Enter**'. Set the parameters for COM 1 and then press '**Exit**'.

1

```
----[configuration]------+
| Filenames and paths     |
| File transfer protocols |
| Serial port setup       |
| Modem and dialing       |
| Screen and keyboard     |
| Save setup as dfl       |
| Save setup as..         |
| Exit                    |
| Exit from Minicom       |
+-------------------------+
```

2

```
+-----------------------------------------+
| A -    Serial Device      : /dev/ttyS0  |
| B - Lockfile Location     : /var/lock   |
| C -   Callin Program      :             |
| D -  Callout Program      :             |
| E -    Bps/Par/Bits       : 115200 8N1  |
| F - Hardware Flow Control : No          |
| G - Software Flow Control : No          |
|                                         |
|    Change which setting?                |
+-----------------------------------------+
```

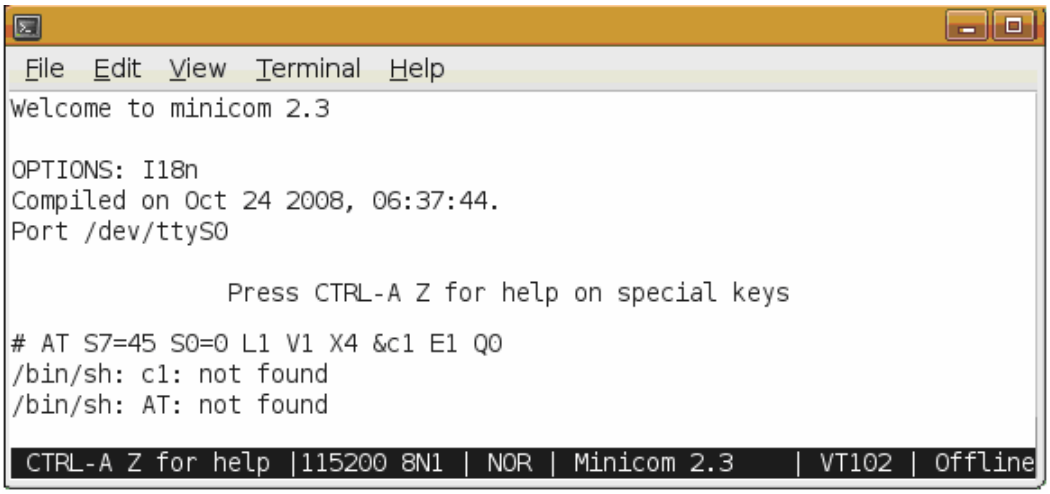
3

```
----[configuration]------+
| Filenames and paths     |
| File transfer protocols |
| Serial port setup       |
| Modem and dialing       |
| Screen and keyboard     |
| Save setup as dfl       |
| Save setup as..         |
| Exit                    |
| Exit from Minicom       |
+-------------------------+
```

4

```
+----------------------+
|                      |
|  Initializing Modem  |
|                      |
+----------------------+
```

A sample of the Minicon operation. Please refer to the below:



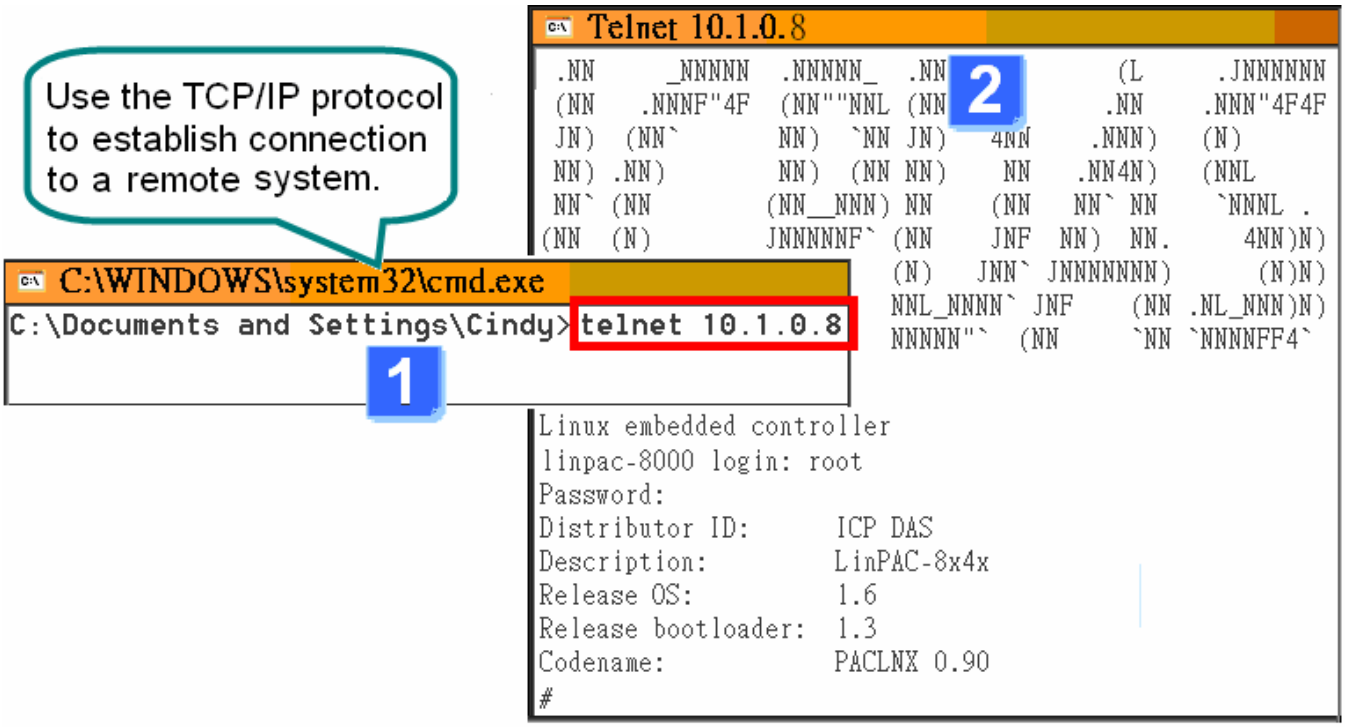
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5 Connect to the LP-8x4x via Telnet

To view information about the configured network interfaces with ‘ifconfig’ command. Please refer to the below:

```
# ifconfig eth0
eth0      Link encap:Ethernet  HWaddr 00:0D:E0:AB:CD:33
          inet addr:10.1.0.8  Bcast:10.1.255.255  Mask:255.255.0.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:87724 errors:0 dropped:0 overruns:0 frame:0
          TX packets:966 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
          Interrupt:41 Base address:0x8000
#
# ifconfig eth1
eth1      Link encap:Ethernet  HWaddr 00:0D:E0:AB:CD:44
          inet addr:10.1.0.17  Bcast:10.1.255.255  Mask:255.255.0.0

          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:50 errors:0 dropped:0 overruns:0 frame:0
          TX packets:11 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
          Interrupt:114 Base address:0xc000
#
```

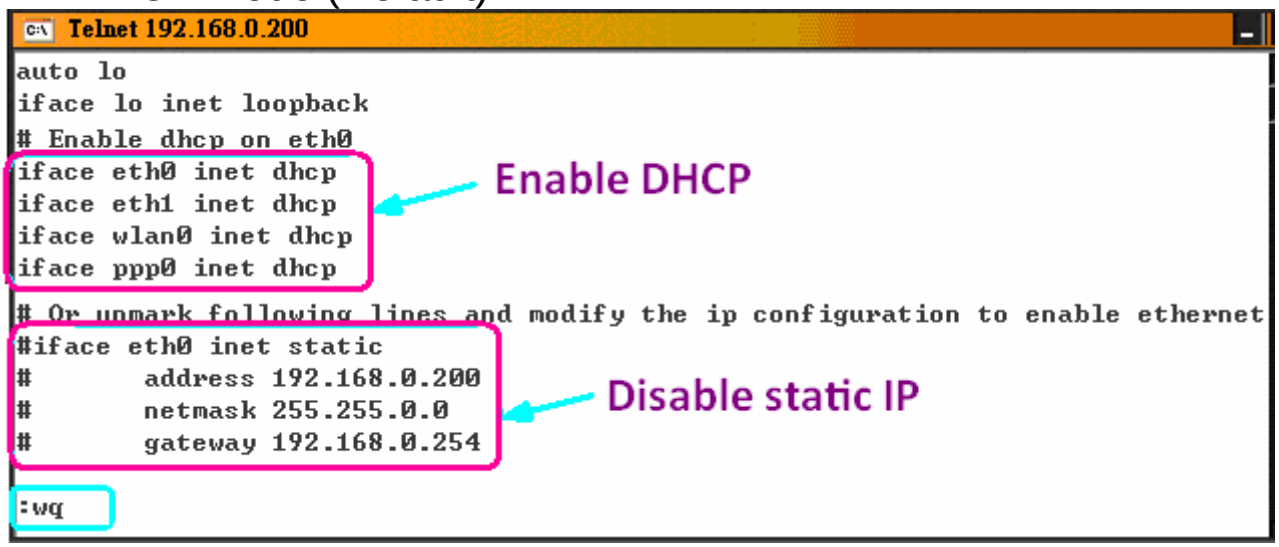


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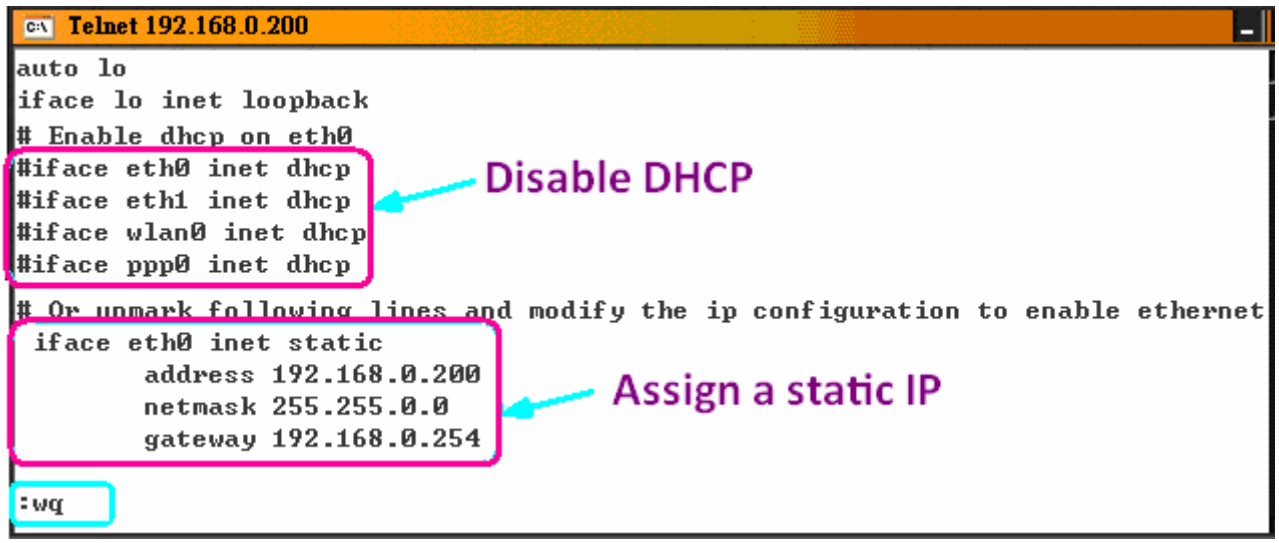
6 Configure the IP Address for LP-8x4x

There are two methods of assigning the LP-8x4x network settings. The first uses **DHCP** and the other uses a manually **Assigned IP** address. The factory default setting for the LP-8x4x is DHCP mode, and this is the easiest method. However, if your network system does not include a DHCP server, then you will need to manually configure the network settings by using the Assigned IP method. To do this:

- ❒ Boot the device and establish a connection to the LP-8x4x via Telnet.
- ❒ Type in '**vi /etc/network/interfaces**' to open the network setting file.
  - ■ DHCP mode (Default):



  - ■ Static IP mode:



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