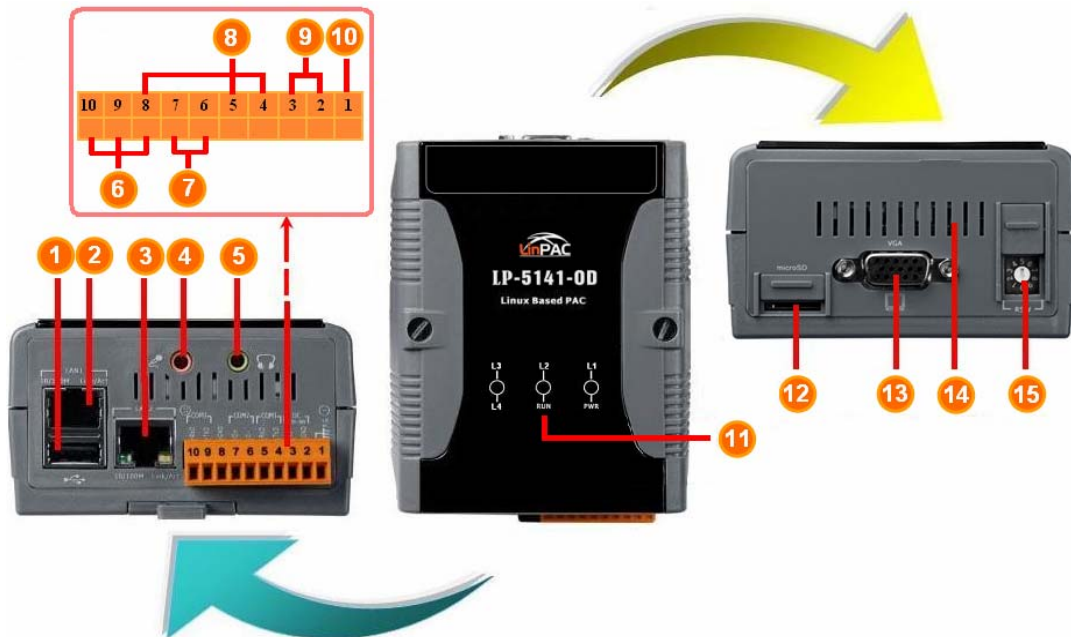# LinPAC-51xx Quick Start

➲ What's in the Box?

LP-51xx module microSD card Software Utility CD Screwdriver RS-232 Cable

➲ Preparing to start your LP-51xx

Power Supply: +10V to +30V$_{DC}$ (E.g., DP-665)

http://www.icpdas.com/products/Accessories/power_supply/power_list.htm

➲ Diagram of the LP-51xx

1	USB Port	6	COM 1 (RS-232)(console)	11	LED Indicator
2	Ethernet Port	7	COM 2 (RS-485)	12	microSD socket
3	Ethernet Port	8	COM 3 (RS-232)	13	VGA Port
4	Microphone In	9	DC (PWR, GND)	14	XWboard (optional)
5	Earphone Out	10	Frame Ground	15	Operating Modes Selector

➲ Configuring the Operating Mode

Enure the rotary switch is in the "0" position
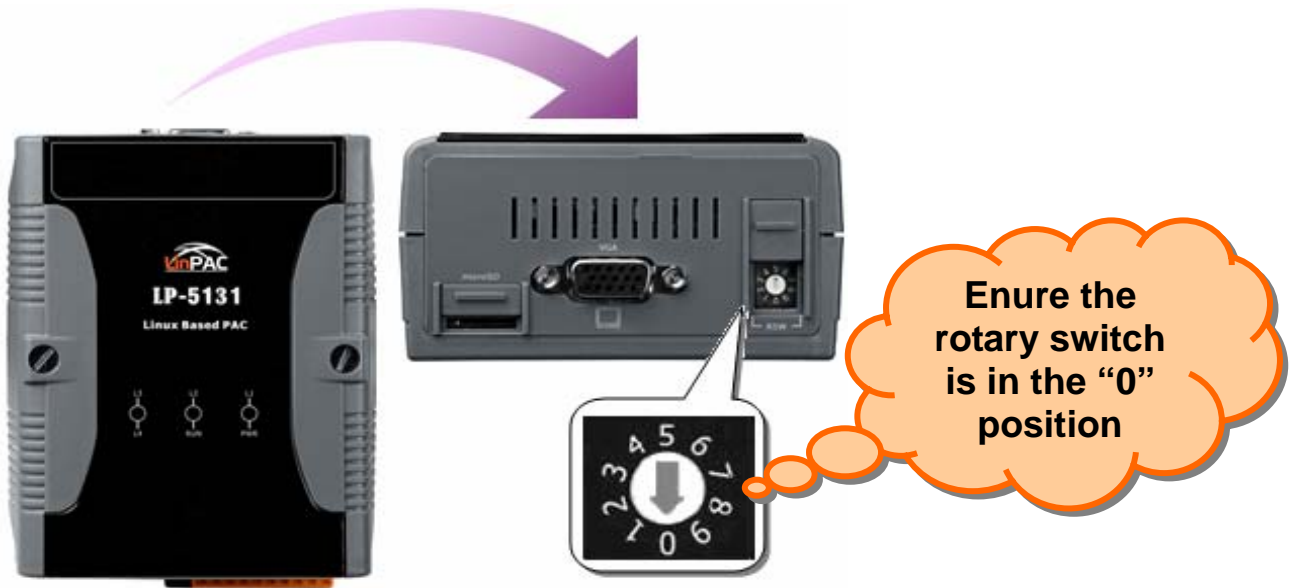
Rotary Switch Position	Operation Mode
0	Normal Mode(Default)
1	Quick Mode
2	OS Update Mode
3	Debug Mode
Others	Reserved

❑ **Normal Mode(Default)**

Normal mode is the default operation mode for the LP-51xx. 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-51xx boot screen when booting form a microSD/microSDHC card, so as to speed up the booting process.

❑ **OS Update Mode**

This mode is used to update the OS image. Note that the Linux OS image is only suitable for the LP-51xx. If the LP-51xx 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-51xx OS update manual".
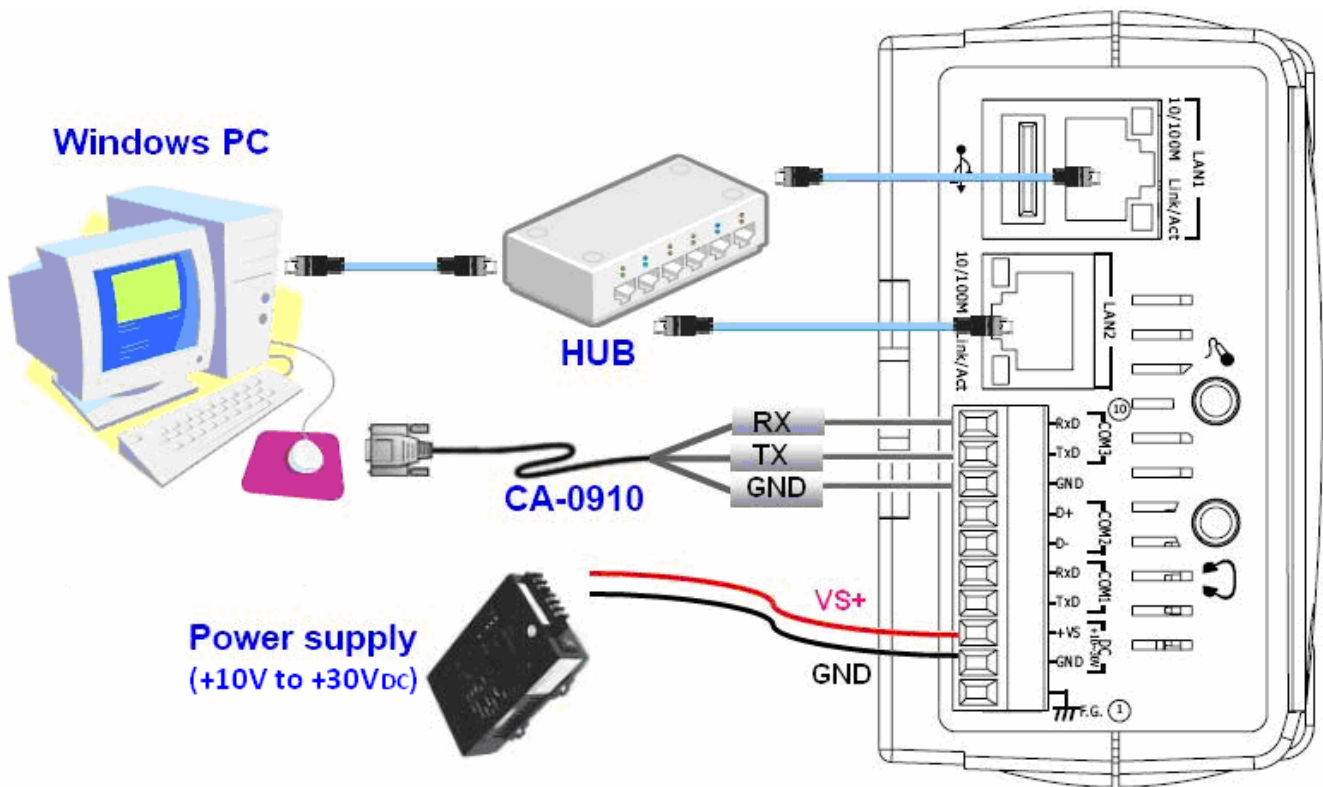
❑ **Debug Mode**

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

❑ **Reserved**

Rotary switch positions 4~9 are reserved by ICP DAS.

➲ Connecting the LP-51xx to a Windows PC

❑ The RS-232 connector is a standard non-isolated serial port (COM1 - TxD, RxD, GND), and is located on the upper right-hand corner on the LP-51xx module.

❑ Connect the LP-51xx console to the COM port on the Host PC. Note that it is unnecessary to connect to a converter.

❑ Open **HyperTerminal** by clicking the **Start** button, point to **All Programs,** point to **Accessories**, point to **Communications**, and the click **Hyper Terminal**.

❑ In the 'Port Setting' 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-51xx power** and the following message will be displayed to indicate that the configuration process has been completed.

```
adding dns 10.0.0.1
Snmpd not in use (/etc/snmpd_not_to_be_run)
Starting SLOT services: ICPDAS slot driver (type 0) version 1.01a (2004-03-01) w
ith normal status 02f0
interval=6392 us, EEPROM_DELAY=30 ms
major : 215, S/N : 01 B5 70 80 12 00 00 60.
Starting COM port services: Serial: 8250/16550 driver $Revision: 1.90 $ 36 ports
, IRQ sharing enabled
```

```
Starting RAM Driver services: 1376 inodes
4096 blocks
Firstdatazone=47 (47)
Zonesize=1024
Maxsize=268966912
Setting the System Clock using the Hardware Clock as reference...
Mon May 18 14:22:38 2009  0.000000 seconds
Mon May 18 14:22:38 UTC 2009
Starting gqcam services: pwc: Philips webcam module version 10.0.12 loaded.
pwc: Supports Philips PCA645/646, PCVC675/680/690, PCVC720[40]/730/740/750 & PCV
C830/840.
pwc: Also supports the Askey VC010, various Logitech Quickcams, Samsung MPC-C10
and MPC-C30,
pwc: the Creative WebCam 5 & Pro Ex, SOTEC Afina Eye and Visionite VCS-UC300 and
 VCS-UM100.
usbcore: registered new interface driver Philips webcam
Starting X Server...
/bin/sh: can't access tty; job control turned off
#
icewm-session: using /root/.icewm for private configuration files
icewmbg: using /root/.icewm for private configuration files
IceWM: using /root/.icewm for private configuration files
icewmtray: using /root/.icewm for private configuration files
```

❑ Press 'Enter', you will see 'linpac-51xx login:' prompt.

❑ At the LP-51xx login prompt, enter the root ID and password (Default ID and password is root).

```
linpac-51xx login: icewm-session: using /root/.icewm for private configuration files
icewmtray: using /root/.icewm for private configuration files
icewmbg: using /root/.icewm for private configuration files
IceWM: using /root/.icewm for private configuration files

linpac-51xx login: root
Password:
Distributor ID:      ICP DAS
Description:         LP-514x series
Release OS:          1.4
Release bootloader:  1.2
Flash vendor:        Samsung
Codename:            PACLNX 0.90
Jun 27 15:50:42 login[1075]: root login on 'ttySA0'
installed XW-boards list
slot 1 ... XW0
#
```

⮞ Connecting the LP-51xx to a Linux PC
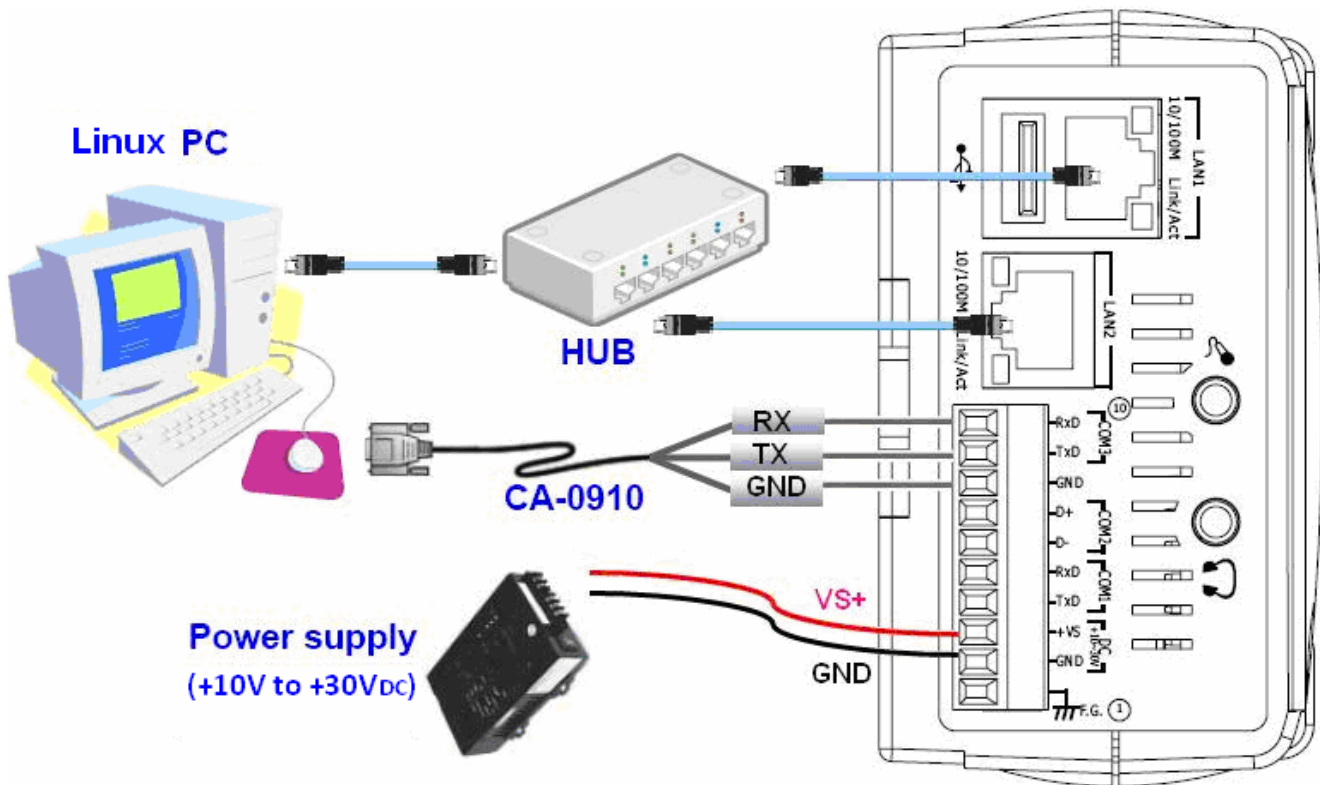
- ❑ Install a HyperTerminal tool on the Linux PC, such as Minicom, or GTKTerm, etc.
- ❑ Using Minicom as an example:

    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**'.

❑ A sample of the Minicon operation.

```
File  Edit  View  Terminal  Help
Welcome to minicom 2.3

OPTIONS: I18n
Compiled on Oct 24 2008, 06:37:44.
Port /dev/ttyS0

             Press CTRL-A Z for help on special keys

# AT S7=45 S0=0 L1 V1 X4 &c1 E1 Q0
/bin/sh: c1: not found
/bin/sh: AT: not found


 CTRL-A Z for help |115200 8N1 | NOR | Minicom 2.3    | VT102 | Offline
```
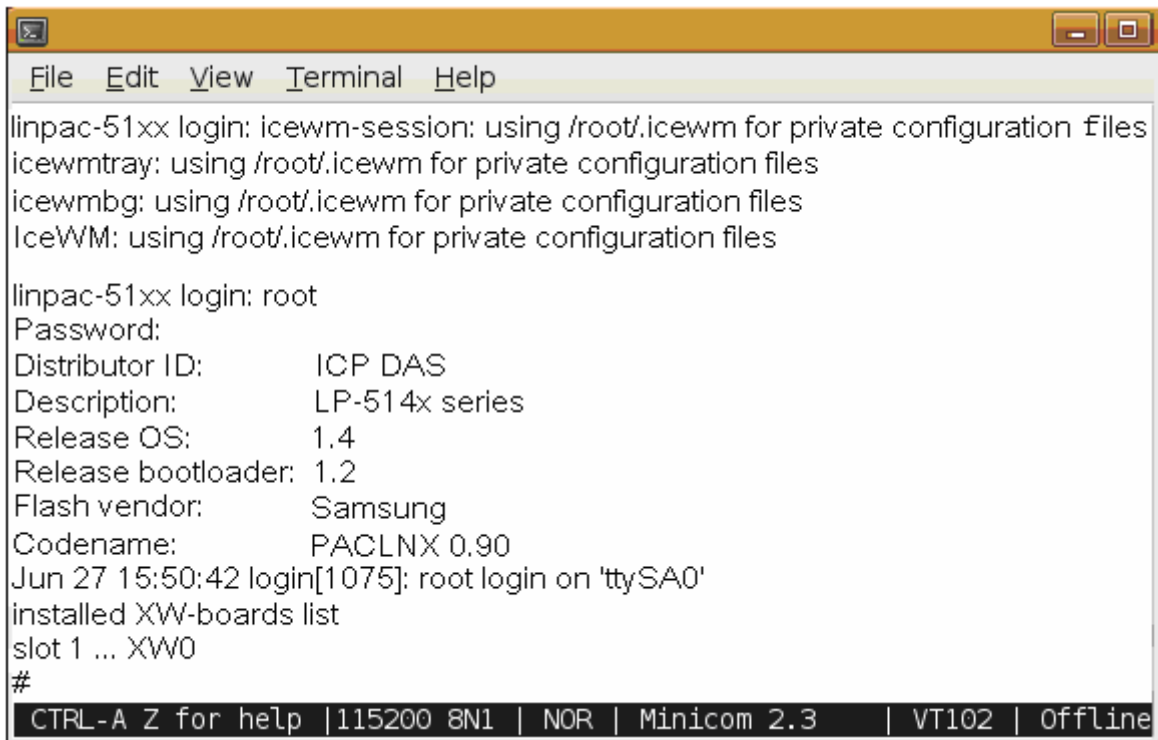
❑ **Turn on the LP-51xx power**.

❑ Once the boot sequence is complete, press 'Enter', you will see 'linpac-51xx login:' prompt.

❑ At the LP-51xx login prompt, enter the root ID and password (Default ID and password is root).

```
File  Edit  View  Terminal  Help
linpac-51xx login: icewm-session: using /root/.icewm for private configuration files
icewmtray: using /root/.icewm for private configuration files
icewmbg: using /root/.icewm for private configuration files
IceWM: using /root/.icewm for private configuration files

linpac-51xx login: root
Password:
Distributor ID:      ICP DAS
Description:         LP-514x series
Release OS:          1.4
Release bootloader:  1.2
Flash vendor:        Samsung
Codename:            PACLNX 0.90
Jun 27 15:50:42 login[1075]: root login on 'ttySA0'
installed XW-boards list
slot 1 ... XW0
#
 CTRL-A Z for help |115200 8N1 | NOR | Minicom 2.3    | VT102 | Offline
```

➲ Connect to the LP-51xx via Telnet

❑ In **HyperTerminal:**

```
# 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

#
```

☑ On a Linux PC

☑ On a Windows PC

➲ Configuring the IP Address for the LP-51xx

There are two methods of assigning the LP-51xx network settings. The first uses **DHCP** and the other uses a manually **Assigned IP** address. The factory default setting for the LP-51xx is DHCP, 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-51xx via Telnet.

❑ Type in "**vi   /etc/network/interfaces**" to open the network settings file.

➲ Technical Support

This manual is applicable to the following devices:

Module	Status	Module	Status	Module	Status
LP-5131	OK	LP-5141-OD	OK	LP-5341	Phased out
LP-5131-OD	OK	LP-5331	Phased out	LP-5441	Phased out
LP-5141	OK	LP-5431	Phased out	LP-5331-XW107i	OEM only

ICP DAS Website: http://www.icpdas.com

ICP DAS Service : service@icpdas.com

service.icpdas@gmail.com