TOPIC:	Linux Installation	PRODUCT(s):	LavaPort-PCI LavaPort-Plus (serial ports)
		REVISION:	A01

Fedora 4,5/udev users: When udev is used, the mknod command will not properly create a ttyS device that will function or survive a reboot. udev by default only has ttyS0-ttyS3, so if you require more ttySx's you will have to recompile the kernel with the number of ttyS ports you require. This is done in "make menuconfig" at the following menu path:

Device Drivers -> Character Devices -> Serial Drivers -> Number of 8250/16550 Serial Ports to Register at Runtime

By default this is 4 (ttyS0-ttyS3). Change it to a number equal to or greater than the ports you require in the system and compile the kernel. After rebooting, you will have the number of ttyS's you specified and then can continue with the instructions below for configuring using the setserial command.

Installation

On install during the bootup process, the Linux hardware discovery utility detects the LavaPort-PCI correctly and and installs it as as ttyS4 and ttyS5. This setting will change depending on how many serial ports you have and how they are configured.

To verify proper installation you must first find out the port information (I/O range, IRQ) for each serial port. To retrieve that information type at the command line:

    lspci -v

You will then see two separate entries for a "Serial Controller: Lava Computer MFG". Below each will be a IRQ number and an I/O port. Write down that information for all ports (for example, IRQ 12, e400, IRQ 12, e800).

First you must verify that the card was installed correctly. To do this at the command line type:

    setserial -a /dev/ttyS4

Note: ttyS4 is the first default PCI serial port. This setting may change depending on how many serial ports you have.

If the card was correctly configured by Linux you will see the following information:

    /dev/tty4, Line 4, UART 16650V2, Port: 0xe400, IRQ: 12
    Baud_base: 460800, close_delay: 256, divisor: 0
    closing_wait: 15360
    Flags: spd_normal skip_test

Your port and IRQ should match the information collected earlier.

If you find that the information displayed does not match the above (port and IRQ should match your information), then carry on to the next step below. If the data is correct then the installation is complete.

To set the serial port to the correct settings, edit the file:

/etc/rc.d/rc.local

Add the following lines at the end of the file:

setserial /dev/ttyS4 port 0xe400 irq 12 uart 16650v2 baud_base 460800 ^fourport
setserial /dev/ttyS5 port 0xe800 irq 12 uart 16650v2 baud_base 460800 ^fourport

The example above uses the information gained from the lspci -v command. The details of your information may be different. Be sure to save the added changes. On reboot all of the ports should be operational.

[Test OS: Redhat 7.3 and 8.0]