



## LAVA COMPUTER MFG. INC.

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## TECHNICAL SUPPORT FAQ

<b>TOPIC:</b>	Linux Installation	<b>PRODUCT(s):</b>	LavaPort-Quad
		<b>REVISION:</b>	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-Quad and installs it as ttyS4 ,ttyS5, ttyS6, and ttyS7. These settings will change depending on how many serial ports you have and how they are configured.

However, on installation the card will be configured incorrectly. To configure the card correctly, first find out the port information (I/O range and 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 two I/O ports. Write down that information for all ports (for example, IRQ 12, d400, d800, IRQ 12, dc00, e000).

Then edit the file:

```
/etc/rc.d/rc.local
```

Add the following lines at the end of the file:

```
setserial /dev/ttyS4 port 0xd400 irq 12 uart 16650v2 baud_base 460800 ^fourport  
setserial /dev/ttyS5 port 0xd800 irq 12 uart 16650v2 baud_base 460800 ^fourport  
setserial /dev/ttyS6 port 0xdc00 irq 12 uart 16650v2 baud_base 460800 ^fourport  
setserial /dev/ttyS7 port 0xe000 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]