

# Configuring a Digi PortServer II

## Using Directly Connected Configuration Terminal

This document describes how to configure the network communications settings for a Digi PortServer II (and expansion modules) prior to connecting the equipment to your PressureMAP system. Please note that the following items and information are necessary to perform this procedure:

- # All Digi hardware and associated cabling
- # A terminal or computer that is capable of connecting via a serial port to the Digi Portserver
- # Valid network information including:
  - IP address \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_
  - gateway address \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_
  - submask \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_

**Note:** Once an IP address is assigned and the ports have been configured for use with the RealPort driver, it is no longer possible to configure the PortServer II via a directly-connected configuration terminal. To restore the PortServer's factory default settings, use the following procedure:

- A. Hold both the left and right arrows on the front panel down.
- B. Turn the power on the PortServer module OFF and then ON.
- C. Watch for **CL** to appear on the front panel display, then release the left and right arrow buttons immediately.

To perform the initial configuration, connect directly to the PortServer II using a computer terminal loaded with a terminal emulation program such as HyperTerminal, and follow the steps below. A sample configuration command sequence is given at the end of the procedure.

### Procedures:

Prior to performing this procedure, all expansion modules **MUST** be connected in the proper sequence when the PortServer II is powered up, in order for the commands to be valid.

1. Connect the terminal to **port 1** on the PortServer II, using the connector provided by Digi. The connector is a RJ-45 to DB9F cable (shipped in the box with the PSII).
2. Power up the expansion module(s) first, if there are any, and then the PortServer. Any other order may result in unavailable ports. Please note that the Digi 8em or 4em are the only expansion modules that contain their own power supply. Therefore, they need to be powered up. The 16em expansion module does not have a self-contained power supply.

3. Launch HyperTerminal (or other terminal emulation program). In the *Connection Description* window, enter Name (such as *digi*) then click **OK**. In the *Connect to* screen, change connection information to the following and click **OK**:

**Connect Using: Direct using COM 1 (or Com2)**

4. Make sure that the serial port settings for the configuration terminal are: 9600 baud, 8 bits, 1 stop bit, no parity, "Flow control: Hardware", and VT-100 emulation. Click **File, Properties**, then select the Settings tab to access the emulation setting.
5. Select **Call**, then **Call**, or click on the call icon to connect to the PortServer II.

The PortServer II configuration process is as follows:

6. Once connected to the PortServer II, press **<Enter>** until you see a **login:** prompt, then type **root** and press **<Enter>**. When you see the **password:** prompt, type **dbps** and press **<Enter>**. You should see a **>#** prompt.

```
login: root
password: dbps
#>
```

7. Check the firmware version of the Digi PortServer II (should be 3.0.12 or above). Type **set config** and hit **<Enter>**, and the firmware version will be displayed.
8. Assign an IP address to the PortServer II as follows, using appropriate values for the IP address, netmask and gateway:

```
set config ip=XXX.XXX.XXX.XXX submask=XXX.XXX.XXX.XXX
set config gateway=XXX.XXX.XXX.XXX
```

You will see a message indicating a reboot must be issued for changes to be set. Do **not** reboot at this time.

9. Set the operating mode for the base ports as follows:

```
set flow range=1-16 altpin=on
set ports range=1-16 dev=prn
```

If expansion ports are to be used, these must be configured as well. The exact procedure varies, depending on the type of module(s) and the order in which these are connected (i.e., the corresponding range of port numbers for a given module).

To configure a modem module, proceed with step 10. For the port expansion module instructions (and example), go to step 11.

10. For MODEM/4em and MODEM/8em modules, use the following commands (where X-Y signifies the actual range of ports that correspond to the expansion module):

```
set flow range=X-Y altpin=off
set ports range=X-Y dev=prn
```

**Digi 8EM Modem expansion example:**

To configure a PortServer II base unit with one additional MODEM/8em expansion module (for a total of 24 ports), connect these together and power up both units. After logging in, issue the following commands:

```
set config (check firmware version)

set config ip=xxx.xxx.xxx.xx submask=255.xxx.xxx.xxx

set config gateway=xxx.xxx.xxx.x

set flow range=1-16 altpin=on
set ports range=1-16 dev=prn

set flow range=17-24 altpin=off
set ports range=17-24 dev=prn
```

11. For PORTS/16em expansion modules, use the following commands (where X-Y signifies the actual range of ports that correspond to the expansion module):

```
set flow range=X-Y altpin=on
set ports range=X-Y dev=prn
```

**Digi 16EM port expansion example:**

To configure a PortServer II base unit with two additional 16EM expanders (for a total of 48 ports), connect these together and power up the PSII (the 16EM gets powered by the PortServer). After logging in, issue the following commands:

```
set config (check firmware version)

set config ip=xxx.xxx.xxx.xxx submask=255.xxx.xxx.xxx

set config gateway=xxx.xxx.xxx.xxx

set flow range=1-48 altpin=on
set ports range=1-48 dev=prn
```

12. Next, verify the Digi equipment's new settings. To check your settings, perform the following steps.

First, enter *set config* to display the configuration settings (similar to the following sample screen data). Verify the IP, submask and gateway addresses.

PortServerII Version 3.1.12 Jan 21 2003

Copyright 1990-2001 Digi International. All Rights Reserved.

```

myname      :                               domain      :
ip          : xxx.xxx.xxx.xxx              submask     : 255.xxx.xxx.xxx
gateway (LAN) : xxx.xxx.xxx.xxx          nameserv    : 0.0.0.0
boothost    : 0.0.0.0                    bootfile    :
ether       : 00:40:9d:22:f0:07          icmp redirects : ignore
bootpservr  :                               bootpgenericfile :
bootp       : no                          tftpbboot   : no
  
```

Then enter *set flow* and verify the settings in the **altpin** column. (Below is an example using a PortServerII with one 8em module attached.)

serial#	ixon	aixon	ixoff	ixany	itoss	altpin	rts	dtr	cts	dcd	dsr	ri
1	on	off	on	off	off	on	off	off	off	off	off	off
2	on	off	on	off	off	on	off	off	off	off	off	off
3	on	off	on	off	off	on	off	off	off	off	off	off
4	on	off	on	off	off	on	off	off	off	off	off	off
5	on	off	on	off	off	on	off	off	off	off	off	off
6	on	off	on	off	off	on	off	off	off	off	off	off
7	on	off	on	off	off	on	off	off	off	off	off	off
8	on	off	on	off	off	on	off	off	off	off	off	off
9	on	off	on	off	off	on	off	off	off	off	off	off
10	on	off	on	off	off	on	off	off	off	off	off	off
11	on	off	on	off	off	on	off	off	off	off	off	off
12	on	off	on	off	off	on	off	off	off	off	off	off
13	on	off	on	off	off	on	off	off	off	off	off	off
14	on	off	on	off	off	on	off	off	off	off	off	off
15	on	off	on	off	off	on	off	off	off	off	off	off
16	on	off	on	off	off	on	off	off	off	off	off	off
17	on	off	on	off	off	off	off	off	off	off	off	off
18	on	off	on	off	off	off	off	off	off	off	off	off
19	on	off	on	off	off	off	off	off	off	off	off	off
20	on	off	on	off	off	off	off	off	off	off	off	off
21	on	off	on	off	off	off	off	off	off	off	off	off
22	on	off	on	off	off	off	off	off	off	off	off	off
23	on	off	on	off	off	off	off	off	off	off	off	off
24	on	off	on	off	off	off	off	off	off	off	off	off

Next, enter *set port* and verify the settings in the **dev** column. (The following is an example using a PortServer II with one 16em module attached.)

serial#	termttype	dev	sess	uid	edelay	auto	bin	group	dport	dest
1	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
2	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
3	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
4	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
5	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
6	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
7	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
8	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
9	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
10	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
11	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
12	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
13	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
14	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
15	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
16	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
17	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
18	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
19	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
20	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
21	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
22	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
23	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
24	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
25	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
26	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
27	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
28	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
29	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
30	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
31	vt100	prn	4	0	1	off	off	0	0	0.0.0.0
32	vt100	prn	4	0	1	off	off	0	0	0.0.0.0

13. Power off the Digi PortServer II and modem modules, if any. Disconnect the PSII from the direct-connect cable (port 1 to the computer terminal).

**Note:** If the PressureMAP computer is already operating, be sure to shut PressureMAP down properly through System Administration.

Connect the PortServer II to the LAN. Power the equipment ON in the following order:

- A. Power up all expansion modules. (Exception: the 16em powers up when the PortServer II is turned on.
- B. Power up the Digi PortServer II.
- C. Boot the PressureMAP computer.

