PATTON
Electronics Co.

SmartNode™ Model 5200
Enterprise Session Border Router

Quick Start Guide

C E **Important**—This is a Class A device and is intended for use in a light industrial (commercial) environment only. It is not intended nor approved for use in a heavy industrial or residential environment.

This device is approved for connection to the public ISDN telecommunication network, over BRI/S0-ISDN interfaces.

Part Number: 07MSN5200-QS, Rev. A
Revised: April 21, 2010

WARNING

- **Do not open the device when the power cord is connected. For systems without a power switch and without an external power adapter, line voltages are present within the device when the power cord is connected.**

- **For devices with an external power adapter, the power adapter shall be a listed *Limited Power Source* The mains outlet that is utilized to power the device shall be within 10 feet (3 meters) of the device, shall be easily accessible, and protected by a circuit breaker in compliance with local regulatory requirements.**

- **For AC powered devices, ensure that the power cable used meets all applicable standards for the country in which it is to be installed.**

- **For AC powered devices which have 3 conductor power plugs (L1, L2 & GND or Hot, Neutral & Safety/Protective Ground), the wall outlet (or socket) must have an earth ground.**

- **For DC powered devices, ensure that the interconnecting cables are rated for proper voltage, current, anticipated temperature, flammability, and mechanical serviceability.**

- **WAN, LAN & PSTN ports (connections) may have hazardous voltages present regardless of whether the device is powered ON or OFF. PSTN relates to interfaces such as telephone lines, FXS, FXO, DSL, xDSL, T1, E1, ISDN, Voice, etc. These are known as "hazardous network voltages" and to avoid electric shock use caution when working near these ports. When disconnecting cables for these ports, detach the far end connection first.**

- **Do not work on the device or connect or disconnect cables during periods of lightning activity.**

WARNING

This device contains no user serviceable parts. This device can only be repaired by qualified service personnel.

WARNING

This device is NOT intended nor approved for connection to the PSTN. It is intended only for connection to customer premise equipment.

CAUTION

Electrostatic Discharge (ESD) can damage equipment and impair electrical circuitry. It occurs when electronic printed circuit cards are improperly handled and can result in complete or intermittent failures. Do the following to prevent ESD:

- **Always follow ESD prevention procedures when removing and replacing cards.**
- **Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the clip to an unpainted surface of the chassis frame to safely channel unwanted ESD voltages to ground.**
- **To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching the metal part of the chassis.**

1.0 Power up the SmartNode

CAUTION

The interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability.

1. Connect the SmartNode to a power source using the included power supply and cable.
2. When the *Power* LED stops blinking and remains lit, the SmartNode is ready to configure.

2.0 Set your PC to DHCP

CAUTION

The interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability.

This guide will allow you to quickly access the configuration interface of a SmartNode and give an overview of the different elements you can or need to configure. For detailed information on all configuration parameters refer to the SmartWare software configuration guide.

The SmartNode has a built in DHCP Server which allows an automatic IP connection with a connected PC. To prepare the connection you need to configure the PC to use DHCP. The following paragraphs show how to do this on Windows. For other operating systems refer to the operating instructions of the PC.

1. Right-click on *My Network Places* and select *Properties* in the context menu (see **figure 1**).
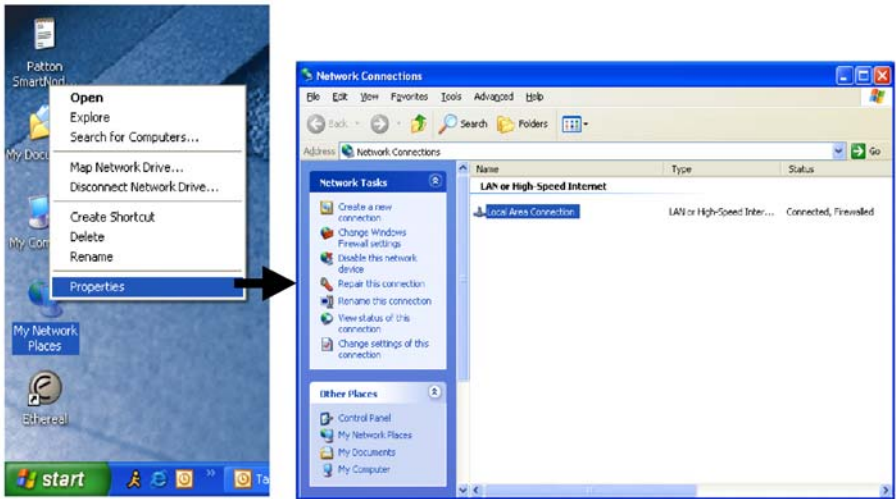

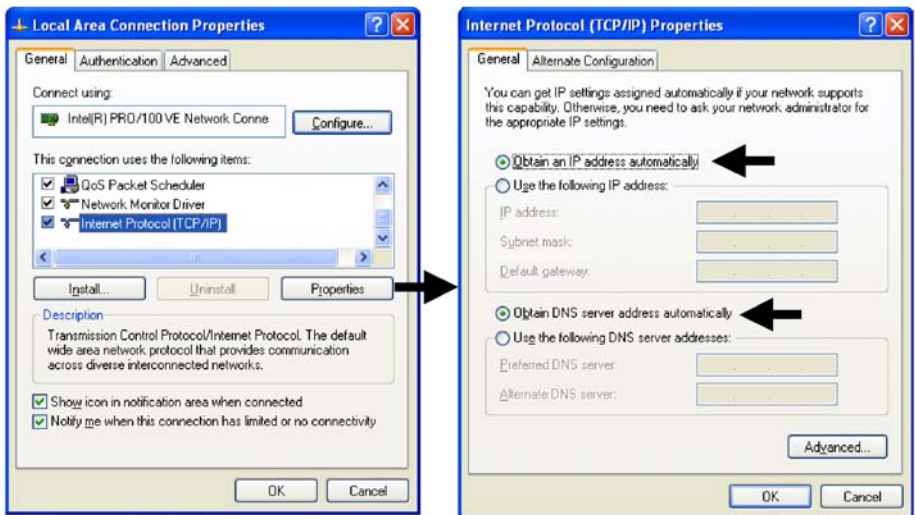**Figure 1.** Displaying the Network Connections window

Figure 2. Displaying the Internet Properties (TCP/IP) Properties window

2. Double-click on *Local Area Connection* and click on **Properties** to open the *Internet Protocol (TCP/IP) Properties* window (see **figure 2**).

3. Select *Obtain an IP address automatically* and *Obtain DNS server address automatically* options.

4. Click **OK** to save changes and close the properties windows.

3.0 Connecting the SmartNode to your laptop PC

First the SmartNode must be connected to the mains power supply with the power cable. Wait until the *Power* LED stops blinking and stays lit constantly. Now the SmartNode is ready.

> ⚠️ **CAUTION**
>
> The interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability.

The SmartNode 5200 Series is equipped with Auto-MDX Ethernet ports, so you can use straight-through cables for host or hub/switch connections (see **figure 3**).

Straight-through wired cable

LAN (ETH 0/1)
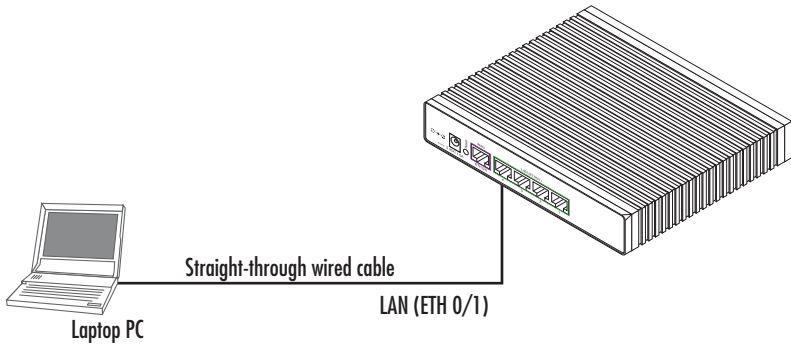
Laptop PC

Figure 3. Connecting the SmartNode to your laptop PC

The SmartNode comes with a built-in DHCP server to simplify configuration. Therefore, to automatically configure the PC for IP connectivity to the SmartNode, the laptop PC must be configured for DHCP. The SmartNode will provide the PC with an IP address. You can check the connection to the SmartNode by executing the ping command from the PC command window as follows:

```
ping 192.168.1.1
```

4.0 Configuring the desired IP address

4.1 Factory-default IP settings

The factory default configuration for the Ethernet interface IP addresses and network masks are listed in the table below. Both Ethernet interfaces are activated upon power-up. LAN interface *ETH 0/1 (LAN)* provides a default DHCP server, the WAN interface uses DHCP client to automatically assign the IP address and network mask.

	IP Address	Network Mask
WAN interface Ethernet 0 (ETH 0/0)	DHCP	DHCP
LAN interface Ethernet 1 (ETH 0/1)	192.168.1.1	255.255.255.0
DHCP address range	192.168.1.10–192.168.1.19	255.255.255.0

If these addresses match with those of your network, go to section **5.0 "Connecting the SmartNode to the network"** on page 7. Otherwise, refer to the following sections to change the addresses and network masks.

4.2 Login

To access the SmartNode, start the Telnet application. Type the default IP address for the router into the address field: **192.168.1.1**. Accessing your SmartNode via a Telnet session displays the login screen. Type the factory default login: *administrator* and leave the password empty. Press the *Enter* key after the password prompt.

```
login:administrator
password: <Enter>
192.168.1.1>
```

After you have successfully logged in you are in the operator execution mode, indicated by > as command line prompt. With the commands *enable* and *configure* you enter the configuration mode.

```
192.168.1.1>enable
192.168.1.1#configure
192.168.1.1(cfg)#
```

4.3 Changing the WAN IP address

Select the context IP mode to configure an IP interface.

```
192.168.1.1(cfg)#context ip router
192.168.1.1(ctx-ip)[router]#
```

Now you can set your IP address and network mask for the interface *ETH 0/0 (WAN)*. Within this example a network 172.16.1.0/24 address is assumed. The IP address in this example is set to *172.16.1.99* (you should set this the IP address given to you by your network provider**)**.

```
192.168.1.1(ctx-ip)[router]#interface eth0
192.168.1.1(if-ip)[eth0]#ipaddress 172.16.1.99 255.255.255.0
2002-10-29T00:09:40 : LOGINFO    : Link down on interface eth0.
2002-10-29T00:09:40 : LOGINFO    : Link up on interface eth0.
172.16.1.99(if-ip)[eth0]#
```

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Copy this modified configuration to your new start-up configuration. This will store your changes in non-volatile memory. Upon the next start-up the system will initialize itself using the modified configuration.

```
172.16.1.99(if-ip)[eth0]#copy running-config startup-config
172.16.1.99(if-ip)[eth0]#
```

The SmartNode can now be connected to your network.

5.0 Connecting the SmartNode to the network

In general, the SmartNode will connect to the network via the *WAN (ETH 0/0)* port. This enables the SmartNode to offer routing services to the PC hosts on *LAN (ETH 0/1)* port. The SmartNode 5200 Series is equipped with Auto-MDX Ethernet ports, so you can use straight-through or crossover cables for host or hub/switch connections (see **figure 4**).

⚠️ **CAUTION**
The interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability.
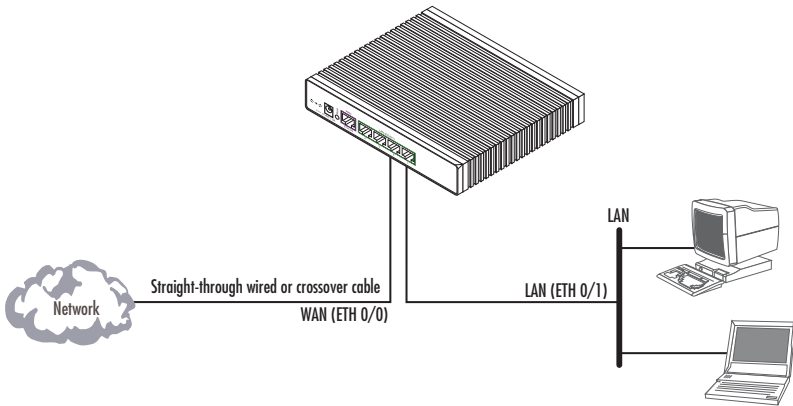
Figure 4. Connecting the SmartNode to the network

You can check the connection with the ping command from the SmartNode to another host on the network.

```
172.16.1.99(if-ip)[eth0]#ping <IP Address of the host>
```

Note If the WAN address is *not* set to DHCP, to ping a device outside your local LAN you must first configure the default gateway. (For information on configuring the default gateway, refer to section "Set IP addresses" in Appendix C, "Command Summary" of the *SmartNode Series SmartWare Software Configuration Guide.*)

6.0 Loading the configuration (optional)

Patton provides a collection of configuration templates on the CD-ROM that came with the SmartNode device—and also on the support page at **www.patton.com/voip**—one of which may be similar enough to your application that you can use it to speed up configuring the SmartNode. Simply download the configuration note that matches your application to your PC. Adapt the configuration as described in the configuration note to your network (remember to modify the IP address) and copy the modified configuration to a TFTP server. The Smart-Node can now load its configuration from this server.

Note Patton regularly adds new configuration templates to the collection at **www.patton.com/voip,** so if you do not see your application on the CD-ROM, it may have been added to the website.

Note If your application is unique and not covered by any of Patton's configuration templates, you can manually configure the SmartNode instead of loading a configuration file template. In that case, refer to the *SmartNode Series SmartWare Software Configuration Guide* for information on configuring the Smart-Node device.

In this example we assume the TFTP server on the host with the IP address 172.16.1.11 and the configuration named *SN.cfg* in the root directory of the TFTP server.

```
172.16.1.99(if-ip)[eth0]#copy tftp://172.16.1.11/SN.cfg startup-
     config
Download...100%
172.16.1.99(if-ip)[eth0]#
```

After the SmartNode has been rebooted the new startup configuration will be activated.

⚠ IMPORTANT

When you issue the reload command, the SmartNode will ask if you want to copy the running configuration to the startup configuration. Since you just downloaded a configuration file to the startup configuration you must answer this question with *NO*. Otherwise, the downloaded configuration will be overwritten and lost!

```
172.16.1.99(if-ip)[eth0]#reload
Running configuration has been changed.
Do you want to copy the 'running-config' to the 'startup-config'?
Press 'yes' to store, 'no' to drop changes : no
Press 'yes' to restart, 'no' to cancel : yes
The system is going down
```

7.0 Additional information

For detailed information about configuring and operating guidance, set up procedures, and troubleshooting, refer to the *SN5200 Getting Started Guide* and *SmartNode Series SmartWare Software Configuration Guide* on the CD-ROM.

A.0 Customer and Technical Support

If you contact Patton support, you should have some system information ready to help us better help you. This information allows us to quickly identify what product you are using and how it is configured. Therefore, we integrated a "system report" page that collects all relevant information and presents it to you on one web page. Click on "Support" to access this page – the page also gives you instructions on where to send the report.

Toll-Free VoIP support: call sip:support@patton.com with a VoIP SIP client

Online support: www.patton.com

E-mail support: support@patton.com — answered within 1 business day

Telephone support:

- Standard: +1 (301) 975-1007 (USA), Monday–Friday: 8:00 am to 5:00 pm EST (1300 to 2200 UTC/GMT)

- Alternate: +41 (0)31 985 25 55 (Switzerland), Monday–Friday: 8:00 am to 5:00 pm CET (0900 to 1800 UTC/GMT)

Fax: +1 (253) 663-5693 (USA) or +41 (0)31 985 25 26 (Switzerland)

A.0 Appendix—Factory default IP addresses

Factory default IP addresses and netmask configuration.

	IP Address	Network mask
WAN interface Ethernet 0 (0/0)	DHCP Client	n/a
LAN interface Ethernet 1 (0/1)	192.168.1.1	255.255.255.0
DHCP server address range (LAN)	192.168.1.10-192.168.1.19	255.255.255.0

B.0 Compliance Information

B.1 Compliance

EMC Compliance:
- EN55022, Class A
- EN55024

Low-Voltage Directive (Safety Compliance):
- IEC/EN60950-1, 2nd edition
- AS/NZS60950-1

PSTN:
- TBR3:1995 A1
- AS/ACIF S031:2001

B.2 CE Declaration of Conformity

This device conforms to the requirements of Council Directive 1999/5/EC on the approximation of the laws of the member states relating to Radio and Telecommunication Terminal Equipment and the mutual recognition of their conformity.

The safety advice in the documentation accompanying this device shall be obeyed. The conformity to the above directive is indicated by CE mark on the device.

B.3 Authorized European Representative

D R M Green

European Compliance Services Limited.

Avalon House, Marcham Road

Abingdon,

Oxon OX14 1UD, UK

Copyright statement

Trademarks statement

The term *SmartNode* is a trademark of Patton Electronics Company. All other trademarks presented in this document are the property of their respective owners.

Warranty, Trademark, & Compliance Information

For warranty, trademark and compliance information, refer to the *SmartNode 5200 Getting Started Guide* located on the CD-ROM shipped with your SmartNode device or available online at www.patton.com.

In accordance with the requirements of council directive 2002/96/EC on Waste of Electrical and Electronic Equipment (WEEE), ensure that at end-of-life you separate this product from other waste and scrap and deliver to the WEEE collection system in your country for recycling.

NOTES

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