

# SmartNode 4654 and 4658 Series **ADSL2+ Multiport ISDN VoIP IAD**

## Quick Start Guide



**Important** — This is a Class A device and is intended for use in a light industrial environment. It is not intended nor approved for use in an industrial or residential environment.

**Approval** — This device is approved for connection to the public ISDN telecommunication network, over BRI/SO-ISDN interfaces.

**Zulassung** — Zugelassen für die Anschaltung an das öffentliche ISDN Telekommunikationsnetz an BRI/SO-ISDN Schnittstellen.

**Aprobación** — Este aparato está aprobado para conexión a red pública ISDN sobre interfaz BRI/SO.

**Approbation** — Cet appareil est approuvé pour la connexion au réseau ISDN public avec les interfaces BRI/SO.



- The SmartNode contains no user serviceable parts. The equipment shall be returned to Patton Electronics for repairs, or repaired by qualified service personnel.
- **Mains Voltage:** Do not open the case when the power cord is connected. For systems without a power switch, line voltages are present within the power supply when the power cord is connected. The mains outlet that is utilized to power the SmartNode router shall be within 10 feet (3 meters) of the device, shall be easily accessible, and protected by a circuit breaker
- For AC powered units, ensure that the power cable used meets all applicable standards for the country in which it is to be installed, and that it is connected to a wall outlet which has earth ground.
- For units with an external power adapter, the adapter shall be a listed Limited Power Source.
- Hazardous network voltages are present in WAN ports regardless of whether power to the SmartNode is ON or OFF. To avoid electric shock, use caution when near WAN ports. when detaching the cables, detach the end away from the SmartNode first.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.

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## 1.0 Power up the SmartNode

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1. Connect the SmartNode to the mains (AC) power source with the power cable.
2. Wait until the *Power* LED stops blinking and remains constantly lit. Now the SmartNode is ready to configure.

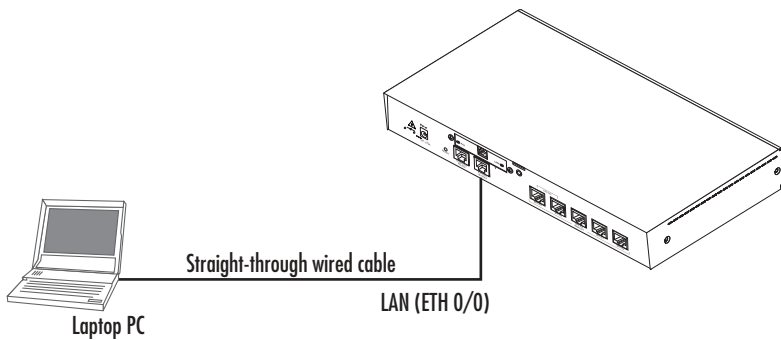
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## 2.0 Connecting the SmartNode to your laptop PC

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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 1.** Connecting to the PC

1. Connect the PC's Ethernet port to *LAN (ETH 0/0)* port of the SmartNode 4650 ADSL2+. The SmartNode 4650 ADSL2+ Series is equipped with Auto-MDX Ethernet ports, so you can use straight-through Ethernet cables for host or hub/switch connections. (See figure 1.)
2. The SmartNode comes with a built-in DHCP server to simplify configuration. Therefore, to automatically configure the PC for IP connectivity to the SmartNode, configure the laptop PC for DHCP. The SmartNode will provide the PC with an IP address.
3. Check the connection to the SmartNode by executing the *ping* command from the PC command window as follows:

```
ping 192.168.1.1
```

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## 3.0 Configuring the desired IP address

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### 3.1 Factory-default IP settings

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The factory default configuration for the Ethernet interface IP addresses and netmasks are listed in **table 1**. 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 get the IP address and netmask automatically from the service provider.

**Table 1.** Factory default IP address and network mask configuration

Item	IP Address	Network Mask
WAN interface DSL port (DSL 0/0)	DHCP	DHCP
LAN interface Ethernet 1 (ETH 0/0)	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

If these addresses match with those of your network, go to section 4.0 **“Connecting the SmartNode to the network”** on page 4. Otherwise, continue with the following sections to change the addresses and network masks.

## 3.2 Login

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1. To access the SmartNode, start the Telnet application on your PC. Type the default IP address 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>
```

2. After you log in, your SmartNode will be running in operator execution mode (indicated by > character in the command line prompt). To enter configuration mode, use the commands *enable* and *configure*.

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

## 3.3 Changing the WAN IP address

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1. To modify IP configuration settings, you must enter *context IP* mode. Enter the following command:

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

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

**Note** The examples in this guide use a private IP network with the network address 172.16.1.0/24.

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

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

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

The SmartNode can now be connected to your network.

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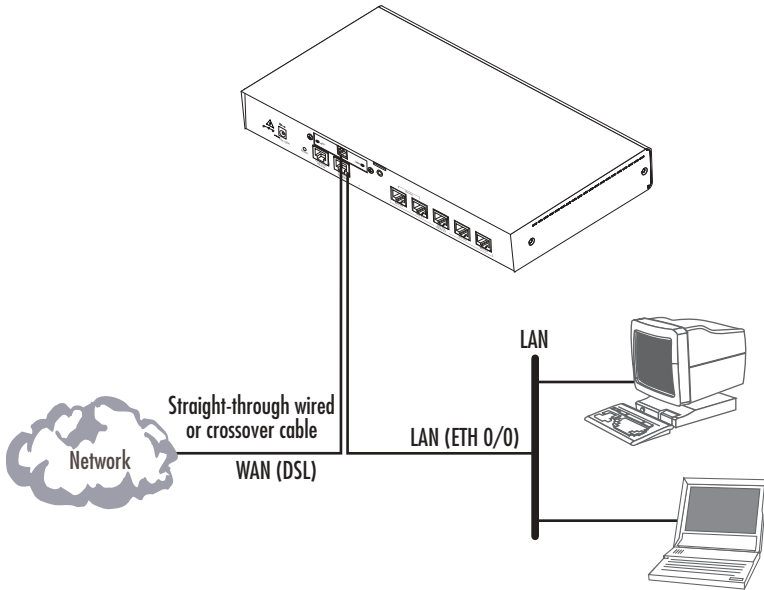
## 4.0 Connecting the SmartNode to the network

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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.

In general, the SmartNode will connect to the network via the *WAN (DSL)* port. This enables the SmartNode to offer routing services to the PC hosts on *LAN (ETH 0/1)* port. The SmartNode 4650 ADSL2+ Series provides an auto-MDX feature for both Ethernet ports, so you can use a straight-through or cross-over cable to connect to a host or a switch (see **figure 2**).



**Figure 2.** Connecting the SmartNode to the network

1. You can check the connection with the ping command from the SmartNode to another host on the local LAN.

```
172.16.1.99(if-ip)[eth_dsl]#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*.)

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## 5.0 Loading the configuration (optional)

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Patton provides a collection of configuration templates on the CD-ROM shipped with your SmartNode device—and also on the support page at [www.patton.com/voip](http://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 SmartNode can now load its configuration from this server.

**Note** Patton regularly adds new configuration templates to the collection at [www.patton.com/voip](http://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 SmartNode device.

In this example we assume an TFTP server resides on the host with the IP address 172.16.1.11 and the configuration file named *SN.cfg* resides 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 you reboot the SmartNode the new startup configuration will become active.



**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
```

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## 6.0 Additional Information

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Refer to the *SmartNode Series SmartWare Software Configuration Guide* and the *SmartNode Getting Started Guide* located on the CD-ROM shipped with your SmartNode device and available online at [www.patton.com/manuals](http://www.patton.com/manuals). For detailed information about:

- Installing, configuring, operating, and troubleshooting.
- Warranty, trademark & compliance

The CD-ROM also includes many freeware and shareware tools, including TFTP servers, and Telnet clients.

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## A.0 Customer and Technical Support

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Toll-Free VoIP support: call [sip:support@patton.com](mailto:sip:support@patton.com) with a VoIP SIP client

Online support: [www.patton.com](http://www.patton.com)

E-mail support: [support@patton.com](mailto: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)

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## **B.0 Compliance Information**

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### **B.1 Compliance**

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EMC Compliance:

- FCC Part 15, Class A
- EN55022, Class A
- EN55024

Safety Compliance:

- UL60950-1/CSA C22.2 No. 60950-1
- IEC/EN 60950-1
- AS/NZS 60950-1

PSTN Regulatory Compliance:

- TBR3
- AS/ACIF S031
- AS/ACIF S043 (ADSL card)

### **B.2 Radio and TV interference**

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The SmartNode router generates and uses radio frequency energy, and if not installed and used properly — that is, in strict accordance with the manufacturer's instructions — may cause interference to radio and television reception. The SmartNode router have been tested and found to comply with the limits for a Class A computing device in accordance with specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection from such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If the SmartNode router does cause interference to radio or television reception, which can be determined by disconnecting the unit, the user is encouraged to try to correct the interference by one or more of the following measures: moving the computing equipment away from the receiver, re-orienting the receiving antenna and/or plugging the receiving equipment into a different AC outlet (such that the computing equipment and receiver are on different branches).

### B.3 ISDN compliance

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This device is approved for connection to the public ISDN telecommunication network.



When this device is used in North America, it shall be connected to a Network Termination Device and not connected directly to an outside POTS line.

### B.4 CE Declaration of Conformity

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**Product Description:** SmartNode 4650 ADSL2+ Series

This equipment 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 the products shall be obeyed. The conformity to the above directive is indicated by the CE sign on the device.

The signed Declaration of Conformity can be downloaded from [www.patton.com/certifications/](http://www.patton.com/certifications/).

### B.5 EG-Konformitätserklärung

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**Produktbezeichnung:** SmartNode 4650 Sendereihe

Die bezeichneten Produkte stimmen in der von uns in Verkehr gebrachten Ausführung mit den Vorschriften folgender Richtlinie überein:

**R&TTE 1999/5/EG**

Richtlinie des europäischen Parlaments und des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Funkanlagen und Telekommunikations-Einrichtungen und die gegenseitige Anerkennung ihrer Konformität.



Die Sicherheitshinweise in der mitgelieferten Produktdokumentation sind zu beachten. Die Konformität mit der oben erwähnten Richtlinie wird durch das CE-Zeichen auf dem Gerät bestätigt.

Die unterzeichnete Konformitätserklärung kann heruntergeladen werden von: [www.patton.com/certifications/](http://www.patton.com/certifications/).

### B.6 Zulassung

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Zugelassen für die Anschaltung an das öffentliche ISDN Telekommunikationsnetz an BRI/S0-ISDN Schnittstellen.

### B.7 Authorized European Representative

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D R M Green, European Compliance Services Limited.

Oakdene House, Oak Road, Watchfield, Swindon, Wilts SN6 8TD, UK



## Copyright statement

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## Trademarks statement

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## Warranty, Trademark, & Compliance Information

For warranty, trademark and compliance information, refer to the *Models SN4650 Series Getting Started Guide* located on the CD-ROM that came with your VoIP Gateway Router or available online at [www.patton.com](http://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.







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