

# SmartNode 4300 IpChannel Bank

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## Quick Start Guide



**Important**

This is a Class A device and is not intended for use in a residential environment.

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**Important Information**

To use virtual private network (VPN) and/or AES/DES/3DES encryption capabilities with the SmartNode 4300, you may need to purchase additional licenses, hardware, software, network connection, and/or service. Contact [sales@patton.com](mailto:sales@patton.com) or +1 (301) 975-1000 for assistance.

**Warranty Information**

The software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license. For information about the license, go to [www.patton.com](http://www.patton.com).

Patton Electronics warrants all SmartNode router components to be free from defects, and will—at our option—repair or replace the product should it fail within one year from the first date of the shipment.

This warranty is limited to defects in workmanship or materials, and does not cover customer damage, abuse or unauthorized modification. If the product fails to perform as warranted, your sole recourse shall be repair or replacement as described above. Under no condition shall Patton Electronics be liable for any damages incurred by the use of this product. These damages include, but are not limited to, the following: lost profits, lost savings and incidental or consequential damages arising from the use of or inability to use this product. Patton Electronics specifically disclaims all other warranties, expressed or implied, and the installation or use of this product shall be deemed an acceptance of these terms by the user.

## Safety when working with electricity



- 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



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



When connecting to a TNV circuit, the unit **MUST BE CONNECTED TO GROUND** via the external ground stud at the rear of the unit.



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.



**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.**

### **General observations**

- Clean the case with a soft slightly moist anti-static cloth
- Place the unit on a flat surface and ensure free air circulation
- Avoid exposing the unit to direct sunlight and other heat sources
- Protect the unit from moisture, vapors, and corrosive liquids

**Airflow requirements** – To ensure proper airflow through the SmartNode, follow these recommendations when you are installing your unit:

- If placed on a desktop, leave 7.62 cm (3 inches) of minimum clearance on both the left and right sides of the unit.
- If mounted in a rack, leave a one-rack unit (1U) of minimum clearance above and below the unit for proper airflow.

**Note** The SmartNode 4900 model is available for racks that require tighter spacing requirements than what the SN4300 model allows for minimum clearance.

## Introduction

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This Quick Start Guide leads you through the basic steps to set up a new SmartNode and to download a configuration. Please note that this guide does not replace the detailed *SmartWare Software Configuration Guide* and the *SmartNode 4300 User Manual* available online at [www.patton.com/manuals/SN4300.pdf](http://www.patton.com/manuals/SN4300.pdf).

SmartNodes can be used for a wide variety of IP and voice over IP applications. To support and ease the configuration of the SmartNodes configuration templates for the most important applications are available online at [www.patton.com/voip/appnotes.asp](http://www.patton.com/voip/appnotes.asp).

Setting up a new SmartNode consists of the following steps:

1. Attach the power cable retainer clip to the unit
2. Connect a PC to the SmartNode, log in and configure your IP address (see [page 6](#) for details)
3. Connect the SmartNode to the network (see [page 8](#))
4. Download a configuration example, adapt it to your network, and load it onto the SmartNode (see [page 8](#))

## Attaching the cable retainer clip

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To secure the power cord, it is necessary to attach the metal retainer clip (if applicable to your model). Squeeze the clip and insert into the holes in the screws on either side of the power connector on your unit. The clip will pop into place.

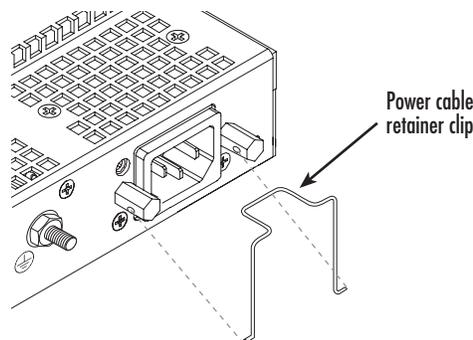


Figure 1. Attaching the cable retainer clip

**Note** Refer to the *SmartNode 4300 User Manual* on the Patton website for detailed instructions about grounding and connecting power to your unit.

## Connecting a PC, logging in, and configuring the IP address

### Connecting power and configuring the default IP address

Connect the SmartNode to the mains power supply using the included power supply and cable. When the *RUN* LED stops blinking and remains lit, the SmartNode is ready.

The factory default IP settings are listed in [table 1](#). If these addresses do not work with your network they must be changed. Contact your network administrator if you are not sure which IP address to use in your installation.

Table 1. Factory default IP address and network mask configuration

Item	IP Address(es)	Network Mask
WAN interface Ethernet 0 (ETH 0/0)	DHCP	DHCP

### Connecting to a PC and logging in

- To access the SmartNode configuration, connect a PC equipped with an RS-232 console port to the *Console* port on the front of the SmartNode. Use the included black Ethernet cable and RJ45 to DB-9 adapter for this purpose (Model 16F-561).

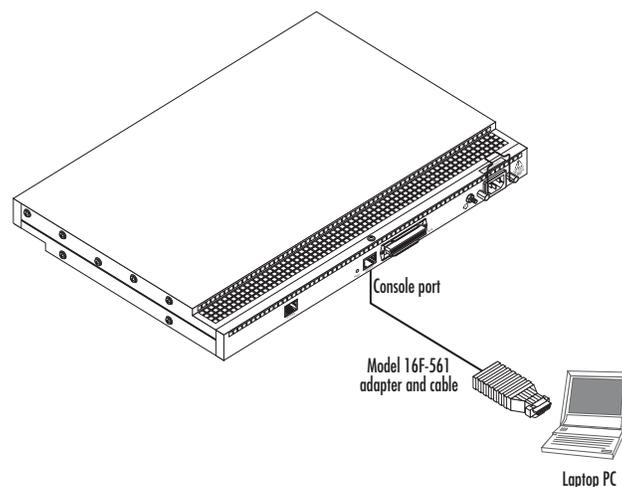


Figure 2. Connecting to the PC

- Open a Terminal connection to the SmartNode. Use the Terminal program included with most PC operating systems (e.g. Hyper Terminal on Windows).
- Type *administrator* as the login prompt and press the **Enter** key after the password prompt (do not type anything for the password). A prompt will appear consisting of the IP address and > character.

```
login:administrator
password:
172.16.40.1>
```

- Following log in, the SmartNode is in operator execution mode (indicated by > character in the command line prompt). With the commands **enable** and **configure**, you enter the configuration mode.

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

## Changing the IP address

1. Select the context IP mode to configure an IP interface.

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

2. Set the IP address and network mask for the each IP interface (*eth0*, for example).

**Note** For the examples in this guide, a private network (*172.16.1*) IP address is used.

```
172.16.40.1(ctx-ip)[router]#interface eth0
172.16.40.1(if-ip)[eth0]#ipaddress 172.16.1.10 255.255.255.0
2002-10-29T00:09:40 : LOGINFO      : Link down on interface eth0.
2002-10-29T00:09:40 : LOGINFO      : Link up on interface eth0.
172.16.1.10(if-ip)[eth0]#
```

3. Make this modified configuration your new start-up configuration. On the next start-up the system will initialize itself using the modified configuration.

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

Go to section [“Connecting the SmartNode to the network”](#) on page 8 to connect the SmartNode to your network.

## Connecting the SmartNode to the network

The 4300 Ethernet port is auto MDX, therefore a straight-through wired cable can be used for host and switch connections (see [figure 3](#)).

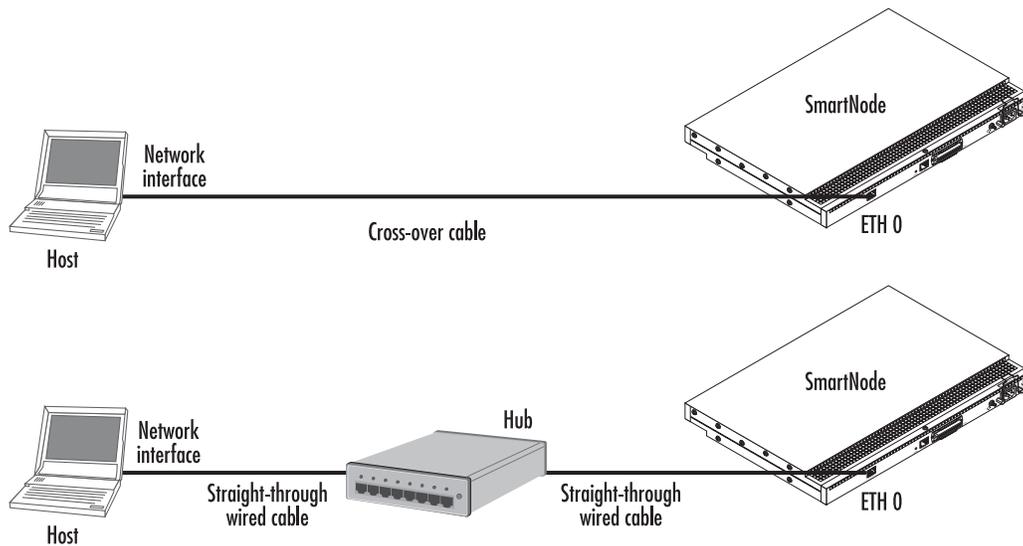


Figure 3. Connecting the SmartNode to the network

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

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

Respectively from the host: *ping 172.16.1.99*

**Note** To ping outside your local LAN, you will need to configure the default gateway.

You may now start to configure the SmartNode from scratch using the CLI commands, but we recommend that you start your configuration from a template. See “[Downloading a configuration example, adapting it to your network, and loading it onto the SmartNode](#)” on page 8 for further details.

For a detailed description of the CLI refer to the *SmartWare Software Configuration Guide (SCG)* available online at: [www.patton.com/smartnode](http://www.patton.com/smartnode).

## Downloading a configuration example, adapting it to your network, and loading it onto the SmartNode

Patton provides a collection of configuration templates on the support page at [www.patton.com/smartnode](http://www.patton.com/smartnode)—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** 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 *SmartWare Software Configuration Guide* for information on configuring the SmartNode 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.



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
```

## Additional information

For detailed information about configuring and operating guidance, set up procedures, and troubleshooting, refer to the *SmartNode 4300 User Manual* available online at [www.patton.com/manuals/SN4300.pdf](http://www.patton.com/manuals/SN4300.pdf) and the *SmartNode Series SmartWare Software Configuration Guide* available online at [www.patton.com/manuals](http://www.patton.com/manuals).

## Compliance

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### **EMC compliance:**

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

### **Low Voltage Directive (Safety):**

- UL60950-1/CSA C22.2 No. 60950-1Listing
- IEC/EN 60950-1, 2nd edition
- AS/NZS 60950-1, A-tick

### **PSTN:**

- ACMA AS/ACIF S003:2008
- PTC 220

## Radio and TV Interference (FCC Part 15)

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This device 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 device has 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 device 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).

## CE Declaration of Conformity

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Patton Electronics, Inc declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The Declaration of Conformity may be obtained from Patton Electronics, Inc at [www.patton.com/certifications](http://www.patton.com/certifications).

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.

## Authorized European Representative

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