

SmartNode
OpenScope Business Appliance

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.

REGULATORY MODEL NUMBER: 09417D4-001



- 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.



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.

1.0 What's Included With the SN-OSB

- SmartNode OpenScape Business (SN-OSB) Appliance
- AC Power Adapter
- INS-KIT-2
 - 1 x D89 to RJ45 control port Adapter (EIA-561)
 - 2 x RJ45 Cables, 10 ft
 - Rubber Feet
 - Rack Ears and Hardware (already installed)
- Electrical Safety Notice

2.0 Steps for Setting Up the SN-OSB

1. Plug the power adapter into the power connector on the back of the unit (see [figure 1](#)).
2. Connect an Ethernet cable from the Ethernet switch to port LAN2 (CPU I/O side).
3. Connect the second Ethernet cable between the Ethernet switch and port ETH 0/1 on the SmartNode Gateway side.
4. Connect your computer to the Ethernet switch. An IP address will be assigned to your PC. refer to section 5.1 below
5. Push the power Button at the back of the unit once (see [figure 1](#)).

Note Make sure the power adapter is plugged in ALL the way and the connector is locked in.

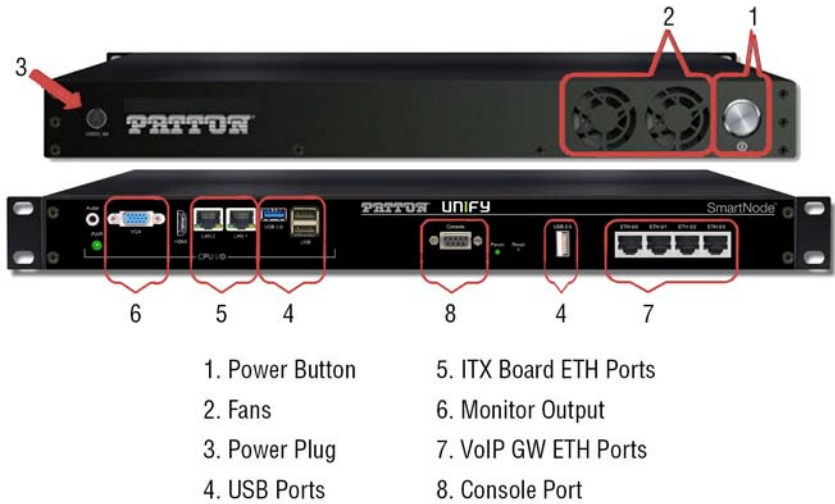


Figure 1. SmartNode OpenScope Business Appliance basic connections

3.0 Basic Application

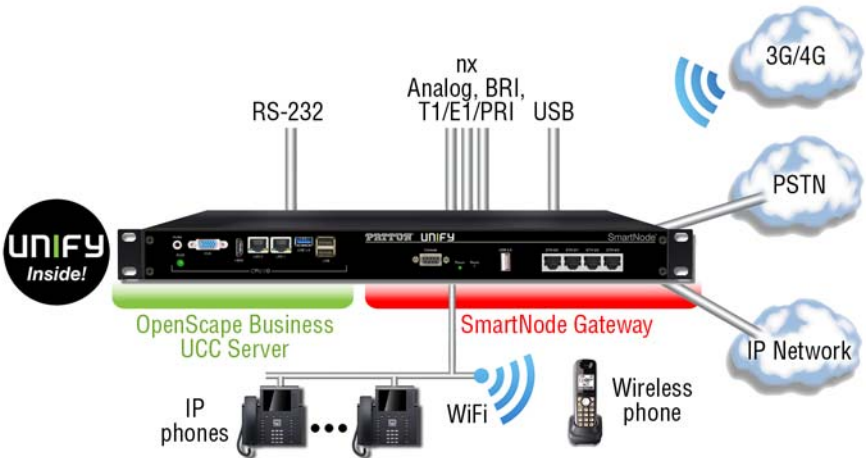


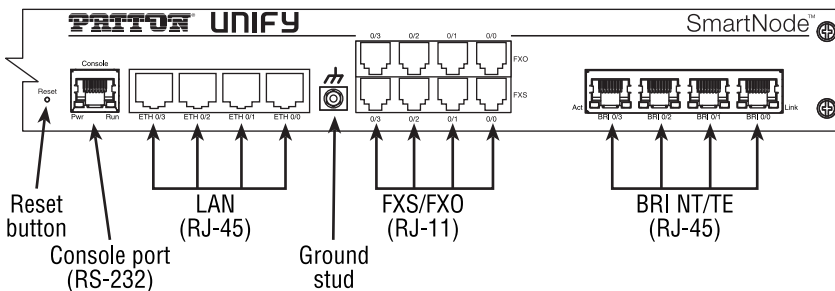
Figure 2. SmartNode OpenScope Business Appliance Application

Note Your favorite third-party switch is required for communication between the SmartNode and OpenScope Business UCC server.

Note For all SKUs please refer to the SmartNode OpenScope Business Appliance product page at www.patton.com.

4.0 SmartNode Ports

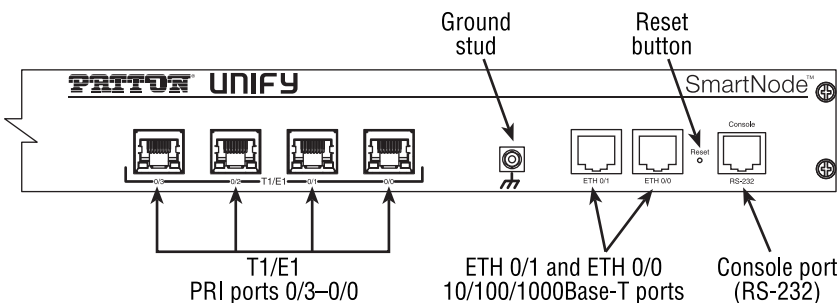
4.1 SN-OSB Models with SN4600 (SmartWare)



Applies to models:

- SN-OSB/2BIS2JS2JO8V/EUI
- SN-OSB/4BIS4JS4JO12V/EUI
- SN-OSB/4JS4JO/EUI
- SN-OSB/8JS/EUI

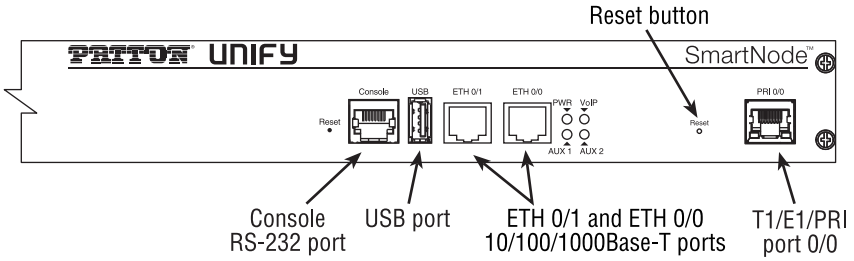
4.2 SN-OSB Models with SN4980 (Trinity)



Applies to model:

- SN-OSB/4E15VR/EUI

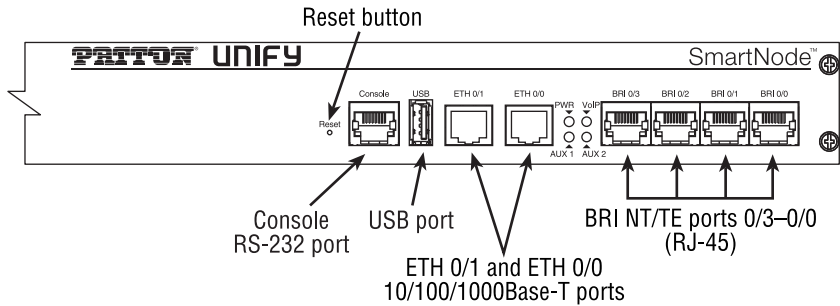
4.3 SN-OSB Models with SN5570 (Trinity)



Applies to models:

- SN-OSB/1E15VHP/EUI
- SN-OSB/1E30VHP/EUI

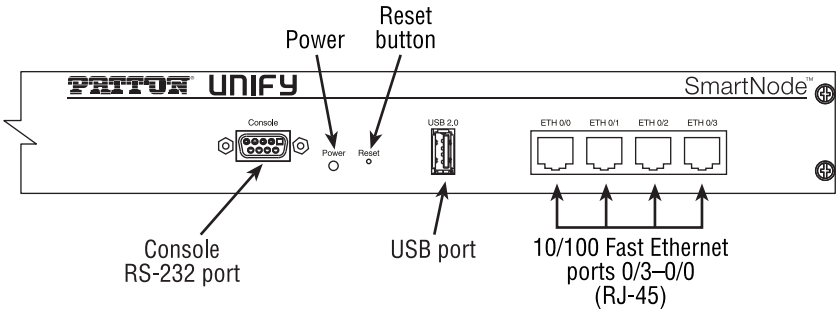
4.4 SN-OSB Models with SN5530 (Trinity)



Applies to model:

- SN-OSB/4BIS8VHP/EUI

4.5 SN-OSB Models with SN5300 (Trinity)



Applies to model:

- SN-OSB/4B/EUI.

5.0 Hardware installation

5.1 Connecting the OpenScope Business Appliance to your network

We recommend using a third-party Ethernet switch, connecting the OpenScope Business UCC server and the SmartNode Gateway together (see [figure 3](#) on page 7). There is a DHCP Server running on the SmartNode Gateway, while the OpenScope Business UCC server is running on a fixed IP address (192.168.1.9).

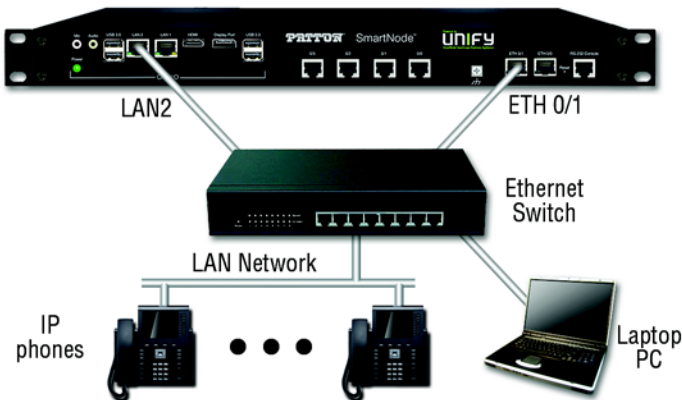


Figure 3. Typical installation

5.2 Default IP Addresses

Table 1. OpenScape Business UCC server

Ethernet Port	IP address	Subnet Mask
LAN2	192.168.1.9	255.255.255.0

Table 2. SmartNode Gateway

Ethernet Port	IP address	Subnet Mask
ETH 0/0	DHCP client	DHCP client
ETH 0/1 (DHCP Server)	192.168.1.1	255.255.255.0

Table 3. Default Login

	SLES Linux	Unify OSB-S	SmartNode Gateway/E-SBC
Username	root	administrator@system	administrator
Password	patton	administrator	

Note *There is no password for the SmartNode Gateway/E-SBC login. Just press enter to proceed.*

5.3 OpenScape Business UCC Server Configuration

Once connected as shown in [figure 3](#) on page 7, log in to the OpenScape Business UCC server to get it configured.

6.0 Starting Up

The basic settings are made using the **Initial Installation** wizard of the web-based management (WBM).

Access the WBM, using your preferred web browser, by typing the following URL: <https://192.168.1.9>

Note *If you are asked to accept the SSL certificate from OpenScape Business, click accept to proceed with the configuration.*

6.1 Starting the Initial Installation Wizard

Prerequisites

The WBM has been started.

Step by Step

1. In the navigation bar, click on **Setup**.
2. Click on **Edit** to start the **Initial Installation** wizard.

Note *If the size of the browser window cannot display the workspace in its entirety at low screen resolutions, a horizontal or vertical scroll bar appears at the sides and can be used to scroll to the required section.*

Next steps

Perform initial installation as described in the following step-by-step instructions. Fields that are not described here are preset for the default scenario and should only be changed if they are not appropriate for your network data. For detailed information, refer to the descriptions provided in the Administrator documentation for the individual wizards.

6.2 System Settings

The **System Settings** window is used to configure the system settings of the communication system.

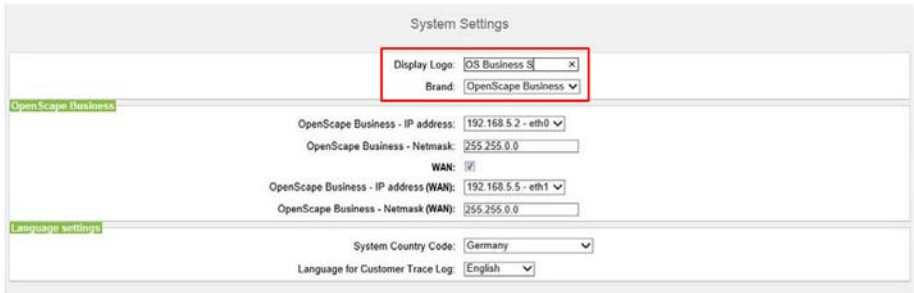
Proceed as follows:

1. Set the display logo and the product name.
Specify a display text to be displayed on the display of the system phones. Additionally, you can also select the product name.
2. Select the country code and the language to be used for event logs.
For country initialization to work correctly, you must select the country in which the communication system is operated. In addition, you can select the language in which the event logs (system event logs, errors logs, etc.) are to be stored.
3. Only if required: Activate another LAN port as a WAN interface
If OpenScope Business S (or the Linux server) has a second LAN port, you can use this as a WAN interface for Internet access and Internet telephony via an ITSP. The first LAN port is used as usual as a LAN interface for the internal phones and PCs.

6.3 Setting the Display Logo and the Product Name

Prerequisites

You are in the **System Settings** window (see [figure 4](#)).



The screenshot shows the 'System Settings' window. The 'Display Logo' field is set to 'OS Business S' and the 'Brand' dropdown is set to 'OpenScape Business'. Other settings include IP addresses and netmasks for LAN and WAN, WAN status, System Country Code (Germany), and Language for Customer Trace Log (English).

Figure 4. Display Logo and Brand section of System Settings window

Step by Step

1. In the **Display Logo** field, enter a text of your choice (e.g., OS Business S). The text can contain up to 16 characters. Avoid the use of diacritical characters such as umlauts and special characters.
2. Select the desired time product name in the **Brand** drop-down list.

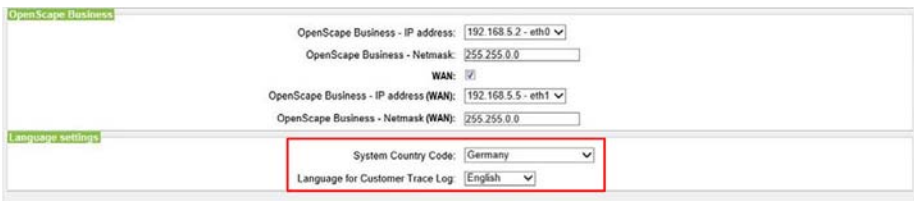
Next steps

Select the country code and language to be used for the event logs.

6.4 Selecting the Country Code and the Language for Trace Logs

Prerequisites

You are in the **System Settings** window (see [figure 5](#)).



The screenshot shows the 'System Settings' window. The 'System Country Code' dropdown is set to 'Germany' and the 'Language for Customer Trace Log' dropdown is set to 'English'. Other settings include IP addresses and netmasks for LAN and WAN, and WAN status.

Figure 5. Country Code and Language for Trace logs section

Step by Step

1. In the **System Country Code** drop-down list, select the country where the communication system is operated.
2. In the **Language for Customer Trace Log** field, enter the language in which the trace logs (system event logs, error logs, etc.) are to be output.

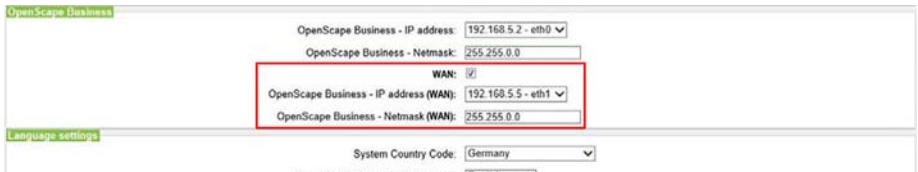
Next steps

Start the basic configuration.

6.5 Activating an Additional LAN Port as a WAN Interface

Prerequisites

You are in the **System Settings** window (see [figure 6](#)).



The screenshot shows the 'OpenScape Business' configuration window. The 'WAN' section is highlighted with a red box. It includes a checked 'WAN' checkbox, a dropdown menu for 'OpenScape Business - IP address (WAN)' set to '192.168.5.5 - eth1', and a text field for 'OpenScape Business - Netmask (WAN)' set to '255.255.0.0'. Below this, the 'System Country Code' is set to 'Germany'.

Figure 6. WAN settings section

Step by Step

1. Select the **WAN** check box..
2. Select the desired LAN port (e.g., *eth1* or *eth2*) from the **OpenScape Business - IP Address (WAN)** drop-down list. If only two LAN ports are available, the second LAN port *eth1* is activated automatically.

Note *The assignment of IP addresses and subnet masks to the LAN ports is done during the initial installation of Linux or subsequently via YaST.*

Next steps

Start the basic configuration. Additional OpenScape Business documentation can be found in the Service Center, as shown in [figure 7](#) on page 12.

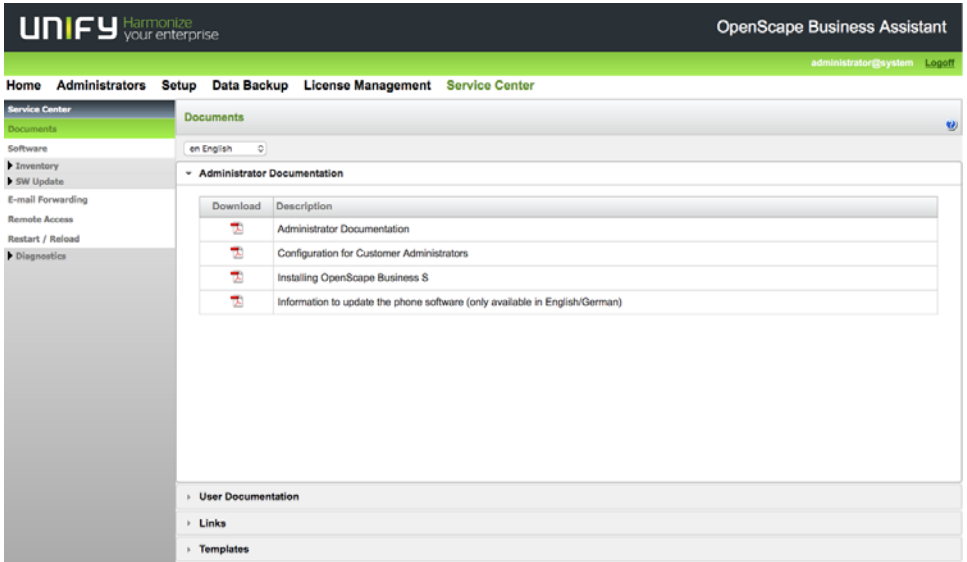


Figure 7. OpenScope Business Assistant: Service Center window

7.0 SmartNode Gateway/E-SBC configuration

To integrate TDM subscribers or Trunks, and SIP Trunks, the SmartNode Gateway/E-SBC will have to be set up. The SmartNode Gateway/E-SBC can be configured by using the Command Line interface (CLI) or the Web interface. It's recommended to generate a config file by using the WebWizard platform at Patton.com/wizard.

Perform the steps in **table 4** to generate a config file and import it.

Table 4. Steps to generate a config file

Step	Trinity	SmartWare
1	System / System Config	Import /export
2	+ icon	Import Configuration
3	Browse generated file	Browse generated file
4	Select "startup-config"	Import
5	OK	reload
6	Reboot System	

8.0 Contacting Patton for Assistance

8.1 Introduction

This chapter contains the following information:

- **8.2 “Contact information”**—describes how to contact Patton technical support for assistance.
- **8.3 “Warranty Service and Returned Merchandise Authorizations (RMAs)”**—contains information about the warranty and obtaining a return merchandise authorization (RMA).

8.2 Contact information

Patton Electronics offers a wide array of free technical services. If you have questions about any of our other products we recommend you begin your search for answers by using our technical knowledge base. Here, we have gathered together many of the more commonly asked questions and compiled them into a searchable database to help you quickly solve your problems.

Contacting Patton Technical Services for Free Support

Region	North America	Western Europe	Central & Eastern Europe	Middle East North Africa
Location	Maryland, USA	Bern, Switzerland	Budapest, Hungary	Beirut, Lebanon
Time Zone	EST/EDT UTC/GMT - 4/5 hours	CET/CEDT UTC/GMT + 1/2 hours	CET/CEDT UTC/GMT + 1/2 hours	EET/EEET UTC/GMT + 2/3 hours
Business Hours	Monday-Friday 8:00am to 5:00pm	Monday-Friday 09:00 to 12:00 13:30 to 17:30	Monday-Friday 8:30 to 17:00	Monday-Friday 8:00am to 5pm
Email	support@patton.com			
Phone	+ 1 301 975 1007	+41 31 985 25 55	+36 439 3835	+96 1 359 1277
Fax	+1 301 869 9293	+41 31 985 2526		

8.3 Warranty Service and Returned Merchandise Authorizations (RMAs)

Patton Electronics is an ISO-9001 certified manufacturer and our products are carefully tested before shipment. All of our products are backed by a comprehensive warranty program.

Note *If you purchased your equipment from a Patton Electronics reseller, ask your reseller how you should proceed with warranty service. It is often more convenient for you to work with your local reseller to obtain a replacement. Patton services our products no matter how you acquired them.*

Warranty coverage

Our products are under warranty to be free from defects, and we will, at our option, repair or replace the product should it fail within one year from the first date of shipment. Our warranty is limited to defects in workmanship or materials, and does not cover customer damage, lightning or power surge damage, abuse, or unauthorized modification.

Out-of-warranty service. Patton services what we sell, no matter how you acquired it, including malfunctioning products that are no longer under warranty. Our products have a flat fee for repairs. Units damaged by lightning or other catastrophes may require replacement.

Returns for credit. Customer satisfaction is important to us, therefore any product may be returned with authorization within 30 days from the shipment date for a full credit of the purchase price. If you have ordered the wrong

equipment or you are dissatisfied in any way, please contact us to request an RMA number to accept your return. Patton is not responsible for equipment returned without a Return Authorization.

Return for credit policy. The following:

- Less than 30 days: No Charge. Your credit will be issued upon receipt and inspection of the equipment.
- 30 to 60 days: We will add a 20% restocking charge (crediting your account with 80% of the purchase price).
- Over 60 days: Products will be accepted for repairs only.

RMA numbers

RMA numbers are required for all product returns. You can obtain an RMA by doing one of the following:

- Completing a request on the RMA Request page in the *Support* section at **www.patton.com**
- By calling **+1 (301) 975-1007** and speaking to a Technical Support Engineer
- By sending an e-mail to **returns@patton.com**

All returned units must have the RMA number clearly visible on the outside of the shipping container. Please use the original packing material that the device came in or pack the unit securely to avoid damage during shipping.

Shipping instructions. The RMA number should be clearly visible on the address label. Our shipping address is as follows:

Patton Electronics Company

RMA#: xxxx

7622 Rickenbacker Dr.

Gaithersburg, MD 20879-4773 USA

Patton will ship the equipment back to you in the same manner you ship it to us. Patton will pay the return shipping costs.

A.0 Specifications

CPU / Socket	Intel Celeron J1900 2.0/2.41 GHz
TDP	10 W
Memory	2x DDR3L SODIMM
Storage	1x mSATA (full size)
Graphics	Intel HD 688/854 MHz
Video Signal	1x VGA, 1x HDMI
Network & Wireless	2x LAN 1000
I/O	8-bit DIO
Cooling	Passive
Operating Temperature	0 to 60°C
Form Factor	Mini-ITX
Length	170 (mm)
Width	170 (mm)
Input Power	12 DC V

B.0 Cabling

B.1 Serial Console (using RJ45 to DB-9 adapter, 19200 bps)

Applies to models

- SN-OSB/1E15VHP/EUI
- SN-OSB/1E30VHP/EUI
- SN-OSB/4BIS8VHP/EUI



Note A Patton Model 16F-561 RJ45 to DB-9 adapter is included with each SmartNode Series device.

Figure 8. Connecting a serial terminal with RJ45 to DB-9 adapter

Console Connection settings:

- 19200 bps
- 8 bits, no parity
- 1 stop bit
- flow control off

B.2 Serial Console (using RJ45 to DB-9 adapter, 9600 bps)

See **figure 8** on page 16 for the connection diagram.

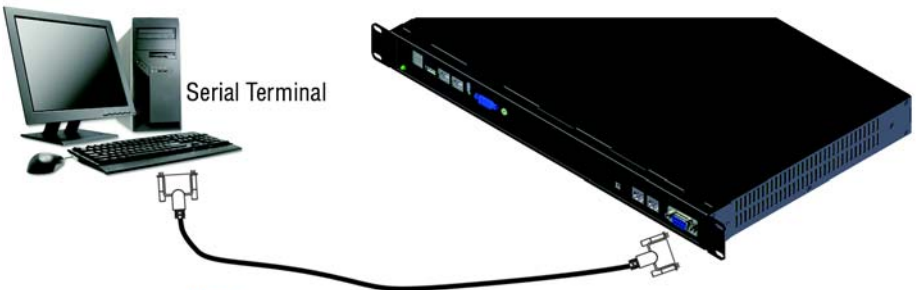
- SN-OSB/2BIS2JS2JO8V/EUI
- SN-OSB/4E15VR/EUI
- SN-OSB/4BIS4JS4JO12V/EUI
- SN-OSB/4JS4JO/EUI
- SN-OSB/8JS/EUI

Console Connection settings:

- 9600 bps
- 8 bits, no parity
- 1 stop bit
- flow control off

B.3 Serial Console (using male DB-9 to female DB-9 cable)

Applies to model SN-OSB/4B/EUI.



Note A serial cable with male DB-9 to female DB-9 connectors. This cable can be ordered as an optional accessory.

Figure 9. Connecting a serial terminal with male DB-9 to female DB-9 adapter

Console connection settings:

- 9600 bps
- 8 bits, no parity

- 1 stop bit
- flow control off

B.4 Ethernet

Ethernet devices (10/100/1000 Base-T) are connected to the SmartNode over a cable with RJ-45 plugs. All Ethernet ports on the SmartNode OpenScope Business Appliance are Auto-MDX. Use any straight or crossover cable to a host, hubs, switches, PCs or other devices.

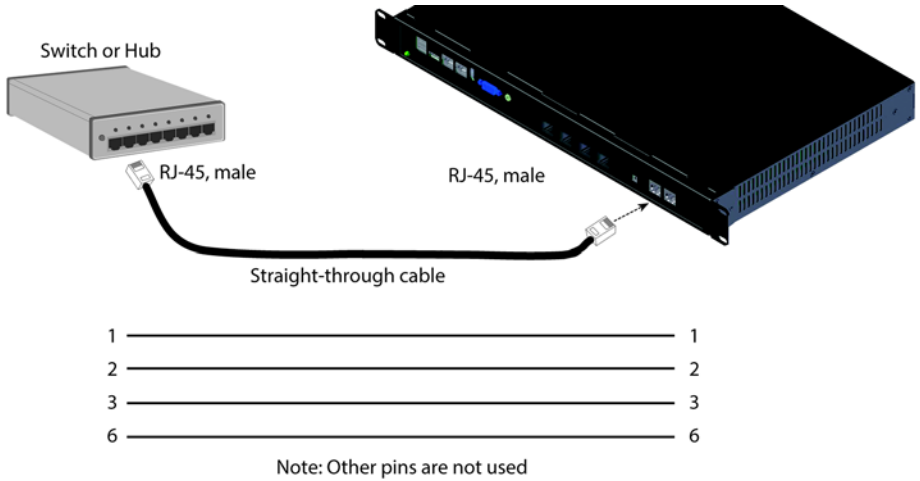


Figure 10. Typical Ethernet straight-through cable diagram for 10/100Base-T

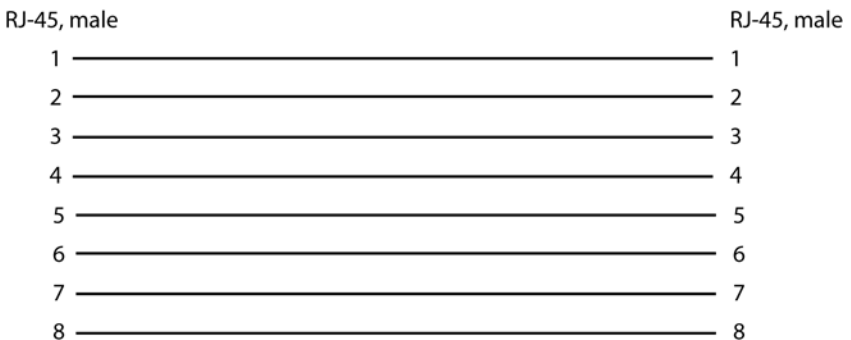


Figure 11. Typical Ethernet straight-through cable diagram for 1000Base-T

B.5 E1 PRI

The E1 PRI is usually connected to a PBX or switch—local exchange (LE). Type and pin outs of these devices vary depending on the manufacturer. In most cases, a straight-through RJ-45 to RJ-45 can be used to connect the PRI with a PBX. A cross-over cable is required to connect to an NT device, as illustrated in figure 12.



Hazardous network voltages are present in the PRI cables. If you detach the cable, detach the end away from the SmartNode or interface card first to avoid possible electric shock. Network hazardous voltages may be present on the device in the area of the PRI port, regardless of when power is turned OFF



To prevent damage to the system, make certain you connect the PRI cable to the PRI port only and not to any other RJ-45 socket.

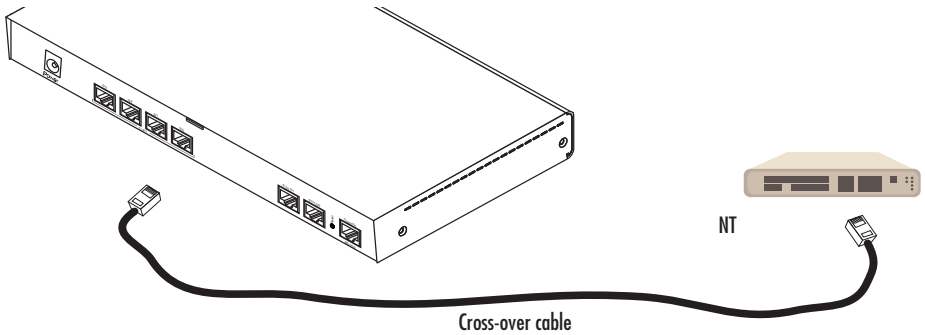


Figure 12. Connecting an E1 PRI port to an NT1

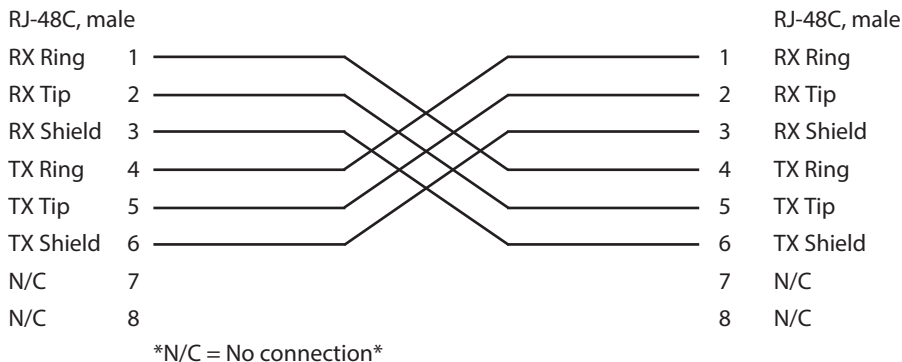


Figure 13. E1 PRI port crossover cable

B.6 T1 PRI

The T1 PRI is usually connected to a PBX or switch—local exchange (LE). Type and pin outs of these devices vary depending on the manufacturer. In most cases, a straight-through RJ-45 to RJ-45 can be used to connect the PRI with a PBX. A cross-over cable is required to connect to an NT device, as illustrated in figure 14 on page 21.



Hazardous network voltages are present in the PRI cables. If you detach the cable, detach the end away from the SmartNode or interface card first to avoid possible electric shock. Network hazardous voltages may be present on the device in the area of the PRI port, regardless of when power is turned OFF



To prevent damage to the system, make certain you connect the PRI cable to the PRI port only and not to any other RJ-45 socket.

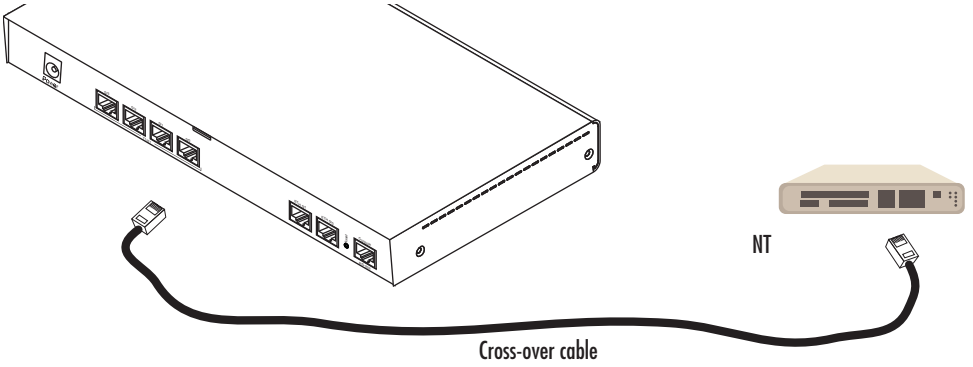


Figure 14. Connecting a T1 PRI port to an NT1

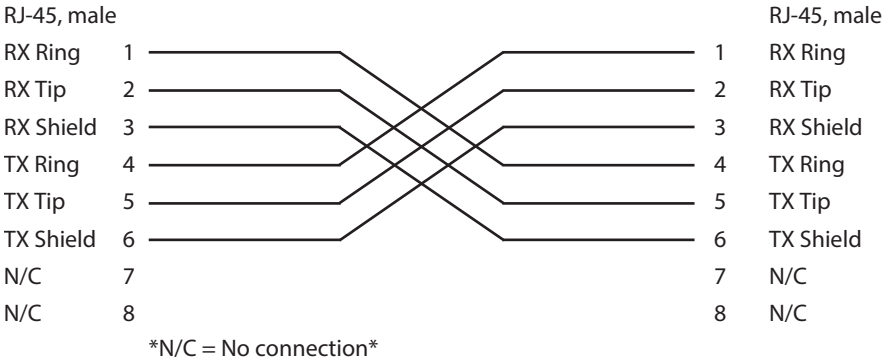
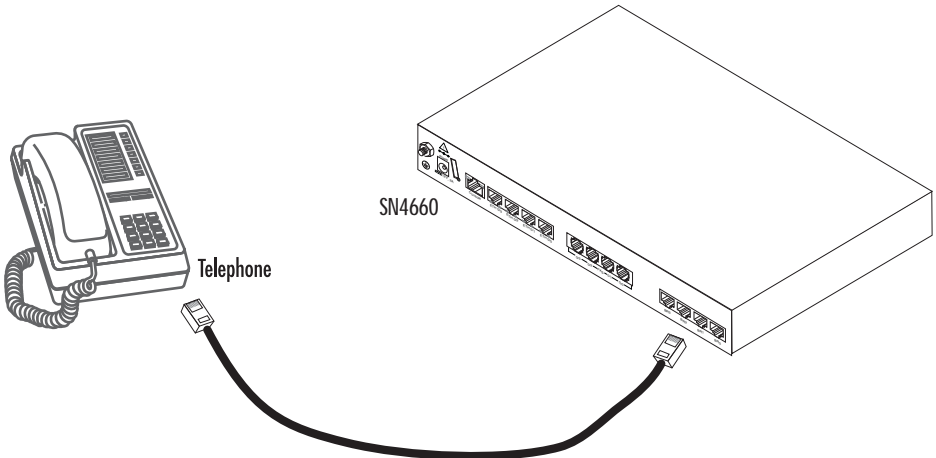


Figure 15. T1 PRI crossover cable

B.7 ISDN BRI

The ISDN port connects to ISDN terminals (phones, PBXs) or an ISDN S-BUS using cables terminated with RJ-45 connectors. Use straight-through cables to connect to the TE port of your phone, PBX, or residential S-BUS.



RJ-45, male

RJ-45, male

3

3

4

4

5

5

6

6

Note: Other pins are not used.

Figure 16. Connecting an ISDN device

C.0 Port Pin-Out

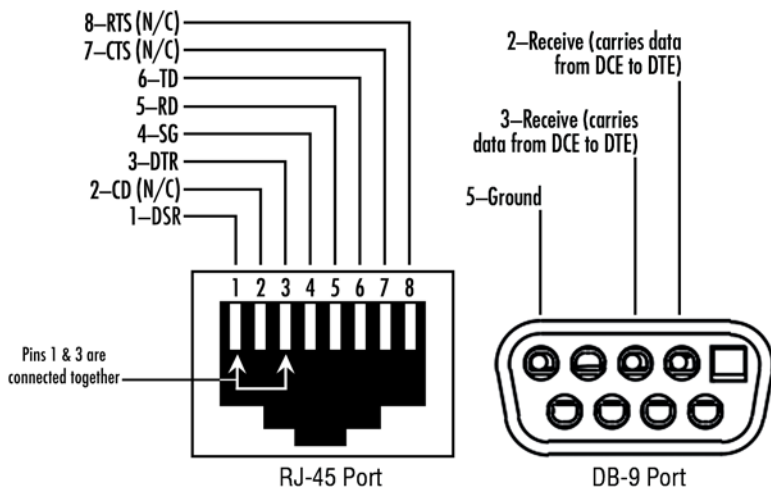


Figure 17. EIA-561 (RJ-45 8-pin) port and DB-9 port

C.1 RJ-45 and DB-9 Console Connection Settings (19200 bps)

Console Connection Settings for RJ-45 Port

Applies to models:

- SN-OSB/1E15VHP/EUI
- SN-OSB/1E30VHP/EUI
- SN-OSB/4BIS8VHP/EUI
- SN-OSB/4B/EUI

Console connection settings:

- 19200 bps
- 8 bits, no parity
- 1 stop bit
- flow controls off

Console Connection Settings for DB-9 Port

Applies to model SN-OSB/4B/EUI

Console connection settings:

- 19200 bps

- 8 bits, no parity
- 1 stop bit
- flow controls off

C.2 RJ-45 Console Connection Settings (9600 bps):

Applies to models:

- SN-OSB/2BIS2JS2JO8V/EUI
- SN-OSB/4E15VR/EUI
- SN-OSB/4BIS4JS4JO12V/EUI
- SN-OSB/4JS4JO/EUI
- SN-OSB/8JS/EUI

Console connection settings:

- 9600 bps
- 8 bits, no parity
- 1 stop bit
- flow controls off

C.3 Ethernet

Table 5. 10/100 Base-T RJ-45 socket

Pin	Signal
1	TX+
2	TX-
3	RX+
6	RX-

Table 6. 1000Base-T RJ-45 Socket

Pin	Signal
1	TRD0+
2	TRD0-
3	TRD1+
4	TRD1-
5	TRD2+
6	TRD2-
7	TRD3+
8	TRD3-

C.4 ISDN PRI (E1/T1) Port Pin-outs

Table 7. Port 0/0

Pin	Signal
1	RX_TIP
2	RX_RING
3	NC
4	TX_TIP
5	TX_RING
6	NC
7	NC
8	NC

C.5 ISDN BRI NT (Net)

The BRI phone port uses an 8-pin RJ-45 connector (the pinout is shown in table 8).

Table 8. ISDN BRI NT Port: RJ-45 socket

Pin	Signal
3	Rx+
4	Tx+
5	Tx-
6	Rx-

Note Pins not listed are not used.

C.6 ISDN BRI TE (User)

The BRI TE port uses an 8-pin RJ-45 connector (the pinout is shown in table 9).

Table 9. ISDN BRI TE Port: RJ-45 socket

Pin	Signal
3	Tx+
4	Rx+
5	Rx-
6	Tx-

Note Pins not listed are not used.

Note All pins between the NT and TE ports are connected during power failure. Fallback relay operation:

- When the unit is not powered, the fallback relay connects pins 3, 4, 5, and 6 of the BRI 0/0 and BRI 0/1 ports together. This enables you to place calls to the PSTN even if the unit is powered down.

C.7 FXS

The FXS ports use an RJ-11 connector with 6 positions. The middle two positions, 3 and 4, are used according to **table 10**.

Table 10. FXS Port: RJ-11 socket

Pin	Signal
3	Ring (-)
4	Tip (+)

Note Pins not listed are not used.

C.8 FXO

The FXO ports use an RJ-11 connector with 6 positions. The middle two positions, 3 and 4, are used according to **table 11**.

Table 11. FXO Port: RJ-11 socket

Pin	Signal
3	Ring (-)
4	Tip (+)

Note Pins not listed are not used.

D.0 Compliance Information

D.1 Compliance

- EMC: EN55022 and EN55024
- CE
- Safety: EN60950-1

D.2 CE Declaration of Conformity

Product Description: SmartNode Open Gateway Appliance

We certify that the apparatus identified above conforms to the requirements of Council Directive 2004/108/EC on the approximation of the laws of the member states relating to electromagnetic compatibility; Council Directive 2006/95/EC on the approximation of the laws of the member states relating to electrical equipment designed for use within certain voltage limits; Council

Directive 2011/65/EU on the approximation of the laws of the member states relating to RoHS compliance and Council Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products.



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/.

D.3 Authorized European Representative

D R M Green

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