

SCOPIA₁₀₀ Gateway Quick Start

Version 5.6



SCOPIA

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Quick Start

WHAT'S IN THIS GUIDE

This Quick Start provides the basic steps required for getting your SCOPIA₁₀₀ Gateway up and running:

The suggested order of operation is as follows:

1. [Unpack and Verify the Equipment](#)
2. [Prepare a Checklist](#)
3. [Prepare the Site](#)
4. [Mount the SCOPIA100 Gateway Unit in a 19" Rack \(Optional\)](#)
5. [Assign an IP Address to the Gateway](#)
6. [Connect to the IP Network](#)
7. [Connect to the ISDN Network \(PRI and BRI Gateways only\)](#)
8. [Connect to the Serial Interface \(Serial Gateways only\)](#)
9. [Configure the Gateway](#)
10. [Make Trial Calls](#)

Note For more detailed information, see the SCOPIA₁₀₀ Gateway User Guide.

UNPACK AND VERIFY THE EQUIPMENT

The shipping box for a single SCOPIA₁₀₀ Gateway unit includes the following items:

- SCOPIA₁₀₀ Gateway unit
- Power cable (depending on customer location)
- Terminal cable
- LAN cable
- Rack mounting kit (two brackets and six screws)
- Four rubber feet
- SCOPIA₁₀₀ Gateway User Guide (in PDF format only)

- SCOPIA₁₀₀ Gateway Quick Start
- SCOPIA Gateway Release Notes
- Utilities and Documentation CD-ROM containing product documentation, utilities and online help files.

PREPARE A CHECKLIST

Before you start configuration, fill in the checklist below.

ISDN NETWORK DIRECTORY NUMBERS (PRI AND BRI GATEWAYS ONLY)

PRI/BRI Service Provider

Service Provider: _____

Type of service: _____

PRI/BRI Directory Numbers

How many Directory Numbers are there? _____

Directory number range: _____ - _____. For consecutive directory numbers, fill in the digits that indicate the range.

**ISDN NETWORK
PHYSICAL
INTERFACE (PRI
GATEWAYS ONLY)**

Channel Rate

PRI	E1	<input type="radio"/> 56 Kbps	<input type="radio"/> 64 Kbps
Port 1	T1	<input type="radio"/> 56 Kbps	<input type="radio"/> 64 Kbps

PRI	E1	<input type="radio"/> 56 Kbps	<input type="radio"/> 64 Kbps
Port 2	T1	<input type="radio"/> 56 Kbps	<input type="radio"/> 64 Kbps

Carrier/Switch Signaling Protocol

PRI	E1	<input type="radio"/> Euro ISDN	<input type="radio"/> VN6	<input type="radio"/> 5ESS
Port 1	T1	<input type="radio"/> DMS100	<input type="radio"/> Nat ISDN	<input type="radio"/> 5ESS
		<input type="radio"/> 4ESS	<input type="radio"/> NTT	<input type="radio"/> Euro ISDN
		<input type="radio"/> Hong Kong		

PRI	E1	<input type="radio"/> Euro ISDN	<input type="radio"/> VN6	<input type="radio"/> 5ESS
Port 2	T1	<input type="radio"/> DMS100	<input type="radio"/> Nat ISDN	<input type="radio"/> 5ESS
		<input type="radio"/> 4ESS	<input type="radio"/> NTT	<input type="radio"/> Euro ISDN
		<input type="radio"/> Hong Kong		

Network Access

PRI Port 1	<input type="radio"/> TE	<input type="radio"/> NT
PRI Port 2	<input type="radio"/> TE	<input type="radio"/> NT

Line Coding

PRI Port 1	E1	<input type="radio"/> AMI	<input type="radio"/> CMI	<input type="radio"/> HDB3
		<input type="radio"/> NRZ		
	T1	<input type="radio"/> B8ZS	<input type="radio"/> AMI-B7	<input type="radio"/> NRZ

PRI Port 2	E1	<input type="radio"/> AMI	<input type="radio"/> CMI	<input type="radio"/> HDB3
		<input type="radio"/> NRZ		
	T1	<input type="radio"/> B8ZS	<input type="radio"/> AMI-B7	<input type="radio"/> NRZ

Line Framing

PRI Port 1	E1	<input type="radio"/> CRC4	<input type="radio"/> Double framing	
		<input type="radio"/> Extended CRC4		
	T1	<input type="radio"/> ESF no CRC	<input type="radio"/> ESF	<input type="radio"/> F4
		<input type="radio"/> ESF CRC6 JT	<input type="radio"/> F12	<input type="radio"/> F72

PRI Port 2	E1	<input type="radio"/> CRC4	<input type="radio"/> Double framing	
		<input type="radio"/> Extended CRC4		
	T1	<input type="radio"/> ESF no CRC	<input type="radio"/> ESF	<input type="radio"/> F4
		<input type="radio"/> ESF CRC6 JT	<input type="radio"/> F12	<input type="radio"/> F72

**ISDN NETWORK
PHYSICAL
INTERFACE (BRI
GATEWAYS ONLY)**

Carrier/Switch Signaling Protocol

- | | | | |
|---------------|--------------------------------|---------------------------------|--------------------------------|
| BRI | <input type="radio"/> DMS100 | <input type="radio"/> Nat ISDN | <input type="radio"/> 5ESS |
| Port 1 | <input type="radio"/> 5ESS PTP | <input type="radio"/> ETSI | <input type="radio"/> ETSI PTP |
| | <input type="radio"/> VN6 | <input type="radio"/> Austel 1 | <input type="radio"/> KDD |
| | <input type="radio"/> NTT | <input type="radio"/> Hong Kong | |

- | | | | |
|---------------|--------------------------------|---------------------------------|--------------------------------|
| BRI | <input type="radio"/> DMS100 | <input type="radio"/> Nat ISDN | <input type="radio"/> 5ESS |
| Port 2 | <input type="radio"/> 5ESS PTP | <input type="radio"/> ETSI | <input type="radio"/> ETSI PTP |
| | <input type="radio"/> VN6 | <input type="radio"/> Austel 1 | <input type="radio"/> KDD |
| | <input type="radio"/> NTT | <input type="radio"/> Hong Kong | |

- | | | | |
|---------------|--------------------------------|---------------------------------|--------------------------------|
| BRI | <input type="radio"/> DMS100 | <input type="radio"/> Nat ISDN | <input type="radio"/> 5ESS |
| Port 3 | <input type="radio"/> 5ESS PTP | <input type="radio"/> ETSI | <input type="radio"/> ETSI PTP |
| | <input type="radio"/> VN6 | <input type="radio"/> Austel 1 | <input type="radio"/> KDD |
| | <input type="radio"/> NTT | <input type="radio"/> Hong Kong | |

- | | | | |
|---------------|--------------------------------|---------------------------------|--------------------------------|
| BRI | <input type="radio"/> DMS100 | <input type="radio"/> Nat ISDN | <input type="radio"/> 5ESS |
| Port 4 | <input type="radio"/> 5ESS PTP | <input type="radio"/> ETSI | <input type="radio"/> ETSI PTP |
| | <input type="radio"/> VN6 | <input type="radio"/> Austel 1 | <input type="radio"/> KDD |
| | <input type="radio"/> NTT | <input type="radio"/> Hong Kong | |

**SERIAL PORT
PHYSICAL
INTERFACE (SERIAL
GATEWAYS ONLY)**

DTE/DCE Interface Configuration Options

Interface	Terminal Adaptor Options	Signaling Protocol Options
<input type="radio"/> DTE	<input type="radio"/> Common	<input type="radio"/> RS-366 <input type="radio"/> Manual Control <input type="radio"/> Data Triggered
	<input type="radio"/> KG-Device	<input type="radio"/> RS-366 <input type="radio"/> Manual Control <input type="radio"/> Data Triggered
<input type="radio"/> DCE	<input type="radio"/> Common	<input type="radio"/> RS-366

**IP NETWORK
CHECKLIST**

Network Addressing

Gateway IP address _
IP Mask (subnet mask) _
Gatekeeper IP address _
Default router IP address _

AUDIO PROTOCOLS

Preferred Audio Transcoding Priority

- Disable
- G.711 (ISDN/serial) < > G.723.1 (IP)
- G.728 (ISDN/serial) < > G.711 (IP)
- G.728 (ISDN/serial) < > G.711 (IP) for up to 256 Kbps

**PREPARE THE
SITE**

When installing the Gateway, ensure that:

- An IP network port is available on the hub for the Gateway.
- There is a gatekeeper available to register the Gateway IP address and services.

MOUNT THE SCOPIA₁₀₀ GATEWAY UNIT IN A 19" RACK (OPTIONAL)

You can optionally mount the SCOPIA₁₀₀ Gateway unit in a standard 19-inch rack. Two mounting brackets and a set of screws are included in the SCOPIA₁₀₀ Gateway unit shipping box.



Procedure

1. Disconnect all cables including the power cables.
2. Place the SCOPIA₁₀₀ Gateway unit right-side up on a hard flat surface, with the front panel facing you.
3. Position a mounting bracket over the mounting holes on each side of the SCOPIA₁₀₀ Gateway unit.

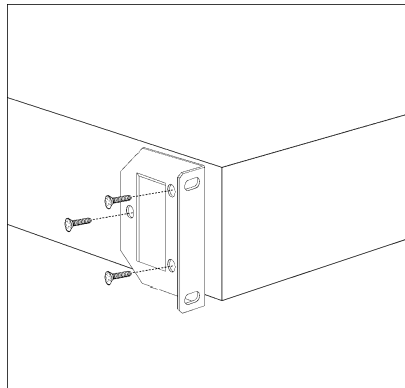


Figure 1 *Fitting a Bracket for Rack Mounting*

4. Pass the screws through the brackets and tighten them into the screw holes on each side of the SCOPIA₁₀₀ Gateway unit using a suitable screwdriver.

5. Insert the SCOPIA₁₀₀ Gateway unit into the 19-inch rack.
6. Fasten the brackets to the side rails of the rack.
7. Make sure that the air vents at the sides of the SCOPIA₁₀₀ Gateway unit are not blocked.

ASSIGN AN IP ADDRESS TO THE GATEWAY

The first time you install the Gateway, you assign an IP address using a terminal cable connection. This allows you to access the boot configuration menu of the Gateway. At power-up, the Gateway goes through the following boot phases:

- Auto-boot—The embedded operating system initializes and displays basic information.
- Configuration menu—A six-second countdown allows you to enter the configuration menu.
- Initialization—The Gateway completes its boot sequence and is ready for operation.

Note You can only perform serial port configuration of the Gateway at startup, during a short period indicated by a six-second countdown. Once the initialization phase is complete, the only way you can enter the configuration menu is by restarting the Gateway.

CONNECT TO A PC

You make the serial connection by connecting a PC terminal equipped with a terminal emulation application to the front panel serial port of the Gateway.



Procedure

1. Run a terminal emulation application (such as HyperTerminal) on the PC.
2. Configure the communication settings for the PC serial port as follows:
 - 9600 Baud rate
 - 8 data bits
 - 1 stop bit
 - No parity
 - No flow control
3. Connect a terminal cable to the PC terminal.
Use the supplied terminal cable to connect the other end to the Gateway serial port on the front panel.
4. Start the terminal emulation application on the PC.
5. Turn on or reset the Gateway.
6. The following command prompt displays:

```
Press any Key To start configuration...
```

7. Press any key during the six-second countdown to enter the configuration menu.

The network configuration **Main** menu displays as shown at [Figure 2](#). If you do not press a key before the countdown ends, the Gateway continues its initialization and you can only configure the Gateway by pressing the **Reset** button on the front panel.

```
Press any Key To start
configuration...
Main menu
Enter <N> to configure default
network port values
Enter <P> to change the
configuration software password
Enter <A> to display advanced
configuration menu
Enter <Q> to quit configuration
menu and start GW
```

Figure 2 *Network Configuration Main Menu*

Warning Configuration of any of the parameters other than **<N>** should not be performed by an unauthorized person.

CONFIGURING AN IP ADDRESS



Procedure

1. At the colon type **N**.

The **Default Network Port Values** screen (Figure 3) displays.

```
Enter IP Address for Interface No. 1
Without leading zeros <
172.27.20.194>:

Enter Default Router IP Address
Without leading zeros < 172.27.37.254>:

Enter IP Mask
Without leading zeros < 172.27.37.254>:
Updating NVRAM

Updating BOOT LINE PARAMS with new IP
```

Figure 3 *Default Network Port Values Screen*

2. Type the IP address, default router IP address and IP subnet mask as shown in Figure 3. Press **Enter** to proceed from one parameter to the next.
3. Press **Enter** to finalize the new settings. The Gateway returns to the network configuration **Main** menu displayed at Figure 2.
4. At the colon type **Q** to quit the network configuration **Main** menu and start the Gateway. If you have changed any of the settings in the network configuration **Main** menu (IP address, default router IP address or IP subnet mask) typing **Q** resets the Gateway with the new settings.

CONNECT TO THE IP NETWORK

Use the supplied LAN cable to connect the Ethernet IP network port on the front panel of the Gateway to a 10/100Base-T IP network connection on your network hub.

CONNECT TO THE ISDN NETWORK (PRI AND BRI GATEWAYS ONLY)

Use the appropriate cables to connect the PRI/BRI ISDN ports to your PBX or direct PRI/BRI line connection.

CONNECT TO THE SERIAL INTERFACE (SERIAL GATEWAYS ONLY)

Line cables are attached to the Gateway via a DB-60 connector that provides the serial line connection for the Gateway serial ports. The cables are Y-type with split leads at the remote end. On one side is either a V.35, RS-449 or EIA-530 connector. On the other side is an RS-366 connector.

Gateway terminal adapter cables have either a DTE or a DCE interface.

The Gateway can identify which type of cable has been connected to its DB-60 serial ports. Cable configuration settings are automatically displayed in the **Physical Interface** section of the **Port** tabs. The automatically configured settings are shown in [DTE/DCE Interface Configuration Options on page 6](#).

Note If the **Physical Interface** section of the **Port** tabs is displayed while you are connecting a cable to the Gateway, exit the screen and then return to see the displayed cable configuration settings.

CONFIGURE THE GATEWAY

Once you have assigned an IP address to the Gateway, you can use the web interface to configure and monitor the Gateway.



Procedure

1. In your web browser, enter the IP address or device name of the Gateway.

For example: **http://125.221.23.44**

Press **Enter** to display the **Login** screen.

2. Enter your user name and password and click **OK** to proceed to the configuration page. The default user name is *admin* and the default password is null.

The configuration interface displays.

CHECK THE NETWORK ADDRESS SETTINGS

Use the web interface to check that the network addresses you set in the previous step were properly recorded by the Gateway.



Procedure

1. In the sidebar, click the **Device** button to display the **Device** configuration tabs.
2. Check the settings in the **Addressing** tab to ensure that the network addressing parameters you entered earlier (see [Procedure on page 11](#)) were properly recorded in the Gateway.

SET THE GATEKEEPER ADDRESS

Before you can work with the Gateway, you must set a gatekeeper IP address with which the Gateway registers.

1. In the **Gatekeeper** section of the **Gateway** interface **Settings** tab, enter the gatekeeper IP address in the **Gatekeeper Address** field.
2. Click **Upload** in the toolbar and wait for the Gateway to reset itself.
3. Log out by clicking the **Logout** button in the sidebar.

Note To review the settings, log in to the Gateway web interface again.

SET GATEWAY SERVICES

The Gateway is pre-programmed with a number of default service prefixes used in outgoing calls. You can modify the existing prefixes to suit your network environment or define new services and add them to the list.

Before setting a Gateway service, consider the following:

- Ensure that the service prefix numbers are not identical to the first digits of any of your IP network endpoint phone numbers or aliases.
- Note that changing a service prefix or adding a new service may require resetting the Gateway.



Procedure

1. In the **Gateway** interface **Services** tab, click **Add** to add a new service, or select a service and click **Edit** to modify that service.
2. Type in the prefix number for this service, select the call type, bit rate, and ISDN ports for this service. Click **Upload** to send the new parameters to the Gateway.

SET GATEWAY PORT PARAMETERS

PRI Ports

Configure your Gateway PRI port. If your Gateway supports two PRI ports, configure a single port first. When the first port is configured, you can use the **Same as Port** checkbox to duplicate settings from one PRI port to the other.



Procedure

1. In the **Gateway** interface **PRI Port** tabs **Basics** section, enable the port and define the phone numbers for this port.
2. In the **Physical Interface**, **Advanced ISDN**, **Call Policies** and **Supported Services** sections, define the settings you want for this port. Follow your checklist to help organize the settings.

3. If your Gateway supports two PRI ports, enable the second PRI port and define the phone numbers used for that port.
4. Check the **Same as Port** checkbox to duplicate the settings from the first PRI port in each of the remaining sections: **Physical Interface**, **Advanced ISDN**, **Call Policies** and **Supported Services**.

BRI Ports

Configure your Gateway BRI port. When the first port is configured, you can use the **Same as Port** checkbox to duplicate settings from one BRI port to the other.



Procedure

1. In the **Gateway** interface **BRI Port** tabs **Basics** section, enable the port and define the phone numbers for this port.
2. In the **Physical Interface**, **Call Policies** and **Supported Services** sections, define the settings you want for this port. Follow your checklist to help organize the settings.
3. Check the **Same as Port** checkbox to duplicate the settings from the first BRI port in each of the remaining sections: **Physical Interface**, **Call Policies** and **Supported Services**.

Serial Ports

Configure your Gateway serial ports. When the first port is configured, you can use the **Same as Port** checkbox to duplicate settings from one serial port to the other.



Procedure

1. In the **Gateway** interface **Port** tabs **Basics** section, enable the required port.
2. In the **Physical Interface**, **Call Policies** and **Supported Services** sections, define the settings you want for this port. Follow your checklist to help organize the settings.
3. Enable additional ports as required.
4. Check the **Same as Port** checkbox in the **Physical Interface** section to duplicate the settings from the first serial port in each of the remaining sections: **Physical Interface**, **Call Policies** and **Supported Services**.

SAVE THE CONFIGURATION

The **Export** button on the toolbar allows you to save the Gateway configuration parameters as an **.ini* file to your local hard disk or to any network directory that you choose.



Procedure

1. In the toolbar, click **Export** to display the Windows **File Download** dialog box.
2. Check the **Save this file to disk** option. Click **OK** to display the Windows **Save As** dialog box.
3. In the **File name** text box, type a file name for this configuration setup.
For example, **GW1_NEW**
4. Select a location to save the file to and click **Save**.

MAKE TRIAL CALLS

As a final step, make a few trial calls following the dialing sequences described in this section.

Calls are made between the IP network and the ISDN network. The ISDN network is connected directly to the PRI Gateway or to an Imux that gives the Serial Gateway access to the ISDN network.

When a call is connected, the front panel **ACT** LED lights up. If you are not able to complete the trial calls, refer to the [Troubleshooting](#) chapter in the SCOPIA₁₀₀ Gateway User Guide.

Dialing Example 1 Voice calls (PRI and BRI Gateways only)

From an IP phone on the IP network, dial the Gateway service prefix for voice calls and the destination phone number.

912015294300

- **9** is the Gateway service prefix for voice calls.
- **12015294300** is the destination phone number including the area code.

Dialing Example 2 2B video calls (PRI and BRI Gateways only)

A 2B video call from an IP network terminal to an H.323 endpoint on another IP network or to a terminal on the ISDN network. Both B channels have the same number.

821816455318*

- **82** is the service prefix for a 2B video call.
- **1816455318** is the destination phone number including the area code.
- ***** is the second number delimiter. The second number delimiter tells the Gateway to dial the destination phone number a second time.

Dialing Example 3 2B video calls (PRI and BRI Gateways only)

A 2B video call from an IP network terminal to an H.323 endpoint on another IP network or to a terminal on the ISDN network. The B channels have different numbers (or your endpoint does not have two phone number fields).

821816455318*1816455319

- **82** is the service prefix for a 2B video call.
- **1816455318** is the destination phone number including the area code.

- * is the second number delimiter.
- **1816455319** is the second B channel number including the area code.

Dialing Example 4 384 Kbps bonded call

From a videoconferencing endpoint on the IP network, dial the Gateway prefix for 384 Kbps bonded calls and the phone number of the destination Gateway or H.320 room system.

86745501

- **86** is the Gateway service prefix for 384 Kbps bonded calls
- 86745501 is the phone number of the destination terminal.