



Connecting Cisco Serial High-Speed WAN Interface Cards on Cisco 1861 Integrated Services Routers

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Overview

This document describes how to connect Cisco serial high-speed WAN interface cards (HWICs) to a network. It contains the following sections:

- [Serial High-Speed WAN Interface Cards, page 1](#)
- [Obtaining Documentation and Submitting a Service Request, page 5](#)

For an overview of Cisco interface cards used for Cisco Integrated Services Routers see the [Cisco Interface Cards for Cisco Access Routers](#) document.

Serial High-Speed WAN Interface Cards

This section describes serial HWICs and how to connect 1- and 2-port Cisco serial HWICs to a network. The section contains the following subsections:

- [1- and 2-Port Serial HWICs, page 2](#)
- [Serial WAN Interface Card LEDs, page 2](#)
- [Supported Platforms, page 3](#)
- [Prerequisites for Connecting 1- and 2-Port Serial HWICs to a Network, page 3](#)
- [Connecting 1- and 2-Port Serial HWICs to a Network, page 4](#)



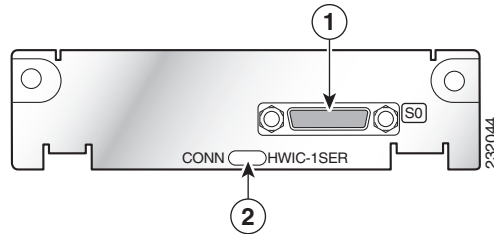
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1- and 2-Port Serial HWICs

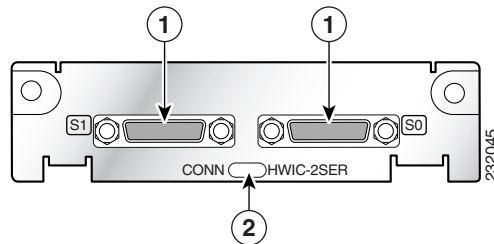
The 1-port serial HWIC (HWIC-1SER), shown in [Figure 1](#), and the 2-port serial HWIC (HWIC-2SER), shown in [Figure 2](#), provide an EIA/TIA-232, EIA/TIA-449, V.35, X.21, data terminal equipment/data communications equipment (DTE/DCE), EIA-530 DTE, or nonreturn to zero/nonreturn to zero inverted (NRZ/NRZI) serial interface to a Cisco modular router.

Figure 1 1-Port WAN Serial HWIC Front Panel



1	Serial port	2	CONN LED
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Figure 2 2-Port WAN Serial HWIC Front Panel



1	Serial ports	2	CONN LED
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Serial WAN Interface Card LEDs

Each serial HWIC has one LED, labeled CONN, which lights when one or both serial ports are connected. When the port is in DTE mode, the CONN LED indicates that Data Send Ready (DSR), Data Carrier Detect (DCD), and Clear To Send (CTS) signals have been detected. When the port is in DCE mode, it indicates that Data Terminal Ready (DTR) and Ready To Send (RTS) signals have been detected. The functions of the LEDs are described in [Table 1](#).

Table 1 Serial HWIC LEDs

LED status	Description
Green	Monitored ports are active (have initialized without error).
Yellow	At least one monitored port is in loopback mode.
Off	Monitored ports are not active or have failed to initialize.

Supported Platforms

The HWIC-1SER and HWIC-2SER are supported on the Cisco 1861 integrated services router (ISR).



Note Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

Prerequisites for Connecting 1- and 2-Port Serial HWICs to a Network

Before connecting an HWIC to the network, ensure that the HWIC is installed in the router, that the equipment is properly grounded, and that you have the proper cables for connecting the HWIC to the network. This section describes the preparation necessary before connecting a 1- or 2-Port HWIC to the network.

Installing a Cisco Serial WAN Interface Card

Install the Cisco serial WAN interface card according to the instructions in *Installing Cisco Interface Cards in Cisco Access Routers*.

Grounding

Ensure that the equipment you are working with is properly grounded according to the instructions in *Installing Cisco Interface Cards in Cisco Access Routers*.

Cables

After you install the serial HWIC, use the appropriate serial cable to connect the HWIC's serial port to one of the following types of equipment:

- An asynchronous modem, if connecting to an analog telephone line
- A synchronous modem, DSU or CSU, or other DCE, if connecting to a digital WAN line

The 1-port serial HWIC, the 2-port serial HWIC, and the 2-port A/S HWIC have Cisco smart serial ports. Use the correct cable for your serial HWIC.

The serial cable attached to a smart serial port determines the port's electrical interface type and mode (DTE or DCE).

Types of Cables for 1- and 2-Port Serial HWICs

Six types of serial cables (also called *serial adapter cables* or *serial transition cables*) are available from Cisco Systems for 1- and 2-port serial HWICs:

- EIA/TIA-232 serial cable assembly
- EIA/TIA-449 serial cable assembly
- V.35 serial cable assembly
- X.21 serial cable assembly

- EIA/TIA-530 serial cable assembly
- EIA/TIA-530A serial cable assembly

All serial cables provide a universal plug at the interface card end. The network end of each cable provides the physical connectors most commonly used for the interface.

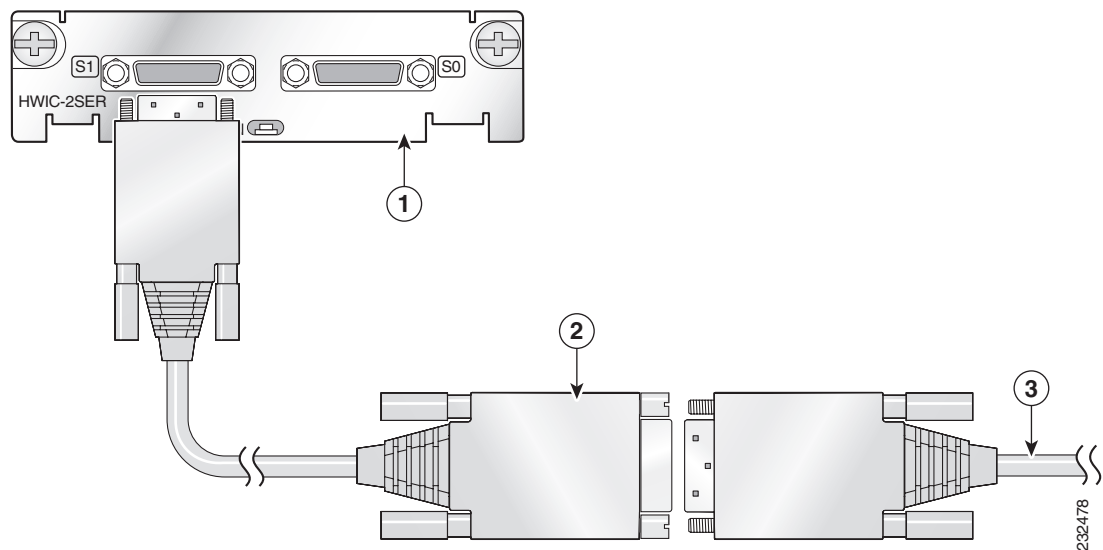
All serial interface types except EIA-530 are available in DTE or DCE format: DTE with a plug connector at the network end, and DCE with a receptacle at the network end. The V.35 service cable assembly is available in either mode with either gender at the network end.

Connecting 1- and 2-Port Serial HWICs to a Network

To connect the serial HWIC to the WAN, follow these steps:

- Step 1** Confirm that the router is turned off.
- Step 2** Connect the serial cable to the connector on the card front panel. (See [Figure 3](#).)
- Step 3** Connect the female end of the serial cable to the male end of the other serial connector for back-to-back connectivity. (See [Figure 3](#).)

Figure 3 Connecting the Serial WAN Interface



1	Serial interface	3	Male serial cable
2	Female serial cable		

- Step 4** Connect one end of the appropriate serial cable to the connector on the HWIC front panel.
- Step 5** Connect the other end of the cable to the appropriate type of equipment.
- Step 6** Turn on power to the router by pressing the power switch to the ON (|) position.
- Step 7** Check that the CONN LED goes on, which indicates that the card's serial port detects the WAN serial connection.

**Warning**

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables. Statement 1021

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.



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