



Connecting ISDN BRI U High-Speed WAN Interface Cards to a Network

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Overview

This document describes Cisco ISDN BRI U high-speed WAN interface cards and how to connect them to a network. It contains the following sections:

- [Cisco ISDN BRI U High-Speed WAN Interface Cards, page 1](#)
- [Upgrading the HWIC-1B-U, page 5](#)
- [Related Documentation, page 6](#)
- [Obtaining Documentation, Obtaining Support, and Security Guidelines, page 6](#)

For an overview of Cisco interface cards used for Cisco access routers see the *Cisco Interface Cards for Cisco Access Routers* document.

Cisco ISDN BRI U High-Speed WAN Interface Cards

The ISDN BRI U HWICs connect to an ISDN network. This section contains the following subsections:

- [Accessibility, page 2](#)
- [Platform Support for Cisco HWIC-1B-U, page 2](#)
- [ISDN BRI U High-Speed WAN Interface Card LEDs, page 3](#)
- [Prerequisites for Connecting ISDN BRI U High-Speed WAN Interface Cards to a Network, page 4](#)
- [Connecting ISDN BRI U High-Speed WAN Interface Cards to a Network, page 5](#)

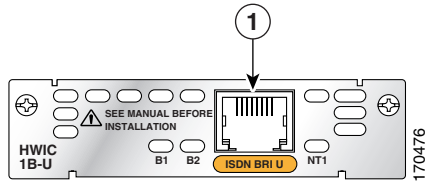


Caution

To comply with the Telcordia GR-1089 NEBS standard for electromagnetic compatibility and safety, connect the 1-port ISDN BRI WIC with U interface (HWIC-1B-U) only to intra-building or non-exposed wiring or cabling.

The 1-port HWIC-1B-U contains an integrated NT1 device. This interface is also known as a *U interface* (see [Figure 1](#)).

Figure 1 HWIC-1B-U Front Panel



1	HWIC-1B-U interface
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Accessibility

These HWICs can be configured using the Cisco command-line interface (CLI). The CLI conforms to code 508 because it is text based and it relies on a keyboard for navigation. All functions of the router can be configured and monitored through the CLI.

For a complete list of guidelines and Cisco products' adherence to accessibility, see Cisco Accessibility Products at the following URL:

<http://www.cisco.com/web/about/responsibility/accessibility/products>

Platform Support for Cisco HWIC-1B-U

[Table 1](#) lists the Cisco router platforms that support the HWIC-1B-U card.

Table 1 Cisco Router Support for WICs and HWICs

Cisco Router	Native	NM-2W	NM-1FE-2W	NM-2FE-2W	NM-1FE-2W-V2	NM-2FE-2W-V2	NM-1FE1R2W
1721, 1751, 1760	Yes (WIC)	No	No	No	No	No	No
1841	Yes (HWIC)	No	No	No	No	No	No
2600	No	No	No	No	No	No	No
2600XM	Yes (WIC)	Yes (WIC)	No	No	No	No	No
2691	Yes (WIC)	Yes (WIC)	No	No	Yes (WIC)	Yes (WIC)	Yes (WIC)
2801	Yes (HWIC) ¹	No	No	No	No	No	No
2811	Yes (HWIC)	No	No	No	No	No	No
2821	Yes (HWIC)	No	No	No	No	No	No
2851	Yes (HWIC)	No	No	No	No	No	No
3725	Yes (WIC)	Yes (WIC)	No	No	Yes (WIC)	Yes (WIC)	Yes (WIC)
3745	Yes (WIC)	Yes (WIC)	No	No	Yes (WIC)	Yes (WIC)	Yes (WIC)

Table 1 Cisco Router Support for WICs and HWICs (continued)

Cisco Router	Native	NM-2W	NM-1FE-2W	NM-2FE-2W	NM-1FE-2W-V2	NM-2FE-2W-V2	NM-1FE1R2W
3825	Yes (HWIC)	Yes (WIC)	No	No	Yes (WIC)	Yes (WIC)	Yes (WIC)
3845	Yes (HWIC)	Yes (WIC)	No	No	Yes (WIC)	Yes (WIC)	Yes (WIC)

1. Interface card can be inserted in a WIC or HWIC slot.



Note For specific information about HWIC-1B-U support for Cisco routers, see the hardware installation documentation for your router at www.cisco.com.

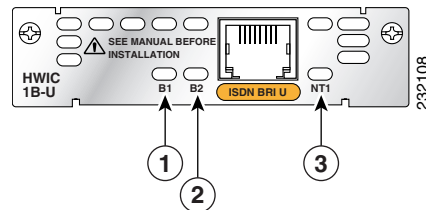


Note The HWIC-1B-U fits in any WIC or HWIC slot.

ISDN BRI U High-Speed WAN Interface Card LEDs

The HWIC-1B-U LEDs are identified in [Figure 2](#). [Table 2](#), lists the corresponding LED functions.

Figure 2 HWIC-1B-U LEDs



1	B1 LED	3	NT1 LED
2	B2 LED		

Table 2 HWIC-1B-U LEDs

LED status	Description
B1	ISDN call active on B1 channel when LED is solid green.
B2	ISDN call active on B2 channel when LED is solid green.
NT1	ISDN port has established a connection when LED is solid green.

Prerequisites for Connecting ISDN BRI U High-Speed WAN Interface Cards to a Network

Before connecting an HWIC to the network, ensure that the HWIC is installed in the router, the equipment is properly grounded, and you have the proper cables for connecting the HWIC to the network. This section describes the preparation necessary before connecting a ISDN BRI U HWIC to the network.



Warning

The ISDN connection is regarded as a source of voltage that should be inaccessible to user contact. Do not attempt to tamper with or open any public telephone operator (PTO)-provided equipment or connection hardware. Any hardwired connection (other than by a nonremovable, connect-one-time-only plug) must be made only by PTO staff or suitably trained engineers. Statement 23

Installing a Cisco ISDN BRI U HWIC

Install the Cisco ISDN BRI U HWIC 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 instruction in [Installing Cisco Interface Cards in Cisco Access Routers](#).

Cables

Use a straight-through RJ-49C-to-RJ-49C BRI cable (not included) to connect an ISDN BRI U HWIC to a network.



Note

The HWIC-1B-U interface cards can be mounted in any interface card slot on the routers that support the cards (See [Table 1](#)).



Warning

Hazardous network voltages are present in WAN ports regardless of whether power to the unit is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the unit first. Statement 1026



Warning

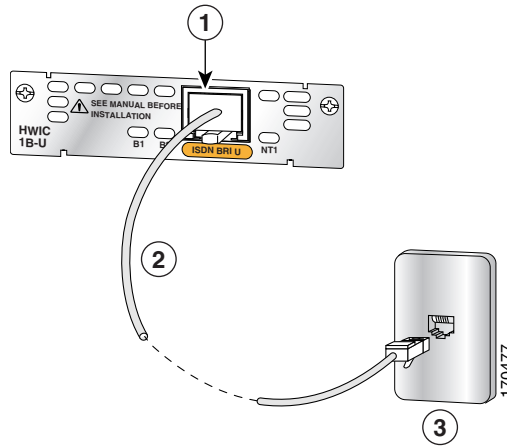
Network hazardous voltages are present in the BRI cable. If you detach the BRI cable, detach the end away from the router first to avoid possible electric shock. Network hazardous voltages also are present on the system card in the area of the BRI port (RJ-45 connector), regardless of when power is turned off. Statement 44

Connecting ISDN BRI U High-Speed WAN Interface Cards to a Network

To connect an HWIC-1B-U card to a network (NT1), use a straight-through RJ-49C-to-RJ-49C cable. (See [Figure 3](#).) These ports are color-coded red.

- Step 1** Confirm that the router is turned off.
- Step 2** Connect one end of a straight-through RJ-49C-to-RJ-49C cable to the RJ-49C port on the HWIC-1B-U.
- Step 3** Connect the other end of the cable directly to the ISDN wall jack as shown in [Figure 3](#).

Figure 3 Connecting an HWIC-1B-U to an ISDN Wall Jack



1	HWIC-1B-U interface	3	ISDN wall jack
2	Straight-through RJ-49C-to-RJ-49C cable		

- Step 4** Turn on power to the router.

Upgrading the HWIC-1B-U

To upgrade your existing ISDN BRI WIC or network module, see the replacement HWICs listed in [Table 3](#).

Table 3 ISDN BRI Network Module and WIC Replacements

Module	Replace with...
WIC-1B-U	HWIC-1B-U
WIC-1B-U-V2	HWIC-1B-U

Related Documentation

Related documentation is available on Cisco.com or on the Product Documentation DVD. For more information, see the “[Obtaining Documentation, Obtaining Support, and Security Guidelines](#)” section on page 6.

Related documentation is available on Cisco.com.

- [Cisco ISDN BRI U WIC for the Cisco 1700, 1800, 2600, 2800, 3600, 3700, and 3800 Series, data sheet](#)
- [Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information](#)

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, 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>

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