



Understanding the 32-Port Asynchronous Service Module

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This document provides information on the SM-32A single-wide service module, listing its features and the platforms the module supports. It includes cross-references to relevant documentation on hardware installation and software configuration for customer guidance.

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Caution

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.



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Cisco SM-32A Service Modules

The SM-32A is a single-wide service module with 32 asynchronous (async) ports at speeds up to 230.4 kbps. Asynchronous ports provide highly flexible connections that allow access to EIA-232 devices across a TCP/IP network. The SM-32A module significantly increases async port density support for Cisco 2900 and Cisco 3900/3900E Series Integrated Services Routers Generation 2 (ISR G2).

This section describes the features of the SM-32A service module and support provided to ISR G2 platforms.

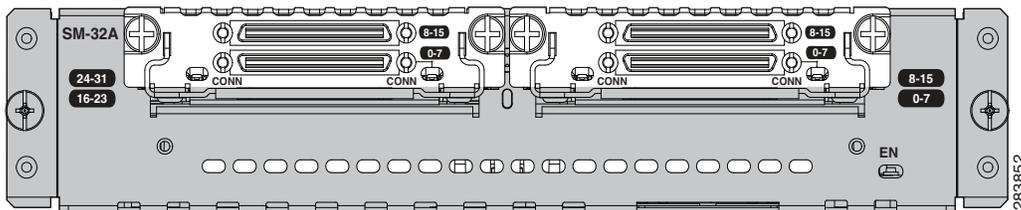
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Features

Although called a service module, the SM-32A is designed as a network module featuring 32 high-density async ports at speeds up to 230.4 kbps per port.

[Figure 1](#) shows the port numbering for the SM-32A service module.

Figure 1 32-Port Asynchronous Service Module



The SM-32 module contains primarily surface mount technology (SMT) components. Only enable (EN) LED is provided.

Online insertion and removal (OIR) of the SM-32A module is supported.

The 32-port service module has low power consumption with a maximum of 15.72 W.

Platform Support

The SM-32A service module enhances the serial density capacity of Cisco 2900 and Cisco 3900/3900E ISR G2 platforms.

With the SM-32A, a maximum of 192 async interfaces can be supported on the Cisco 3900 series routers. A maximum of 176 async interfaces can be supported on the Cisco 3900E series routers.

For the Cisco 2900 series routers, the SM-32A service module allows a Cisco 2951 router with 2 SMs and 4 EHWIC slots to support a total of 128 async interfaces.

For the Cisco 2911 and Cisco 2921 routers with 1 SM and 4 EHWIC slots, a total of 96 async ports can be supported.

[Table 1](#) lists the Cisco 2900 and the Cisco 3900/3900E ISR G2 series routers supported by the SM-32A module and the IOS software releases required to support the platforms.

Table 1 SM-32A Supported 2900 and 3900/3900E ISR G2 Routers

ISR G2	Routers	Release
2900 Series	2911	15.1(4)M3
	2921	
	2951	
3900 Series	3925	15.1(4)M2; 15.2(1)T1; 15.2(2)T
	3945	
	3925E	
	3945E	



Note

The Cisco IOS software releases provided are typically the minimum version required to support the platform, module, or feature in question. Use the [Software Advisor](#) (available to [registered customers](#) only) to choose the appropriate software for your Cisco product.

The SM-32A module is often used to provide out-of-band connectivity to console or craft ports, allowing the network operator to manage a network of remote devices from a central location.

Installation

Service modules and network modules can be installed either before or after mounting the router. OIR of the SM-32A module is supported.

For important tips, safety warnings, and other information you need to know before and during installation of the SM-32A single-wide service module, see *Installing Cisco Network Modules and Service Modules in Cisco Access Routers* at:

<http://www.cisco.com/en/US/docs/routers/access/interfaces/nm/hardware/installation/guide/InstNetM.html>



Warning

To comply with the Telcordia GR-1089 NEBS standard for electromagnetic compatibility and safety, connect the serial interface ports only to intrabuilding or unexposed wiring or cable. The intrabuilding cable must be shielded and the shield must be grounded at both ends. The intrabuilding port(s) of the equipment or subassembly must not be metallicly connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metallicly to OSP wiring. Statement 7003

Configuration

The SM-32A module provides flexible, high-density asynchronous connectivity for Cisco 2900 and Cisco 3900/3900E ISR G2 series routers.

This module is managed using existing IOS CLI commands and also using external management tools such as [Cisco Configuration Professional \(CCP\)](#).

For configuration instructions, see the "[Configuring Asynchronous Connections](#)" chapter of *Cisco 1700 Series Router Software Configuration Guide*. These guidelines apply to all Cisco modular access routers.



Note

Use the **show diag** command to show the hardware information of the SM-32A module. The network management application used in HWIC-16A modules is supported on the SM-32A service module.

This section contains the following topics:

- [Port Numbering, page 5](#)
- [EN LED, page 5](#)

Port Numbering

On the 32-port async network module, the interface is addressed as `async <slot/port>`. The existing RS-232 MIB is supported for async ports.

Async line numbers are platform-dependent. You can use the **show line** CLI command to check line numbering on the chassis.



Note

On the Cisco 3900 series routers, some slots are built into the chassis and some are external. Slots that are part of a network module have numbers that begin with "1". See the "[Slot, Port, and Interface Information](#)" section of *Cisco 3900 Series and Cisco 2900 Series Hardware Installation Guide*.

[Figure 1](#) shows the port numbering for the SM-32A service module.

EN LED

The SM-32A service module has an EN LED located on the right side of the module. This LED indicates that the module has passed its self-test and is available to the router.

[Table 2](#) lists the EN LED colors and their meanings.

Table 2 EN LED Colors and What They Indicate

State	System Status
Off	The SM-32A service module is not yet operational.
Green	The SM-32A service module is operational.
Amber	An error has occurred.

Connecting to the SM-32 Service Module Ports

The SM-32A module provides 32 high-density async interfaces. Asynchronous ports are typically used in the following applications:

- Console and terminal server—This solution allows the Cisco ISR to connect to the console or craft ports of other networking equipment. This option is ideal for remote management of equipment in network installations.
- Dial access server—The ISR G2 with async ports can connect to external modems to provide a dial-access server. Speeds up to 230.4 kbps provide fast communication with the latest modem speeds and compression technologies.

**Note**

Different ports can be used for different applications.

For more information on async ports, connectors, cables, and features, see the product literature on *Serial and Asynchronous High-Speed WAN Interface Cards for Cisco 3900* at:

http://www.cisco.com/en/US/prod/collateral/modules/ps5949/ps6182/product_data_sheet0900aecd80274416.html

http://www.cisco.com/en/US/prod/collateral/modules/ps5949/ps6182/prod_qas0900aecd80274424.html

Additional References

The following sections provide references related to hardware installation, software configuration, and regulatory compliance information.

Related Documents and Links

Related Topic	Document Title
Hardware installation instructions for routers and network modules	<i>Cisco 2900 Series and 3900 Series Hardware Installation Guide</i> <i>Installing Cisco Network Modules and Service Modules in Cisco Access Routers</i>
General information about configuration and command reference	<i>Cisco 3900 Series, 2900 Series, and 1900 Series Integrated Services Routers Software Configuration Guide</i> <i>Serial and Asynchronous High-Speed WAN Interface Cards for Cisco 1800, 1900, 2800, 2900, 3800, and 3900</i> <i>Serial & Asynchronous High-Speed WAN Interface Cards for Cisco Integrated Services Routers</i> “Configuring Asynchronous Connections” chapter of <i>Cisco 1700 Series Router Software Configuration Guide</i> <i>Cisco Configuration Professional</i> <i>Software Advisor</i>
Regulatory compliance information for Cisco network modules and interface cards	<i>Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information</i>
Regulatory compliance information for Cisco 3900 series routers	<i>Regulatory Compliance and Safety Information for Cisco 3900 Series Integrated Services Routers</i>
Regulatory compliance information for Cisco 2900 series routers	<i>Regulatory Compliance and Safety Information for Cisco 2900 Series Integrated Services Routers</i>

MIBs

Description	Link
Use Cisco MIB Locator to locate and download MIBs for selected platforms, Cisco software releases, and feature sets.	http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	<p>http://www.cisco.com/techsupport</p>

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