

# PA-POS-OC3 Packet OC-3 Port Adapter

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## Description

The Packet-Over-SONET OC3 port adapters (PA-POS-OC3SML, PA-POS-OC3SMI, and PA-POS-OC3MM) are available on Cisco 7000 series routers with the 7000 Series Route Switch Processor (RSP7000) and 7000 Series Chassis Interface (RSP7000CI), Cisco 7500 series routers, and Cisco 7200 series routers.

The POSIP and POS OC-3 provide a single 155.520-Mbps, OC-3 physical layer interface for packet-based traffic. This OC-3 interface is fully compatible with SONET and Synchronous Digital Hierarchy (SDH) network facilities and is compliant with RFC 1619, "PPP over SONET/SDH," and RFC 1662, "PPP in HDLC-like Framing." The Packet-Over-SONET specification is primarily concerned with the use of the PPP encapsulation over SONET/SDH links.

For more information on the PA-POS-OC3 port adapter, refer to the *PA-POS-OC3 Packet OC-3 Port Adapter Installation and Configuration* publication that accompanies the hardware.

## Benefits

The POS-OC-3 port adapter provided the following benefits:

- Standards-compliant SONET/SDH interface; SONET/STS-3c and SDH/STM-1 framing and signaling overhead
- Full-duplex operation at 155 Mbps (half-duplex is not supported)
- Intermediate-reach (PA-POS-OC3-IR) and long-reach (PA-POS-OC3-LR) optical interface with single-mode fiber
- Short-reach optical interface (PA-POS-OC3MM) with multimode fiber
- Self-synchronous  $X^{43+1}$  scrambling/descrambling of packets
- Online insertion and removal in Cisco 7200 series routers
- Support for 16-bit and 32-bit cyclic redundancy checking
- Automatic Protection Switching (APS) of POS Circuits
- Frame Relay, HDLC, and PPP encapsulation

## Document Conventions

Command descriptions use these conventions:

- **Boldface** indicates commands and keywords that are entered literally as shown.
- *Italics* indicate arguments for which you supply values; in contexts that do not allow italics, arguments are enclosed in angle brackets (< >).
- Square brackets ([ ]) indicate optional elements.
- Braces ( { } ) group required choices, and vertical bars ( | ) separate alternative elements.
- Braces and vertical bars within square brackets ( [ { | } ] ) indicate a required choice within an optional element.

## Platforms

This feature is supported on these platforms:

- Cisco 7200 series routers, Cisco IOS Release 11.1 CC and Release 12.0 T
- Cisco 7500 series routers, Cisco IOS Release 11.1 CC, Release 12.0, and Release 12.0 T
- Cisco 7000 series routers with the RSP7000 and RSP7000CI, Cisco IOS Release 11.1 CC, Release 12.0, and Release 12.0 T

## Configuration Tasks

For information on how to configure a POS interface, refer to the following publications:

- *PA-POS-OC3 Packet OC-3 Port Adapter Installation and Configuration*
- “Configuring Serial Interfaces” chapter in the *Cisco IOS Interface Configuration Guide* (Cisco IOS Release 12.0)

For information on other commands that can be used by the POS interface, refer to the Cisco IOS Release 12.0 configuration guides.

## Configuration Examples

The following is an example of a POS interface located in slot 0, port adapter slot 0, port 0 in a Cisco 7500 series router:

```

Router# configure terminal
Router (config)# interface POS0/0/0
Router (config-if)# ip address 10.1.1.4 255.255.255.0
Router (config-if)# ip route-cache distributed
Router (config-if)# no keepalive
Router (config-if)# clock source internal
Router (config-if)# pos report rdool
Router (config-if)# pos report lais
Router (config-if)# pos report lrldi
Router (config-if)# pos report pais
Router (config-if)# pos report prdi
Router (config-if)# pos report sd-ber
Router (config-if)# no cdp enable
Router (config-if)# end
Router#

```

For additional examples of configuring a POS interface, refer to the following publications:

- *PA-POS-OC-3 Packet OC-3 Port Adapter Installation and Configuration*
- “Configuring Serial Interfaces” chapter in the *Cisco IOS Interface Configuration Guide* (Cisco IOS Release 12.0)

## Command Reference

All commands used with this feature are documented in the following publications:

- Cisco IOS Release 12.0 command references
- *PA-POS-OC-3 Packet OC-3 Port Adapter Installation and Configuration*

### interface pos

To specify the POS interface and enter interface configuration mode, use the **interface pos** global configuration command.

**interface pos** *slot/port-adapter/port* (on VIPs in Cisco 7000 series and Cisco 7500 series)  
**interface pos** *slot/port* (on Cisco 7200 series)

#### Syntax Description

<i>slot</i>	Specifies the backplane slot number.
<i>port-adapter</i>	On Cisco 7000 series and Cisco 7500 series routers, specifies the ports on a VIP card. The value must be 0.
<i>port</i>	Port number on the interface. The value must be 0.

#### Default

None

#### Command Mode

Global configuration

#### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

This command was modified in Cisco IOS Release 11.2 P and 11.1 CA to change the **interface posi** command to **interface pos**.

This command was modified in Cisco IOS Release 11.1 CC to make the command description generic.

#### Example

The following example specifies the single Packet OC-3 interface on the POS OC-3 port adapter in slot 2:

```
interface pos 2/0
```

## pos ais-shut

To send the line alarm indication signal (LAIS) when the POS interface is placed in any administrative shut down state, use the **pos ais-shut** command. In Automatic Protection Switching (APS) environments, LAIS can be used to force a protection switch. This command forces an APS switch when the interface is placed in administrative shut down state.

**pos ais-shut**

### Syntax Description

This command has no keywords or arguments.

### Default

No line alarm indication signal (LAIS) is sent.

### Command Mode

Interface Configuration

### Usage Guidelines

This command first appeared in Cisco Release 11.1 CC.

For more information on APS, refer to the following documents available on CCO:

- *Automatic Protection Switching of Packet-over-Sonet Circuits* feature module
- “Configuring Serial Interfaces” chapter in the *Cisco IOS Interface Configuration Guide* (Cisco IOS Release 12.0)

### Example

The following example forces the alarm indication on the POS OC-3 interface 0 in slot 3:

```
interface pos 3/0
 shutdown
 pos ais-shut
```