



Migration and Upgrade of Cisco ASR 900 RSP1 Module to ASR 900 RSP2 Module

This document details the migration requirements while migrating the ASR 900 RSP1 module to ASR 900 RSP2 module and the supported interface modules (IM).

Migration and Upgrade Workflow

	Task
Step1	Performing a backup of licenses and configurations on the router, see Backup of Licenses and Running Configuration, on page 4
Step2	Migrating the Route Switch Processor (RSP) modules and Interface Modules (IM), see Migration of RSPs and IMs, on page 5
Step3	Installing and configuring licenses on the RSP module, see Installing the Licenses and Running Configuration, on page 8
Step4	Upgrading existing IMs to the high-density port IMs, see Upgrading IMs to High Density IM, on page 9
Step5	Understanding Time of Day (TOD) port connections, see Time of Day (TOD) Pin Connections, on page 11
Step6	Understanding the feature scale information. See Cisco ASR 903 Route Switch Processor 1 Data Sheet

- [Supported Interface Modules, on page 2](#)
- [Ethernet Interface Modules, on page 4](#)
- [Backup of Licenses and Running Configuration, on page 4](#)
- [Migration of RSPs and IMs, on page 5](#)
- [Installing the Licenses and Running Configuration, on page 8](#)
- [Upgrading IMs to High Density IM, on page 9](#)
- [Time of Day \(TOD\) Pin Connections, on page 11](#)
- [Additional References, on page 12](#)

Supported Interface Modules

Table 1: Supported IMs and Slot Numbers

Cisco ASR 900 Series Router	Route Switch Processor Module	Supported Interface Modules	Interface Modules with Part Numbers	IM Slots
ASR 903 Router	A900-RSP2A-128	Existing IM (Supported on ASR 900 RSP1)	8-port Gigabit Ethernet SFP Interface Module (8X1GE) (PN: A900-IMA8S) 8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8X1GE) (PN: A900-IMA8T) 1-port 10 Gigabit Ethernet XFP Interface Module (1X10 GE) (PN: A900-IMA1X) 16 x T1/E1 Interface Module (PN: A900-IMA16D) 4-Port OC3/STM-1 (OC-3) or 1-Port OC12/STM-4 (OC-12) Interface Module (PN: A900-IMA4OS) 14-port Serial Interface Module (PN: A900-IMASER14A/S)	All
		Note OC-12 IM is not supported in Cisco IOS Release 3.13	<p>New IMs (Introduced on ASR 900 RSP2)</p> <p>SFP Combo IM—8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE) (PN: A900-IMA8S1Z)</p> <p>Copper Combo IM—8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE) (PN: ASR900-IMA8T1Z)</p> <p>2-port 10 Gigabit Ethernet (2X10GE) (PN: A900-IMA2Z)</p>	
	A900-RSP2A-64	Note High Density Combination IMs are not supported.	<p>1-port 10 Gigabit Ethernet XFP Interface Module (1X10 GE) (PN: A900-IMA1X)</p> <p>2-port 10 Gigabit Ethernet (2X10GE) (PN: A900-IMA2Z)</p> <p>4-Port OC3/STM-1 (OC-3) or 1-Port OC12/STM-4 (OC-12) Interface Module (PN: A900-IMA4OS)</p>	0-2
			<p>8-port Gigabit Ethernet SFP Interface Module (8X1GE) (PN: A900-IMA8S)</p> <p>8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8X1GE) (PN: A900-IMA8T)</p> <p>16 x T1/E1 Interface Module (PN: A900-IMA16D)</p> <p>14-port Serial Interface Module (PN: A900-IMASER14A/S)</p>	3-5

Cisco ASR 900 Series Router	Route Switch Processor Module	Supported Interface Modules	Interface Modules with Part Numbers	IM Slots
ASR 902 Router	A900-RSP2A-128	Existing IM (Supported on ASR 900 RSP1)	8-port Gigabit Ethernet SFP Interface Module (8X1 GE) (PN: A900-IMA8S) 8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8X1GE) (PN: A900-IMA8T) 1-port 10 Gigabit Ethernet XFP Interface Module (1X10 GE) (PN: A900-IMA1X) 16 x T1/E1 Interface Module (PN: A900-IMA16D) 4-Port OC3/STM-1 (OC-3) or 1-Port OC12/STM-4 (OC-12) Interface Module (PN: A900-IMA4OS)	All
	New IMs (Introduced on ASR 900 RSP2)	8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE) (PN: A900-IMA8S1Z) 8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE) (PN: A900-IMA8T1Z) 2-port 10 Gigabit Ethernet (2X10GE) (PN: A900-IMA2Z)		
	A900-RSP2A-64	Note OC-12 IM is supported in Cisco IOS XE Release 3.13.1	8-port Gigabit Ethernet SFP Interface Module (8X1 GE) (PN: A900-IMA8S) 8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8X1GE) (PN: A900-IMA8T) 1-port 10 Gigabit Ethernet XFP Interface Module (1X10 GE) (PN: A900-IMA1X) SFP Combo IM—8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE) (PN: A900-IMA8S1Z) Copper Combo IM—8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE) (PN: A900-IMA8T1Z) 2-port 10 Gigabit Ethernet (2X10GE) (PN: A900-IMA2Z) 16 x T1/E1 Interface Module (PN: A900-IMA16D) 4-Port OC3/STM-1 (OC-3) or 1-Port OC12/STM-4 (OC-12) Interface Module (PN: A900-IMA4OS)	0 and 2
				1

Cisco ASR 900 Series Router	Route Switch Processor Module	Supported Interface Modules	Interface Modules with Part Numbers	IM Slots
			1-port 10 Gigabit Ethernet XFP Interface Module (1X10 GE) (PN: A900-IMA1X) 2-port 10 Gigabit Ethernet (2X10GE) (PN: A900-IMA2Z) 4-Port OC3/STM-1 (OC-3) or 1-Port OC12/STM-4 (OC-12) Interface Module (PN: A900-IMA4OS)	
			8-port Gigabit Ethernet SFP Interface Module (8X1GE) (PN: A900-IMA8S) 8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8X1GE) (PN: A900-IMA8T) 16 x T1/E1 Interface Module (PN: A900-IMA16D)	3

Ethernet Interface Modules

The ASR900 RSP2 module supports three new interface modules (IM)s with higher port density.



Note High-density Combination Interface Modules (ASR900-IMA8S1Z, ASR900-IMA8T1Z), and 2-port 10 Gigabit Ethernet Interface Module (ASR900-IMA2Z) are *not* supported with the ASR 900 RSP2-64 module on the Cisco ASR 903 router.

IM Part Numbers	Description
New IMs (Introduced on ASR 900 RSP2)	
ASR900-IMA2Z (2X10G)	2-port 10 Gigabit Ethernet Interface Module
ASR900-IMA8S1Z (8X1 GE, 1X10GE) (High Density Combination IM)	8-port 1 Gigabit Ethernet SFP Interface Module + 1-port 10 Gigabit Ethernet SFP+ Interface Module
ASR900-IMA8T1Z (8X1 GE, 1X10GE) (High Density Combination IM)	8-port 1 Gigabit Ethernet RJ45 (Copper) Interface Module + 1-port 10 Gigabit Ethernet SFP+ Interface Module

Backup of Licenses and Running Configuration

The Cisco ASR 900 Series Router platform licenses are configured on the RSP on the router. It is recommended to backup the license before performing a migration. Licenses should be re-installed after a migration. For information on the licenses, see [Cisco IOS XE Software for Cisco ASR 900 Series Aggregation Services Routers Data Sheet](#).

For information on licensing the Cisco ASR 900 Series Routers, see [Licensing Information](#).

Procedure

Step 1 Procure the license UDI details using the **show license udi** command.

Example:

```
Router# show license udi
```

SlotID	PID	SN	UDI
*6	ASR-903	FOX1637P0UB	ASR-903:FOX1637P0UB

The command lists the serial number of the RSP inserted in the router.

Step 2 Save the license file to an external drive (USB) using the **license save bootflash:lic.txt** command.

Step 3 Backup the license file in an external drive (USB) or a TFTP server.

Step 4 Backup the running configuration in an external drive (USB) or a TFTP server. You will need to access this server to replace the configuration after the migration.

Migration of RSPs and IMs

General Restrictions

- Installing a mixture of RSPs such as ASR 900 RSP1 with ASR 900 RSP2 and ASR 900 RSP2-64 with ASR 900 RSP2-128 is *not* supported.
- TDM IM (A900-IMA16D) and 1-Port OC12/STM-4 (OC-12) (A900-IMA4OS) IM are *not* supported in Cisco IOS XE Release 3.13S.
- Supported feature scale values should be used during migration. For information on supported scale values, see [Data Sheets](#).
- When replacing one RSP with another RSP (either during RMA or migration of one RSP to another), ensure that RSP image version of the replaced RSP is same as that of Active RSP.

Follow these steps:

1. Have a USB with the active configuration, the IOS-XE .bin and the ROMMON image.
2. Insert the USB into the new RSP.
3. Remove the old RSP and insert the new RSP.
4. Boot the new RSP and check the ROMMON version.
If required, upgrade the ROMMON from the USB, and reboot.
5. Press Break on the terminal keyboard within 60 seconds of power up to put the router into ROMMON mode.
6. Boot from ROMMON usb0: active image .bin.
7. Copy the .bin file to bootflash:

8. Perform File System cleanup using the **delete standby bootflash** command.
9. Load the router configuration from the USB. However, if you have a redundant RSP in the router, the active configuration is automatically copied to the standby RSP.
10. Reboot into package mode by expanding the .bin to the package and setting auto boot.
11. Wait for SSO mode and check the status of both RSPs using the **show platform** and **show redundancy** commands.

Migration of ASR 900 RSP1A to ASR 900 RSP2A-128

The upgrade depends on the boot time, installation of licenses, and copying the configuration. The complete upgrade procedure including replacing interface modules is estimated at approximately 1 hour.

- Boot time for the interface modules :15 minute
- license installation time per interface module: 15 minutes.
- Configuration replace and copying configuration: 30 minutes

Before you begin

Ensure supported scale values are set before migration.

Procedure

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- Step 1** Remove the standby RSP1A module (in high availability HA mode) from the router chassis followed by the active RSP1A module.
- Note** Skip Step2 if interface module upgrade is *not* required.
- Step 2** Replace the IMs with the high-density IMs of the same media type (SFP IM with SFP Combo) in the same slot. For more information on supported IMs, see [Supported Interface Modules, on page 2](#).
- Step 3** Insert the RSP2 in slot0 in the router chassis and the second RSP2 in slot1 (HA mode).
- Note** Dissimilar images are not supported. Ensure the newly inserted RSPs have the same image on active and standby, if not then ensure by reloading the system with same image.
- Step 4** Wait for the RSP2 in slot0 to boot the image and reach the Hot standby state (HA mode).
- Step 5** Ensure that the IMs reach the OK state after the reload.
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Migration of ASR 900 RSP1B to ASR 900 RSP2A-128

Migration of ASR 900 RSP1B-55 to ASR 900 RSP2A-128 is *not* recommended due to differences in scale values. Contact [Technical Assistance](#).

The upgrade depends on the boot time, installation of licenses, and copying the configuration. The complete upgrade procedure including replacing interface modules is estimated at approximately 1 hour.

- Boot time for the interface modules :15 minute
- license installation time per interface module: 15 minutes.
- Configuration replace and copying configuration: 30 minutes

Before you begin

Ensure supported scale values are set before migration. Make required feature changes to support the scale differences. See [Data Sheets](#).

Procedure

- Step 1** Remove the standby RSP1B module (in high availability HA mode) from the router chassis followed by the active RSP1B module.
- Skip Step2 if interface module upgrade is *not* required.
- Step 2** Replace the IMs with the high-density IMs of the same media type (SFP IM with SFP Combo) in the same slot.
- Step 3** Insert the RSP2 in slot0 in the router chassis and the second RSP2 in slot1 (HA mode).
- Note** Dissimilar images are not supported. Ensure the newly inserted RSPs have the same image on active and standby, if not then ensure by reloading the system with same image.
- Step 4** Wait for the RSP2 in slot0 to boot the image and reach the Hot standby state (HA mode).
- Step 5** Ensure that the IMs reach the OK state after the reload.
-

Migration of ASR 900 RSP1A to ASR 900 RSP2A-64

The upgrade depends on the boot time, installation of licenses, and copying the configuration. The complete upgrade procedure including replacing interface modules is estimated at approximately 1 hour.

- Boot time for the interface modules :15 minute
- license installation time per interface module: 15 minutes.
- Configuration replace and copying configuration: 30 minutes

Before you begin

- Ensure supported scale values are set before migration.
- Review the slot restrictions for the different interface modules. (For example, 10 Gigabit Ethernet in Slot 0-2). For more information, see [Supported Interface Modules, on page 2](#)

Procedure

- Step 1** Verify that the interface modules are placed in the supported slots for ASR 900 RSP2A-64.

- Step 2** Backup the running configuration in an external drive (USB) or a TFTP server. You will need to access this server to replace the configuration after the migration.
- Step 3** Remove the standby RSP1A module (in high availability HA mode) from the router chassis followed by the active RSP1A module.
- Note** Dissimilar images are not supported. Ensure the newly inserted RSPs have the same image on active and standby, if not then ensure by reloading the system with same image.
- Step 4** Ensure that the IMs are inserted in specified slots in the router chassis. See [Supported Interface Modules, on page 2](#).
- Step 5** Insert the RSP2 in slot0 in the router chassis and the second RSP2 in slot1 (HA mode).
- Step 6** Wait for the RSP2 in slot0 to boot the image and reach the Hot standby state (HA mode).
- Step 7** Ensure that the IMs reach the OK state after the reload.
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Installing the Licenses and Running Configuration

Install the licenses after the image is loaded and the router is in hot standby state. For information on the supported images and licenses, see [Cisco IOS XE Software for Cisco ASR 900 Series Aggregation Services Routers Data Sheet](#).

For information on configuring licensing on the Cisco ASR 900 Series Routers, see [Licensing Information](#).

Procedure

- Step 1** Insert the external drive (USB) in the provided RSP slot or access the TFTP server to copy the license information. Copy the license file to the bootflash.
- Step 2** Execute the license boot command for the license type. For information on booting licenses using software activation commands, see [Configuring the Cisco IOS Software Activation Feature](#).
- Step 3** Install the license using the **license install usb0:** *license-file* command or use the **license install tftp://tftp-server-address / location-license-file / license-file**
- After installation, "Installing...Feature:*feature -name*...Supported: Supported" message is displayed.
- Step 4** Save router configuration and reload the router for activation of licenses.
- Step 5** Wait for the router to reach hot standby state (HA mode).
- Step 6** Load the saved configuration from the external drive (USB) or the TFTP server. Use the **configure replace usb0:** *modified-config* command or the **configure replace tftp://tftp-server-address / location-config / modified-config** command.
-

Upgrading IMs to High Density IM

Upgrading to High Density Interface Modules

This procedure is for upgrading the existing IMs to the high-density port IM in the same slot. This procedure is applicable to the following

- 8-port 1 Gigabit Ethernet SFP Interface Module to 8-port 1 Gigabit Ethernet SFP Interface Module + 1-port 10 Gigabit Ethernet SFP+ Interface Module
- 8-port 1 Gigabit Ethernet Cu Interface Module to 8-port 1 Gigabit Ethernet RJ45 (Copper) Interface Module + 1-port 10 Gigabit Ethernet SFP Interface Module
- 1-port 10 Gigabit Ethernet Interface Module to 2-port 10 Gigabit Ethernet Interface Module
- 8-port 10 Gigabit Ethernet Interface Module (8X10 GE)
- 1-port 100 Gigabit Ethernet Interface Module (1X100 GE)
- 2-port 40 Gigabit Ethernet QSFP Interface Module (2X40 GE)

Before you begin

Defaulting of interfaces is required before upgrading of interface modules (IM)s. If defaulting is not performed, the interfaces may get corrupted and reload of router is required.

Procedure

-
- Step 1** Save the running configuration to the router bootflash or external drive (USB) or TFTP server.
- Step 2** Perform a default of all the interfaces on the IM using the **hw-module subslot bay default** command. For more information, see [Cisco IOS Interface and Hardware Component Command Reference](#).

Example:

```
Router# hw-module subslot 0/1 default
```

```
Proceed with setting all interfaces as default for the module? [confirm]
%Setting all interfaces in 0/1 to default state
Interface GigabitEthernet0/1/0 set to default configuration
Interface GigabitEthernet0/1/1 set to default configuration
Interface GigabitEthernet0/1/2 set to default configuration
Interface GigabitEthernet0/1/3 set to default configuration
Interface GigabitEthernet0/1/4 set to default configuration
Interface GigabitEthernet0/1/5 set to default configuration
Interface GigabitEthernet0/1/6 set to default configuration
Interface GigabitEthernet0/1/7 set to default configuration
Interface TenGigabitEthernet0/1/8 set to default configuration
Router#
*Jun  3 19:27:52.302: %TRANSCIEVER-6-REMOVED: SIP0: iomd: Transceiver module removed from
  TenGigabitEthernet0/1/8
*Jun  3 19:27:52.589: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 0/1, interfaces disabled
*Jun  3 19:27:52.616: %SPA_OIR-6-OFFLINECARD: SPA (A900-IMA8S1Z) offline in subslot 0/1
*Jun  3 19:27:53.985: %LINK-3-UPDOWN: Interface TenGigabitEthernet0/4/8, changed state to
down
*Jun  3 19:27:54.686: %LINEPROTO-5-UPDOWN: Line protocol on Interface TenGigabitEthernet0/4/8,
```

```

changed state to down
*Jun  3 19:28:16.696: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 0/1
*Jun  3 19:28:22.000: %ASR900IM-3-DIFF_IM_INSERTED: Different IM type inserted -
A900-IMA1X[0/1] in bay 1
*Jun  3 19:28:41.205: %SPA_OIR-6-ONLINECARD: SPA (A900-IMA1X) online in subslot 0/1
*Jun  3 19:28:41.207: %TRANSCEIVER-6-INSERTED: SIP0: iomd: transceiver module inserted in
TenGigabitEthernet0/1/0

```

Press **enter** for confirmation.

Console messages are displayed for the interfaces. Ensure that the **interface *interface-name* set to default configuration** message is displayed before performing Step 3.

Step 3 Remove the IM from the bay and insert the new IM. See IM slot compatibility matrix for supported slots before inserting the new IM.

The default configuration is displayed.

Note If the default configuration is *not* displayed, the IM may enter the Out of Service state. To recover the IM, insert the old IM, enter the default interface configuration and then reinsert the new IM. For more information, see [Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide](#).

Step 4 Copy the saved running configuration from the bootflash or the external drive (USB) or TFTP server. Rename the interface names in the configuration file.

Step 5 Configure the additional or new 10 Gigabit Ethernet port.

Upgrading the 1 Gigabit Ethernet Interface Modules to High Density 2-port 10 Gigabit Ethernet Interface Module

This procedure is for upgrading the existing IMs to the high-density port IM in the same slot. This procedure is applicable to the following

- 8X1 Gigabit Ethernet SFP IM to 2-port 10 Gigabit Ethernet IM
- 8x1 Gigabit Ethernet Cu IM to 2-port 10 Gigabit Ethernet IM

Before you begin

Defaulting of interfaces is required before upgrading of interface modules (IM). If defaulting is not performed, the interfaces may get corrupted and reload of router is required.

Procedure

Step 1 Save the running configuration to the router bootflash or external drive (USB) or TFTP server.

Step 2 Perform a default of all the interfaces on the IM using the **hw-module subslot bay default** command. For more information, see [Cisco IOS Interface and Hardware Component Command Reference](#).

Example:

```
Router# hw-module subslot 0/1 default
```

```
Proceed with setting all interfaces as default for the module? [confirm]
```

```

%Setting all interfaces in 0/1 to default state
Interface GigabitEthernet0/1/0 set to default configuration
Interface GigabitEthernet0/1/1 set to default configuration
Interface GigabitEthernet0/1/2 set to default configuration
Interface GigabitEthernet0/1/3 set to default configuration
Interface GigabitEthernet0/1/4 set to default configuration
Interface GigabitEthernet0/1/5 set to default configuration
Interface GigabitEthernet0/1/6 set to default configuration
Interface GigabitEthernet0/1/7 set to default configuration
Interface TenGigabitEthernet0/1/8 set to default configuration
Router#
*Jun  3 19:27:52.302: %TRANSCEIVER-6-REMOVED: SIP0: iomd: Transceiver module removed from
  TenGigabitEthernet0/1/8
*Jun  3 19:27:52.589: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 0/1, interfaces disabled
*Jun  3 19:27:52.616: %SPA_OIR-6-OFFLINECARD: SPA (A900-IMA8S1Z) offline in subslot 0/1
*Jun  3 19:27:53.985: %LINK-3-UPDOWN: Interface TenGigabitEthernet0/4/8, changed state to
  down
*Jun  3 19:27:54.686: %LINEPROTO-5-UPDOWN: Line protocol on Interface TenGigabitEthernet0/4/8,
  changed state to down
*Jun  3 19:28:16.696: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 0/1
*Jun  3 19:28:22.000: %ASR900IM-3-DIFF_IM_INSERTED: Different IM type inserted -
  A900-IMA1X[0/1] in bay 1
*Jun  3 19:28:41.205: %SPA_OIR-6-ONLINECARD: SPA (A900-IMA1X) online in subslot 0/1
*Jun  3 19:28:41.207: %TRANSCEIVER-6-INSERTED: SIP0: iomd: transceiver module inserted in
  TenGigabitEthernet0/1/0

```

Press **enter** for confirmation.

Console messages are displayed for the interfaces. Ensure that the **interface *interface-name* set to default configuration** message is displayed before performing Step 3.

Step 3 Remove the IM from the bay and insert the 2-port 10 Gigabit Ethernet IM.

The default configuration is displayed

Note If the default configuration is *not* displayed, the IM may enter the Out of Service state. To recover the IM, insert the old IM, enter the default interface configuration and then reinsert the new SFP IM. For more information, see [Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide](#).

Step 4 Copy the saved running configuration from the bootflash or the external drive (USB) or TFTP server.

Step 5 Configure the ports on the IM.

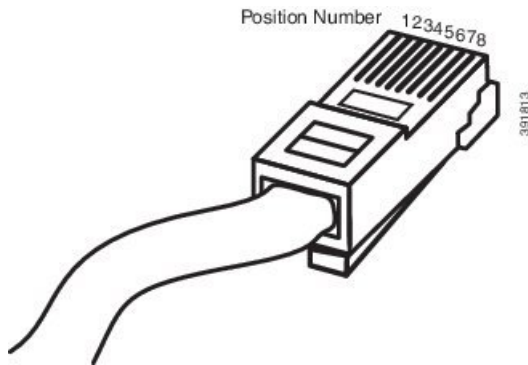
Time of Day (TOD) Pin Connections

Table 2: TOD Cable Pin Connections

Router R1	Router R2	Mode	Cable Pin Connection
RSP1	RSP1	RS422	Pin 7 to Pin7
			Pin 4 to Pin 4
			Pin 5 to Pin 5
			Pin 8 to Pin 8

Router R1	Router R2	Mode	Cable Pin Connection
RSP1	RSP2	RS422	Pin 7 to Pin8
			Pin 4 to Pin 4
			Pin 5 to Pin 5
			Pin 8 to Pin 7
RSP2	RSP2	RS422	Pin 7 to Pin 7
			Pin 4 to Pin 4
			Pin 5 to Pin 5
			Pin 8 to Pin 8

Figure 1: Time of Day (TOD) Pinout



Additional References

Related Documents

Related Topic	Document Title
Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide	http://www.cisco.com/c/en/us/td/docs/wireless/asr_900/hardware/installation/ASR903-HW-install.html
Licensing Information	http://www.cisco.com/c/en/us/support/routers/asr-903-series-aggregation-services-routers/products-licensing-information-listing.html
Data Sheets	http://www.cisco.com/c/en/us/products/routers/asr-903-series-aggregation-services-routers/datasheet-listing.html
Configuration Guides	http://www.cisco.com/c/en/us/support/routers/asr-903-series-aggregation-services-routers/products-installation-and-configuration-guides-list.html
Cisco IOS master command list	Cisco IOS Master Command List , All Releases

Standards

Standard	Title
No new or modified standards are supported, and support for existing standards has not been modified.	--

MIBs

MIB	MIBs Link
No new or modified MIBs are supported, and support for existing MIBs has not been modified.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported, and support for existing RFCs has not been modified.	--

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

