

# Second-Generation Fast Ethernet Interface Processors

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## Description

Second-generation Fast Ethernet Interface Processors (FEIP2-2TX and FEIP2-2FX) are available on Cisco 7500 series routers and on Cisco 7000 series routers with the 7000 Series Route Switch Processor (RSP7000) and 7000 Series Chassis Interface (RSP7000CI). The FEIP2 is a dual-port, fixed-configuration interface processor that provides two 100-Mbps Fast Ethernet (FE) interfaces.

Each interface on the FEIP2-2TX supports half-duplex only for a maximum aggregate bandwidth of 200 Mbps. The FEIP2-2TX has an RJ-45 connector to attach to Category 5 unshielded twisted-pair (UTP) for 100BASE-TX and an MII connector that permits connections through external transceivers to multimode fiber for 100BASE-FX, or to Category 3, 4, and 5 UTP or shielded twisted-pair (STP) for 100BASE-T4 physical media.

Each interface on the FEIP2-2FX supports half-duplex or full-duplex for a maximum aggregate bandwidth of 200 Mbps per interface. However, to prevent system problems, do not configure both interfaces for full-duplex operation at the same time. The FEIP2-2FX has an SC-type fiber-optic connector for 100BASE-FX and an MII connector that permits connection through external transceivers to multimode fiber for 100BASE-FX or to Category 3, 4, and 5 UTP or STP for 100BASE-T4 physical media.

## Platforms

This feature is supported on these platforms:

- Cisco 7500
- Cisco 7000 series routers with the RSP7000 and RSP7000CI

## Configuration Tasks

Perform the tasks in the following sections to configure features on a Fast Ethernet interface. The first task is required; the remaining tasks are optional.

- Specify a Fast Ethernet Interface
- Specify the Encapsulation Method
- Specify Full-Duplex Operation
- Specify the Media Connector Type

Use the **show interface fastethernet** command to display interface statistics, and use the **show controller fastethernet** command to display the information about the Fast Ethernet controller chip. The output shows the information about initialization block information, transmit ring, receive ring, and errors.

For information on other interface commands that can be used by the FEIP 2-2TX and FEIP-2FX interfaces, refer to the “Configuring Interfaces” chapter of the *Configuration Fundamentals Configuration Guide*.

For information on other commands that can be used by the FEIP 2-2TX and FEIP-2FX interfaces, refer to the Cisco IOS Release 11.2 configuration guides.

## Specify a Fast Ethernet Interface

To specify a Fast Ethernet interface and enter interface configuration mode, perform the following task in global configuration mode:

Task	Command
Specify a Fast Ethernet interface and enter interface configuration mode.	<b>interface fastethernet</b> <i>slot/port-adapter/port</i>

## Specify the Encapsulation Method

Currently, there are three common Ethernet encapsulation methods:

- The standard ARPA Ethernet Version 2.0 encapsulation, which uses a 16-bit protocol type code (the default encapsulation method)
- SAP IEEE 802.3 encapsulation, in which the type code becomes the frame length for the IEEE 802.2 LLC encapsulation (destination and source Service Access Points, and a control byte)
- The SNAP method, as specified in RFC 1042, which allows Ethernet protocols to run on IEEE 802.2 media

The encapsulation method you use depends upon the type of Ethernet media connected to the router or access server and the routing or bridging application you configure. Establish Ethernet encapsulation by performing one of the following tasks in interface configuration mode:

Task	Command
Select ARPA Ethernet encapsulation.	<b>encapsulation arpa</b>
Select SAP Ethernet encapsulation.	<b>encapsulation sap</b>
Select SNAP Ethernet encapsulation.	<b>encapsulation snap</b>

## Specify Full-Duplex Operation

The default is half-duplex mode on the FEIP2-2FX. To enable full-duplex mode on the FEIP2-2FX (for a maximum aggregate bandwidth of 200 Mbps), perform the following task in interface configuration mode:

Task	Command
Enable full-duplex on the Fast Ethernet interface of the FEIP2-2FX.	<b>full-duplex</b> or <b>no half-duplex</b>



**Caution** To prevent system problems, do not configure both FEIP2-2FX interfaces for full-duplex operation at the same time.

**Note** The FEIP2-2TX supports half-duplex only and should not be configured for full-duplex.

## Specify the Media Connector Type

The default media connector type is an RJ-45 or SC (fiber-optic) connector. You can specify that the interface uses either an MII connector, or an RJ-45 or SC (fiber-optic) connector (this is the default). To do so, perform one of the following tasks in interface configuration mode:

Task	Command
Select an MII Ethernet connector.	<b>media-type mii</b>
Select an RJ-45 Ethernet connector for the FEIP-2-2TX or an SC connector for the FEIP-2-2FX.	<b>media-type 100baseX</b>

## Configuration Examples

The following example assigns an IP address and subnet mask, specifies an MII Ethernet connector, and enables full-duplex mode on Fast Ethernet interface port 0 in slot 1 port adapter 0:

```
router(config)# interface fastethernet 1/0/0
router(config-if)# ip address 1.1.1.10 255.255.255.0
router(config-if)# full-duplex
router(config-if)# media-type mii
router(config-if)# exit
router(config)# exit
```

## Command Reference

All commands used with this feature are documented in the Cisco IOS Release 11.2 command references.

## What to Do Next

For more information on the FEIP2, refer to the *Second-Generation Fast Ethernet Interface Processor (FEIP2) Installation and Configuration* publication.