



# SFP Auto-Detect and Auto-Failover

Cisco 4000 Series Integrated Services Routers (ISRs) provide a Front Panel Gigabit Ethernet (FPGE) port that supports copper and fiber concurrent connections. Media can be configured for failover redundancy when the network goes down. This feature is supported only on Cisco ISR platforms.

This chapter includes this section:

- [Enabling Auto-Detect, on page 1](#)

## Enabling Auto-Detect

When the media-type is not configured, the Auto-Detect feature is enabled by default. The Auto-Detect feature automatically detects the media that is connected and links up. If both the media are connected, whichever media comes up first is linked. By default, the media-type on FPGE ports is set to auto-select. User can overwrite the media-type configuration to either RJ-45 or SFP using the **media-type rj45/sfp** command under the FPGE interface. The media type configuration also falls back to “Auto-select” mode when the **no media-type** command is configured. You can use the **no media-type** command in interface configuration mode to enable the Auto-Detect feature.

## Configuring Auto-Detect

The Auto-Detect feature is enabled by default on the Front Panel Gige Ports. It is enabled by either configuring "media-type auto-select" or "no media-type". To configure the Auto-Detect, perform these steps:

### SUMMARY STEPS

1. **configure terminal**
2. **interface gigabitethernet {slot | bay | port}**
3. **media-type auto-select**
4. **End**

### DETAILED STEPS

|        | Command or Action                     | Purpose                           |
|--------|---------------------------------------|-----------------------------------|
| Step 1 | <b>configure terminal</b><br>Example: | Enters global configuration mode. |

|               | Command or Action  | Purpose  |
|---------------|--|--|
|               | Router# configure terminal   |  |
| <b>Step 2</b> | <b>interface gigabitethernet {slot   bay   port}</b><br><br><b>Example:</b><br>Router(config)# interface gigabitethernet slot/port | Enters interface configuration mode.   |
| <b>Step 3</b> | <b>media-type auto-select</b><br><br><b>Example:</b><br>Router(config-if)# media-type auto-select                                  | Auto-select mode uses whichever connector is attached. The options are: <ul style="list-style-type: none"> <li>• <b>rj45</b>—Uses RJ45 connector.</li> <li>• <b>sfp</b>—Uses SFP connector.</li> </ul> |
| <b>Step 4</b> | <b>End</b><br><br><b>Example:</b><br>Router(config-if)#end   | Exits to global configuration mode.  |

### Examples

The following example shows the default configuration and the show running configuration does not show any media type when the no media-type is selected.

```
Router(config)# show running interface gigabitethernet 0/0/0
Building configuration...

Current configuration : 71 bytes
!
interface GigabitEthernet0/0/0
 no ip address
 negotiation auto
end
```

## Configuring the Primary and Secondary Media

When the router receives an indication that the primary media is down, the secondary failover media is enabled. After the switchover, the media does not switch back to primary media when the primary media is restored. You need to use either **shut** or **no shut** command or reload the module to switch the media-type back to primary(preferred) media.

To assign the primary or secondary failover media on the GE-SFP port, perform these steps:

### SUMMARY STEPS

1. **configure terminal**
2. **interface gigabitethernet {slot | port}**
3. **media-type rj45 autofailover**
4. **End**

## DETAILED STEPS

|               | Command or Action  | Purpose  |
|---------------|--|--|
| <b>Step 1</b> | <b>configure terminal</b><br><b>Example:</b><br>Router# configure terminal   | Enters global configuration mode.  |
| <b>Step 2</b> | <b>interface gigabitethernet {slot   port}</b><br><b>Example:</b><br>Router(config)# interface gigabitethernet slot/port | Enters interface configuration mode.                                       |
| <b>Step 3</b> | <b>media-type rj45 autofailover</b><br><b>Example:</b><br>Router(config-if)# media-type rj45 autofailover                | Configures the port with rj45 as the primary media for automatic failover. |
| <b>Step 4</b> | <b>End</b><br><b>Example:</b><br>Router(config-if)#end   | Exits to global configuration mode.  |

**Examples**

The following example shows the primary configuration.

```
Router(config)# show running interface gigabitethernet 0/0/0
Building configuration...
```

```
Current configuration : 102 bytes
!
interface GigabitEthernet0/0/0
 no ip address
 media-type rj45 auto-failover
 negotiation auto
end
```

