



# Configuring Auto-MDIX

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## Prerequisites for Auto-MDIX

If the interface is in Layer 3 mode and you want to want to configure Layer 2 parameters, you must first change the interface to Layer 2 mode. Enter the **switchport** interface configuration command without any parameters, to change the interface to Layer 2 mode. This shuts down the interface and then re-enables it, which may generate messages on the device to which the interface is connected. When you change an interface from Layer 3 mode to Layer 2 mode, previous configuration information related to the affected interface might be lost, and the interface is returned to its default configuration.

## Restrictions for Auto-MDIX

- Automatic medium-dependent interface crossover (auto-MDIX) is supported on all 10/100/1000-Mb/s and on 10/100/1000BASE-TX small form-factor pluggable (SFP) module interfaces. It is not supported on 1000BASE-SX or -LX SFP module interfaces.
- The switch might not support a pre-standard powered device such as a Cisco IP phone or an access point that does not fully support IEEE 802.3af, if that powered device is connected to the switch through a crossover cable. This is regardless of whether auto-MIDX is enabled on the switch port or not.

## Information About Auto-MDIX

### Auto-MDIX on an Interface

When auto-MDIX is enabled on an interface, the interface automatically detects the required cable connection type (straight through or crossover) and configures the connection appropriately. When connecting devices without the auto-MDIX feature, you must use straight-through cables to connect to devices such as servers,

workstations, or routers and crossover cables to connect to other devices or repeaters. With auto-MDIX enabled, you can use either type of cable to connect to other devices, and the interface automatically corrects for any incorrect cabling. For more information about cabling requirements, see the hardware installation guide.

This feature is enabled by default.

The following table shows the link states that result from auto-MDIX settings and correct and incorrect cabling.

**Table 1: Link Conditions and Auto-MDIX Settings**

Local Side Auto-MDIX	Remote Side Auto-MDIX	With Correct Cabling	With Incorrect Cabling
On	On	Link up	Link up
On	Off	Link up	Link up
Off	On	Link up	Link up
Off	Off	Link up	Link down

## How to Configure Auto-MDIX

### Configuring Auto-MDIX on an Interface

To configure auto-MDIX on an interface, complete the following steps:

#### Procedure

	Command or Action	Purpose
<b>Step 1</b>	<b>enable</b> <b>Example:</b>  Device> <b>enable</b>	Enables privileged EXEC mode. Enter your password if prompted.
<b>Step 2</b>	<b>configure terminal</b> <b>Example:</b>  Device# <b>configure terminal</b>	Enters global configuration mode
<b>Step 3</b>	<b>interface <i>interface-id</i></b> <b>Example:</b>  Device (config) # <b>interface gigabitethernet 1/0/1</b>	Specifies the physical interface to be configured, and enters interface configuration mode.

	Command or Action	Purpose
<b>Step 4</b>	<b>speed auto</b> <b>Example:</b> Device(config-if)# <b>speed auto</b>	Configures the interface to autonegotiate speed with the connected device.
<b>Step 5</b>	<b>duplex auto</b> <b>Example:</b> Device(config-if)# <b>duplex auto</b>	Configures the interface to autonegotiate duplex mode with the connected device.
<b>Step 6</b>	<b>end</b> <b>Example:</b> Device(config-if)# <b>end</b>	Returns to privileged EXEC mode.
<b>Step 7</b>	<b>copy running-config startup-config</b> <b>Example:</b> Device# <b>copy running-config startup-config</b>	(Optional) Saves your entries in the configuration file.

## Feature History and Information for Auto-MDIX

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to [www.cisco.com/go/cfn](http://www.cisco.com/go/cfn). An account on Cisco.com is not required.

Feature Name	Releases	Feature Information
Auto-MDIX	Cisco IOS Release 15.2(7)E3k	This feature was introduced.

