Configuring Interfaces

This chapter describes basic interface configuration for the ML-Series card to help you get your ML-Series card up and running. Advanced POS interface configuration is covered in Chapter 5, "Configuring POS." For more information about the Cisco IOS commands used in this chapter, refer to the *Cisco IOS Command Reference* publication.

This chapter contains the following major sections:

- General Interface Guidelines, page 4-1
- Basic Interface Configuration, page 4-3
- Basic Fast Ethernet, Gigabit Ethernet, and POS Interface Configuration, page 4-4
- CRC Threshold Configuration, page 4-10
- Monitoring Operations on the Fast Ethernet and Gigabit Ethernet Interfaces, page 4-11

Note Complete the initial configuration of your ML-Series card before proceeding with configuring interfaces.

General Interface Guidelines

The main function of the ML-Series card is to relay packets from one data link to another. Consequently, you must configure the characteristics of the interfaces, which receive and send packets. Interface characteristics include, but are not limited to, IP address, address of the port, data encapsulation method, and media type.

Many features are enabled on a per-interface basis. Interface configuration mode contains commands that modify the interface operation (for example, of an Ethernet port). When you enter the **interface** command, you must specify the interface type and number.

The following general guidelines apply to all physical and virtual interface configuration processes:

- All interfaces have a name that is composed of an interface type (word) and a Port ID (number). For example, FastEthernet 2.
- Configure each interface with a bridge-group or IP address and IP subnet mask.
- VLANs are supported through the use of subinterfaces. The subinterface is a logical interface configured separately from the associated physical interface.
- Each physical interface, including the internal packet-over-SONET/SDH (POS) interfaces, has an assigned MAC address.

MAC Addresses

Every port or device that connects to an Ethernet network needs a MAC address. Other devices in the network use MAC addresses to locate specific ports in the network and to create and update routing tables and data structures.

To find MAC addresses for a device, use the **show interfaces** command, as follows:

```
Router# sh interfaces fastEthernet 0
FastEthernet0 is up, line protocol is up
  Hardware is epif_port, address is 0005.9a39.6634 (bia 0005.9a39.6634)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, Auto Speed, 100BaseTX
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:01, output 00:00:18, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     11 packets input, 704 bytes
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 watchdog, 11 multicast
     0 input packets with dribble condition detected
     3 packets output, 1056 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier
     0 output buffer failures, 0 output buffers swapped out
```

Interface Port ID

The interface port ID designates the physical location of the interface within the ML-Series card. It is the name that you use to identify the interface you are configuring. The system software uses interface port IDs to control activity within the ML-Series card and to display status information. Interface port IDs are not used by other devices in the network; they are specific to the individual ML-Series card and its internal components and software.

The ML100T-12 port IDs for the 12 Fast Ethernet interfaces are Fast Ethernet 0 through 11. The ML1000-2 port IDs for the two Gigabit Ethernet interfaces are Gigabit Ethernet 0 and 1. Both ML-Series cards feature two POS ports, and the ML-Series port IDs for the two POS interfaces are POS 0 and 1. You can use user-defined abbreviations such as f0 through f11 to configure the 12 Fast Ethernet interfaces, gi0 or gi1 to configure the two Gigabit Ethernet interfaces, and POS0 and POS1 to configure the two POS ports.

You can use Cisco IOS **show** commands to display information about any or all the interfaces of the ML-Series card.

Basic Interface Configuration

The following general configuration instructions apply to all interfaces. Before you configure interfaces, develop a plan for a bridge or routed network.

To configure an interface, do the following:

Step 1 Enter the **configure** EXEC command at the privileged EXEC prompt to enter global configuration mode.

```
Router> enable
Password:
Router# configure terminal
Router(config)#
```

Step 2 Enter the **interface** command, followed by the interface type (for example, fastethernet, gigabitethernet, or pos), and its interface port ID (see the "Interface Port ID" section on page 4-2).

For example, to configure a Gigabit Ethernet port, enter this command:

```
Router(config)# interface gigabitethernet number
```

Step 3 Follow each **interface** command with the interface configuration commands required for your particular interface.

The commands you enter define the protocols and applications that will run on the interface. The ML-Series card collects and applies commands to the **interface** command until you enter another **interface** command or a command that is not an interface configuration command. You can also enter **end** to return to privileged EXEC mode.

Step 4 Check the status of the configured interface by entering the EXEC **show interface** command.

```
Router# sh interface fastEthernet 0
FastEthernet0 is up, line protocol is up
 Hardware is epif_port, address is 0005.9a39.6634 (bia 0005.9a39.6634)
 MTU 1500 bytes, BW 100000 Bit, DLY 100 use,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, Auto Speed, 100BaseTX
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:01, output 00:00:18, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     11 packets input, 704 bytes
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 watchdog, 11 multicast
     0 input packets with dribble condition detected
     3 packets output, 1056 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier
     0 output buffer failures, 0 output buffers swapped out
```

Basic Fast Ethernet, Gigabit Ethernet, and POS Interface Configuration

ML-Series cards support Fast Ethernet, Gigabit Ethernet, and POS interfaces. This section provides some examples of configurations for all interface types.

To configure an IP address or bridge-group number on a Fast Ethernet, Gigabit Ethernet, or POS interface, perform the following procedure, beginning in global configuration mode:

	Command	Purpose
Step 1	`Router(config)# interface type number`	Activates interface configuration mode to configure either the Gigabit Ethernet interface, the Fast Ethernet interface, or the POS interface.
Step 2	`Router(config-if)# {ip address ip-address subnet-mask | bridge-group bridge-group-number}`	Sets the IP address and IP subnet mask to be assigned to the interface. or Assigns a network interface to a bridge group.
Step 3	`Router(config-if)# no shutdown`	Enables the interface by preventing it from shutting down.
Step 4	`Router(config)# end`	Returns to privileged EXEC mode.
Step 5	`Router# copy running-config startup-config`	(Optional) Saves configuration changes to timing and control card (TCC2/TCC2P) flash database.

Configuring the Fast Ethernet Interfaces (ML100T-12)

To configure the IP address or bridge-group number, autonegotiation, and flow control on a Fast Ethernet interface, perform the following procedure, beginning in global configuration mode:

	Command	Purpose
Step 1	`Router(config)# interface fastethernet number`	Activates interface configuration mode to configure the Fast Ethernet interface.
Step 2	`Router(config-if)# {ip address ip-address subnet-mask | bridge-group bridge-group-number}`	Sets the IP address and IP subnet mask to be assigned to the interface. or Assigns a network interface to a bridge group.
Step 3	`Router(config-if)# [no] speed {10 | 100 | auto}`	Configures the transmission speed for 10 or 100 Mbps. If you set the speed or duplex for **auto**, you enable autonegotiation on the system—the ML-Series card matches the speed and duplex mode of the partner node.
Step 4	`Router(config-if)# [no] duplex {full | half | auto}`	Sets full duplex, half duplex, or autonegotiate mode.

	Command	Purpose
Step 5	`Router(config-if)# flowcontrol send {on | off | desired}`	(Optional) Sets the send flow control value for an interface. Flow control works only with port-level policing. ML-Series card Fast Ethernet port flow control is IEEE 802.3x compliant.
Step 6	`Router(config-if)# no shutdown`	Enables the interface by preventing it from shutting down.
Step 7	`Router(config)# end`	Returns to privileged EXEC mode.
Step 8	`Router# copy running-config startup-config`	(Optional) Saves your configuration changes to TCC2/TCC2P flash database.

Example 4-1 shows how to do the initial configuration of a Fast Ethernet interface with an IP address, autonegotiated speed, and autonegotiated duplex.

Example 4-1 Initial Configuration of a Fast Ethernet Interface

```
Router(config)# interface fastethernet 1
Router(config-if)# ip address 10.1.2.4 255.0.0.0
Router(config-if)# speed auto
Router(config-if)# duplex auto
Router(config-if)# no shutdown
Router(config-if)# end
Router# copy running-config startup-config
```

Configuring the Gigabit Ethernet Interface (ML1000-2)

To configure IP address or bridge-group number, autonegotiation, and flow control on a Gigabit Ethernet interface, perform the following procedure, beginning in global configuration mode:

Note The default setting for the negotiation mode is **auto** for the Gigabit Ethernet and Fast Ethernet interfaces. The Gigabit Ethernet port always operates at 1000 Mbps in full-duplex mode.

	Command	Purpose
Step 1	`Router (config)# interface gigabitethernet` *number*	Activates interface configuration mode to configure the Gigabit Ethernet interface.
Step 2	`Router(config-if)# {ip address` *ip-address subnet-mask* `| bridge-group` *bridge-group-number*`}`	Sets the IP address and subnet mask. or Assigns a network interface to a bridge group.
Step 3	`Router(config-if)# [no] negotiation auto`	Sets negotiation mode to **auto**. The Gigabit Ethernet port attempts to negotiate the link with the partner port. If you want the port to force the link up no matter what the partner port setting is, set the Gigabit Ethernet interface to **no negotiation auto**.

	Command	Purpose
Step 4	`Router(config-if)# flowcontrol {send | receive} {on | off | desired}`	(Optional) Sets the send or receive flow control value for an interface. Flow control works only with port-level policing. ML-Series card Gigabit Ethernet port flow control is IEEE 802.3z compliant.
Step 5	`Router(config-if)# no shutdown`	Enables the interface by preventing it from shutting down.
Step 6	`Router(config)# end`	Returns to privileged EXEC mode.
Step 7	`Router# copy running-config startup-config`	(Optional) Saves configuration changes to TCC2/TCC2P flash database.

Example 4-2 shows how to do an initial configuration of a Gigabit Ethernet interface with autonegotiation and an IP address.

Example 4-2 Initial Configuration of a Gigabit Ethernet Interface

```
Router(config)# interface gigabitethernet 0
Router(config-if)# ip address 10.1.2.3 255.0.0.0
Router(config-if)# negotiation auto
Router(config-if)# no shutdown
Router(config-if)# end
Router# copy running-config startup-config
```

Configuring Gigabit Ethernet Remote Failure Indication (RFI)

Remote Failure Indication (RFI) is part of the IEEE 802.3z standard and is sent to exchange failure information as part of link negotiation. This feature improves communication between non-Cisco equipment and the ML1000-2. RFI is not on by default but can be turned on by the user. Disabling RFI is sometimes necessary when a non-Cisco piece of equipment does not support the IEEE 802.3z standard implementation of RFI.

RFI on the ML-Series card supports bi-directional RFI. When there is a a local fault on the ML-Series card, the ML-Series card will raise a local CARLOSS alarm and send its link partner an RFI. If an ML-Series card receives an RFI from its link partner, it raises the AUTONEG-RFI alarm and shuts down the Gigabit Ethernet port.

To enable RFI on a Gigabit Ethernet interface, perform the following procedure, beginning in global configuration mode:

	Command	Purpose
Step 1	`Router (config)# interface gigabitethernet` *number*	Activates interface configuration mode to configure the Gigabit Ethernet interface.
Step 2	`Router(config-if)# [no] rfi auto`	Enables IEEE 802.3z standard RFI. The **no** form of the command disables RFI.
Step 3	`Router(config)# end`	Returns to privileged EXEC mode.
Step 4	`Router# copy running-config startup-config`	(Optional) Saves configuration changes to TCC2/TCC2P flash database.

Example 4-2 shows how to do an initial configuration of RFI on a Gigabit Ethernet interface.

Example 4-3 RFI Configuration of a Gigabit Ethernet Interface

```
Router(config)# interface gigabitethernet 0
Router(config-if)# rfi auto
Router(config-if)# end
Router# copy running-config startup-config
```

Monitoring and Verifying Gigabit Ethernet Remote Failure Indication (RFI)

After RFI is configured, you can verify that RFI is enabled by using the global command **show running configuration**. **Example 4-4** shows the output from this command, and the "rfi auto" line under each of the Gigabit Ethernet port's output signifies RFI is enabled on these ports.

More specific RFI information is revealed with the global **show controller gigabit ethernet [0 | 1]** command**:**

- **Example 4-5 s**hows the full output from this command on a near-end ML-Series card when no faults are detected at the near-end or far-end. The Remote Fault Indication is 00 or no error, and the Local Fault Indication is 00 or no error.
- **Example 4-6 s**hows the partial output from this command on a near-end ML-Series card when a fault is detected at the near-end. The Remote Fault Indication is 00 or no error, but the Local Fault Indication is 01 or link error.
- **Example 4-7 s**hows the partial output from this command on a far-end ML-Series card when a fault is detected at the near-end. The Remote Fault Indication is 01 or link error, and the Local Fault Indication is 00 or no error.

Note If the far-end link partner resets within approximately two minutes of the near-end ML-Series card sending an RFI signalling link error, the link partner will not display the RFI link error indication when back up.

Example 4-4 show run Command Output for RFI

```
Router# show running configuration
Building configuration...

Current configuration : 806 bytes
!
! No configuration change since last restart
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Interop-261-TOP-
!
boot-start-marker
boot-end-marker
!
enable password lab
!
clock timezone PST -8
```

```
clock summer-time PDT date Apr 2 2006 2:00 Oct 29 2006 2:00
ip subnet-zero
!
no mpls traffic-eng auto-bw timers frequency 0

interface GigabitEthernet0
 no ip address
 rfi auto
!
interface GigabitEthernet1
 no ip address
 rfi auto
```

Example 4-5 show controller Command Output for RFI on near-end card with no faults detected

```
Near_End# show controller gigabit ethernet 0
IF Name: GigabitEthernet0
Port Status UP
Port rxLosState Signal present
Remote Fault Indication 00  (no error)
Local Fault Indication 00  (no error)
Port 0 Gmac Loopback false
SFP EEPROM information
----------------------
0x0 : 03 04 07 00 00 00 02 12 00 01 01 01 0C 00 0A 64
0x10: 37 37 00 00 46 49 4E 49 53 41 52 20 43 4F 52 50
0x20: 2E 20 20 20 00 00 FFFFFF90 65 46 54 52 4A 2D 31 33 31
0x30: 39 2D 37 44 2D 43 53 43 00 00 00 00 05 1E 00 00

GBIC Type: GBIC_1000BASE_LH
Send Flow Control: Enabled (Port level policing required to send pause frames)
Receive Flow Control : Enabled
CRC-ALARM: FALSE

MAC registers:
GCR: 0x0         CMCR : 0x00000803 (Tx Enabled, Rx Enabled)

MII registers of External GMAC:
Control Register              (0x00): 0x1140 (Auto negotation Enabled)
Status Register               (0x01): 0x16D  (Link Status Up)
Auto Neg. Advt. Register      (0x04): 0x1A0  (Dir 1, Sym 1)
Auto Neg. Partner Ability Reg (0x05): 0x41A0 (Dir 1, Sym 1)
TR_IPG_TIME Register          (0x10): 0x7
PAUSE_TIME Register           (0x11): 0x100
PAUSE_SA1 Register            (0x13): 0x0
PAUSE_SA2 Register            (0x14): 0x0
PAUSE_SA3 Register            (0x15): 0x0
Pause Upper Threshold Reg.    (0x19): 0x80
Pause Lower Threshold Reg.    (0x1A): 0xFF
TX Full Threshold Register    (0x1B): 0x40
Memory Address Register       (0x1C): 0xF008
Sync Status Register          (0x1D): 0x40
Sys Status Register           (0x1E): 0x98
Sys Control Register          (0x1F): 0x14
Auto Neg Ctrl Register      (0xF004): 0x7
Rx Uinfo Registerter-GMAC   (0xF006): 0x0
RX control Register-GMAC    (0xF009): 0x3
RX Oversize Register-GMAC   (0xF00A): 0x5F4
Statistics control register (0xF008): 0x1

Counters :
MAC receive conters:
Bytes                     1952660
```

```
pkt64                     0
pkts64to127               0
pkts128to255              0
pkts256to511              5485
pkts512to1023             0
pkts1024to1518            0
pkts1519to1530            0
pkts_good_giants          0
pkts_error_giants         0
pkts_good_runts           0
pkts_error_runts          0
pkts_ucast                0
pkts_mcast                5485
pkts_bcast                0
Rx Sync Loss              0
Overruns                  0
FCS_errors                0
GMAC drop count           0
Symbol error              0
Rx Pause frames           0

MAC Transmit Counters
5d00h: %LINK-3-UPDOWN: Interface GigabitEthernet0, changed state to down
5d00h: %ETHERCHAN-5-MEMREMOVED: GigabitEthernet0 taken out of port-channel1
5d00h: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0, changed
 staBytes                      1952660
pkts64                    0
pkts65to127               0
pkts128to255              0
pkts256to511              5485
pkts512to1023             0
pkts1024to1518            0
pkts1519to1530            0
Good Giants               0
Unicast packets           0
Multicast packets         5485
Broadcast packets         0
FCS errors                0
Tx Pause frames           0
Ucode drops               0
```

Example 4-6 show controller Command Output for RFI on Near-end Card with Near-end Fault

```
Near_End# show controller gigabit ethernet 0
IF Name: GigabitEthernet0
Port Status DOWN
Port rxLosState No signal
Remote Fault Indication 00  (no error)
Local Fault Indication 01  (link error)
Port 0 Gmac Loopback false
```

Example 4-7 show controller Command Output for RFI on Far-end Card with Near-end Fault

```
Far_End# show controller gigabit ethernet 0
IF Name: GigabitEthernet0
Port Status DOWN
Port rxLosState Signal present
Remote Fault Indication 01  (link error)
Local Fault Indication 00  (no error)
Port 0 Gmac Loopback false
```

Configuring the POS Interfaces (ML100T-12 and ML1000-2)

Encapsulation changes on POS ports are allowed only when the interface is in a manual shutdown (ADMIN_DOWN). For advanced POS interface configuration, see Chapter 5, "Configuring POS."

To configure the IP address, bridge group, or encapsulation for the POS interface, perform the following procedure, beginning in global configuration mode:

	Command	Purpose
Step 1	`Router(config)# interface pos number`	Activates interface configuration mode to configure the POS interface.
Step 2	`Router(config-if)# {ip address ip-address subnet-mask | bridge-group bridge-group-number}`	Sets the IP address and subnet mask. or Assigns a network interface to a bridge group.
Step 3	`Router(config-if)# shutdown`	Manually shuts down the interface. Encapsulation changes on POS ports are allowed only when the interface is shut down (ADMIN_DOWN).
Step 4	`Router(config-if)# encapsulation type`	Sets the encapsulation type. Valid values are: • **hdlc**—Cisco HDLC • **lex**—(Default) LAN extension, special encapsulation for use with Cisco ONS Ethernet line cards • **ppp**—Point-to-Point Protocol
Step 5	`Router(config-if)# no shutdown`	Restarts the shutdown interface.
Step 6	`Router(config)# end`	Returns to privileged EXEC mode.
Step 7	`Router# copy running-config startup-config`	(Optional) Saves configuration changes to NVRAM.

CRC Threshold Configuration

You can configure a span shutdown when the ML-Series card receives CRC errors at a rate that exceeds the configured threshold and configured soak time. ML cards support CRC threshold configuration functionality on FE / GE / POS.

To enable and configure the triggers for CRC errors on POS , perform the following procedure, beginning in global configuration mode:

	Command	Purpose
Step 1	*Router(config)#int pos0* *Router(config-if)#trigger crc-error threshold <threshold_value>*	Sets the CRC threshold value. If the percentage of CRC errored frames received on this interface is greater than this value, we consider this interface as seeing excessive CRC. The valid values are 2, 3 and 4 indicating thresholds of 10e-2 (1%), 10e-3(0.1%) and 10e-4(.01%). The default value is 3.
Step 2	Router(config-if)#no trigger crc-error threshold < threshold_value>	Sets the threshold value back to the default value 3.
Step 3	Router(config)#int pos0 Router(config-if)#trigger crc-error delay <soak_time_in_minutes>	Sets the number of consecutive minutes for which excessive CRC errors should be seen to raise an excessive CRC indication. The valid values are from 3 minutes to 10 minutes. Default is 10minutes.
Step 4	*Router(config-if)#no trigger crc-error delay <soak_time_in_minutes>*	Sets the soak value back to the default of 10 minutes.
Step 5	Router(config)#int pos0 Router(config-if)#trigger crc-error action	Enable trigger action. This configuration will bring the interface down on seeing CRC errors greater than configured <threshold value> for soak time period.
Step 6	Router(config-if)#no trigger crc-error action	Disables trigger action.

Monitoring Operations on the Fast Ethernet and Gigabit Ethernet Interfaces

To verify the settings after you have configured the interfaces, enter the **show interface** command. For additional information on monitoring the operations on POS interfaces, see the "Configuring POS" chapter.

Example 4-8 shows the output from the **show interface** command, which displays the status of the interface including port speed and duplex operation.

Example 4-8 show interface Command Output

```
Router# show interface fastEthernet 0
FastEthernet1 is administratively down, line protocol is down
Hardware is epif_port, address is 000d.bd5c.4c85 (bia 000d.bd5c.4c85)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto Speed, 100BaseTX
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
```

```
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes
Received 0 broadcasts (0 IP multicast)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier
0 output buffer failures, 0 output buffers swapped out
```

Enter the **show controller** command to display information about the Fast Ethernet controller chip.

Example 4-9 shows the output from the **show controller** command, which shows statistics, including information about initialization block information.

Example 4-9 show controller Command Output

```
Router# show controller fastEthernet 0
IF Name: FastEthernet0
Port Status DOWN
Send Flow Control    : Disabled
Receive Flow Control : Enabled
MAC registers
CMCR : 0x0000042D (Tx Enabled, Rx Disabled)
CMPR : 0x150B0A80 (Long Frame Disabled)
FCR  : 0x0000A00B (Rx Pause detection Enabled)
MII registers:
Control Register              (0x0): 0x4000 (Auto negotiation disabled)
Status Register               (0x1): 0x7809 (Link status Down)
PHY Identification Register 1 (0x2): 0x40
PHY Identification Register 2 (0x3): 0x61D4
Auto Neg. Advertisement Reg   (0x4): 0x1E1  (Speed 100, Duplex Full)
Auto Neg. Partner Ability Reg (0x5): 0x0    (Speed 10, Duplex Half)
Auto Neg. Expansion Register  (0x6): 0x4
100Base-X Aux Control Reg    (0x10): 0x2000
100Base-X Aux Status Register(0x11): 0x0
100Base-X Rcv Error Counter  (0x12): 0x0
100Base-X False Carr. Counter(0x13): 0x0
```

Enter the **show run interface** [*type number]* command to display information about the configuration of the Fast Ethernet interface. The command is useful when there are multiple interfaces and you want to look at the configuration of a specific interface.

Example 4-10 shows output from the **show run interface** [*type number]* command, which includes information about the IP or lack of IP address and the state of the interface.

Example 4-10 show run interface Command Output

```
daytona# show run interface FastEthernet 1
Building configuration...

Current configuration : 56 bytes
!
interface FastEthernet1
no ip address
shutdown
```

```
end
```