

# Clock Rate Command Enhancements

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## Description

The **clock rate** interface command has been enhanced for the synchronous serial port adapters (PA-8T-V35, PA-8T-X21, PA-8T-232, and PA-4T+) on Cisco 7200 series routers, on second-generation Versatile Interface Processors (VIP2s) in Cisco 7500 series routers, and on Cisco 7000 series routers with the 7000 Series Route Switch Processor (RSP7000) and 7000 Series Chassis Interface (RSP7000CI). For these port adapters, a nonstandard clock rate can be used. The clock rate you enter is rounded (if needed) to the nearest value that your hardware can support.

## Platforms

This feature is supported on these platforms:

- Cisco 7200 series
- Cisco 7500 series
- Cisco 7000 series routers with the RSP7000 and RSP7000CI

## Configuration Tasks

To configure the clock rate on serial interfaces, perform the following task in interface configuration mode:

Task	Command
Configure the clock rate on serial interfaces.	<b>clock rate</b> <i>bps</i>

For the synchronous serial port adapters (PA-8T-V35, PA-8T-X21, PA-8T-232, and PA-4T+) on Cisco 7200 series routers, on second-generation Versatile Interface Processors (VIP2s) in 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 clock rate you enter is rounded (if needed) to the nearest value that your hardware can support. To display the clock rate value for the port adapter, use the **show running-configuration** command.

## Configuration Examples

The following example shows how to configure serial interface 5/0 with a clock rate that is rounded to the nearest value that is supported by the hardware.

```
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)# interface serial 5/0
Router(config-if)# clock rate 1234567
%clock rate rounded to nearest value that your hardware can support.
%Use Exec Command 'show running-config' to see the value rounded to.
Router(config-if)# exit
Router(config)#
```

The following example shows how to determine the exact clock rate that the serial interface was rounded to using the **show running-config** command. This example shows only the relevant information displayed by the **show running-config** command; other information was omitted.

```
Router# show running-config
Building configuration...
...
!
interface Serial5/0
  no ip address
  clock rate 1151526
!
...
```

## Command Reference

This section documents the modified **clock rate** command. All other commands used with this feature are documented in the Cisco IOS Release 11.2 command references.

### clock rate

To configure the clock rate for the hardware connections on serial interfaces such as network interface modules (NIMs) and interface processors to an acceptable bit rate, use the **clock rate** interface configuration command. Use the **no** form of this command to remove the clock rate if you change the interface from a DCE to a DTE device. Using the **no** form of this command on a DCE interface sets the clock rate to the hardware-dependent default value.

**clock rate** *bps*  
**no clock rate**

#### Syntax Description

*bps* Desired clock rate in bits per second: 1200, 2400, 4800, 9600, 19200, 38400, 56000, 64000, 72000, 125000, 148000, 250000, 500000, 800000, 1000000, 1300000, 2000000, 4000000, or 8000000.

For the synchronous serial port adapters (PA-8T-V35, PA-8T-X21, PA-8T-232, and PA-4T+), a nonstandard clock rate can be used. You can enter any value from 300 to 8000000 bps. The clock rate you enter is rounded (adjusted) if necessary to the nearest value your hardware can support except for the following standard rates: 1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 56000, 64000, 128000, or 2015232

## Default

No clock rate is configured.

## Command Mode

Interface configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 10.0.

This command was modified in Cisco IOS Release 11.2 P and 11.1 CA to include nonstandard clock rates for the PA-8T-V35, PA-8T-X21, PA-8T-232, and PA-4T+ synchronous serial port adapters.

Be aware that the fastest speeds might not work if your cable is too long, and that speeds faster than 148,000 bits per second are too fast for EIA/TIA-232 signaling. It is recommended that you only use the synchronous serial EIA/TIA-232 signal at speeds up to 64,000 bits per second. To permit a faster speed, use EIA/TIA-449 or V.35.

For the synchronous serial port adapters (PA-8T-V35, PA-8T-X21, PA-8T-232, and PA-4T+) on Cisco 7200 series routers, on second-generation Versatile Interface Processors (VIP2s) in 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 clock rate you enter is rounded (if needed) to the nearest value that your hardware can support. To display the clock rate value for the port adapter, use the **show running-configuration** command.

If you plan on netbooting your router over a synchronous serial port adapter interface and you have a boot image prior to Cisco IOS Release 11.1(9)CA that does not support nonstandard (rounded) clock rates for the port adapters, you must use one of the following standard clock rates:

1200, 2400, 4800, 9600, 19200, 38400, 56000, 64000

## Examples

The following example sets the clock rate on the first serial interface to 64,000 bits per second:

```
interface serial 0
clock rate 64000
```

The following example sets the clock rate on a synchronous serial port adapter in slot 5, port 0 to 1234567. In this example, the clock rate is adjusted to 1151526 bps.

```
interface serial 5/0
clock rate 1234567
%clock rate rounded to nearest value that your hardware can support.
%Use Exec Command 'show running-config' to see the value rounded to.
```

