

# UIO Serial Port Commands

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This chapter describes the commands to configure the Universal I/O (UIO) serial ports 0 and 1 on Cisco MC3810 series concentrators. The following are the UIO serial port commands:

- **clock rate**
- **clock rate line**
- **clock rate network**
- **encapsulation clear-channel**
- **invert rxclock**
- **invert txclock**

## clock rate

To configure serial port 0 or 1 in DCE mode to use clock from the baud rate generator, use the **clock rate** interface configuration command. Use the **no** form of this command to cancel use of the baud rate generator.

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

### Syntax Description

*rate* Desired clock rate in bits per second. The range is 56000 to 2048000. The value entered should be 1000 multiplied by the value set for the **network-clock base-rate** command. There is no default rate

### Defaults

No clock rate is configured.

### Command Mode

Interface configuration

### Command History

Release	Modification
10.0	This command was first introduced.
11.3 MA	This command was modified in to include clock rates for the Cisco MC3810.

### Usage Guidelines

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.

### Examples

The following example sets the clock on serial port 0 for a clock rate of 64000 bps:

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

## clock rate line

To configure serial port 0 in DTE mode for the incoming line clock rate, use the **clock rate line** interface configuration command. Use the **no** form of this command to cancel the clock rate line value.

**clock rate line** *rate*  
**no clock rate line** *rate*

### Syntax Description

*rate* Network clock rate of the incoming line, in bits per second (bps). The value entered must be a multiple of 8000, with a range of 8000 to 2048000. There is no default rate.

### Defaults

No clock rate is configured.

### Command Mode

Interface configuration

### Command History

Release	Modification
11.3 MA	This command was first introduced.

### Usage Guidelines

The value specified with this command must be the clock rate of the incoming line, in bits per second (bps). This allows the appropriate internal clock scaling to be performed, so that the internal clock generator can synchronize to the incoming clock.

### Examples

The following example configures serial port 0 to recover a clock with a rate of 64000 bps:

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

### Related Commands

Command	Description
<b>network clock select 1 serial 0</b>	Configures the internal clock generator to synchronize to the clock signal recovered from serial port 0.

## clock rate network

To configure the network clock rate for serial port 0 or 1 in DCE mode, use the **clock rate network** interface configuration command. The **no** form of this command cancels the network clock rate value.

**clock rate network** *rate*  
**no clock rate network** *rate*

### Syntax Description

*rate* Network clock rate in bits per second. The range is 56000 to 2048000. The value entered should be a 1000 x multiple of the value set for the **network-clock base-rate** command. There is no default rate.

### Defaults

No network clock rate is configured.

### Command Mode

Interface configuration

### Command History

Release	Modification
11.3 MA	This command was first introduced.

### Usage Guidelines

This command synchronizes a serial port to the Cisco MC3810 internal clock generator. The use of this command allows the clock on a DCE serial port to be synchronized with any incoming clock.

### Examples

The following example sets the clock rate on serial port 0 in DCE mode to 64000 bps:

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

### Related Commands

Command	Description
<b>network-clock base-rate</b>	Configures the base rate for serial ports 0 and 1 in DCE mode to operate at a rate compatible with T1 or E1.

## encapsulation clear-channel

To configure serial interface 0 or 1 to be in clear-channel mode for pass-through traffic, use the **encapsulation clear-channel** interface command. Use the **no** form of this command to disable clear-channel encapsulation.

**encapsulation clear-channel**  
**no encapsulation clear-channel**

### Syntax Description

This command has no arguments or keywords.

### Defaults

Clear-channel encapsulation is not configured.

### Command Mode

Interface configuration

### Command History

Release	Modification
11.3 MA	This command was first introduced.

### Usage Guidelines

When a serial interface is configured for clear-channel encapsulation, it is capable of being cross-connected to the trunk.

### Examples

The following example configures serial port 0 for clear-channel encapsulation:

```
interface serial 0
 encapsulation clear-channel
```

### Related Commands

Command	Description
<b>cross-connect</b>	Configures a connection between a voice dial peer and the FTC trunk.

## invert rxclock

To invert the phase of local clock used for timing incoming data on a UIO serial port in DCE mode, use the **invert rxclock** interface configuration command. To cancel the phase inversion, use the **no** form of this command.

**invert rxclock**  
**no invert rxclock**

### Syntax Description

This command has no arguments or keywords.

### Defaults

Clock phase is not inverted.

### Command Mode

Interface configuration

### Command History

Release	Modification
11.3 MA	This command was first introduced.

### Usage Guidelines

Use this command when received data is phase-shifted due to delay caused by cable length, and the far-end DTE interface does not loop back the transmit clock.

If the far-end DTE interface loops back the transmit clock, use the **dce-terminal-timing enable** command to synchronize the received data at the DCE interface with the looped-back clock.

### Examples

The following example inverts the phase of the clock that times received data on serial port 0:

```
interface serial 0
invert rxclock
```

### Related Commands

Command	Description
<b>dce-terminal-timing enable</b>	Prevents phase shifting of received data with respect to clock
<b>invert txclock</b>	Inverts the phase of the incoming transmit clock on a serial port in DTE mode.

## invert txclock

To invert the phase of incoming transmit clock on a UIO serial port in DTE mode, use the **invert txclock** interface configuration command. To cancel the phase inversion, use the **no** form of this command.

```
invert txclock
no invert txclock
```

### Syntax Description

This command has no arguments or keywords.

### Defaults

Clock phase is not inverted.

### Command Mode

Interface configuration

### Command History

Release	Modification
10.0	This command was first introduced as <b>invert-transmit-clock</b> .
11.3	The command syntax was changed to <b>invert txclock</b> .

### Usage Guidelines

Use this command for a serial port operating in DTE mode if the DTE interface does not loop the transmit clock back, and the data received at the far end is phase-shifted due to delay caused by cable length.

If the a DTE interface loops back the transmit clock, use the **dce-terminal-timing enable** command at the far-end DCE interface to synchronize the received data at the DCE interface with the looped-back clock, and do not use the **invert txclock** command.

### Examples

The following example inverts the phase of the transmit clock on serial port 0:

```
interface serial 0
invert txclock
```

### Related Commands

Command	Description
<b>dce-terminal-timing enable</b>	Prevents phase shifting of received data with respect to clock
<b>invert rxclock</b>	Inverts the phase of local clock used for timing incoming data on a UIO serial port in DCE mode.

