

# Configuring Video Support on the Cisco MC3810

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This chapter describes how to configure the Cisco MC3810 for video support. For a description of the commands used to configure video support, refer to the “Video-Related Commands” chapter in the *Voice, Video, and Home Applications Command Reference*

The Cisco MC3810 supports video traffic within a data stream in two ways:

- Video in pass-through mode—Using this method, video traffic received from a video CODEC connected to a universal I/O serial port can be transported on a dedicated timeslot between systems using the time-division multiplexing (TDM) functionality of the T1/E1 trunk.
- Video over ATM AAL1—A serial stream from a video CODEC connected to a Cisco MC3810 on serial port 0 or 1 can be converted to ATM and transported across an ATM network using AAL1 Circuit Emulation Services (CES) encapsulation.

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**Note** Only V.35 cable is supported for video traffic over serial port 0 or 1.

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Before you can configure your Cisco MC3810 to support video traffic, you must first configure the clock source for the Cisco MC3810 interfaces. For more information, refer to the “Configuring Synchronous Clocking on the Cisco MC3810” appendix.

## Configuring Video in Pass-Through Mode

To configure support for video in pass-through mode, use the following commands beginning in global configuration mode:

Step	Command	Purpose
1	<b>network-clock base-rate</b> {56k   64k}	Configure the network-clock base rate. The default is 56 kbps.
2	<b>interface serial</b> <i>number</i> { <b>multipoint</b>   <b>point-to-point</b> }	Enter serial interface configuration mode for either serial port 0 or 1.  If the video connection will be over a point-to-point network, specify the <b>point-to-point</b> option. The default option, <b>multipoint</b> , assumes you have a fully meshed network.
3	<b>encapsulation clear-channel</b>	Configure the serial interface to be in clear-channel mode for pass-through traffic.
4	<b>clock rate network-clock rate</b>	If the interface is in DCE mode, configure the network clock speed. The maximum rate supported is 2048 MB.

Step	Command	Purpose
5	<b>exit</b>	Exit interface configuration mode.
6	<b>controller t1 0</b>	Enter controller configuration mode for controller T1 0.
7	<b>tdm-group</b> <i>tdm-group-no timeslot timeslot-list</i>	Configure a list of time slots for creating clear channel groups (pass-through) for TDM cross-connect.
8	<b>exit</b>	Exit controller configuration mode.
9	<b>cross-connect</b> <i>id interface-serial controller tdm-group-no</i>	Configure cross-connect pass-through from UIO serial port 0 or 1 to a controller.

## Configuring Video over ATM AAL1

To configure support for video streaming data over ATM AAL1 encapsulation using Circuit Emulation Services (CES), use the following commands beginning in global configuration mode:

Step	Command	Purpose
1	<b>network-clock base-rate 64k</b>	Configure the network clock base-rate to 64 kbps.
2	<b>controller {t1   e1} 0</b>	Select T1/E1 controller 0. ATM is supported only on controller 0.
3	<b>mode atm</b>	Specify that the controller will support ATM encapsulation, and to create virtual ATM interface 0, which you will use to create the ATM PVCs.
4	<b>exit</b>	Exit controller configuration mode.
5	<b>interface atm 0</b> { <b>multipoint</b>   <b>point-to-point</b> }	Enter interface configuration mode to configure ATM interface 0.
6	<b>pvc</b> [ <i>vpi/vci</i> ] <i>vci</i>	Create an ATM PVC and enter virtual circuit configuration mode.
7	<b>encapsulation aal1</b>	Set the PVC to support aal1 encapsulation for video.
8	<b>cbr</b> <i>rate</i>	Enable constant bit rate (CBR) calculation on the PVC. By default, the <i>rate</i> value used is the value configured with the <b>vc-class</b> command. The valid rate is from 56 to 10,000 kbps. The formula to calculate the CBR is 1.14 times the clock rate on the serial port.
9	<b>exit</b>	Exit ATM virtual circuit interface configuration mode.
10	<b>exit</b>	Exit interface configuration mode.
11	<b>interface serial</b> <i>number</i> { <b>multipoint</b>   <b>point-to-point</b> }	Enter serial interface configuration mode for either serial port 0 or 1.
12	<b>clock rate network-clock</b> <i>rate</i>	If the interface is in DCE mode, configure the network clock speed on the interface to support video traffic. The maximum rate supported is 2048 megabytes. The value must be a multiple of 64 kbps.
13	<b>encapsulation atm-ces</b>	Configure the ATM encapsulation type to ATM-CES.
14	<b>ces connect atm0 pvc</b> [ <i>name</i>   [ <i>vpi</i> ]/ <i>vci</i> ]	Map the CES service to the PVC. The ATM 0 interface must be specified, and the ATM PVC must be configured.

## Tuning Circuit Emulation Services Settings

Video streaming traffic over AAL1 uses CES. The default CES settings are sufficient for most configurations. However, you can tune the CES settings as needed.

To change the CES settings, use the following commands beginning in interface configuration mode:

Step	Command	Purpose
1	<b>ces initial-delay</b>	Configure the maximum size of the CES circuit transmit buffer. The range is from 1 to 16,000 bytes, and the default is 4000.
2	<b>ces partial-fill <i>octets</i></b>	Configure the number of user octets per cell for CES. The default is 47.

## CES Video Traffic Configuration Example

The following is an example for configuring video traffic over ATM AAL1 using Circuit Emulation Services (CES) on a Cisco MC3810:

```

network-clock base-rate 64k

controller T1 0
 mode atm

interface Serial0 point-to-point
 no ip address
 encapsulation atm-ces
 clockrate network-clock 768000
 ces connect 25 atm0 pvc 25/100

interface ATM0 point-to-point
 ip address 223.223.224.229 255.255.255.0
 no ip mroute-cache
 no ip route-cache
 map-group atm1
 pvc 25 25 100
 encapsulation aal1
 cbr 870

no ip classless

map-list atm1
 ip 223.223.224.228 atm-vc 26 broadcast

line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 login

end

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