

## Chapter 16

# Configuring X.21/V.35 Modules

The NMC-RX application supports the X.21/V.35 module, which supports high-speed WAN switching services such as Frame Relay and PPP.

Topic	Page
Overview	276
Configuration Tasks	277
Configuring an X.21/V.35 Module	277

### Overview

X.21 interfaces provide synchronous operation between data communications equipment (DCE) and data terminal equipment (DTE) on public data networks.

V.35 interfaces provide synchronous operation between DCE and DTE for data communication over the telephone network. Although the V.35 standard is considered obsolete and is no longer supported by ITU-T, many V.35 connections still exist in telephone networks.

ERX-7xx models and the ERX-1410 router support the X.21/V.35 line module and I/O module. The ERX-1440 router does not support the X.21/V.35 line module and I/O module.

The X.21/V.35 interface comprises an HDLC layer. You can configure other protocols over this HDLC layer.

X.21/V.35 line modules pair with I/O modules to provide particular capabilities and connections.

See Table 34, the *E-series Installation and User Guide*, and the *E-series Physical Layers Configuration Guide* for complete module details.

**Table 34: X.21/V.35 line modules and I/O modules**

Line Module	I/O Module	Description	NMC-RX Software Reference Name
X.21/V.35-16	X.21/V.35-16	16-port module that supports X.21 and V.35 operation	X.21/V.35-16 port

## Configuration Tasks

Typically, you configure X.21/V.35 modules in the following order. Some steps may not be applicable for a particular module.

1. Set the parameters that provide basic status information about the module.
2. Set the line interface parameters.
3. Create the interface stacking by choosing one of following options:

Frame Relay

Cisco HDLC

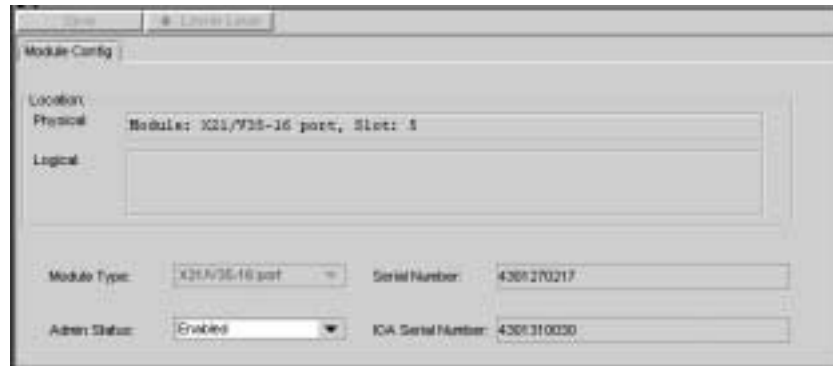
## Configuring an X.21/V.35 Module

You can configure a module's admin status only by enabling or disabling it.

To change the admin status:

1. In the Instance Explorer list, select the module you want to configure.
2. Right-click, and click Configure.

The Module Config tab appears in the work area.



3. Set an admin status. See Table 35.

**Table 35: Module config parameters**

Field	Description
Module Type	Module type (uneditable)
Admin Status	Enabled – module is running Disabled – module is not in operation
Serial Number	Ten-digit identification number (S/N) on the module's faceplate. This value is automatically retrieved from the device and is uneditable.

**Table 35: Module config parameters (continued)**

Field	Description
IOA Serial Number	Ten-digit identification number (S/N) on the input/output adapter's faceplate. This value is automatically retrieved from the device and is uneditable.

4. Click Save.

### Configuring a Line Interface

There are 16 line interfaces (0–15) for the X.21/V.35 module.

To configure a line interface:

1. In the Instance Explorer, select the line interface you want to configure.
2. Right-click, and click Configure.

The X.21/V.35 Config tab appears in the work area.

3. Set the parameters. See Table 36.

**Table 36: Line interface parameters**

Field	Description
Admin Status	Up – module is running
	Down – module is not in operation
Framing Type	M23 – M23 multiplexer framing
	CbitParity – c-bit parity framing
	M23 Plcp – M23 with PLCP framing
	CbitParityPlcp – c-bit parity with PLCP framing

**Table 36: Line interface parameters (continued)**

Field	Description
Transit Timing	Specifies the type of timing: Module Timing – receives its clocking from a network source Chassis Timing – receives its clocking from the configured system clock Received Timing – sets the clock source on the active line
Loopback Mode	None – no loopback specified (default) Network Payload – loops the data toward the network Network Line – sets a local loopback at the payload controllers Local – loops back outgoing data from the transmit to the receive side
Cell Scramble Enabled	Enables cell scrambling on the interface
Length (meters)	Specifies the cable length. The length of cable determines power requirements: 0 to 224 – use for low-power output 225 to 450 – use for high-power output

4. Click Save.