CHAPTER 6

EIA/TIA-232 MIB Objects (RFC 1317)

Note EIA/TIA-232 was known as recommended standard RS-232 before its acceptance as a standard by the Electronic Industries Association (EIA) and Telecommunications Industry Association (TIA). Because RS-232 appears on the out-of-band management screens and in names of supported MIB objects, this manual also uses RS-232.

The Catalyst 2820 and 1900 support the following EIA/TIA-232 groups (RFC 1317):

- Generic EIA/TIA-232 group
- EIA/TIA-232 general port table
- EIA/TIA-232 asynchronous port group
- EIA/TIA-232 synchronous port group
- Input signal table
- Output signal table

The associated MIB objects for these groups are described below.

The Generic EIA/TIA-232 Group

Implementation of this group is mandatory for all systems that have EIA/TIA-232 hardware ports supporting higher level services such as character streams or network interfaces.

rs232Number (integer)

This read-only MIB object displays the number of ports in the EIA/TIA-232-like general port table.

Valid Values: 1

The EIA/TIA-232 General Port Table

rs232PortTable

This MIB object displays a list of port entries. The number of entries is given by the value of rs232Number.

rs232PortEntry

This MIB object displays status and parameter values for a port.

rs232PortIndex (integer)

This read-only MIB object displays a unique value for each port. Its value ranges between 1 and the value of rs232Number.

rs232PortType (integer)

This read-only MIB object displays the port's hardware type.

Valid Values: rs232 (2)

rs232PortInSigNumber (integer)

This read-only MIB object displays the number of input signals for the port in the input signal table (rs232PortInSigTable).

rs232PortOutSigNumber (integer)

This read-only MIB object displays the number of output signals for the port in the output signal table (rs232PortOutSigTable).

rs232PortInSpeed (integer)

This read-write MIB object contains the port's input speed in bits per second (bps).

Valid Values: 300

1200

2400

9600

19200

Default Value: 9600

rs232PortOutSpeed (integer)

This read-write MIB object contains the port's output speed in bits per second.

Valid Values: 300

1200

2400

9600

19200

Default Value: 9600

EIA/TIA-232 Asynchronous Port Group

Implementation of this group is mandatory if the system has any asynchronous ports. Otherwise it is not present.

rs232AsyncPortTable

This read-only MIB object displays a list of asynchronous port entries. The maximum entry number is given by the value of rs232Number. Entries need not exist for synchronous ports.

rs232AsyncPortEntry

This read-only MIB object displays status and parameter values for an asynchronous port.

rs232AsyncPortIndex (integer)

This read-only MIB object displays a unique value for each port. Its value is the same as rs232PortIndex for the port.

rs232AsyncPortBits (integer)

This read-write MIB object contains the port's number of bits in a character.

Valid Values: 7 or 8

rs232AsyncPortStopBits (integer)

This read-write MIB object contains the port's number of stop bits.

Valid Values: one (1)

two (2)

Default Value: one (1)

rs232AsyncPortParity (integer)

This read-write MIB object contains the port's sense of a character parity bit.

Valid Values: none (1)

odd (2)

even (3)

mark (4)

space (5)

Default Value: none (1)

rs232AsyncPortAutobaud (integer)

This read-write MIB object is used to control the port's ability to automatically sense input speed.

When rs232PortAutoBaud is enabled, a port can autobaud to values different from the set values for speed, parity, and character size. As a result, a network management system can temporarily observe values different from what was previously set.

Valid Values: enabled (1)

disabled (2)

Default Value: enabled (1)

rs232AsyncPortParityErrs (counter)

This read-only MIB object displays the total number of characters with a parity error, input from the port since system reinitialization and while the port state was *up* or *test*.

rs232AsyncPortFramingErrs (counter)

This read-only MIB object displays the total number of characters with a framing error, input from the port since system reinitialization and while the port state was *up* or *test*.

rs232AsyncPortOverrunErrs (counter)

This read-only MIB object displays the total number of characters with an overrun error, input from the port since system reinitialization and while the port state was *up* or *test*.

The Input Signal Table

rs232InSigTable

This read-only MIB object displays a list of port input control signal entries.

rs232InSigEntry (integer)

This read-only MIB object displays input control signal status for a hardware port.

rs232InSigPortIndex (integer)

This read-only MIB object displays the value of rs232PortIndex for the port to which this entry belongs.

rs232InSigName (integer)

This read-only MIB object provides identification of a hardware signal. The signals and their values are as follows:

- rts Request to Send (1)
- cts Clear to Send (2)
- dsr Data Set Ready (3)
- dtr Data Terminal Ready (4)

- ri Ring Indicator (5)
- dcd Received Line Signal Detector (6)
- sq Signal Quality Detector (7)
- srs Data Signaling Rate Selector (8)
- srts Secondary Request to Send (9)
- scts Secondary Clear to Send (10)
- sdcd Secondary Received Line Signal Detector (11)

rs232InSigState (integer)

This read-only MIB object contains the current signal state.

Valid Values: none (1)

on (2)

off (3)

rs232InSigChanges (counter)

This read-only MIB object contains the number of times the signal has changed from *on* to *off* or from *off* to *on*.

The Output Signal Table

rs232OutSigTable

This read-only MIB object displays a list of port output control signal entries.

rs232OutSigEntry

This read-only MIB object displays the output control signal status for a hardware port.

rs232OutSigPortIndex (integer)

This read-only MIB object reads the value of rs232PortIndex for the port to which this entry belongs.

rs232OutSigName (integer)

This read-only MIB object identifies a hardware signal. The signals and values are the following:

- rts Request to Send (1)
- cts Clear to Send (2)
- dsr Data Set Ready (3)
- dtr Data Terminal Ready (4)
- ri Ring Indicator (5)
- dcd Received Line Signal Detector (6)
- sq Signal Quality Detector (7)
- srs Data Signaling Rate Selector (8)
- srts Secondary Request to Send (9)
- scts Secondary Clear to Send (10)
- sdcd Secondary Received Line Signal Detector (11)

rs232OutSigState (integer)

This read-only MIB object displays the current signal state.

Valid Values: none (1)

on (2)

off (3)

rs232OutSigChanges (counter)

This read-only MIB object contains the number of times the signal has changed from *on* to *off* or from *off* to *on*.