LLC2 and SDLC Commands

This chapter describes the function and displays the syntax of each LLC2 and SDLC command. For more information about defaults and usage guidelines, see the correcponding chapter of the *Router Products Command Reference* publication.

encapsulation sdlc-primary

Use the **encapsulation sdlc-primary** interface configuration command to configure the router as the primary SDLC station.

encapsulation sdlc-secondary

Use the **encapsulation sdlc-secondary** interface configuration command to configure the router as a secondary SDLC station.

llc2 ack-delay-time *milliseconds*

Use the **llc2 ack-delay-time** interface configuration command to set the amount of time the router waits for an acknowledgment before sending the next set of information frames.

milliseconds	Number of milliseconds the router allows incoming information frames to stay unacknowledged. The minimum is 1; the maximum is 60000. The default is 3200 milliseconds.

llc2 ack-max *packet-count*

Use the **llc2 ack-max** interface configuration command to control the maximum amount of information frames the router can receive before it must send an acknowledgment.

packet-count	Maximum number of packets the router will receive before sending an acknowledgment. The minimum is 1 packet. The maximum is 127 packets. The default is 3 packets.

llc2 idle-time *milliseconds*

Use the **llc2 idle-time** interface configuration command to control the frequency of polls during periods of idle time (no traffic).

milliseconds	Number of milliseconds that can pass with no traffic before the LLC2 station sends a Receiver Ready frame. The minimum is 1 millisecond; the maximum is 60000 milliseconds. The default is 10000 milliseconds.

llc2 local-window *packet-count*

Use the **llc2 local-window** interface configuration command to control the maximum number of information frames the router sends before it waits for an acknowledgment.

packet-count	Maximum number of packets that can be sent before the router must wait for an acknowledgment. The minimum is 1 packet; the maximum is 127 packets. The default is 7 packets.

llc2 n2 *retry-count*

Use the **llc2 n2** interface configuration command to control the amount of times the router retries sending unacknowledged frames or repolls remote busy stations.

retry-count	Number of times the router retries operations. The minimum is 1; the maximum is 255. The default is 8 retries.

llc2 t1-time *milliseconds*

Use the **llc2 t1-time** interface configuration command to control the amount of time the router will wait before resending unacknowledged information frames.

milliseconds	Number of milliseconds the router waits before resending unacknowledged information frames. The minimum is 1 millisecond; the maximum is 60000 milliseconds. The default is 1000 milliseconds.

llc2 tbusy-time *milliseconds*

Use the **llc2 tbusy-time** interface configuration command to control the amount of time the router waits until repolling a busy remote station.

milliseconds	Number of milliseconds the router waits before repolling a busy remote station. The minimum is 1 millisecond; the maximum is 60000 milliseconds. The default is 9600 milliseconds.

llc2 tpf-time *milliseconds*

Use the **llc2 tpf-time** interface configuration command to set the amount of time the router waits for a final response to a poll frame before resending the poll frame.

milliseconds	Number of milliseconds the router waits for a final response to a poll frame before resending the poll frame. The minimum is 1; the maximum is 60000. The default is 1000 milliseconds.

llc2 trej-time *milliseconds*

Use the **llc2 trej-time** interface configuration command to control the amount of time a router waits for a correct frame after sending a reject (REJ) command to the remote LLC2 station.

milliseconds	Number of milliseconds the router waits for a resend of a rejected frame before sending a reject command to the remote station. The minimum is 1 millisecond; the maximum is 60000 milliseconds. The default is 3200 milliseconds.

llc2 xid-neg-val-time *milliseconds*

Use the **llc2 xid-neg-val-tim** interface configuration command to control the frequency of exchange of identification (XID) transmissions by the router.

milliseconds	Number of milliseconds after which the router sends XID frames to other LLC2-speaking stations. The minimum is 0 milliseconds; the maximum is 60000 milliseconds. The default is 0 milliseconds.

llc2 xid-retry-time *milliseconds*

Use the **llc2 xid-retry-time** interface configuration command to set the amount of time the router waits for a reply to exchange of identification (XID) frames before dropping the session.

milliseconds	Number of milliseconds the router waits for a reply to XID frame before dropping a session. The minimum is 1 millisecond; the maximum is 60000 milliseconds. The default is 60000 milliseconds.

sdlc address *hexbyte* [**echo**]
no sdlc address *hexbyte*

Use the **sdlc address** interface configuration command to assign a set of secondary stations attached to the serial link. Use the **no** form of this command to remove an assigned secondary station.

hexbyte	Hexadecimal number (base 16) indicating the address of the serial link.
echo	(Optional) Treats nonecho and echo SDLC addresses as the same address.

sdlc cts-delay *unit*

Use the **sdlc cts-delay** interface configuration command to adjust the delay between the detection of request to send (RTS) and the assertion of clear to send (CTS) on an interface that is in half-duplex mode and that has been configured for DCE.

unit	The delay in microseconds. The valid range is 1 to 64000. Each unit is approximately 5 microseconds. The default is 3 units (approximately 15 microseconds).

sdlc dte-timeout *unit*

Use the **sdlc dte-timeout** interface configuration command to adjust the amount of time a data terminal equipment (DTE) interface waits for the DCE to assert a CTS (clear to send) before dropping an RTS (request to send).

unit	Timeout wait interval in microseconds. The valid range is 10 to 64000. Each unit is approximately 5 microseconds. The default is 10 units (approximately 50 microseconds).

[**no**] **sdlc frmr-disable**

Use the **sdlc frmr-disable** interface configuration command to indicate that secondary stations on a particular serial link do not support Frame Rejects (FRMRs) or error indications. Use the **no** form of this command to specify that the secondary station does support FRMRs.

[**no**] **sdlc hdx**

Use the **sdlc hdx** interface configuration command to configure an interface for half-duplex mode. Use the **no** form of this command to reset the interface for full-duplex mode.

sdlc holdq *address queue-size*

Use the **sdlc holdq** interface configuration command to control the maximum number of packets that can be held in a buffer before being transmitted to a remote SDLC station.

address	SDLC address for which you are specifying a queue size.
queue-size	Router's local send window size. The minimum is 1 packet. No maximum value has been established. The default is 12 packets.

sdlc k *window-size*

Use the **sdlc k** interface configuration command to set the window size in order to control the maximum number of information frames a router receives before sending an acknowledgment.

window-size	Router's local send window size. The minimum is 1 frame; the maximum is 7 frames. The default is 7 frames.

sdlc line-speed *rate*

Use the **sdlc line-speed** interface configuration command to enable adaptive SDLC T1.

rate	Clockrate in bits per second

sdlc n1 *bit-count*

Use the **sdlc n1** interface configuration command to control the maximum size of an incoming frame.

bit-count	Number indicating bit size. Frames that exceed this size are rejected. The minimum is 1 bit. The maximum is 12000 bits. The default is 12000 bits.

sdlc n2 *retry-count*

Use the **sdlc n2** interface configuration command to determine the number of times that a router resends a frame before terminating the SDLC session.

retry-count	Number of retry attempts. When this number is exceeded, the SDLC station terminates its session with the other station. The minimum is 1. The maximum is 255. The default is 20 retries.

[**no**] **sdlc poll-limit-value** *count*

Use the **sdlc poll-limit-value** interface configuration command to control how many times a single secondary station can be polled for input before the next station must be polled. Use the **no** form of this command to retrieve the default value.

count	Number of times the router can poll one secondary station before proceeding to the next station. The minimum is 1; the maximum is 10. The default is 1 time.

[**no**] **sdlc poll-pause-timer** *milliseconds*

Use the **sdlc poll-pause-timer** interface configuration command to control how long the router pauses between sending each poll frame to secondary stations on a single serial interface. Use the **no** form of this command to retrieve the default value.

milliseconds	Number of milliseconds that the router waits before sending the poll frame to a single serial interface. The can be a number in the range 1 to 10000. The default is 10 milliseconds.

sdlc poll-wait-timeout *milliseconds*

Use the **sdlc poll-wait-timeout** interface configuration command when the router has been configured for local acknowledgment and some form of SDLC communication (SDLLC or STUN, for example), to specify the interval the router will wait for polls from a primary node before timing out that connection.

milliseconds	Number of milliseconds the router will wait for a poll from the primary station before timing out the connection to the primary station. The minimum is 10; the maximum is 64000. The default is 10000 milliseconds.

sdlc qllc-prtnr *virtual-mac-address sdlc-address*

To establish correspondence between an SDLC and QLLC connection, use the **sdlc qllc-prtnr** interface configuration command.

virtual-mac-address	The virtual MAC address in the form H.H.H.
sdlc-address	SDLC address in hex. The valid range is 1 through FE.

sdlc rts timeout *unit*

Use the **sdlc rts timeout** interface configuration command to adjust the amount of time the interface waits for the DCE to assert clear to send (CTS) before dropping a request to send (RTS). Use this command on an interface that is in half-duplex mode and that has been configured for DCE.

unit	The amount of time in microseconds. The valid range is 10 to 64000. Each unit is approximately 5 microseconds. The default is 10 units (approximately 50 microseconds).

sdlc simultaneous {**full-datamode | half-datamode**}

To enable an interface configured as a primary SDLC station to operate in two-way simultaneous mode, use the **sdlc simultaneous** interface configuration command.

full-datamode	Enables the primary station to send data to and receive data from the polled secondary station.
half-datamode	Prohibits the primary station from sending data to the polled secondary station.

sdlc slow-poll *seconds*
no sdlc slow-poll

Use the **sdlc slow-poll** interface configuration command to enable the slow-poll capability of the router as a primary SDLC station. Use the **no** form of this command to disable slow-poll capability.

seconds	Amount of time in seconds; the default is 10 seconds.

sdlc t1 *milliseconds*

Use the **sdlc t1** interface configuration command to control the amount of time the router waits for an acknowledgment to a frame or sequence of frames.

milliseconds	Number of milliseconds that the router waits. The minimum is 1; the maximum is 64000. The default is 3000 milliseconds.

show interfaces

Use the **show interfaces** privileged EXEC command to display the SDLC information for a given SDLC interface.

show llc2

Use the **show llc2** privileged EXEC command to display the LLC2 connections active in the router.