

# Configuring SDLC Interfaces

Display the SDLC configuration prompt by setting an sdhc data link on one of the router interfaces:

```
Config> set data-link sdhc #
```

Set the link encoding.

```
SDLC # config>set link encoding
```

Set the full/half duplex.

```
SDLC # config>set link duplex
```

Is attached cable DTE?

Yes

```
SDLC # config>set link clocking external  
Set the external link clocking and the link speed.  
SDLC # config>set cable type
```

Do any remote station default settings need to be overridden?

Yes

```
SDLC # config>add remote-secondary  
Add remote secondaries (see note above).
```

No

Restart the router

## NOTE

SDLC remote-secondary configurations do not need to be added if the following defaults are satisfactory:

MAX BTU: (Max allowable by interface)

Tx Window: 7 for MOD 8, 127 for MOD 128

Rx Window: 7 for MOD 8, 127 for MOD 128

## SDLC Configuration Commands

This section summarizes the SDLC configuration commands. Enter these commands at the SDLC # Config> prompt, where # represents the number of the router interface associated with the SDLC data link. Enter ? to list available commands or their options. Note that all time durations have a resolution of 0.1 seconds.

### **add**

remote-secondary

Adds a remote-secondary end-station.

### **delete**

remote-secondary

Deletes a specified remote-secondary end-station.

### **disable**

link

Prevents the transmitting and receiving of data to all configured SDLC link stations on the interface, and terminates existing connections to the specified station.

remote-secondary

Prevents the transmitting and receiving of data to the specified secondary-remote end-station.

### **enable**

link

Allows subsystems in the router (e.g., DLSw) to use SDLC's facilities.

remote-secondary

Allows connections to the specified secondary-remote end-station (link station name).

### **list**

link

Displays information for one or all configured SDLC link stations on the interface.

remote-secondary address, name or all

Displays information for the specified SDLC link station on the interface, or for all link stations.

### **set**

link clocking external

Configures the SDLC link's clocking.

link duplex

Configures the SDLC line for full-duplex or half-duplex.

link encoding

Configures the SDLC transmission encoding scheme as NRZ or NRZI.

link frame-size

Configures the maximum frame size that can be transmitted and received on the data link.

link idle flag

Configures the transmit idle state for SDLC framing (7E hex) .

link idle mark

Configures the transmit idle state for SDLC framing (Off, 1).

link modulo

Specifies the sequence number range to use on the link: MOD 8 (0 to 7) or MOD 128 (0 to127).

link name

Establishes a name for the link that you are configuring. This parameter is for informational purposes only.

link poll delay

Configures the time delay between polls sent over the interface.

## SDLC Configuration Commands (*continued*)

### link poll retry

Configures the number of times the interface retries to poll the remote SDLC link station before it decides the link station is down and closes the connection.

### link poll timeout

Configures the amount of time the bridging router waits for a poll response before timing out.

### link role *primary* or *negotiable*

Configures the interface as an SDLC primary link station (default). If there are any T2.1 devices on the SDLC link, set to negotiable link station.

### link rts-hold

The time to hold RTS high after transmitting a frame. This setting is for half-duplex mode. This setting has no effect in full-duplex mode.

### link SNRM timeout

The time to wait for a UA response before retransmitting an SNRM(E).

### link SNRM retry

The number of times to retransmit an SNRM(E) without receiving a response before giving up.

### link speed

For internal clocking, this command specifies the speed of the transmit and receive clock lines. For mixed clocking, the speed applies to the transmit clock line only.

### link inter-frame delay

Allows the insertion of a delay between transmitted packets (521 microseconds). This command ensures a minimum delay between frames so that it is compatible with older, slower serial devices at the other end.

### link type *multipoint* or *point-to-point*

Configures the SDLC link to either a multipoint link or a point-to-point link.

### link xid/test timeout

The maximum amount of time to wait for an XID or TEST frame response.

### link xid/test retry

The maximum number of times an XID or TEST frame is resent before giving up.

### remote-secondary address

Changes the remote station's SDLC address in the range 01 to FE.

### remote-secondary max-packet

The maximum size of the packet that a remote-secondary station can receive.

### remote-secondary name

The name designation of the SDLC station. This parameter is for informational purposes only.

### remote-secondary receive-window

The maximum number of frames the router receives before sending a response.

### remote-secondary role

The role of the secondary link station. Use secondary for PU2.0 devices and negotiable for T2.1 devices. The defaults depend upon the link role of the corresponding link.

### remote-secondary transmit-window

The maximum number of frames that the bridging router can transmit before receiving a response frame.

### exit

Returns to the `Config>` prompt.

## SDLC Monitoring Commands

### **add**

remote-secondary

Adds a remote-secondary end-station. If you elect not to use this command, the router adds a remote-secondary end-station to ensure proper operation of the SDLC interface. The bridging router is considered the primary end-station.

### **clear**

link

Removes all statistics on the SDLC counters for the link station.

remote-secondary *name* or *address* or *all*

Removes all statistics on the SDLC counters for the specified remote-secondary station, or for all stations.

### **delete**

remote-secondary

Terminates an existing SDLC connection without affecting the SDLC configuration in static configuration memory. The bridging router is considered the primary end-station by default. Only disabled remote-secondaries may be deleted.

### **disable**

link

Prevents connection on all configured SDLC link stations on the interface by terminating all connections.

remote-secondary

Prevents connection to the specified secondary-remote end-station (link station name) by terminating any existing connection.

### **enable**

link

Allows connection to be created on all configured SDLC link stations on the interface.

remote-secondary

Enable connection establishment with the specified remote-secondary end-station (link station name).

### **list**

link configuration

Displays information for all configured SDLC link stations on the interface.

link counters

Displays information for the SDLC counters since the last bridging router restart or the last clear counters.

remote-secondary *address*, *name* or *all*

Displays information for the specified SDLC link station (link station name) on the interface, or all link stations.

remote-secondary <*name* or *address*>  
counters

Displays frame transmit and receive counts for the specified remote secondary station.

### **set**

link duplex *full* or *half*

Dynamically changes the SDLC line for full-duplex or half-duplex without affecting the SRAM configuration.

## SDLC Monitoring Commands (*continued*)

### link modulo

Dynamically changes the range of sequence numbers to be used on the data link without affecting the SRAM configuration. Modulo 8 specifies a sequence number range of 0 to 7, and modulo 128 specifies 0 to 127.

### link name

Dynamically changes the name for the link without affecting the SRAM configuration. This parameter is for informational purposes only.

### link poll delay

Dynamically changes the time delay between polls sent over the interface.

### link poll timeout

Dynamically changes the amount of time the bridging router waits for a poll response before timing out.

### link role *primary* or *negotiable*

Configures the interface as an SDLC primary link station (default). If there are any T2.1 devices on the SDLC link, set to negotiable link station.

### link rts-hold

Dynamically changes the time to hold RTS high after transmitting a frame without affecting the SRAM configuration. This setting is for half-duplex mode. This setting has no effect in full-duplex mode.

### link snrm timeout

Dynamically changes the time to wait for a UA response before retransmitting an SNRM(E).

### link snrm retry

Dynamically changes the number of times to retransmit an SNRM(E) without receiving a response before giving up.

### link type *multipoint* or *point-to-point*

Dynamically changes the SDLC link to either a multipoint link or a point-to-point link without affecting the SRAM configuration.

### link xid/test timeout

Dynamically changes the maximum amount of time to wait for an XID or TEST frame response before retrying.

### link xid/test retry

Dynamically changes the maximum number of times an XID or TEST frame is resent before giving up.

### remote-secondary *address*

Dynamically changes the remote station's SDLC address in the range 01 to FE.

### remote-secondary *max-packet*

Dynamically changes the maximum size of the packet that a remote-secondary station can receive. This frame size must not be larger than the maximum packet size configured with the **set link frame-size** command. The default is 521 bytes.

### remote-secondary *name*

Dynamically changes the name of the SDLC station. This parameter is for informational purposes only.

### remote-secondary *receive-window*

Dynamically changes the maximum number of frames the router can receive before sending a response.

## SDLC Monitoring Commands (*continued*)

### remote-secondary role

The role of the secondary link station. Use secondary for PU2.0 devices and negotiable for T2.1 devices. The defaults depend upon the link role of the corresponding link.

### remote-secondary *transmit-window*

Dynamically changes the maximum number of frames that the bridging router can transmit before receiving a response frame.

### test

remote *name* or *address* *#frames-to-send*  
*frame-size*

Transmits a specified number of TEST frames to the specified remote-secondary link station and waits for a response. Use this command to test the integrity of the connection.

### exit

Returns to the previous prompt level.

## Configuring the Router

Enter configuration commands at the `SDLC # Config>` prompt. Follow these steps to display this prompt.

3. Enter `talk 6`, or `t 6`.
4. At the `Config>` prompt, enter the `set data-link sdlc` command. When prompted, enter the name of the interface to associate with the SDLC device.

```
Config>set data-link sdlc
Interface number [0]? 3
Config>
```

5. Next, enter the `network` command, plus the number of an SDLC interface entered earlier.

```
Config>network 3
SDLC 3 Config>
```

## Restarting the Router

When you are done configuring the router, restart it to load the new configuration. Enter `restart` at the `*` prompt and respond yes to the following prompt:

```
Are you sure you want to restart the gateway? (Yes or No): yes
```

When the new configuration is finished loading, the terminal displays the `*` prompt.

## Monitoring the Router

Enter monitoring commands at the `SDLC-#>` prompt. Follow these steps to display this prompt. To return to the `*` prompt at any time, press `Ctrl` `P` .

1. Enter `talk 5`, or `t 5`.

```
CGW Operator Console
+
```

2. Next, enter the `network` command, and the number that identifies the interface associated with a previously configured SDLC device.

```
+ net 3
SDLC Console
SDLC-3>
```

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