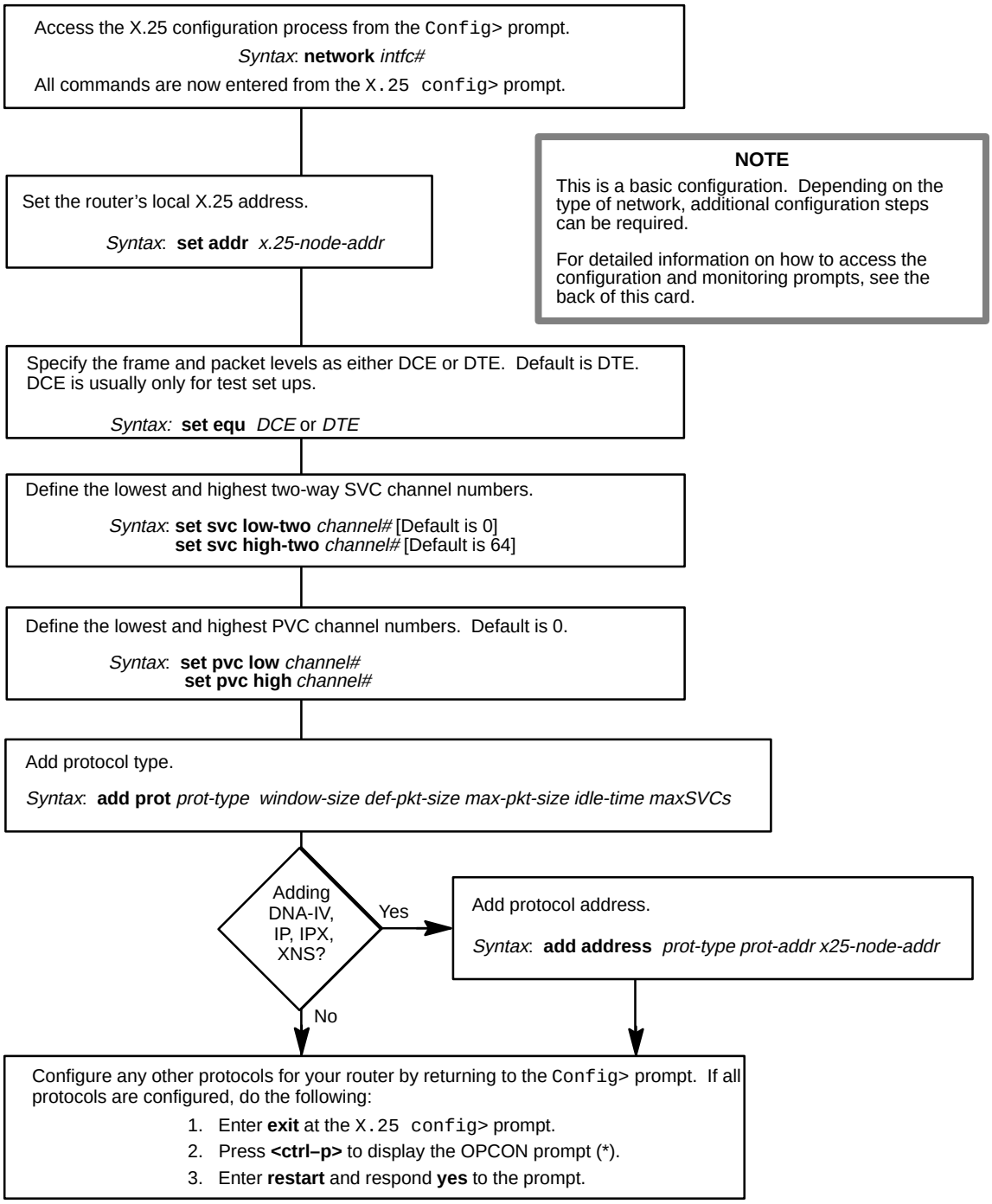
X.25 Interface Initial Configuration



Part Number: AV–QL26C–TE
X.25 Interface Quick Reference Card
Version 1.1
January 1996

X.25 Interface Configuration Commands

This quick reference card summarizes the X.25 Interface configuration and console commands. The front panel of this card provides the initial configuration steps for this protocol. The back panel tells you how to access the CONFIG process.

Enter the following configuration commands at the `X.25 config>` prompt. To list the configuration commands and their options, enter a **?**.

After you have configured all of the protocols, enter **restart** at the OPCON prompt (`*`), and respond **yes** after the following prompt:

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

add

address *prot-type prot-addr x.25-node-addr*

Adds a PDN X.25 address translation for a protocol supported in the router's configuration.

htf-address *prot-type DDN-host-table-addr*

Adds a DDN X.25 address translation.

protocol *prot-type window-size def-pkt-size max-pkt-size idle-time max-svcs*

Adds a supported protocol to the configuration.

pvc *prot-type pkt-channel# x.25-dest-addr window-size pkt-size*

Adds a PVC definition to the configuration.

change

address *prot-type prot-addr x.25-node-addr*

Modifies a PDN X.25 node address translation for a protocol supported in the router's configuration.

htf-address *prot-type DDN-host-table-addr*

Modifies a DDN X.25 address translation.

protocol *prot-type window-size def-pkt-size max-pkt-size idle-time max-svcs*

Modifies a supported protocol in the router's configuration.

pvc *prot-type pkt-channel# x.25-dest-addr window-size pkt-size*

Modifies a PVC definition in the router's configuration.

delete

address *prot-type prot-addr*

Removes a PDN or DDN X.25 address.

protocol *prot-type*

Removes a protocol configuration definition.

pvc *prot-type x.25-dest-addr*

Removes a PVC definition.

disable

ddn-address-translations

Disables DDN host table format addresses from being converted dynamically to X.121 call addresses.

interface-resets

Disables the router from initiating packet layer restarts and frame link establishments.

incoming-calls-barred

Specifies that the router will accept incoming calls (certification purposes).

outgoing-calls-barred

Specifies that the router will allow outgoing calls.

enable

ddn-address-translations

Allows DDN host table format addresses to be converted dynamically to X.121 call addresses.

interface-resets

Allows the router to initiate packet layer restarts and frame link establishments.

incoming-calls-barred

Specifies that the router will not accept incoming calls.

outgoing-calls-barred

Specifies that the router will not allow outgoing calls.

list

addresses

Displays all X.25 address translations.

X.25 Interface Configuration Commands

(continued)

all

Displays all the X.25 addresses, National Personalty parameters, all defined protocols and their values, and all defined PVCs.

detailed

Displays the value of all the default parameters that the **national set** command modifies.

protocols

Displays all the defined protocol configurations.

pvc

Displays all defined PVCs.

summary

Displays all the values established by the **set** and **enable** commands.

national disable

accept-reverse-charges

Does not allow accepting of reverse charges during call establishment.

ccitt

Disables the CCITT convention for timer retries.

clear-w/diag

Does not allow the clear request packets to include the diagnostic field.

flow-control-negotiation

Disables the negotiation of frame's packet and window size during call setup of SVCs.

frame-ext-seq-mode

Disables the frame layer from using extended sequence numbers 0 to 127. The frame layer then uses 0 to 7.

multi-link-addresses

Sets the frame level back to addresses A (03) and B (01).

osi-84

Disables the CCITT OSI facilities defined by the 1984 standard.

osi-88

Disables the CCITT OSI facilities defined by the 1988 standard.

packet-ext-seq-mode

Disables the packet layer from using extended sequence numbers 0 to 127. The packet layer then uses 0 to 7.

packet-layer-restarts

Disables the packet layer from sending a restart packet when the router restarts.

request-reverse-charges

Disables requesting of reverse charges on all outgoing calls.

reset-w/diag

Disables the reset request packet from including the diagnostic field.

restart-w/diag

Disables the restart request packet from including the diagnostic field.

suppress-calling-addresses

Allows the router to insert the source address in call packets.

suppress-idle-frame-rr

Allows the router to send an idle receiver ready in frame layer frames.

suppress-non-zero-cause

Enables the packets layer cause fields.

throughput-class-negotiation

Disables the negotiation of throughput class during call set up of SVCs.

national enable

accept-reverse-charges

Accepts reverse charges during call establishment.

ccitt

Specifies the use of the CCITT convention, rather than the ISO convention for timer retries.

clear-w/diag

Allows clear request packets to include the diagnostic field.

flow-control-negotiation

Enables the negotiation of frame's packet and window size during call setup of SVCs.

frame-ext-seq-mode

Specifies the frame layer to use extended sequence numbers 0 to 127.

multi-link-addresses

Sets the frame level addresses to C (0F) and D (07), rather than A (03) and B (01).

osi-84

Enables the CCITT OSI facilities defined by the 1984 standard.

osi-88

Enables the CCITT OSI facilities defined by the 1988 standard.

packet-ext-seq-mode

Specifies the packet layer to use extended sequence numbers 0 to 127.

packet-layer-restarts

Allows the packet layer to send a restart packet when the router restarts.

request-reverse-charges

Allows the router to request reverse charges on all outgoing calls.

reset-w/diag

Allows the reset request packet to include the diagnostic field.

restart-w/diag

Allows the restart request packet to include the diagnostic field.

suppress-calling-addresses

Inhibits the inclusion of source addresses in call packets.

suppress-idle-frame-rr

Suppresses the sending of idle receiver ready in frame layer frames.

suppress-non-zero-cause

Suppresses the packet layer cause fields.

throughput-class-negotiation

Allows the negotiation of throughput class during call set up of SVCs.

national restore

all

Restores all the default values to the National Personality configuration.

accept-reverse-charges

Restores the accept-reverse-charges feature for calls during call establishment.

call-req

Restores the default value of 10 second intervals permitted before clearing an unaccepted call.

ccitt

Restores CCITT convention feature.

clear-req *retries timer*

Restores the default value for the number of clear requests transmissions (*retries*) and the number of 10 second intervals (*timer*) to wait before retransmission.

clear-w/diag

Restores the default feature that allows the inclusion of the diagnostic field in clear request packets.

disconnect-procedure *passive* or *active*

Restores the default type of disconnect procedure, passive or active.

dp-timer

Restores the default value the number of milliseconds that the frame level remains in the disconnected state.

flow-control-negotiation

Restores the router's capability to negotiate packet size and window size.

frame-ext-seq-mode

Restores the default for the frame layer sequence numbering modulus.

frame-window-size

Restores the default size of the frame window.

multi-link-addresses

Restores the default values (A+B) for frame layer addressing.

network-type *CCITT* or *DDN*

Restores the default window.

n2-timeouts

Restores the default value for the number of times the T1 timer can expire before a state change.

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(continued)

osi-84

Restores the default value for CCITT OSI facilities as defined by the 1984 standard.

osi-88

Restores the default value for CCITT OSI facilities as defined by the 1988 standard.

packet-size *default-size max-size window-size*

Restores the default value for the packet layer parameters mentioned above.

packet-ext-seq-mode

Restores the default value for the packet layer sequence numbering modulus.

packet-layer-restarts

Restores the default value for the packet layer transmission of a restart packet when the router restarts.

request-reverse-charges

Restores the default value for reverse charges requests for all outgoing calls.

reset *retries timer*

Restores the default value for the number of reset request transmissions, and the time between transmissions.

reset-w/diag

Restores the inclusion of diagnostic fields in reset request packet.

restart *retries timer*

Restores the default value for the number of restart request transmissions and the timeout value between each restart.

standard-version

Restores the default OSI facilities settings. Options are 1980, 1984, and 1988.

suppress-calling-address

Restores the inclusion of source addresses in call packets.

suppress-idle-frame-rr

Restores the transmission of idle receiver ready frame layer frames.

suppress-non-zero-cause

Restores the inclusion of the packet layer's cause fields.

throughput-class-negotiation

Restores the enabling of throughput negotiation.

t1-timer

Restores the default value for the frame retransmission time in seconds.

t2-timer

Restores the default value for the maximum number of seconds before acknowledging the receipt of an I-frame.

national set

call-req

Specifies the number of 10 second intervals permitted before clearing an unaccepted call.

clear-req *retries timer*

Specifies the maximum number of clear request re-transmissions and the timeout interval between each of them.

disconnect-procedure *passive* or *active*

Specifies the type of disconnect procedure when disconnecting, passive or active.

dp-timer

Specifies the number milliseconds that the frame level remains in a disconnect state.

frame-window-size

Specifies the number of frames that can be outstanding before acknowledgment.

network-type *CCITT DDN*

Specifies the type of network being supported, CCITT or DDN.

n2-timeouts

Specifies the number of times the T1 timer can expire before a state change.

packet-size *default-size max-size window-size*

Specifies the size of the packet and window used for negotiation.

reset *retries timer*

Specifies the number of reset request re-transmissions and the timeout value between each re-transmission.

restart *retries timer*

Specifies the number of restart request re-transmissions and the timeout value between each re-transmission.

standard-version

Determines some of the standard default settings. Options are 1980, 1984, and 1988.

t1-timer

Specifies the frame re-transmit time in seconds.

t2–timer

Specifies the maximum number of seconds before acknowledging the received I-frame. Must be less than T1 and should be greater than 0.

set

address *x.25-node-addr*

Sets the local X.25 interface address.

calls-out

Specifies the maximum number of SVCs for this link.

default-window-size

Specifies the window size for the packet level. Note that the window is assumed if no window-size facility is present in the Call Setup Packet.

equipment-type *DCE DTE*

Specifies whether the frame and packet levels act as DCE or DTE.

hft addr *x.25-node-addr*

Sets the local X.25 address translation.

inter-frame-delay *value*

Sets the minimum number of flags transmitted between frames.

max–retry *value*

Sets the maximum number (*value*) of reset request transmissions permitted before the call is cleared.

national personality *GTE-Telenet DDN*

Sets the 28 default parameters for either *GTE-Telenet* or *DDN*.

pvc low

Defines the lowest PVC channel number.

pvc high

Defines the highest PVC channel number.

svc low-inbound

Defines the lowest inbound SVC channel number.

svc low-two-way

Defines the lowest two-way SVC channel number.

svc low-outbound

Defines the lowest outbound SVC channel number.

svc high-inbound

Defines the highest inbound SVC channel number.

svc high-two-way

Defines the highest two-way SVC channel number.

svc high-outbound

Defines the highest outbound SVC channel number.

throughput-class *inbound* or *outbound bit-rate*

Defines the default bit rate between 75 bps and 48,000 bps for an inbound or outbound logical channel.

vc-idle

Defines the number of seconds that an SVC can be idle before it is cleared.

exit

Returns to the previous prompt level.

X.25 Interface Console Commands

Enter these commands after the `X.25>` prompt. The back panel of this card tells you how to access the CGWCON process.

To list the X.25 console commands and their options, enter a **?** at the `X.25>` prompt.

list

pvcs

Displays the configured PVCs.

svcs

Displays the active SVCs.

parameters

all

Displays the parameters for packet, frame, and physical levels.

frame

Displays the parameters for the frame level.

packet

Displays the parameters for the packet level.

physical

Displays the parameters for the physical level.

statistics

all

Displays the statistics for the packet, frame, and physical levels.

frame

Displays the statistics for the packet level.

packet

Displays the statistics for the packet level.

physical

Displays the statistics for the physical level.

exit

Returns to the previous prompt level.

Accessing the CONFIG Process

Use the CONFIG process to display and change the current configuration in static RAM (SRAM).
To display the CONFIG prompt (`Config>`):

1. After the router boots, the console displays the * prompt. Enter **status** to display the pid (process ID) of CONFIG.
2. Enter **talk** and the pid for CONFIG. This displays the following information:

   ```
   Gateway user configuration
   Config>
   ```

   If the `Config>` prompt does not appear, press **RETURN** again. You can now enter the configuration commands.

3. When you are done entering the configuration commands, do the following to load the new configuration:

   a. Press **CTRL-P** after the `Config>` prompt.

      ```
      Config> ^p
      *
      ```

   b. Enter **restart** after the * prompt.

   c. Respond **yes** to the following prompt:

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

      The new configuration is loaded when the console displays the following information:

      ```
      Copyright Notices:
      Copyright 1996 Digital Equipment Corp.
      Copyright 1985–1994 Proteon, Inc.
      Copyright 1984–1987, 1989 by J. Noel Chiappa

      MOS Operator Control
      *
      ```

Accessing the CGWCON Process

Use the CGWCON process to monitor protocols, network interfaces, and system messages. You cannot access the CGWCON process if the router is in configuration-only mode (the prompt is `Config> only`).
To display the GWCON prompt (+):

1. After the router boots, the console displays the * prompt. Enter **status** to display the pid (process ID) of CGWCON.
2. Enter **talk** and the pid for CGWCON. This displays the CGWCON prompt (+). You can now enter the monitoring commands.

   To return to the * prompt, press **CTRL-P**.