



FourthRack[®] G.704 Card - Management

User Guide

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1 G.704 Line Card Management

The G.704 Line card must be configured via Management functionality implemented as an option on the plug in Power Supply Modules. One or two management enabled modules may be plugged into the rack. The left hand module (slot 1) defaults to the active management module. The modules are equipped with a serial asynchronous console interface, a 10BASE-T Ethernet interface and an alarm interface. The system rack can be configured via the Management functionality (see "System Management" User Guide).

The Line Cards in the rack can be configured via the Management functionality (see "FourthRack System Management" User Guide).

This guide lists the management functions specific to a G.704 Line Card.

2 Connecting to the Line Card

The management interface is connected to a FourthRack G.704 Line Card from either the ASYNC console port interface or via the telnet interface using the command:

cli nn – command line interface to slot number nn

This will connect the terminal interface to the CLI (Command Line Interface) of the card in slot number nn

Use **CTRL-Z** to return back to the management card prompt

3 Configuring G.704 Line Cards using the FourthRack Management System

3.1 Commands at the FourthRack G.704 line card prompt.

Commands may be augmented with optional arguments which need to be typed after the command name.

<Command> [**opt # 1**> <opt # 2> . . . <opt # n>]

Each option is to be delimited by one (or more) white space (not tabs). The command line is then terminated with a carriage return.

Unrecognized commands will result in the error message 'Command not found'.

Commands with illegal, or unrecognized options will result in the error message 'Syntax error'.

All commands are case insensitive, however it is usual practice to use lower case.

The command line is limited to 22 characters, including the command itself and spaces.

3.1.1 Help

Displays a list of commands with options.

3.1.2 Power

Power (on/off)

This command enables the line interfaces. It is recommended that the user save the power on state using the 'write' command.

Syntax: <power on>

3.1.3 Read

Recovers the E2PROM data

Note: The previous operating configuration will be overwritten. The G.704 Line Card will revert to running the configuration restored from the E2PROM.

Syntax: <read>

3.1.4 Write

Store the current configuration (as displayed using the status command) to E2PROM.

Syntax: <write>

3.1.5 Name

Get / set the name assigned to the FourthRack G.704 line card

Limited to fifteen characters including spaces

Syntax: <name abcde>

3.1.6 mclk on / off

Enables / disables master clock

Syntax <mclk on> or <mclk off>

3.1.7 tclk on / off

Enables / disables terminal timing

Syntax: <tclk on> or <tclk off>

3.1.8 Status

Reports the status of the FourthRack G.704 Line Card

```
Name: Name of card
Timeslot: 0.....7 8.....15 16....23 24....31 Rate
Config: 01111111 11111111 11111111 11111111 1984K
Build: 01111111 11111111 11111111 11111111 1984K
      LOOP TS0  TS16 MCLK CRC4 IMP  CINV DINV TCLK
Build: OFF  ON   OFF  ON   OFF  75R  OFF  OFF  OFF
Config: OFF  ON   OFF  ON   OFF  75R  OFF  OFF  OFF
Status:
      POWER = ON      G703 I/F = E1      G703 RX = LOI
      READ ONLY = ON  SERIAL I/F = X21  LOOP SW = OFF
```

3.1.9 TSEN – timeslot enable

Syntax: TSEN [<timeslot number>, (<timeslot number>, . . .)]

Description: Enables Timeslots on serial interface. 'timeslot number' >= 0 <= 31. The command line length limits the number of timeslots that can be enabled by one command. If TS0 is enabled, clear channel mode is assumed. If TS0 is disable & TS16 is enable TS16 signaling is disabled.

(a or A for all)

3.1.10 TSDIS – timeslot disable

Syntax: TSDIS [<timeslot number>, (<timeslot number>, . . .)]

Description: Disables Timeslots on serial interface. 'timeslot number' >= 0 & <= 31. The command line length limits the number of timeslots that can be disabled by one command. If TS0 is disabled, G.704 framing is assumed. IF TS0 & TS16 is disabled TS16 signaling is enabled.

(a or A for all)

3.1.11 CRC4 – enable / disable CRC4

Syntax: CRC4 <ON / OFF>

Description: G.704 CRC4 control

'OFF' - Disable CRC4

'ON' - Enable CRC4

Notes:

TS0 must be disabled for serial data i.e. not clear channel set up.

3.1.12 MCLK – enable / disable master clock mode

Syntax: MCLK <ON / OFF>

Description: Clocking master control

'OFF' - System clock recovered from network

'ON' - System clock generated on-board

Notes:

1. Each end of a link must be set differently.

3.1.13 DINV – enable / disable data inversion

Syntax: DINV <ON / OFF>

Description: Data inversion control

'OFF' - Normal operation (data inverted)

'ON' - Data not inverted

Note: Normal operation is with data inverted. DINV ON inverts the data from this normal state. ie data is NOT inverted. This is consistent with the link being fitted on unmanaged Line Cards and with the switch being in the 'ON' position for standalone units

3.1.14 CINV – enable / disable clock inversion

Syntax: CINV <ON / OFF>

Description: Serial clock inversion control

'OFF' - Normal operation

'ON' - Clock inverted

3.1.15 TCLK – enable / disable terminal timing

Syntax: TCLK <ON / OFF>

Terminal timing control. TxD can be clocked into the G.704 Line Card using the TTC signals which are usually the CLK signals looped back at the far end of the cable in order to eliminate cable skew.

'OFF' - TxD sampled by CLK signals

'ON' - TxD sampled by TTC signals

TTC is inverted by the CINV command.

3.1.16 LPBK – enable / disable loop-back mode

Syntax: LPBK <ON / OFF>

Description: Loop-back test mode control. Serial TxD I/P is looped back onto RxD O/P. Network RxD I/P is looped back onto TxD O/P. If TS0 is selected for serial transmission then clear channel mode is assumed, otherwise G.704 framing is adopted.

'OFF' - Normal operation

'ON' - Serial & network loop-back

Notes:

Network loop-back mode is dependent on TS0 configuration.

Switch Bank SW2, switch 4, overrides the management setting for loop back (if the switch is set to down / on then loop back is on).

3.1.17 VER – report version numbers

Syntax: VER

Description: Reports the version number of the programmable logic and the micro-controller, in the format:

500/328 Issue n.n

500/327 Issue n.n

3.1.18 AIS

Enables / Disables the transmission of AIS (major alarm) during periods where the receive interface is in an LOI condition.

Syntax: AIS (on / off)

3.1.19 Reset

Forces the G.704 Line Card to re-boot management code and operating code from the saved configuration.