



Teldat Router

Configuration and Monitoring

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INDEX

Chapter 1 Teldat Router Console	1
1. Introduction.....	2
2. Local and remote terminal.....	3
3. User interface.....	4
4. User interface description.....	9
5. GESTCON process commands.....	10
5.1. ?(HELP).....	10
5.2. FLUSH.....	10
5.3. INTERCEPT.....	11
5.4. LOAD.....	11
a) <i>LOAD ACTIVATE</i>	11
b) <i>LOAD DEACTIVATE</i>	12
c) <i>LOAD IMMEDIATE</i>	12
d) <i>LOAD RACTIVATE</i>	12
e) <i>LOAD RDEACTIVATE</i>	12
5.5. LOGOUT.....	13
5.6. PROCESS.....	13
5.7. STATUS.....	13
5.8. RESTART.....	13
5.9. TELNET address.....	14
Chapter 2 Teldat Router Configuration.....	16
1. Introduction.....	17
2. CONFIG Process.....	22
3. CONFIG procedure user interface.....	23
4. CONFIG procedure commands.....	27
4.1. ? (HELP).....	27
4.2. ADD.....	28
a) <i>ADD DEVICE</i>	28
4.3. CLEAR.....	28
4.4. CONFIG-MEDIA.....	29
a) <i>CONFIG-MEDIA FLASH</i>	29
b) <i>CONFIG-MEDIA SmartCard</i>	29
c) <i>CONFIG-MEDIA SMARTCARD-FLASH</i>	30
4.5. CONFIRM-CFG-NEEDED.....	30
a) <i>CONFIRM-CFG-NEEDED DEFAULT</i>	30
b) <i>CONFIRM-CFG-NEEDED TIMEOUT</i>	31
4.6. CONFIRM-CFG.....	31
4.7. DISABLE.....	31
a) <i>DISABLE DEVICE</i>	31
b) <i>DISABLE PATCH</i>	31
4.8. ENABLE.....	31
a) <i>ENABLE DEVICE</i>	32
b) <i>ENABLE PATCH</i>	32
4.9. EVENT.....	32
4.10. FEATURE.....	32
a) <i>FEATURE ACCESS-LISTS</i>	33
b) <i>FEATURE ALARMS</i>	33
c) <i>FEATURE BANDWIDTH-RESERVATION</i>	34
d) <i>FEATURE CONTROL-ACCESS</i>	34
e) <i>FEATURE DNS</i>	34
f) <i>FEATURE IP-DISCOVERY</i>	35
g) <i>FEATURE MAC-FILTERING</i>	35
h) <i>FEATURE NTP</i>	35

i)	<i>FEATURE RADIUS</i>	35
j)	<i>FEATURE WRS-BACKUP-WAN</i>	35
k)	<i>FEATURE WRR-BACKUP-WAN</i>	35
4.11.	<i>FILE</i>	36
a)	<i>FILE COPY</i>	36
b)	<i>FILE DELETE</i>	36
c)	<i>FILE FORMAT</i>	37
d)	<i>FILE LIST</i>	37
e)	<i>FILE RENAME</i>	38
4.12.	<i>GLOBAL-PROFILES</i>	39
a)	<i>GLOBAL-PROFILES ATM</i>	39
b)	<i>GLOBAL-PROFILES PPP</i>	39
c)	<i>GLOBAL-PROFILES TCP-MENU</i>	39
d)	<i>GLOBAL-PROFILES TRMTP-MENU</i>	39
4.13.	<i>LIST</i>	39
a)	<i>LIST CONFIGURATION</i>	40
b)	<i>LIST DEVICES</i>	40
c)	<i>LIST USER</i>	40
d)	<i>LIST PATCH</i>	41
e)	<i>LIST POOLS</i>	41
4.14.	<i>MANAGEMENT</i>	41
4.15.	<i>NETWORK</i>	41
4.16.	<i>NO</i>	42
a)	<i>NO CONFIGURATION</i>	42
b)	<i>NO CONFIRM-CFG</i>	42
c)	<i>NO CONFIRM-CFG-NEEDED</i>	42
d)	<i>NO DEVICE</i>	42
e)	<i>NO USER</i>	42
4.17.	<i>NODE</i>	43
4.18.	<i>PROTOCOL</i>	43
4.19.	<i>QUICK</i>	44
4.20.	<i>SAVE</i>	44
4.21.	<i>SET</i>	45
a)	<i>SET APPLICATION-ACTIVE</i>	45
b)	<i>SET CONTACT-PERSON <contact-person></i>	45
c)	<i>SET DATA-LINK <type> <interface></i>	46
d)	<i>SET DEFAULT-CONFIG</i>	46
e)	<i>SET DEFAULT-POOLS-CONF</i>	46
f)	<i>SET DIAL-PROFILE</i>	47
g)	<i>SET FILE cfg</i>	47
h)	<i>SET FTP</i>	47
i)	<i>SET HOST-LOCATION</i>	47
j)	<i>SET HOSTNAME <hostname></i>	48
k)	<i>SET HTTP</i>	48
l)	<i>SET INACTIVITY-TIMER</i>	48
m)	<i>SET PASSWORD</i>	48
n)	<i>SET POOLS Size</i>	49
o)	<i>SET RADIUS</i>	49
p)	<i>SET RTSP</i>	49
q)	<i>SET RX-BUFFERS <interface> <num></i>	49
r)	<i>SET SRAM size</i>	50
s)	<i>SET TELNET</i>	50
t)	<i>SET WEB-POLL</i>	50
4.22.	<i>TIME</i>	50
a)	<i>TIME LIST</i>	50
b)	<i>TIME SET</i>	51
c)	<i>TIME SUMMER-TIME</i>	51
4.23.	<i>UCI</i>	54

4.24.	USER.....	54
Chapter 3 Teldat Router Monitoring.....		55
1.	Monitoring procedure commands.....	56
1.1.	? (HELP).....	57
1.2.	BUFFER statistics.....	57
1.3.	CLEAR statistics.....	58
1.4.	CONFIGURATION of gateway.....	58
1.5.	DEVICE statistics.....	60
1.6.	DISABLE interface.....	61
1.7.	ERROR counts.....	61
1.8.	EVENT logging.....	62
1.9.	FEATURES.....	62
	a) FEATURES ACCESS-LISTS.....	63
	b) FEATURES BANDWIDTH-RESERVATION.....	63
	c) FEATURES DNS.....	63
	d) FEATURES IP-DISCOVERY.....	63
	e) FEATURES MAC-FILTERING.....	63
	f) FEATURES NTP.....	63
	g) FEATURES RADIUS.....	64
	h) FEATURES WRR-BACKUP-WAN.....	64
1.10.	MANAGEMENT.....	64
1.11.	MEMORY.....	64
1.12.	NETWORK commands.....	65
1.13.	NODE commands.....	66
	a) NODE ISDN.....	66
	b) NODE X25.....	66
	c) NODE XOT.....	66
	d) NODE 270.....	67
1.14.	PROTOCOL commands.....	67
1.15.	QUEUE lengths.....	67
1.16.	QUICK monitor.....	68
1.17.	SYSTEM.....	68
	a) SYSTEM STACK.....	69
	b) SYSTEM MEMORY.....	69
	c) SYSTEM CONSOLE SPEED.....	69
	d) SYSTEM FIRMWARES-REQUIRED.....	69
1.18.	STATISTICS of network.....	69
1.19.	TEST network.....	70
1.20.	LAST Configuration changes.....	70
1.21.	LOG, save.....	71
1.22.	UCI.....	71
1.23.	WEB-POLL.....	71
Chapter 4 Event Logging System ELS.....		73
1.	Introduction.....	74
2.	Event Logging System.....	75
3.	Event Logging System user interface.....	80
4.	Event Logging System Commands.....	83
4.1.	Configuration Process Commands.....	83
	a) ? (HELP).....	83
	b) ADD group.....	84
	c) APPLY-FILTER.....	84
	d) CLEAR configuration.....	84
	e) DELETE group.....	85
	f) DISABLE.....	85
	g) ENABLE.....	86
	h) EV-BUFFER <num. Lines> <line size>.....	87

i)	<i>FILTER</i>	87
j)	<i>LIST</i>	88
k)	<i>NO</i>	92
l)	<i>PPP</i>	92
m)	<i>SYSLOG-PRIORITY</i>	92
n)	<i>EXIT</i>	93
4.2.	Monitoring process commands.....	93
a)	? (<i>HELP</i>).....	94
b)	<i>CLEAR actives</i>	94
c)	<i>DISABLE</i>	94
d)	<i>ENABLE</i>	95
e)	<i>FILTER</i>	96
f)	<i>HIDE</i>	96
g)	<i>LIST</i>	96
h)	<i>RESTORE configuration</i>	98
i)	<i>SYSLOG</i>	98
j)	<i>VIEW</i>	99
k)	<i>EXIT</i>	99

Appendix Personalized parameters100

1.	Supported personalized parameters	101
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Chapter 1

Teldat Router Console



1. Introduction

All **Teldat Router** devices employ the same user interface for every model. They only differ on the protocol software loaded in each device.

The information contained in this chapter is divided in the following sections:

- Local and remote terminal.
- User interface.
- User interface description.
- GESTCON process commands.

2. Local and remote terminal

The **Teldat Router** allows user access for configuration and monitoring functions through a local or remote terminal.

Local Terminal

A local terminal is directly connected to the **Teldat Router** through an RS-232 serial cable. For further information see the Device Installation Manual.

Remote Terminal

The remote connections provide the same functionality as the local ones, except that a local terminal must be used for the initial configuration. The remote terminals are connected to the **Teldat Router** through TELNET once the IP protocol has been enabled. See TCP-IP Configuration Manual (Dm 702-I) for further information on how to enable the IP protocol.

By means of local or remote terminal it is possible to access the **Teldat Router** and carry out the distinct processes. These processes are related to device configuration with status monitoring and related statistics. Messages can also be received on any events produced. These processes are named as follows:

- P 1 (GESTCON):** This is the console management process (**GESTCON**) which gives access to other processes.
- P 2 (VISEVEN):** This process allows events produced in the system to be displayed, from established connections to errors in the system (**VISEVEN**). These events should be pre configured in process 4 (**CONFIG**) through the Event Logging System. See **Chapter 4 “Event Logging System ELS”** for further information.
- P 3 (MONITOR):** This permits you to **MONITOR** the state of the system as well as the statistics gathered by the device.
- P 4 (CONFIG):** This is the process through which the different parameters that define the system’s working environment are **CONFIGURED**.

These processes are accessed from the console by striking the keys P 2, P 3 or P 4.

3. User interface

The following steps are the same for all **Teldat Router**, regardless the software installed.

- **Teldat Router** connection.
- Executing a command.
- Accessing the process.
- Process identification through a prompt.
- Return to the Console Manager.
- Obtaining help.

Teldat Router connection

Local Connection

A user and password control the access to the router local connection. By default no user is registered. In this case it will not be requested when you access the device and the first thing to appear is the welcome text and the console management prompt as shown below.

```
Teldat                (c)2001-2002
Router model XXXXX x xx CPU MPC860      S/N: XXXX/XXXXX
1 LAN, 3 WAN Line , 1 ISDN Line
*
```

where XXXXX is the specific router model.

In order to register a user, please see the **USER** command in **Chapter 2 “Teldat Router Configuration”**. In cases where there are enabled users, the introduction of a user and the corresponding password will be requested. If the authentication is accepted, then the welcome text will be shown.

```
User: Root
Password:****

Teldat                (c)2001-2002
Router model XXXXX CPU MPC860          S/N: XXXX/XXXXX
1 LAN, 2 WAN Line , 2 ISDN Line
*
```

where XXXXX is the specific router model

If the password is not valid, the following text will appear:

```
User: Root
Password:*****
Access denied
```

If the password is incorrectly introduced, you will not be able to access the console. If you exhaust the maximum number of erroneous attempts, the application will block for one minute.

If you have been authenticated in the system and an inactive period of time has also been configured (see the **SET** command in **Chapter 2 "Teldat Router Configuration"**), a monitoring process will begin. If the configured inactive time period times out without the user touching any of the keys, the local connection will close. In this case the user must reenter the password again when he wishes to use the console.

Depending on the user you have authenticated with, you have permission when accessing the different processes and executing some restricted commands.

Five different access levels have been defined:

- NONE:** System access is not permitted.
- EVENTS:** Access is permitted to the Console Management (P1), to the Events Viewing (P2) but you cannot execute the Ping, Telnet, Restart or Load commands.
- MONITOR:** Access is permitted to the Console Management (P1), to the Events Viewing (P2) and the Monitoring process (P3). You are also permitted to execute the Ping and Telnet commands but not the Restart or Load commands.
- CONFIG:** Access is permitted for all the process and all the standard commands.
- ROOT:** In addition to being able to access all the processes and the standard commands, you can also access the user management own commands. These will be explained further on in this manual.

The user management is dynamic; therefore when you add a user, if you close the device session (LOGOUT) and connect again, a user and corresponding password will be requested in order to access the system without having to restart the device. In any case, you must save the configuration (see the **SAVE** command in Chapter 2) if you wish to maintain the users registered on restarting the device as contrariwise you lose the said user configuration.

The **USER** command manages the users and permits the following actions: add, delete, enable and disable users, list and change the user access level:

USER name password password password:

Configures a user password, creating it if it does not exist.

NO USER name:

Deletes a user from the user list. You can eliminate as many users as you wish except if there is only one Root user and there are other registered users. In this case, you can only delete the rest of the users as if not you cannot manage the remaining users. If you eliminate all the users except the last Root, then you can delete the latter. The system then will not request user and password in order to access the device, as there are no more users registered in the system.

USER name active:

Permits you to enable users. Simply indicate the user name you wish to enable.

USER name no active:

Permits you to disable users. You cannot disable Root users.

LIST USER:

Displays a list of registered users, their access level and if they are enabled or not.

Permits you to change the access level of any registered user with the exception of users with Root access level.

The user management is compatible with the password defined through the **SET PASSPORT** command. Therefore if you update a device that has this password enabled, this will continue to permit access using this password while not registering any user.

The user management has priority over the device password, therefore when there are registered and enabled users (these are enabled by default when they are registered) the old password will not longer be valid.

Remote connection

To connect to **Teldat Router** initializing a TELNET session in the host (the “host” being the system connected to the remote terminal), you need the IP address of the device you wish to connect to.

Example :

```
TELNET 128.185.132.43
```

The **Teldat Router** acts as a *TELNET server*. The remote terminal acts as a *TELNET client*.

Once a TELNET session is established with the **Teldat Router**, if necessary, a user and password will be requested in order to access the system. Once correctly authenticated in the system, the following welcome text will appear.

```
User: Root
Password:****

Teldat                (c)2001-2002
Router model XXXXX CPU MPC860      S/N: XXXX/XXXXX
1 LAN, 2 WAN Line , 2 ISDN Line
*
```

where XXXXX is the specific router model.

The access control to the **Teldat Router** is similar to the local mode access. If there are users defined and these are enabled (these enable by default when created), the introduction of a user and their corresponding password is requested in order to connect to the system. When the authentication is correct, the welcome text and prompt appear and you have access to the authenticated user permissions as indicated in the connection via local.

If the password is not valid, the following text will be displayed:

```
User: Root
Password:*****
Access denied
```

If the password is not entered within approximately 20 seconds or the password provided is incorrect, at the third attempt the device will disconnect the TELNET session.

Executing a command

To enter a command, simply enter the necessary letters that differentiate one command from another within the menu you are working in.

Example:

Within the menu containing the following commands:

USER

UPLOAD

DOWN

If you key in a “U”, an error will be produced indicating that you have introduced an ambiguous command (both user and upload begin with a U). If you introduce a “D”, “DO”, “DOW” or “DOWN”, this command will be executed. In the same way if you introduce “US”, “USE” or “USER”, this command will execute and similarly “UP”, “UPL”, “UPLO”, “UPLOA” or “UPLOAD” will execute the UPLOAD command. Any other entry will produce an error, as no command will coincide with the characters entered.

To delete the last character(s) from the command line use the backspace (←) key.

Accessing the processes

Prompt “*” will appear once the device has been switched on and the application loaded. Prompt “*” is the Console Manager prompt. From this prompt it is possible to access the distinct process. *Prompts* are the symbols that identify each process:

To access a process, the following steps must be executed:

1. Look for the number that identifies the process. This information can be obtained by entering the **STATUS** command at the “*” prompt.
2. Enter **PROCESS pid**, where pid is the process number we wish to access. For example, to configure **Teldat Router**, enter

```
*PROCESS 4
User Configuration
Config>
```

Identifying a process through the prompt

Each process has a different prompt. To identify which process you are in, observe the prompt.

The following list shows the prompts for different processes:

Process	Prompt
GESTCON	*
MONITOR	+
CONFIG	<i>Config></i>

Teldat Router offers the possibility to personalize the device including the text shown before each prompt. This text can consist of up to 8 characters and take the name assigned to the device. In order to introduce this, see the configuration command **SET HOSTNAME**.

Returning to the Console Manager

To return to the Console Manager (prompt “*”) from a process, e.g. CONFIG (prompt “Config>”) or MONITOR (prompt “+”), enter *Ctrl + p* (the “escape character”). **ALWAYS RETURN TO THE CONSOLE MANAGER BEFORE ENTERING ANOTHER PROCESS**. For example if you are in MONITOR and wish to enter CONFIG, enter *Ctrl + p* and return to prompt “*” before doing so.

Example :

```
*PROCESS 4
User Configuration
Config>                                     Press (Ctrl + p)
*
```

```
*PROCESS 3
Console Operator
+                                           Press (Ctrl + p)
*
```

Other protocol configuration/monitoring menus can be accessed from the configuration or monitoring processes. Returning to the corresponding process is achieved through the EXIT command and to the Console Manager via the escape character (Ctrl + p by default).

Obtaining help

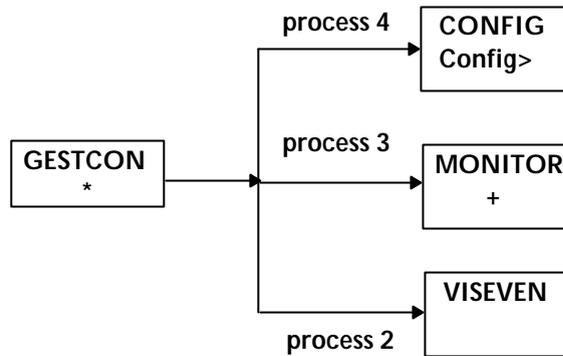
In all processes there is a command “?” (HELP). This gives information on the commands that can be used with the prompt, not only in the Console Manager (“*”), but also in the configuration (“Config>”) and monitoring (“+”) processes.

Example :

```
* ?
FLUSH
INTERCEPT
LOAD
LOGOUT
PROCESS
RESTART
STATUS
TELNET address
*
```

4. User interface description

The processes normally handled are: GESTCON, MONITOR, CONFIG and VISEVEN. The following diagram describes the structure of the processes in the **Teldat Router**.



Each of these processes is described below:

GESTCON

This is the Console Manager. This provides access to other processes via the prompts which appear on the console.

MONITOR

Allows the user to monitor the status and statistics of the router hardware and software. Provides access to the protocol and interface menus which in turn, allow the user to monitor the configured protocols and other parameters.

CONFIG

Enables configuration of various parameters such as net addresses and events. Provides access to the configuration of protocols thus permitting protocol parameters configuration.

VISEVEN

Receives messages from the Events Logging System and displays them at the terminal in accordance with the user selection criterion.

5. GESTCON process commands

The GESTCON process (P1) allows you to configure and monitor all the device operation parameters. During the GESTCON process, the **Teldat Router** processes and transfers data traffic. When the device is switched on and enters the GESTCON process the copyright, information on the device, together with an asterisk “*” appear at the connected local terminal. This asterisk “*” is the prompt for GESTCON process which is the main user interface permitting access to all other processes. Most changes made in the **Teldat Router** operation parameters in the GESTCON process have an immediate effect i.e. it is unnecessary to restart the device.

From the GESTCON process it is possible to access a set of commands that permit you to check the status of the processes, monitor the device interface and packet transference efficiency, as well as the configuration of various parameters.

GESTCON process commands table

Commands	Function
? (HELP)	Lists all the GESTCON procedure commands.
FLUSH	Clears all the messages stored up to that moment in the events buffer.
INTERCEPT	Permits you to change the procedures' escape character.
LOAD	Permits you to reload the program from the disk (or from the flash memory).
LOGOUT	Ends the Telnet connection established with the device.
PROCESS	Permits access to a different device procedure and to enable its commands.
STATUS	Displays the names and identifiers of each procedure.
RESTART	Allows you to restart the device.
TELNET address	Establishes a Telnet connection as the remote device client whose remote address is specified.

5.1. ?(HELP)

Lists the available commands in the current prompt. It is also possible to enter “?” after a specific command to list its options.

Syntax:

```
* ?
```

Example :

```
* ?  
FLUSH  
INTERCEPT  
LOAD  
LOGOUT  
PROCESS  
RESTART  
STATUS  
TELNET address  
*
```

5.2. FLUSH

Deletes all the current events messages from the VISEVEN procedure output buffer.

Syntax:

```
*FLUSH
```

Example :

```
*FLUSH
*
```

5.3. INTERCEPT

Allows you to change the processes escape character. In the below example the default character given is changed, (Ctrl+u) in place of (Ctrl+p).

Syntax:

```
*INTERCEPT
```

Example :

```
*INTERCEPT
Press the new escape key and then Enter:           Press (Ctrl+u) and <␣
Press the new escape key again and then enter:      Press (Ctrl+u) and <␣
Escape key updated
*
```

The escape key should not be a character that can be displayed.

5.4. LOAD

Allows you to load the program from disk (or from flash memory).

Syntax:

```
*LOAD?
ACTIVATE
DEACTIVATE
IMMEDIATE
RACTIVATE
RDEACTIVATE
```

a) LOAD ACTIVATE

The **ACTIVATE** option allows the user to program a specific time to reload the routing application program. The time is configured in a 24-hour format. This operation can be iterative or not, i.e. this can be programmed to occur every day at the configured time. If this is iterative you need to save the configuration.

Example :

If you wish the load to occur once at the indicated time:

```
*LOAD ACTIVATE
Current time: 17:21
Type time you want to reload the system [H:M]:17:22
Iterative(Yes/No)? n
Reload is timed at 17:22
Are you sure to reload the system at the configured time (Yes/No)? y
*
```

If you wish the loading to occur everyday:

```
*LOAD ACTIVATE
Type time you want to reload the system [H:M]:17:21
Iterative(Yes/No)? Y
```

```
Reload is timed at 17:21 Iterative
Are you sure to reload the system at the configured time (Yes/No)? y
Please, save config to update information
*
```

b) LOAD DEACTIVATE

The **DEACTIVATE** option allows you to cancel a pre-configured loading which has not as yet been carried out. If no loading has been programmed, then an error message will appear.

Example :

```
*LOAD DEACTIVATE
Reload is timed at 20:00
Are you sure to cancel the timed reload(Yes/No)? y
Timed reload was cancelled
*
```

c) LOAD IMMEDIATE

The **IMMEDIATE** option reloads the application immediately.

Example :

```
*LOAD IMMEDIATE
Are you sure to reload the device(Yes/No)? y
*
```

d) LOAD RACTIVATE

Permits the user to program a specific time where the routing application program restarts. The time is configured in a 24-hour format. This operation can be iterative or not, i.e. this can be programmed to occur every day at the configured time. If this is iterative you need to save the configuration.

Example :

If you wish the restart to occur once at the indicated time:

```
*LOAD RACTIVATE
Current time: 17:26
Type time you want to restart the system [H:M]:17:27
Iterative(Yes/No)? n
Reload is timed at 17:27
Are you sure to restart the system at the configured time (Yes/No)? y
*
```

If you wish the restart to occur everyday:

```
*LOAD RACTIVATE
Current time: 17:28
Type time you want to restart the system [H:M]:17:29
Iterative(Yes/No)? y
Reload is timed at 17:29 Iterative
Are you sure to restart the system at the configured time (Yes/No)? y
Please, save config to update information
*
```

e) LOAD RDEACTIVATE

Permits you to deactivate the programmed restart process. If there is no restart programmed, an error message will appear.

Example :

```
*LOAD RDEACTIVATE
Reload is timed at 17:00
Are you sure to cancel the timed restart(Yes/No)? y
Timed restart was cancelled
*
```

5.5. LOGOUT

Ends the Telnet connection established with the device without using a Telnet client command.

Syntax:

```
*LOGOUT
```

Example :

```
*LOGOUT
Do you wish to end telnet connection (Yes/No)?
```

5.6. PROCESS

This permits access to another device process e.g. MONITOR, VISEVEN, or CONFIG. Once a new process has been accessed, it is possible to send specific commands or receive the process output. To obtain the process identifier enter the **STATUS** command. Once connected to another process, such as MONITOR, VISEVEN, or CONFIG, use the escape character (*Ctrl+p*) in order to return to the Console Manager (GESTCON).

Syntax:

```
*PROCESS PID
```

Example :

```
*PROCESS 4
User Configuration
Config>
```

When in one of the protocol menus such as *Conf IP>* or *IP>*, use the **EXIT** command in order to return to the menu of the process you are currently in.

5.7. STATUS

Permits you to know each process identifier (PID), as well as the name.

Syntax:

```
*STATUS
```

Example :

```
*STATUS
System Processes:
NAME      PID  STATUS
GESTCON   1
VISEVEN   2
MONITOR   3
CONFIG    4
TELRNET   6
*
```

5.8. RESTART

Restarts **Teldat Router** without reloading the software. This has the following effects:

- Software counters are set to zero.
- Connected networks are tested.
- Routing tables are cleared.

- All packets are discarded until the restart has completed.
- Current software is executed.

If this command is used during a remote terminal connection, the TELNET session will be lost since all the device procedures will be restarted.

Syntax:

```
*RESTART
```

Example:

```
*RESTART
Are you sure to restart the system (Yes/No)? y
Restarting. Please wait .....
APP DATA DUMP.....
Running application
Disk configuration read
Initializing

Telmdat                (c) 2002

Router model XXXXXXXX X X CPU MPC860      S/N: xxxx/xxxxxxx
1 LAN, 3 WAN Lines, 1 ISDN Line

*
```

5.9. TELNET address

Establishes a Telnet connection as the remote device client with a specified address. If you have the DNS client configured you can use the domain names in order to access the remote device. If you do not specify the destination address in the command line, the device will request it as well as the source IP address to be used and the number of the TCP port.

Syntax:

```
*TELNET address
```

Example:

Telnet to the device with address 172.123.23.67:

```
*TELNET 176.123.23.67
Trying to connect...
(Press Control S to come back to local router)
Connection established
```

Telnet to device 172.24.78.92 using source address 80.1.1.1 and port 6623.

```
FTP *telnet
Telnet destination []? 172.24.78.92
Telnet source [172.24.78.94]? 80.1.1.1
Telnet port [23]? 6623
Trying to connect...
(Press Control S to come back to local router)
Connection established
```

Telnet to device with domain name router1.midominio.es:

```
FTP *telnet router1.midominio.es
Trying to connect...
(Press Control S to come back to local router)
Connection established
```

Chapter 2

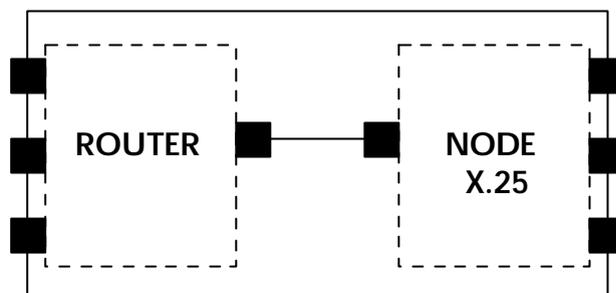
Teldat Router Configuration



1. Introduction

From the functional point of view there are two virtual devices integrated in **Teldat Router**:

1. A router that performs the internetworking functions.
2. A packet switch coming from the router as well as from the X.25 and ISDN ports when they carry X.25



As the figure shows, each virtual device manages its own set of interfaces. Therefore it is necessary to accurately identify the different interfaces and to know whether an interface belongs to the router or the node.

The interfaces in the **Teldat Router** configuration are identified through a name.

The name for the physical interfaces is made up of a text string followed by two numbers separated by a slash. This text indicates the type of interface (serial line, ISDN, etc). The first of these two numbers indicates its location in the device (0 for the motherboard, 1 for the first extension pci, 2 for the second etc.) and the second number indicates the event number for the said type of interface for the same location (serial line 0, 1, 2, etc.).

For interfaces added by the user, the name consists of a text string which indicates the type of interface and an identifier number which must be unique for each interface of the same type. An exception to this rule is the subinterfaces as their name is made up with the base interface number over which these are configured, following by a period (.) and an identifier number. This identifier number again must be unique for each of the subinterfaces pertaining to the same base interface.

The table of interface identifiers is obtained through the **LIST DEVICES** command in the configuration process. The output of this command in a specific device is shown below:

```
Config>LIST DEVICES
```

Interface	Con	Type of interface	CSR	CSR2	int
ethernet0/0	LAN1	Fast Ethernet interface	fa200e00		27
serial0/0	WAN1	X25	fa200a00	fa203c00	5e
serial0/1	WAN2	X25	fa200a20	fa203d00	5d
serial0/2	WAN3	X25	fa200a60	fa203f00	5b
bri0/0	ISDN1	ISDN Basic Rate Int	fa200a40	fa203e00	5c
x25-node	---	Router->Node	0		0

```
Config>
```

The first column indicates the interface name (Interface), the second column indicates the physical connector which the interface (*Con*) corresponds to, the third column specifies the type of interface programmed, the *CSR* and *CSR2* columns refer to memory positions within the device and the *int* corresponds to the interruptions addresses.

You must enter the name when selecting an interface (although you don't necessarily have to enter all the characters). For physical interfaces, simply enter the beginning of the text thus ensuring this does not coincide with any other interface text, following by the position if there is more than one interface of the same type. You do not always need to introduce the position (X/X); this is only necessary in cases where various interfaces of the same type are present (e.g. various serial interfaces).

Examples:

```
Config>LIST DEVICES

Interface      Con   Type of interface      CSR   CSR2  int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00 fa203c00 27
serial0/0      WAN1  X25                    fa200a00 fa203c00 5e
serial0/1      WAN2  X25                    fa200a20 fa203d00 5d
serial0/2      WAN3  X25                    fa200a60 fa203f00 5b
bri0/0         ISDN1  ISDN Basic Rate Int   fa200a40 fa203e00 5c
x25-node       ---   Router->Node          0       0
Config>
```

Example of the valid commands to access the first serial interface of the motherboard (WAN 1) according to the devices listed in the above box.

```
Config>serial0/0
Config>ser0/0
Config>ser0
Config>s0
```

Example of erroneous commands:

```
Config>serial
Config>ser
Config>ser0/4
Config>s7
```

This serial command is incorrect as there are various interfaces in the device with serial text, consequently you need to specify the interface location.

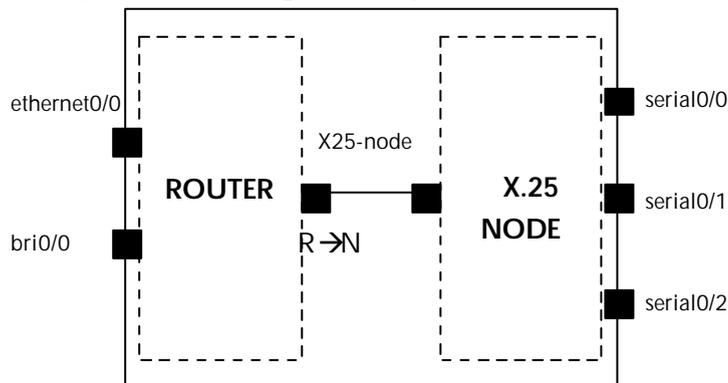
Example of valid commands to access the bri interface:

```
Config>bri0/0
Config>b0/0
Config>bri0
Config>b
```

As, in this case, there is only one bri, you do not need to indicate the position within the equipment, simply introduce its text string. This does not necessarily need to be complete. The only characters necessary are those distinguishing this from other interfaces. As in this case there aren't any other interfaces beginning with the letter "b", this letter will suffice.

Another important aspect is that there are interfaces which do not have a physical connector associated. This is the case of the x25-node interface in the example. This is due to the fact it is this interface that permits the virtual machines to join and consequently does not have an external connector associated.

With this information you can redo the previous figure for this case:



Suppose now that the protocol in one of the WAN lines is changed through the command **SET DATA-LINK** and we then consult the interface table.

In the following example the Frame Relay protocol is assigned to the physical line 2:

```

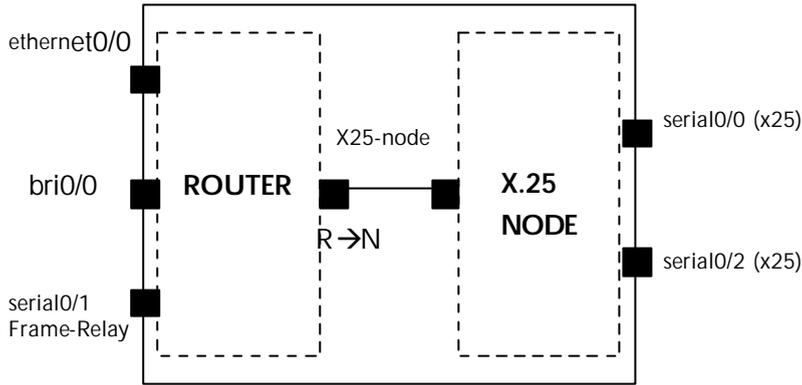
Config>SET DATA-LINK FRAME-RELAY
Interface name [serial0/0]? serial0/1
Config>LIST DEVICES

Interface      Con   Type of interface      CSR   CSR2  int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00   fa203c00  27
serial0/0      WAN1  X25                    fa200a00   fa203c00  5e
serial0/1      WAN2  Frame Relay            fa200a20   fa203d00  5d
serial0/2      WAN3  X25                    fa200a60   fa203f00  5b
bri0/0         ISDN1  ISDN Basic Rate Int    fa200a40   fa203e00  5c
x25-node       ---   Router->Node           0           0
Config>

```

As you can see, there is now an additional interface managed by the router and one less managed by the node.

In this new example the diagram of the device is now as follows:



In the following example, a generic Frame Relay interface is added over an ISDN basic access:

```

Config>ADD DEVICE FR
Interface Id[9999-1]? 1
Added FR interface fr1
Config>

```

The interface identifier is a number between 1 and 9999. This permits you to distinguish the created interface from other interfaces of the same type i.e. other frame-relay dial interfaces.

```

Config>LIST DEVICES

Interface      Con   Type of interface      CSR   CSR2  int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00   fa203c00  27
serial0/0      WAN1  X25                    fa200a00   fa203c00  5e
serial0/1      WAN2  Frame Relay            fa200a20   fa203d00  5d
serial0/2      WAN3  X25                    fa200a60   fa203f00  5b
bri0/0         ISDN1  ISDN Basic Rate Int    fa200a40   fa203e00  5c
x25-node       ---   Router->Node           0           0
fr1            ---   Generic FR              0           0
Config>

```

For those dial interfaces added by the user, you don't have to introduce the whole name in order to refer to the interface. Simply introduce the necessary characters in order to distinguish this from the other interfaces. The identifier however is mandatory.

Example of valid commands to access the fr dial interface created according to the devices listed in the previous box:

```

Config>fr1
Config>f1

```

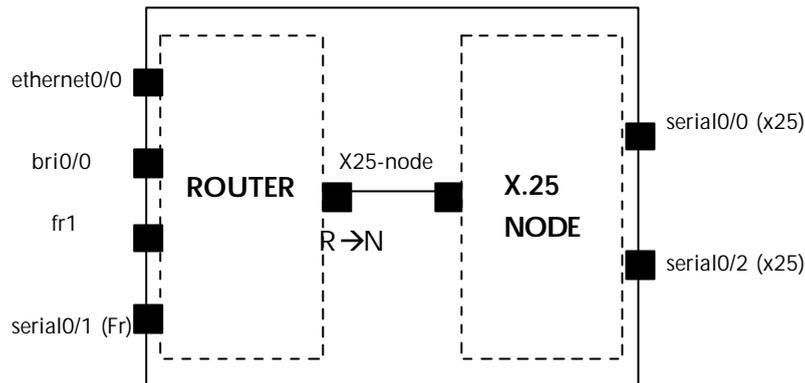
Example of erroneous commands:

```

Config>fr
Config>f

```

In this new example, the diagram of the device is as follows:



In cases where we have ATM interfaces, subinterfaces associated to the said interfaces can be configured. E.g. in a configuration with an xDSL card in SLOT 3:

```
Config>LIST DEVICES

Interface      Con   Type of interface      CSR      CSR2  int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00
serial0/0      WAN1  X25                    fa200a00 fa203c00 5e
serial0/1      WAN2  X25                    fa200a20 fa203d00 5d
serial0/2      WAN3  X25                    fa200a60 fa203f00 5b
bri0/0        ISDN1  ISDN Basic Rate Int   fa200a40 fa203e00 5c
x25-node      ---   Router->Node          0         0
atm3/0        SLOT 3 Generic ATM        f0000000 22
Config>
```

Add a subinterface associated to the said interface:

```
Config>ADD DEVICE ATM_SUBINTERFACE
Associated ATM Interface [ethernet0/0]? atm3/0
Interface Id[9999-1]? 2
Added ATM Sub-interface atm3/0.2
Config>LIST DEVICES

Interface      Con   Type of interface      CSR      CSR2  int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00
serial0/0      WAN1  X25                    fa200a00 fa203c00 5e
serial0/1      WAN2  X25                    fa200a20 fa203d00 5d
serial0/2      WAN3  X25                    fa200a60 fa203f00 5b
bri0/0        ISDN1  ISDN Basic Rate Int   fa200a40 fa203e00 5c
x25-node      ---   Router->Node          0         0
atm3/0        SLOT 3 Generic ATM        f0000000 22
atm3/0.2      ---   ATM subinterface      0         0
Config>
```

In order to access the said interface, you need to enter the base interface name followed by a period and the subinterface ID. This ID must be unique for all subinterfaces associated to the same base interface so they can be differentiated from each other. The ID must be entered in order to access the subinterface even if only one subinterface exists. When indicating the base interface name, follow the same rules as for the physical interfaces.

Example of the valid commands to access an atm subinterface created according to the devices listed in the previous box:

```
Config>atm3/0.2
Config>atm3.2
Config>atm.2
Config>a.2
```

As there only exists one ATM base interface, you do not need to indicate the location.

Example of erroneous commands:

```
Config>atm3/0.
```

In this chapter the configuration procedure will be described. This includes the following sections:

- CONFIG process
- CONFIG process user interface.
- CONFIG process commands.

2. CONFIG Process

Configuration process (CONFIG) P4, permits you to configure router parameters such as:

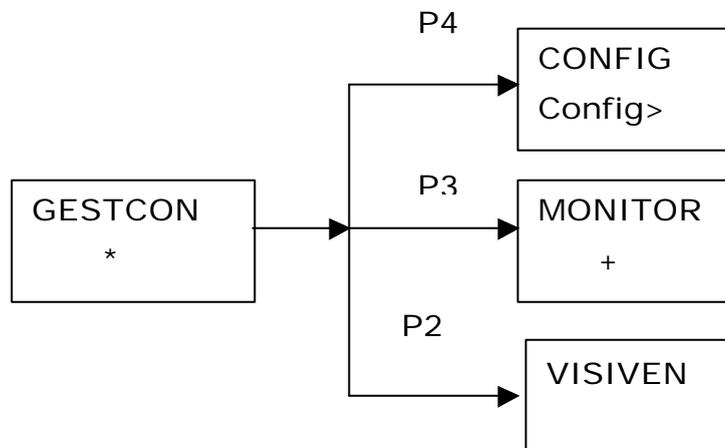
- Interfaces.
- Protocols.

CONFIG allows you to display and change the stored router configuration, either in FLASH memory or DISK. In order to store the changes made in this procedure, execute the **SAVE** command. The router must be restarted so the configuration changes can take effect. To restart the router we can do the following:

- Execute the **RESTART** command at the “*” prompt in the Console Manager or
- Switch the router off then on.

Note: If the router has a floppy drive the configuration will be read and saved to disk, provided there is one in the unit, if not the default configuration will be taken. If the router does not have a floppy drive the configuration will be read and saved in flash.

The CONFIG procedure is framed into the router structure as shown in the following figure:



3. CONFIG procedure user interface

CONFIG procedure enter/exit

To enter the configuration procedure CONFIG from prompt “*” in the Console Manager GESTCON, enter the **PROCESS** command followed by the number which identifies the configuration procedure, in this case **4**.

Example :

```
* PROCESS 4
User Configuration
Config>
```

To exit the CONFIG procedure and return to Console Manager GESTCON prompt “*”, press the escape character (*Ctrl-p* by default).

Protocol names and numbers

To access the protocols it is possible to enter either the name or number of the protocol required in compliance with the table which is obtained by entering the **LIST CONFIGURATION** command

Example :

```
Config>LIST CONFIGURATION
Hostname: Router Teldat
Number of Restarts before Reload/Dump: 162
Contact person: .....
Host Location: .....

Configurable protocols:
Num   Name                Protocol
 0    IP                   DOD-IP
 3    ARP                  Address Resolution Protocol
 6    DHCP                 Dynamic Host Configuration Protocol
11    SNMP                 SNMP
12    OSPF                 Open SPF-Based Routing Protocol
13    RIP                  Route Information Protocol
23    ASRT                 Adaptive Source Routing Transparent Enhanced Bridge
26    DLS                  Data Link Switching

59796 bytes of config available memory of 65348
Config>
```

To enter a specific protocol enter **PROTOCOL** with the name or number of the protocol that you wish to configure.

Example :

```
Config>PROTOCOL IP
Internet protocol user configuration
IP Config>
```

or

```
Config>PROTOCOL 0
Internet protocol user configuration
IP Config>
```

Once at this level it is possible to use the commands of the specific protocol selected. See the specific protocol configuration manual for further information.

To exit the protocol configuration prompt:

1. Enter the **EXIT** command in order to return to the configuration procedure prompt.

```
Conf IP>EXIT
Config>
```

2. Enter (*Ctrl+p*) escape character to return to Console Manager prompt “*”.

```
Config>                                     Press (Ctrl + p)
*
```

Show Command

The command show can be executed from any configuration process menu. This permits three options:

```
Config>SHOW ?
ALL-CONFIG
CONFIG
MENU
Config>
```

The command **SHOW ALL-CONFIG** displays the net configuration of all the device menus and submenus. I.e. displays all the commands that must be introduced through the console in order to configure the device as it is when executing the **SHOW ALL-CONFIG** command.

Example:

```
bill Config>SHOW ALL-CONFIG
; Showing System Configuration ...
; Router ATLAS 2 8 Version 10.0.0

add device fr 1
set data-link frame-relay serial0/2
set data-link x25 serial0/0
set data-link x25 serial0/1
set hostname bill
protocol ip
; -- Internet protocol user configuration --
  address ethernet0/0      172.1.1.144      255.255.0.0
  tvrp
; -- TVRP Configuration--
  group 1 ip 1.1.1.1 local-ip 172.1.1.144
;
  exit
;
exit
;
bill Config>
```

This command shows the whole of the net configuration of the device independently of the menu and submenu where the user is located. Therefore, for example, from the IP menu:

```
bill IP config>SHOW ALL-CONFIG
; Showing System Configuration ...
; Router ATLAS 2 8 Version 10.0.0

add device fr 1
set data-link frame-relay serial0/2
set data-link x25 serial0/0
set data-link x25 serial0/1
set hostname bill
protocol ip
; -- Internet protocol user configuration --
  address ethernet0/0      172.1.1.144      255.255.0.0
  tvrp
; -- TVRP Configuration--
  group 1 ip 1.1.1.1 local-ip 172.1.1.144
;
  exit
;
```

```
exit
;
bill Config>
```

The **SHOW CONFIG** command displays the net configuration of all the menus and submenus that can be accessed from the menu where the user is located when he executes this command.

Example:

```
bill Config>SHOW CONFIG
; Showing System Configuration ...
; Router ATLAS 2 8 Version 10.0.0

add device fr 1
set data-link frame-relay serial0/2
set data-link x25 serial0/0
set data-link x25 serial0/1
set hostname bill
protocol ip
; -- Internet protocol user configuration --
  address ethernet0/0      172.1.1.144      255.255.0.0
  tvrp
; -- TVRP Configuration--
  group 1 ip 1.1.1.1 local-ip 172.1.1.144
;
  exit
;
exit
;
bill Config>
```

As you can see, executing the **SHOW CONFIG** command from the root menu is equivalent to executing the **SHOW ALL-CONFIG**. However if you execute the show config command from the IP menu, only the IP and the TVRP configurations are shown:

```
bill IP config>SHOW CONFIG
; Showing Menu and Submenus Configuration ...
; Router ATLAS 2 8 Version 10.0.0

  address ethernet0/0      172.1.1.144      255.255.0.0
  tvrp
; -- TVRP Configuration--
  group 1 ip 1.1.1.1 local-ip 172.1.1.144
;
  exit
;
bill config>
```

The **SHOW MENU** command displays the configuration of the menu where the command is executed but does not display the submenu configuration.

Examples:

```
bill Config>SHOW MENU
; Showing Menu Configuration ...

add device fr 1
set data-link frame-relay serial0/2
set data-link x25 serial0/0
set data-link x25 serial0/1
set hostname bill
bill Config>
```

```
-- Internet protocol user configuration --
bill IP config>SHOW MENU
; Showing Menu Configuration ...

  address ethernet0/0      172.1.1.144      255.255.0.0
bill IP config>
```

```

bill TVRP config>SHOW MENU
; Showing Menu Configuration ...

        group 1 ip 1.1.1.1 local-ip 172.1.1.144
;
bill TVRP config>

```

The configuration generated by the **SHOW** command can be copied to a text file and edited to the user's requirements. Subsequently this can be installed in an unconfigured device so that this is now configured.

If, during the period where the router is displaying the configuration, you wish to abort the process simply press the escape key.

Options List

When configuring a device you are frequently asked to select an option to configure determined entities for the router such as Frame Relay PVCs (Dm703-I) or TVRP groups (Dm725-I).

When selecting an option, you do not need to enter all the text for this, simply introducing the necessary characters in order to distinguish this option from the rest will suffice.

Examples:

```

bill FR config>pvc 16
backup                configures several backup parameters
Bc                   Outgoing Committed Burst Size
Be                   outgoing excess burst size
CIR                   outgoing committed information rate
compression          enable/disable compression for this circuit
default              creates the virtual circuit
delete               deletes the virtual circuit
encrypt              enable/disable encryption
fragmentation-size   forced fragmentation size (0 disables fragmentation)
default-inverse-arp  default inverse arp
disable-inverse-arp  inverse arp disabled
enable-inverse-arp   inverse arp enabled
name                 sets the virtual circuit name
Type an option [create]? cir
Outgoing Committed Information Rate (CIR) in bps[16000]? 32000
bill FR config>

```

In this particular case, you could have simply entered "ci" as no other option begins with this. However entering just 'c' would be invalid as there are two other options that begin with "c" (compression and create) consequently this would have produced an error.

You do not have to introduce the options one by one; you can introduce various in the same line.

This is equivalent to entering:

```

bill FR config>pvc 16 cir 32000
bill FR config>pvc 16 bc 32000
bill FR config>pvc 16 name hola

```

or to entering:

```

bill FR config>pvc 16 cir 32000 bc 32000 name hola
bill FR config>

```

Or:

```

bill FR config>pvc 16 ci 32000 bc 32000 na hola
bill FR config>

```

4. CONFIG procedure commands

This section describes the CONFIG procedure commands. Each command includes a description, syntax and one example. The following table summarizes the CONFIG procedure commands.

Command	Function
? (HELP)	Lists the configuration commands or specific commands options.
ADD	Allows you to create a virtual interface.
CLEAR	Erases configuration information.
CONFIG-MEDIA	Permits you to specify the active storage unit: flash or SmartCard or both.
CONFIRM-CFG-NEEDED	Enables the need to confirm the saved configuration.
CONFIRM-CFG	Confirms the current configuration.
DISABLE	Disables an interface.
ENABLE	Enables an interface.
EVENT	Enters the events monitoring configuration procedure.
FEATURE	Defines the additional features of the router not associated with any predetermined interface.
FILE	Permits you to carry out operations with files (list and copy).
GLOBAL-PROFILES	Permits you to access the profiles configuration menu, ATM, PPP etc.
LIST	Shows the system parameters and hardware configuration.
MANAGEMENT	Enters the master router configuration environment.
NETWORK	Enters the configuration menu of a specific interface.
NO	Allows you to eliminate a previously added virtual interface.
NODE	Enters the X.25/ISDN Node configuration.
PROTOCOL	Enters the configuration of a specific protocol.
QUICK	Enters the device quick configuration.
SAVE	Allows you to save the configuration in disk or flash.
SET	Configures system parameters, buffers, device name, etc.
TIME	Permits you to view and change the system data and time.
UCI	Permits you to configure the Teldat Router encryption unit.
USER	Permits you to configure users.

4.1. ? (HELP)

Shows the commands available in the current menu. After a specific command it is possible to enter “?” to list its options.

Syntax:

```
Config>?
```

Example :

```
Config>?  
ADD  
CLEAR  
CONFIG-MEDIA  
CONFIRM-CFG-NEEDED
```

```
CONFIRM-CFG
DISABLE
ENABLE
EVENT
FEATURE
FILE
GLOBAL-PROFILES
LIST
MANAGEMENT
NETWORK
NODE
NO
PROTOCOL
QUICK configuration
SAVE
SET
TIME
UCI
USER
Config>
```

4.2. ADD

Allows you to create a virtual interface to be used by an ISDN basic access B channel, ATM subinterfaces, PPP interfaces etc.

Syntax:

```
Config>ADD ?
DEVICE
```

a) ADD DEVICE

Example :

```
Config>ADD DEVICE ?
270
ATM_SUBINTERFACE
FR
LOOPBACK
PPP
TNIP
XOT
Config>
```

4.3. CLEAR

Allows you to clear router configuration information. To clear a protocol configuration enter **CLEAR** and the name of the protocol. To erase all the information, except interface information, enter **CLEAR ALL**. To erase interface information, enter **CLEAR DEVICE**.

Syntax:

```
Config>CLEAR ?
ACCESS LISTS
ALARMS
ALL
ARP
ASRT
BANDWIDTH-RESERVATION
DEVICE
DHCP
```

```

EVENT
FTP
H323
IP
IPSEC
LDAP
MAC-FILTERING
NAPT
NAT
NTP
OSPF
PROXY-ARP
RADIUS
RIP
SNMP
TVRP
WRR-BACKUP-WAN
WRS-BACKUP-WAN
Config>

```

4.4. CONFIG-MEDIA

This permits you to select the active storage device in which the configurations are saved on applying the configuration command **SAVE**. This is also the default media in the **FILE LIST** command.

You might find two storage medias in the devices: flash memory and SmartCard cards. All devices have the flash memory as the basic storage unit. The availability of SmartCard cards depends on the type of device. In order to find out if your device supports SmartCard, please see the installation manual.

By default, the device has the value 'SMARTCARD-FLASH' configured in those devices that support the SmartCard and the 'FLASH' option in those that don't. You can check which unit is active through the **FILE LIST** configuration command.

Syntax:

```

Config>CONFIG-MEDIA ?
FLASH           Configurations are stored only in Flash
SMARTCARD       Configurations are stored only in SmartCard
SMARTCARD-FLASH Configurations are stored in SmartCard and Flash
Config>

```

For further information on the use of the storage units, please see the **FILE LIST** and **FILE COPY** commands described in this manual as well as the installation manual for your device. For further information on how to select a file as the active configuration, please see the **SET FILE** command described in this manual.

The behavior described below alters slightly if the microswitch 'e' is set to ON. For further information please see the installation manual for your device.

a) CONFIG-MEDIA FLASH

Specifies the flash memory as the only active storage unit when reading or writing configurations.

On booting the device the configuration is read from Flash. If the active configuration file is not found, the device will boot with the default configuration. On saving the configuration through the **SAVE** command, this will be saved in the Flash memory with the name of the active file.

Example:

```

Config>CONFIG-MEDIA FLASH

```

b) CONFIG-MEDIA SmartCard

Specifies the SmartCard as the only active storage unit when reading or writing configurations.

On booting the device the configuration is read from the *Smart Card*. If the card is not present or the active configuration file is not found, the device will boot with the default configuration. On saving the configuration through the **SAVE** command, this will be saved in the *Smart Card* with the name of the active file.

Example:

```
Config>CONFIG-MEDIA SMARTCARD
```

c) CONFIG-MEDIA SMARTCARD-FLASH

Specifies both the SmartCard as well as the flash memory as active storage devices when reading or writing configurations. The SmartCard is considered as having priority over the flash memory.

Initially on booting, the configuration is read from the *Smart Card*. If the card is not present or the active configuration file cannot be found, the operation is repeated in the Flash memory. If the file is not found in the Flash memory then the device will boot with the default configuration. After reading the *Smart Card* configuration file the device checks to see that this is written in the Flash memory. If the configuration is not present then the device enters it so that both medias are synchronized.

On saving the configuration through the **SAVE** command, **the configuration is saved in both the Smart Card and the Flash** with the name of the active file. The console indicates the devices where the configuration has been stored and through a warning text will show the devices where recording has not been possible

Example:

```
Config>CONFIG-MEDIA SMARTCARD
```

4.5. CONFIRM-CFG-NEEDED

Enables the need to confirm the saved configuration. If you have executed this command, the configuration is saved in **TEMP.CFG** in order to be checked. If, after restarting, the configuration is not confirmed with the **CONFIRM-CFG** command within the configured time, the device will restart with the previous configuration. If the configuration is confirmed it, is saved with the corresponding name i.e. the use of **TEMP.CFG** is transparent to the user. Should the new configuration make the device restart before the programmed test time is reached, if after ten restarts without the configuration being confirmed, the previous configuration will be restored. If you execute the **NO CONFIRM-CFG** command, the device will restart with the previous configuration. The **NO CONFIRM-CFG-NEEDED** command disables the need to confirm the newly saved configurations.

Syntax:

```
Config>CONFIRM-CFG-NEEDED ?
DEFAULT      Enables the need of configuration confirmation
TIMEOUT      Sets a timeout to wait for confirmation
TEST         Internal command
NEWNAME      Internal command
OLDNAME      Internal command
```

a) CONFIRM-CFG-NEEDED DEFAULT

Enables the need to confirm the saved configurations with a test time of 10 minutes.

Example:

```
Config>CONFIRM-CFG-NEEDED DEFAULT
```

b) CONFIRM-CFG-NEEDED TIMEOUT

Configures the new configuration test time which the device will wait before restarting the previous configuration if confirmation is not carried out. The minimum is one minute and the maximum is 5 weeks.

Example:

```
Config>CONFIRM-CFG-NEEDED TIMEOUT ?
<1m..5w>      Enter timeout (Xw|Xd|Xh|Xm|Xs, HH:MM, HH:MM:SS)
```

4.6. CONFIRM-CFG

Confirms the current configuration. You need to have saved a configuration with the configuration confirmation function activated. Please see **CONFIRM-CFG-NEEDED**.

Syntax:

```
Config>CONFIRM-CFG
```

4.7. DISABLE

Disables a specific interface or a specific patch or a specific user.

Syntax:

```
Config>DISABLE?
DEVICE
PATCH
```

a) DISABLE DEVICE

Disables a specific interface.

Example:

```
Config>DISABLE DEVICE
Interface name [ethernet0/0]?
Config>
```

b) DISABLE PATCH

This command is used to deactivate the behavior activated through the **ENABLE PATCH** command. In order to use this, you need to know the name of the activated parameters. This application is dynamic i.e. you do not need to restart the router for this to take effect.

Example:

```
Config>DISABLE PATCH
Patch Name: []?
Config>
```

4.8. ENABLE

This enables a specific interface, a specific patch or a specific user.

Syntax:

```
Config>ENABLE ?
DEVICE
PATCH
```

a) ENABLE DEVICE

Example :

```
Config>ENABLE DEVICE
Interface name [ethernet0/0]?
Config>
```

b) ENABLE PATCH

This command allows you under certain circumstances to modify the router's behavior. It deals with the management of personalized versions. You need the names of the available parameters and their possible admitted values in order to use it. Introducing the name and desired value for the parameter will activate it. The application is dynamic making it unnecessary to restart the router for the new values to take effect.

Example :

```
Config>ENABLE PATCH
Patch Name: []?xxxxxx
Patch Value: [0]?#
Config>
```

4.9. EVENT

This allows you to record those events you wish to be stored by the Event Logging System in the configuration. Enter **EXIT** to return to the *Config>* prompt.

Syntax:

```
Config>EVENT
```

Example :

```
Config>EVENT
-- ELS Config --
ELS Config>
```

In order to see the commands that can be executed from this prompt, please see **Chapter 4 "Event Logging System ELS"**.

4.10. FEATURE

This defines the additional features of the router which are not associated to a pre-determined interface.

Syntax:

```
Config>FEATURE ?
ACCESS LISTS
ALARMS
BANDWIDTH-RESERVATION
CONTROL-ACCESS
DNS
IP-DISCOVERY
```

```
MAC-FILTERING
NTP
RADIUS
WRS-BACKUP-WAN
WRR-BACKUP-WAN
```

a) FEATURE ACCESS-LISTS

Permits you to access the configuration environment for the generic access lists.

Example:

```
Config>FEATURE ACCESS-LISTS

-- Access Lists user configuration --
Access Lists config>
```

b) FEATURE ALARMS

This permits access to the proprietary alarm configuration environment.

Syntax:

```
Config>FEATURE ALARMS
```

The prompt changes to *Alarms Config>*.

Example :

```
Config>FEATURE ALARMS
Alarms Configuration
Alarms Config>
```

The commands that can be entered in this environment are as follows:

Example :

```
Alarms Config>?
ADD          ADDRESS (alarms destination)
DEL          ADDRESS (alarms destination)
LIST        ADDRESS (alarms destination)
           PARAMETERS
SET          PARAMETERS
EXIT
```

ADD ADDRESS

This is the command used to add IP addresses for those systems loaded from the proprietary management.

Example :

```
Alarms Config>ADD ADDRESS
New destination address for alarms [0.0.0.0]?144.60.62.4
Destination port for this address[2004]?2003
Alarms Config>
```

DEL ADDRESS

Command used to delete an IP address.

Example :

```
Alarms Config>DEL ADDRESS
Enter the address to be deleted [0.0.0.0]?144.80.72.6
Alarms Config>
```

LIST ADDRESS

This lists all the destination addresses for the proprietary management systems currently configured in the system.

Example :

```
Alarms Config>LIST ADDRESS
144.60.62.4    port:2003
Alarms Config>
```

LIST PARAMETERS

Lists those parameters which define the send algorithm.

Example :

```
Alarms Config>LIST PARAMETERS
Max time between sendings of proprietary alarms: 60 seconds
Alarms Config>
```

SET PARAMETERS

Configures the send algorithm parameters which define how the alarms are to be sent.

Example :

```
Alarms Config>SET PARAMETERS
Max time between sendings of proprietary alarms (sec.)[60]?
Alarms Config>
```

EXIT

Returns to the configuration procedure prompt.

Example :

```
Alarms Config>EXIT
Config>
```

NOTE: So that the remote system manager acknowledges the local system to be managed, you must have the internal IP address configured.

c) FEATURE BANDWIDTH-RESERVATION

This permits access to the Bandwidth-Reservation configuration environment (BRS).

Example :

```
Config>FEATURE BANDWIDTH-RESERVATION
-- Bandwidth Reservation user configuration --
BRS Config>
```

d) FEATURE CONTROL-ACCESS

This permits access to the control-access configuration environment.

Example :

```
Config>FEATURE CONTROL-ACCESS
CtrlAcc Config>
```

e) FEATURE DNS

Permits access to the DNS configuration environment. For further information please see the DNS Client Dm 723-I- manual.

Example :

```
Config>FEATURE DNS
-- DNS resolver user configuration --
DNS config>
```

f) FEATURE IP-DISCOVERY

Permits you to access the TIDP configuration environment.

Example :

```
Config>FEATURE IP-DISCOVERY
Config>-- Teldat IP Discovery Protocol configuration --
TIDP config>
```

g) FEATURE MAC-FILTERING

Example :

```
Config>FEATURE MAC- FILTERING
Config>
```

h) FEATURE NTP

Permits access to the NTP configuration environment. For further information please see the NTP Protocol Dm 728-I manual.

Example :

```
Config>FEATURE NTP
-- NTP Protocol Configuration --
NTP config>
```

i) FEATURE RADIUS

Permits access to the RADIUS protocol configuration environment. For further information on the RADIUS protocol configuration, please consult the associated manual (Dm 733-I).

Example :

```
Config>FEATURE RADIUS
-- RADIUS User Configuration --
RADIUS Config>
```

j) FEATURE WRS-BACKUP-WAN

This permits access to the WRS configuration environment.

Example :

```
Config>FEATURE WRS-BACKUP-WAN
-- WAN Back-up user configuration --
Back-up WAN>
```

k) FEATURE WRR-BACKUP-WAN

Permits access to the WRR configuration environment.

Example :

```
Config>FEATURE WRR-BACKUP-WAN
-- WAN Reroute Backup user configuration --
Back-up WRR>
```

4.11. FILE

Permits you to access the files present in the device storage units.

The storage units are explicitly represented through a letter and the colon symbol (:). The unit supported over the flash memory is labeled "A:" and the unit supported by the SmartCard is labeled "S:". Not all devices support both storage units. For further details, please see the installation manual for your device.

One of the present units is considered as the active or predetermined unit. In order to change the active unit, please see the **CONFIG-MEDIA** command found in this manual. If you wish to refer to the active unit, do not include the name of any unit.

The "S:" unit is a compressed unit so that when information is stored it is compressed with the gzip program algorithm. In order to indicate this each time you store something in this unit, change the last character. For further details on how to operate with this type of unit, please see the installation manual for your device.

Syntax:

```
Config>FILE ?
COPY
DELETE
FORMAT
LIST
RENAME
Config>
```

a) FILE COPY

This permits you to copy files in the storage units. The source and destination files can be in the same unit or in different units. If these are in different units and not in the active unit, you must indicate the storage units. If both files pertain to the active unit, you do not need to indicate the storage unit.

Example 1:

```
Config>FILE COPY
Origin file:[]? XOT1.CFG
Destination file:[ATL11_C1.CFG]? XOT2.CFG
Config>
```

Example 2:

```
Config>FILE COPY
Origin file:[]? MIKE.CFG
Destination file:[ATL11_C1.CFG]? S:MIKE11.CFG
Config>
```

The results of both examples can be seen in the figure in the next section. Please note that the MIKE11.CFG file appears as MIKE11.CFZ indicating that it is a compressed file.

b) FILE DELETE

Permits you to delete files present in the device storage units. For security reasons, you cannot delete the file containing the device code.

Example 1:

```
Config>FILE LIST
Active Device: Flash
A:  ROUTER.CFG      3510      12/09/02      12:45      Flash
A:  TKR.CFG        1050      09/19/02      18:08      Flash
A:  TEST.CFG       4708      04/26/02      15:33      Flash
A:  SINTEST.CFG    4593      09/25/02      15:28      Flash
A:  MIKE.CFG       1494      12/26/02      16:47      Flash
A:  MIKE2.CFG      6302      12/13/02      10:09      Flash
A:  XOT1.CFG       1494      12/26/02      14:33      Flash
```

```

A:  XOT2.CFG           1494           12/27/02           12:27           Flash
A:  XOT3.CFG           1554           12/26/02           13:18           Flash
A:  ATLASXOT.BIN      2757188           12/26/02           14:17           Flash
A:  ATLAS.BIN         2760544           01/03/03           10:39           Flash

Flash Available Space : 2496 Kbytes

S:  ROUTER.CFZ             802                               SmartCard

SmartCard Available Space : 14400 bytes
Config>FILE DELETE S:ROUTER.CFZ
Config>FILE LIST
Active Device: Flash
A:  ROUTER.CFG           3510           12/09/02           12:45           Flash
A:  TKR.CFG             1050           09/19/02           18:08           Flash
A:  TEST.CFG            4708           04/26/02           15:33           Flash
A:  SINTEST.CFG        4593           09/25/02           15:28           Flash
A:  MIKE.CFG            1494           12/26/02           16:47           Flash
A:  MIKE2.CFG          6302           12/13/02           10:09           Flash
A:  XOT1.CFG            1494           12/26/02           14:33           Flash
A:  XOT2.CFG            1494           12/27/02           12:27           Flash
A:  XOT3.CFG            1554           12/26/02           13:18           Flash
A:  ATLASXOT.BIN      2757188           12/26/02           14:17           Flash
A:  ATLAS.BIN         2760544           01/03/03           10:39           Flash

Flash Available Space : 2496 Kbytes

SmartCard Available Space : 15300 bytes
Config>

```

Example 2:

```

Config>FILE DELETE A:ATLAS.BIN
Application code files can not be deleted
Config>

```

c) FILE FORMAT

Permits you format a storage unit in the device. Currently, you can only format the SmartCard. Please note that when you format a unit, all the files contained in the said unit will be deleted.

Example:

```

Config>FILE FORMAT SMARTCARD

Formatting, please wait ... OK
Config>

```

d) FILE LIST

Lists the files present in the storage units of the device. This also shows you which unit is active. In order to change the active unit, please see the **CONFIG-MEDIA** command found in this manual.

Each line displays the unit identifier, the file name, the extension, the size in bytes, the date and time this was created and finally the storage unit as a text. The free available space in each unit is also displayed.

Example:

```

Config>FILE LIST
Active Device: Flash
A:  ROUTER.CFG           3510           12/09/02           12:45           Flash
A:  TKR.CFG             1050           09/19/02           18:08           Flash
A:  TEST.CFG            4708           04/26/02           15:33           Flash
A:  SINTEST.CFG        4593           09/25/02           15:28           Flash
A:  MIKE.CFG            1494           12/26/02           16:47           Flash
A:  MIKE2.CFG          6302           12/13/02           10:09           Flash

```

```

A:  XOT1.CFG           1494      12/26/02      14:33      Flash
A:  XOT2.CFG           1494      12/27/02      12:27      Flash
A:  XOT3.CFG           1554      12/26/02      13:18      Flash
A:  ATLASXOT.BIN      2757188  12/26/02      14:17      Flash
A:  ATLAS.BIN         2760544  01/03/03      10:39      Flash

Flash Available Space : 2496 Kbytes

S:  MIKE11.CFZ         802                          SmartCard

SmartCard Available Space : 14400 bytes
Config>

```

Please note that the SmartCard unit is a slow storing unit and may take various seconds to respond.

e) FILE RENAME

Permits you to rename the files present in the device storage units. You must first indicate the original name and subsequently the new name you wish to give the file. The unit indicated in the original name and in the new name must coincide. For security reasons, you are not permitted to rename the file containing the device code.

Example 1:

```

Config>FILE LIST
Active Device: Flash
A:  ROUTER.CFG         3510      12/09/02      12:45      Flash
A:  TKR.CFG            1050      09/19/02      18:08      Flash
A:  TEST.CFG           4708      04/26/02      15:33      Flash
A:  SINTEST.CFG        4593      09/25/02      15:28      Flash
A:  MIKE.CFG           1494      12/26/02      16:47      Flash
A:  MIKE2.CFG          6302      12/13/02      10:09      Flash
A:  XOT1.CFG           1494      12/26/02      14:33      Flash
A:  XOT2.CFG           1494      12/27/02      12:27      Flash
A:  XOT3.CFG           1554      12/26/02      13:18      Flash
A:  ATLASXOT.BIN      2757188  12/26/02      14:17      Flash
A:  ATLAS.BIN         2760544  01/03/03      10:39      Flash

Flash Available Space : 2496 Kbytes

S:  ROUTER.CFZ         802                          SmartCard

SmartCard Available Space : 14400 bytes
Config>FILE RENAME S:ROUTER.CFZ S:BACKUP.CFZ
Config>FILE LIST
Active Device: Flash
A:  ROUTER.CFG         3510      12/09/02      12:45      Flash
A:  TKR.CFG            1050      09/19/02      18:08      Flash
A:  TEST.CFG           4708      04/26/02      15:33      Flash
A:  SINTEST.CFG        4593      09/25/02      15:28      Flash
A:  MIKE.CFG           1494      12/26/02      16:47      Flash
A:  MIKE2.CFG          6302      12/13/02      10:09      Flash
A:  XOT1.CFG           1494      12/26/02      14:33      Flash
A:  XOT2.CFG           1494      12/27/02      12:27      Flash
A:  XOT3.CFG           1554      12/26/02      13:18      Flash
A:  ATLASXOT.BIN      2757188  12/26/02      14:17      Flash
A:  ATLAS.BIN         2760544  01/03/03      10:39      Flash

Flash Available Space : 2496 Kbytes

S:  BACKUP.CFZ         802                          SmartCard

SmartCard Available Space : 14400 bytes
Config>

```

Example 2:

```

Config>FILE RENAME A:ATLAS.BIN A:ATLAS_BAK.BIN
Application code files can not be renamed
Config>

```

Example 3:

```
Config>FILE RENAME S:ROUTER.CFZ A:ROUTER.CFG
Disk Units do not match
Config>
```

4.12. GLOBAL-PROFILES

Defines the router PPP, ATM etc profiles.

Syntax:

```
Config>GLOBAL-PROFILES ?
ATM
PPP
TCP-MENU
TRMTP-MENU
Config>
```

a) GLOBAL-PROFILES ATM

Permits you to access the ATM profiles configuration environment.

Example:

```
Config>GLOBAL-PROFILES ATM
-- ATM generic configuration --
ATM generic config>
```

b) GLOBAL-PROFILES PPP

Permits you to access the PPP profiles configuration environment. Please see the associated manual Dm710-I.

Example:

```
Config>GLOBAL-PROFILES PPP
-- PPP Profiles Configuration --
PPP Profiles config>
```

c) GLOBAL-PROFILES TCP-MENU

Permits you to access the TCP profiles configuration environment.

Example:

```
Config>GLOBAL-PROFILES TCP-MENU
```

d) GLOBAL-PROFILES TRMTP-MENU

Permits you to access the TRMTP profiles configuration environment.

Example:

```
Config>GLOBAL-PROFILES TRMTP-MENU
```

4.13. LIST

Lists information on the active unit configuration (flash or smart-card), protocols, interfaces, users, pools and enabled patches configuration.

Syntax:

```
Config>LIST ?
ACTIVE-DEVICE
CONFIGURATION
DEVICES
PATCH
POOLS Size
USER
Config>
```

a) LIST CONFIGURATION

Example:

```
Config>LIST CONFIGURATION
Hostname: Router Teldat
Number of Restarts before Reload/Dump: 162
Contact person: .....
Host Location: .....
No console authentication
No Telnet authentication

Configurable protocols:
Num  Name          Protocol
 0   IP            DOD-IP
 3   ARP          Address Resolution Protocol
 6   DHCP        Dynamic Host Configuration Protocol
11   SNMP         SNMP
12   OSPF        Open SPF-Based Routing Protocol
13   RIP         Route Information Protocol
23   ASRT       Adaptive Source Routing Transparent Enhanced Bridge
26   DLS        Data Link Switching

59716 bytes of config available memory of 65348
Config>
```

b) LIST DEVICES

Example:

```
Config>LIST DEVICES

Interface      Con   Type of interface      CSR   CSR2  int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00          27
serial0/0      WAN1  Frame Relay            fa200a00 fa203c00  5e
serial0/1      WAN2  X25                    fa200a20 fa203d00  5d
serial0/2      WAN3  X25                    fa200a60 fa203f00  5b
bri0/0         ISDN1 ISDN Basic Rate Int    fa200a40 fa203e00  5c
x25-node      ---   Router->Node           0          0
Config>
```

c) LIST USER

Displays the list of registered users, their password, access level and whether they are enabled or not.

Example:

```
Config>LIST USER

Name          Password          Access Level Enabled
CONFIG       *****          Config      N
MONITOR      *****          Monitor     Y
NONE         *****          Events     Y
ROOT         *****          Root       Y
MABM        *****          Root       Y
Config>
```

d) LIST PATCH

This command enables you to check the personalized parameters that are active.

Example :

```
Config>LIST PATCH
Patch Name                               Value
-----
XXXXXX                                   X
Config>
```

e) LIST POOLS

This command is used to see the number of bytes assigned to each memory pool as well as the bytes that have not been assigned.

Example:

```
Config>LIST POOLS
1 Permanent memory pool: 4194304
2 Temporal memory pool: 5242880
3 Iorbs pool: 3072000
4 MSGs pool: 1218000
5 T/R_FRAMES pool: 276000
6 DLS pool: 5242880
7 Pools memory for FTP: 0
Total memory pools: 19246064 Total free memory: 0
Config>
```

4.14. MANAGEMENT

Enters the master router configuration environment.

4.15. NETWORK

Permits you to access the commands menu to configure a specific interface. In order to exit this menu, enter **EXIT**. To find out the number of the interface, enter **LIST DEVICES**.

Syntax:

```
Config>NETWORK name
```

Where *name* is the interface name.

Example 1:

```
Config>NETWORK ethernet0/0
-- Config of the Ethernet Interface --
ETH config>
```

Example 2:

```
Config>NETWORK serial0/4
Interface does not exist or not access
Config>
```

4.16. NO

Permits you to delete a previously added virtual interface created to be used by an ISDN basic access B channel, an ATM subinterface, a PPP interface etc. This also permits you to eliminate a registered user in the user management or the current configuration in order to configure the device from scratch.

Syntax:

```
Config>NO ?  
CONFIGURATION      delete the static configuration  
CONFIRM-CFG        Reloads safe configuration  
CONFIRM-CFG-NEEDED Disables de need of configuration confirmation  
DEVICE  
USER  
Config>
```

a) NO CONFIGURATION

Eliminates the whole of the existing configuration.

Example :

```
Config>NO CONFIGURATION  
Config>
```

b) NO CONFIRM-CFG

Rejects the current test configuration, therefore after receiving a warning message, the device restarts with the previous configuration. For further information, please see **CONFIRM-CFG-NEEDED** and **CONFIRM-CFG**.

Example :

```
Config>NO CONFIRM-CFG
```

c) NO CONFIRM-CFG-NEEDED

Disables the need to confirm the new configurations. Please see **CONFIRM-CFG-NEEDED**.

Example :

```
Config>NO CONFIRM-CFG-NEEDED
```

d) NO DEVICE

Example :

```
Config>NO DEVICE  
Interface name [ethernet0/0]? fr1  
Config>
```

e) NO USER

Deletes a user from the user list. You can eliminate as many users as you wish except for a Root user if there is only one and there are other registered users. In this case, you can only delete the rest of the users, as contrariwise you will not be able to manage the remaining users. If you eliminate all the users except for the last Root, then this may be deleted. In this way, the system will not request user or password in order to access the device, as there are no users registered in the system.

Example :

```
Config>NO USER  
User []? MABM  
Config>
```

4.17. NODE

This allows you to access the node configuration (ISDN, X.25, XOT and 270). Enter **EXIT** to exit this menu. You can also access this through the net.

Syntax:

```
Config>NODE ?  
ISDN  
X25  
XOT  
270
```

Example :

```
Config>NODE ISDN  
ISDN Config>
```

Example :

```
Config>NODE X25  
X25 Config>
```

Example :

```
Config>NODE XOT  
XOT Config>
```

Example :

```
Config>NODE 270  
270 Config>
```

4.18. PROTOCOL

This permits you to access the configuration environment of a specific protocol. The **PROTOCOL** command followed by either a protocol number or a short name permits you to access the configuration of the desired protocol. You enter the IP configuration by default. The number of available protocols depends on the type of device and on the application license possessed by the device.

To enter the configuration environment of a specific protocol:

1. Enter **PROTOCOL ?** to see the list of configurable protocols in the router:

Example :

```
Config>PROTOCOL ?  
00 IP  
03 ARP  
06 DHCP  
11 SNMP  
12 OSPF  
13 RIP  
23 ASRT  
26 DLS  
Protocol name or number[IP]?
```

2. Enter the name or number of the protocol to be configured. Subsequently the specified protocol prompt will appear. From here you can enter the chosen protocol's configuration commands.

Example :

```
Protocol name or number[IP]?ARP
-- ARP user configuration --
ARP config>
```

3. Enter **EXIT** in order to return to the *Config*> prompt menu.

Example :

```
ARP config>EXIT
Config>
```

Syntax:

```
Config>PROTOCOL nom_prot o num_prot
```

Where *nom_prot* is the protocol name, and *num_prot* is the protocol number.

Example :

```
Config>PROTOCOL IP
Internet protocol user configuration
IP config >
```

or

```
Config>PROTOCOL 0
Internet protocol user configuration
IP config >
```

4.19. QUICK

This permits you to access the quick menu configuration environment. Please see the associated manual Dm 211-I. This command or functionality depends on the device i.e. it might not apply to your device.

Example:

```
Config>QUICK
```

4.20. SAVE

This allows you to store the configuration in the active storage unit. The active storage unit is configured through the **CONFIG-MEDIA** command.

Before executing the operation, process confirmation will be requested. If the confirmation is positive, the selected media will be accessed and subsequently the operation results will be displayed. In cases where the active unit is made up of various medias, the operation will be carried out over both as indicated in the final message. For further information, please see the **CONFIG-MEDIA** command found in this manual and the installation manual for your device.

If the configuration confirmation is activated, this is saved in a temporary file (**TEMP.CFG**). If the new configuration is confirmed (**CONFIRM-CFG**), it is resaved using the corresponding name. If you execute **SAVE** in a test configuration, it resaves over **TEMP.CFG** without modifying the previous configuration which will be restored if confirmation is not carried out. However, this does not eliminate the timer so once the test time has timed out if the device has not restarted, the previous configuration will be restored. For further information, please see the **CONFIRM-CFG** and **CONFIRM-CFG-NEEDED** commands.

Syntax:

```
Config>SAVE configuration
```

Example:

```
Config>SAVE
Save configuration [n]? y

Saving configuration...OK (configuration saved on Flash)
Config>
```

4.21. SET

This allows you to configure various general parameters in the system.

Syntax:

```
Config>SET ?
APPLICATION-ACTIVE
CONTACT-PERSON
DATA-LINK
DEFAULT-CONF
DEFAULT-POOLS-CONF
DIAL-PROFILE
FILE cfg
FTP
HOST-LOCATION
HOSTNAME
HTTP
INACTIVITY-TIMER
PASSWORD
POOLS Size
RADIUS
RTSP
RX-BUFFERS
SRAM size
TELNET
WEB-POLL
Config>
```

a) SET APPLICATION-ACTIVE

Permits you to select the code used to boot the router.

Example:

```
Config>SET APPLICATION-ACTIVE
Date           Time           Size           Name
-----
10/22/02      09:15           2731596       ATLAS.BIN

Current code filename : ATLAS.BIN

Application to activate [ATLAS.BIN]? ATLAS.BIN

Code changed successfully
Config>
```

b) SET CONTACT-PERSON <contact-person>

This allows you to assign a name or identification to the contact-person for this router. The name is limited to a maximum of 80 characters. This information can be displayed by entering **LIST CONFIGURATION**.

Example :

```
Config>SET CONTACT-PERSON
Contact person []? Bill Smith
Config>
```

c) SET DATA-LINK <type> <interface>

Selects the *type* of data link for a WAN line. These can be X.25, FRAME RELAY, etc. The WAN line interface you wish to configure can be selected in *interface*. Enter **LIST DEVICES** to obtain this name and to check if the command has been successful.

Syntax:

```
Config>SET DATA-LINK ?
ASDP
ASTM
ASYNC
AT
FRAME-RELAY
SDLC
SYNC
UDAF0
X25
X28
```

Example :

```
Config>LIST DEVICES

Interface      Con   Type of interface      CSR      CSR2      int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00
serial0/0      WAN1  X25                    fa200a00 fa203c00  5e
serial0/1      WAN2  X25                    fa200a20 fa203d00  5d
serial0/2      WAN3  X25                    fa200a60 fa203f00  5b
bri0/0         ISDN1 ISDN Basic Rate Int   fa200a40 fa203e00  5c
x25-node       ---   Router->Node          0         0
atm3/0         SLOT 3 Generic ATM          f0000000
Config>SET DATA-LINK FR
Interface name [serial0/0]? serial0/0
Config>LIST DEVICES

Interface      Con   Type of interface      CSR      CSR2      int
ethernet0/0    LAN1  Fast Ethernet interface fa200e00
serial0/0      WAN1  Frame-Relay           fa200a00 fa203c00  5e
serial0/1      WAN2  X25                    fa200a20 fa203d00  5d
serial0/2      WAN3  X25                    fa200a60 fa203f00  5b
bri0/0         ISDN1 ISDN Basic Rate Int   fa200a40 fa203e00  5c
x25-node       ---   Router->Node          0         0
atm3/0         SLOT 3 Generic ATM          f0000000
Config>
```

d) SET DEFAULT-CONFIG

Eliminates the current configuration and restores the default configuration

Example:

```
Config>SET DEFAULT-CONF
Config>
```

e) SET DEFAULT-POOLS-CONF

Returns the amount of memory assigned for each pool to the default values.

Example :

```
Config>SET DEFAULT-POOLS
Start with default pool configuration (Yes/No)? Yes
Config>
```

f) SET DIAL-PROFILE

Permits you to access the commands menu to configure the dial profiles. In order to exit this menu enter **EXIT**.

Example :

```
Config>SET DIAL-PROFILE
-- DIAL PROFILE CONFIGURATION --
DIALPROF Config>
```

g) SET FILE cfg

Permits you to configure a configuration file as active and it will be this one that will be processed when the device is restarted. The file name is indicated without extensions and has a maximum length of 8 characters. If none is passed by the line command, a list of available files is displayed. If the selected file does not exist, the device on rebooting will use the default configuration.

The active storage unit will also be displayed. For further information on how to change the unit, please see the **CONFIG-MEDIA** command found in this manual.

Example :

```
Config>SET FILE
Active Device: SmartCard and Flash
A:  ATL11_C1      32      10/21/02      13:10      Flash
A:  ATL12_A2     8320     10/07/02      09:11      Flash
A:  ATL10_C1     9472     10/08/02      14:30      Flash
A:  ATL7_A1      2560     10/11/02      14:06      Flash
A:   DEST        32      10/22/02      12:54      Flash
A:  ROUTER       1455     10/25/02      07:23      Flash

Current config: ROUTER
File name [ROUTER]? router
Config>
```

h) SET FTP

Permits you to access the FTP configuration menu. For further information please see the associated manual FTP Protocol Dm724-I.

Example:

```
Config>SET FTP

-- FTP user configuration --
FTP config>
```

i) SET HOST-LOCATION

Physical location of the router. Admits up to a maximum of 80 characters for the location length. This information can be displayed by entering **LIST CONFIGURATION**.

Example:

```
Config>SET HOST-LOCATION
Host Location [.....]? Tres Cantos (Madrid)
Config>
```

j) SET HOSTNAME <hostname>

This permits you to assign a name to a device. Up to a maximum of 80 characters is permitted for the said name. This information can be seen by entering **LIST CONFIGURATION**. In order to delete the name, simply execute the command again and press (<↵>) in response to the question “What is the new router name? []?”. The first 31 characters are shown at the prompt. If you wish this to appear in all the prompts, you need to save the configuration and restart the device.

Example :

```
Config>SET HOSTNAME
What is the new router name?[ ]? SuperRouter
Config>
```

k) SET HTTP

This permits you to access the router http protocol configuration. This command or functionality depends on the device i.e. it might not apply to your device.

Example:

```
Config>SET HTTP
```

l) SET INACTIVITY-TIMER

This allows you to configure the maximum inactivity time in the process that permits you to access the device through a remote terminal (TELNET). This value is given in minutes and the permitted range is between 1 minute and 10 hours. Once this has timed out, the device’s Telnet server disconnects.

This maximum inactivity time period is also applied to the local connection in the device console should an access password be enabled (see the **SET PASSWORD** command). If the configured inactive time period times out without any of the keys being touched, the local connection will close. In this case the user must reenter the password again when he wishes to use the console.

Example :

```
Config>SET INACTIVITY-TIMER
Current inactivity timer: 10 (min). 0 -> disable
Max. inactivity time (minutes)[10]?
Config>
```

m) SET PASSWORD

This permits you to configure the device access password through a TELNET remote terminal, a local connection via the console or connection via FTP.

Example :

```
Config>SET PASSWORD
Type New Password: *****
Re-type New Password: *****
Password changed
Config>
```

If you wish to delete the password and have access without it, enter <↵> twice.

Example :

```
Config>SET PASSWORD
Type New Password: <↵>
Re-type New Password: <↵>
Clear Password? (Yes/No)? y
Password cleared
Config>
```

n) SET POOLS Size

This permits you to configure the memory distribution in the device's various POOLS. If this is not correctly configured, it can cause the device to malfunction.

Example :

```
Config>SET POOLS
dls                dls pool size in bytes
iorbs              iorbs pool size in bytes
ftp                ftp pool size in bytes
msg                message pool size in bytes
permanent          permanent pool size in bytes
temporal           temporal pool size in bytes
TR-Frames          T-R frames pool size in bytes
Type an option [dls]?
Type the size of the pool (in bytes)
[5242880]?
Config>
```

This command is problematic and should only be executed by a specialist. An incorrect configuration can cause the device to malfunction.

o) SET RADIUS

Permits you to configure that the authentication of the access via TELNET remote terminal as well as local connection via console and the connection through FTP, these are carried out through a RADIUS Server instead of with the locally configured authentication. For further information on the configuration of the RADIUS protocol, please see the associated manual (Dm 733-I). For both authentications the RADIUS protocol is disabled by default.

Example :

```
Config>SET RADIUS
Enable RADIUS on Console Authentication(Yes/No)(N)?
Enable RADIUS on Telnet Authentication(Yes/No)(N)?
Enable RADIUS on FTP Authentication(Yes/No)(Y)?
Config>
```

In cases where the RADIUS protocol is globally disabled in the device, you will not be able to carry out any kind of authentication with this method and the following message will appear:

```
RADIUS globally disabled
```

with any configuration attempt.

p) SET RTSP

This permits you to access the RTSP protocol configuration. This command or functionality depends on the device i.e. it might not apply to your device.

Example :

```
Config>SET RTSP
```

q) SET RX-BUFFERS <interface> <num>

This permits you to configure the number of packet buffers assigned to each interface.

Example :

```
Config>SET RX-BUFFERS
Interface number[0]?
Receive Buffers (5-255, 0 default value)? [0]?50
Config>
```

r) SET SRAM size

This allows you to modify the size of the device configuration memory. The size of the memory is 64 Kbytes by default. It can be increased to 256 Kbytes (depending on the memory available in the device). You need to save the configuration and restart the device for this modification to take effect. Once this has been done, you need to check it. This is carried out through the **LIST CONFIGURATION** command.

Example :

```
Config>SET SRAM
```

On entering this command, the current size is displayed in Kbytes and a new value requested.

```
Current SRAM pool size in Kbytes 64
New SRAM pool size in Kbytes[64]? 256
```

If this value is not between 64 and 256, the following message will be displayed.

```
Value out of range
```

It is highly recommended that the default value is not modified unless absolutely essential.

s) SET TELNET

Permits you to access the TELNET protocol configuration. For further details please see the associated manual Dm738-I TELNET Protocol.

Example :

```
Config>SET TELNET
-- Telnet user configuration --
Telnet config>
```

t) SET WEB-POLL

This permits you to access the Web poll configuration. This command or functionality depends on the device i.e. it might not apply to your device.

Example :

```
Config>SET WEB-POLL
```

4.22. TIME

This allows you to change and check the date and time of the device. It's also possible to configure the summer time (or daylight saving) start and end times.

Syntax:

```
Config>TIME ?
list          Check the date and time of the device
no           Negates a command or sets its defaults
set          Change the date and time of the device
summer-time  Configure summer (daylight savings) time
Config>
```

a) TIME LIST

This command allows you to check the date and time of the device.

Example :

```
Config>TIME LIST
Set by: operator
Date: Tuesday, 10/26/99           Time: 12:26:15
Config>
```

b) TIME SET

This command allows you to change the date and time of the device

Example :

```
Config>TIME SET
Month[10]?
Day[26]?
Year[99]?
Week day (1 Monday, 7 Sunday)[2]?
Hour[12]?
Minute[26]?
Seconds[43]?
Config>
```

c) TIME SUMMER-TIME

Through this command you can configure the summer time start and end times. Here you apply an offset of one hour that must be added to the clock value which you would obtain if you were not within this period.

```
Config>TIME SUMMER-TIME ?
date          Configure absolute summer time
list          Display configured summer time
recurring     Configure recurring summer time
Config>
```

There are two ways to configure the summer time period:

- Indicating the summer time start and end using precise times and dates. This is known as absolute time configuration. This is carried out through the **DATE** subcommand.

Example:

```
Config>TIME SUMMER-TIME DATE ?
<1..31>      Date to start
Config>TIME SUMMER-TIME DATE 29 ?
jan         january
feb         february
mar         march
apr         april
may         may
jun         june
jul         july
aug         august
sep         september
oct         october
nov         november
dec         december
Config>TIME SUMMER-TIME DATE 29 mar ?
<0..99>     Year to start
Config>TIME SUMMER-TIME DATE 29 mar 03 ?
<0..23>     Hour to start
Config>TIME SUMMER-TIME DATE 29 mar 03 2 ?
<0..59>     Minute to start
Config>TIME SUMMER-TIME DATE 29 mar 03 2 0 ?
<1..31>     Date to end
Config>TIME SUMMER-TIME DATE 29 mar 03 2 0 25 ?
jan         january
feb         february
```

```

mar    march
apr    april
may    may
jun    june
jul    july
aug    august
sep    september
oct    october
nov    november
dec    december
Config>TIME SUMMER-TIME DATE 29 mar 03 2 0 25 oct ?
<0..99>   Year to end
Config>TIME SUMMER-TIME DATE 29 mar 03 2 0 25 oct 3 ?
<0..23>   Hour to end
Config>TIME SUMMER-TIME DATE 29 mar 03 2 0 25 oct 3 3 ?
<0..59>   Minute to end
Config>TIME SUMMER-TIME DATE 29 mar 03 2 0 25 oct 3 3 0
Config>

```

- Establishing the summer-time start and end using the week number within the month where the summer-time start is applied, the weekday, the month, the hour and minute after which the one hour offset must be taken into consideration and the same parameters to configure return to normal time. Once this data has been introduced, the switch to summer-time and return to normal time is repetitively carried out each year. This is configured through the **RECURRING** subcommand.

```

Config>TIME SUMMER-TIME RECURRING ?
<1..5>   Week number to start
Config>TIME SUMMER-TIME RECURRING 4 ?
mon    monday
tue    tuesday
wed    wednesday
thu    thursday
fri    friday
sat    saturday
sun    sunday
Config>TIME SUMMER-TIME RECURRING 4 sat ?
jan    january
feb    february
mar    march
apr    april
may    may
jun    june
jul    july
aug    august
sep    september
oct    october
nov    november
dec    december
Config>TIME SUMMER-TIME RECURRING 4 sat apr ?
<0..23>   Hour to start
Config>time summer-time recurring 4 sat apr 2 0 ?
<1..5>   Week number to end
Config>TIME SUMMER-TIME RECURRING 4 sat apr 2 0 4 ?
mon    monday
tue    tuesday
wed    wednesday
thu    thursday
fri    friday
sat    saturday
sun    sunday
Config>TIME SUMMER-TIME RECURRING 4 sat apr 2 0 4 sat ?
jan    january
feb    february
mar    march
apr    april
may    may
jun    june

```

```

jul    july
aug    august
sep    september
oct    october
nov    november
dec    december
Config>TIME SUMMER-TIME RECURRING 4 sat apr 2 0 4 sat oct ?
<0..23> Hour to end
Config>TIME SUMMER-TIME RECURRING 4 sat apr 2 0 4 sat oct 3 ?
<0..59> Minute to end
Config>TIME SUMMER-TIME RECURRING 4 sat apr 2 0 4 sat oct 3 0
Config>

```

Through the **LIST** subcommand, you can view the period established as summer time.

Example 1:

```

Config>TIME SUMMER-TIME LIST

Absolute summer time configured:
Start: Date: 29/03/03   Time: 02:00
End:   Date: 25/10/03   Time: 03:00

Config>

```

Example 2:

```

Config>TIME SUMMER-TIME LIST

Recurring summer time configured:
Start: Saturday 4th week of April at 02:00
End:   Saturday 4th week of October at 03:00

Config>

```

To delete the previously configured summer time application, use the **TIME NO SUMMER-TIME** command.

Example:

```

Config>TIME NO ?
  summer-time   Deletes summer time configuration
Config>TIME NO SUMMER-TIME ?
<cr>
Config>TIME NO SUMMER-TIME
Config>TIME SUMMER-TIME LIST

No summer time configured

Config>

```

Lastly, this indicates it's possible to obtain the summer time configuration in text mode through the **SHOW CONFIG** command.

Example 1:

```

Config>SHOW CONFIG
; Showing System Configuration ...
; Router C5 IPsec 1 11 Version 10.1.0CMR

no configuration

set data-link astm serial0/0
time summer-time date 29 mar 3 2 0 25 oct 3 3 0
;
;
protocol ip
; -- Internet protocol user configuration --
  address ethernet0/0 172.24.78.81 255.255.0.0
;
;
exit

```

```
;
; --- end ---
Config>
```

Example 2:

```
Config>SHOW CONFIG
; Showing System Configuration ...
; Router C5 IPSec 1 11 Version 10.1.0CMR

no configuration

set data-link astm serial0/0
time summer-time recurring 4 sat apr 2 0 4 sat oct 3 0
;
;
protocol ip
; -- Internet protocol user configuration --
  address ethernet0/0 172.24.78.81 255.255.0.0
;
;
;
exit
;
; --- end ---
Config>
```

4.23. UCI

The UCI command allows you to configure the **Teldat Router** encryption unit. For further information on this command, please consult the **Teldat Router** Manual Dm 726-I “Encryption”.

4.24. USER

Permits you to configure the users who have permission to access the device.

Syntax:

```
Config>USER <name>
access-level      specify the user access level
                  configuration      configuration access level
                  events            events access level
                  monitor           monitor access level
                  none              none access level
                  root              root access level

active            activate/deactivate the user
hash-password    entry the hash of the password
no
                  active            activate/deactivate the user
password         entry the password
```

Access-level: Specifies the user access level. You can select between configuration, access to events, monitoring, none or root.

Active: Enables or disables the user.

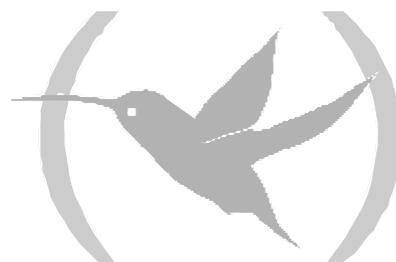
Password: Configures the password for the user. This must be entered twice.

Example:

```
Config>USER Pedro password hola hola
Config>USER Pedro access-level configuration
```

Chapter 3

Teldat Router Monitoring



1. Monitoring procedure commands

CONFIG process entry/exit

To enter the monitoring procedure MONITOR from prompt “*” in the Console Manager GESTCON, enter the **PROCESS** command followed by the number which identifies the configuration procedure, in this case **3**.

Example :

```
*PROCESS 3
Console Operator
+
```

To exit the MONITOR procedure and return to Console Manager GESTCON prompt “*”, press the escape character (*Ctrl-p* by default).

Command	Function
? (HELP)	Lists the MONITOR process commands.
BUFFER statistics	Displays information about packet buffers assigned to each interface.
CLEAR statistics	Clears network statistics.
CONFIGURATION of gateway	Lists the status of current protocols and interfaces.
DEVICE statistics	Displays network hardware statistics or statistics for the specified interface.
DISABLE interface	Disables the specified interface.
ERROR counts	Displays the error counters.
EVENT logging	Enters the Event Logging System environment.
FEATURES	Accesses to monitoring commands for router features outside the usual protocol and network interface monitoring processes.
MANAGEMENT	Enters the master router environment.
MEMORY	Displays memory, buffer and packet data.
NETWORK commands	Enters the console environment of a specified network.
NODE commands	Enters the node monitoring environment.
PROTOCOL commands	Enters the commands environment for a specified network.
QUEUE lengths	Displays buffer statistics for a specified interface.
QUICK monitor	Accesses the quick menu monitoring.
SYSTEM	Permits monitoring of the system’s memory and stacks.
STATISTICS of network	Displays statistics for a specified interface.
TEST network	Enables a disabled interface or tests the specified interface
LAST Configuration Changes	Displays the latest changes carried out in the configuration.
WEB-POLL	Accesses the Web poll monitoring.
LOG, save	Activates or views the logging level for events not included in the Event Logging System.
UCI	Encryption statistics.

1.1. ? (HELP)

List the commands that are available at the current prompt level. You can also type ? after a specific command to list its options.

Syntax:

```
+?
```

Example :

```
+?  
BUFFER statistics  
CLEAR statistics  
CONFIGURATION of gateway  
DEVICE statistics  
DISABLE interface  
ERROR counts  
EVENT logging  
FEATURES  
MANAGEMENT  
MEMORY  
NETWORK commands  
NODE commands  
PROTOCOL commands  
QUEUE lengths  
QUICK monitor  
SYSTEM  
STATISTICS of network  
TEST network  
LAST Configuration Changes  
WEB-POLL  
LOG, save  
UCI  
+
```

1.2. BUFFER statistics

Displays information about packet buffers assigned to each interface.

Note: Each buffer on a single device is the same size and is dynamically built. Buffers vary in size from one device to another.

To display information on a single interface, enter the interface or network number as part of the command. To get the interface number, type **CONFIGURATION** at the + prompt.

Syntax:

```
+BUFFER
```

Example :

```
+BUFFER  


| Interface   | Input Buffers |       |     |      | Buffer |      | Sizes |       |       | Bytes<br>Alloc |
|-------------|---------------|-------|-----|------|--------|------|-------|-------|-------|----------------|
|             | Req           | Alloc | Low | Curr | Hdr    | Wrap | Data  | Trail | Total |                |
| ethernet0/0 | 40            | 40    | 5   | 40   | 22     | 345  | 1500  | 4     | 1871  | 74840          |
| serial0/0   | 40            | 40    | 5   | 40   | 18     | 345  | 2048  | 12    | 2423  | 96920          |
| serial0/1   | 0             | 0     | 0   | 0    | 0      | 345  | 0     | 0     | 345   | 0              |
| serial0/2   | 0             | 0     | 0   | 0    | 0      | 345  | 0     | 0     | 345   | 0              |
| bri0/0      | 160           | 160   | 5   | 160  | 17     | 345  | 2048  | 12    | 2422  | 387520         |
| x25-node    | 0             | 0     | 0   | 100  | 20     | 345  | 1500  | 0     | 1865  | 186500         |
| atm3/0      | 80            | 80    | 10  | 80   | 0      | 345  | 1587  | 15    | 1947  | 155760         |

  
+
```

Interface Interface name.

Req Number of input buffers requested.

Alloc	Number of input buffers allocated.
Low	Low water mark (flow control).
Curr	Current number of input buffers in this device. If value is 0 the device is disabled. When a packet is received, if the value of <i>Curr</i> is below <i>Low</i> , then the flow control can select it. See the QUEUE command for conditions.
Hdr	This is the maximum value between the two following terms: <ul style="list-style-type: none"> • largest LLC, plus MAC, plus size of devices headers on output. • MAC plus size of devices headers on input.
Wrap	Margin given for MAC, LLC or network level
Data	Maximum data link level packet size .
Trail	Sum of the largest MAC and hardware trailers.
Total	Global size of each packet buffer.
Alloc	Amount of buffer memory bytes for this device. This value is determined by multiplying the values of <i>Curr</i> x <i>Total</i> .

The Req, Alloc, Low and Curr parameters refer to the Input Buffers. The parameters Hdr, Wrap, Data, Trail and Total refer to the Buffer Size.

1.3. CLEAR statistics

Deletes statistical information on all of the router's network interfaces from the terminal console. Use this command when tracking changes in large counters. However, you need to bear in mind that this command does not save memory space or increase the router speed.

Syntax:

```
+CLEAR
```

Example :

```
+CLEAR
Are you sure to clear stats?(Yes/No)?
+
```

1.4. CONFIGURATION of gateway

Displays information about the protocol and network interfaces. The output presented by this command can be divided into three sections: the first section contains data such as the router identification, software version, boot ROM version, and the state of the watchdog. The second and third sections display the protocol and interface information.

Syntax:

```
+CONFIGURATION
```

Example :

```
+CONFIGURATION
Teldat's Router, XXXXXX x x   S/N: sssss/nnnnnnnn
Boot ROM release:
BIOS CODE VERSION: 01.05.00B   Mar 11 2002 09:00:21
  gzip Feb 21 2002 15:31:03
  io1 Mar 1 2002 11:53:32
  io2 Mar 1 2002 11:53:33
  io3 Mar 1 2002 11:53:33
START FROM FLASH   Watchdog timer Enabled
Software release: 10.0.0 Mar 13 2002 17:30:19
```

```

Compiled by maberrojo on MABERROJO
Hostname: Active user:
Date: Monday, 01/01/00 Time: 00:00:00

Num Name Protocol
0 IP DOD-IP
3 ARP Address Resolution Protocol
4 H323 H323
6 DHCP Dynamic Host Configuration Protocol
11 SNMP SNMP

6 interfaces:
Conn Interface MAC/Data-Link Hardware Status
LAN1 ethernet0/0 Ethernet/IEEE 802.3 Fast Ethernet Interface Up
WAN1 serial0/0 X25 SCC Serial Line- X25 Down
WAN2 serial0/1 X25 SCC Serial Line- X25 Down
WAN3 serial0/2 Frame Relay SCC Serial Line- FR Down
ISDN1 bri0/0 BRI Net ISDN Basic Rate Int Up
--- x25-node internal Router->Node Up
+

```

where XXXXX is the specific router model.

The first line lists the type of router, the use license and its serial number.

The second line to line eight displays the version of the Boot ROM (Read Only Memory) memory that is currently installed in the router from the BIOS and the current setting of the watchdog timer.

The ninth line lists the version of the software that is currently running on the router.

The tenth line displays the Hostname.

The eleventh line displays the date and time.

Lists of configured protocols and interfaces are also displayed.

The meaning of each of the following fields is:

- Num* Number associated with the protocol.
- Name* Abbreviated name of the protocol.
- Protocol* Full name of the protocol.
- Conn* Connector associated to the interface.
- Interface* Interface name.
- MAC/Data Link* Type of MAC/Data link configured for this interface.
- Hardware* Specific class of interface depending on the type of hardware.
- Status* Current status of the network interface.
 - Testing The interface is undergoing an auto-test. This occurs the first time the router is started and this detects a problem in the interface. Once the interface is on the network, it periodically sends out test packets to ensure that it is still functioning properly. If the test fails, the router removes the interface from the network and runs the self-test to ensure its integrity. If a failure occurs during auto-test, the router declares the network down. If the self-test is successful, the router declares the network up.
 - Up The interface is operational and connected.
 - Down The interface is not operational and has failed an auto-test. The router continues to carry out the test towards the network at increasing intervals beginning at five seconds, until the router does not test the interface any more (approximately two minutes).

Disabled	The +DISABLE monitoring command or the Config> DISABLE configuration command has temporarily or permanently disabled the interface. The +DISABLE monitoring command is temporary and disappears when the router is re-started. The Config> DISABLE configuration command is permanent and remains when the router is re-started. You can enable the network with +TEST monitoring command.
Not present	Either there is no interface present in the router, or the console is incorrectly configured.
Available	This is the state of the secondary interface in a WAN configuration when the main one is active.

1.5. DEVICE statistics

Displays statistical information on the network interfaces such as Ethernet, Token Ring etc. This command is used to obtain a summary on the interfaces displayed on the lower screen or with an interface number to provide detailed information on a specific interface.

In order to obtain the interface number, enter the **CONFIGURATION** command at the + prompt.

Syntax:

```
+DEVICE
```

Example :

```
+DEVICE
Interface          CSR      Vect      Auto-test  Auto-test  Maintenance
                  fa200e00  27        valids     failures   failures
ethernet0/0       fa200a00  5E         1          0          0
serial0/0         fa200a20  5D         0          156        0
serial0/1         fa200a60  5B         0           7          0
serial0/2         fa200a40  5C         1           0          0
bri0/0            0         0          1           0          0
x25-node
+
```

<i>Interface</i>	Interface name.
<i>CSR</i>	Command and Status Register address.
<i>Vec</i>	Interruption vector.
<i>Auto Test Valids</i>	Number of times the auto-test succeeded (state of interface changes from “down” to “up”).
<i>Auto-Test Failures</i>	Number of times the auto-test failed (state of interface changes from “up” to “down”).
<i>Maintenance Failures</i>	Number of maintenance failures.

Example :

```
+DEVICE ethernet0/0
Interface          CSR      Vect      Auto-test  Auto-test  Maintenance
                  fa200e00  27        valids     failures   failures
ethernet0/0       fa200e00  27         1           0          0
```

```
Physical address: 00A0267001E8
PROM address:    00A0267001E8
Speed:          10 Mbps

Input statistics:
  failed, frame too long          0  failed, FCS error          0
  failed, alignment error        0  failed, FIFO overrun      1
  internal MAC rcv error         1  packets missed           1
Output statistics:
  deferred transmission          0  single collision          0
  multiple collisions            0  total collisions         0
  failed, excess collisions      0  failed, FIFO underrun    0
  failed, carrier sense err     0  SQE test error           0
  late collision                 0  internal MAC trans errors 0
Ethernet MAC code release 1
+
```

Note: The screen being displayed can vary depending on the router and device.

1.6. DISABLE interface

Takes a network interface off line, making it unavailable. This command immediately disables the interface. The software does not prompt you to confirm, and no verification message appears. If you disable an interface with this command, it remains disabled until you use the **TEST** command at the + prompt or a **RESTART** or **LOAD** command at the * prompt to enable it.

Enter the interface number as part of the command. To obtain the interface number, type **CONFIGURATION** at the + prompt.

Note: This command may not be accepted during states of interface auto-testing or down. In this case you will receive an Interface not up message.

Syntax:

```
+DISABLE #
```

If the Interface state is not “up”.

Example:

```
+DISABLE ethernet0/0
Interface not up
```

If the Interface state is “up”.

Example:

```
+DISABLE ethernet0/0
+
```

1.7. ERROR counts

Displays error statistics for the network. This command provides error counters.

Syntax:

```
+ERROR
```

Example :

+ERROR	Input Discards	Input Errors	Input Unk Proto	Input Flow Drop	Output Discards	Output Errors
Interface						
ethernet0/0	0	0	1016	0	0	0
serial0/0	0	0	0	0	0	0
serial0/1	0	0	0	0	0	0
serial0/2	0	0	0	0	0	0
bri0/0	0	0	0	0	0	0
x25-node	0	0	0	0	0	0
+						

- Interface* Interface name.
- Input Discards* Number of packets discarded by flow control at reception.
- Input Errors* Number of packets found to be defective at the data link.
- Input Unk Proto* Number of packets received for an unknown protocol.
- Input Flow Drop* Number of received packets that have been subsequently discarded by the flow control in transmission.
- Output Discards* Number of packets discarded by flow control in transmission.
- Output Errors* Number of output errors, such as attempts to send over a network that is down or over a network that went down during transmission.

The sum between all the “*Input Flow Drop*” and “*Output Discards*” interfaces is not the same. This is due to the fact that the “*Output Discards*” may contain locally generated packets.

1.8. EVENT logging

Through this command you can enter the Event Logging System (ELS>) prompt. Here you can temporally create filters for the messages with the aim of solving problems. All changes carried out at the ELS> prompt are immediate however these disappear when the router is re-started. For further information please see **Chapter 4 “Events Logging System”**. To return to the + prompt, enter the command **EXIT**.

Syntax:

```
+EVENT
```

Example :

```
+EVENT
-- ELS Monitor --
ELS>
```

1.9. FEATURES

This allows the specified router to obtain features that are outside the protocol and network interface processes. Enter ? after **FEATURES** to get a list of the features available for your software version. With this command you enter in the corresponding feature monitoring. For further information please consult the corresponding manual.

You need to enable the feature at the Config> configuration prompt before monitoring it.

Syntax:

```
+FEATURES ?
ACCESS LISTS
BANDWIDTH-RESERVATION
```

```
DNS
IP-DISCOVERY
MAC-FILTERING
NTP
RADIUS
WRR-BACKUP-WAN
+
```

a) FEATURES ACCESS-LISTS

Through this command you enter the generic IP lists monitoring.

Example:

```
+FEATURES ACCESS-LISTS
```

b) FEATURES BANDWIDTH-RESERVATION

With this command you enter in the Bandwidth-Reservation System feature monitoring. For further information please consult manual Dm 715-I.

Example :

```
+FEATURES BANDWIDTH-RESERVATION
-- Bandwidth Reservation console --
BRS>
```

c) FEATURES DNS

Permits you to access the DNS monitoring environment. For further information please see the corresponding manual Dm 723-I Client DNS.

Example :

```
+FEATURES DNS
-- DNS resolver user console --
DNS>
```

d) FEATURES IP-DISCOVERY

Through this command you can enter the features ip-discovery monitoring. This command or functionality is dependent on the device i.e. it may not apply to your device.

Example:

```
+FEATURES IP-DISCOVERY
-- TIDP Console --
TIDP monitor+
```

e) FEATURES MAC-FILTERING

With this command you enter in the MAC-Filtering feature monitoring.

Example :

```
+FEATURES MAC-FILTERING
+
```

f) FEATURES NTP

Permits you to access the NTP monitoring environment. For further information please see the corresponding manual Dm 728-I NTP Protocol.

Example :

```
+FEATURES NTP
-- NTP user console --
NTP>
```

g) FEATURES RADIUS

Through this command you enter the RADIUS feature monitoring. For further information on the RADIUS protocol monitoring please see the corresponding manual Dm 733-I.

Example :

```
+FEATURES RADIUS
-- RADIUS user console --
RADIUS>
```

h) FEATURES WRR-BACKUP-WAN

With this command you enter in the Backup WAN Reroute feature monitoring. For further information please consult manual Dm 727-I.

Example :

```
+FEATURES WRR-BACKUP-WAN
-- Back-up WAN Reroute user console --
WRR>
```

1.10. MANAGEMENT

Enters the master router environment.

1.11. MEMORY

In the **first part** of the command, information relative to the memory POOLs is displayed.

The system's total memory is divided into POOLs. A POOL is a memory zone managed by the O.S. There are two types of POOLs.

- Fixed size POOL partitions: in this type of POOL, the memory is divided into sections of the same size.
- Variable size POOL partitions: in this type of POOL, the memory is divided into sections of distinct sizes (according to requests made by the application).

The variable size POOL partitions are:

- *SYSTEMEM*: area of memory reserved for the internal structures of the operating system.
- *POOLT*: area of memory reserved to store the application's temporary variables.
- *POOLP*: area of reserved memory to store the application's permanent variables.

The fixed size POOL partitions are:

- *POOL0*, *POOL1*, *POOL2*: area of memory reserved for messages and buffers from the node.
- *POOLI*: area of memory reserved for the buffers from the router.

The O.S. stores information on the state of the said POOLs. Part of this information can be displayed through the **MEMORY** command:

The following is displayed for the variable size POOL partitions:

- *Sz*: POOL size in bytes.
- *Avl*: currently available space (not used) in bytes.

The following is displayed for the fixed size POOL partitions:

- *Sz*: POOL size in bytes.
- *AllocPart*: number of reserved partitions.

- *AvlPart*: number of available partitions.

In the **second part** the parameters relevant to the system's RAM memory are displayed:

- *Total mem*: system's total memory in bytes.
- *Total free mem*: unused memory in the device in bytes.
- *Available cache mem*: unused memory in the device in bytes, susceptible to cache.
- *Available non-cache mem*: unused memory in the device in bytes not susceptible to cache.
- *Used cache mem*: memory: amount of memory used supporting cache.
- *Used non-cache mem*: amount of memory used that does not support cache.

In the **third part**, the parameters relevant to the system's flash memory are displayed:

- *Flash memory*: system's flash memory measured in bytes.

In the **fourth part**, public buffer and heap information is displayed:

- *Free global Buffers*: number of public buffers available in the system
- *Heap*: heap size available measured in bytes.

Lastly, information relevant to the CPU's loading state is displayed:

- *IC*: Percentage of used CPU/CPU Index.
- *TC*: Cycle time.

Syntax:

```
+MEMORY
```

Example:

```
+MEMORY
SYSMEM   Sz:400000      Avl:181464
POOLT    Sz:33554432   Avl:33416168
POOLP    Sz:6291456    Avl:5397024

POOL0    Sz:276000     AllocPart:403      AvlPart:2357
POOL1    Sz:1218000   AllocPart:307      AvlPart:3076
POOL2    Sz:2088      AllocPart:0         AvlPart:5
POOLI    Sz:4119104   AllocPart:2000     AvlPart:191

Total mem:                67108864   Total free mem:                9126534
Available cache mem:      8925184   Available non-cache mem:      9114246
Used cache mem:           512000   Used non-cache mem:           45935994
Caches: ON      Write Back

Flash Memory: 4194304

Free global Buffers:1900

Heap:1262412

IC: 5/105 TC: 22
+
```

1.12. NETWORK commands

Displays the monitoring prompt for the specified network interface, such as the Frame Relay, PPP, X.25 network etc. Statistical information can be displayed from the said prompt.

Type **DEVICE** at the + prompt to see the networks for which the router is configured. For example:

```
+DEVICE
```

Interface	CSR	Vect	Auto-test valids	Auto-test failures	Maintenance failures
ethernet0/0	fa200e00	27	1	0	0
serial0/0	fa200a00	5E	0	373	0
serial0/1	fa200a20	5D	0	373	0
serial0/2	fa200a60	5B	0	10	0
bri0/0	fa200a40	5C	1	0	0
x25-node	0	0	1	0	0
+					

Syntax:

```
+NETWORK
```

Example:

```
+NETWORK serial0/0
-- Frame Relay Console --
FR>
```

1.13. NODE commands

Permits you to access the node monitoring (X.25, ISDN, XOT and 270). To exit this menu, enter the **EXIT** command.

Syntax:

```
+NODE ?
ISDN
X25
XOT
270
```

a) NODE ISDN

Permits you to access the node monitoring relative to ISDN. In order to exit this menu, enter the **EXIT** command. The parameters relative to a port can be configured in the network for this port.

Example:

```
+NODE ISDN
ISDN Monitor
ISDN>
```

b) NODE X25

Permits you to access the node monitoring relative to X.25. In order to exit this menu, enter the **EXIT** command. The parameters relative to a port can be configured in the network for this port.

Example:

```
+NODE X25
X25 Monitoring
X25>
```

c) NODE XOT

Permits you to access the node monitoring relative to XOT. In order to exit this menu, enter the **EXIT** command. You can also access from the XOT network.

Example:

```
+NODE XOT
XOT Monitoring
XOT>
```

d) NODE 270

Permits you to access the node monitoring relative to 270. In order to exit this menu, enter the **EXIT** command. You can also access from the XOT network.

Example :

```
+NODE 270
270 Monitoring
270>
```

1.14. PROTOCOL commands

Through this command you can enter into the commands environment for the protocols software installed in the router. The **PROTOCOL** command followed by the desired protocol number or short name permits you to access a protocol's command environment. After you enter this command, the specified protocol prompt appears. From this prompt, you can enter the specific commands specific for the said protocol.

To enter a protocol command environment you need to:

1. Enter **PROTOCOL ?** to see a list of the protocols configured in your router.
2. Enter the name or the number of the required protocol. The specified protocol prompt will immediately appear. From this prompt you can enter the specific commands for the said protocol.
3. Enter **EXIT** to return to the + prompt.

Syntax:

```
+PROTOCOL ?
00 IP
03 ARP
11 SNMP
Protocol's name or number: IP
IP>
```

Example :

```
+PROTOCOL ?
00 IP
03 ARP
11 SNMP
Protocol's name or number:03
ARP>
```

1.15. QUEUE lengths

Displays statistics about the length of input and output queues in the specified interfaces. Information provided by the **QUEUE** command includes:

- The total number of buffers allocated
- The low-level buffer value
- The number of buffers currently active in the interface

To display information on a single interface, enter the interface or the network number as part of the command. To obtain the interface number, enter **DEVICE** at the + prompt.

Syntax:

```
+QUEUE
```

Example :

```
+QUEUE
```

Interface	Input Queue			Output Queue	
	Alloc	Low	Curr	Fair	Current
ethernet0/0	40	5	40	40	0
serial0/0	0	0	0	0	0
serial0/1	0	0	0	0	0
serial0/2	40	5	40	8	0
bri0/0	160	5	0	4	0
x25-node	0	0	100	40	0

```
+
```

Interface Interface name.

Input Queue:

Alloc Number of buffers allocated to this device.

Low Water mark for flow control in this device.

Curr Current number of buffers in this device. The value is 0 if the device is disabled.

Output Queue:

Fair Fair level for the output queue in this device.

Curr Number of packets currently waiting to be transmitted in this device.

The router attempts to keep at least the *Low* value packets available for receiving over an interface. If the router receives a packet and the value of *Curr* is less than *Low*, then the packet is subject to flow control. If a buffer subject to flow control is on this device and the *Curr* level is greater than *Fair*, the router drops the buffer instead of queuing it. The **ERROR** command displays the dropped buffer in its Output Discards column. It also generates ELS event GW.036 or GW.057.

Due to the scheduling algorithms of the router, the *Curr* dynamic number (particularly the *Input Queue Curr*) may not be fully representative of typical values during packet forwarding. The console code runs only when the input queues have been emptied. Thus, *Input Queue Curr* will generally be non-zero only when those packets are waiting in a slow transmission queue.

1.16. QUICK monitor

In order to access the quick monitoring menu, you need to have previously accessed the general monitoring menu and from there enter **quick**. Through this command you enter the quick monitoring menu.

Syntax:

```
+QUICK
```

Example :

```
+QUICK
Quick Monitor Menu
Quick Monitor>
```

1.17. SYSTEM

Displays statistics for the memory, tasks and the firmware required by the system.

Syntax:

```
+SYSTEM ?
STACK status
MEMORY
CONSOLE SPEED
FIRMWARES-REQUIRED
```

a) SYSTEM STACK

This command should only be executed by the Teldat technical team.

b) SYSTEM MEMORY

This command should only be executed by the Teldat technical team.

c) SYSTEM CONSOLE SPEED

Permits you to configure the console serial port speed.

Example :

```
+SYSTEM CONSOLE SPEED
 9600 14400 19200
38400 57600 115200
speed: 9600
+
```

d) SYSTEM FIRMWARES-REQUIRED

Displays the firmware required so the system operates correctly.

Example :

```
+SYSTEM FIRMWARES

List of required firmwares for detected hardware
-----
  Filename                               Description
-----
fw000000.bfw  Alcatel-SGS Thomson DynaMiTe ADSL over POTS
+
```

1.18. STATISTICS of network

Displays statistical information about the network software, such as the configuration of the networks in the router.

To display information on a single interface, enter the interface or network number as part of the command. To obtain the interface number, enter **CONFIGURATION** at the + prompt.

Syntax:

```
+STATISTICS
```

Example :

```
+STATISTICS

Interface          Unicast      Multicast      Bytes          Packets          Bytes
                   Pqts Rcv     Pqts Rcv       Received       Transmitted      Transmitted
ethernet0/0        0             5384           3090255        0                0
serial0/0           0             0              0              0                0
serial0/1           0             0              0              0                0
```

serial0/2	0	0	0	0	0
bri0/0	0	0	0	0	0
x25-node	0	0	0	0	0
+					

Interface Interface name.

Unicast Pkts Rcv Number of non-multicast, non-broadcast addressing specifically in the sub-level MAC packets.

Multicast Pkts Rcv Number of multicast or broadcast packets received.

Bytes Received Number of bytes received at this interface at the MAC sub-level.

Packets Trans Number transmitted unicast, multicast, or broadcast packets.

Bytes Trans Number of bytes transmitted at the MAC sub-level.

1.19. TEST network

Verifies the state of an interface or enables an interface that was previously disabled with the **DISABLE** command at the + prompt. If the interface is enabled and passing traffic, the **TEST** command removes the interface from the network and runs the auto-test diagnostics on the interface.

For this command to work, you must enter the complete name of the command followed by the interface name.

Enter the interface or network name as part of the command. To obtain the interface number, enter **DEVICE** at the + prompt.

Syntax:

```
+TEST
```

Example :

```
+TEST ethernet0/0
Testing the interface ethernet0/0 ... OK
+
```

When testing ends or fails, or GESTCON process times out (after 30 seconds), one of the following messages may appear:

```
+TEST ethernet0/0
Testing the interface ethernet0/0 ... failed
+
```

or:

```
+TEST
Testing net          token-ring3/0   Test running
```

Some interfaces may take more than 30 seconds before testing is done.

1.20. LAST Configuration changes

This command permits you to monitor the last configuration recordings. The information gathered from here is as follows: Name of the recorded file and if this is active, type of access carried out in order to modify the configuration, IP address used to access, user who carried out the configuration modification and the data and time the changes were executed. The first row is the latest configuration the device has stored and will be the active one if no other configuration change has been produced after re-starting the device. If a change has been made, the active configuration will be in the second information register. The first information register is modified each time the configuration is saved without restarting the device.

Syntax:

```
+LAST
```

Example :

```
+LAST
Last configuration changes
-----
File      Acc-Type  Address          User              Date/Time
-----
NUPLUS   Telnet    192.6.1.134     TELNET            05/10/00  08:52:32
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  17:28:24
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  17:17:48
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  17:10:56
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  17:04:33
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  17:03:32
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  17:02:21
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  16:36:57
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  16:33:51
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  16:04:58
NUPLUS   Console   0.0.0.0         CONSOLE           05/09/00  15:38:45
+
```

1.21. LOG, save

Permits you to obtain additional information on the device operation. This is only useful for Teldat's technical support service maintenance tasks. The said information is displayed as a hexadecimal dumping via the screen.

Syntax:

```
+LOG <number>
```

Example :

```
+LOG
number of items to save[5]? 1
0000 0000 0100 004A 0D0A 3031 2F30 312F
3030 2030 303A 3030 3A30 3020 392E 312E
3720 4D61 7220 3133 2032 3030 3220 3137
3A33 303A 3139 2062 7920 2020 6D62 6572
726F 6A6F 206F 6E20 204D 4245 5252 4F4A
4F32 007D
+
```

1.22. UCI

The UCI command allows you to configure the **Teldat Router** encryption unit. For further information on this command, please consult the **Teldat Router** Manual Dm 726-I "Encryption".

1.23. WEB-POLL

Accessing the web-poll monitoring menu.

Syntax:

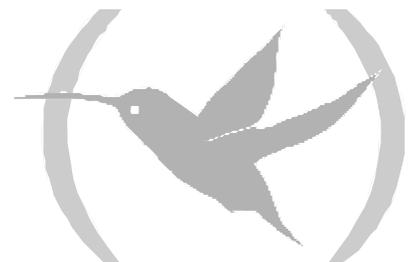
```
+WEB-POLL
```

Example :

```
+WEB-POLL
-- Web Poll user monitoring --
tcsw-12 POLL>
```

Chapter 4

Event Logging System ELS



1. Introduction

This chapter describes the Event Logging System (ELS). It also describes the VISEVEN procedure and how to obtain messages from the Event Logging System. The VISEVEN procedure provides information on the internal performance of the device and its interfaces.

This chapter contains the following sections:

- Event Logging System
- Event Logging System user interface
- Event Logging System commands

2. Event Logging System

Events occur continuously while the device is operating. These can be provoked by various causes:

- System activity.
- State changes.
- Service requests.
- Data transmission and reception.
- Errors in the internal data of the system.

The Event Logging System is a device monitoring mechanism, which generates messages as a result of its activity. When something occurs, the Event Logging System (ELS) receives data from the system which identifies the source and nature of the event. A message is then generated using the received data. Through the ELS it is possible to install a configuration in order to display the messages that the user considers to be relevant.

The Event Logging System and the MONITOR procedure counters, allow you to isolate problems in the device. A quick view of the messages informs the user if there is a problem in the device and where to start searching for it.

In *ELS Config*> prompt, there are commands that may be used to establish a default configuration. This configuration does not take effect until the device is restarted.

Sometimes, you may wish to temporarily display messages with a different configuration to that configured in the ELS Configuration procedure (*ELS Config*> prompt). This can be done in the ELS monitoring procedure (*ELS*> prompt) without needing to restart the device. With this prompt's commands, it is possible to temporarily change the selection of events to be displayed on the screen. These changes take effect immediately and are not stored in the system configuration.

There is another system similar to this events logging system, which stores logs in non-volatile memory. These logs registrar information relative to accessing the system (through ftp or telnet), restarts for this, modifications in the configuration etc. The chief difference between this and the events is that these logs are saved in the non-volatile memory i.e. they remain stored even when the device restarts the application or is switched off.

The following figure summarizes the process to access the *ELS Config*> prompt from the *Config*> prompt, and the *ELS*> prompt from the "+" prompt.

Event Logging System Configuration

To access the Event Logging System configuration procedure:

1. At the Console Manager procedure prompt "***", enter **STATUS** in order to find out the process identifier (pid) for the configuration environment.

```
*STATUS
System Processes:
NAME      PID  STATUS
GESTCON   1
VISEVEN   2
MONITOR   3
CONFIG    4
TELNET    6
*
```

2. Enter **PROCESS** and the process identifier (pid) to access the CONFIG process (number 4 in this case).

```
*PROCESS 4
Config>
```

3. Enter **EVENT** to access the Event Logging System.

```
Config>EVENT
-- ELS Config --
ELS Config>
```

Now it is possible to execute Event Logging System commands.

To exit the Event Logging System configuration and return to prompt Config>, enter **EXIT**.

```
ELS Config>EXIT
Config>
```

All the changes performed in this procedure will only take effect when the device is restarted, provided that the configuration has been previously saved either in Flash memory or Disk.

Event Logging System Monitoring

To access the Event Logging System monitoring process:

1. Enter **STATUS** to find the MONITOR (“+” prompt) process identifier.

```
*STATUS
System Processes:
NAME      PID  STATUS
GESTCON   1
VISEVEN   2
MONITOR   3
CONFIG    4
TELNET    6
*
```

2. Enter **PROCESS** and the process identifier (pid) to access the MONITOR procedure, number 3 in this case.

```
PROCESS 3
Console operator
+
```

3. Enter **EVENT** to access the Event Logging System.

```
+EVENT
-- ELS Monitor --
ELS>
```

Now it is possible to execute Event Logging System monitoring commands.

To exit the Event Logging System monitoring and return to “+”, enter **EXIT**.

```
ELS>EXIT
+
```

Events display

Events that have occurred while the system was operating can be displayed from the VISEVEN process or in the active process.

The advantage of viewing the events from the VISEVEN process is that they are only displayed when the user requires them and not when they occur. The advantage of viewing from the active process is that they are displayed as soon as they occur and additionally you can execute command from the active process. I.e. you can carry out additional tasks or consult other types of information.

Disadvantages of displaying events from the VISEVEN process is the fact that you cannot carry out any other task and if the events buffer is small, these can be easily lost. The disadvantage of displaying the events in the active process is that this interferes with the information displayed by the process currently running and complicates executing tasks.

To enter the VISEVEN process from the Console Manager, you need to do the following:

1. If you do not know the VISEVEN process PPID, enter **STATUS** at the “*” prompt.

```
*STATUS
System Processes:
NAME      PID  STATUS
GESTCON   1
VISEVEN   2
MONITOR   3
CONFIG    4
TELNET    6
*
```

2. Enter **PROCESS** and the process identifier (PID) in order to access the VISEVEN process, in this case number 2.

```
*PROCESS 2
```

This process does not present prompts or permit you to execute commands. However it shows the messages that have been saved.

To exit VISEVEN and return to the Console Manager (“*” prompt), enter (*Ctrl + p*).

If you wish to ignore all the events stored up to this point without viewing them, use the **FLUSH** command.

The commands **HIDE** and **VIEW** are available to view the events from the active process. These commands must be fully entered to take effect. If the events are displayed in the active process, you cannot enter the VISEVEN process. The **VIEW** command permits you to display the events and the **HIDE** command the opposite.

Interpreting the Event Logging System messages

On entering the following command, a message from the Event Logging System has the following appearance:

ELS>LIST SUBSYSTEM GW		
GW.019	C-INFO	Slf tst nt %d int %s/%d
(Subsystem Event Number)	(Type of Event)	(Message Text)

Subsystem

Subsystem is an abbreviated and pre-defined name for a **Teldat Router** component such as protocol or interface, etc. The name **GW** identifies the subsystem through which this event has occurred. GW is an abbreviated name for Gateway.

Other examples of subsystems are ARP, IP, ETH. To see the list of available subsystems in the device, execute the **LIST SUBSYSTEM** command.

Enter the subsystem as a parameter in an Event Logging System Command, if the command is required to affect the whole subsystem. For example, the **ENABLE SUBSYSTEM GW** command enables all the events in GW subsystem so that when events are produced they will be collected by the VISEVEN procedure.

Event Number

The Event number is a pre-defined, unique and arbitrary number assigned to each message within a subsystem. This does not indicate message priority. For example in GW.019, 19 indicates the event number in the GW subsystem. It is possible to obtain a list of all the events in a subsystem through the **LIST SUBSYSTEM** command.

The event number always appears with a subsystem separated by “.”, e.g. GW.019. The subsystem and event number jointly identify an individual event. They are entered as a parameter in some Event Logging System commands. When a command is required to affect only one specific event, enter the subsystem and event number as a command parameter.

Type of Event

Type of Event or *Filter Level* is a pre-defined identifier that classifies each message by the event that generates it. This identifier appears when the command **LIST SUBSYSTEM <name_subsystem>** is executed.

TYPE OF EVENTS LIST

Identifier	Description
ALWAYS	Each time the device software is loaded, information on the copyright and configuration confirmation is displayed.

UI-ERROR	Abnormal internal errors.
CI-ERROR	Usual internal errors.
UE-ERROR	Abnormal external errors.
CE-ERROR	Usual external errors.
ERROR	Includes all previously mentioned errors.
U-INFO	Comments on abnormal information.
C-INFO	Comments on usual information.
INFO	Includes all types of previously mentioned comments.
STANDARD	Includes all types of errors and comments. By default.
P-TRACE	Packet trace.
U-TRACE	Abnormal operationTrace message.
C-TRACE	Usual operationTrace message.
TRACE	Includes all types of previously mentioned traces.
ALL	Includes all types of events.

In this table ERROR, INFO, TRACE, STANDARD and ALL are associated to other filtered levels. STANDARD is the filter level recommended by default.

Groups

Groups are a collection of events defined by the user who gives them a group name. The name of the group can be entered as a parameter in some Event Logging System commands. There are no pre-defined groups. It is necessary to create a group before the name of the group can be specified in the command line.

To create a group, execute the configuration command **ADD**, specify the name required for the group, and then specify the events to be included in the group. The events included in the group may be from different subsystems and have different types of events.

Once a group has been created, it can be used to globally manage the events in the group. For example, to enable the event messages of all events that have been added to a group called MYGROUP to be displayed on screen, include the name of the group in the command line as follows:

```
ELS Config>ENABLE TRACE GROUP MYGROUP
```

To delete a group, execute the command **DELETE**.

3. Event Logging System user interface

In order to work efficiently with the Event Logging System:

- You need to know what you wish to see through the said system. The problem or events you wish to view must be clearly defined before using the VISEVEN process.
- Execute the **CLEAR** command in the configuration procedure to erase all the events enabled in configuration, as well as the groups created. Or execute the same command in the Monitoring procedure to erase all the events enabled during execution.
- Enable only those messages that are related to the problem you wish to investigate.

When enabling messages you need to bear in mind that if these are produced too frequently and are not viewed on screen at the same rate they are produced in the VISEVEN process, the circular message buffer may become full and consequently the initial messages are lost.

When you need to trace a specific problem, enable the events related to that problem. For example, if you are having a problem with the IP protocol, enable the IP messages by executing the command:

```
ELS Config>ENABLE TRACE SUBSYSTEM IP ALL
```

At the same time as you receive the messages, they may be enabled or disabled depending on which events is of interest to you.

Proprietor Alarms

The Event Logging System can be used for a specific event sent as a proprietor management alarm to one or various remote stations. Any event, be it individual or belonging to a group or subsystem, can be enabled with this aim.

In order to enable the ICMP.002 event so it can be sent as a proprietor alarm,

1. In the ELS Config> or in ELS> prompts, enter

```
ENABLE ALARM EVENT ICMP.002
```

Note: If you are in the ELS Config> you need to save the configuration and restart the device in order for the change to take effect.

2. In the Alarms Config> prompt, enter

```
ADD ADDRESS <ip address of the remote manager station>
```

Note: You need to save the configuration and restart the device in order for the change to take effect.

3. Carry out a ping out from any system to the router. The alarm appears in the manager station.

These three steps should be followed in order to enable a subsystem, a group or an individual event as alarms.

Note: So that the remote manager system recognizes the local system to be managed, the internal IP address must be configured.

SNMP Traps

The Event Logging System can be used so that a determined event can be sent as a specified private company trap to any station with SNMP management. The information sent with this type of trap is the message that will be displayed on screen if the event is enabled as a trace. A trap occurs each time the selected event occurs (enabled as an SNMP trap). For more information on how to configure SNMP, please consult the SNMP Protocol configuration manual (Dm 712-I).

Any individual event, group of events or subsystem can be enabled as an SNMP trap.

In order to enable the SNMP.002 event so it can be sent as a specific company trap,

1. At the ELS Config> prompt or ELS>, enter

ENABLE SNMP-TRAP EVENT SNMP.002

Note: If you are in the ELS Config> you need to save the configuration and restart the device in order for the change to take effect.

2. At the SNMP Config> prompt, enter

ADD ADDRESS <community> <ip address of the SNMP remote manager station>

Note: You need to save the configuration and restart the device in order for the change to take effect .

Using the Event Logging System to solve problems

When you are trying to resolve a specific problem with the Event Logging System, enable all those events related to the problem so they are displayed on the console. E.g. if you think that the problem is or could be related to the IP protocol, enable all the events of the IP subsystem by entering:

```
ELS>ENABLE TRACE SUBSYSTEM IP ALL
```

Once you are familiar with the distinct messages that appear, you can enable or disable those events which contain the information that you require.

The Event Logging System allows you to specify which messages which are to be shown temporarily or permanently.

The Event Logging System's configuration commands allow you to design a permanent message filter which takes effect each time the system is switched on or reset.

The monitoring commands allow you to start up the temporary filters which ignore the permanent filter. When the system is restarted or reset, the temporary filter is deleted by the software.

Below there are various examples of the Event Logging System.

Example 1. Starting the device

```
*PROCESS 2                                calling the evento loggin system
06/10/99 17:03:22  GW.001 Copyright Teldat S.A. 1995,96,97,98,99
06/10/99 17:03:22  GW.002 Portable CGW NUCLEOX-PLUS Rel 8.0.0D strtd
06/10/99 17:03:22  GW.005 Bffrs: 1488 avail 1488 idle fair 231 low 297

press <Ctrl + p>                            quit the events logging system
*
```

Example 2. Enabling the Ethernet interface test event

```
ELS>ENABLE ALL EVENT ETH.045
ELS>                                       press <Ctrl + p>
*PROCESS 2
ETH.045 Eth self-test Operational Test fld Unknown nt 0
ETH.045 Eth self-test Operational Test fld Unknown nt 0
ETH.045 Eth self-test Operational Test fld Unknown nt 0
```

Example 3. GW protocol operation messages

```
ELS>ENABLE ALL SUBSYSTEM GW ALL
ELS>                                       press <Ctrl + p>
*PROCESS 2
06/10/99 17:32:35  GW.026 Mnt nt 0 int Eth/0
06/10/99 17:32:37  GW.026 Mnt nt 1 int R->N/0
```

4. Event Logging System Commands

This section describes the Event Logging System commands. Each command includes a description, syntax and one example. Some commands are executed in the Configuration procedure at the *ELS Config*> prompt and others in the Monitoring procedure at the *ELS*> prompt.

4.1. Configuration Process Commands

These commands are executed in the Configuration procedure at the *ELS Config*> prompt. The following steps must be performed so that the changes made in the Event System take effect are:

1. Once the changes have been made, save the configuration (Flash or Disk) with the **SAVE** command at the *Config*> prompt.
2. Restart the device again.

Another possibility would be to execute the command **RESTORE** at the *ELS*> prompt in the Monitoring procedure.

Command	Function
? (HELP)	Lists all the commands for the Event Logging System configuration.
ADD group	Adds an event to a specific group or creates a new group.
APPLY-FILTER	Allows the configuration of an events filter to be dynamically applied over the events being currently generated.
CLEAR configuration	Erases all the event and group configuration from the Event Logging System.
DELETE group	Deletes an event from a specific group or the whole group.
DISABLE	Permits you to dsable messages so that they are not displayed on screen and to disable the events filtering.
ENABLE	Permits you to enable messages so that they are displayed on screen and to enable the events filtering.
EV-BUFFER Items	Changes the size of the events buffer.
FILTER	Configures rules to permit events filtering so that only the events that are currently relevant are displayed.
LIST	Presents information on enabled events, messages and minimum priority of the saved logs.
NO	Eliminates an entry in the events filter list.
PPP	Permits you to access the specific PPP events menu.
SYSLOG-PRIORITY	Establishes the minimum priority that the logs must have to be saved in the non-volatile memory.
EXIT	Permits you to exit the Event Logging System configuration.

a) ? (HELP)

Lists the available commands in the current prompt. It is also possible to enter “?” after a specific command in order to list its options.

Syntax:

```
ELS Config>?
```

Example :

```
ELS Config>?
ADD group
APPLY-FILTER
CLEAR configuration
DELETE group
DISABLE
ENABLE
EV-BUFFER Items
FILTER
LIST
NO
PPP
SYSLOG-PRIORITY
EXIT
ELS Config>
```

Example :

```
ELS Config>LIST ?
ALL
CONFIGURATION
EVENT
GROUPS
SUBSYSTEM
SYSLOG-PRIORITY
ELS Config>
```

b) ADD group

Adds an individual event to a previously created group or creates a new group. The names of groups must be composed with alphabetical characters. Numbers or other types of ASCII characters are not permitted. The name can have a maximum extension of 7 characters. The maximum number of groups that can be created is 10 and the maximum number of events in a group is 20.

Syntax:

```
ELS Config>ADD <nom_group> <subsystem.num_event>
```

Example :

```
ELS Config>ADD
Group name ?MYGROUP
Group not found
Create new group (yes or no) ? y
event ?IP.001
ELS Config>
```

If the specified group does not exist, confirmation to create a new group will be requested.

c) APPLY-FILTER

Allows the configuration of events filtering to be dynamically applied over the currently generated events.

Syntax:

```
ELS Config>APPLY-FILTERD
```

d) CLEAR configuration

Clears all the configuration information from the Events Logging System.

All the groups created, events, and subsystems enabled in configuration are erased. Execute this command with the command **SAVE** at the *Config>* prompt to clear the configuration from the Flash or Disk.

Syntax:

```
ELS Config>CLEAR
```

Example :

```
ELS Config>CLEAR
All ELS configuration will be deleted
Are you sure to do this?(y/n)(n): y
ELS configuration deleted
ELS Config>
```

e) DELETE group

Deletes an event from an already created group or deletes the whole group. A message will be displayed if the event specified is the last one in the group. When *ALL* is specified instead of *subsystem.event_num*, confirmation to delete the whole group will be requested.

Syntax:

```
ELS Config>DELETE <nom_group> <subsystem.event_num>
```

Example 1:

```
ELS Config>DELETE MYGROUP IP.001
```

Example 2:

```
ELS Config>DELETE MYGROUP ALL
Do you want to delete the group(y/n)? y
group deleted
ELS Config>
```

f) DISABLE

Selects and disables events so that their messages are not displayed on screen, nor sent as proprietary alarms or traps. It is also possible to disable groups and subsystems. Additionally this permits you to disable the events filtering.

Syntax:

```
ELS Config>DISABLE
ALL
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
ALARM
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
FILTER
TRACE
    EVENT <subsystem.event_num>
    GROUPS < nom_group >
    SUBSYSTEM <subsystem> <filtered_layer>
SNMP-TRAP
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
```

Example :

```
ELS Config>DISABLE TRACE EVENT ICMP.001
ELS Config>
```

This example disables the individual ICMP.001 event so it is not displayed on screen.

Example :

```
ELS Config>DISABLE ALARM GROUP MYGROUP
ELS Config>
```

This example disables the MYGROUP group so it is not sent as a proprietor alarm.

Example :

```
ELS Config>DISABLE ALL SUBSYSTEM IP INFO
ELS Config>
```

This example disables events with INFO filter level from the IP subsystem so they are not shown or sent as either alarms or SNMP traps.

g) ENABLE

Selects and enables events so that their messages are displayed on screen, sent as proprietary alarms or traps. It is also possible to enable groups and subsystems. Additionally this permits you to enable the events filtering.

Syntax:

```
ELS Config>ENABLE
ALL
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
ALARM
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
FILTER
TRACE
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
SNMP-TRAP
    EVENT <subsystem.event_num>
    GROUPS <nom_group>
    SUBSYSTEM <subsystem> <filtered_layer>
```

Example :

```
ELS Config>ENABLE TRACE EVENT ICMP.001
ELS Config>
```

This example enables the individual ICMP.001 event so it is displayed on screen.

Example :

```
ELS Config>ENABLE ALARM GROUP MYGROUP
ELS Config>
```

This example enables the MYGROUP group so it is sent as a proprietor alarm.

Example :

```
ELS Config>ENABLE ALL SUBSYSTEM IP INFO
ELS Config>
```

This example enables events with INFO filter level from the IP subsystem so they are shown or sent as alarms and SNMP traps.

IMPORTANT: Do not execute this command during long periods of time while the device is transferring packets, since a great deal of time is spent contacting the VISEVEN procedure. If this is executed when communicating with the Teldat Router through a remote terminal, this may provoke the situation where the device spends the vast majority of its time contacting the remote terminal.

h) EV-BUFFER <num. Lines> <line size>

Permits you to select the amount of memory reserved for the events buffer. The two parameters to be configured are the number of lines (each event is stored in a line) and the size of each line reserved in the permanent memory pool.

Permits you to dynamically change the buffer size without needing to reboot the device provided there is free space in the permanent pool.

Example :

```
Config>EV-BUFFER
Number of Lines[50]? 1000
Line size[207]? 300
Config>
```

i) FILTER

Adds a filter so this can be applied.

Events filtering permits filtering within a given event so that the relevant information is projected and the irrelevant information is eliminated. The filter has the added advantage that the discarded events are not stored therefore reducing the risk of losing events due to overflow.

An index is associated to the filters that is used to determine the order of the application so that the lower orders are applied before the higher orders. The order must be between 1 and 10. It's possible to define a maximum of 10 simultaneous filters.

Another parameter associated to a filter is the application condition which if this is fulfilled the filter is applied. The filters are checked one by one until there are no more or until one of these is applied. **The condition is only applied over the event text and not over the event identifier.** The condition is given by a text to search for and the position relative to where this is: the text is delimited by quotation marks; the position where this is can be given explicitly or the value - 1 to indicate any position.

The last parameter associated to a filter is the action to be applied. This can be excluding the event, projecting an event and finally accepting an event.

Events filtering can be globally enabled and disabled through the commands **ENABLE FILTER** and **DISABLE FILTER** respectively.

Syntax:

```
ELS config>FILTER
Entry [1]?
default          Create a event filter with action exclude and pos ignore
text             Text to filter
position         -1 ->ignore
action           incl, excl, red, green, yellow, blue, magent, cyan
Type an option [default]?
ELS config>
```

Example 1:

A simple example of using the events filter is that of IP debugging in a device accessed through Telnet: if the IP events are enabled, the events being searched for appear however the events of Telnet itself also appear in a situation where the quantity of IP events is excessive. In order to resolve this you can enable the events filter so that all the events occurred by the Telnet client IP address (172.24.78.94) are excluded.

```
ELS config>FILTER 1 TEXT "172.24.78.94" POS -1 ACTION EXCLUDE
ELS config>
```

Example 2:

Displays the events beginning with Rx (as occurs in some X252 subsystem events) in red.

```
ELS config>FILTER 2 TEXT "Rx" POS 1 ACTION RED
ELS config>
```

j) LIST

Lists information on enabled events, created groups, subsystems and configuration.

Syntax:

```
ELS Config>LIST ?
ALL
CONFIGURATION
EVENT
FILTER
GROUPS
SUBSYSTEM
SYSLOG-PRIORITY
```

LIST ALL

This lists all the subsystems, defined groups, the subsystems configuration status, groups and individual events.

Example :

```
ELS Config>LIST ALL
Name          Events  Description
ADSL          61      Asyemtric Digital Subscriber Line
ARP           9       Address Resolution Protocol
ASDP          6       Asynchronous Serial Device Proxy
ASYN          5       Asynchronous Serial Line
AT            19      AT Commands Interface
ATM           36      Asynchronous Transfer Mode
BAN           29      Boundary Access Node
BR            29      Bridge/Routing
CIF           34      Encryption
DEP           15      DEP Forwarder
DLS           459     Data Link Switching
DNAT          12      Dynamic NAT
DNS           20      Domain Name System
ETH           49      Ethernet
FLT           7       Filter Library
FR            53      Frame Relay
FRBK          8       Frame Relay BACKUP
FTP           4       File Transfer Protocol
GSTP          1       Proprietary management (Teldat)
GW            61      Router kernel
H323          18      H323
HDSL          56      Symetric High Bitrate Digital Subscriber Line
HTTP          22      HyperText Transfer Protocol
ICMP          20      Internet Control Message Protocol
IP            86      Internet Protocol
IP6           200     IPv6
IPPN          27      IP Tunnel
IPSEC         57      Ip Security
ISDN          38      Integrated Services Digital Net
LAPD          9       ISDN Layer 2
LDAP          16      Ip Security
LLC           33      Logical Link Control
MCF           9       MAC Filtering
NAPT          30      Network Address Port Translation
NBS           50      NetBIOS Support Subsystem
NTP           25      Network Time Protocol
PGMO          5       POS Gateway Monitor
PPP           100     Point to Point Protocol
P3OE          21      PPP over Ethernet
PRI           3       Primary ISDN
PRL           1       Portal-VisorNet Protocol
Q933          20      Q933
```

```

RAD      50      Remote Authentication Dial In User Service
RIP      30      IP Routing Information Protocol
RTSP     10      RTSP Protocol
SCEP     17      Certificate Enrollment Protocol
SDLC     95      IBM SDLC
SL       35      Serial Line
SNMP     25      Simple Network Management Protocol
SPF      61      Open SPF-Based Routing Protocol
SRT      87      Source Routing Transparent Bridge
STP      32      Spanning Tree Protocol
SYNC     2       Synchronous Serial Line
TCP      55      Transmission Control Protocol
TKR      46      Token Ring
TNIP     33      IP Tunnel
TVRP     35      Teldat Virtual Router Protocol
DHCP     13      DHCP
UDAF0    39      UDAFO Forwarder
UDP      4       User Datagram Protocol
VID      2       Video Subsystem Events
VSN      12      Visornet
X252     23      X.25 Layer 2
X253     26      X.25 Layer 3

Group: MYGROUP
      IP.002
      IP.003
      IP.004

Subsystem :GW
  Trace   :ALL
  Alarm   :ALL
  SNMP-Trap :ALL
Subsystem :IP
  Trace   :STANDARD
  Alarm   :none
  SNMP-Trap :none

Group      Trace      Alarm      SNMP-Trap
MYGROUP    Off         On         Off

Event      Trace      Alarm      SNMP-Trap
ICMP.001   On         Off        Off

EVENT FILTER
Events filtering DISABLE

{ num) string, /pos -> action }
  1) 172.24.78.94 /-1 -> Excl
  2) Rx /1 -> Red

ELS Config>

```

LIST CONFIGURATION

This lists the status (enabled or disabled) of the subsystems, groups and individual events which have been configured. This will begin to operate when the device is restarted provided it has previously been saved in the memory.

Suppose that you previously enable the SNMP subsystem in order to display the events contained in the STANDARD filter levels on screen and that there exists a group called MYGROUP. This group is enabled as a proprietary alarm and the user enabled an ICMP.001 event to be sent as a specific company trap. You would achieve the results that appear in the below example.

Example :

```

ELS Config>LIST CONFIGURATION
Group: MYGROUP
      IP.002
      IP.003

```

```

IP.004
Subsystem      :GW
  Trace        :ALL
  Alarm        :ALL
  SNMP-Trap    :ALL
Subsystem      :IP
  Trace        :STANDARD
  Alarm        :none
  SNMP-Trap    :none

Group          Trace      Alarm      SNMP-Trap
MYGROUP        Off        On         Off

Event          Trace      Alarm      SNMP-Trap
ICMP.001       On         Off        Off
ELS Config>

```

LIST EVENT

Lists the filter level and the specified event message.

Example :

```

ELS Config>LIST EVENT ICMP.001
Level: UE-ERROR
Message: bd cks 0x%04x (exp 0x%04x) %I -> %I
ELS Config>

```

LIST FILTER

Lists information relevant to the events filtering: general status of the filtering and the configured filters.

Example:

```

ELS config>LIST FILTER

EVENT FILTER
Events filtering DISABLE

{ num) string, /pos -> action }
1) 172.24.78.94 /-1 -> Excl
2) Rx /1 -> Red

ELS Config>

```

LIST GROUPS

Lists the names of the groups defined by the user and their content.

Example :

```

ELS Config>LIST GROUPS
Group: MYGROUP
      IP.002
      IP.003
      IP.004
ELS Config>

```

LIST SUBSYSTEM

Lists all the events of a specified subsystem.

Example :

```

ELS Config>LIST SUBSYSTEM ICMP
Event          Level      Message
ICMP.001       UE-ERROR  bd cks 0x%04x (exp 0x%04x) %I -> %I
ICMP.002       C-INFO    ech %I -> %I

```

```

ICMP.003      U-INFO      ech rp %I -> %I
ICMP.004      CI-ERROR   unhnd typ %d %d %I -> %I
ICMP.005      U-TRACE     unhnd brd typ %d %d %I -> %I
ICMP.006      UE-ERROR    bd typ %d %d %I -> %I
ICMP.007      C-INFO      addr msk %I -> %I
ICMP.008      C-TRACE     addr msk rep %I -> %I
ICMP.009      UI-ERROR    no pkt or mem
ICMP.010      UE-ERROR    amb addr msk %I -> %I
ICMP.011      UI-ERROR    err %d sndng pkt to nt %d int %s/%d
ICMP.012      C-INFO      rdr %I -> %I to %I
ICMP.013      U-INFO      bd prm off %d %I -> %I
ICMP.014      U-TRACE     snd %d %d pkt %I -> %I
ICMP.015      UE-ERROR    shrt ICMP hdr %d src %I
ICMP.016      U-TRACE     %I rdr dest %I to %I
ICMP.017      UE-ERROR    Bad rdr from %I, rsn: %S
ICMP.018      U-TRACE     Router advertisement received from %I
ICMP.019      UE-ERROR    Bad router adv from %I, rsn: %S
ICMP.020      U-INFO      rcvd typ %d %d %I -> %I
ELS Config>

```

If the subsystem name is not entered, a list will appear with the name, event number and a description of all the subsystems.

Example :

```

ELS Config>LIST SUBSYSTEM ?
Name      Events      Description
ADSL      61             Asyemtric Digital Subscriber Line
ARP       9              Address Resolution Protocol
ASDP      6              Asynchronous Serial Device Proxy
ASYN      5              Asynchronous Serial Line
AT        19             AT Commands Interface
ATM       36             Asynchronous Transfer Mode
BAN       29             Boundary Access Node
BR        29             Bridge/Routing
CIF       34             Encryption
DEP       15             DEP Forwarder
DLS       459            Data Link Switching
DNAT      12             Dynamic NAT
DNS       20             Domain Name System
ETH       49             Ethernet
FLT       7              Filter Library
FR        53             Frame Relay
FRBK      8              Frame Relay BACKUP
FTP       4              File Transfer Protocol
GSTP      1              Propietary management (Teldat)
GW        61             Router kernel
H323     18             H323
HDSL     56             Symetric High Bitrate Digital Subscriber Line
HTTP     22             HyperText Transfer Protocol
ICMP     20             Internet Control Message Protocol
IP       86             Internet Protocol
IP6      200            IPv6
IPPN     27             IP Tunnel
IPSEC    57             Ip Security
ISDN     38             Integrated Services Digital Net
LAPD     9              ISDN Layer 2
LDAP     16             Ip Security
LLC      33             Logical Link Control
MCF       9              MAC Filtering
NAPT     30             Network Address Port Translation
NBS      50             NetBIOS Support Subsystem
NTP      25             Network Time Protocol
PGMO     5              POS Gateway Monitor
PPP     100            Point to Point Protocol
P3OE     21             PPP over Ethernet
PRI       3              Primary ISDN
PRL       1              Portal-VisorNet Protocol
Q933     20             Q933

```

RAD	50	Remote Authentication Dial In User Service
RIP	30	IP Routing Information Protocol
RTSP	10	RTSP Protocol
SCEP	17	Certificate Enrollment Protocol
SDLC	95	IBM SDLC
SL	35	Serial Line
SNMP	25	Simple Network Management Protocol
SPF	61	Open SPF-Based Routing Protocol
SRT	87	Source Routing Transparent Bridge
STP	32	Spanning Tree Protocol
SYNC	2	Synchronous Serial Line
TCP	55	Transmission Control Protocol
TKR	46	Token Ring
TNIP	33	IP Tunnel
TVRP	35	Telnet Virtual Router Protocol
DHCP	13	DHCP
UDAF0	39	UDAF0 Forwarder
UDP	4	User Datagram Protocol
VID	2	Video Subsystem Events
VSN	12	Visornet
X252	23	X.25 Layer 2
X253	26	X.25 Layer 3
ELS Config>		

LIST SYSLOG-PRIORITY

Lists the minimum priority of the logs saved in the non-volatile memory.

Example :

```
ELS Config>LIST SYSLOG-PRIORITY
Minimum priority of logs saved: Priority 5
ELS Config>
```

k) NO

Permits you to eliminate a given filter.

Example :

```
ELS Config>NO FILTER 2
ELS Config>
```

l) PPP

Permits you to access the specific PPP events menu. For further information, please see manual Dm710-I Interface PPP.

Example :

```
ELS Config>PPP
-- PPP Events Configuration --
PPP Events config>
```

m) SYSLOG-PRIORITY

Configures the minimum priority that the logs must have in order to be saved. A priority is defined for each log between 1 and 5 (1 being the highest priority and 5 the lowest). Given that the capacity of the non-volatile memory is limited (the logs are saved in a circular queue), you may wish to save only the highest priority logs and not the lowest ones.

Logs related to device startups take priorities between 1 and 3. The rest of the logs (accessing the device, configuration modifications etc.) are allocated priorities between 4 and 5.

Example :

```
ELS Config>SYSLOG-PRIORITY
Minimum priority of logs saved [1-5]:[5]?
ELS config>
```

n) EXIT

This allows you to exit the Events Logging System configuration and return to the *Config>* prompt.

Syntax:

```
ELS Config>EXIT
```

Example :

```
ELS Config>EXIT
Config>
```

4.2. Monitoring process commands

These commands are executed in the Monitoring process at the *ELS>* prompt.

The changes made in this procedure are automatically executed and are lost when the device is restarted. These commands allow you to enable events during execution time.

Command	Function
? (HELP)	Lists all the commands for monitoring the Event Logging System.
CLEAR actives	Permits you to disable all enabled events at a given time.
DISABLE	Allows you to disable event messages so they are not displayed on the screen, nor sent as propriotor alarms or specific traps.
ENABLE	Allows you to enable event messages to be displayed on the screen, sent as propriotor alarms or specific traps.
FILTER	Configures the rules permitting events filtering so that only those events which are currently relevant are displayed.
HIDE	Prevents the events from being displayed in the active process. From this point on, the events can only be viewed from the VISEVEN process. This command is available from any process although it does not appear when requesting all the available commands. In order to execute this, you must enter the full command name.
LIST	Lists information on established events and messages.
RESTORE configuration	Permits you to restore all the existing Event System configuration at a given time.
SYSLOG	Permits you to view the logs saved in the non-volatile memory as well as to initialize this.
VIEW	Permits the events to be displayed in the active process. From this point on, the events cannot be viewed from the VISEVEN process. This command is available from any process although it does not appear when requesting all the available commands. In order to execute this, you must enter the full command name.
EXIT	Permits you to exit event monitoring.

a) ? (HELP)

Lists the commands available for the current prompt. It is also possible to enter “?” after a specific command in order to list its options.

Syntax:

```
ELS>?
```

Example :

```
ELS>?  
CLEAR actives  
DISABLE  
ENABLE  
FILTER  
HIDE  
LIST  
RESTORE configuration  
SYSLOG  
VIEW  
EXIT  
ELS>
```

Example :

```
ELS>LIST ?  
ACTIVE  
EVENT  
GROUPS  
SUBSYSTEM  
ELS>
```

b) CLEAR actives

Permits you to disable all enabled events at a given time.

Syntax:

```
ELS>CLEAR
```

Example :

```
ELS>CLEAR  
Do you want to disable all active events?(Y/N)(N): y  
ELS>
```

c) DISABLE

Selects and disables events so that their messages are not displayed on the screen in the VISEVEN process, nor sent as propriotor alarms or SNMP traps. It is possible to disable groups and subsystems. Additionally this permits you to disable the use of the events filter.

Syntax:

```
ELS>DISABLE  
ALL  
    EVENT <subsystem.event_num>  
    GROUPS <nom_group>  
    SUBSYSTEM <subsystem> <filtered_layer>  
ALARM  
    EVENT <subsystem.event_num>  
    GROUPS <nom_group>  
    SUBSYSTEM <subsystem> <filtered_layer>  
FILTER  
TRACE  
    EVENT <subsystem.event_num>  
    GROUPS <nom_group>  
    SUBSYSTEM <subsystem> <filtered_layer>
```

```
SNMP-TRAP
  EVENT <subsystem.event_num>
  GROUPS <nom_group>
  SUBSYSTEM <subsystem> <filtered_layer>
```

Example 1:

```
ELS>DISABLE TRACE EVENT ICMP.001
ELS>
```

This example disables the ICMP.001 individual event so it is not displayed on screen.

Example 2:

```
ELS>DISABLE ALARM GROUP MYGROUP
ELS>
```

This example disables the MYGROUP group so it is not sent as a proprietor alarm.

Example 3:

```
ELS>DISABLE ALL SUBSYSTEM IP INFO
ELS>
```

This example disables the INFO filter level events of the IP subsystem so that it is not displayed nor sent as an alarm or SNMP trap.

d) ENABLE

Selects and enable events so that their messages are displayed on the screen in the VISEVEN process, sent as proprietor alarms or traps. It is possible to enable groups and subsystems. Additionally this permits you to enable the use of events filtering.

Syntax:

```
ELS>ENABLE
ALL
  EVENT <subsystem.event_num>
  GROUPS <nom_group>
  SUBSYSTEM <subsystem> <filtered_layer>
ALARM
  EVENT <subsystem.event_num>
  GROUPS <nom_group>
  SUBSYSTEM <subsystem> <filtered_layer>
FILTER
TRACE
  EVENT <subsystem.event_num>
  GROUPS <nom_group>
  SUBSYSTEM <subsystem> <filtered_layer>
SNMP-TRAP
  EVENT <subsystem.event_num>
  GROUPS <nom_group>
  SUBSYSTEM <subsystem> <filtered_layer>
```

Example 1:

```
ELS>ENABLE TRACE EVENT ICMP.001
ELS>
```

This example enables the ICMP.001 individual event so it is displayed on screen.

Example 2:

```
ELS>ENABLE ALARM GROUP MYGROUP
ELS>
```

This example enables the MYGROUP group so it is sent as a proprietor alarm.

Example 3:

```
ELS>ENABLE ALL SUBSYSTEM IP INFO
ELS>
```

This example enables the INFO filter level events of the IP subsystem so that it is displayed or sent as an alarm and an SNMP trap.

IMPORTANT: Do not execute this command during long periods of time while the device is transferring packets since a great deal of time will be spent in communicating with the VISEVEN process. If you execute this command when this is communicating with the Teldat Router through a remote terminal, this may give rise to the device spending most of its time communicating with the remote terminal.

e) FILTER

Displays the status of the events filtering and permits you to add, change or delete filters individually. Simply press intro when you do not wish to execute any operation. You need to enable the filter through the **ENABLE FILTER** command in order to activate it.

For further information, please see the **FILTER** command found in the events configuration menu.

Syntax:

```
ELS>FILTER
          EVENT FILTER
State: enabled
 1) 172.24.78.94 /-1 -> Excl
 2) Rx /1 -> Red
 3) --- - ---
 4) --- - ---
 5) --- - ---
 6) --- - ---
 7) --- - ---
 8) --- - ---
 9) --- - ---
10) --- - ---

Entry [0]?
ELS>
```

f) HIDE

Prevents the events from being displayed in the active process. From this point on, the events can only be viewed from the VISEVEN process.

This command is available from any process although it does not appear when requesting all the available commands. In order to execute this, you must enter the full command name.

Syntax:

```
ELS>HIDE
```

Example :

```
ELS>HIDE
ELS>
```

g) LIST

Lists information on events enabled, groups created and subsystems.

Syntax:

```
ELS>LIST ?
ACTIVE
EVENT
GROUP
SUBSYSTEM
```

LIST ACTIVE

Example :

```
ELS>LIST ACTIVE ARP
Actives      Count   Trace   Alarm   Snmp-Trap
ARP.001      0       on      off     off
ELS>
```

This lists the enabled events in the ARP subsystem, the number of times that each event has occurred and the enabling vector of each event.

Note: Events with ALWAYS filter levels are always enabled to be displayed on screen and to be sent as alarms and traps (e.g. GW.001). In the same way there are events enabled as traps which cannot be disabled as they generate the SNMP generic traps (e.g. GW.021 @ link up).

LIST EVENT

Example :

```
ELS>LIST EVENT ICMP.001
Level: UE-ERROR
Message: bd cks 0x%04x (exp 0x%04x) %I -> %I

Count: 0 Status: enable as (Trace) (Alarm) (SNMP Trap)
ELS>
```

Lists the ICMP.001 event information.

Let's suppose that the event is enabled to be displayed on screen, sent as proprietor alarm and a specific company trap, the information that we can receive is shown in the example.

LIST GROUP

Example :

```
ELS>LIST GROUP
Group: MYGROUP
Event      Trace   Alarm   Snmp-Trap
IP.002     on      on      off
IP.003     on      on      off
IP.004     on      on      off
Globally enable as: (Trace) (Alarm)
ELS>
```

This shows the group name, the set of events which it is composed of, the enabling status of each event and the current global status of group enabling.

If all the group events are enabled to be displayed on screen and some to be sent as traps and alarms, the information we receive is as shown in the example.

LIST SUBSYSTEM

Example 1:

```
ELS>LIST SUBSYSTEM ICMP
Event      Level      Message
ICMP.001   UE-ERROR   bd cks 0x%04x (exp 0x%04x) %I -> %I
ICMP.002   C-INFO     ech %I -> %I
ICMP.003   U-INFO     ech rp %I -> %I
ICMP.004   CI-ERROR   unhnd typ %d %d %I -> %I
ICMP.005   U-TRACE    unhnd brd typ %d %d %I -> %I
ICMP.006   UE-ERROR   bd typ %d %d %I -> %I
ICMP.007   C-INFO     addr msk %I -> %I
ICMP.008   C-TRACE    addr msk rep %I -> %I
ICMP.009   UI-ERROR   no pkt or mem
ICMP.010   UE-ERROR   amb addr msk %I -> %I
```

```

ICMP.011      UI-ERROR  err %d sndng pkt to nt %d int %s/%d
ICMP.012      C-INFO   rdr %I -> %I to %I
ICMP.013      U-INFO   bd prm off %d %I -> %I
ICMP.014      U-TRACE  snd %d %d pkt %I -> %I
ICMP.015      UE-ERROR  shrt ICMP hdr %d src %I
ICMP.016      U-TRACE  %I rdr dest %I to %I
ICMP.017      UE-ERROR  Bad rdr from %I, rsn: %S
ICMP.018      U-TRACE  Router advertisement received from %I
ICMP.019      UE-ERROR  Bad router adv from %I, rsn: %S
ICMP.020      U-INFO   rcvd typ %d %d %I -> %I
ELS>

```

Example 2:

```

ELS>LIST SUBSYSTEM o LIST SUBSYSTEM ?
Name      Events  Description
ARP        9        Address Resolution Protocol
BAN        29        Boundary Access Node
BR         29        Bridge/Routing
CIF        24        Encryption
DLS        457       Data Link Switching
ETH        49        Ethernet
FLT        7        Filter Library
FR         53        Frame Relay
FRBK       8        Frame Relay BACKUP
FTP        4        File Transfer Protocol
GSTP       1        Proprietary management (Teldat)
GW         58        Router kernel
H323       6        H323
ICMP       20        Internet Control Message Protocol
IP         86        Internet Protocol
IPPN       27        IP Tunnel
ISDN       26        Integrated Services Digital Net
LLC        33        Logical Link Control
MCF        9        MAC Filtering
NBS        50        NetBIOS Support Subsystem
PPP        100       Point to Point
Q933       20        Q933
RADIUS     50        Remote Authentication Dial In User Service
RIP        28        IP Routing Information Protocol
SDLC       95        IBM SDLC
SL         35        Serial Line
SNMP       18        Simple Network Management Protocol
SPF        61        Open SPF-Based Routing Protocol
SRT        87        Source Routing Transparent Bridge
STP        32        Spanning Tree Protocol
TCP        55        Transmission Control Protocol
TKR        46        Token Ring
TNIP       20        IP Tunnel
UDP        4        User Datagram Protocol
X252       23        X.25 Layer 2
X253       25        X.25 Layer 3
ELS>

```

h) RESTORE configuration

This permits you run the information existing in the configuration without having to previously record it and reset the system. This is a useful tool for checking the configuration to be saved for problems.

Syntax:

```
ELS>RESTORE
```

Example :

```

ELS>RESTORE
Do you want to restore ELS configuration?(Y/N)(N): y
ELS>

```

i) SYSLOG

Permits you to view the logs saved in the non-volatile memory as well as to initialize this.

Syntax:

```
ELS>SYSLOG ?  
LIST  
CLEAR
```

SYSLOG LIST

Permits you to select the number of logs to be displayed on the console.

Example :

```
ELS>SYSLOG LIST  
Number of logs showed [0 - all]:[0]?  
  
06/25/03 16:18:17 -1- RESET:(CODE c0000000) EH ES  
BIOS CODE VERSION: 01.07.00C START FROM FLASH  
  
06/25/03 16:18:13 -3- Restart issued by the user  
  
06/25/03 12:19:07 -1- Logging memory initialized.ELS>  
ELS>
```

For each log displayed the following information is given: the date and the time the event took place, the priority associated to the said log (between hyphens) and a text containing information relative to the event.

SYSLOG CLEAR

Initializes the bugs system, deleting all previous ones.

Example :

```
ELS>SYSLOG CLEAR  
ELS>SYSLOG LIST  
Number of logs showed [0 - all]:[0]?  
  
06/25/03 16:23:45 -1- Logging memory initialized.  
ELS>
```

j) VIEW

Permits the events to be displayed in the active process. From this point on, the events cannot be viewed from the VISEVEN process.

This command is available from any process although it does not appear when requesting all the available commands. In order to execute this, you must enter the full command name.

Syntax:

```
ELS>VIEW
```

Example :

```
ELS>VIEW  
ELS>
```

k) EXIT

This allows you to exit the Event Logging System monitoring and return to + prompt.

Syntax:

```
ELS>EXIT
```

Example :

```
ELS>EXIT  
+
```

Appendix
Personalized parameters



1. Supported personalized parameters

There are three commands in the configuration prompt used to control the personalized versions in the router:

ENABLE PATCH. This command allows you to apply a personalized parameter by introducing its name and the value it must have in order to modify the required behavior.

DISABLE PATCH. This command allows you to deactivate an active parameter.

LIST PATCH. This command allows you to consult the list of active parameters.

The possible patches are the following:

ARPI_SND_LCL

Through this patch you can modify the behavior of the Inverse ARP protocol.

Value: 0 The Inverse ARP does not send the internally configured IP address.

Value: 1 The Inverse ARP sends the internally configured IP address.

This value has an immediate effect (dynamic) without needing to re-start the device.

DEFAULT

Through this parameter you can deactivate all the active personalized parameters in the router at the same time.

DLS_GIVE_MEM

Given the insufficient memory produced when the DLS is operating, this parameter is created so the DLS can release a part of the memory assigned to its congestion pool. I.e. you can remotely download using FTP even when the DLS is active, something which up until now was not possible due to inadequate memory. Although this option does use DLS memory, there is a minimum of 1 Mb that is always kept free for operation purposes.

Value: 0 The DLS will try to use all the memory reserved for its congestion pool.

Value: x The DLS will try to free the memory indicted by 'x'.

This value indicates the amount of reserved memory which is not used by the DLS for its congestion pool. This parameter only takes effect when the router is switched on or reset. **THIS IS NOT DYNAMICALLY APPLICABLE.**

DLS_IAMOKAY_TMR

This patch permits you to modify the time between IAMOKAY (keepalive RFC-1795) messages sent by the TCP links established by the DLSw. This is inserted from releases 8.3.30, 8.6.10 and 9.0.3.

Value: 0 The patch is not applied. Default timing is 60 seconds.

Value: x Timer in seconds between IAMOKAY messages.

DLS_IGNORE_LFS

DLSw uses the FLS bits from the RIF field and the SSP messages in order to find out if the established routes support the necessary frame length. If at some point the frame length cannot be supported the DLSw will not connect. The DLSw can ignore the LFS bits content of these fields and permit the connection at all times through this parameter.

Value: 0 DLSw tests the LFS bits content in order to discard routes and connections.

Value: 1 DLSw ignores the LFS bits content.

DLS_PASS_ABM

In the SDLC and QLLC links, the machines deactivate the XID-3 ABM_SUPP bit. This parameter allows the bit to pass instead of setting it to '1' when it passes the XID-3 towards the DLS network (SSP Messages).

Value: 0 DLSw sets the ABM_SUPP bit to 1 in the XID-3 received from the SDCL and QLLC.

Value: 1 DLSw sets the ABM_SUPP bit to 1 only in the XID-3 received from QLLC.

Value: 2 DLSw sets the ABM_SUPP bit to 1 only in the XID-3 received from the SDCL.

Value: 3 DLSw DOES NOT CHANGE the ABM_SUPP bit in the XID-3 received from the SDCL and QLLC.

DLS_USE_QRR

In activating the QLLC, link, the DLSw can send a QRR message when the whole data path has been activated in order to inform the other end. This means it is as if the QLLC link, once established, remains in a RNR state until the whole path is activated. Some stations need to receive this type of message in order to move on to the data transfer stage.

Value: 0 DLSw does not send QRR when the whole link is completely activated.

Value: 1 DLSw sends QRR when the link is completely activated.

FTP_ALLO_STGY

This patch permits you to define the memory use strategy for the temporary buffer driver of the FTP server. The patch value consists of the sum of the flags used.

Value: 0 This is not applied to the patch.

Flag: 1 Does not use the unused memory zone.

Flag: 2 Does not use the permanent pool memory (POOLP).

- Flag: 4 Does not use the temporary pool memory (POOLT).
- Flag: 8 Does not use the public buffer memory. (POOLI).
- Flag: 10 Uses the free memory until no more blocks can be introduced.
- Flag: 20 Uses the POOLP until no more blocks can be introduced.
- Flag: 40 Uses the POOLT until no more blocks can be introduced.
- Flag: 80 Uses the POOLI until the buflow mark is reached.

ISDN_NUMBER_PLAN

This patch permits you to control the type of number and the numeration plan of the called ISDN number. This is inserted from releases 8.3.11 and 8.4.3 onwards.

- Value: 0 Uses the value 0x80 = Num UNKNOWN - Plan UNKNOWN.
- Value: x Uses the programmed value (Values 0x01 – 0xFF).

- 129 (0x81) ISDN numeration plan.
- 131 (0x83) Data numeration plan.
- 144 (0x90) International Number.
- 160 (0xA0) National Number.
- 192 (0xC0) Subscribers Number.

NO_TEST_FRAMES

DLSw sends TEST frames to the SDLC links when the physical signals are activated to check if the station is active or not. As some stations do not admit these frames, this parameter can override this behavior.

- Value: 0 DLSw sends TEST frames to the SDLC links.
- Value: 1 DLSw does not sent TEST frames to the SDLC links.

QLL_NO_XID

This patch avoids the sending of empty QXIDs (NXID) through the X.25 link in the QLLC connections handling the DLSw. This is inserted from versions 8.3.11 and 8.4.3 onwards.

- Value: 0 Normal operation. NXID is sent.
- Value: x NXIDs are not sent through the X.25 link in the QLLC connections.

RIP_NO_TTL_1

This patch permits the RIP packets originating in the device to not have a TTL equal to 1; this function is useful when the RIP packet is destined for a device where more than one hop is necessary and there are intermediate nodes that diminish the TTL.

- Value: 0 Normal operation (The RIP sends the broadcast/multicast packets with TTL set to 1)
- Value: x The RIP sends the broadcast/multicast packets with the TTL set to default (60)

SRE_INT_FLAGS

This patch permits you to modify the events logging system behavior. Normally it is not necessary to use this, but it is useful to have this patch for debugging and development effects. The patch value is the sum of the flags used.

- Value: 0 Normal event logging system operation.
- Flag: 1 The event logging system stops introducing events in the round viewing buffer when this is full. This means that when the events cannot be viewed and the buffer is full, CPU time is not consumed thus increasing performance. The secondary effect of this is that the latest events to arrive are lost, not the oldest.
- Flag: 2 In viewing, the time and date do not appear as it does not consult the real time clock and the performance is improved.

TCP_MAXTIME

This patch permits you to define a timeout period where TCP connections that do not respond can be considered lost instead of carrying this out by number of retransmissions.

- Value: 0 Normal operation (9 retransmissions are carried out).
- Value: x Number of timeout seconds where a TCP connection that does not respond can be considered as down.

TX_ARE_SRTB

This patch permits you to launch ARE frames instead of SRB frames when the bridge needs to discover routes in order to transmit frames from the TB domain towards to SR domain. This patch is NOT DYNAMICALLY APPLIED.

- Value: 0 Normal operation (SRB frames are sent).
- Value: 1 Patch is active (ARE frames are sent).

XOT_NO_FACI

This patch allows Packet Size and Window negotiation facilities not to be sent by the XOT system if the source and destination ports coincide.

- Value: 0 Always sends the 2 facilities by XOT (RFC 1613 Compatible).
- Value: 1 Does not sent the 2 facilities if the source and destination ports coincide.

XOT_NOKALIVE

This patch permits you to deactivate the sending of the KEEPALIVE in the XOT system TCP connections. The value of this patch consists of the sum of the flags used.

- Value: 0 Normal operation.
- Flag: 1 Deactivates the KEEPALIVE in the TCP connections originating in the device or active.

Flag: 2 Deactivates the KEEPALIVE in the TCP connections received in the device or passive.

X25_IGNORE_DTR

This patch permits you to ignore the state of the DTR signal (Driver in DCE mode) or DSR (Driver in DTE mode) in the X.25 links. The value of the patch consists of the sum of the flags used. This is inserted from releases 8.3.30, 8.4.19, 8.6.9 and 9.0.2 onwards.

Value: 0 The patch is not applied.
Flag: 1 DTR/DSR is ignored in line 1.
Flag: 2 DTR/DSR is ignored in line 2.
Flag: 4 DTR/DSR is ignored in line 3.
Flag: 8 DTR/DSR is ignored in line 4.
Flag: 16 DTR/DSR is ignored in line 5.
Flag: 32 DTR/DSR is ignored in line 6.