C H A P T E R 7

ONSCLI Command Line Interface

ONSCLI is a line oriented ASCII based management interface to the ONS 15302, by means of which simple commands (possibly with parameters) may be issued to access or modify the ONS 15302 configuration.

7.1 User Interface

The ONSCLI uses a UNIX style, character based user interface that allows you to communicate directly and provides commands that allows users to add, delete, and configure objects, alarms, and parameters.

7.1.1 Document Conventions

Many commands available in the ONSCLI have parameters that allow you to configure specific aspects of a given command. Command parameter syntax follows rules that help the user identify which parameters are optional, which are required, which need to be repeated, and so on. These rules follow in the next tables:

Table 7-1 Documents Conventions

Convention	Description
string	A string is a nonquoted set of characters shown in italics. For example, when setting an SNMP community string to public, do not use quotation marks around the string or the string will include the quotation marks.

Table 7-2 Syntax Conventions

Convention	Description
boldface	Command or keyword that you must enter.
<italic>	Parameter or argument for which you supply a value.
[x]	Optional keyword or argument that you may enter.
|	Choice within an optional or required set of keywords or arguments.
[x | z]	Keywords or arguments separated by a vertical line indicate an optional choice.

7.1.2 User Privileges

The user privileges are split up into three categories.

The read only user is allowed to see and read the commands. This user has no write-privileges.

The read and write users is allowed to read and right commands this means he is allowed to execute the commands.

The super user has privileges to manage the system and to change IP address and subnet mask.

7.1.3 Login

ONSCLI is accessed via the VT100-port or via an IP connection (Telnet). The serial connection communications parameters are fixed (Table 7-3). VT100 terminal codes are used. The system prompted for a user name and a password before access is granted.

Table 7-3   EIA/TIA 232 Parameters

Parameter	Value
Speed	19200 bps
Data bits	8
Parity	None
Stop bits	1
Flow control	None

The VT100-port (Console port) for the ONS 15302 is provided using a RJ-45 connector.

Invoke an ONSCLI Session

An ONSCLI session is invoked by typing ONSCLI at the CLI terminal.

User authentication (a password containing between 8 and 12 ASCII characters, with no case sensitivity) is required, as the following session start-up sequence shows:

```
>
>ONSCLI

--------------------------------------------------
        ONS 15302 Command Line Interface
--------------------------------------------------

Enter ONSCLI password: ******

ONSCLI>
```

Note   The default password for the ONS 15302 is ONSCLI.

Incorrect Password

Each password characters is echoed as **. An incorrect password is rejected with the message:

```
invalid password
```

After the password is rejected, the password prompt is re-issued.

> **Note** The number of attempts is 3.

An authorized ONSCLI user has full access rights to the available management information.

Exit

The **Exit** command is used to terminate an ONSCLI session. The ONSCLI session is automatically terminated after a period of 30 minutes of inactivity. ONSCLI does not accept simultaneous sessions.

Syntax Rules

An ONSCLI command line begins with a prompt (issued by ONSCLI), which serves to indicate the current position in the command hierarchy.

An ONSCLI command is issued by typing the command followed by **Enter**. Optionally, and only at the lowest level in the command hierarchy, one or more parameters can also be supplied. These are identified by keywords. The command name, parameter keywords, and parameter values are delimited by one or more spaces. Command line editing features are listed in Table 7-4.

> **Note** It is only necessary to type sufficient leading characters of the command name to avoid ambiguity—the same applies to keywords.

Backspace or Delete may be used to edit the command line. Commands and keywords are Not case sensitive, although for clarity they are written in this document using both upper and lowercase letters. A list of valid commands that have been issued in the current session is maintained in a command history.

Table 7-4   Command Line Editing Features

Key	Result
Delete or Backspace	Erases the character in the command line.
Arrow left	Moves the cursor to the left side.
Arrow right	Moves the cursor to the right side.
Arrow Up	Recalls the previous command in command history.
Arrow Up	Recalls the previous command in command history.
Return or Enter	At the command line, processes a command.
..	Returns to the previous command level.
\	Goes to the top command level.
?	Issues a list of commands valid at the current level, or shows the command usage.

ONSCLI Commands are listed in Table 7-5

Table 7-5   ONSCLI Commands

Command	Result
Free	Shows VC-12 containers that are not yet utilized.
Used	Lists the VC-12 container(s) in use.
Status	Presents current device and port status.
Exit	Exits ONSCLI.

Some commands (in particular the show command) can potentially produce many lines of output. After a predetermined number of lines of output in response to a single command, the user is prompted to enter y(es) or n(o) to continue the output. The default line number limit is 23 and maximum is 998.

7.2 Basic Command Syntax

A basic command has the following syntax:

```
<basic command>        ::= [<path>]<command> [<parameter>]… <CR>
<path>                 ::= [\]<command\>[<command>\]…
<command>              ::= <command name> | ..
<parameter>            ::= <spaces> <keyword>=<value> | ?
<value>                ::= <integer> |
                             <choice> |
                             <IP address> |
                             <string> |
                             <MAC address> |
                             <NSAP address> |
                             <time> |
                             <date> |
                             <KLM> |
                             <portList> |
                             <port>

<NSAP address>     ::= <area address>:<system id>:<selector>
<portList>         ::= <port>[,<port>]..
<areaAddressList>  ::= <area address>[,<area address>]...

where:

<spaces>       is a string of one or more ASCII spaces;

<integer>      is a decimal integer in the range [m:n], where the values m and n are
               context-dependent;

<choice>       is a literal string, whose permissable values and their significance are
               context-dependent and may be obtained by using the help ("?") parameter;

<IP address>   is an IP address of the form ddd.ddd.ddd.ddd,  where d is a decimal digit.
               Leading zeroes in each ddd may be omitted;

<string>       is a string of graphical ASCII characters, excluding  quotation marks (").
               If the string contains one or more spaces, then it MUST be enclosed in
               quotation marks. The maximum length of the string is context-dependent;

<MAC address>  is exactly 12 hexadecimal digits;

<time>         is a time-of-day of the form hh:mm:ss, where h, m and s are decimal digits;
```

```
<date>         is a date of the form dd/mm/yy, where d, m and y are decimal digits;
<KLM>          is a string of the form k.l.m,  where k is a decimal digit in the range
               [1:3],  l is a decimal digit  in the range [1:7], and  m is a decimal digit
               in the range [1:3].
<port>         is a decimal integer;
<area address> is a hexadecimal string;
<system id>    is a hexadecimal string;
<selector>     is a hexadecimal string;
```

The Help Command

The help command **?** will display all available commands at the current level, each with a short description. E.g. typing **?** at the root level will list the commands which are available at this level:

```
ONSCLI>?

*** current menu path:
<root>

*** valid commands:
Device:     Device configuration
Ports:      Port properties
Bridge:     Bridge/Spanning Tree Protocol settings
Security:   Security settings
Statistics: Performance monitoring and statistics
Services:   Utility functions
Alarms:     Current alarms and alarm history
Status:     Device status
Free:       List of free VC12
Used:       List of used VC12
Exit:       Exit from ONSCLI
```

Command Hierarchy

In the command hierarchy, the lowest level is represented by a basic command with one or more parameters.

Example 7-1 modifies only the IP address.

Example 7-1   Selecting the IP Address

ONSCLI\Device\Management-Configuration\Management-Mode MODE=ipManagementPort

ONSCLI\Device\Management-Configuration\IP-Management-Port\ IP-Configuration IP-ADDRESS=193.69.136.104

For most commands, if no parameters are supplied then all the current parameter values are displayed (Example 7-2).

Example 7-2   Displays the IP Configuration

ONSCLI\Device\Management-Configuration\IP-Management-Port\IP-Configuration

Example 7-2 displays the current management interface information in the following manner:

```
IP-ADDRESS:193.69.136.104
```

```
SUBNET-MASK: 255.255.255.0
DEFAULT-GATEWAY: 193.69.136.54
```

If the help parameter (**?**) is supplied, then all other parameters are ignored and the basic command usage is displayed.

Table entries are accessed by introducing an additional command level giving access to the entire table. At this lowest level, the **Add** command (with the index and required table entries as parameters) can be used to add an element to the table and the **Edit** command can be used to replace an existing element in the table (if these operations are permitted on the table).

Similarly the **Remove** command (with the entry index as a parameter) can be used to remove an existing element from the table if this is permitted.

The **Show** command (with an entry index value as a parameter) displays the specified table entry. If no parameter is supplied with the **Show** command, the current contents of the entire table is displayed.

ONSCLI Error Messages

SNMP Errors

The general ONSCLI output string for SNMP errors is **MIB access error**. Additional SNMP error information might be printed depending on the return code (Table 7-6).

Table 7-6   Additional ONSCLI SNMP Error Messages

Error Message (Output String)	Description
No Such Object	Scalar or table entry not found
End Of MIB View	End of table reached
No Creation	Creation of new entry failed
Not Writable	Accessed instance write protected
Wrong Length	Wrong specified field length
Wrong Value	Wrong value used for specified field
Inconsistent Value	Wrong value used for specified field
Resource Unavailable	Instance status not free for update
General Error	No additional error info
No Write To CDB	Write to Flash failed
Instance Exists	Table entry already exists

Input Errors

Error messages due to mistyping or incorrect ONSCLI input format are shown in Table 7-7.

Table 7-7   ONSCLI Input Error Messages

Error Message (Output String)	Description
Unknown parameter specification	Input parameter incorrectly specified
Ambiguous parameter specification	Parameter value out of range
Multiple parameter specification	Input parameter specified twice

Table 7-7   ONSCLI Input Error Messages (continued)

Error Message (Output String)	Description
Missing parameter specification	Mandatory parameter missing
Incompatible parameter specification	Wrong combination of parameters
Missing value	Wrong formatted or empty input value
Invalid integer value	Wrong input integer value
Invalid choice value	Input value (set element name) not found
Invalid length of string value of	Input string too long
Badly-formed string value of	Input string incorrectly formatted
Invalid IP address	IP address incorrectly formatted
Invalid length of hex string	Length of hex string not according to input requirement
Invalid character in hex string	Hex value used to define a digit is out of range.
Invalid escape sequence in string	'\0' value detected inside the string
Bad value	Incorrectly formatted input value
Integer out of range	Input integer value is not within limits.
List too long	List of integers longer than 10
Badly-formed list	Incorrect integer value found in integer list
Table empty	No entries found in SNMP table
Element not in table	Specified entry not found in SNMP table
This command is not available in this release	Command not supported
No modification parameters found	Modification command with no modification values received

ONSCLI Menu Structure

The complete ONSCLI command hierarchy for ONS 15302 is describes in Chapter 8, "ONSCLI Command Hiearchy.".