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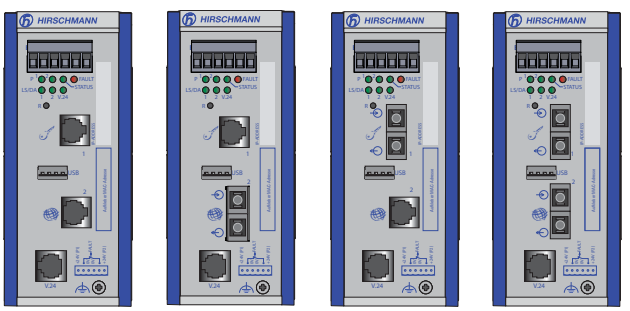
Reference Manual

Command Line Interface (CLI)
Industrial Ethernet Firewall
EAGLE



```
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                          EAGLE Release SDV-05.0.00

                        (Build date 2010-08-08 08:08)



                      System Name:  EAGLE20 Name
                      Netw. Mode :  transparent
                      Mgmt-IP    :  a.b.c.d
                      Base-MAC   :  00:11:22:33:44:55
                      System Time:  SUN AUG 08 08:08:08 2010


EXAMPLE
        EXAMPLE
                EXAMPLE
                EXAMPLE

NOTE: Enter '?' for Command Help.  Command help displays all options
      that are valid for the particular mode.
      For the syntax of a particular command form, please
      consult the documentation.

*(Hirschmann Eagle) >
```

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About this Manual

The "Command Line Interface Reference Manual” contains detailed information on using the Command Line Interface to operate the individual functions of the device.

The “Configuration” user manual contains all the information you need to start operating the Industrial Ethernet Firewall EAGLE. It takes you step by step from the first startup operation through to the basic settings for operation in your environment.

The "Web-based Interface" reference manual contains detailed information on using the Web interface to operate the individual functions of the device.

The “Installation” user manual contains a device description, safety instructions, a description of the display, and the other information that you need to install the device.

The Network Management Software HiVision/Industrial HiVision provides you with additional options for smooth configuration and monitoring:

- Configuration of multiple devices simultaneously.
- Graphical interface with network layouts.
- Auto-topology discovery.
- Event log.
- Event handling.
- Client / Server structure.
- Browser interface
- ActiveX control for SCADA integration
- SNMP/OPC gateway

Key

The designations used in this manual have the following meanings:

▶	List
☐	Work step
■	Subheading
Link	Indicates a cross-reference with a stored link
Note:	A note emphasizes an important fact or draws your attention to a dependency.
`Courier`	ASCII representation in user interface

1 Introduction

1.1 Industrial Ethernet Firewall

1.1.1 Application areas

The EAGLE industrial firewall/VPN system ensures the authentication, security and confidentiality of communication within production networks, but also beyond company boundaries.

The EAGLE supports the following network modes:

- Transparent Mode
- Router Mode
- PPPoE Mode

1.1.2 Operating modes

This device protects the network to be secured (secure port) from external influences (non-secure port). These influences can include deliberate attacks or unauthorized access attempts, as well as interfering network events such as overloads.

- State on delivery

  On delivery, the device works in the Transparent Mode. In this mode, no network settings (e.g., for subnetworks) are required for operation.

  The firewall has been preconfigured so that all IP traffic from the secure network is possible; however, traffic from the insecure network to the secure one is not possible. Thus, already in the delivery state, external attacks on the secure network are not possible.

- Modes

  - **Transparent Mode**

    In transparent mode, the Firewall transmits on level 2 of the ISO/OSI layer model. The IP address ranges before and after the Firewall are located in the same subnetwork.
    In the state on delivery, you can access the device via address 192.168.1.1/24 without configuring the IP address.

- **Router Mode**
  In router mode, the Firewall transmits on level 3 of the ISO/OSI layer model. The IP address ranges before and after the Firewall are located in different subnetworks. You will find a detailed description of the IP configuration in the “Basic Configuration” user manual of the EAGLE.
- **PPPoE Mode**
  In PPPoE Mode, the EAGLE works like in the router mode, with the difference that the PPPoE protocol is used at the external port. This enables Internet connections via a DSL modem, for example.

1.2 User interfaces

The device has three user interfaces, which you can access via different interfaces:

- System monitor via the V.24 interface (out-of-band)
- Command Line Interface (CLI) via the V.24 connection (out-of-band) or via SSH (in-band)
- Web-based interface via Ethernet (in-band)

1.3 Command Line Interface

The Command Line Interface enables you to use all the functions of the device via a local or remote connection. This enables you to securely administer the firewall via V.24 or via the Secure Shell (SSH) protocol. You can also define rules to secure the access and the administration.

The Command Line Interface provides IT specialists with a familiar environment for configuring IT devices. As an experienced user or administrator, you have knowledge about the basics and about using secure shell (SSH) connections.

The “Command Line Interface” reference manual gives you step-by-step information on using the Command Line Interface (CLI) and its commands.

The commands in the Command Line Interface of the EAGLE 20 Firewall can be divided into the following areas:

- Authentication
- Delete
- Copy
- Denial of Service
- Device Status
- Interface
- Logging
- NAT (Network Address Translation)
- Network
- Packet Filter
- Profiles
- Signal contact
- SNMP Trap (Simple Network Management Protocol)
- SNTP (Simple Network Time Protocol)
- Users
- Display

2 Access to CLI

2.1 Preparing the connection

Information for assembling and starting up your EAGLE Industrial Ethernet Firewall can be found in the “Installation” user manual.

Information for configuring your EAGLE Industrial Ethernet Firewall can be found in the “Configuration” user manual.

☐ Connect your Firewall with the network.
The network parameters must be set correctly for the connection to be successful.

You can access the user interface of the Command Line Interface with the freeware program “PuTTY”. This program is located on the product CD.

☐ Make sure that PuTTY is installed on your computer.
If the required programs are not already installed on your PC, please install them.

2.2 CLI via SSH (Secure Shell)

☐ Start the PuTTY program on your computer.

PuTTY appears with the login screen (see fig. 1).

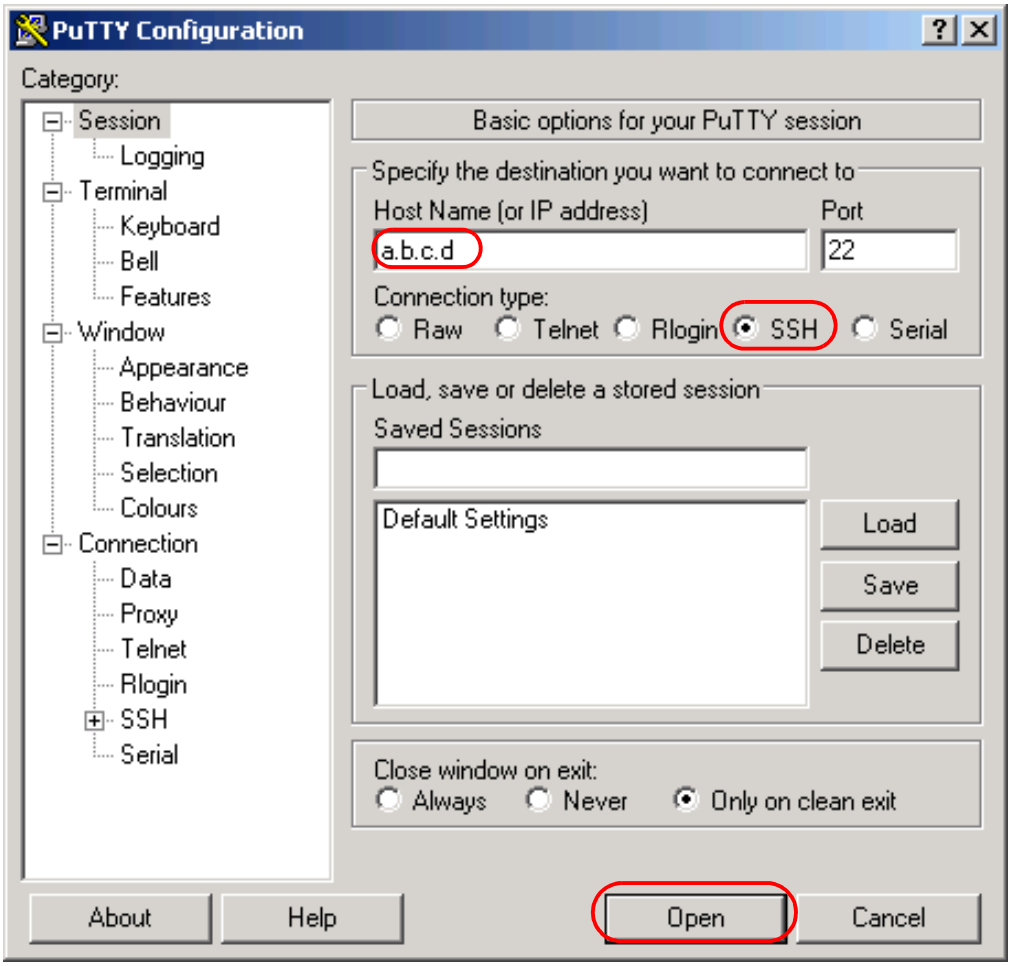

Figure 1: PuTTY input screen

☐ In the `Host Name (or IP address)` input field you enter the IP address of your device.
The IP address (a.b.c.d) consists of four decimal numbers with values from
0 to 255. The four decimal numbers are separated by a point.

☐ To select a connection type, click on `SSH` under `Connection type`.

☐ After selecting and setting all the required parameters, you can set up the connection via SSH.
Click “Open” to set up the connection to your device. Depending on the device and the time at which SSH was configured, it can take up to a minute to set up the connection.

When you first login to your device, towards the end of the connection setup, PuTTY displays a security alert message and gives you the option of checking the fingerprint of the key.

Figure 2: Security alert prompt for the fingerprint

☐ Check the fingerprint to protect yourself from unwelcome guests.
☐ If the fingerprint matches that of the device key, click “Yes”.

You can read the fingerprints of the device key with the CLI command “show login” or in the Web interface, in the “SSH access” dialog.

Note:
The OpenSSH Suite offers experienced network administrators a further option to access your device via SSH. To set up the connection, enter the following command:

```
ssh admin@10.149.112.53
```

`admin` represents the user name.
`10.149.112.53` is the IP address of your device.

CLI appears on the screen with a window for entering the user name.
Up to five users can access the Command Line Interface at the same time.

```
login as: admin
admin@a.b.c.d's password:
```

Figure 3: Login window in CLI

a.b.c.d is the IP address of your device.

☐ Enter a user name. The default setting for the user name is **admin** . Press the Enter key.

☐ Enter the password. The default setting for the password is **private** . Press the Enter key.
You can change the user name and the password later in the Command Line Interface.
Please note that these entries are case-sensitive.

The start screen appears.

Note: This device is a security-relevant product. For your own security, change the password during the first startup procedure.

```
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                          EAGLE Release SDV-05.0.00

                        (Build date 2010-08-08 08:08)



                       System Name:  EAGLE20 Name
                       Netw. Mode :  transparent
                       Mgmt-IP    :  a.b.c.d
                       Base-MAC   :  00:11:22:33:44:55
                       System Time:  SUN AUG 08 08:08:08 2010



NOTE: Enter '?' for Command Help.  Command help displays all options
      that are valid for the particular mode.
      For the syntax of a particular command form, please
      consult the documentation.

*(Hirschmann Eagle) >
```

Figure 4: Start screen of CLI.

Your Firewall appears with the input prompt
`(Hirschmann Eagle) >`

2.3 CLI via the V.24 port

A serial interface is provided on the RJ11 socket (V.24 interface) for the local connection of an external management station (VT100 terminal or PC with corresponding terminal emulation). This enables you to set up a connection to the Command Line Interface (CLI) and to the system monitor.

VT 100 terminal settings	
Speed	9,600 Baud
Data	8 bit
Stopbit	1 bit
Handshake	off
Parity	none

The socket housing is electrically connected to the housing of the device.

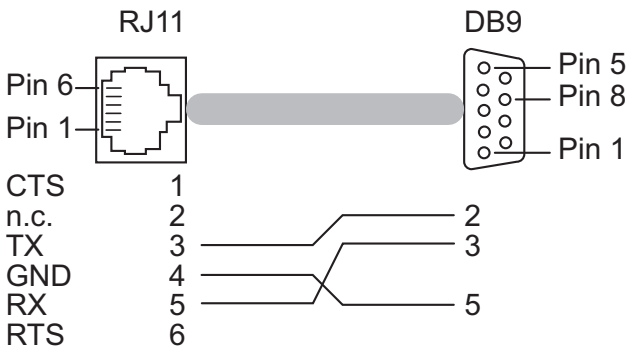

Figure 5: Pin assignment of the V.24 interface and wiring to the DB9 connector

You will find a description of the V.24 interface in the “User Manual Installation”.

☐ Connect the device to a terminal via V.24 or to a “COM” port of your PC using terminal emulation based on VT100, and press any key.

After the connection has been made successfully, a window for entering the user name appears on the screen.

```
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                          Eagle Release SDV-05.0.00

                          (Build date 2010-08-08 08:08)

                        System Name:  EAGLE-000000
                        Netw. Mode :  transparent
                        Mgmt-IP    :  a.b.c.d
                        Base-MAC   :  00:11:22:33:44:55
                        System Time:  SUN AUG 08 08:08:08 2010


(Hirschmann Eagle)
User:
```

Figure 6: Logging in to the Command Line Interface program

- ☐ Enter a user name. The default setting for the user name is **admin** . Press the Enter key.
- ☐ Enter the password. The default setting for the password is **private** . Press the Enter key.
  You can change the user name and the password later in the Command Line Interface.
  Please note that these entries are case-sensitive.

The start screen appears.

```
NOTE: Enter '?' for Command Help.  Command help displays all options
      that are valid for the particular mode.
      For the syntax of a particular command form, please
      consult the documentation.

(Hirschmann Eagle) >
```

Figure 7: CLI screen after login

Note: You can configure the V.24 interface either as a modem interface or a terminal/CLI interface.
However, to be able have at least limited access to the CLI interface in modem mode, you connect your terminal (setting on terminal: 9,600 baud) to the V.24 interface.
Press any key on your terminal keyboard a number of times until the login screen indicates the CLI mode.

3 Using the CLI

3.1 Mode-based command hierarchy

In the CLI, the commands are grouped in the related modes, according to the type of the command. Every command mode supports specific Hirschmann software commands.

The commands available to you as a user at a specific time depend on the mode in which you are currently working. The commands of a specific mode are only available to you when you switch to this mode as a user.

The User Exec mode commands are an exception to this. You can also execute these in the Privileged Exec mode.

The following figure shows the modes of the Command Line Interface.

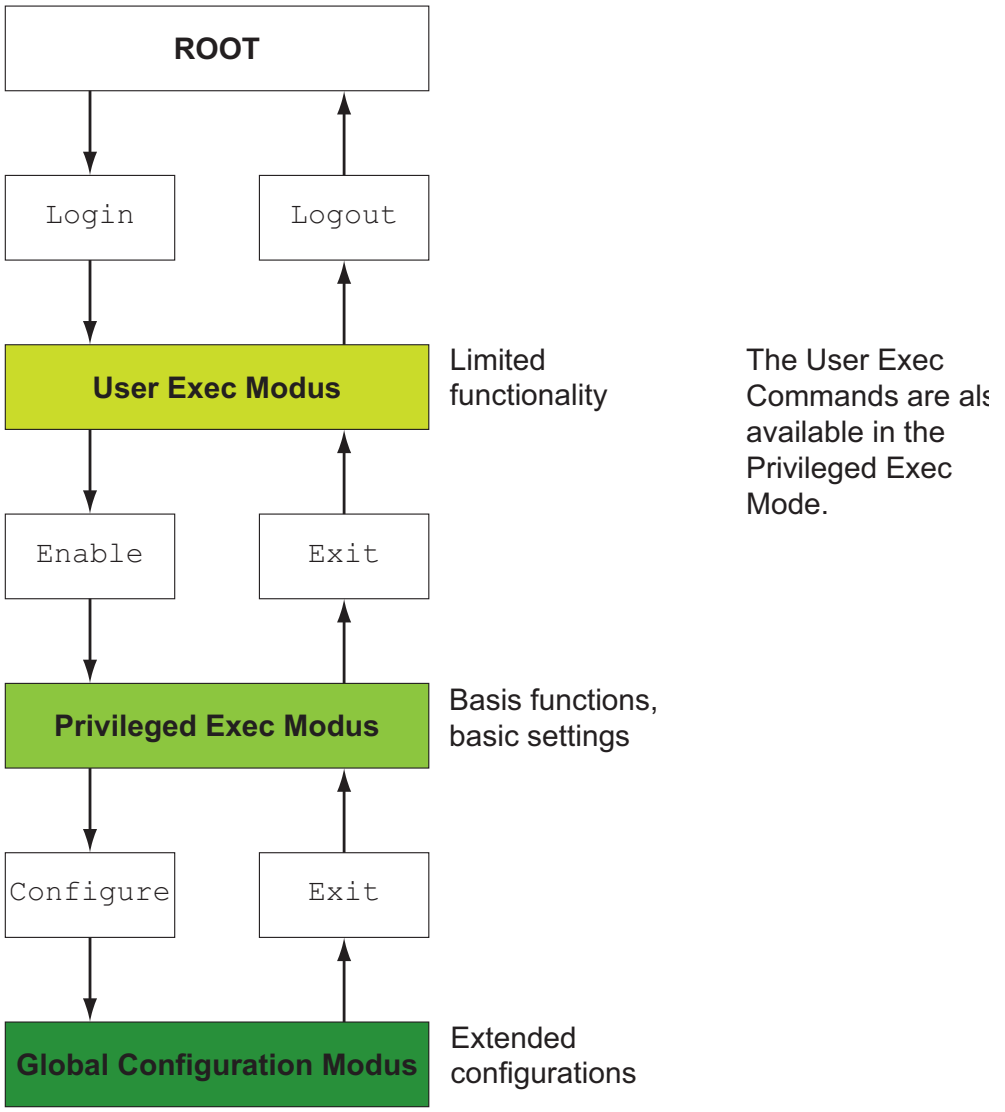

Figure 8: Structure of the CLI

The CLI supports the following modes:

- **User Exec mode**
  When you login to CLI, you first enter the User Exec mode. The User Exec mode contains a limited range of commands.
  Command prompt: `(Hirschmann Eagle) >`
- **Privileged Exec mode**
  To access the entire range of commands, you enter the Privileged Exec mode. In the Privileged Exec mode, you can proceed as a privileged user authenticated by the login. From the Privileged Exec mode you can execute every Exec command.
  Command prompt: `(Hirschmann Eagle) #`
- **Global Config mode**
  This mode allows you to perform modifications to the current configuration. In this mode, general setup commands are grouped together.
  Command prompt: `(Hirschmann Eagle) (config)#`

The following table shows the command modes, the command prompts (input request characters) visible in the corresponding mode, and the option with which you quit this mode.

Command mode	Access method	Quit or start next mode
User Exec mode	First access level. Perform basic tasks and list system information.	To quit you enter `logout`: (Hirschmann Eagle) >logout Are you sure (Y/N) ?y

Privileged Exec mode	From the User Exec mode, you enter the command `enable`:
	`(Hirschmann Eagle) >enable`
	`(Hirschmann Eagle) #`
		To quit the Privileged Exec mode and return to the User Exec mode, you enter `exit`:
		`(Hirschmann Eagle) #exit`
		`(Hirschmann Eagle) >`

Global Configuration mode	From the Privileged Exec mode, you enter the command `configure`:
	`(Hirschmann Eagle) #configure`
	`(Hirschmann Eagle) (config)#`
	From the User Exec mode, you enter the command `enable`, and then in Privileged Exec mode, enter the command `Configure`:
	`(Hirschmann Eagle) >enable`
	`(Hirschmann Eagle) #configure`
	`(Hirschmann Eagle) (config)#`
		To quit the Global Configuration mode and return to the Privileged Exec mode, you enter `exit`:
		`(Hirschmann Eagle) (config)#exit`
		`(Hirschmann Eagle) #`
		To then quit the Privileged Exec mode and return to the User Exec mode, you enter `exit` again:
		`(Hirschmann Eagle) #exit`
		`(Hirschmann Eagle) >`

Table 1: Command modes

If you enter a question mark (?) after the prompt, you receive a list of the available command and a short description of the commands.

```
(Hirschmann Eagle) >?
 enable             Turn on privileged commands.
 help               Display help for various special keys.
 history            Show a list of previously run commands.
 logout             Exit this session.
 ping               Send ICMP echo packets to a specified IP address.
 show               Display device options and settings.
 traceroute         Trace route to a specified host.
```

Figure 9: Commands in the User Exec mode

```
(Hirschmann Eagle) >enable

(Hirschmann Eagle) #?
 clear              Clear several items.
 configure          Enter into global config mode.
 copy               Copy different kinds of items.
 debug              Service functions to find configuration errors.
 exit               Exit from current mode.
 help               Display help for various special keys.
 history            Show a list of previously run commands.
 login              Set login parameters.
 logout             Exit this session.
 network            Modify network parameters.
 ping               Send ICMP echo packets to a specified IP address.
 profile            Activate or delete configuration profiles.
 reboot             Reset the device (cold start).
 save               Save configuration.
 set                Set device parameters.
 show               Display device options and settings.
 traceroute         Trace route to a specified host.
```

Figure 10: Commands in the Privileged Exec mode

```
(Hirschmann Eagle) #configure

(Hirschmann Eagle) (config)#?
 authentication       Configure an authentication list.
 config-watchdog      Configure the Auto Configuration Undo settings.
 denial-of-service    Configure Denial of Service (flood protection)
                      parameters.
 device-status        Configure the device status settings.
 dhcp-relay           Modify DHCP Relay parameters.
 dhcp-server          Modify DHCP Server parameters.
 exit                 Exit from current mode.
 flm                  Control the Firewall-Learning-Mode.
 help                 Display help for various special keys.
 history              Show a list of previously run commands.
 interface            Configure the interface parameters.
 lldp                 Configure the LLDP settings.
 logging              Logging configuration.
 nat                  Configure the NAT settings.
 packet-filter        Configure the packet-filter.
 packet-forwarding    Configure transparent mode packet forwarding
                      settings.
 ping                 Send ICMP echo packets to a specified IP address.
 radius               Configure the RADIUS settings
 redundancy           Configure the redundancy settings.
 save                 Save configuration.
 show                 Display device options and settings.
 signal-contact       Configure the Signal Contact settings.
 snmptrap             Configure SNMPv3 traps.
 sntp                 Configure SNTP settings.
 temperature          Configure the temperature limits.
 traceroute           Trace route to a specified host.
 user-firewall        Configure the user firewall settings.
 users                Manage Users and User Accounts.
 vpn                  Configure VPN settings.
```

Figure 11: Commands in the Global Configuration mode

Note: You will find information on the line feed of the help texts below (see on page 28 „Line length“).

3.2 Executing commands

3.2.1 Syntax analysis

After you login to the CLI session, you enter the User Exec mode. The `(Hirschmann Eagle)>` prompt is displayed on the screen.

The CLI always starts the syntax analysis when you enter a command and press the <ENTER> key. The command tree is searched for the desired command.
If the command is not found, the message displayed informs you of the error.

Example:
The user wants to execute the `show system info` command, but enters this command with a misspelling and presses the <Enter> key.
The CLI then outputs an error message:

```
!(Hirschmann Eagle) >show system ino
Error[1]: Invalid command 'ino'
```

3.2.2 Command tree

The commands in CLI are organized into a tree structure. The commands, and the related parameters if applicable, branch all the way down until you reach the end point. The CLI checks every input to see whether you have entered the command and all parameters completely. Only then can you execute the command with the <Enter> key.

After you have entered the command and all the required parameters, all the other parameters entered are treated as optional parameters. If one of the parameters is unknown, the CLI outputs a syntax error message.

The command tree branches for the required parameters until the required parameters have reached the end point.
With optional parameters, the command tree branches until the required parameters and the optional parameters have reached the end point.

Note: The command “show system commandtree” lists the entire command tree for you.

3.2.3 Structure of a command

This section describes the syntax, conventions and terminology, and uses examples to represent them.

- Format of commands
  Most of the commands are enhanced through parameters.
  If the command parameter is missing, CLI informs you that the syntax of the command is incorrect.

  The commands and parameters are displayed in the `Courier` font in this manual, and they must be used as they are shown in the manual.

Parameters

You must adhere to the sequence of the parameters shown.

Parameters can be required values, optional values, selections, or a combination of these things. You recognize this from the way they are represented, as follows:

- <parameter>
  Pointed brackets indicate a required parameter.
- [parameter]
  Square brackets indicate an optional parameter.
  An entry can be made, but it is not required.
- Option1 | Option2
  The straight slash indicates that one of the options can be selected.
  Both values cannot be selected at the same time.
- {list}
  The {} curved brackets indicate that one parameter must be selected from a list of options.

The following list shows the possible parameter values within the Command Line Interface:

Value	Description
`IpAddress`	This parameter represents a valid IP address. The address consists of 4 decimal numbers with values from 0 to 255. The 4 decimal numbers are separated by a decimal point. The IP address 0.0.0.0 is a valid entry.
`MacAddress`	This parameter represents a valid MAC address. The address consists of 6 hexadecimal numbers with values from 0 to FF. The numbers are separated by a colon, for example, 00:F6:29:B2:81:40.
`String`	User-defined text with a length in the specified range, e.g. a maximum of 32 characters.
`Character string`	Use double quotation marks to indicate a character string, e.g. “System name with space character”.
`Number`	Whole integer in the specified range, e.g. 0...999999.

Table 2: Parameter values in the Command Line Interface

Network addresses

Network addresses are required for the connection to a remote work station, a server or another network. You distinguish between IP addresses and MAC addresses.
The IP address is an address allocated by the network administrator. Here it is important not to have duplicate addresses in one network area.
The MAC addresses are assigned by the hardware manufacturer. They are unique worldwide.

The following table shows the representation and the range of the address types:

Address Type	Format	Range	Example
IP Address	nnn.nnn.nnn.nnn	nnn: 0 to 255 (decimal)	192.168.11.110
MAC Address	mm:mm:mm:mm:mm:mm	mm: 00 to ff (hexadecimal number pairs)	A7:C9:89:DD:A9:B3

Table 3: Format and range of network addresses

- Strings

  A string is indicated by quotation marks. For example, “System name with space character”. Space characters are not valid user-defined strings. You enter a space character in a parameter between quotation marks.

- Examples of commands

  Example 1: clear arp-table
  Command for deleting dynamic entries in ARP Cache.

  `clear arp-table` is the command name. The command does not require any other parameters, and can be executed with <Enter>.

  Example 2: signal-contact monitor aca-removal
  Command for displaying the removal of the AutoConfiguration Adapter.

```
(Hirschmann Eagle) (config)#signal-contact monitor aca-removal
enable                Enable the option.
disable (default)     Disable the option.
```

  `signal-contact monitor aca-removal` is the command name. The parameter is required. It can have the value `enable` or `disable`.

  Example 3: nat 1to1 add
  Command for adding a 1:1 NAT rule.

```
(Hirschmann Eagle) (config)#nat 1to1 add
[1..512]              NAT rule number.
[internal-net]        Internal network address.
[external-net]        External network address.
[netmask]             Network mask.
[comment]               Rule comment.
```

  “nat 1to1 add” is the command name.
  The parameters [1..512] (i.e. the number of the NAT rule to be added), [internal-net], [external-net] , [netmask] and [comment] are optional.

3.3 Properties of the CLI

3.3.1 Input prompt

- **Command mode**
  With the input prompt, the CLI shows you which of the three modes you are in:
  - `(Hirschmann Eagle)>`
    User Exec mode
  - `(Hirschmann Eagle)#`
    Privileged Exec mode
  - `(Hirschmann Eagle)(config)#`
    Global Configuration mode

- **Exclamation mark and asterisk**

  Exclamation mark “!”
  An exclamation mark “!” in the first position of the input prompt shows you that the password for the user “admin” is still on the default setting.
  `!(Hirschmann Eagle) >`

  Asterisk “*”
  An asterisk “*” in the first or second position of the input prompt shows you that the settings in the volatile memory and the settings in the non-volatile memory are different.
  `*(Hirschmann Eagle)>`

3.3.2 Key combinations

The following key combinations make it easier for you to work with the Command Line Interface:

Key combination	Description
CTRL + H, Backspace	Delete previous character
CTRL + A	Go to beginning of line
CTRL + E	Go to end of line
CTRL + F	Go forward one character
CTRL + B	Go backward one character
CTRL + D	Delete current character
CTRL + U, X	Delete to beginning of line
CTRL + K	Delete to end of line
CTRL + W	Delete previous word
CTRL + P	Go to previous line in history buffer
CTRL + R	Rewrite or paste the line
CTRL + N	Go to next line in history buffer
CTRL + Q	Enable serial flow
CTRL + S	Disable serial flow
CTRL + Z	Return to root command prompt
Tab, <SPACE>	Command line completion
Exit	Go to next lower command prompt
?	List choices

Table 4: Key combinations in the Command Line Interface

With the Help command you can display the possible key combinations in CLI on the screen:

```
!*(Hirschmann Eagle) #help

HELP:
Special keys:

  Ctrl-H, BkSp delete previous character
  Ctrl-A  .... go to beginning of line
  Ctrl-E  .... go to end of line
  Ctrl-F  .... go forward one character
  Ctrl-B  .... go backward one character
  Ctrl-D  .... delete current character
  Ctrl-U, X .. delete to beginning of line
  Ctrl-K  .... delete to end of line
  Ctrl-W  .... delete previous word
  Ctrl-P  .... go to previous line in history buffer
  Ctrl-R  .... rewrites or pastes the line
  Ctrl-N  .... go to next line in history buffer
  Ctrl-Q  .... enables serial flow
  Ctrl-S  .... disables serial flow
  Ctrl-Z  .... return to root command prompt
  Tab, <SPACE> command-line completion
  Exit    .... go to next lower command prompt
  ?       .... list choices

!*(Hirschmann Eagle) #
```

Figure 12: Listing the key combinations with the Help command

3.3.3 Data entry elements

- **Command completion**

  To facilitate making entries, CLI gives you the option of command completion (Tab Completion), meaning that you can abbreviate key words.

  - ☐ Type in the beginning of a keyword. If the characters entered identify a keyword, CLI will complete the keyword when you press the tab key or the space key.

  After the first letters are entered, the Command Line Interface adds the rest of the possible command or parameter when you press the “Tab” or “Space” keys. If there is more than one option for completion, the system does not perform any completion. Only after one or more letters have been entered which uniquely identify the command or parameter does the system complete the command or parameter when “Tab” or “Space” is pressed again.

  If you make a non-unique entry and press “Tab” or “Space” twice, the CLI provides you with a list of options.

- **Possible commands/parameters**
  You can obtain a list of the commands or the possible parameters by entering “help” or “?”, for example by entering
  `(Hirschmann Eagle)>show ?`

  When you enter the command displayed, you get a list of the parameters available for the command “show”.

3.3.4 Line length

If you are using a terminal with a line length of 80 characters, the help texts are split up, as shown in the following screenshot (see fig. 13). For example, for the help text for “DSA Fingerprint for SSH”, the remainder “df:3b:11” appears on the next line.

You can avoid this effect by using a terminal with a line length of 132 characters (see fig. 14).

```
!(Hirschmann Eagle) (config)#show login

Login parameters
----------------

Access per SSH.....................................enabled
SSH Access port number.............................22
DSA Fingerprint for SSH......................"0a:7f:06:05:27:35:53:dd:f2:61:db:fa:0f:
df:3b:11"
RSA Fingerprint for SSH......................"6d:40:06:c3:f8:2d:cb:68:40:dc:09:7f:b3:
c2:d8:ee"
Access per Web (HTTPS).............................enabled
Web Access port number (HTTPS).....................443
SNMP version 1.....................................disabled
SNMP version 2.....................................disabled
SNMP port number...................................161
Inactivity timeout Web (minutes)....................5
Inactivity timeout serial (minutes).....5
Inactivity timeout SSH (minutes).....120
Login prompt......................................"Hirschmann Eagle"
Login banner....................."BEISPIELTEXT\n\tBEISPIELTEXT\n\t\tBEISP
IELTEXT\n\t\tBEISPIELTEXT"

!(Hirschmann Eagle) (config)#
```

Figure 13: “Show login” command with a line length of 80 characters

```
!(Hirschmann Eagle) (config)#show login

Login parameters
----------------

Access per SSH.....................................enabled
SSH Access port number.............................22
DSA Fingerprint for SSH............................"0a:7f:06:05:27:35:53:dd:f2:61:db:fa:0f:df:3b:11"
RSA Fingerprint for SSH............................"6d:40:06:c3:f8:2d:cb:68:40:dc:09:7f:b3:c2:d8:ee"
Access per Web (HTTPS).............................enabled
Web Access port number (HTTPS).....................443
SNMP version 1.....................................disabled
SNMP version 2.....................................disabled
SNMP port number...................................161
Inactivity timeout Web (minutes)...................5
Inactivity timeout serial (minutes).....5
Inactivity timeout SSH (minutes).....120
Login prompt......................................"Hirschmann Eagle"
Login banner....................."BEISPIELTEXT\n\tBEISPIELTEXT\n\t\tBEISPIELTEXT\n\t\tBEISPIELTEXT"

!(Hirschmann Eagle) (config)#
```

Figure 14: “Show login” command with a line length of 132 characters

4 Examples

4.1 Change timeout default setting

Task assignment

The following example shows how you find and execute a command for changing the default setting of the timeout value for your SSH connection. On delivery, this value is set to 5 minutes. This means that after this time has elapsed, the CLI logs off the user if no keys have been pressed. You can set a value for this timeout in the range from 1 to 120 minutes.

Login to CLI

☐ Login to CLI as described above (see on page 10 „Preparing the connection“).

Finding the command mode

You are in the User Exec mode (see on page 17 „Mode-based command hierarchy“).

☐ Enter a question mark “?” to get a list of the commands available in this mode (see fig. 9).

The corresponding command is located in a different mode. The Privileged Exec mode provides a wider range of commands.

☐ To switch to the Privileged Exec mode quickly and easily, you enter “en” and a space. The CLI completes the command to “enable” (see on page 27 „Data entry elements“). Execute the command with <Enter>. The command prompt changes from `(Hirschmann Eagle)>` to `(Hirschmann Eagle)#`, thus informing you that you are now in the Privileged Exec mode.

```
!*(Hirschmann Eagle) >enable

!*(Hirschmann Eagle) #
```

☐ Enter a question mark “?” to get a list of the commands available in this mode (see fig. 10).

The “login” command is used to perform this task.

☐ Enter “login”.
“lo” and a space character is not sufficient here, as it is not clear whether you want to execute the “login” or “logout” command. However, if you enter a space again, you get a list of the commands that begin with “lo”.

```
!(Hirschmann Eagle) #lo
login               Set login parameters.
  logout              Exit this session. Any unsaved changes are lost.
```

Finding, completing and executing commands

☐ After “login” enter a question mark to display the additional branches of the command.

```
!(Hirschmann Eagle) #login ?
  access                Set login access parameters.
timeout               Set login timeout parameters.
```

The “login timeout” command is used to perform this task.

☐ After “login”, enter a “t” and a space. The CLI automatically completes the command to “login timeout” .

☐ After “login timeout” enter a question mark to display the additional branches of the command.

```
!(Hirschmann Eagle) #login timeout ?
  serial                Set login timeout for serial line connections.
ssh                   Set login timeout for SSH connections.
  web                   Set login timeout for web connections.
```

The “login timeout ssh” command is used to perform this task.

☐ After “login timeout ssh” enter a question mark to display the possible parameters for the command.

```
!(Hirschmann Eagle) #login timeout ssh ?
  <1..120>              Enter a number in the given range.
```

☐ After “login timeout ssh” enter the value desired, in this case 120, to set the timeout to 120 minutes.

```
!(Hirschmann Eagle) #login timeout ssh 120
```

☐ Execute the command by pressing the <Enter> key.

Checking the execution with the Show command

☐ Enter “show” to display all the possible show commands.

```
(Hirschmann Eagle) (config)#show
 authentication      Display ordered methods for authentication lists.
 config              Show configuration.
 config-watchdog     Configure the Auto Configuration Undo settings.
 denial-of-service   Show denial-of-service parameters.
 device-status       Show the device status settings and the current
                     device status itself.
 dhcp-relay          Show DHCP Relay parameters.
 dhcp-server         Show DHCP Server parameters.
 flm                 Show information about Firewall-Learning-Mode
 interfaces          Show interface parameters.
 lldp                Show the LLDP information.
 logging             Display logging parameters.
 login               Show login parameters.
 nat                 Display the NAT settings.
 network             Show network data.
 packet-filter       Show the packet-filter configuration.
 packet-forwarding   Show transparent mode packet forwarding settings.
 radius              Show the RADIUS settings
 redundancy          Show the redundancy settings.
 running-config      Show the currently running configuration.
 signal-contact      Display Signal Contact settings.
 snmptraps           Display SNMPv3 traps.
 sntp                Show SNTP configuration parameters and
                     information.
 system              Show system related items.
 temperature         Show temperature limits.
 user-firewall       Show the user firewall settings.
 users               Display users and user accounts information.
 vpn                 Show VPN settings.
```

☐ Then enter “login” to display your current login settings.

```
!(Hirschmann Eagle) #show login

Login parameters
----------------
Access per SSH.........................enabled
SSH Access port number.................22
DSA Fingerprint for SSH................."0a:7f:06:05:27:35:53:dd:f2:
61:db:fa:0f:df:3b:11"
RSA Fingerprint for SSH................."6d:40:06:c3:f8:2d:cb:68:40:
dc:09:7f:b3:c2:d8:ee"
Access per Web (HTTPS).................enabled
Web Access port number (HTTPS).........443
SNMP version 1.........................disabled
SNMP version 2.........................disabled
SNMP port number.......................161
Inactivity timeout Web (minutes)........5
Inactivity timeout serial (minutes).....5
Inactivity timeout SSH (minutes)........120
Login prompt............................."Hirschmann Eagle"
!(Hirschmann Eagle) #
```

4.2 Login Banner

This dialog allows you to enter a login banner.
The device outputs the login banner when a user wants to login to the user interface (Web-based interface or CLI).
The login banner can be up to 255 characters long. All the characters in the range ASCII code 0x20 (space character, “ ”) to ASCII code 0x7E (tilde, “~”) are allowed, except the percent sign (%, ASCII code 0x25).
You can add a fixed line break to the banner with “\n” and a tab with “\t”. These sequences count as 2 characters.

```
!*(Hirschmann Eagle) #login banner
 <string>              Enter a user-defined text, max. 255 characters.

!*(Hirschmann Eagle) #login banner EXAMPLE\n\tEXAMPLE\n\t\tEXAM-
PLE\n\t\tEXAMPLE

!*(Hirschmann Eagle) #
```

```
login as:
admin@a.b.c.d's password:


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                            All rights reserved

                          EAGLE Release SDV-05.0.00

                         (Build date 2010-08-08 08:08)



                        System Name:  EAGLE-000000
                        Netw. Mode :  transparent
                        Mgmt-IP    :  a.b.c.d
                        Base-MAC   :  00:11:22:33:44:55
                        System Time:  SUN AUG 08 08:08:08 2010


EXAMPLE
        EXAMPLE
                EXAMPLE
                EXAMPLE

NOTE: Enter '?' for Command Help.  Command help displays all options
      that are valid for the particular mode.
      For the syntax of a particular command form, please
      consult the documentation.

!*(Hirschmann Eagle) >enable
```

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A Further Support

Technical Questions and Training Courses

In the event of technical queries, please contact your local Hirschmann distributor or Hirschmann office.
You can find the addresses of our distributors on the Internet: www.beldensolutions.com.

Our support line is also at your disposal:

- Tel. +49 1805 14-1538
- Fax +49 7127 14-1551

Answers to Frequently Asked Questions can be found on the Hirschmann internet site (www.beldensolutions.com) at the end of the product sites in the FAQ category.
The current training courses to technology and products can be found under http://www.hicomcenter.com.

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