



# CHARON-AXP/4100/DS/ES/GS

## Version 2.4 Build 118-05

### SRM Console User Manual

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Applies to the following Stromasys products:

CHARON-AXP/4100 for Windows 64bit  
CHARON-AXP/DS10 for Windows 64bit  
CHARON-AXP/DS20 for Windows 64bit  
CHARON-AXP/ES40 for Windows 64bit  
CHARON-AXP/GS80 for Windows 64bit  
CHARON-AXP/GS160 for Windows 64bit  
CHARON-AXP/GS320 for Windows 64bit

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**Document number: 60-16-005**

**Version: 001**

**Last update: 03 September 2010**

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## Contents

INTRODUCTION .....	4
BOOT COMMAND .....	5
SET COMMAND.....	7
SHOW COMMAND .....	8
INITIALIZE COMMAND .....	9
POWER COMMAND .....	10
FCMGR COMMAND.....	11
ENVIRONMENT VARIABLES .....	12

## Introduction

The CHARON-AXP virtual system contains a minimalistic console subsystem which provides necessary environment for guest operating system boot.

This manual gives basic information on each console command.

## CHARON-AXP Console

The CHARON-AXP Console supports the OpenVMS, DEC OSF/1, and HP Tru64 UNIX operating systems.

This manual describes environment variables and the following commands:

- boot
- set
- show
- initialize
- power
- fcmgr

## CHARON-AXP Console conventions

The following table lists CHARON-AXP Console conventions.

Table 1 CHARON-AXP Console Conventions

<i>Item</i>	<i>Convention</i>
Console prompt	P00>>>
Maximum command length	64 characters
Multiple contiguous spaces and tabs	Treated as a single space.
Command abbreviations	Allowed, if not ambiguous.
Command qualifiers or options	Prefix with a space and a dash "-" or slash "/".
Numbers	Hexadecimal, unless otherwise specified.

## CHARON-AXP Console Special Characters

The following table lists CHARON-AXP Console Special Characters and their functions.

Table 2 CHARON-AXP Console Special Characters

<i>Character/Key(s)</i>	<i>Function</i>
Return	Terminates command line input.
Backspace	Deletes the previously typed character.
[Ctrl]+[Q]	XON, resumes flow of data to the console
[Ctrl]+[S]	XOFF, stops the flow of data to the console.

## BOOT command

### Purpose

The boot command performs the following actions:

- Initializes the (virtual) processor,
- Loads a program image from the specified boot device,
- Transfers control to the loaded image.

### Syntax

```
boot [-file <file-name>] [-flags <longword>[,<longword>]] [<boot-device>]
```

### Options

The boot command options are listed in the following table.

<i>Command Option</i>	<i>Description</i>
-file <file-name>	Specifies the name of a file to load into the system. Use the “set boot_file” command to set the environment variable that specifies a default boot file.
-flags <longword>[,<longword>]	For systems with OpenVMS, root number and boot flags are specified here. For DEC OSF/1 systems, the following values may be used: <ul style="list-style-type: none"><li>• i = interactive boot</li><li>• s = boot to single user</li><li>• a = autoboot to multiuser</li></ul> Use the “set boot_osflags” command to set an environment variable that specifies a default boot flag value.
<boot-device>	Specifies a device path that the firmware attempts to boot. Use the “set bootdef_dev” command to set an environment variable that specifies a default boot device.

### Examples

<i>Command</i>	<i>Description</i>
P00>>>boot	Boots the system from default boot device with default boot flags using default boot file.
P00>>>boot -flags 0,1	Boots the system from the default boot device using flag settings “0,1” (conversational boot of OpenVMS operating system from SYS0 root).
P00>>>boot -flags a -file genvmunix	Boots the system from default boot device using flags settings “a” (multiuser mode of GENVMUNIX

<i>Command</i>	<i>Description</i>
	kernel of HP Tru64 UNIX operating system).

## SET command

### Purpose

The set command sets or modifies the value of an environment variable. Environment variables pass configuration information between the console and the operating system.

### Syntax

```
set <envar> <value>
```

### Options

The set command options are listed in the following table.

<i>Command Option</i>	<i>Description</i>
<envar>	The environment variable to be assigned a new value.
<value>	The value that is assigned to the environment variable. It can be either a numeric value or an ASCII string.

### Examples

<i>Command</i>	<i>Description</i>
P00>>>set bootdef_dev dka0	The default boot device is set to dka0.
P00>>>set auto_action restart	The console attempts to restart following an error, halt, or power-up.
P00>>>set dump_dev ""	Clears dump device.
P00>>>set boot_osflags 0,1	The default boot flags are set to 0,1.

## SHOW command

### Purpose

The show command displays the current value of a specified environment variable. The show command also displays information about the system, according to the arguments entered.

### Syntax

```
show [{device, <envar>}]
```

### Options

The show command options are listed in the following table.

<i>Command Option</i>	<i>Description</i>
device	Displays the devices and controllers in the system.
<envar>	Displays the value of the environment variable specified.

### Examples

<i>Command</i>	<i>Description</i>
P00>>>show device	Lists device information such as system designation, drive model, or Ethernet address.
P00>>>show	Lists all environment variables and their settings.
P00>>>show boot*	Lists environment variables beginning with “boot” and their settings.



## INITIALIZE command

### Purpose

The initialize command performs the following actions:

- Brings the system to the power-up state,
- Initializes virtual processors and memory,
- Runs power-up diagnostic,
- Builds device database.

### Syntax

```
initialize
```

### Options

None.

### Examples

<i>Command</i>	<i>Description</i>
P00>>>init	Setup initial state of the virtual system.

## POWER command

### Purpose

The power command terminates the CHARON-AXP virtual system.

### Syntax

```
power off
```

### Options

None.

### Examples

<i>Command</i>	<i>Description</i>
P00>>>power off	Terminates the CHARON-AXP virtual system.

## FCMGR command

### Purpose

The fcmgr command performs the following actions:

- Scans attached Fiber Channel fabrics,
- Scans storage controllers,
- Sets up logical units of Fiber Channel disks as default boot and dump devices,
- Displays Fiber Channel device database.

### Syntax

```
fcmgr rescan [/verbose]
```

```
fcmgr show {adapter | port | device}
```

```
fcmgr set {boot | dump} udid <udid-no>
```

### Options

### Examples

<i>Command</i>	<i>Description</i>
P00>>>fc rescan /verbose	Rescan the Fibre Channel fabrics and display the process verbosely, with lots of diagnostic data. Nice for troubleshooting.
P00>>>fc set boot udid 400	Enables device with UDID 400 (decimal) for booting guest operating system. This includes setting up wwid0, ..., wwid3, and N1, ..., N4 environment variables. Note, this does NOT set up default boot device ("bootdef_dev" environment variables).

Please, see CHARON-AXP FCMGR User's Manual for more information on setting up CHARON-AXP for booting from devices attached via Fiber Channel.

## Environment variables

The following table summarizes Alpha SRM Console environment variables implemented by CHARON-AXP Console.

<i>Variable</i>	<i>Description</i>
auto_action	Sets/shows the console action following an error, halt, or power-up. The action can be <code>halt</code> , <code>boot</code> , or <code>restart</code> . Halt is the default.
boot_dev	Sets/shows the device name to be used when a bootstrap requires a boot device name. The default setting is empty.
bootdef_dev	Sets/shows the default device from which the system attempts to boot. If the system software is preloaded, the variable is preset to point to the device containing the preloaded software. Otherwise, the default value is null.
booted_dev	Shows the device name from which the system has been booted. The default setting is empty.
boot_file	Sets/shows the file name to be used when a bootstrap requires a boot file name. The default setting is empty.
booted_file	Shows the file name from which the system has been booted. The default setting is empty.
boot_osflags	Sets/shows additional parameters to be passed to system software. When using OpenVMS software, these parameters are the system root number and boot flags. The default setting is 0,0.
booted_osflags	Shows the boot flags with which the system has been booted. The default setting is empty.
boot_reset	Always "ON".
dump_dev	Sets/shows the device name to be used when an operating system requires a dump device name. The default setting is empty.
enable_audit	Always "ON".
license	Always "MU"
char_set	Always empty.

<i>Variable</i>	<i>Description</i>
language	Always empty.
tty_dev	Always 0.
console	Always "serial".
controlp	Enables or disables generating HALT when user presses [Ctrl]+[P]. The default setting is "ON". Note that generating HALT on [Ctrl]+[P] is only possible when CHARON-AXP firmware is used for reading console keyboard input. HP Tru64 UNIX operating does NOT use console firmware for reading keyboard input.
scsiid	Always empty.
scsifast	Always empty.
com1_baud	Always "9600".
com1_modem	Always "off".
com1_flow	Always "software".
com1_misc	Always empty.
com2_baud	Always "9600".
com2_modem	Always "off".
com2_flow	Always "software".
com2_misc	Always empty.
password	Always empty.
secure	Always "NO".
logfail	Always "0".
srm2dev_id	Always empty.
wwid0...3	Contain WWIDs of up-to four Fiber Channel attached devices.
n1...4	Contain identifiers of up to four paths to Fiber Channel attached devices.