



# Conferencing Systems

Video Made Easy

## **VCB5**

Getting Started Guide

Version 5.1

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### Declaration of Conformity for Terminal Equipment

Issued according to ISO/IEC Guide 22 and EN45014 under the sole responsibility of the Manufacturer

**Date:** July 12, 2006

We hereby declare entirely on our own responsibility that the products:

**Product (Models):** VCBS

and all its associated peripherals manufactured by Emblaze-VCON Ltd., to which this declaration relates is in conformity with:

#### European Community

with the essential requirements specified in Article 3.1 (a) and 3.1 (b) of:

Directive 89/336/EEC (EMC Directive).

Directive 73/23/EEC (Low Voltage Directive – LVD).

Directive 99/05/EEC (Radio Equipment and Telecommunications Terminal Equipment Directive).

In accordance with the following Harmonized Standards-

The products are compliant with the following standards and other normative documents:

**EMC:** EN 55022: 1998 +A1: 2000 +A2: 2003 Class B

EN 55024: 1998 +A1: 2001 +A2: 2003

EN 61000-3-2: 2000 Class A

EN 61000-3-3: 1995 +A1: 2001

IEC 61000-4-2: 2001

IEC 61000-4-3: 2002

IEC 61000-4-4: 1995 +A1:2000 +A2: 2001

IEC 61000-4-5: 2001

IEC 61000-4-6: 2001

IEC 61000-4-11: 2001

**Safety / Low Voltage:**

EN 60950

IEC 60950

Regulatory Notice to European Customers

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(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

The products are compliant with the following standards and other normative documents:

**EMC:** FCC Part 15, Class B

**Safety / Low Voltage:** CS 22.2 950

UL 60950

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Federal Communications Commission Radio Frequency Interference Statement  
Both products - Safe@Office and VPN-1 Edge - comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Shielded cables must be used with this equipment to maintain compliance with FCC regulations. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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**These systems have been verified to comply with the EU RoHS & WEEE Directives throughout the design, development and supply chain definition.**

EU Directive on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS – 2002/95/EC) of 27 January 2003, and Directive of the European Parliament and of the Council of 27 January 2003 on Waste Electrical and Electronic Equipment (WEEE – 2002/96/CE).

This document is informational only and reflects laboratory performance. Your product may perform differently, depending on components and peripherals you connect. Accordingly, the customer should not rely upon this information in making decisions about electrical tolerances or otherwise. No warranty as to accuracy or completeness is expressed or implied. The information in this document may change without notice.

### Environmental Data – Product's Materials Information Restricted Substances

Emblaze-VCON's products does NOT contain any of the following substances (in concentrations exceeding legal threshold limits):

- . • Asbestos
- . • colorants in components that come into direct contact with human skin
- . • Cadmium and its compounds (except for use in applications exempted by the EU RoHS Directive)
- . • Class I and Class II CFCs (chlorofluorocarbons) and HCFCs (hydro fluorocarbons)
- . • Chloroparaffins, short chained (10-13 carbon chain)
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- . • PBBs (polybromobiphenyls) or PBDEs (polybrominated diphenylethers)
- . • PVC (polyvinyl chloride) in plastic parts greater than 25 grams
- . • Polychlorinated naphthalenes (PCNs)
- . • Tributyl tin (TBT) and triphenyl tin (TPT) compounds

### Additional Materials Information

- . • The cables may use PVC as an insulating material to ensure product safety
- . • The case material is sheet metal
- . • Product may contain post-industrial recycled content (plastics, metal, glass)

No CFCs (chlorofluorocarbons), HCFCs (hydrofluorocarbons) or other ozone depleting substances are used in packaging material. Chromium, lead, mercury, or cadmium are not intentionally added to packaging materials and are not present in a cumulative concentration greater than 100 ppm as incidental impurities. No halogenated plastics or polymers are used for packaging material. The System fully complies with the EU Directive 94/62/EEC.

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# EMBLAZE VCON

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The product has been tested in a typical configuration.  
Technical file held by Emblaze-VCON Ltd.  
For a copy of the Original Signed Declaration (in full conformance with EN45014), please contact  
Emblaze-VCON's Tech Support.

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July 12, 2006.....



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# Emblaze-VCON Technical Support

This Getting Started Guide was designed to help you set up and work with your VCB easily so that you can enjoy its many features.

This User's Guide was designed to help you set up and work with your VCB easily so that you can enjoy its many features.

If a situation occurs that is not covered by the supplied documentation, contact your local Emblaze-VCON distributor, and request assistance from their Emblaze-VCON-trained technical support department. Please describe the problem, device, and PC operating system (if applicable), and any other relevant details.

Also, you may access the Technical Support section of the Emblaze-VCON website (<http://www.emblaze-vcon.com/support/index.shtml>) in order to check its knowledge base or initiate other customer support processes:

<b>Page</b>	<b>Type of support</b>
<b>Support Notes</b>	Troubleshoot or receive technical information about specific Emblaze-VCON products.
<b>Downloads</b>	Download a new software release or a free product evaluation.
<b>Demo Numbers</b>	Test your videoconferencing system.
<b>License Key Requests</b>	Request a permanent license key for your organization's MXM(s).

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# 1 WELCOME TO THE VCB

## 1.1 Introduction

The VCB, Emblaze-VCON's premier Multipoint Conferencing Unit (MCU), enables:

- Initiation and management of multipoint conferences, including both scheduled and ad-hoc conferences, which are multipoint sessions that were expanded from point-to-point calls.
- Wide range of rich, dynamic layouts for the simultaneous viewing of several participants. Up to 16 users may be displayed at the same time.
- Web-based management/configuration and videoconference scheduling/moderating applications.
- Simultaneous multicast streaming of active conferences and multimedia to multiple passive participants.

The VCB includes advanced features, such as audio transcoding, speed matching and bandwidth management, as well as basic features such as continuous presence, voice-activated switching, and multiple audio and video algorithms.



## 1 Welcome to the VCB

The VCB includes the Conference Moderator, which provides administrators and users with the ability to schedule conferences in advance and to manage them remotely. At the appointed time, the Conference Moderator initiates the conference and connects the conference participants. Conference hosts can also control when participants join or exit sessions, and transmit video and data streams to the participants. For more details, see the *Conference Moderator Help*.

The VCB's robust Chair Control provides several options for displaying conference participants. A rich selection of predefined layouts expands on the traditional methods of Continuous Presence and Voice-activated Switching. Additionally, conference organizers can choose among the following view switching modes for each session:

<b>Dominant Speaker</b>	Showing the most recent speakers in the conference or from within predefined groups.
<b>Fixed Image</b>	Showing specific views throughout the conference's duration.
<b>Timer Image</b>	Showing a rotation of Continuous Presence views, changing at timed intervals.

The VCB supports the following:

- G.722.1, G.723.1, G.728 and AAC audio algorithms with audio transcoding, allowing users to participate in a multipoint conference using different audio standards.
- Up to 4 Mbps data rate per participant in Voice-activated Switching and in Continuous Presence (H.263 and H.264 only - for H.261, up to 1 Mbps).
- H.261/H.263/H.263+/H.263++/H.264 video codec support in Voice-activated Switching  
H.261/H.263/H.264 video codec support in Continuous Presence.
- Dial-in conference initiation.
- Handles calls connecting up to 48 concurrent users.
- Support for sessions including H.323 end points/devices and SIP User Agents (through the MXM's embedded SIP proxy server).
- Multi-point sessions can be joined (cascaded) onto other sessions, contingent on similar data rates, display types, and audio/video algorithm.  
VCB to VCB  
VCB to other IP MCU
- Dynamic resource allocation pool – unallocated ports may be used as overflow for configured sessions.

- Applies H.239 support with HD DualStream™, in which both video and data application-sharing may be transmitted to conference participants (whose end points support dual streams). End points that don't support dual streams will receive either the data or video stream, depending on the active VCB Service's configuration.
- The streams may be sent in CIF, QCIF, 4CIF, VGA, SVGA, or XGA.
- Speed matching, allowing participants in Continuous Presence to connect using two different data rates (for example, 128 Kbps and 384 Kbps)
- Mode switching, allowing participants to choose the type of viewing mode (Dominant Speaker, Fixed Image or Timer Mode) during a conference.
- Symmetric bandwidth usage during Continuous Presence calls.
- Protection of calls using H.235 (AES) encryption.
- Optional deployment of Emblaze-VCON vPoint HD videoconferencing clients.

### 1.2 Package Contents

When you open the VCB shipping package for the first time, check that the following items are included. If any of the items (according to your Customer Order) are missing or damaged, contact your Emblaze-VCON representative immediately.

- VCB Server unit
- Power cables (2)
- Network cable
- Crossover cable
- User Guide and Utilities CD-ROM
- Getting Started Guide



## 2 DEFINING THE VCB IP CONFIGURATION

Before you can use the VCB for the first time, you have to define a unique IP configuration for it. This task is made up of the following procedures:

- Retrieving the VCB's initial IP configuration
- Changing the IP configuration to unique settings, such as a static IP address.

### 2.1 Assigning a Static IP Address to the VCB

Before you can use a VCB unit for the first time, you have to define one of its network cards (NIC) and interface's unique IP configuration so that you can connect to it for management. Use one of the following methods:

- Directly through the VCB unit's front panel
- Through interface **GbEo**.
- Through the **Console** (serial) port and Secure Shell (SSH), Microsoft® Hyperterminal, or similar connection program.



For standard operation, we recommend that you connect one NIC/one interface. If nevertheless, you require connection through more than one NIC, each NIC must belong to a different subnet.

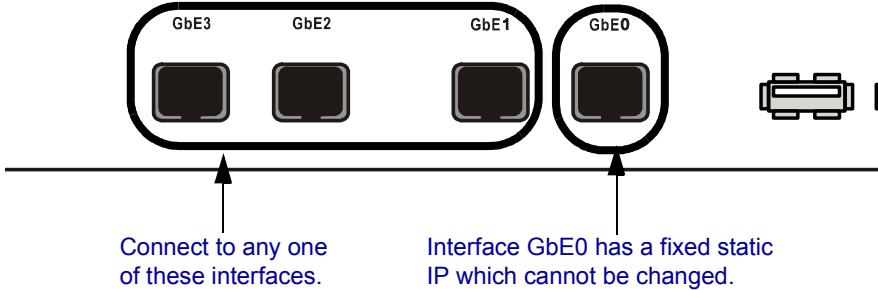
## 2 Defining the VCB IP Configuration

### Through the Front Panel

The following procedure describes how to get the IP address from the VCB unit's front panel.

#### ➤ To define a static IP address

- 1 Connect a network cable to any one of interfaces GbE1 to GbE3.



- 2 Turn the VCB unit on. A welcome message appears in the LCD display.



- 3 In the LCD display, press an arrow button until the **GET IP** command appears. Press the **Enter** button.



- 4 Press an arrow button again until the connected network card and interface appears (**NIC 1** to **NIC 3** = GbE1 to GbE3) and press the **Enter** button. The VCB unit receives an IP address from the DHCP server.

```
Select NIC:  
1  
172.20.21.22
```



If a cable is not connected to the interface, **0.0.0.0** appears in the display.

- 5 Leave the cable connected to the chosen interface.

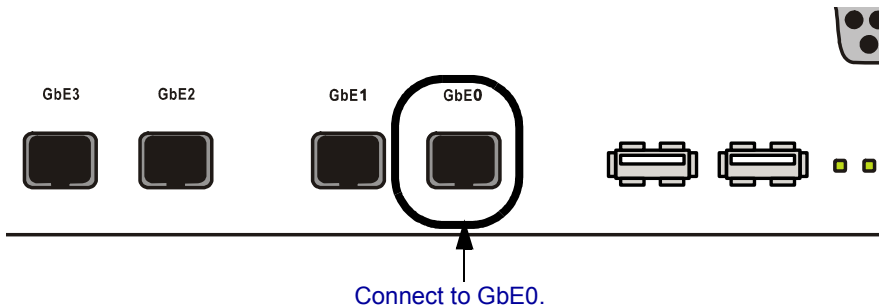
### Through Interface GbE0

The following procedure describes how to access the VCB's configuration directly through the factory-configured interface.

#### ► To define a static IP address

- 1 Connect a communications cable between interface GbE0 and a computer. This interface's IP configuration is:

<b>IP address</b>	10.0.10.10
<b>Subnet mask</b>	255.255.0.0
<b>Gateway IP address</b>	0.0.0.0



- 2 To access the VCB unit from another computer initially, the two systems must, at least temporarily, belong to the same network segment. That is, the first three fields of the address and the subnet mask must be identical. Write down the computer's current IP address and subnet mask so that you can restore them later. Change the remote computer's IP configuration temporarily to the same IP address segment(10.0.10.x) and subnet mask listed in step 1.
- 3 Connect a network cable to any one of interfaces **GbE1 - GbE3**.
- 4 Through the VCB Web Management program, define a static IP address for the connected NIC.
- 5 Restore your computer's original IP configuration.

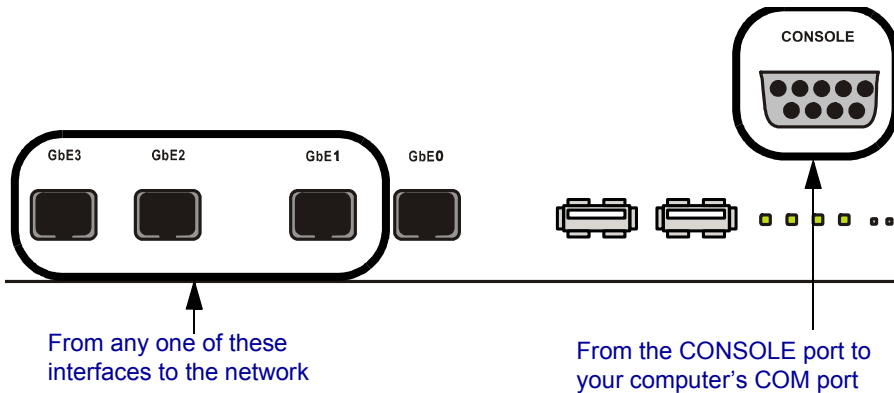
## 2 Defining the VCB IP Configuration

### Through the Console Port

The following procedure describes how to access the VCB's configuration directly through the **Console** (or serial) port.

#### ➤ To define a static IP address

- 1 Connect a control cable between the VCB's **Console** port and the remote computer's COM port.



- 2 Connect a network cable to any one of interfaces **GbE1 - GbE3**.
- 3 Using Microsoft® HyperTerminal or a serial connection program, open a connection between the computer and the VCB unit. Configure the connection settings as follows:

**Connect using:** COM1 (or any other free COM port)

**Bits per second** 9600

**Data bits** 8

**Parity** None

**Stop bits** 1

**Flow Control** Xon/Xoff

- 4 Wait for the command prompt (>) to appear on the computer screen.
- 5 Type **listip** next to the command prompt.



## 2 Defining the VCB IP Configuration

- 6 After the command prompt (>), type the following syntax:  
**setparam ipstatic [0-3] [IP address][netmask][default gateway address]**



Make sure that the static IP address is unique, in order to avoid collisions on the network.

- 7 To confirm the new IP configuration, type **listip** next to the command prompt and press <Enter>.



## 3 LOGGING INTO THE VCB

When you start the VCB program, you must first log in.

Emblaze-VCON's Media Xchange Manager® (MXM) provides gatekeeper functions for the VCB. The MXM manages the videoconferencing environment among endpoints registered in it, including multipoint conferencing managed by the VCB.

### ► To log in to the VCB

- 1 In your web browser, enter the URL of your VCB. The Login page appears.

#### *Logging Into the VCB*

- 2 Enter your login name and password. The factory-defined login configuration is:

<b>User Name</b>	su
<b>Password</b>	1234

- 3 If necessary, define the following:

<b>Remember Login Name and Password</b>	Select to allow the system to use the same login values in the future.
---	--

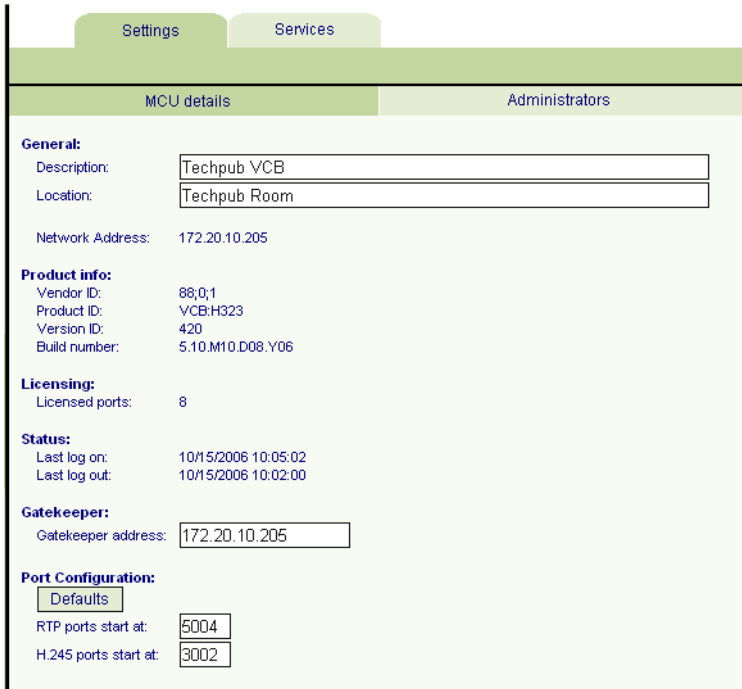
<b>Language</b>	Language of the management program.
-----------------	-------------------------------------

<b>Force Login</b>	If a user with the same Login Name is already connected from a different location, this login attempt will succeed, disconnecting the other user.
--------------------	---

- 4 Click **Login**.

### 3 Logging into the VCB

- 5 Click the **VCB** tab to enter the VCB Configuration pages.  
VCB Configuration is divided into Settings and Services.



The screenshot shows a web interface for VCB configuration. At the top, there are two tabs: 'Settings' (selected) and 'Services'. Below the tabs, there are two main sections: 'MCU details' and 'Administrators'. The 'MCU details' section contains several fields and sections:

- General:**
  - Description:
  - Location:
  - Network Address: 172.20.10.205
- Product info:**
  - Vendor ID: 88,0,1
  - Product ID: VCB:H323
  - Version ID: 420
  - Build number: 5.10.M10.D08.Y06
- Licensing:**
  - Licensed ports: 8
- Status:**
  - Last log on: 10/15/2006 10:05:02
  - Last log out: 10/15/2006 10:02:00
- Gatekeeper:**
  - Gatekeeper address:
- Port Configuration:**
  - 
  - RTP ports start at:
  - H.245 ports start at:

*VCB Settings - MCU Details*

## 4 SSH COMMANDS

This chapter defines the commands available when you access the VCB unit through a Secure Shell (SSH), Hyperterminal, or similar application connected to the Console port.

A Secure Shell application, PuTTY, is included on the CD-ROM supplied in your VCB package.

### ► To run the PuTTY program

- 1 Insert the VCB compact disc to your computer's CD drive.
- 2 Browse to the Utilities folder's *putty.exe* program.
- 3 Copy the *putty.exe* file to your desktop or another location.
- 4 Double-click the file's icon to run the program.

### ► To connect to the VCB

- 1 In the **Host Name** box, type the VCB host computer's IP address.
- 2 Click **Open**.
- 3 Log in using the following parameters:

**User Name**           VCBAdmin

**Password**            evc123\$

### 4.1 Descriptions of SSH Commands

<b>Command</b>	<code>appupgrade</code>
<b>Syntax</b>	<code>appupgrade &lt;path&gt;</code>
<b>Description</b>	Upgrade to a new version of the VCB. <b>Path</b> - location of the install file. For example: <code>appupgrade vcb/install.exe</code>

## 4 SSH Commands

<b>Command</b>	<b>changeservicestartmode</b>
<b>Syntax</b>	<code>changeservicestartmode &lt;Service Name&gt;&lt;Mode&gt;</code>
<b>Description</b>	Change the specified service's starting mode.
<b>Parameters</b>	<input type="checkbox"/> <b>Automatic</b> <input type="checkbox"/> <b>Manual</b> <input type="checkbox"/> <b>Disabled</b>
	For example: <b>TermService</b> , a service allowing remote desktop connection, is disabled by default. To enable it, set the service start mode to Manual, and then start the service using the "startservice" command. <pre>changeservicestartmode TermService Manual</pre>
<b>Command</b>	<b>clearevents</b>
<b>Syntax</b>	
<b>Description</b>	Delete all entries from the application, security, and system event log.
<b>Command</b>	<b>exec</b>
<b>Syntax</b>	<code>exec &lt;command&gt;</code>
<b>Description</b>	Execute the specified shell command. Only VCBSupport-level users are allowed to execute this command.
<b>Command</b>	<b>getevents</b>
<b>Syntax</b>	<code>getevents &lt;substring&gt;</code>
<b>Description</b>	Display application, security, and system event log. If a substring is specified, only events related to the substring will be listed.

<b>Command</b>	<b>getparam</b>
<b>Syntax</b>	getparam <param>
<b>Description</b>	Retrieve the specified parameter.
<b>Parameters</b>	<input type="checkbox"/> <b>appver</b> - Display the VCB/MXM application version. <input type="checkbox"/> <b>dhcp</b> <0-3> - Display DHCP-defined IP configuration of the specified NIC, and if it's enabled or disabled. <input type="checkbox"/> <b>hwserial</b> - The first NIC's MAC address. <input type="checkbox"/> <b>machinename</b> - The name of the node. <input type="checkbox"/> <b>sshver</b> - Display the SSH Server version. <input type="checkbox"/> <b>time</b> - Display the current system date and time.

<b>Command</b>	<b>getvcbadminparam</b>
<b>Syntax</b>	getvcbadminparam <I> <param>.
<b>Description</b>	Retrieve the specified VCB Admin parameter.
<b>Parameters</b>	Name and password of the administrator. For example: <b>getvcbadminparam 1 password 1234</b>

<b>Command</b>	<b>getvcbridgeparam</b>
<b>Syntax</b>	getvcbridgeparam <param>
<b>Description</b>	Retrieve the specified VCB parameter. To display a list of parameters, type only the command and press <Enter>.

<b>Command</b>	<b>getvcbsessionparam</b>
<b>Syntax</b>	getvcbsessionparam <service number> <param>.
<b>Description</b>	Retrieve the specified VCB Session parameter. To display a list of parameters, type only the command and press <Enter>.

## 4 SSH Commands

<b>Command</b>	<b>healthcheck</b>
<b>Syntax</b>	
<b>Description</b>	Displays system information about the VCB's host computer, such as CPU usage, virtual memory usage.
<b>Command</b>	<b>help</b>
<b>Syntax</b>	
<b>Description</b>	Lists all SSH commands and their possible syntaxes.
<b>Command</b>	<b>killprocess</b>
<b>Syntax</b>	killprocess < <i>process identity</i> >
<b>Description</b>	Aborts the specified process.
<b>Command</b>	<b>listip</b>
<b>Syntax</b>	listip <0-3>
<b>Description</b>	Displays the IP address of the specified NIC.
<b>Command</b>	<b>ping</b>
<b>Syntax</b>	ping < <i>hostname or IP address</i> >
<b>Description</b>	Check if a connection to the specified computer is online.
<b>Command</b>	<b>processes</b>
<b>Syntax</b>	processes <substring>
<b>Description</b>	Display a list of processes. If a substring is specified, only processes containing the substring will be listed.
<b>Command</b>	<b>restart</b>
<b>Syntax</b>	
<b>Description</b>	Restart the VCB unit.
<b>Command</b>	<b>restartservice</b>
<b>Syntax</b>	restartservice < <i>Service Name</i> >
<b>Description</b>	Restarts the specified service.



<b>Command</b>	<b>services</b>
<b>Syntax</b>	services <service substring>
<b>Description</b>	Lists the services that start with the substring and displays their status.  <b>services VCON</b> will list only VCON services. For example, <ul style="list-style-type: none"> <li>• VCON VCB AGENT_1</li> </ul>
<b>Command</b>	<b>setgkaddress</b>
<b>Syntax</b>	setgkaddress <IP address>
<b>Description</b>	Define an IP address to the associated MXM.
<b>Command</b>	<b>setmcuaddress</b>
<b>Syntax</b>	setmcuaddress <IP address>
<b>Description</b>	Define an IP address to this VCB.
<b>Command</b>	<b>setparam</b>
<b>Syntax</b>	setparam <param>
<b>Description</b>	Define the specified parameter.
<b>Parameters</b>	<input type="checkbox"/> <b>dhcp</b> <0-3> - Enable DHCP to define the IP configuration of the specified NIC. <input type="checkbox"/> <b>ipstatic</b> <0-3><IP address><Subnet><Gateway> - Define a static IP configuration of the specified NIC. <input type="checkbox"/> <b>machinename</b> - Define the name of the node. <input type="checkbox"/> <b>time</b> - Set the current system date and time.
<b>Command</b>	<b>setpassword</b>
<b>Syntax</b>	setpassword <user name>
<b>Description</b>	Defines the user password. If a user name is specified, the password change applies to that user name only.

## 4 SSH Commands

<b>Command</b>	<b>setvcadminparam</b>
<b>Syntax</b>	setvcadminparam <number> <param>.
<b>Description</b>	Define the specified VCB Admin parameter.
<b>Parameters</b>	Name and password of the administrator.
<b>Command</b>	<b>setvcbridgeparam</b>
<b>Syntax</b>	setvcbridgeparam <param>
<b>Description</b>	Define the specified VCB parameter.
<b>Command</b>	<b>setvcsessionparam</b>
<b>Syntax</b>	setvcsessionparam <service number> <param> <value>.
<b>Description</b>	Define the specified VCB Session parameter.
<b>Command</b>	<b>shutdown</b>
<b>Syntax</b>	
<b>Description</b>	Shut down the VCB unit and turn its power off.
<b>Command</b>	<b>startservice</b>
<b>Syntax</b>	startservice <Service Name>
<b>Description</b>	Starts the specified service.
<b>Command</b>	<b>stop service</b>
<b>Syntax</b>	stopservice <Service Name>
<b>Description</b>	Stops the specified service.
<b>Command</b>	<b>upgrade</b>
<b>Syntax</b>	
<b>Description</b>	Upgrade to a new version of the SSH Server.