

CATVisor™ Commander

Table of Contents

CATVisor™ Commander System Requirements.....	2
PC Hardware Requirements	2
PC Software Requirements.....	2
Communication Path Requirements	2
Installing CATVisor™ Commander	3
USB Driver Installation	4
CATVisor™ Commander Tutorials	5
User Interface Principles	5
Parts of the Connected View.....	5
Element Directory.....	6
Configuration Display	7
Event Log	7
Help Features	7
CATVisor™ Commander Menus	8
File Menu.....	8
Edit Menu	9
View Menu.....	9
Connection Menu	10
Settings Menu	10
Tools Menu.....	11
Help Menu	12
Element Directory Menus	14
Connection Settings	16
Event Log Popup Menu.....	17
Tool Bar	17
Starting CATVisor™ Commander.....	18
The Initial View	18
Establishing Connections.....	19
Adding a Connection	19
Local Connections	19
Remote Connections.....	20
Local Connection Shortcuts	21
Saving an Element Directory.....	21
Opening a Saved Connection Database.....	22
Removing Devices from the Headend	22
Adding Devices to the Element Directory.....	22
Using the Configuration Display.....	23
Status Page	23
Properties Page.....	23
Editing the Settings	24
Refreshing the Device Information.....	24
Monitored Parameter Values.....	24
On-line Helps for Configuration Displays	25
Commander Special Features and Options.....	26
Customising the Commander User Interface	26
Customising the Event Log Appearance.....	26
Using Flag Suppression	27
Background Scanning and Backup Files	28
Starting with Command Line Parameters	29
Starting Viewer Only Mode.....	30
Using the Connection Database file name as a Command Line Parameter	31
Updating the Device Software.....	32
SNMP	35
General Overview.....	35

Table Of Contents

MIB Database.....	35
Viewer Database	37
Device Database	38
Default Settings	39

An Introduction to CATVisor™ Commander

Welcome, and thank you for choosing Teleste's CATVisor™ Commander.

CATVisor™ Commander is a configuration and diagnostics software. It provides you with the features that help you to configure and monitor all Teleste Broadband Cable products.

CATVisor™ Commander is intended for use with Microsoft Windows XP operating system. It is a full 32-bit software application, so that when using it you can benefit from Windows XP operating system attributes.

You can connect to the network elements either using a local serial connection, USB connection or an IP (Internet protocol) connection over a Local Area Network (LAN).

This CATVisor™ Commander manual contains:

- CATVisor™ Commander installation details
- A tutorial outlining all features of CATVisor™ Commander

Introduction

CATVisor™ Commander System Requirements

PC Hardware Requirements

Basic Configuration

- Pentium 400 MHz or higher
- 256 MB RAM
- 1 GB of free hard disk space
- CD-ROM drive
- Network Interface Card (e.g. 10/100Base-T)

Recommended Configuration

- Pentium 800 MHz or higher
- 512 MB RAM
- 2 GB of free hard disk space
- CD-ROM drive
- Network Interface Card (e.g. 10/100Base-T)
- RS-232 serial port (for local connections)
- Display with minimum 1024 x 768 resolution and 256 colours

PC Software Requirements

Operating System

- Windows NT, Windows 2000 and Windows XP
- SP6 or higher for Windows NT, SP2 or higher for Windows 2000
- Internet Explorer 5.0 or higher
- Recommended operating system is Windows XP

Communication Path Requirements

For serial connections: one of the connection cables connected between your PC and the desired network element according to the following illustrations:

Local System Management interfaces

System	Interface module	Connector type	Connector type	Adapter	Cable	Connection mode	Data Rate
DVX	DVP3XX/432	D-9 male	RS 232	none	null modem	DVX bus	default (19200)
(optional)	DVP3XX/432	RJ-45	DVX BUS	none	DVX021	DVX bus	default (19200)
DVX+HFC	DMM200/201	D-9 male	RS-232	none	null modem	serial IP	115200
	DMM100	D-9 female	RS-232	none	DBC200	serial IP	115200
	DBM100	D-9 female	RS-232	none	DBC200	serial IP	115200
BK	BKC901/902	D-9 male	LMT	none	null modem	BK LMT	115200
	BKC900	RJ-45	BKSG	none	DVX021	BK bus	default (19200)
(optional)	BK housing	D-9 female	-	BKK901	DVX021	BK bus	default (19200)

Device point-to-point interfaces

System	Connector type	Connector label	Adapter	Cable	Connection mode	Data Rate
AC6951/3000	USB mini-B	USB	-	USB cable	point-to-point	-
AC6910/6950	RJ-45	-	none	DVX021	point-to-point	38400
BKC901/902	D-9 male	LMT	none	null modem	point-to-point	115200
BUA200	BUA200	-	none	-special-	point-to-point	19200
BXC100	D-9 female	SERVICE	none	DBC200	point-to-point	38400
BXC900	D-9 female	SERVICE	none	DBC200	point-to-point	38400
BXC901	RJ-45	SERVICE	none	DVX021	point-to-point	19200
BXC902	D-9 male	SERVICE	none	null modem	point-to-point	115200
DBM100	D-9 female	RS-232	none	null modem	point-to-point	115200
DMM100	D-9 female	RS-232	none	DBC200	point-to-point	115200
DMM200/201	D-9 male	RS-232	none	null modem	point-to-point	115200
DSM100	D-9 female	RS-232	none	DBC200	point-to-point	115200
DVDXX1	PS2	RS 232	DVX021	null modem	point-to-point	19200
DVO701	RJ-45	NMS	none	DVX021	point-to-point	19200
EMT100/110	D-9 female	-	EBA100	DVX021	point-to-point	19200
EMT101/120	D-9 female	-	EBA100	DVX021	point-to-point	38400
Vivace	D-9 male	CONTROL	none	null modem	point-to-point	19200
XMT100	D-9 female	SERVICE	EBA100	DVX021	point-to-point	38400

Remarks:

- Teleste null modem cable type: DBC202
- DVX021 = RS-232 to RS-485 converter

Installing CATVisor™ Commander

Before beginning:

Please read the Teleste Software End-User Licence Agreement.

For new installations: Have the CD package available, as the installation program will prompt you to type in the serial number on the package.

For upgrade installations: Write down the serial number of the existing release, as you must use the same serial number when installing the upgrade. This can be found under the Help -> **About Commander...** menu.

We advise that you uninstall any former CATVisor™ Commander versions on your system.

Installing

1. Install the CATVisor™ Commander by placing the CD-ROM in your CD/DVD) drive. The installation program's start up screen will appear. If the start up screen does not appear

CATVisor™ Commander

- automatically on your PC, launch the setup.exe file from the software package of your CATVisor™ Commander CD-ROM.
2. Follow on-screen instructions. The set up program will simply guide you through the installation.
 3. Install the 'Device DLLs' by placing the 'Device User Interface DLL Collection' CD-ROM in your CD/DVD drive.
 4. Follow the on-screen instructions. The set up program will simply guide you through the installation.

Uninstalling

Use the "Add/Remove Programs" feature in Windows Control Panel to uninstall CATVisor™ Commander.

Installing on Windows NT

1. You must first install the upgrade packet 'CD\Redist\vc6redistsetup_enu.exe'
2. Install Commander normally
3. Restart WinNT

Note! Service Pack 6 must be installed to run Commander

USB Driver Installation

The first time a Teleste USB device is connected to the PC, Windows will ask for drivers. They should be automatically found and just require some user selections. If not they can be found in "C:\Program Files\Common\Teleste\Drivers"

Select the telestecdc.inf to install.

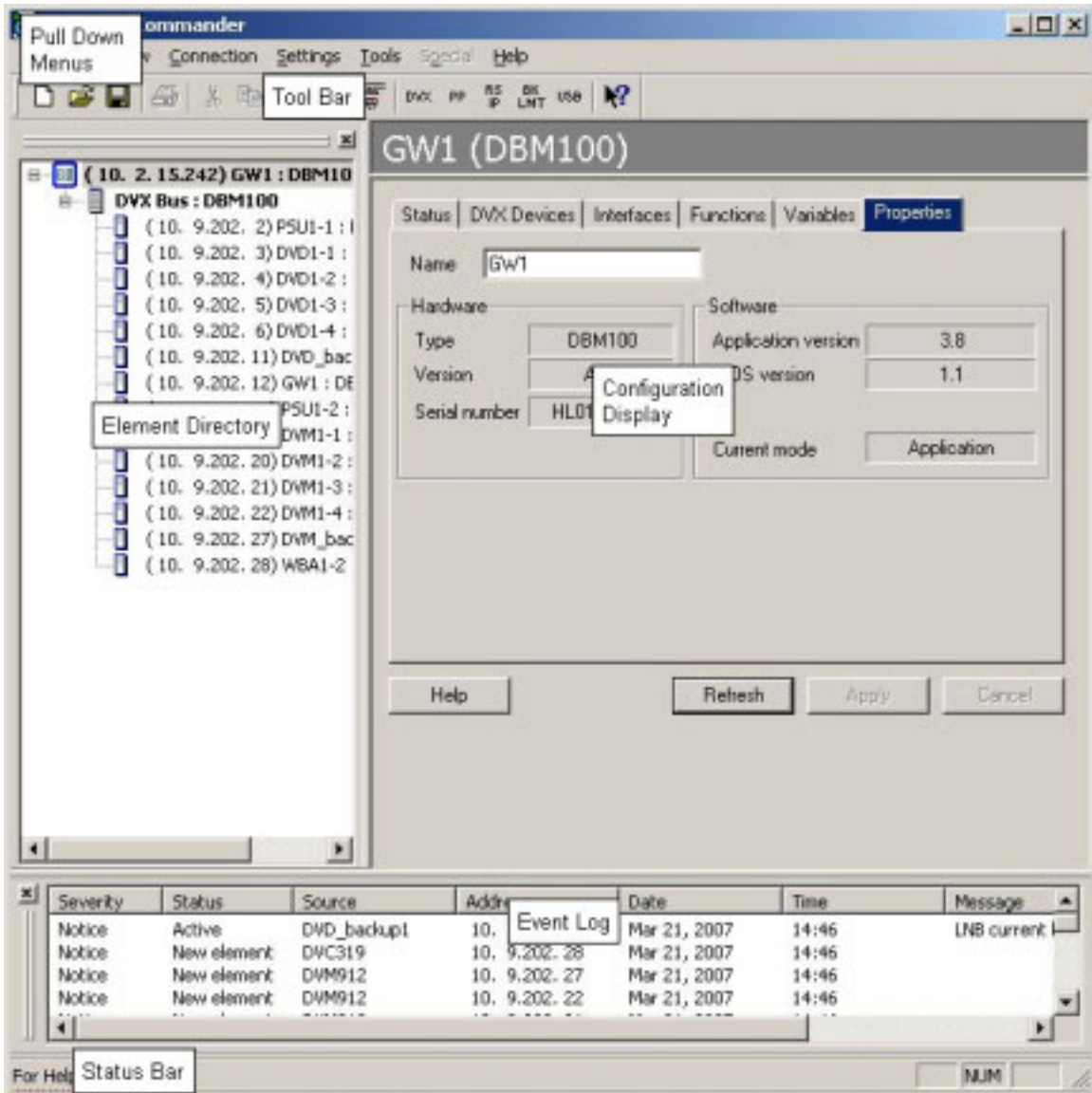
During the installation Windows will ask if it should stop the installation. Select "Continue Anyway"

Note! On some laptops equiped with the IBM/Lenovo TrackPoint, Commander crashes with USB connections. To resolve this issue disable the SynTPEnh and SynTPLpr drivers.

CATVisor™ Commander Tutorials

User Interface Principles

After you have opened a new or a previously saved connection, click an element in the Element Directory (see the picture below). The CATVisor™ Commander connected view will appear showing different types of information in three separate frames:



Parts of the Connected View

This section contains a short description of the functions of CATVisor™ Commander's frames and menus. They will be discussed in more detail later.

Element Directory displays the structure of connections, Host Controllers as well as headend or network segments and individual devices in them. The structure is shown in the readable form of a hierarchical tree, showing the network elements' relative positions within the network.

Configuration Display's display depends on the element selected in the Element Directory:

Selection in the Element Directory	Configuration Display
Serial connection	List of connected network or headend segments with Status Flags and information about Background Scanning and Backup Files.
USB connection	List of connected network or headend segments with Status Flags and information
Gateway device	The gateway's Configuration Display Pages.
DVX or HFC segment	List of devices within the segment with status flags and information about background scanning.
Individual device	The device's configuration display pages.

Event Log lists the alarms of all elements in the Element Directory, with . date, time, source, address, severity and message

Pull-Down Menus function as in standard Windows applications. By using them you can connect to headends, save connection combinations, change views, update software, set the connection properties etc.

Tool Bar contains shortcut icons for some of the Pull-Down Menus' functions as in standard Windows applications.

Status Bar shows keyboard status information as in standard Windows applications.

Element Directory

The Element Directory displays a graphical organisation of connections, DVX/BK bus and HFC segments and individual devices that the Commander is connected to. The directory can consist of the following types of network elements:



Serial connection



IP Gateway device



HFC



ATMux™ Node connection



DVX/BK bus



Individual device (network element)



USB connection

The directory shows these elements in hierarchical order. Connections and segments are displayed above individual devices and with bold font.

Alarms and Warnings

Alarms and warnings are displayed in the Element Directory with a status symbol in front of the network element.

If a network element has a multiple alarms/warnings, only the highest severity symbol is shown.

Selecting Elements

When you highlight a network element in the Element Directory by clicking the desired item, the Configuration Display will show more detailed information about it.

It is also possible to open a configuration display in a separate window e.g. for viewing/editing several devices simultaneously.

Configuration Display

The configuration display is the device type specific display that opens when you select a device in the Element Directory. The configuration display contains a variable number of pages for viewing and editing the device operating parameters.

In most configuration displays the ability to edit parameters depends on the user level.

Configuration display for a connection or a DVX/BK bus/HFC segment

By clicking one of these elements, a list of devices connected through this element is shown. The list shows each element's current status with some basic identification data.

You can sort the element list by any column by clicking the column header. Clicking the same header toggles between descending and ascending order.

You can change the column order by dragging the column header to the desired position.

Configuration display for an individual device

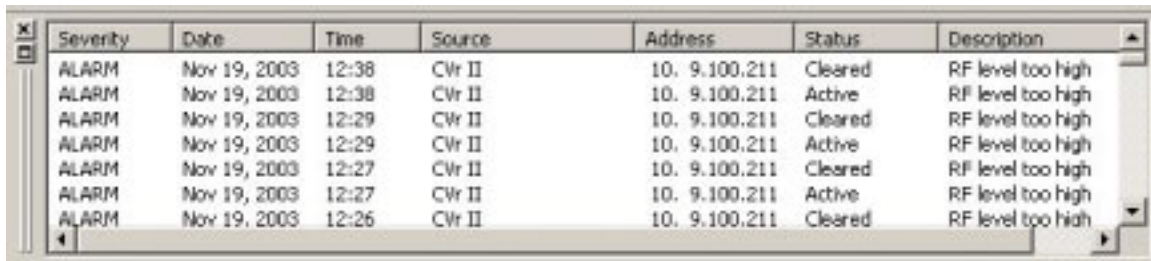
By clicking a device, the element specific configuration display is opened. Each element has its own configuration display module with a specific selection of pages.

Event Log

The Event Log displays the alarms reported by the devices. Three severity levels are used: Alarm, Warning and Notice. Each clearing of an alarm is indicated also as a Notice.

You can sort the Event Log by any column by clicking the column header. Clicking the same header toggles between descending and ascending order.

You can change the column order by dragging the column header to the desired position.



Severity	Date	Time	Source	Address	Status	Description
ALARM	Nov 19, 2003	12:38	CVr II	10. 9.100.211	Cleared	RF level too high
ALARM	Nov 19, 2003	12:38	CVr II	10. 9.100.211	Active	RF level too high
ALARM	Nov 19, 2003	12:29	CVr II	10. 9.100.211	Cleared	RF level too high
ALARM	Nov 19, 2003	12:29	CVr II	10. 9.100.211	Active	RF level too high
ALARM	Nov 19, 2003	12:27	CVr II	10. 9.100.211	Cleared	RF level too high
ALARM	Nov 19, 2003	12:27	CVr II	10. 9.100.211	Active	RF level too high
ALARM	Nov 19, 2003	12:26	CVr II	10. 9.100.211	Cleared	RF level too high

Help Features

You can get help for CATVisor™ Commander in the following ways:

- Help Menu (a pull-down menu in the program)
- User Manual (a printed document)

CATVisor™ Commander Menus

File Menu



New

Opens a new connection to the headend. Note that this command closes the current connections. If you wish to open a connection in addition to the active ones, use the **Connection > Add New...** function in the Connection Menu.

Open

Opens a previously saved Element Directory from file. Note that this command closes the connections already open. If you wish to open a connection in addition to previous ones, use the **Connection > Add New...** function in the Connection Menu.

Save

Saves the Element Directory database without changing its name, connection type or location.

Save As

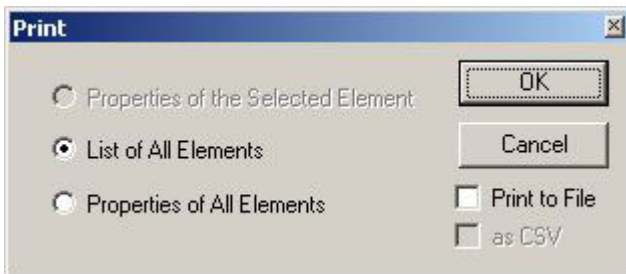
Opens the **Save As** window. In this window you can select the desired connection type and file location as well as name the Element Directory database file.

Print

In the printing options the Event Log and the Element Directory are currently available.

If you select the Event Log to be printed the standard Windows **Print** window opens.

If you select the Element Directory to be printed the following dialog opens:



- **Properties of the Selected Element** prints a list of basic information about the selected element.
- **List of All Elements** prints a list of elements with Alias Names and rack positions.
- **Properties of All Elements** prints a list of elements with all property fields as listed by the Element Properties function.

Printer Setup

Opens the standard Windows **Printer Setup** window.

Exit

Ends your CATVisor™ Commander session and closes the program.

Note! This menu also lists up to four previously saved connections. Click one for quick access.

Edit Menu

The Edit Menu for standard Windows editing functions Undo/Cut/Copy/Paste is currently not available. However, you can right-click in a text entry field and use these functions from the pull-down menu that opens.

View Menu



Use the View menu to hide or show parts of CATVisor™ Commander's initial view.

- Click an item in the list to hide it and click again to show it.
- A checked item in the list is showing.

Language Selection

On installation Commander sets the language of alarm messages to the user default language set in the control panel of the operating system. EMS partially or fully supports the following

- US English
- Spanish

If Commander is on default language selection it checks if the user language is one of the supported languages and attempts to display the alarms in that language.

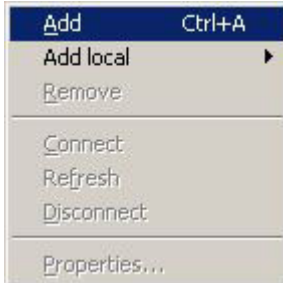
If the user language is not supported the Event log will display the alarm messages as a group of question marks "<???">. To correctly display the alarms in one of the fully supported languages select your language preference under "**view>language selection**"

Commander can display all dialogs and the main program in two languages. These are

- English
- Spanish

An alternative method to correctly display the alarms in one of the supported languages use "**Regional Options**" in Window's control panel and set your language preference to one of the supported or partially supported languages.

Connection Menu



Add New

Use this command to establish a new connection to the headend.

- Click Connection > **Add New...** to open the **Add New Connection** window.
- For more information about adding a connection, please see Adding a Connection.

Commands

This option contains some of the functions of the Element Directory Menus with which you can modify the connection.

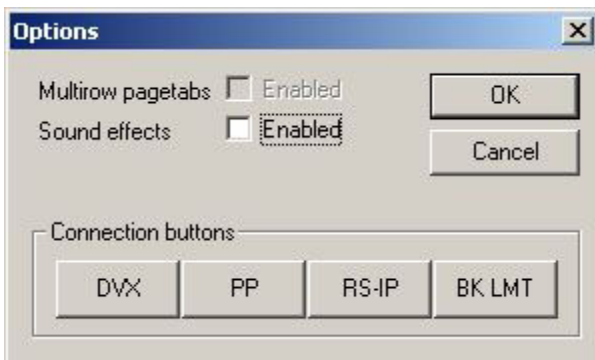
The Connection menu also lists the communication paths that you are using.

Settings Menu



Options

Clicking **Options** opens the following window:



By enabling Multirow pagetabs the tabs of the Configuration Display pages (see Configuration Display Pages) will be arranged in rows. This is useful if there are so many tabs that you cannot see all the headings.

Connection Buttons

You can customise the shortcut button settings to fit your serial port settings and frequently used connections.

User Profile

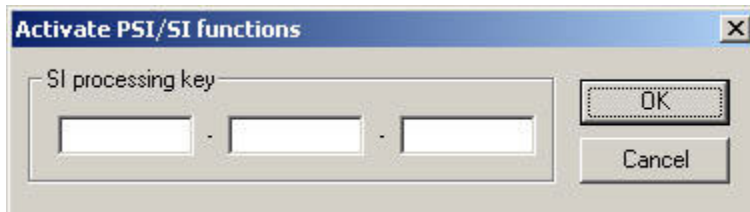
By clicking this option you can change your user profile "on-the-fly". If you change it "upwards" to a profile that has more privileges than your current one, the program asks for password. Changing "downwards" can be done without a password.

Serial Number

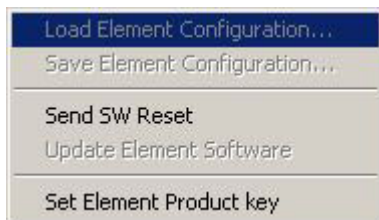
Normally you have to enter a valid Commander serial number at the installation. However, if you want to enable certain Commander functions afterwards with a new serial number, you can type it in here. You will get a serial number by purchasing a license for the specific function.

PSI/SI key

If you want to enable the PSI/SI processing features, you have to type in a special PSI/SI processing key. You will get the key by purchasing a license for the PSI/SI editor.



Tools Menu



Note! Some of these options are not available for the user profile "Guest". For other user profiles this menu contains additional options. For example, users with at least "Service" level user profile can update device software from this menu see [Updating the Device Software](#).

Load/Save Element Configuration

Note! Load/Save Element Configuration is **NOT** supported under Windows NT

The 'Settings Saver' function is used to store device configuration data into XML files. The stored configuration can then be downloaded back into a module without the need to manually configure the operating parameters. This enables quick and easy module configuration restoration in case of e.g. device failure. With sufficient knowledge it is even possible to edit the configuration files off-line and use them for quick installation of new modules.

The Settings Saver function is activated by the "Load Element Configuration..." and "Save Element Configuration..." selections under the Tools menu. These selections are active only for element types that have Settings Saver support installed. Please note that the Settings Saver option needs the DSS 100 license that must be purchased separately for each Commander license.

Note! While saving an elements configuration you should select the **Status** page and not change viewer pages during loading/saving element settings.

Note! Only copying of settings between devices of same HW-model are possible

Send SW Reset

With this option you can send a Reset command to the selected device. Please note that a software reset may cause a service outage in the network.

Update Element Software

With this function you can download new software to the selected element. For details please refer to section Updating the Device Software

Broadcast Update Element Software

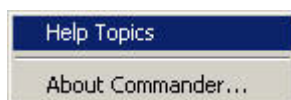
With this function you can download a new software to multiple elements. For details please refer to section 'Updating Element Software'.

Set Element Product Key

You can purchase additional properties for ATMux™ products. These properties are activated with a product key that you will receive from a Teleste representative. Select the product in the Element Directory, click Product key and enter your product key in the window that opens:



Help Menu

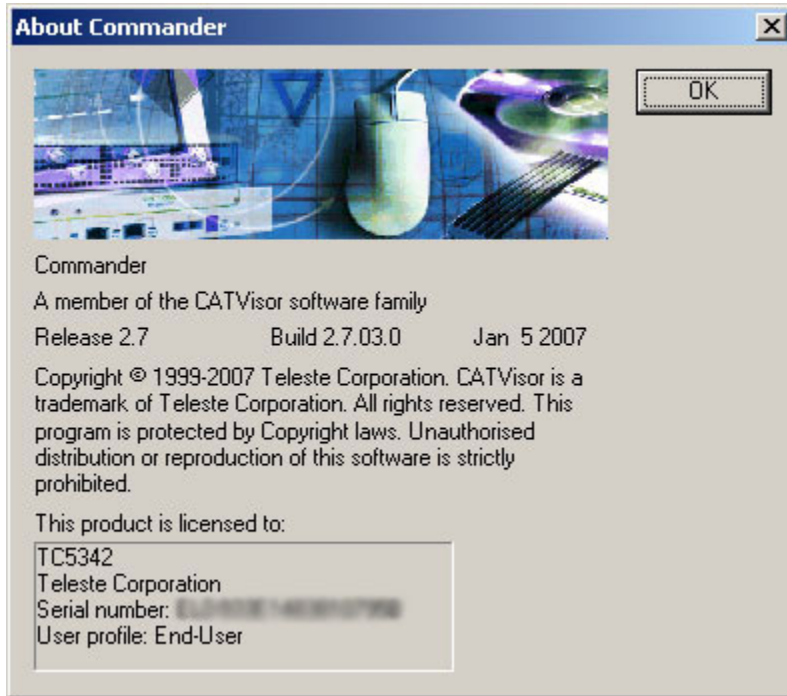


Help Topics

Opens the on-line help's **Help Topics** window. Simply follow the instruction given in this window.

About Commander...

Opens the **About Commander** pop-up window. It contains basic information about the program's version, producer and copyrights. The serial number and other information in the following example window are illustrative only.



By clicking **Components** or **Viewers** you can open windows containing Commander's components and their version numbers. By clicking **Save Info** you can save this information to a text file. Our technical support may ask you to send this file as an e-mail attachment to them for better service.

Element Directory Menus

Click on an element with the right mouse button in the Element Directory to open a pull-down menu:



Menu for IP connections

Depending on the element, some of these options may not be available.

Open

Re-opens the connection.

Open New Window

Opens the element's Configuration Display as a separate, additional window. This is useful, for example, when you want to compare the settings of two devices of same type.

Refresh

Updates the connection or device information.

Expand/Collapse (Only for IP connections)

Modifies the Element Directory's appearance as explained in Modifying the Element Directory Appearance. These commands activate alternately.

Rename

This is a standard Windows function for renaming.

Connect/Disconnect (Not available for segments)

A disconnected element will not be in use but remains visible in the directory. Click **Connect** to establish the connection again.

Remove

Removes the element from use and from the directory.

Element Properties

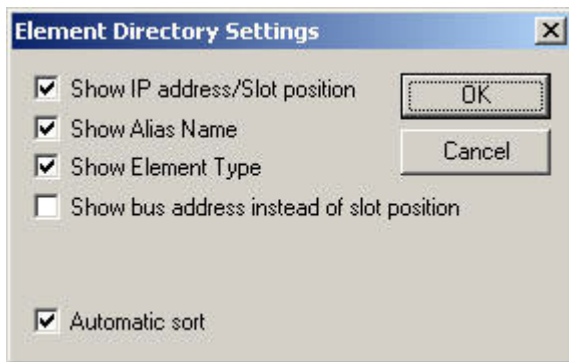
Opens the **Element Properties** pop-up window. This window shows basic read-only information about the element.

Connection Settings (Not available for segments)

Click **Settings** to open the **Connection settings** window. In this window you can monitor and change connection settings. The connection settings will be explained in more detail in chapter Connection Settings.

Element Directory Settings

Click **Element Directory Settings** to open the **View Settings** window.



IP Address/Slot Position: Select to show the IP Address or DVX slot position

Alias name

Select to show the Alias name

Element type

Select to show the element hardware type

Either the **Alias name** or the Device Type must be selected. Alias name is read from the element. If you want to change it you must do it on the device's Properties Page.

Bus address is a device's position

Select to display either the bus address or the subrack slot position. This selection is effective only with DVX or BK bus connections.

Automatic sort arranges the directory's elements by IP address in ascending order or by Alias name/Element type in alphabetical order.

Lookup Latest Event Message

Use this command to highlight the element's latest event message in the Event Log. See also Event Log .

Print

This is the same print command as in File menu. See File Menu.

Connection Settings

The screenshot shows a 'Connection settings' dialog box. It has a title bar with a close button. The main area contains several input fields and checkboxes. The 'Type' field is set to 'Serial port', 'Name' is 'RS232 Port', and 'IP address' is '0.0.1.0'. There are 'OK' and 'Cancel' buttons. Below these are two sections: 'Background scan' and 'Parameters'. 'Background scan' includes 'Interval' (500 ms), 'Enabled' (checked), and 'Addresses' (Start: 0, End: 255). 'Parameters' includes 'Port' (COM1), 'Busmode' (DVX bus), 'Baudrate' (19200), and 'Linkable' (unchecked). An 'Apply' button is at the bottom right.

This dialogue is available only for connection elements. It displays the connection type with the background scanning settings. Background scanning is a process during which Commander automatically looks for possible new network elements on the DVX bus and refreshes the status flags shown in the **Element Directory**

Interval

defines the Background Scan interval for each bus address..

Enabled

Enables the Background Scanning. If disabled, new network elements will not be found on the DVX/BK bus.

Addresses

You can limit the scanned bus address range e.g. to prohibit from scanning non-existent DVX subracks.

Parameters

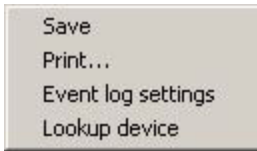
You can change the initial connections settings here.

For more information about these settings please refer to Adding a Connection.

Click **Apply** to make the new settings valid or click **Cancel** to restore the original settings.

Event Log Popup Menu

You can right-click any event in the Event Log to open a pull-down menu



Save

Opens a standard Windows Save window for saving the Event Log into a text file for further analysis.

Print

Opens a standard Windows Print window for printing of the Event Log.

Event Log Settings

See section 'Customising the Event Log'

Tool Bar



The Toolbar contains buttons for frequently used functions.

- Place the cursor on an icon and a tool tip will appear showing the function of this icon. The Status Bar at the bottom of the Configuration Display shows you a longer description of this function at the same time.

The Tool Bar also contains shortcut buttons for opening local connections (DVX, PP, RS IP, BK LMT, BK and USB). The connection settings can be modified by using the Options command in the Settings Menu.

Using Commander for Configuring and Monitoring the Network Elements

Starting CATVisor™ Commander

First, please make sure that

- You have the CATVisor™ Commander software installed.
- For a serial port connection: You have a suitable serial cable and/or adapter available for the serial connection.
- All DVX 001/002 installation frames (sub-racks) are inter-connected and each frame has a unique subrack address (please refer to the DVX 001/002 installation instructions).
- For an LAN/IP connection: Your PC and the network element you wish to connect to are connected to the LAN/WAN and there is a proper IP route between them. If needed, test the IP route by the PING command.

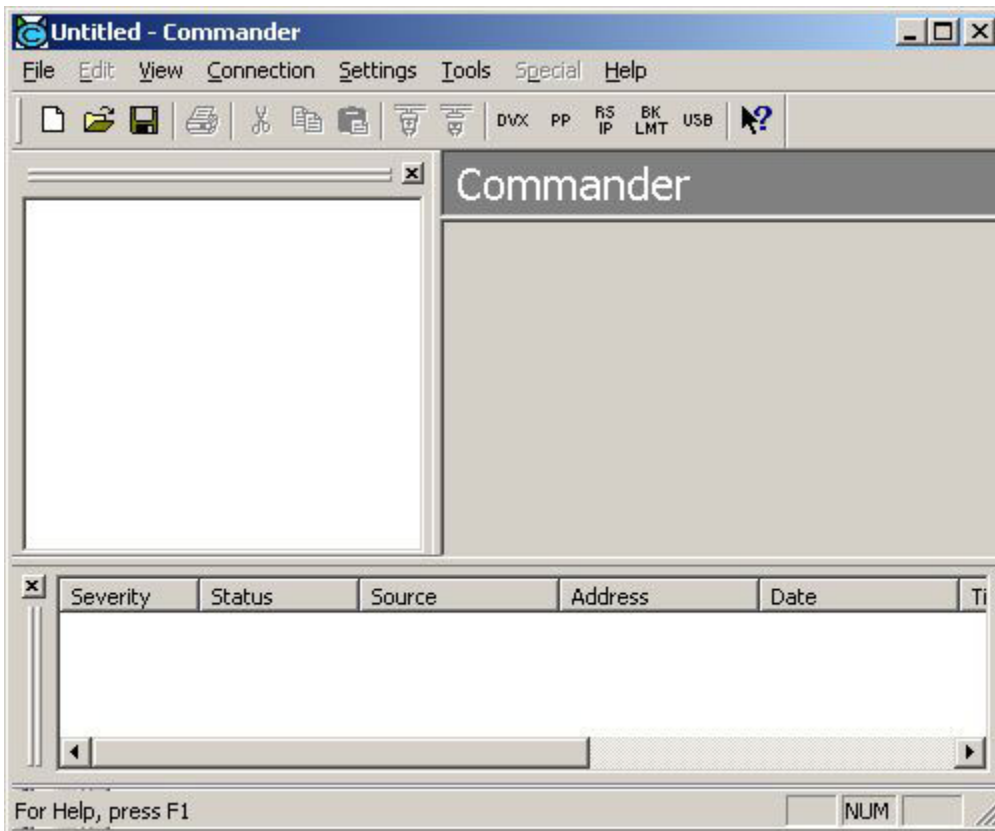
The Initial View

The installation program automatically places a shortcut icon to CATVisor™ Commander on your desktop.

Click this icon to start Commander. Your screen will initially appear as seen below:



Click this icon to start Commander. Your screen will initially appear as seen below:



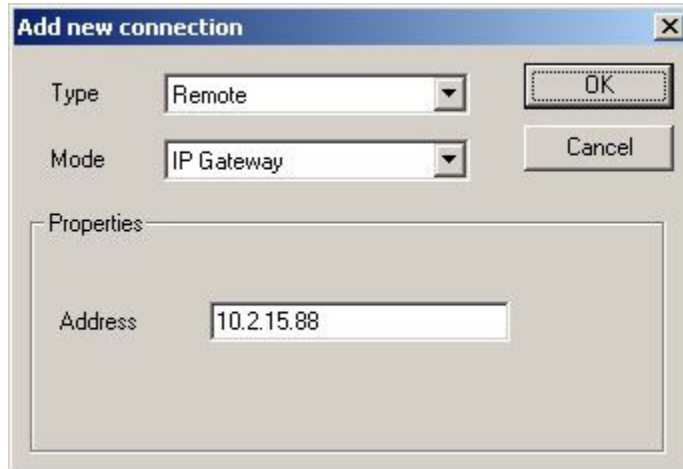
The program is now running, but not yet connected to any headend.

Note! the three separate frames in the display. These frames are the basis of the program's operation. In the next section you will open a connection to a headend to see better how these frames function.

Establishing Connections

Adding a Connection

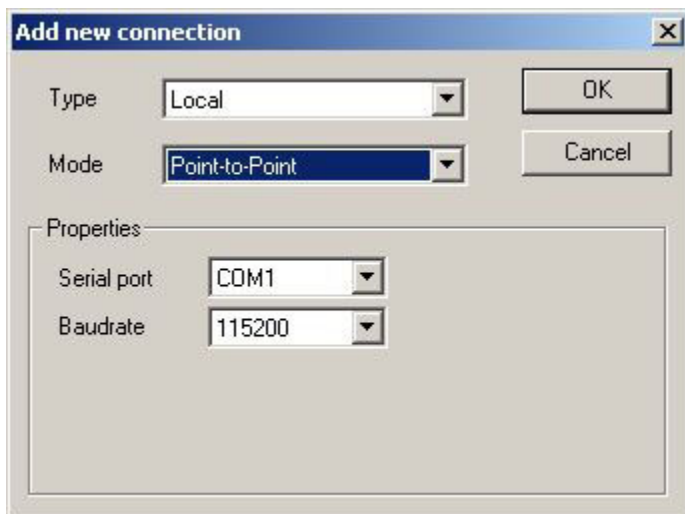
1. Select the **Connection** pull-down menu.
2. Click **Add New....** to open the **Add New Connection** dialog.
3. Select the desired connection type from four options in the pull-down menu:



- Serial Port establishes a local serial connection either to all DVX bus/ BK bus devices or a point-to-point connection to a single device. See Communication Path Requirements.

The **Properties** field changes according to the connection type you select.

Local Connections



Mode

The local connection modes are as follows:

- **BK Bus** establishes a connection to BK bus devices.
- **BK LMT** establishes a connection to the BK controller.
- **DVX Bus** establishes a connection to DVX bus devices.
- **Point-to-Point** establishes a connection to a specific device.
- **Serial IP** establishes an IP connection over the serial connection. This connection mode is functionally identical to the IP Gateway connection type but uses the serial connection instead of a LAN or USB connection. It is supported only by DBM100 and DMM200.
- **USB** establishes an USB connection. This connection mode is functionally identical to the point-to-point connection type but uses the USB connection instead of a LAN or serial connection. See **USB Driver Installation**

Note! The BK LMT connection is subset of the Serial IP connection with a fixed data rate and some special features.


Properties

- **Serial Port** Select the COM port that you are using for this connection from the pull-down menu.
- **Baudrate** The correct baud rate depends on the controller or the device type. Please refer to the picture in the section 'Communication Path Requirements' or to the device's installation instructions.

Note! For the BK LMT connection type the baud rate is fixed and no selection is available.

- **Poll Range** This selection is available only with DVX bus and BK bus connection modes. It allows you to limit the bus address space that is scanned when looking for installed devices.

Remote Connections



The screenshot shows a dialog box titled "Add new connection" with a close button (X) in the top right corner. It contains two dropdown menus: "Type" is set to "Remote" and "Mode" is set to "IP Gateway". Below these is a "Properties" section with a text input field labeled "Address" containing the value "10.2.15.88". To the right of the dropdowns are "OK" and "Cancel" buttons.

Mode

The remote connection modes are as follows:

- **ATMux™ Node** establishes an IP connection to an ATMux™ node (Vivace or Presto) and all ATMux™ modules reachable over the Inband communications network.
- **Direct IP** (Point-to-Point) establishes an IP connection a single individual device.
- **IP Gateway** (IP Host) establishes an IP connection to an IP Gateway device (DBM100, DMM100/200, DSM100, Vivace or Presto) and to all DVX bus and HFC devices under the gateway module.
- **IP via Serial Port** connection is actually an IP Gateway connection but over the serial line. Serial IP connections are currently supported only by DBM100 and DMM200.
- **SNMP Element** uses the SNMP protocol to communicate with an element. See. ▶ Appendix: SNMP

Properties

- Enter the IP address or Host Name of the device you want to connect to.

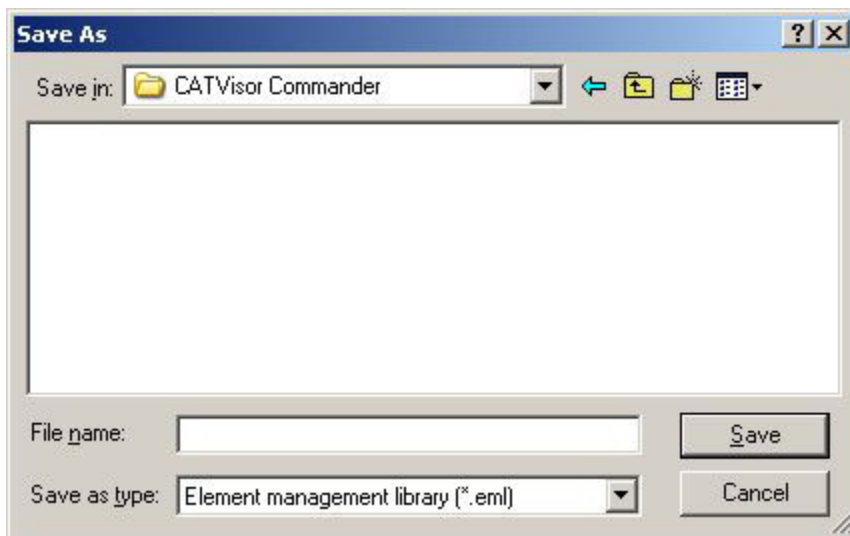
Local Connection Shortcuts

You can open local connections with the Add Local selections or by the toolbar connection buttons. Shortcuts are available for DVX bus, point-to-point, Serial IP, USB, BK LMT, BK bus local connections and USB.

You can customise the shortcut settings with the 'Tools-Options' menu to fit your serial port settings and frequently used connections.

Saving an Element Directory

Once you have made a connection you can save the element directory on to a file. This can be in '*.eml' or '*.xml' format

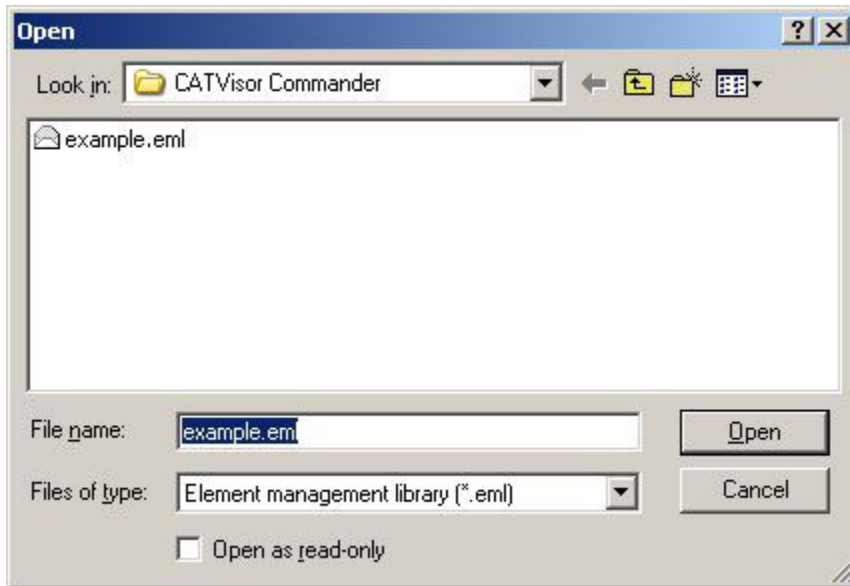


Note! While saving an elements configuration you should not change viewer pages during loading/saving element settings.

Opening a Saved Connection Database

If you have saved a connection database you can open it to the Element Directory using the 'Open...' command in the File menu. Opening a connection database will close all current connection and replace them with the connections in the saved database.

Opening a saved connection database may be substantially faster than opening a new connection, since the Commander does not have scan through the system to find the devices. There is also the advantage that any non-communicating modules are immediately discovered.



Removing Devices from the Headend

If a device is physically removed from the system that you are connected to, a red cross symbol appears in front of this device in the Element Directory indicating that the device is no more communicating with the Commander:

X Not responding

This symbol also appears in the Configuration Display when the device is not responding. If the device has been permanently removed from the system, you must remove it manually from the connection database. Select the device and choose 'Remove' from the secondary mouse button menu or from the 'Connection' toolbar menu.

Of course, you can always 'clean out' the Element Directory by opening a new connection and re-discover all existing elements. However, this is a slower method especially if there are a large number of devices in the system.

Note: If you re-open a stored connection database, a removed device will reappear. To update the connection database, remove the device manually or re-open the connection and then save the connection database (eventually with the old name).

Adding Devices to the Element Directory

If a device is physically added to the system you are connected to while Commander is running, the program will automatically discover the new elements. If you wish to add this device to your Element Directory database as well, remember to save the connection database before exiting (Commander also suggests saving upon exit).

Using the Configuration Display

This section gives only basic information about configuring and monitoring the devices. For LEGATO, STACCATO and VIVACE, please see On-line Helps for Configuration Displays for more information. For other devices, please refer to their installation instructions for more information about their Configuration Displays.

The configuration display is the device type specific display that opens when you select a device in the Element Directory. The configuration display contains a variable number of pages for viewing and editing the device operating parameters.

In most configuration displays the ability to edit parameters depends on the user level.

Status Page

The Status Page is always the first page in a configuration display. It is identical for all device types and displays the device's current alarms (alarms, warnings and notices).

The devices report alarms by raising Alarm Flags. The Commander polls the alarm flags and interprets the information to the Status Page, the Element Directory and the Event Log.

By default the Status Page displays all alarms but you may hide the warnings and notices by checking the corresponding check boxes. The hiding functions are non-persistent so you have to recheck them every time you re-enter a Status Page.

The Status page is automatically updated with an interval of approximately three seconds.

Note! The alarm polling of the Element Directory and the Event Log is substantially slower than the Status Page polling and therefore these displays may be temporarily out of sync.

Properties Page

The Properties page is normally the last page in a Configuration Display. There are a number of different configuration pages for different device types. In all cases it shows information about the device's hardware and software, as shown in the example below.

Optical Rx	ALSC	Gain	RF Levels	Spectrum	
Status	Configuration	Motherboard	Transponder	Repair Log	Properties
Name	Amp AC1000				
Station					
Type	AC1000				
Serial number	SK12052003				
Transponder					
Type	AC6910				
Version	B1.0				
Serial number	KL00120240				
Software version	1.3.0				

On a Properties page you can also set the Alias name for selected device. The Alias name will also be displayed in the Element Directory.

Note! ATMux™ devices have a Save Button on the Properties page. Clicking it opens the standard Windows Save window where you can save the information on this page to a text file. This function is needed, for example, if you need technical support from Teleste. Our technical support may ask you to send the saved file to them for better service.

Editing the Settings

The device specific pages display the device's operating parameters and settings. With End-user and Service user profiles you are allowed to edit the settings. The different information is displayed with different Windows controls, including Edit boxes, Tables, Check boxes, and Radio buttons.

There are at least three types of information:

Read-only information may be changed only by the device itself and the user has no direct access to this information. Read-only fields are usually shown grayed out.

Note! Fields can have read-only status also because of the current user level that does not allow editing of all fields. With level Guest all fields should be read-only but some older configuration displays do not support the Guest level.

Off-line editable information: Most of the numerical, alphanumerical and table type information in the configuration displays is off-line editable. This means you can immediately select a field and type in a new value (or Press Del or Backspace) the field updating is halted and you may type in a new value. However, the value will be sent to the device only by pressing the '**Apply**' button. You may edit several fields simultaneously and send all values to the device with one '**Apply**'. The '**Apply**' button only becomes active after you have edited one or more values.

If do not wish to store the new value into the device, just click '**Cancel**' and the display will re-read the original values from the device.

On-line editable information: Certain parameters are such that it is more convenient to send the new value immediately to the device without needing the '**Apply**' button. Such controls are typically radio buttons or slide controls. When using such controls, the '**Apply**' button will not activate and the new value will be automatically sent to the device and then re-read to give immediate feedback.

Note! Especially with HFC devices the communication speed limits the amount of commands you can send to the device. This can make e.g. slide controllers somewhat tricky to use and therefore there is usually the possibility to set the controller value manually.

Refreshing the Device Information

The Configuration Displays for devices have a **Refresh** button. Click that button to update the information shown on the Configuration Display pages.

Monitored Parameter Values

Parameters that are being monitored by the device itself are usually shown with a background colour indicating the status of the parameter. The colours are analogous to the Element Directory symbols and are as follows:

Green: the value is within limits

Yellow: the value has exceeded one of the warning limits

Red: the value has exceeded one of the alarm limits

Blue: the value has exceeded one of the notification limits

If a parameter background is other than green, the corresponding alarm flag will be displayed on the Status page.

On-line Helps for Configuration Displays

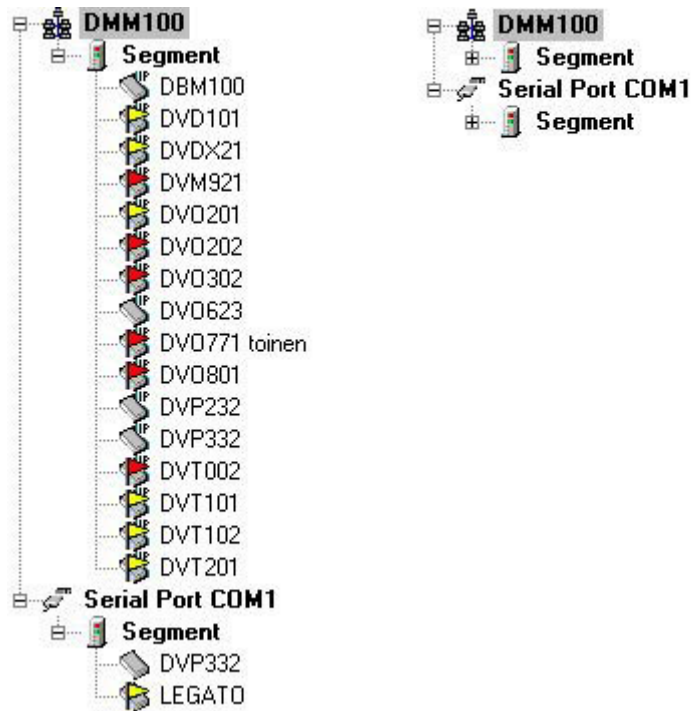
Currently LEGATO, STACCATO, VIVACE and PRESTO have their own on-line documentation for their Configuration Displays included with CATVisor™ Commander. These helps work by clicking the **Help** button of the Configuration Display.

Other devices' Configuration Displays do not have the Help button or it is inactive. Please refer to their installation instructions for more information about their Configuration Displays.

Commander Special Features and Options

Customising the Commander User Interface

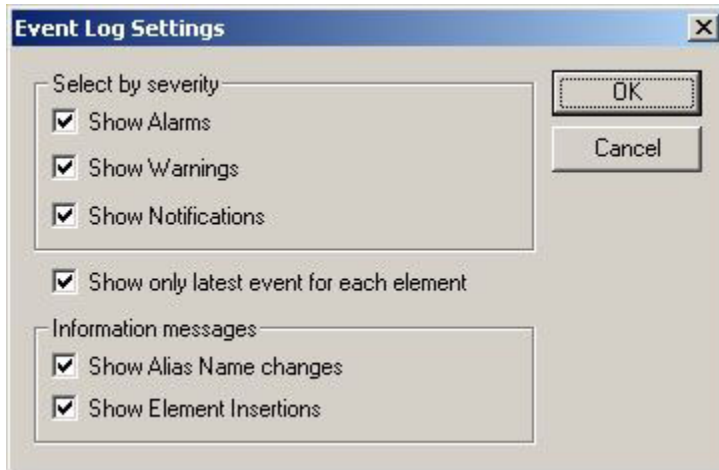
- The minus (-) and plus (+) symbols in front of network elements function as in standard Windows applications. You can click them to hide or show subdirectories of the **Element Directory**.
- For IP connections that can contain very large numbers of connected elements there are **Collapse** and **Expand** commands in the **Element Directory** Menus. Click **Expand** to view all elements under the connection or click **Collapse** to see only the connection's name. The default method for showing an IP connection is collapsed because an automatic start for scanning large networks could cause network congestion.



Element Directory, a detailed view Element Directory, an overall view

Customising the Event Log Appearance

The Event Log can be customized by the Selection 'Event Log Settings'. It opens the following a dialog window:



Show alarms/warning/notifications:

You can hide each of the severity levels by unchecking a category.

Show only latest message for each device:

When checked, only the latest alarm event for each device is shown on the Event Log.

Show Alias Name changes:

Uncheck if you don't want to see Alias Name change events.

Show New Elements:

Uncheck if you don't want to see New Element events.

Lookup Device:

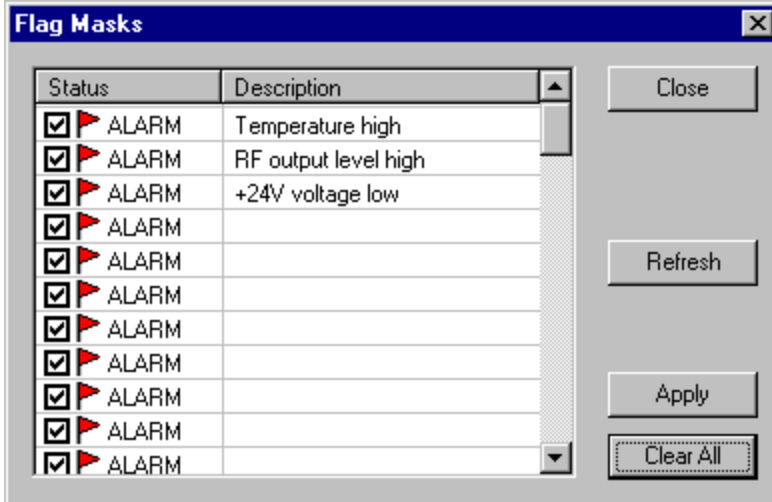
Selects the corresponding element in the Element Directory and opens its configuration display.

Using Flag Suppression

Some devices support the **Flag Suppression** function on the **Status Page**. With **Flag Suppression** you can set the selected device not to report some alarms that you don't want.

Note! Flag suppression is a property of the element's software so you have to do it separately for every element.

The **Flag Suppression** button is available only for users with "**Service**" user profile. Clicking **Flag Suppression** opens the following window:



The window lists all possible alarm flags and their descriptions for the selected element. Deselect the ones you want to disable. Confirm your selections by clicking **Apply**.

By default, all alarm flags are enabled. You can enable all of them by clicking **Set All** and disable all by clicking **Clear All**.

If the device does not support **Flag Suppression**, you will see a Notice.

Background Scanning and Backup Files

When a serial connection or a headend/network segment is selected, the Configuration Display also displays a bar showing background scanning information.



Poll addr

Displays a running number indicating the bus address being scanned. The full address range is 0 to 255.

Restart poll

By clicking this button you can start the background scanning process again from the beginning of the address range.

Backup files

This button is used for saving device settings in files and for loading settings from files into devices. Currently not all devices support this function. This command is useful, for example, when a device is physically replaced with a device of the same type. Configuring the new device is easy from a file containing the settings of the replaced device.

Note! a device must be selected in the device list to activate this button.

Starting with Command Line Parameters

You can also start Commander by using command line parameters. By using command line parameters you can e.g. make Windows shortcuts that automatically open a certain type connection. This will ease up program startup and make your work more efficient.

The command line option are as follows:

Connection type

- /s = serial connection
- /d = LAN connection: Direct IP
- /h = LAN connection: IP host
- /a = LAN connection: ATMux element

Note! Currently there is no command line for USB connections.

Additional interface parameters only for serial port, delimiter = colon:

Port:

- com1, com2 etc.

Data rate:

- 19200, 38400 or 115200

Connection mode:

- dvx (DVX bus)
- bk (BK Bus)
- pp (Point-to-Point)
- bkfmt (BK LMT)

For all LAN connections an IP address is required as a parameter

Examples:

DVX bus via com1:

```
"c:\program files\teleste corporation\catvisor commander\commander.exe" /s com1:19200:dvx
```

Point-to-point connection to DMM200 via com2:

```
"c:\program files\teleste corporation\catvisor commander\commander.exe" /s com2:115200:pp
```

BK LMT via com1:

```
"c:\program files\teleste corporation\catvisor commander\commander.exe" /s com1:115200:bkfmt
```

IP Host (DBM100, DMM100/200, Vivace, Presto) in IP 10.2.15.88

```
"c:\program files\teleste corporation\catvisor commander\commander.exe" /h 10.2.15.88
```

ATMux™ node (Vivace, Presto) in IP 192.34.5.67:

"c:\program files\teleste corporation\catvisor commander\commander.exe" /a 192.34.5.67

Note! The path in the examples is Commander's default installation path. Use the path selected during installation.

Starting Viewer Only Mode

You can start Commander from the command line or create a shortcut so that it will show only the viewer pages for a device.

The supported connection types are:

- DirectIP
- Serial Point-to-point

Examples:

DirectIP

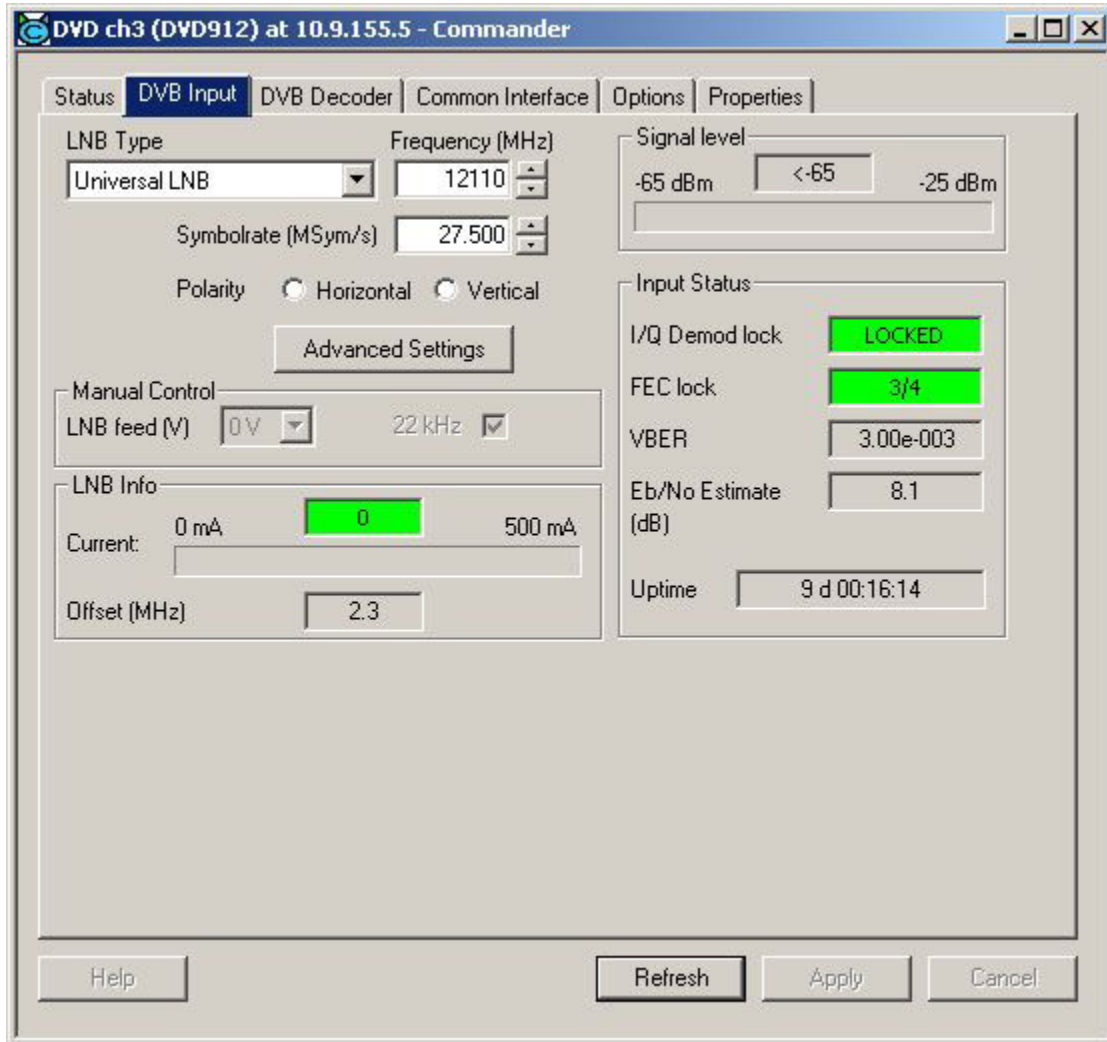
"c:\program files\teleste corporation\catvisor commander\commander.exe" /d 10.2.15.140:plain

Serial Point-to-point

"c:\program files\teleste corporation\catvisor commander\commander.exe" /s
com1:115200:pp:plain

Note! The path in the examples is Commander's default installation path. Use the path selected during installation.

On connection you will be presented with a window that contains only the viewer pages.



Using the Connection Database file name as a Command Line Parameter

To open a stored database immediately at startup, you can use the file name as a command line parameter. Simply add the filename (and the path if necessary) after the Commander executable (the connection database is also called 'Element management library').

Example:

"c:\program files\teleste corporation\Commannder" d:\data\network.eml

For more information about saving and Element Directory, see chapter 'Saving an Element Directory'.

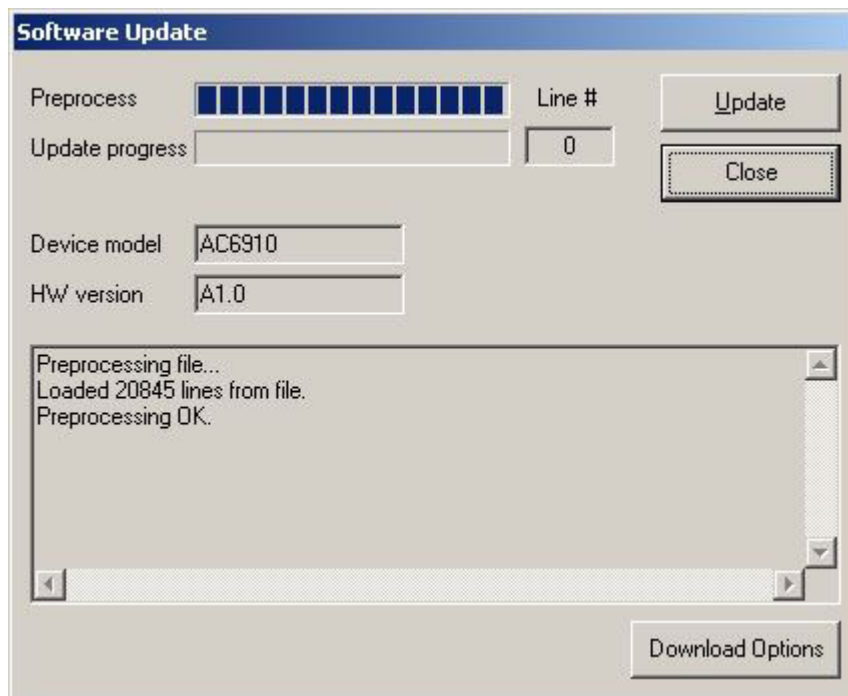
By using these command line parameters it is also possible to create shortcuts on your desktop for easy program startup:

1. Right-click your mouse on the desktop.
2. Select New/Shortcut
3. Type a command line in the Create Shortcut window that opens.

Updating the Device Software

With the help of CATVisor™ Commander you can load application software updates to the devices. S-record files with extensions srec and s2 also accept firmware as update target. Element software can be updated only by users with at least "Service" level user profile. There is also the Broadcast Update Element Software option for updating several devices of same type at the same time. For this you will need to enter a broadcast address but after that the process is the same as described below.

1. Select a device in the Element Directory.
2. Click **Update Element Software...** in the **Tools** menu to open the **Open** window.
3. Browse for the update file (in **.hex**, **.srec**, **.s2** or **.mot** formats) and click **Open**. The update preprocess starts automatically.
4. The blue indicator bars in the **Preprocess** field show the progress and remain full when preprocessing is finished. The **Software Update** window will then appear as below:



Under download options you will find more detailed settings are available.

Download Options

Device information

Hw Model: AC6910

Hw Version: A1.0

Target: 0000 (hex)

Format: 5332 (hex)

Download parameters

Download method: Combined lines (3)

RESET device before start:

BOOT time: 4000 ms

Timeout for PREPARE reply: 1500 ms

Don't require PREPARE reply:

Time to PREPARE download: 15000 ms

RETRY count: 10

Timeout for UPDATE reply: 5000 ms

RESET device after update:

Use binary format:

Use custom line length:

Custom line length: 185 bytes

Bus reserved safemode:

Buttons: OK, Cancel, Store to file

CAUTION! Uncheck the **Bus reserved safemode enabled** check box only if you are sure that your PC is the only master of the bus. The update process may be a little faster when **Bus reserved safemode** is disabled, but the process will fail if some other device takes control of the bus during the download.

5. Enter the **Device model** and **HW version** if prompted. You will find them on the Properties page. Select the **Download method** from the pull-down menu:

Synchronised

Synchronous communication is used in downloading. Each packet will be checked before sending the next.

Send and Check

Asynchronous communication is used in downloading. Each packet will be checked before sending the next.

Fast

Asynchronous communication is used in downloading. Packets are sent on regular intervals until no packets are left.

Combined Lines

As many data lines as possible will be combined into each packet. Asynchronous communication is used in downloading. Packets are sent and stored to a communication buffer on regular intervals until no packets are left.

6. Click **Update**. The updating process may take a few minutes. The blue indicator bars in the **Software update** field and the text field at the bottom of the window show the progress.
7. When the process is finished, a **Software updated successfully** notification appears briefly and the blue bars remain full indicating that the application software is updated. Close the **Software Update** window by clicking **Close**.
8. Some digital devices need the **Reset** command in the **Tools** menu to start the new application software. If the **Reset** command is not available, just select the device in the Element Directory again.

Note! With some devices a physical power-off and on will be required. Please refer to the device's installation instructions for more details.

SNMP

General Overview

Commander 2.5 and higher versions provide limited SNMP functions. SNMP network elements can be manually added to the element directory one by one to establish a common system view with traditional non-SNMP elements. The directory contents can then be stored on disk and the next time Commander is used the connections can be quickly restored without the need to manually add all the SNMP elements again.

When adding an SNMP element to an element directory, the user must define the IP address and change the SNMP read and write communities and the UDP destination port number, if the defaults can not be used. The user may also type a name for the element, to distinguish it from other SNMP elements on the directory tree.

The screenshot shows a dialog box titled "Add new connection". It has a close button in the top right corner. The "Type" dropdown is set to "Remote" and the "Mode" dropdown is set to "SNMP Element". There are "OK" and "Cancel" buttons. The "Properties" section contains the following fields:

Address	10.2.14.182	Port	161
Alias Name	SNMP Element		
Communities:			
Read	public		
Write	private		

Once added to the element directory, SNMP elements can be configured in the same way as traditional network elements. This requires that a compatible SNMP viewer DLL is installed and configured to the system. The exact functions available depends on the viewer properties.

The following limitations apply to SNMP elements:

- only LAN (IP) connections are supported
- there is no automatic discovery available, all SNMP elements must be added manually to the element directory, one-by-one
- no identification data is automatically retrieved to the element directory from the element
- the presence or alarms of SNMP elements are not monitored

MIB Database

MIB database consists of a number of files of special format, which store MIB information used by the product to view and edit SNMP variables of the target devices.

MIB database files are located in a dedicated directory. By default this is "C:\Program Files\Common Files\Teleste\MibBase"

Preloading information

Since MIB information can potentially consist of many MIB variables described in a big number of files, loading the whole set of MIB information at once may slow down the system. Instead, MIB

information is loaded on demand by viewers and other components that want to use MIB information.

A viewer or other component typically knows exactly what kind of MIB information it needs (and therefore can ask MIB database to load the needed files). However, in some cases this knowledge might not be available to the viewer (e.g. when working with MIB variables which reference other MIB variables, like HMS alarm information).

To let viewers and other components access all MIB information they might need, it is possible to specify that some MIB databases are preloaded. This is achieved with the help of MIB preloading information.

MIB preloading information is specified in a file named "**MibInfo.txt**". This file is located in the product installation directory and uses the standard Windows '.ini' file format.

MIB preloading can be done either based on sysOID or on IP address. If both are specified, the IP address takes precedence. Section name "**All**" defines the MIB files preloaded for all elements.

Example:

```
; MIB files to use with address 10.2.14.165
[IP-10.2.14.165]
MIB-2-System.txt
bkModules1.txt
bkStation.txt
```

If you want to specify which MIB files must be loaded when the application works with an SNMP agent with a specific MIB-2 sysObjectId, add section with name "OID-sysObjectId" to the file and specify the list of MIB files as entries in the section.

Example:

```
; MIB files to use with 1.3.6.1.4.1.4761 (NuDesign)
[OID-1.3.6.1.4.1.4761]
Teleste-EMS.txt
```

If you want to specify which MIB files must be always loaded, add section with name "All" to the file and specify the list of MIB files as entries in the section.

Example:

```
; MIB files that are always loaded
[All]
MIB-2-System.txt
```

Note! MIB database supports full and relative file paths. If the relative path is given, it is appended to the end of the MIB file path pre-configured in the Registry.

Example:

```
; Full and relative file path example
[All]
; Full path
c:\mibfiles\MIB-2-System.txt
```


; Relative path – will be expanded to <MibFilePath>\hms\HMS-commonIdent.txt
hms\HMS-commonIdent.txt

Note! If the same file is specified in MIB preloading information more than once, it does not cause any significant performance overhead. This is because MIB database checks if a file is already loaded, and does not load already loaded files again.

Complete example:

; MIB files which are always loaded
[All]
MIB-2-System.txt
; MIB files to use with all SNMP Wizard installations
[OID-1.3.6.1.4.1.4761]
Teleste-EMS.txt
; MIB files to use with the device at 10.2.14.165
[IP-10.2.14.165]
bkModules1.txt
bkStation.txt
HMS-commonIdent.txt
HMS-propertyIdent.txt

Viewer Database

The Viewer Database defines the viewer pages displayed for each HMS/SNMP element type, using the **MIB-2 sysOID** as the key.

Location

The viewer database is the file "**Userviewers.txt**" located in the product installation directory.

File format details

Userviewers.txt uses standard Windows **.ini** file format, where section names contain the **sysOID** of the agent and a list of viewer pages to be displayed for that device.

If a line starts with a ';' character, it is considered a comment.

If you want to use a specific set of viewer pages for a device type you can add, remove and reorder the viewer page definitions, or add completely new sections.

Put the device's sysOID in square brackets and place the list of viewer page identifiers beneath. The viewer programmatic ID can be specified. The viewer pages will be displayed exactly in the order defined.

The programmatic IDs of each viewer page are given in the viewer DLL documentation.

Example:

```
; BK Station  
[1.3.6.1.4.1.3715.3.1]  
HmsPages.HmsStatusPage  
BKSnmplib.DevicePage  
HmsPages.HmsAlarmLogPage  
;HmsPages.HmsCommonPage  
HmsPages.AnalogAlarmsPage  
HmsPages.DiscreteAlarmsPage  
;HmsPages.HmsMACPage  
MIB2.Mib2SystemPage  
;MIB2.Mib2SnmpPage
```

Note! If a non-standard viewer layout is needed for selected devices, it can be defined in the Device Database.

Device Database

The Device database stores SNMP specific information for selected devices, using IP address as the key. For any device, it is possible to specify the following information:

Address	IP address of the device
Port*	UDP target port number that should be used to communicate with the device.
Read community*	SNMPv1 read community used in communications with the device.
Write community*	SNMPv1 write community used in communications with the device.
Viewer (CLSID or programmatic ID)	The Viewer that should be used for this device. Either viewer CLSID or programmatic ID can be specified. If both are specified, CLSID takes precedence.

Location

Device database is located in the product installation directory, in the file with name **“Devices.txt”**.

File format details

Device database uses standard Windows **‘.ini’** file format, where section names contain the IP addresses of the devices. There is also section named **“Default”**, which is used to specify default values for all settings which are not specified in their device’s section in the file.

Settings are specified as entries under the corresponding section, where entry name and value are separated by **‘=’** character.

If a line is started with **‘;’** character, it is considered a comment.

List of settings:

Setting	Entry Name	Example
Port	Port	port=161
Read community	ReadCommunity	ReadCommunity=public
Write community	WriteCommunity	WriteCommunity=private
Viewer CLSID	Viewer	Viewer= {E33F888B-A3BC-4C5C-9E2C-2731EA0F7216}
Viewer programmatic ID	ViewerProgID	ViewerProgID=BKSnmp.BKSnmpViewer.1

Example:

```

; Default settings
[Default]
Port=161
ReadCommunity=public
WriteCommunity=private
Viewer={E33F888B-A3BC-4C5C-9E2C-2731EA0F7216}
; Settings for localhost
[127.0.0.1]
Port=171
; Settings for 10.2.14.167
[10.2.14.167]
ViewerProgID=BKSnmp.BKSnmpViewer.1

```

See: [▶ Default Settings](#)

* In Commander and EMS Explorer, this information is overridden by the corresponding data in the Element database.

Default Settings

Destination address	127.0.0.1
Destination port	161
Read community	public
Write community	private
Viewer	MIB-2 System and SNMP pages

The following items are the main changes in this version of CATVisor™ Commander help.

- USB Driver Installation
- USB connection

Contact Information

Teleste Corporation produced this document. For more information about this document please quote product code:

PEM303-E

Teleste Corporation

P.O. Box 323

FIN-20101 Turku

FINLAND

<http://www.teleste.com>

If you need support from Teleste, please have the version & build numbers of your application available. You can find them in the About section in the Help menu.