CrossCore XA Logger

User manual

cr•ssc•ntr•l

www.crosscontrol.com

The picture shows a CrossCore XA All-Integrated unit.

Contents

1 Introduction

1.1 Purpose

This document is an end user and administrator reference handbook for CrossCore XA Logger.

CrossCore XA Logger is a rugged and maintenance-free standalone CAN message logger for harsh environments. The device is capable of recording CAN messages up to 4 hours at a 4000 frames per second on each CAN interface. The messages are logged with 1 ms time stamp in the widely-spread CANalyzer™ format, which can be easily uploaded to analysis software. The listen-only nature of CrossCore XA Logger ensures undisturbed interfacing to CAN bus.

1.2 Safety

Read the instructions in this manual carefully before you connect, install and use the product. Keep this manual for future reference. In case of technical difficulties, contact product dealer or manufacturer's technical support.

1.3 References

CAN in Automation - CANopen standard: http://www.can-cia.org

CE Marking: http://ec.europa.eu

International Standards Organization: http://www.iso.org

International Electrotechnical Commission   http://www.iec.ch

CrossCore XA - Technical Manual

1.4 Revision history

Rev	Date	Comments
1.0	2010-09-06	

2 Operation modes

2.1 Logging Mode

Logging mode is the default operation mode in which CrossCore XA Logger enters when power is turned on. In this mode the logger will seeks the current baudrate (if autobaud selected) and starts logging the CAN-bus traffic. This mode is active as long as power is on and USB-cable is not connected to a computer.

2.2 USB Mode

This mode is active only when USB-cable is connected to a computer. CrossCore XA Logger can enter this mode without power being turned on as long as USB-cable is connected. In this mode the user can access the logger's GUI via webbrowser. Logging is not active in this mode. When USB-cable is disconnected, the logger returns to logging mode.

3 CrossCore XA Logger GUI

Operating the device and retrieving stored data is through a browser based user interface. To access this user interface, the computer must have a proper web-browser installed and a suitable driver for USB Ethernet to make things work.

Note! The GUI and the installation of the driver have been verified with Windows XP and Ubuntu 10.04 Linux, and with USB bus versions 1.1 and 2.0.

Note! In Linux if the CrossCore XA Logger won't respond at address http://logger then use address http://192.168.60.1 instead. This is due Linux limitation in DNS services.

Connection between CrossCore XA Logger and PC is established via a USB-cable, which, accompanied by suitable driver, works as a temporary network connection.

3.1 Installation

This section gives step-by-step instructions for installing the USB Ethernet driver under Windows XP. No extra drivers are needed if using in Linux. When connected to a USB port, CrossCore XA Logger powers up. After a while, the computer should report "Found new hardware" in lower right corner, and shortly after that, the text should change to "CrossCore XA Logger".
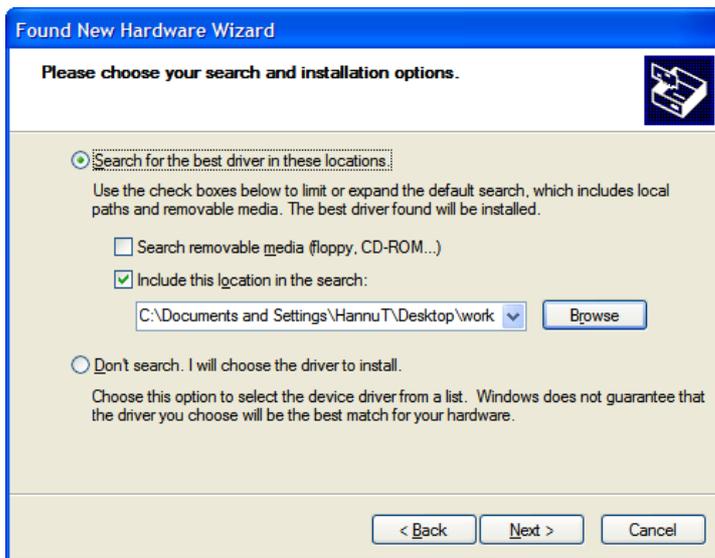
After a while, the Found New Hardware Wizard should appear.

Choose "No, not this time" to the question whether Windows should connect to Windows update and click "Next >".
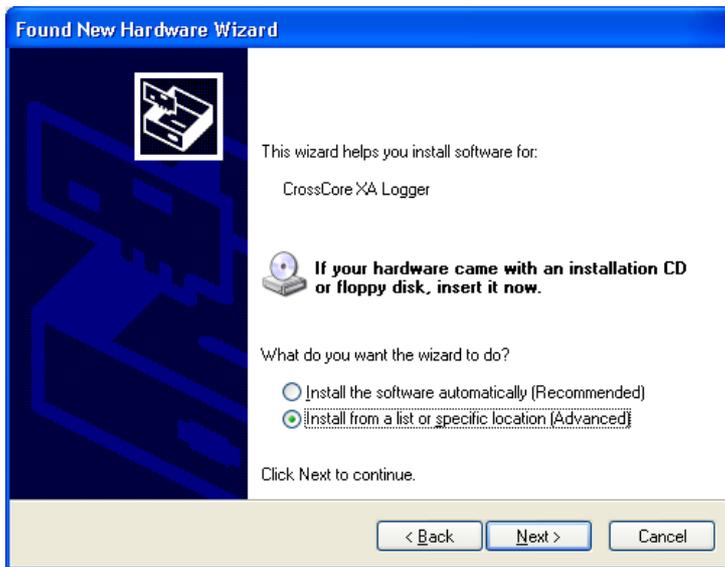
On following screen, answer "Install from a list or specific location (Advanced)", to the question what the installer should do and click "Next >".

Select "Search for the best driver in these locations" option, check only the "Include this location in the search" and click Browse. With the file explorer, locate the directory that contains the supplied driver info file crosscore-xa-logger-linux.inf and click "OK." The selected path should appear to the box at centre of the screen. When ready, click "Next >".

After a while a message similar to above might appear. Click "Continue Anyway".
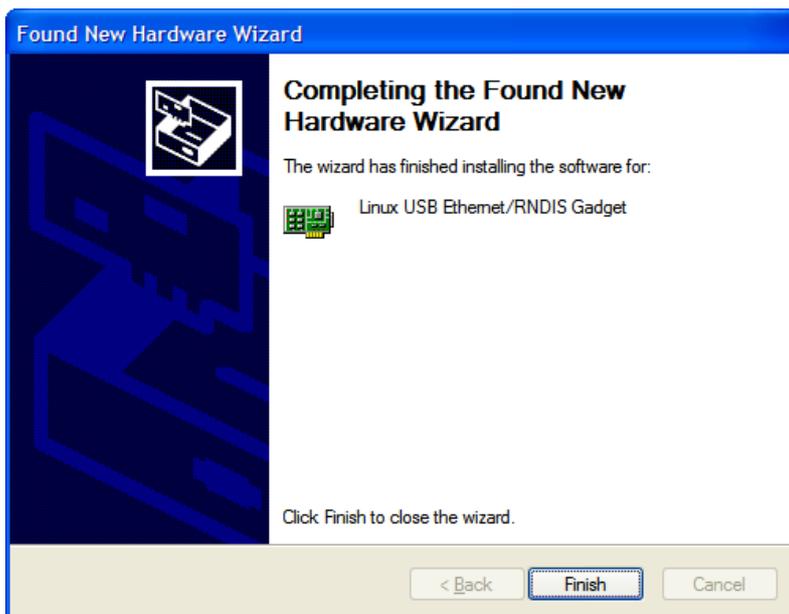
After a while the installation should complete and window similar to above appear. Click "Finish" and the driver installation is complete.

3.2 Connecting to CrossCore XA Logger

The user interface is implemented using HTML 4.01 Strict DTD, which means that modern browsers should generally work. The setup has been tested with Internet Explorer 8.

In the web browser (Internet Explorer in this example) write "logger" to the location entry as shown below and press "Enter".

A login-screen similar to below should appear. You are now successfully connected to CrossCore XA Logger.

3.3 Using CrossCore XA Logger

The device has two user levels, user and service. The difference between the levels are that the service-level can change device settings, time and passwords while the user-level cannot. The user interface is similar for both levels except that there is one additional page and a few buttons for the service-level that are not shown to the user-level.

In this section the user interface is presented as a service-level user sees it. The differences to the user-level are explained in the text.

The user interface consists of an initial login screen and four different operational pages:

- Log Downloads
- Device Information
- User Settings (user-level does not see this page)
- Usage Log

From every operational page it is possible to jump to another operational page and at every page there is a "logout" link that ends the session and returns to the login-screen.
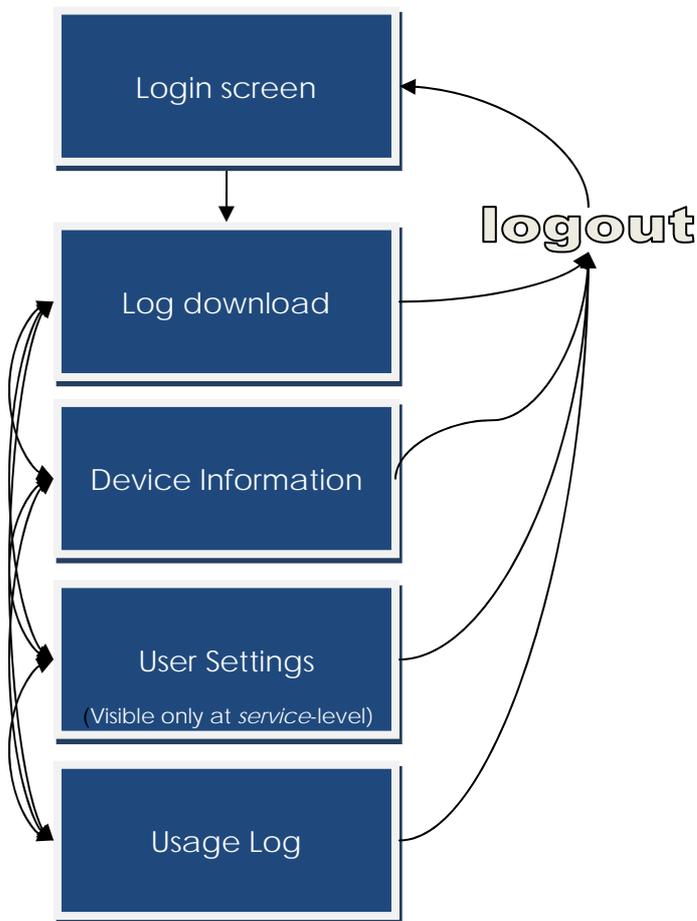
3.3.1 Login

Logging in occurs by supplying correct username and password to the "Login name" and "Password" entries and clicking "OK". If the name-password pair is valid you are taken to the "Log Download" page.

Default passwords for each user are defined in following table.

| User	Password
user	crossuser
service	serviceroot
factory	rootfactory

3.3.2Log Download Page

On the "Log Download" page downloadable logs are displayed as a list. By clicking a log file, a regular "File Download" dialog appears from which you can select whether to open or save the file to your computer.
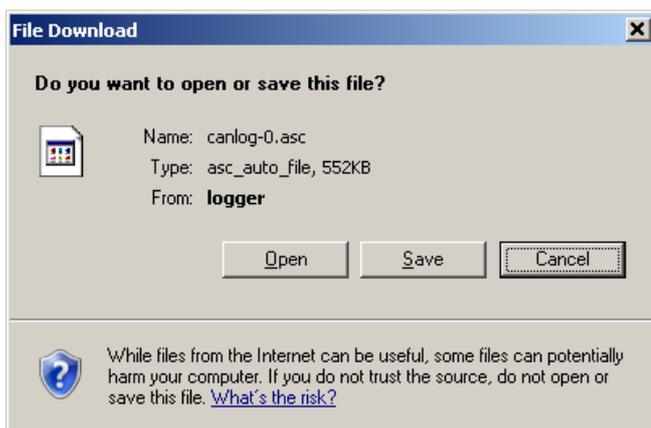
Note! If the logfile is of large size (several megabytes or more), it can take a while until the "File Download" dialog appears.

It is possible to download all the logfiles at once in binary format by clicking the "Download all logs in binary format" link. To decode the binary format, external LogDecoder software is needed. It can be downloaded from the Log Download – page as well. LogDecoder works in Windows.
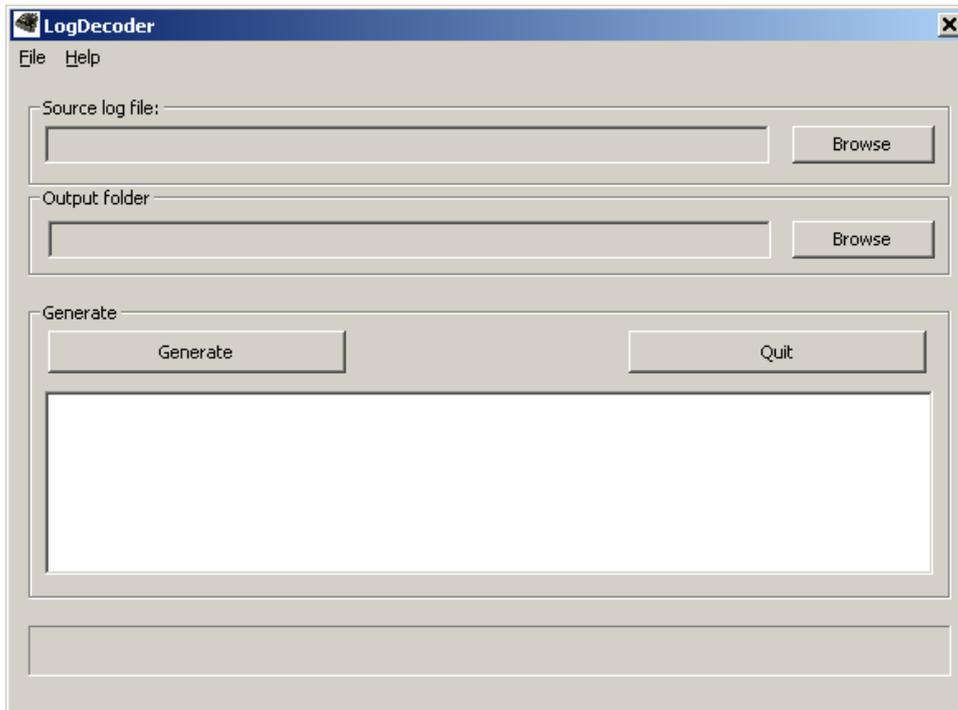
Browse and select binary log. By default the output folder is the same where the binary log is. To change this, browse Output folder to different folder. After that pressing Generate – button will generate ASCII logs in CanAnalyzer format. Progress is shown in progress bar at the bottom of the window as well as in text box.

3.3.3 Device Information Page

The device Information page is the place to view and change parameters. For user-level the page is similar except that the buttons "Save changes", "Set time" and calendar button are not visible, making user-level unable to change device parameters. Yet entries are editable, but saving is not possible.

3.3.3.1   CAN Bit Rate

These drop-down boxes allows setting the bitrate. Alternatives are 50, 100, 125, 250, 500, 800, 1000 kbit/s or "Automatic" which is the factory default. When bitrate is set to Automatic, the device tries to detect the correct bitrate automatically, starting from the rate that was found during previous boot-up.

3.3.3.2   Log Maximum Size

This value gives the maximum size of a single binary logfile in kilobytes. On continuous process, gathered message logging is split into files and this is the maximum size for a single file. Downloaded ASCII-format logfile size is bigger than the device internal binary format logfile.

3.3.3.3 Info Fields

Date of installation, Name of the installer, Place of the vehicle, Vehicle serial number and Misc info are freely editable text entries that can be saved as part of the configuration and are afterwards visible (and to service-user editable) always when the device is connected to a PC.

3.3.3.4 Saving Changes

When Save changes button is clicked, contents of all above (CAN bit rate, CAN log max size, Info fields) are stored to a permanent memory in CrossCore XA Logger. After proper saving, a green "Device settings saved!" text appears on screen as shown below.
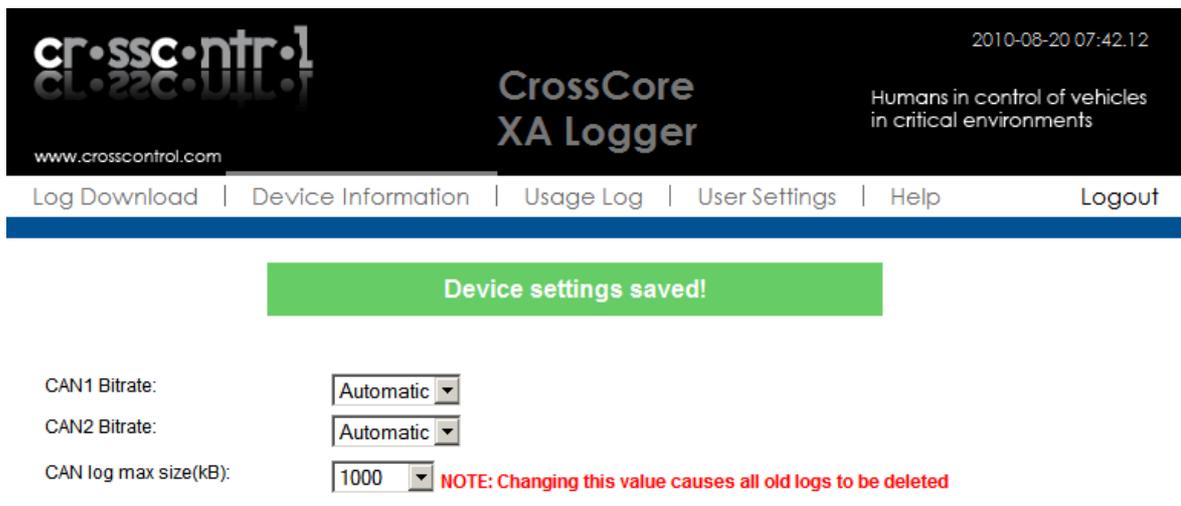
3.3.3.5 System Time

Current date and time of internal Real-time clock (at the exact instant Device Information page is generated) is displayed after "Current date & time:".

In order to change system time, new date and time can be changed using embedded calendar button ( ) which will display a "Select Date" dialog from which date and time can be generated. First, set clock time value using 2 digits in each text box. Second, choose desired day by clicking it from calendar.

Saving the new date and time is done clicking the "Set time" button, and is confirmed with a green "Time and date set successfully!" message as shown below.

3.3.3.6   System Information

Application version tells the logger application version. Firmware version tells what firmware revision is currently running in device and Uptime tells the total count of hours the device has been in logging state this far.

3.3.3.7   User Settings

Passwords for user- and service-levels can be changed from user settings page. If login is performed with user-level account, the link to this page is not shown.

Changing password works by selecting user level, either user or service and placing a new password to both "New password" and "Re-enter password" entries and clicking "Submit changes" button. If given password is valid. The new password must be at least 6 characters and content of both entries is identical. Password is changed and successful change is confirmed by a green text.

3.3.3.8   Usage Log

CrossCore XA Logger keeps an internal timed log of events, such as errors, parameter changes etc. The Usage Log page is for viewing this information. The symbols on bottom left and right corners provide navigation: "<" and ">" are page back and forth, respectively and symbols "<<" and ">>" jumps to the beginning or end, respectively.

3.4 Factory reset

Warning: The factory reset is a system wide reset and will remove all the user data and programs including the logger application.

After factory reset the logger application needs to be reinstalled to the CrossCore XA Logger device. Connect the CrossCore XA Logger to a Ethernet network. Device will automatically acquire IP from DHCP – server so make sure DHCP is available. Check from the DHCP server what IP CrossCore XA Logger got and with web browser connect to that address port 8080. For example http://192.168.0.127:8080.

Screenshot below shows the login screen. User accounts root and *cross_admin* can be used.

User software is uploaded to device and clean-up actions performed using User Software page.

3.5 Upload user software

⚠️ **Warning:** Uploading and extracting new user software package overrides any existing files with same filenames.

Click "Browse..." and select the archive file. Then, click button "Upload software". This will transfer the selected file to device, and once completed it is automatically extracted (using **tar**) to */usr/local/*.

3.6 Clean-up actions

⚠️ **Warning:** Clean-up actions can remove existing files.

- "Execute user remove script"
    - Runs the customer script stored at */usr/local/remove.sh*. *CrossCore XA* system does not include this script. It is up to the user to include it in user software, if wanted.

- "Remove all user data"
    - Deletes all content from */usr/local/*.

- "Remove CF-card data"
    - Clears the Compact Flash memory in */media/cf/*.

4 Technical Support

Contact your reseller or supplier for help with possible problems with your CrossCore XA Logger. In order to get the best help, you should have access to your CrossCore XA Logger and be prepared with the following information before you contact support.

- Part number and serial number of the unit, which you find on the brand label
- Date of purchase, which is found on the invoice
- The conditions and circumstances under which the problem arises
- Description of external equipment which is connected to the CrossCore XA Logger

5 Trademark etc.

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