



ChronoVu LA16 Logic Probe - README FILE

Version 4.00 - 15 Nov 2013

DESCRIPTION:

The ChronoVu LA16 is a simple 16-bit logic analyzer tool consisting of a hardware probe coupled by USB connection to a software GUI. This version is ported to Windows, Linux, and Mac platforms. Built-in help is accessible from within the software interface GUI. Support is available at www.chronovu.com.

INSTALLATION:

The LA16 software is packaged for each platform in a self installing file. For Windows, the "ChronoVu_LA16-3.09-Windows-Setup.exe" file should be used. For Linux, the "ChronoVu_LA16-3.09-Linux-x86-Install" file should be used. For Mac, the "ChronoVu_LA16-3.09.pkg" file should be used. In either case, simply execute the program to automatically install the application software and any drivers, short cuts and file associations. Note that, on most systems, you must have administrator privileges in order to install the ChronoVu software and any drivers needed to operate your ChronoVu LA16 logic probe software. On Linux systems, it may be necessary to copy the file to the desktop or a convenient directory and change the mode of the file (chmod a+x ChronoVu_LA16-3.08-Linux-x86-Install) before you can execute the file. Once the installation has been completed, the copied installation executable file can be discarded.

WINDOWS INSTALLATION DETAILS:

On Windows systems, the program files are installed in the folder "C:\Program Files\ChronoVu LA16". Copies of all necessary driver files, DLL files, Help files, etc. can be found in various sub-folders within this installation folder. If a driver or DLL file is not properly installed by the installer, read and follow the instructions in the file: InstallingDriver.htm which can be found in the "Doc" sub-folder.

The following files and folders will be in "C:\Program Files\ChronoVu LA16":

- ChronoVu-LA16.exe - The application executable file
- uninstall.exe - The program un-install executable file
- README.txt - This file
- Doc (folder) - Documentation (HTML files for the LA16 integrated help)

WinDriverFiles (folder) - Copies of driver and dll files used by the LA16
Icons (folder) - Copies of icons used by the LA16 software and shortcuts

The following additional files will be copied into the folder "C:\WINDOWS\system32":
libusb0.dll - Dynamically linked executable used by the LA8 USB driver
ftd2xx.dll - Dynamically linked executable used by the LA8 FTDI driver
drivers\libusb0.sys - Generic USB driver used by the LA8
drivers\ftdibus.sys - FTDI USB driver used by the LA8

In addition, a set of example data files and setup files will be installed in a user document folder, typically "My Documents\ChronoVu\LA16_Examples"

- *.ka1 files - ChronoVu LA16 setup files: Bus definitions, Preferences, etc.
- *.kd1 files - ChronoVu LA16 data files: Previously acquired data files.

LINUX INSTALLATION DETAILS:

On Linux systems, the program file is installed in the "/usr/local/bin" directory. The help files, driver files, documentation files, etc. can be found in sub-directories within the "/usr/local/share/chronovu_la16" directory hierarchy. If the driver is not properly installed by the installer, read and follow the instructions in the driver installation help file: "/usr/local/share/chronovu_la16/Doc/InstallingDriver.htm".

The executable file will be installed in the directory "/usr/local/bin":
/usr/local/bin/chronovu_la16 - The main application executable file

The USB drivers are statically linked into the executable file, however USB permission rules must be installed to allow non-root access to the port.

The USB driver permission rules are located at "/etc/udev/rules.d":
/etc/udev/rules.d/99-usbftdi.rules - USB driver access permission rules

And the following files and directories will be installed in sub-directories in the data directory "/usr/local/share/chronovu_la16":

- uninstall - The program un-installer executable file
- README.txt - This file
- Doc (directory) - Documentation (HTML files for the LA16 integrated help)
- LinDriverFiles (dir) - Copies of driver and library files used by the LA16
- Icons (dir) - Icons used by the LA16 program and shortcuts
- LA16_Examples (dir) - example data files and setup files:
 - *.ka1 files - ChronoVu LA16 setup files: Bus definitions, Preferences, etc.
 - *.kd1 files - ChronoVu LA16 data files: Previously acquired data files.

Because of the variety of Linux flavors, we have not attempted to automatically install desktop shortcuts or file extension associations for Linux. These items can be manually installed on most Linux systems if they are desired. Typically, desktop shortcuts can be manually added by right clicking the applications menu shortcut, and file extension associations can be manually defined by right clicking on the icon for a file of the desired

type. ChronoVu Icons can be found in the folder `"/usr/local/share/chronovu_la16/Icons"`. The ChronoVu LA16 software GUI supports the use of file types with extensions `".ka1"` and `".kd1"`

MAC INSTALLATION DETAILS:

On Mac systems, the ChronoVu application bundle should be installed in the `"/Applications"` directory. The help files, documentation files, etc. can be found in sub-directories within the `"/Applications/ChronoVu.app"` directory hierarchy. If the driver is not properly installed by the installer, read and follow the instructions in the driver installation help file:

`"/Applications/ChronoVu.app/Contents/SharedSupport/Doc/InstallingDriver.htm"`.

The executable file will be installed in the `"MacOS"` sub-directory:

`/Applications/ChronoVu.app/Contents/MacOS/ChronoVu` - The executable file

The USB driver is installed in the directory `"/usr/local/lib"`:

`/usr/local/lib/libusb-0.1.4.dylib` - dynamically linked USB driver file

And the following files and directories will be installed in sub-directories within the install package directory `"/Applications/ChronoVu.app"`:

`Info.plist` - The Apple package directory

`Doc` (directory) - Documentation (HTML files for the LA16 integrated help)

`Drivers`(directory) - Information regarding the libusb and libftdi libraries

`chronovu.icns` - Icons used by the LA16 program and shortcuts

In addition, example data and setup files will be copied into the directory `"/Users/Shared/ChronoVu"`.

`LA16_Examples` (dir) - example data files and setup files:

*.ka1 files - ChronoVu LA16 setup files: Bus definitions, Preferences, etc.

*.kd1 files - ChronoVu LA16 data files: Previously acquired data files.

UNINSTALLING:

If you used the Windows or Linux self extracting executable file to install the software, you can use the uninstall program which can be accessed from the Windows start or Linux applications menu. If the menu uninstall option is not available, the uninstall executable can be found in the Windows folder `"C:\Program Files\ChronoVu LA16"`, or in the Linux data directory `"/usr/local/share/chronovu_la16"`. Note that you must have Administrative (root) privileges to uninstall the ChronoVu software and drivers. On Mac systems, the software can be uninstalled by simply deleting the application bundle `"/Applications/ChronoVu.app"` from your system.

UPGRADING:

To upgrade the ChronoVu software to a newer revision, simply uninstall the old version and install the new version.

GETTING STARTED:

Start the software by clicking on the appropriate menu item under the Windows Start menu or the Linux or Mac Applications menu. Click on the Help menu item in the ChronoVu interface, and then click on "manual" to display the ChronoVu-LA16 on-line manual. Start by clicking on the "Getting Started" link. The many links in the "Getting Started" help menu will take you through a mini tutorial to introduce you to the ChronoVu hardware and software.

LICENSE NOTE:

Beginning with revision 3.02, the Linux and Mac ports of the ChronoVu-LA16 software make use of the libusb and libftdi libraries, which are licensed under the LGPL (GNU Library General Public License), Version 2, with (in the case of libftdi) specific exceptions. Source code for the libraries and copies of the licenses can be freely obtained at www.libusb.org and www.intra2net.com/en/developer/libftdi respectively. These libraries have been statically linked or automatically provided with the ChronoVu installation as needed.

CHANGE SUMMARY BY VERSION

- 3.01 Improved Zoom/Pan speed, Improved signal processing speed,
Use of temporary files eliminated, Higher maximum zoom-in level supported,
Data files no longer saved automatically, "Save Data as" added to file menu.
Updated FTDI driver to 2.08.02 (Windows version only)
- 3.02 Improved handling of trigger timeout events.
Improved handling of acquisition errors and aborts.
More stable USB driver (libusb) implemented for Linux and Mac ports.
Possible rounding error in marker locations eliminated.
- 3.03 Bug fix: Timeout occurred when limit was shorter than total acquisition time.
Added an "Inverted/Not Inverted" option to the UART canned setup.
Allowed for much faster UART busses on the UART canned setup.
- 3.04 Added a signal search option.
Added support for window scrolling using the mouse wheel.
- 3.05 Improved text redraw on mouse wheel scrolling.
Fixed "print abort from non-default printer" issue on Windows XP.
Improved Exported VCD files for better compliance with IEEE standard.
Added new VCD File Import feature.
- 3.06 Support a "Change PID" mechanism on Mac and Linux to resolve driver conflicts.
Fixed a potential memory leak from the "About" page under unusual conditions.
A variety of minor visual and tactile changes to menus and controls.
- 3.07 Help window is no longer modal. Zoom on shifted mousewheel and +/- keys.
Added bookmarks, window zoom, time specified pan, vertical scaling.
- 3.08 Fixed a window resize issue on Win7.
Modified time scan for cleaner behavior when panning past end of data.
- 3.08A (Windows only) Installs an updated version of the FTDI device driver for better Windows7 support.

- 4.00 Provide support for libusb and FTDI device drivers for Windows.
Various minor visual and tactile changes to menus and controls.