

ELAD FDM-S1



Installation Manual for Linux Components

All needed to run FDM-S1 under Linux operating system was developed in collaboration with the CSP research center, Torino - Italy



Index

1 Summary

2	Introduction	3
3	Installation of Elad Library (Independent of GNU Radio)	3
4	Installation of Elad e GNU Radio Components	4
5	GNU Radio, UHD gr_elad and gr_baz Licensing	5

2 Introduction

This document explains how to install the library to control FDM-S1 and the GNU Radio block that manages the FDM-S1 on Linux operating system with platform i386.

Debian packages, created by CSP, are provided to install the UHD (USRP Hardware Driver) software, *gr-baz* and *gr-elad* blocks, libraries necessary for their proper function and an auto-installer script for the GNU Radio framework version 3.6.2

3 Installation of Elad Library (Independent of GNU Radio)

The package called *libfdms1_1.0-1_i386.deb* containing the API for controlling dell'FDM-S1 under Linux i386 platform. These libraries are independent of the GNU Radio framework, but necessary to use the *gr-elad* block. To install the library simply click the deb package from GUI.

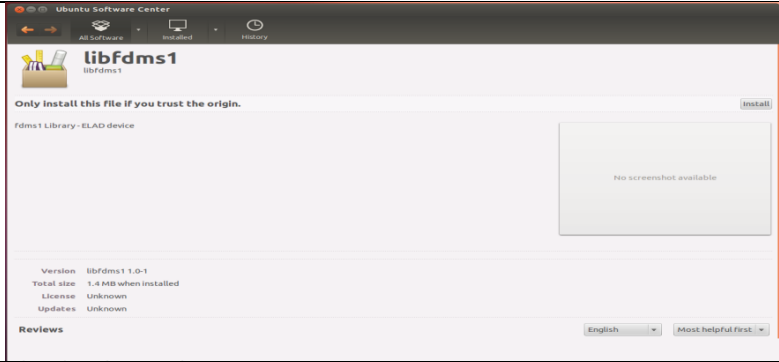
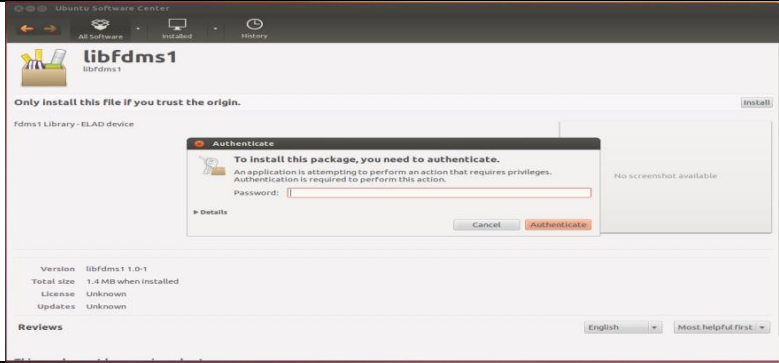
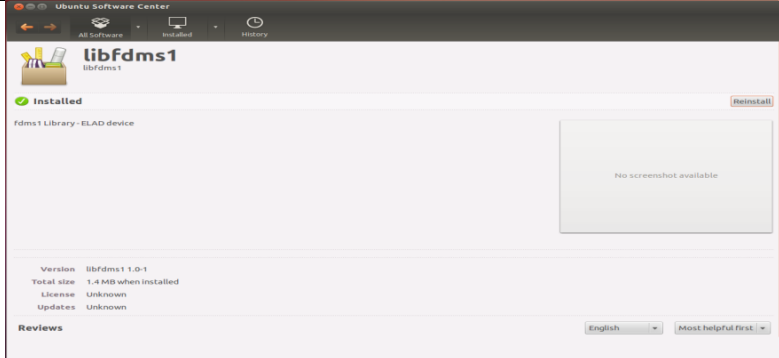
	<p>Step 1 : Click on Install button</p>
	<p>Step 2: Insert password</p>
	<p>Step 3: End of installation</p>

Table 1 : Installation of ELAD libraries from GUI

4 Installation of Elad e GNU Radio Components

In order to use the *gr-elad* block, the installation of GNU Radio frame work and the corresponding block is needed. The block was developed and tested with versions 3.6.2 and 3.6.4. The packages delivered refer to GNU Radio version 3.6.2 for Ubuntu "Precise".

First of all, install the UHD (USRP Hardware Driver) software – necessary for the proper functioning of the BorIP software – and GNU Radio – necessary for the operation of all blocks (except *libfdms1_1* libraries).

The software can be installed by following the instructions on the official repositories, at the following addresses:

http://code.ettus.com/redmine/ettus/projects/uhd/wiki/UHD_Linux

http://gnuradio.org/doc/doxygen/build_guide.html

or you can run the *GNURadio_Installer_i386.sh* script, in the *i386_Install/script* folder, using the following command:

```
$cd <download_dir>/i386_Install/script
$chmod +x GNURadio_Installer_i386.sh
$./GNURadio_Installer_i386.sh
```

The script install UHD component, GNU Radio frame work and provide their configuration for a 32-bit architecture running Ubuntu LTS 12.04.

During installation you will be asked if you want to continue the installation of the UHD package, answer "Y" to continue. If the packet is already present, it will not be reinstalled, as reported in Figure 1.

```
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.
UHD package is already installed.
```

Figure 1: Example of UHD package already installed

In sequence will be updated and/or installed all the dependencies required to use GNU Radio. If a previous installation is found, a pop up (Figure 2) will ask if you want to continue or end installation (the default choice is "No").

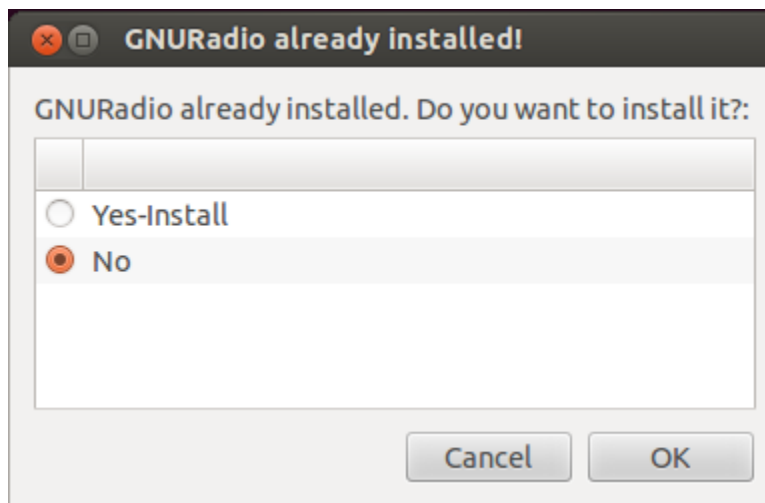


Figure 2: GNU Radio already installed on PC

If you decide to continue, new installation will overwrite the version already present on your system. It is recommended to uninstall the previous version if you want to use the 3.6.2.

After the installation of GNU Radio, you can proceed with the installation of debian packages contained in the *i386_Install/deb* folder:

- `gr-elad_1.0-1_i386.deb`
- `libfdms1_1.0-1_i386.deb`
- `gr-baz_1.0-1_i386.deb`

For the installation of the last three packets (the execution order is not important), click the icon corresponding to each package from GUI and follow the instructions on the screen, as shown in the example Table 1.

5 GNU Radio, UHD `gr_elad` and `gr_baz` Licensing

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see www.gnu.org/licenses.