

ELAD FDM-S1



USER MANUAL

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1 FDM-S1 Overview

1.1 Description of the ELAD FDM-S1 receiver

The radio-receiver ELAD FDM-S1 is conceived as a SDR (Software Defined Radio). This approach means that the receiver is composed of an Hardware RF front-end and a PC with an ELAD software (ELAD FDM-SW1).

1.2 Front Panel Description



Power Led

Turns on when the receiver is connected to a USB port of the PC

Communication Led

Shows the communication between the receiver and the PC

Antenna Input SMA 50 Ω input connector.

External Hardware Connector

DB9 connector for external hardware (eg pre-selector filters board)





1.3 Rear Panel Description



USB 2.0 Connector

Connection with the PC. Please use the supplied cable.

2 Software & Driver Installation

2.1 Software installation in Windows 7 and Windows XP

2.1.1 First-time install in Windows 7

Double-click the file "setup.exe" in the CD .

| | | | | × |
|----------------------|---|---------------------------------|-------------------|------|
| | W1_V_1_27 | ✓ Search FDM_SV | W1_V_1_27 | ٩ |
| Organize 🔻 🛅 Op | en Share with 🔻 New folder | | :≕ ▼ 🔳 | • |
| ☆ Favorites | Name | Date modified | Туре | Size |
| 🥅 Desktop | DotNetFX40 | 3/20/2012 2:30 PM | File folder | |
| 〕 Downloads | 🍌 vcredist_x86 | 3/20/2012 2:30 PM | File folder | |
| 📃 Recent Places | WindowsInstaller3_1 | 3/20/2012 2:30 PM | File folder | |
| | ELAD_FDMDS1Setup | 3/20/2012 11:50 AM | Windows Installer | 20 |
| 詞 Libraries | 🔂 setup | 3/20/2012 11:50 AM | Application | |
| Documents | = | | | |
| J Music | | | | |
| Pictures | | | | |
| 🛃 Videos | | | | |
| 🕵 Computer | | | | |
| 👊 Network | | | | - |
| Setup Application | Date modified: 3/20/2012 11:50 AM Size: 423 KB | Date created: 2/21/2012 9:10 AM | | |

The windows installer first installs the prerequisites:

- Microsoft VC++ 2010 Runtime libraries
- Microsoft .NET Framework 4.0

and then the FDM-SW1 software.





Click on "Accept"



Click on "Install"



Click on "Yes"





Click on Install



Microsoft Visual C++ 2010 x86 Redistributable installation is complete, click on "Finish"



Click on "Yes" to start the installation of the .Net Framework 4.0





Click to "Next" to start the FDM-SW1 software installation



Chose the installation folder, then click on "Next"



| 谩 ELAD FDM-SW1 | |
|--|-------------------------|
| Select Installation Folder | |
| The installer will install ELAD FDM-SW1 to the following folder. | |
| To install in this folder, click "Next". To install to a different folder, enter it be | elow or click "Browse". |
| <u>F</u> older: | |
| C:\Program Files\ELAD\ELAD FDM-SW1\ | Browse |
| | Disk Cost |
| Install ELAD FDM-SW1 for yourself, or for anyone who uses this compute | r: |
| Everyone | |
| 🗇 Just me | |
| Cancel < Back | Next > |

Click on "Next"



Click on "Yes"





The FDM-SW1 software installation is completed, click on "Close"





2.1.2 First-time install in Windows XP

Double-click the file "setup.exe" in the installation folder.

| Edit View Favorit | es Tools | Help | | | | |
|---|-------------|--------------------------------|---------------------|--------------------|--------------------|--|
|) Back 🔹 🕥 🔹 🏂 | Sea | arch 🦻 Folders 🛄 - | | | | |
| ress 🛅 C:\Documents a | nd Settings | \Donald\Desktop\FDM_SW1_V_1_26 | | | | |
| Name 🔺 Size Type Date Modified | | | | | Date Modified | |
| File and Folder Tasks | ¥ | DotNetFX40 | | File Folder | 3/20/2012 10:00 AM | |
| | | vcredist_x86 | | File Folder | 3/20/2012 9:59 AM | |
| Other Places | * | Windowstristaller3_1 | 20.640 KB | Medaus Testalles D | 3/20/2012 9:59 AM | |
| 🚱 Desktop | | Cohun eve | 20,649 KB 423 KB | Application | 3/19/2012 0:56 PM | |
| My Documents | | and here here | Le TZS KD | -pps-second | STREETE DIDD FIT | |
| Shared Documents | | | .0 | | | |
| My Computer | | | | | | |
| My Natwork Placer | | | | | | |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | | | |
| | | | | | | |
| Details | * | | | | | |
| setup.exe Application | | | | | | |
| Date Modified: Yesterday 19, 2012, 6:56 PM | , March | | | | | |
| Size: 423 KB | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Click on "Accept"





Click on "Install"



Click on "Install"

| rosoft Visual C++ 2010 x86 Redistributable Setup | |
|---|----------|
| Icome to Microsoft Visual C++ 2010 x86 Redistributable Setup Please, accept the license terms to continue. | |
| | _ |
| MICROSOFT SOFTWARE LICENSE TERMS | - |
| MICROSOFT VISUAL C++ 2010 RUNTIME LIBRARIES WITH SERVICE PACK 1 | |
| These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, | • |
| ✓ I have read and accept the license terms. | |
| Yes, send information about my setup experiences to Microsoft Corporation. | |
| For more information, read the <u>Data Collection Policy</u> . | |
| Install | Cancel |



Click on Next to install the FDM-SW1 software



Select the installation folder, then click on "Next"

| 🛃 ELAD FDM-SW1 | | _ 🗆 🗙 |
|---|--|------------------------|
| Select Installation Fold | er | |
| The installer will install ELAD FDM-SW1 | to the following folder. | |
| To install in this folder, click "Next". To i | install to a different folder, enter it be | low or click "Browse". |
| <u>F</u> older: | | |
| C:\Program Files\ELAD\ELAD FDM | SW1\ | Browse |
| | | Disk Cost |
| Install ELAD FDM-SW1 for yourself, o | or for anyone who uses this compute | r: |
| Everyone | | |
| C Just me | | |
| | Cancel < Back | Next > |



Click on "Next"



The FDM-SW1 Software installation is completed





2.1.3 Update an existing software version

If you need to update an existing software version, first uninstall the version already installed, then install the update.

Windows 7

- Go to: Control Panel->Programs->Programs and Features. Select the ELAD FDM-SW1 and click on "Uninstall".
- Double click on file ELAD_FDM_SW1_V_x.xx.msi included in the update.

Windows XP

- Go to: Control Panel->Add or Remove Programs. Select the ELAD FDM-SW1 and click on "Remove".
- Double click on file ELAD_FDM_SW1_V_x.xx.msi included in the update.



2.2 FDM-S1 USB driver

2.2.1 FDM-S1 USB driver installation in Windows 7

2.2.1.1 First driver installation

To install ELAD FDM-S1 driver, connect FDM-S1 sampler to a USB 2.0 socket on PC to power on the device. When Windows 7 detects the new hardware, follow the steps listed below to install driver correctly:

Open **Control Panel** from **Start** menu, select "System" and "Device Manager". Expand "Other Devices" node: the system reads FDM-S1 firmware version named as FDM S1 USB FW 1.0.

| Control Panel > | Hardware and Sound > • • • • • Search Control Panel | С |
|--|--|---|
| Control Panel Home | Devices and Printers | |
| System and Security | Add a device Add a printer Mouse 🚱 <u>Device Manager</u> | |
| Network and Internet | AutoPlay | |
| Hardware and Sound | Change default settings for media or devices Play CDs or other media automatically | |
| Programs | Sound | |
| User Accounts and Family | Adjust system volume Change system sounds Manage audio devices | |
| Safety Appearance and Personalization Clock, Language, and Region | Power Options Change power-saving settings Change what the power buttons do Require a password when the computer wakes Change when the computer sleeps Choose a power plan Change when the computer sleeps | |
| Ease of Access | Display Make text and other items larger or smaller Adjust screen resolution Connect to an external display How to correct monitor flicker (refresh rate) | |

Select FDM S1 USB FW 1.0, right click on it and execute "Update driver software".



| 🚔 Device Manager | | |
|---|---|---|
| File Action View Help | | |
| | R 🕅 🙀 🗗 | |
| WIN-33MSPSRDCMG WIN-33MSPSRDCMG Batteries Display adapters Display adapters Display adapters Display disk drives Human Interface Dev Human Interface Dev Gamerica Conternation Conternation Network adapters Display Cher devices LaD FDM SI | ers ices ollers ing devices | E |
| Ports (COM & LP Ports (COM & LP Ports (COM & LP Sound, video and Sounde Controller System devices Universal Serial BL Generic USB Hub Intel(R) 82371AB/ Standard Enhanc USB Composite L USB Composite L UISR Ront Hub | Disable Uninstall Scan for hardware changes Properties EB PCI to USB Universal Host Controller ed PCI to USB Host Controller levice | |

When Windows 7 starts the installation procedure, select the last option "Browse my computer for driver software" (the second option).

| | | × |
|------------|--|--------|
| <u>ن ا</u> | Ipdate Driver Software - ELAD FDM S1 | |
| How | v do you want to search for driver software? | |
| • | Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings. | |
| • | Browse my computer for driver software Locate and install driver software manually. | |
| | | |
| | | Cancel |

In the next dialog-box, insert the driver folder location using "Browse" button and check the option "Include subfolders". In this way manual driver search is enabled.





For 32 bit system select the folder: C:\Program Files\ELAD\ELAD FDM-SW1\ELAD_FDM-S1_Driver. For 64 bit system select the folder: C:\Program Files (x86)\ELAD\ELAD FDM-SW1\ELAD_FDM-S1_Driver.

Then click "Next".

Ignore the warning and select "Install this driver software anyway" at next dialog-box (the second option).



Let the hardware installation automatically completes and, at the procedure ending, click on "Close"; then disconnect and connect FDM-S1 device on the same USB socket.



| | × |
|--|-------|
| 🕞 🔋 Update Driver Software - ELAD FDM-S1 | |
| Windows has successfully updated your driver software | |
| Windows has finished installing the driver software for this device: | |
| ELAD FDM-S1 | |
| | |
| | |
| | |
| | |
| | |
| | Close |

Now ELAD FDM-S1 driver is installed on your PC.

2.2.1.2 Driver installation verify

To verify FDM-S1 driver current version, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager".

Expanding "Universal Serial Bus controllers" node, FDM-S1 device driver is installed as "ELAD FDM-S1": right click on "ELAD FDM-S1" and select "Properties".





When dialog box opens, select "Driver" label: you must read provider name, current driver release date and current driver version. The figure shows an old FDM-S1 driver version.

| ELAD FDM | -S1 Properties | | × |
|-------------|--|--|---|
| General | Driver Details | | |
| đ | ELAD FDM-S1 | | |
| | Driver Provider: | %CYPRESS% | |
| | Driver Date: | 2/7/2008 | |
| | Driver Version: | 1.0.0.0 | |
| | ELAD FDM-S1 Driver Provider: %CYPRESS% Driver Date: 2/7/2008 Driver Version: 1.0.0.0 Digital Signer: Not digitally signed tiver Details To view details about the driver files. date Driver To update the driver software for this device. IBack Driver If the device fails after updating the driver, roll back to the previously installed driver. Disable Disables the selected device. | | |
| Upd Boll | ver Details ate Driver Back Driver | To view details about the driver files. To update the driver software for this device. If the device fails after updating the driver, roll back to the previously installed driver. | |
| | <u>D</u> isable | Disables the selected device. | |
| <u></u> | <u>J</u> ninstall | To uninstall the driver (Advanced). | |
| 26 25 | | OK Cancel | |

2.2.1.3 Manual driver update

To update FDM-S1 driver, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager".

Under "Universal Serial Bus controllers" list, the driver for FDM-S1 is installed as "ELAD FDM-S1". Select "ELAD FDM-S1", right click on it and execute "Update driver".







When Windows 7 starts the installation procedure, select the last option "Browse my computer for driver software".

| How do you want to search f | or driver software? | |
|---|--|--|
| → Search automatically for the second s | or updated driver software | |
| Windows will search your co device, unless you've disab | omputer and the Internet for the latest driver software for your led this feature in your device installation settings. | |
| | | |
| Browse my computer for | or driver software | |
| Locate and install driver sof | ftware manually. | |
| 2 | | |
| | | |
| | | |

In the next dialog-box, disable the option "Include subfolders" and choose "Let me pick from a list of device drivers on my computer". Don't click "Next".



| Browse for driver | software on your cor | nputer | | | |
|---|--|--|-----------------------|-------------------|---|
| Search for driver s | oftware in this location: | 6 | | | |
| C:\ | | | • | Browse | |
| Let me pick This list will sh the same cate | from a list of device d ow installed driver softwa gory as the device. | Irivers on my compute re compatible with the dev | er vice, and all d | river software in |] |
| | | | | | |

Verify that "Show compatible hardware" option is checked and ELAD FDM-S1 is selected: then click on "Have a Disk". In this way the manual driver update is enabled. Don't click "Next".

| Update Driver Software - ELAD FDM-51 | |
|--|---|
| Select the device driver you want to install for this hardware | L |
| Select the manufacturer and model of your hardware of disk that contains the driver you want to install, click H | levice and then click Next. If you have lave Disk. |
| Show <u>compatible hardware</u> | |
| Model | |
| LEAV FOR SL | |
| | |
| 1 This driver is not digitally signed! | <u>H</u> ave Disk |
| This driver is not digitally signed! <u>Tell me why driver signing is important</u> | <u>H</u> ave Disk |

Click on "Browse" and search for FDM-S1 driver update folder location; then open winusb_fdmsampler.inf file, as depicted on figure. Click "OK" and then "Next".



| Select th | e device di | iver you want to install for this hardware. | | |
|-----------|------------------------|---|------------------|-------------|
| 1 | Select the r | nanufacturer and model of your hardware device and om Disk | then click Next. | If you have |
| Model | 4 | Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below. | OK Cancel | |
| | | Copy manufacturer's files from: Folder\FDM_S1\DRIVER_WINUSB_FDM_v10005 | Browse | |
| 🛕 This | an ren 15 m | n niðuranð arðusna | | ve Disk |

Now driver update starts: select "Install this driver software anyway" and ignore the warning at next dialog-box.

Let the hardware installation automatically completes and, at the procedure ending, click on "Close"; then disconnect and connect FDM-S1 device on the same USB socket.





To verify that a correct update is done, enter "Device Manager" in Control Panel; under "Universal Serial Bus controllers" label select ELAD FDM-S1 driver (see sub-chapter "2.2.1.2 Driver installation verify"): right click on it and choose "Properties": select "Driver" label to visualize the last driver version (an example is depicted in figure below).

| AD FDM-S1 Properties | | | X |
|---------------------------------|---|---|---------------------|
| General Driver Details | l. | | |
| ELAD FDM-S1 | | | |
| Driver Provider: | ELAD srl Italy | | |
| Driver Date: | 5/11/2012 | | |
| Driver Version: | 1.0.0.5 | | |
| Digital Signer: | Not digitally sig | ned | |
| Driver Details Update Driver | To view details at | oout the driver files | s. is device. |
| Roll Back Driver | If the device fails back to the previo | after updating the ously installed drive | driver, roll er. |
| <u>D</u> isable | Disables the selec | cted device. | |
| Uninstall | To uninstall the dr | iver (Advanced). | |
| | | ок | Cancel |

2.2.2 FDM-S1 USB driver installation in Windows XP

2.2.2.1 First driver installation

To install ELAD FDM-S1 driver, connect FDM-S1 sampler to a USB 2.0 socket on PC to power on the device. Windows XP detects the new hardware and starts the hardware installation wizard. Then, next steps to install FDM-S1 driver are listed below:

At the first dialog box, select the last option "No, not this time" and "Next".







Select "Install from a list or specific location (Advanced)" and "Next".

| Found New Hardware Wizard | |
|---------------------------|--|
| | This wizard helps you install software for: FDM S1 USB FW V1.0 If your hardware came with an installation CD or floppy disk, insert it now. |
| | What do you want the wizard to do? |
| | Install the software automatically (Recommended) Install from a list or specific location (Advanced) |
| | Click Next to continue. |
| | < <u>B</u> ack <u>N</u> ext > Cancel |

In the next dialog-box, check the options "Search for the best driver in these location" and "Include this location in the search" to enable manual driver search. Clicking on "Browse", select the path where the driver folder is located: Local Drive (C:) \Programs\ELAD\ELAD FDM-SW1\ELAD_FDM-S1_Driver. Then click "Next".





The installation begins automatically: select "Continue Anyway" and ignore the warning at next dialogbox.

| Hardware | e Installation |
|----------|--|
| 1 | The software you are installing for this hardware: ELAD FDM-S1 has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system |
| | either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing. |
| | Continue Anyway STOP Installation |

Let the hardware installation automatically completes and click on "Finish"; then disconnect and connect FDM-S1 device on the same USB socket.





Now ELAD FDM-S1 driver is installed on your PC.

2.2.2.2 Driver installation verify

To verify FDM-S1 driver current version, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager" under "Hardware" label.

Expanding "Universal Serial Bus controllers" node, FDM-S1 device driver is installed as "ELAD FDM-S1": right click on "ELAD FDM-S1" and select "Properties".





When dialog box opens, select "Driver" label: you must read provider name, current driver release date and current driver version. The old ELAD FDM-S1 driver version is shown in figure below as example.

| ELAD FDM-S1 Properti | es 🔹 🛛 🛛 🛛 |
|--------------------------|--|
| General Driver Details | |
| ELAD FDM-S1 | |
| Driver Provider: | %CYPRESS% |
| Driver Date: | 2/7/2008 |
| Driver Version: | 1.0.0.0 |
| Digital Signer: | Not digitally signed |
| Driver Details | To view details about the driver files. |
| Ugdate Driver | To update the driver for this device. |
| <u>R</u> oll Back Driver | If the device fails after updating the driver, roll back to the previously installed driver. |
| <u>U</u> ninstall | To uninstall the driver (Advanced). |
| | OK Cancel |

2.2.2.3 Manual driver update



To update FDM-S1 driver, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager" under "Hardware" label.

Select "ELAD FDM-S1" from "Universal Serial Bus controllers" list, right click on it and execute "Update driver"

| ile Action View Help | | | |
|----------------------|---------------------------------------|--|--|
| · -> IR IS & | 2 🗉 🙎 🕿 🗶 | | |
| | st controllers inting devices) | | |
| | game controllers us controllers | | |
| Intel(R) IC | Update Driver Disable Uninstall | ler - 2934 ler - 2935 ler - 2936 | |
| Intel(R) IC | Scan for hardware changes | ller - 2937 | |
| Intel(R) IC | Properties | lier - 2930 | |
| Intel(R) ICH9 | Family USB2 Enhanced Host Co | ontroller - 293A | |

Now Windows XP launches the hardware update wizard: select the last option "No, not this time" and "Next".





At next step select "Install from a list or specific location (Advanced)" and "Next".



Then, disable all check-boxes that the system automatically sets and choose the last option for manual driver update, as depicted in figure. Select "Next".

| Please | choose your search and installation options. |
|--------|---|
| 0 | Search for the best driver in these locations. |
| | Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed. |
| | Search removable media (floppy, CD-ROM) |
| | Include this location in the search: |
| | H:\driver\FDM_S1\DRIVER_WINUSB_FDM_v1005 V |
| ۲ | Don't search. I will choose the driver to install |
| | Choose this option to select the device driver from a list. Windows does not guarantee the the driver you choose will be the best match for your hardware. |
| | |
| | |
| | < <u>B</u> ack <u>N</u> ext > Cancel |

Verify that "Show compatible hardware" option is checked and ELAD FDM-S1 is selected: then click on "Have a Disk". Don't click "Next".



| Hardware Update Wizard | |
|--|--|
| Select the device driver you want to inst | all for this hardware. |
| Select the manufacturer and model of you have a disk that contains the driver you w | r hardware device and then click Next. If you vant to install, click Have Disk. |
| Model | |
| ELAD FDM-S1 | |
| This driver is not digitally signed! <u>Tell me why driver signing is important</u> | <u>H</u> ave Disk |
| | < <u>B</u> ack <u>N</u> ext> Cancel |

Click on "Browse" and search for the FDM-S1 driver update folder location; then open winusb_fdmsampler.inf file, as depicted in figure. Click "OK" and then "Next".

| Install | From Disk |
|---------|--|
| - | Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below. Cancel |
| | Copy manufacturer's files from: |

Now driver update starts: at next dialog box select "Continue Anyway" and ignore the warning.



Let the hardware update automatically completes and, at the procedure ending, click on "Finish"; then disconnect e connect FDM-S1 device on the same USB socket.

| ardware Update Wizard | |
|--|-------------|
| Please wait while the wizard installs the software | 1 Alexandre |
| ELAD FDM-S1 | |
| õ | |
| WUDFUpdate_01009.dll To H:\WINDOWS\system32 | |
| | |
| | |
| < Back Next > | Cancel |



To verify that a correct update is done, enter "Device Manager" from **Control Panel**; under "Universal Serial Bus controllers" list, select ELAD FDM-S1 driver (see chapter "2.2.2.2 Driver installation verify") right click on it and choose "Properties". Select "Driver" label to visualize the last driver version (an example is depicted in figure below).



| ELAD FDM-S1 Propertie | es 🛛 🖓 🔀 |
|------------------------|--|
| General Driver Details | |
| ELAD FDM-S1 | |
| Driver Provider: | ELAD srl Italy |
| Driver Date: | 5/11/2012 |
| Driver Version: | 1.0.0.5 |
| Digital Signer: | Not digitally signed |
| Driver Details | To view details about the driver files. |
| Ugdate Driver | To update the driver for this device. |
| Roll Back Driver | If the device fails after updating the driver, roll back to the previously installed driver. |
| <u>U</u> ninstall | To uninstall the driver (Advanced). |
| L | OK Cancel |

- 2.3 WoodBoxRadio Tmate USB driver installation
- 2.3.1 WoodBoxRadio Tmate USB driver installation in Windows 7
- 2.3.1.1 *First driver installation*

To install Tmate driver, connect device to a USB 2.0 socket on PC and let Windows 7 detects the new hardware.

Open Control Panel from Start menu, select "System" and "Device Manager".







Expand "Other Devices" node: the system reads Tmate firmware version named as "DSW:100XX USB". Select "DSW:100XX USB", right click on it and execute "Update Driver Software...".

| 🚔 Device Manager | | | |
|------------------------------|---|------|---|
| File Action View Hel | p | | |
| 🧼 🔿 🖬 🗎 🕅 🕅 | i 🔯 📴 🙀 😼 | | |
| ▲ 🛁 ELAD90 | | | |
| ⊳ - III Computer | | | |
| Disk drives | | | |
| Display adapters | | | |
| Floppy disk drives | 5 | | |
| Floppy drive cont | rollers | | |
| 👂 🦛 Human Interface | Devices | | |
| IDE ATA/ATAPI ce | ontrollers | | Ξ |
| p - 🚆 IEEE 1394 Bus hos | t controllers | | |
| Keyboards | | | |
| Mice and other p | ointing devices | | |
| Monitors | | | |
| Network adapters | 5 | | |
| Marvell Yukor | n 88E8056 PCI-E Gigabit Ethernet Contro | ller | |
| VirtualBox Ho | st-Only Ethernet Adapter | | |
| Viviware virtu | al Ethernet Adapter for Vivinet1 | | |
| Viviware virtua | al Ethernet Adapter for Vivinet8 | | |
| ■ | | | |
| | Update Driver Software | | |
| Dortable Devi | Disable | | |
| Ports (COM 8 | Uninstall | | |
| Processors | oninstan | | |
| Sound, video | Scan for hardware changes | | |
| System devic | D | | |
| Universal Seri | Properties | | - |
| Launches the Update Driver S | oftware Wizard for the selected device. | | |

When Windows 7 starts the installation procedure, select the last option "Browse my computer for driver software" (the second option).





Insert the driver folder location using "Browse" button and check the option "Include subfolders". In this way manual driver search is enabled.

| E | Browse For Folder |
|---|--|
| | Select the folder that contains drivers for your hardware. |
| | |
| | 🔺 🍌 elad 📃 🔺 |
| | 📙 Collaudo SNA3500 |
| | 4 🌗 ELAD FDM-SW1 |
| | ELAD_FDM-S1_Driver |
| | HelpFiles |
| | J HwConfigurationDII |
| | De TMateDriver |
| | 🖻 🍌 ELAD srl 🚽 |
| | |
| | TMateDriver |
| | Folder: |
| | OK Cancel |

For 32 bit system select the folder: C:\Program Files\ELAD\ELAD FDM-SW1\TMateDriver. For 64 bit system select the folder: C:\Program Files (x86)\ELAD\ELAD FDM-SW1\ TMateDriver. Click on "Next".



At next dialog box, ignore the warning and select "Install this driver software anyway" (the second option).



Let the hardware installation automatically completes and click on "Close". Then disconnect and connect Tmate device on the same USB socket.

| | X |
|--|---------------|
| Update Driver Software - winusb WoodboxRadio Tmate 1.1 Device driver | |
| Windows has successfully updated your driver software | |
| Windows has finished installing the driver software for this device: | |
| winusb WoodboxRadio Tmate 1.1 Device driver | |
| | |
| | |
| | |
| | |
| | |
| | <u>C</u> lose |

Now WoodboxRadio Tmate driver is installed on your PC.



2.3.1.2 Driver installation verify

To verify Tmate driver current version, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager".

Expanding "Universal Serial Bus controllers" node, Tmate device driver is installed as "winusb Woodboxradio Tmate 1.1 Device": select it and right click on it, then choose "Properties".

| 📲 Device Manager | | |
|--|--|--|
| File Action View Help | | |
| | | |
| Wice and other pointing devices Network adapters Network adapters Ports (COM & LPT) Processors Sound, video and game controllers Storage controllers Storage controllers LAD FDM-S1 Generic USB Hub Intel(R) 82371AB/EB PCI to USB Universal Host C USB Composite Device USB Root Hub USB Root Hub Winusb WoodboxBadio Tmate 1.1 Device driver | iontroller | |
| Opens property sheet for the current selection. | Update Driver Software Disable Uninstall | |
| | Scan for hardware changes | |
| | Properties | |

The figure represents an old driver version for Tmate.



| inusb W | oodboxRadio T | mate 1.1 Devi | ce driver Proper | ties 🚺 | |
|-----------------------------------|---|------------------|--|------------------------|--|
| General | Driver Details | 1 | | | |
| 1 | winusb WoodboxRadio Tmate 1.1 Device driver | | | | |
| | Driver Provider: | %CYPRESS | % | | |
| | Driver Date: | 2/7/2008 | | | |
| Driver Version Digital Signer: | 1.0.0.0 | | | | |
| | Digital Signer: Not digitally signed | | | | |
| Ugd | late Driver | To update the | driver software for th | is device. | |
| Boll | Back Driver | If the device fa | ils after updating the viously installed driv | e driver, roll ver. | |
| | <u>D</u> isable | Disables the se | lected device. | | |
| | <u>U</u> ninstall | To uninstall the | driver (Advanced). | | |
| | | | | | |

2.3.1.3 Manual driver update

To update Tmate driver, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager".

Under "Universal Serial Bus controllers" list, the driver for Tmate is installed as "winusb Woodboxradio Tmate 1.1 Device driver". Select it and right click on it; then execute "Update driver".

| 📲 Device Manager | | |
|---|-------------------------------------|---|
| File Action View Help | | |
| (= =) 🖬 📓 🖬 💐 😫 🎭 🖏 | | |
| Mice and other pointing devices Network adapters Ports (COM & LPT) Processors Sound, video and game controllers Storage controllers Storage controllers System devices | | * |
| Universal Serial Bus controllers ELAD FDM-51 Generic USB Hub Intel(R) 82371AB/EB PCI to USB Universal Host Co Standard Enhanced PCI to USB Host Controller USB Composite Device USB Root Hub USB Root Hub Winusb WoodboxRadio Tmate 1.1 Device driver | ontroller Update Driver Software | • |
| Launches the Update Driver Software Wizard for the selected de | Disable Uninstall | |
| | Scan for hardware changes | |
| | Properties | |
| w | ELAD ww.eladit.com | |

When Windows 7 starts the installation procedure, select the last option "Browse my computer for driver software".

| How do you want to searc | h for driver software? | |
|---|--|--|
| Search automatically Windows will search you device, unless you've de | y for updated driver software in computer and the Internet for the latest driver software for your sabled this feature in your device installation settings. | |
| Browse my computer Locate and install driver | r for driver software software manually. | |
| | | |
| | | |

In the next dialog-box, disable the option "Include subfolders" and choose "Let me pick from a list of device drivers on my computer". Don't click "Next".

| | tware - winusb WoodboxRadio Ti | mate 1.1 Device | driver | |
|-------------------------|--|------------------------------|--------------------|--|
| Browse for driver sof | tware on your computer | | | |
| Search for driver softw | are in this location: | | | |
| C:\ | | • | Browse | |
| Include subfolders | | | | |
| | | | | |
| | | | | |
| | | | | |
| Let me pick from | a list of device drivers on my co stalled driver software compatible with as the device. | mputer the device, and al | driver software in | |
| the same category | | | | |
| the same category | | | | |
| the same category | | |] | |
| the same category | | | | |



Verify that the option "Show compatible hardware" is checked and Tmate is selected: click on "Have a Disk". In this way the manual driver update is enabled. Don't click "Next".

| Update Driver Software - winusb WoodboxRadio Tmate 1.1 Device an | vice driver |
|--|---|
| Select the device driver you want to install for this hardware. | |
| Select the manufacturer and model of your hardware device disk that contains the driver you want to install, click Have D | and then click Next. If you have a sk. |
| Show <u>c</u> ompatible hardware Model | |
| winusb WoodboxRadio Tmate 1.1 Device driver | |
| | |
| | 11 511 |
| This driver is not digitally signed! <u>Tell me why driver signing is important</u> | <u>H</u> ave Disk |

Click on "Browse" and search for Tmate driver update folder location; then open winusbtmate.inf file, as depicted on figure. Click "OK" and then "Next".

| Select th | e device dri | ver you want to install for this hardware. | |
|-------------------------|---------------------------------------|---|------------------------------|
| T | Install Fro | anufacturer and model of your hardware device and m Disk | then click Next. If you have |
| I Show Model winu | <u>د</u> | Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below. | OK Cancel |
| | | Copy manufacturer's files from: DriversInstallFolder\FDM_S1\TMateDriver_v10003 | Browse |
| ⚠ This <u>Tell</u> | a nvens no me why drive | er signing is important | <u></u> ve Disk |



Now driver update starts: select "Install this driver software anyway" and ignore the warning at next dialog-box.

Let the hardware installation automatically completes and, at the procedure ending, click on "Close"; then disconnect and connect Tmate device on the same USB socket.



To verify that a right update is done, enter "Device Manager" from **Control Panel** and expand "Universal Serial Bus controllers" node: select "WoodboxRadio Tmate 1.1 Device" driver (see sub-chapter "2.3.1.2 Driver installation verify"), right click on it and choose "Properties". Select "Driver" label to visualize the last driver version (an example is depicted ion figure below).



| /oodbox | Radio Tmate 1. | 1 Device Proper | ties | |
|-----------------|------------------|--------------------|---------------------|----------------------------|
| General | Driver Details | | | |
| 1 | WoodboxRadio | Tmate 1.1 Device | | |
| | Driver Provider: | Elad srl Italy | | |
| | Driver Date: | 5/11/2012 | | |
| | Driver Version: | 1.0.0.3 | | |
| | Digital Signer: | Not digitally sig | ned | |
| Ugd | ate Driver | To update the dri | ver software for th | is device. |
| <u> </u> | Back Driver | To update the dri | after updating the | is device. driver, roll |
| | Disable | Disables the sele | cted device. | GI. |
| <u><u> </u></u> | Ininstall | To uninstall the d | river (Advanced). | |
| | | | ок | Cancel |

2.3.2 WoodBoxRadio Tmate USB driver installation in Windows XP

2.3.2.1 *First driver installation*

To install Woodbox T-Mate driver, connect WoodboxRadio Tmate to a USB 2.0 socket on PC. Windows XP detects the new hardware and starts the hardware installation wizard automatically. Then follow the steps listed below to install correctly the driver:

At the first dialog-box, select the third option "No, no this time", the click on "Next".







Select the option "Install from a list or specific location (Advanced)" and click on "Next".

| Found New Hardware Wizard | |
|---------------------------|---|
| | This wizard helps you install software for: DSW:100X USB If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Material the software automatically (Recommended) Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue. |
| | < <u>B</u> ack <u>N</u> ext > Cancel |

Select "Search for the best driver in these location" and "Include this location in the search", click on "Browse" and select the folder: Local Drive (C:) \Programs\ELAD\ELAD FDM-SW1\TMateDriver. Then click on "Next".



| Found New Hardware Wizard | |
|---|--|
| Please choose your search and installation options. | Browse For Folder |
| | Select the folder that contains drivers for your hardware. |
| Search for the best driver in these locations. | |
| Use the check boxes below to limit or expand the default search, w paths and removable media. The best driver found will be installed. | ELAD FDM-SW1 |
| Search removable media (floppy, CD-ROM) | HelpFiles |
| C:\Program Files\ELAD\ELAD FDM-SW1\ELAD_FD | TMateDriver |
| O Don't search. I will choose the driver to install. | i386 Internet Explorer |
| Choose this option to select the device driver from a list. Windows the driver you choose will be the best match for your hardware. | To view any subfolders, click a plus sign above. |
| | OK Cancel |
| < Back Next | Cancel |

At the next dialog box ignore the warning and click on "Continue Anyway".

| Hardware | 2 Installation |
|----------|--|
| <u>.</u> | The software you are installing for this hardware: ELAD FDM-S1 has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing. |
| | Continue Anyway |

Let the hardware installation automatically completes and click on "Finish"; then disconnect e connect Tmate device on the same USB socket.





Now WoodboxRadio Tmate driver is installed on your PC.

2.3.2.2 Driver installation verify

To verify Tmate driver current version, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager" under "Hardware" label.

Expanding "Universal Serial Bus controllers" node, Tmate device driver is installed as "winusb Woodboxradio Tmate 1.1 Device": select it and right click on it, then select "Properties".

The figure represents an old driver version for Tmate.





| winusb \ | Noodb | oxRadio | o Tmate 1.1 Device Properties 🛛 🛜 🔀 | | |
|------------------|-------------------|-----------|--|--|--|
| General | Driver | Details | | | |
| ÷ | winusb | Woodbo | xRadio Tmate 1.1 Device driver | | |
| | Driver | Provider: | %CYPRESS% | | |
| | Driver | Date: | 2/7/2008 | | |
| | Driver Version: | | 1.0.0.0 | | |
| | Digital Signer: | | Not digitally signed | | |
| Drive | er Detail: | s | To view details about the driver files. | | |
| Ugda | ate Drive | я | To update the driver for this device. | | |
| Roll Back Driver | | ver | If the device fails after updating the driver, roll back to the previously installed driver. | | |
| | <u>I</u> ninstall | | To uninstall the driver (Advanced). | | |
| | | | OK Cancel | | |

2.3.2.3 Manual driver update

To update Tmate driver, connect the device to USB socket (where the device driver is already installed) and open **Control Panel** from **Start** menu. Click on "System" and select "Device Manager" under "Hardware" label.

Select "winusb Woodboxradio Tmate 1.1 Device" from "Universal Serial Bus controllers" list, right click on it and execute "Update driver".







Now Windows XP launches the hardware update wizard: select the last option "No, not this time" and "Next".



At next step select "Install from a list or specific location (Advanced)" and "Next".



| Hardware Update Wizard | |
|------------------------|---|
| | This wizard helps you install software for: winusb WoodboxRadio Tmate 1.1 Device driver If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically [Recommended] Install from a list or specific location [Advanced] Click Next to continue. |
| | < <u>Back</u> Next> Cancel |

Then, disable all check-boxes that the system automatically sets and choose the last option for manual driver update, as depicted in figure. Select "Next".

| PI | ease choose your search and installation options. |
|----|--|
| | O <u>S</u> earch for the best driver in these locations. |
| | Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed. |
| | Search removable media (floppy, CD-ROM) |
| | Include this location in the search: |
| | H:\driver\FDM_S1\DRIVER_WINUSB_FDM_v1005 Browse |
| | Don't search. I will choose the driver to install. |
| | Choose this option to select the device driver from a list. Windows does not guarantee to the driver you choose will be the best match for your hardware. |
| | |
| | |

Verify that "Show compatible hardware" is checked and Tmate driver is selected: then click on "Have a Disk". In this way manual update is enabled. Don't click "Next".



| Hardware Update Wizard | | | | |
|--|--|--|--|--|
| Select the device driver you want to install for this hardware. | | | | |
| Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk. | | | | |
| Model | | | | |
| winusb WoodboxRadio Tmate 1.1 Device driver | | | | |
| This driver is not digitally signed! <u>Have Disk</u> <u>Have Disk</u> | | | | |
| < <u>B</u> ack <u>N</u> ext > Cancel | | | | |

Click on "Browse" and search for the Tmate driver update folder location; then open winusbtmate.inf file. Click "OK" and then "Next".

| Install | rom Disk | × |
|---------|---|----|
| 1 | Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below. | el |
| | Copy manufacturer's files from: | |

Now driver update starts: at next dialog box select "Continue Anyway" and ignore the warning.

Let the hardware update automatically completes and, at the procedure ending, click on "Finish"; then disconnect e connect Tmate device on the same USB socket.







To verify that a correct update is done, enter "Device Manager" from **Control Panel** and expand "Universal Serial Bus controllers" node. Select "WoodboxRadio Tmate 1.1 Device" driver (see chapter "2.3.2.2 Driver installation verify") right click on it and choose "Properties". Select "Driver" label to visualize the last driver version.



| WoodboxRadio Tmate 1.1 Device Properties 🛛 🔹 💽 | | | | |
|--|---|--|--|--|
| General Driver | Details | | | |
| Koodt | boxRadio Tmate 1.1 Device | | | |
| Driver I | Provider: Elad srl Italy | | | |
| Driver (| Date: 5/11/2012 | | | |
| Driver V | Version: 1.0.0.3 | | | |
| Digital | Signer: Not digitally signed | | | |
| <u>D</u> river Details | To view details about the driver files. | | | |
| Update Drive | r To update the driver for this device. | | | |
| Roll Back Driv | ver If the device fails after updating the driver, roll back to the previously installed driver. | | | |
| <u>U</u> ninstall | To uninstall the driver (Advanced). | | | |
| | OK Cancel | | | |





Annex A FDM-S1 External Hardware Connector



- Pin 1: SFE Latch 595
- Pin 2: I2C SCL
- Pin 3: SFE CLOCK 595
- Pin 4: I2C SDA
- Pin 5: Ground
- Pin 6: MUTE
- Pin 7: Reserved
- Pin 8: SFE Data 595
- Pin 9: Vcc (4.5V)

To mute the FDM-S1, connect the Pin 6 to ground.





| ELAD FDM-S1 | | | | |
|---|---|--|--|--|
| TECHNICAL SPECIFICATIONS Rev. 5 10/2012 | | | | |
| GENERAL | Frequency coverage: | 20 kHz ÷ 30 MHz (up to 200 MHz in undersampling) | | |
| | Antenna connectors: | SMA (50 Ω) – SMA/BNC adapter included | | |
| | Temperature range: | 0 ÷ 40 °C | | |
| | PC Interface | High-Speed USB 2.0 (480 Mbit/s) | | |
| | Power supply: | USB powered | | |
| | Power consumption: | Less than 2.2 W | | |
| | External I/O connector: | Female DB9 (mute control, I ² C and SPI interface) | | |
| | Dimensions: | 108 (W) x 27 (H) x 88 (D) mm | | |
| | Weight: | 180 g | | |
| | Configuration: | Direct sampling | | |
| | A/D Conversion | 61.44 MSPS @ 14 bit/sample | | |
| | Sensitivity: | Typical -114 dBm (CW, BW 500 Hz, 10 dB (S+N)/N) -114,5 dBm (CW, BW 500 Hz, 10 dB S/N) | | |
| | 3 ^{ra} Oder Intercept Point: | > +25 dBm @ 14 MHz, Spacing 2 kHz, Input level -97 dBm, Low Pass Off, Attenuator Off | | |
| RECEIVER | Blocking gain compression: | > 100 dB @ 14 MHz, Spacing 2 kHz, CW, BW 500 Hz Typical: 108 dB @ 14 MHz, Spacing 2 kHz, CW, BW 500 Hz, Noise Reduction On | | |
| | Noise floor (MDS): | < -124 dBm @ 14 MHz, CW, BW 500 Hz Typical: -130 dBm @ 14 MHz, CW, BW 500 Hz, Noise Reduction On | | |
| | Attenuator: | 0, 20 dB | | |
| | RF Preselection filter: | OFF (wide band), Low Pass (0 ÷ 30 MHz) | | |
| | SW TECHNICAL SPECIFICATIONS | | | |
| | SW Name: | ELAD FDM SW1 | | |
| | Mode: | CW, CW SH+, CW SH-, USB, LSB, DSB, AM, SYNC AM, FM, WB FM (Stereo + RDS decoder), RTTY, DRM | | |
| | Memory: | User frequency database support (XML files based), EIBI database support (CSV import), DX Cluster spot visualization (Internet connection required) | | |
| | Digital USB Streaming Sampling Rate: | 192, 384 ,768, 1536 and 3072 kHz I/Q channels, 32 bit/sample | | |
| | Digital Filters: | Double IF notch filters, continuous variable band filter (Selectivity > 100 dB) | | |
| | Adaptive Filters | Powerful Noise-Reducer and Auto-Notcher | | |
| GENERAL | Tuning: | Manual entry keys, triple tuning bar (patent pending), WoodBox Tmate & Tmate2 compatible, CAT, Omni-Rig, touch-screen (under development) | | |
| | Display: | Spectrum, Waterfall | | |
| | Recorder: | Recording and playback of IF and audio data stream (automatic multiple files split feature) | | |
| | Minimum PC requirements: | Intel Atom N270, 1GB RAM (*) Operating System: Windows XP, Windows Vista, W7, W8 (Apple virtual machine compatible – tested on VMware Fusion environment) (*) Execute the application <i>FDM-SW1CompatibilityTest</i> to verify if your system meets the requirements to run Elad FDM-SW1 software. Join <i>elad_sdr_en</i> (English) or <i>elad_sdr</i> (Italian) on Yahoo!® Groups to download the application. | | |
| GENERAL | SW Name: | ExtIO_ELAD_FDMS1 DLLs | | |
| | Third Party Compatibility: | Studio1, Winrad, WrPLUS, HDSDR, digiRadio | | |
| All stated specifications and other product information provided in this document are subject to change without notice or obligation. | | | | |



Declaration of Conformity

The product marked as

FDM-S1

manufactured by

Manufacturer: ELAD S.r.l.

Address:

Via Col De Rust, 11 - Sarone 33070 CANEVA (PN)

is produced in conformity to the requirements contained in the following EC directives:

- ► R&TTE Directive 1999/5/CE
- ► EMC Directive 2004/108/CE
- ► Low Voltage Directive 2006/95/CE

The product conforms to the following Product Specifications:

Emissions & Immunity:

ETSI EN 300 330-1 ETSI EN 301 489-1 ETSI EN 301 498-15 ETSI EN 301 783-2 EN 55022: 2006 + A1: 2007 EN 55024: 1998 + A1: 2001 + A2: 2003

Safety:

EN 60950-1: 2006 + A11: 2009

And further amendments.

This declaration is under responsibility of the manufacturer:

ELAD S.r.l. Via Col De Rust, 11 - Sarone 33070 CANEVA (PN)

Issued by:

Name: Franco Milan Function: President of ELAD

> Caneva Place

March, 20th 2012 Date

Signature

