

DL2SBA

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Image www.miniradiosolutions.com

vna/J 2.8.x Installation guide

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Acknowledgements

- First of all I want to thank my wife **Monika, DL6SCF** being incredibly understanding, supportive, and most of all, patient.
- **Davide, IW3HEV** and **his team** for these fine two little blue boxes.
- **Andy, G0POY**, for his permanent quality assurance of new releases, proof-reading this document, providing an excellent installation description for SUSE LINUX and giving useful tips regarding usability etc.
- **Jan, DK5LJ**, for providing installation support of 64bit versions of RXTX library
- **Clive, G3GJA**, for providing feedback for systems with corrupted JRE associations.
- And last but not least my cat **Ina**, which helped me many times solving complex situations at the keyboard ;-)

Overview

The **miniVNA** and **miniVNApro** instruments by mRS <http://www.miniradiosolutions.com> are popular and very useful test instruments.

The miniVNA instrument is a small blue box with two BNC connectors and a USB connector.

The newer miniVNApro is also small blue box now with two SMA connectors and much enhanced precision.

All the control of the instrument is performed by a software application running on a PC.

Many people have contributed to the development of this software, but the focus has been mainly on the Microsoft Windows operating system. There was a Linux based application but this is no longer supported, and the advancement of the various Linux distributions has rendered it inoperable.

I've started in 2007 to develop a control application based on the Java programming language. Initial ideas were taken from the Visual-Basic-Application that was provided by mRS.

Java is a cross-platform language, which allows the identical application binary to run on any supported Java enabled Operating System.

Currently I've tested the application on Windows98, WindowsXP, Windows7-32bit, WindowsVISTA-64bit, MacOSX 32-bit versions, MacOSX 64-bit versions, UBUNTU 10.x.

Andy has tested it successful on SUSE LINUX 11.1 and 11.2

Remark:

Not all screenshots in this documentation are taken from the latest application version.

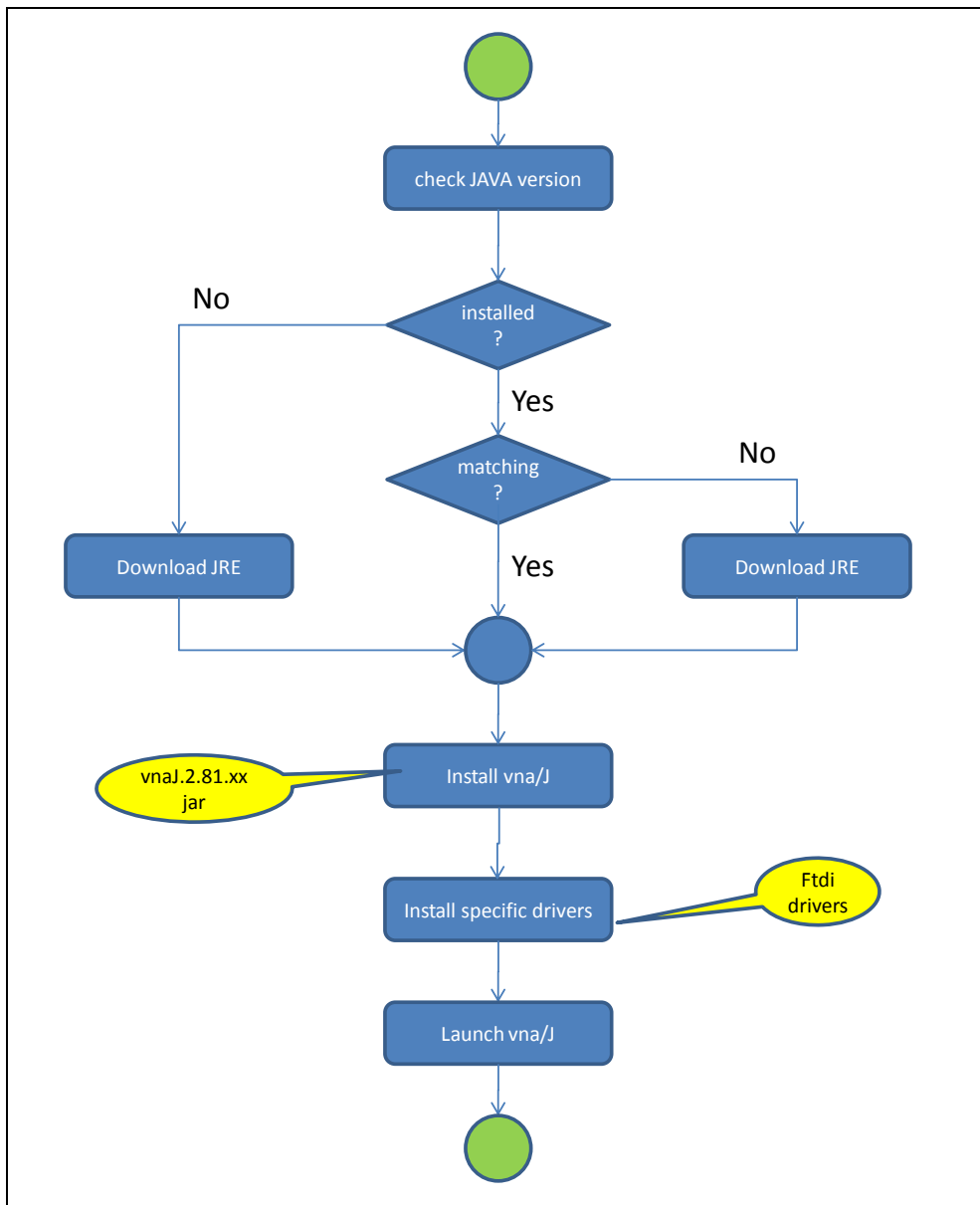
Where it is necessary for understanding, I've tried to use the latest screenshots.

Installation

Software for Microsoft Windows XP and newer

To run vna/J you need to install the following components:

- Java runtime environment
- vna/J application
- drivers for the serial interface
- special driver files for your specific network analyser





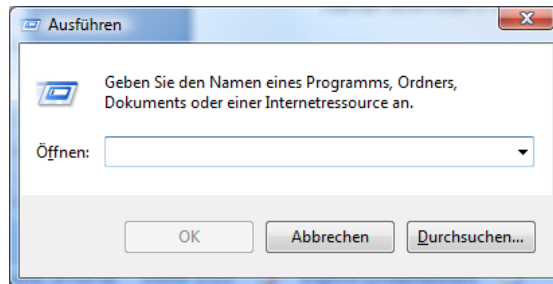
Please proceed with the steps described in the following chapters.

Check prerequisites

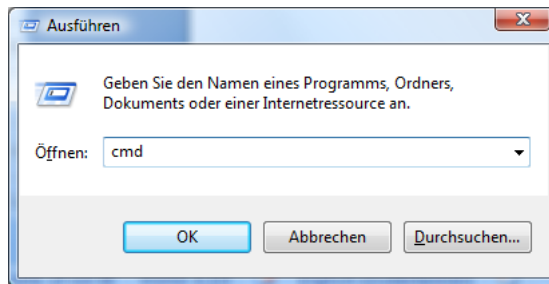
The application vna/J is written using the JAVA programming language. Every application written in JAVA needs a runtime-environment (JAVA RUNTIME ENVIRONMENT or simply JRE) to be executed on a computer. This JRE must be installed on the computer you plan to run vna/J.

To check, whether a compatible JRE is installed please execute the following steps:

1. Open a command window by pressing the Windows-Key  together with the R-key  or use the RUN entry in the Windows start menu.

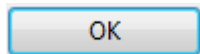


2. The RUN window opens

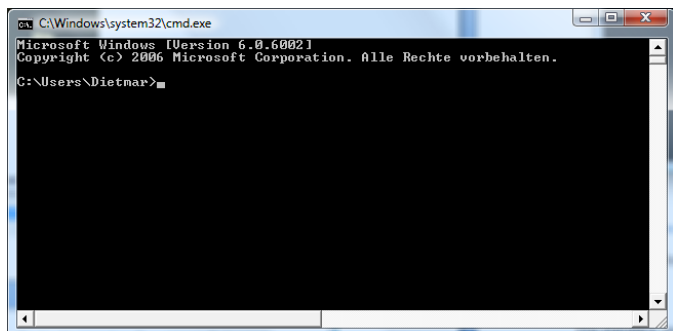


3. In the entry field **Open** enter **cmd**

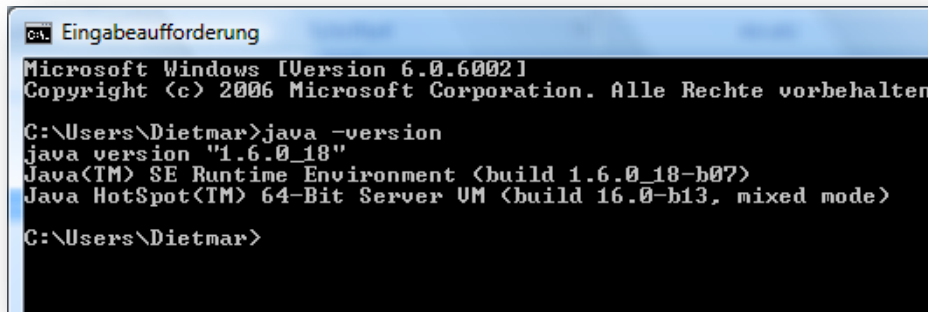
4. Select the OK-button



5. Now a command window is opened:



6. In the window simply enter **java -version** (in words: java blank minus version) and press the enter key



```
Microsoft Windows [Version 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. Alle Rechte vorbehalten.

C:\Users\Dietmar>java -version
java version "1.6.0_18"
Java(TM) SE Runtime Environment (build 1.6.0_18-b07)
Java HotSpot(TM) 64-Bit Server VM (build 16.0-b13, mixed mode)

C:\Users\Dietmar>
```

You should get something like **java version "1.6.0_18"**

If the printed version identifier is greater or equal to **"1.5...."** the installed JAVA environment is fine for running vna/J. Continue installation with chapter "Installation of vna/J application"

If not, please install the latest JRE according to next chapter "Installation of Java runtime environment (JRE)".

If an error is printed, that the entered command **java** cannot be found, please install the latest JRE according to next chapter "Installation of Java runtime environment (JRE)".

Installation of Java runtime environment (JRE)

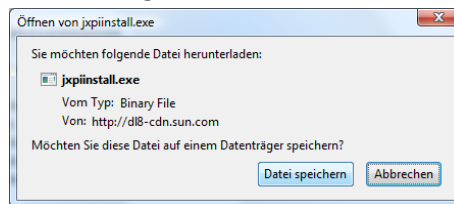
Open this website in your favourite browser: <http://www.java.com/de/download/index.jsp>

Select the download button :

Validate that the correct version of your operation system is detected



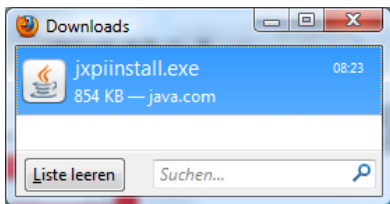
If the correct operation system version is displayed, select again the "**download**"-button. In Firefox



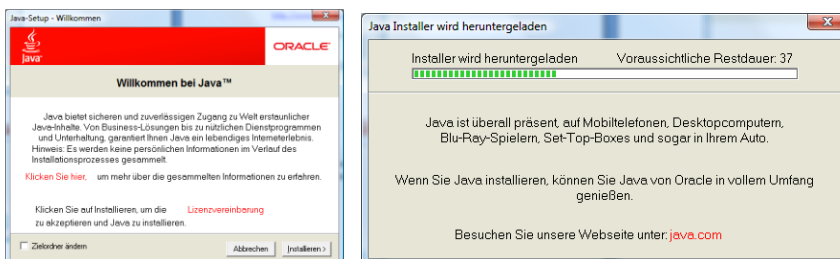
now a windows opens asking for saving this file.

Select "**SAVE**".

When download is finished execute the downloaded file by double-clicking the filename.



Now the JRE download should start:



and the JRE is automatically installed.

To verify that the installation was successful, you can check it by reexecuting the steps described in chapter "Check prerequisites".

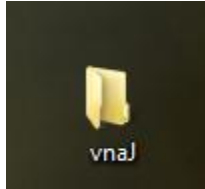
Installation of vna/J application

Base application installation

First decide where you want to install the vna/J application.

For demo purposes, I've simply installed it in a new folder on the Windows desktop. You can choose any folder, on which you have read and write access.

For this documentation I use this folder on my desktop:



Simply create this folder by right-clicking on a free Windows desktop area and select **New** and **Folder**. Enter a meaningful name for the new folder.

The complete vna/J application is contained in a single file - a **Java ARchive** (basically a ZIP-file with .jar-extension). You require the following file to run the application:

vnaJ.2.7.5.jar

which denotes version 2.7.5 or any later archive.

You can download always the latest version from my website:

<http://vnaj.dl2sba.com>

Store the downloaded file in the previously created folder.

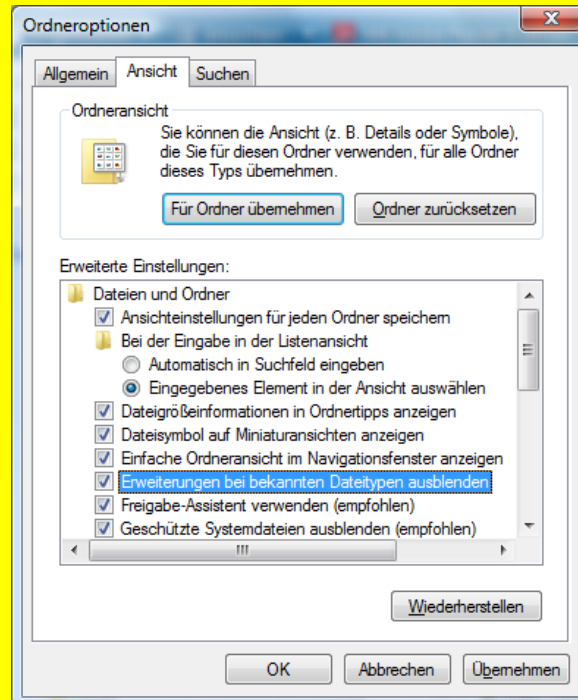
There are also two additional MS Windows batch-files.

`start_vnaJ.cmd` Launches the application by directly calling the JAVA runtime environment.

`start_vnaJ_echo.cmd` Launches the application by directly calling the JAVA runtime environment but leaves a command window open to see the messages issued by the application.

You need to download them only, if you encounter problems during application launch (see chapter "Application start" non page 16).

Hint: Please ensure that you download all file with the mentioned extension. If you don't see any extensions in the Windows explorer window, please check in the explorer options that extensions of known file types are **not** suppressed:



You can find this dialog (folder options) in the EXTRA menu in any file explorer window!

USB driver for miniVNA and miniVNA PRO

To gain access to the miniVNA interface, special drivers for the USB-interface of the miniVNA are needed.

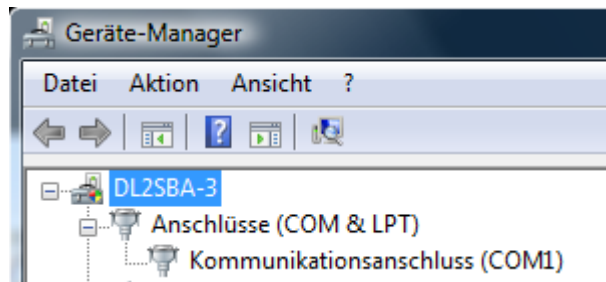
You have to download the so-called VCP driver for windows from the manufacturers homepage:

<http://www.ftdichip.com/Drivers/VCP.htm>

Always download the latest driver version!

You can select either an OS-specific ZIP-file or simply use the so-called "**setup-executable**" which guides you through the installation or update of the drivers.

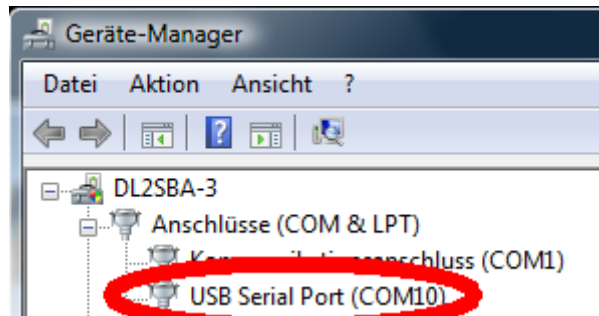
After successful installation open again the system-information dialog and start the **device manager**.



In the section "**COM & LPT**" you now should see only the currently available COM-ports.

Now plug in the miniVNA (PRO) into a free USB port on your computer. You should get a message in the windows taskbar area, stating that a new device is detected and successfully installed.

Re-check the device-manager. You should now find the serial port added for the miniVNA (PRO):



Remember the name of the newly added COM-port - here COM10. It will be later used inside vna/J application to select the correct COM-Port for the miniVNA.

Hint: If you later plug in the miniVNA (PRO) into a different USB port on your computer, you may get a different COM port number assigned to it.

Software for Mac OS X

Check prerequisites

The application vna/J is written using the JAVA programming language. Every application written in JAVA needs a runtime-environment (JAVA RUNTIME ENVIRONMENT or simply JRE) to be executed on a computer. This JRE is pre-installed on every Mac.

Currently I've used an MBP with this JAVA version installed:

```
lisa-krauses-macbook-pro:Desktop dietmar$ java -version
java version "1.5.0_19"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.5.0_19-b02-304)
Java HotSpot(TM) Client VM (build 1.5.0_19-137, mixed mode, sharing)
```

Updates are available from Apple via the regular system maintenance procedures.

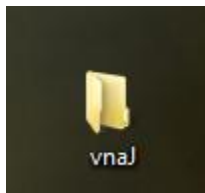
Installation of vna/J application

Base application

First decide where you want to install the vna/J application.

For demo purposes, I've simply installed it in a new folder on the Mac OS X desktop. You can choose any folder, on which you have read and write access.

For this documentation I use this folder on my desktop:



Simply create this folder by right-clicking on a free desktop area and select **New** and **Folder**. Enter a meaningful name for the new folder.

The complete vna/J application is contained in a single file - a Java **AR**chive (basically a ZIP-file with .jar-extension). You require the following file to run the application:

vnaJ.2.7.5.jar

which denotes version 2.7.5 or any later archive. You can download always the latest version from my website:

<http://vnaj.dl2sba.com>

Store the downloaded file in the previously created folder.

USB driver for miniVNA and miniVNA PRO

To gain access to the miniVNA interface, special drivers for the USB-interface of the miniVNA are needed.

I've tested the application also with the Apple Mac OS X. I've downloaded the FTDI VCP driver version 2.2.10 dated 6th August 2008 from

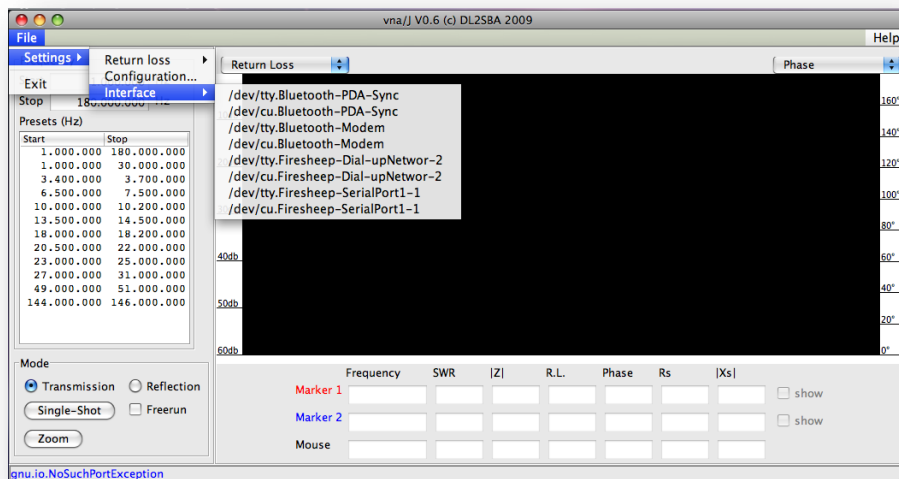
<http://www.ftdichip.com/Drivers/VCP.htm>

and installed it. Any newer version should also work fine!

Depending on the which type of operating system running (32bit or 64bit) please select the correct download from FTDI website:

Operating System	Release Date	Processor Architecture			
		x86 (32-bit)	x64 (64-bit)	PPC	ARM
Windows*	2010-08-11	2.08.02	2.08.02	-	-
Linux	2009-05-14	1.5.0	1.5.0	-	-
Mac OS X	2009-10-21	2.2.14	2.2.14	-	-
Windows CE 4.2	2010-02-11	1.1.0.6	-	-	1
Windows CE 6.0	2010-02-11	1.1.0.6	-	-	1

The port names on the Mac are a little bit different from the ones on Windows.



Hardware

The miniVNA simply needs a free USB port at your computer. Connect the analyzer via a high-quality USB cable to a free USB port on your host computer.

Application start

Windows

There are three ways to start the application:

1. Start by double-click in explorer window
2. Start via a shortcut on the windows desktop
3. Start the application with one of the provided batch-file

I suggest to try first version (1). If you do not encounter any problems, I suggest to create a **shortcut** on your **windows desktop** to launch the application (2).

In case of problems, please try to launch the application with the batch-file (3).

If this also fails, please refer to chapter " Reporting a problem" in the vna/J-User Manual for further support.

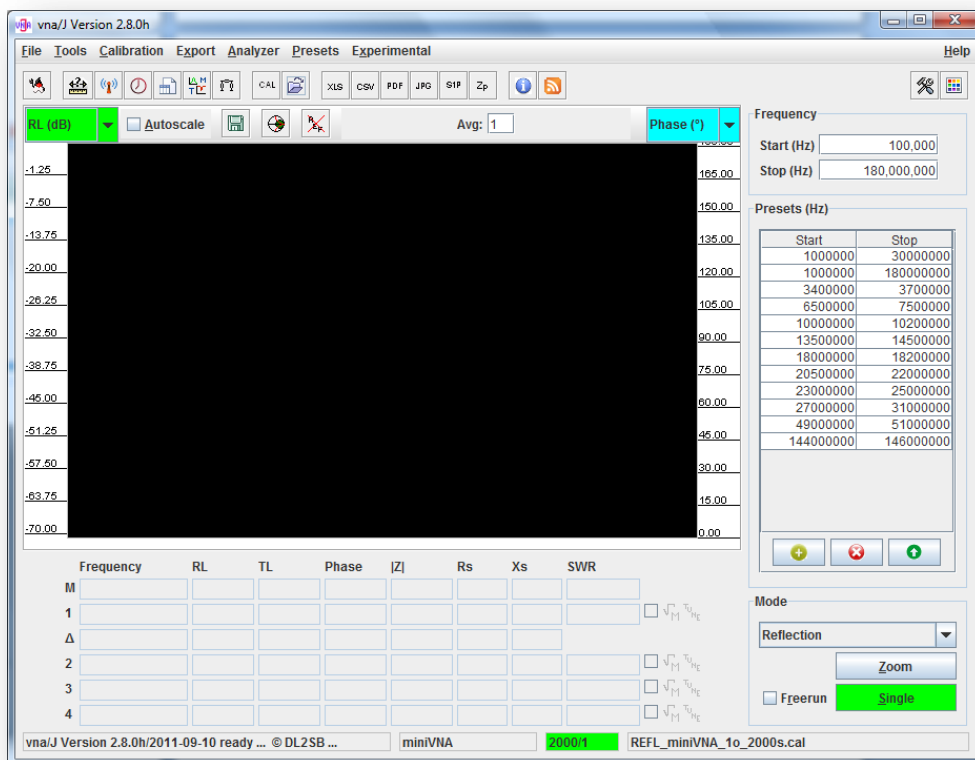
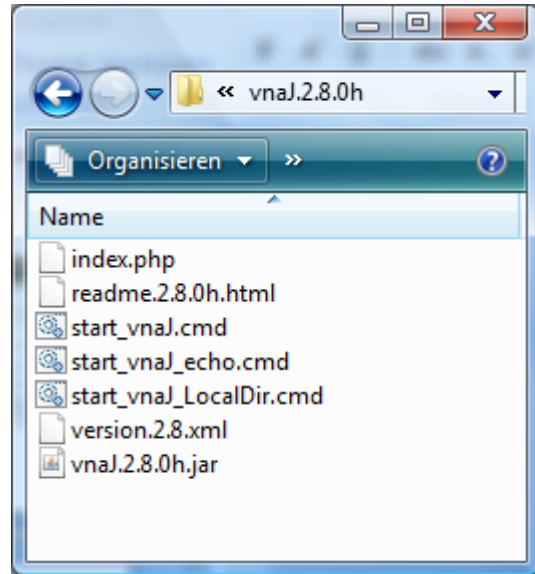
Windows Explorer

Open a Windows explorer windows to the directory, where you've download the files from the website.

Now simply launch the application by double-clicking the downloaded JAR-file, here

vnaJ.2.8.0.h.jar

The application should start and show the main window.



- If this works, you can create a Desktop link as described in this chapter "Desktop-Shortcut" on page 19
- If this fails, try to launch it by launching one of the provided batch-files as described in this chapter "Batch-file" on page 18.

Batch-file

On the website two MS Windows batch-files are provided:

- | | |
|----------------------------------|---|
| <code>start_vnaJ.cmd</code> | Launches the application by directly calling the JAVA runtime environment. |
| <code>start_vnaJ_echo.cmd</code> | Launches the application by directly calling the JAVA runtime environment but leaves a command window open to see the messages issued by the application. |

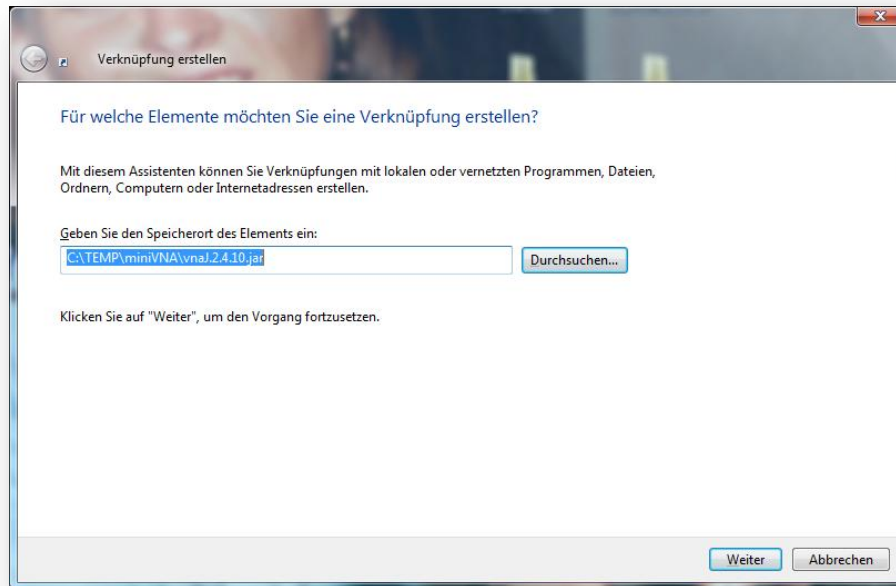
First try the batch-file ***start_vnaJ.cmd***. Start this file, by double-clicking on it in the MS Windows file explorer. If This works, you can create a desktop shortcut to this file (and not the JAR-file) as described in chapter "Desktop-Shortcut" on page 19.

If this also fails, please refer to chapter " Reporting a problem" in the vna/J-User Manual for further support.

Desktop-Shortcut

Create a new shortcut on your windows desktop by right-clicking a free place on your windows desktop.

- Select NEW/SHORTCUT in the appearing popup-menu.
- In the dialog select the jar-file you've downloaded previously:

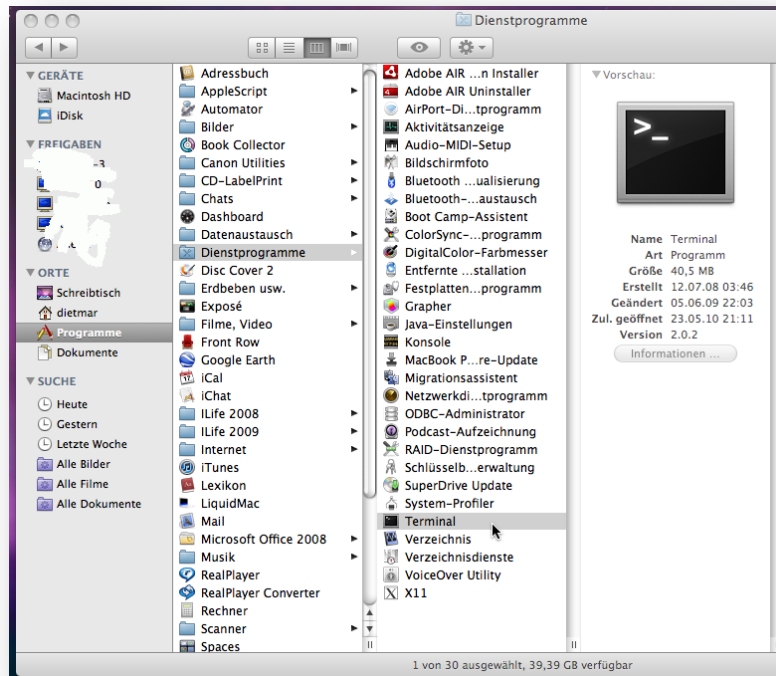


- Click NEXT and give the shortcut a meaningful name.
- Doing a regular left-double-click on the newly created shortcut should start the application.

Mac OS X

Command window

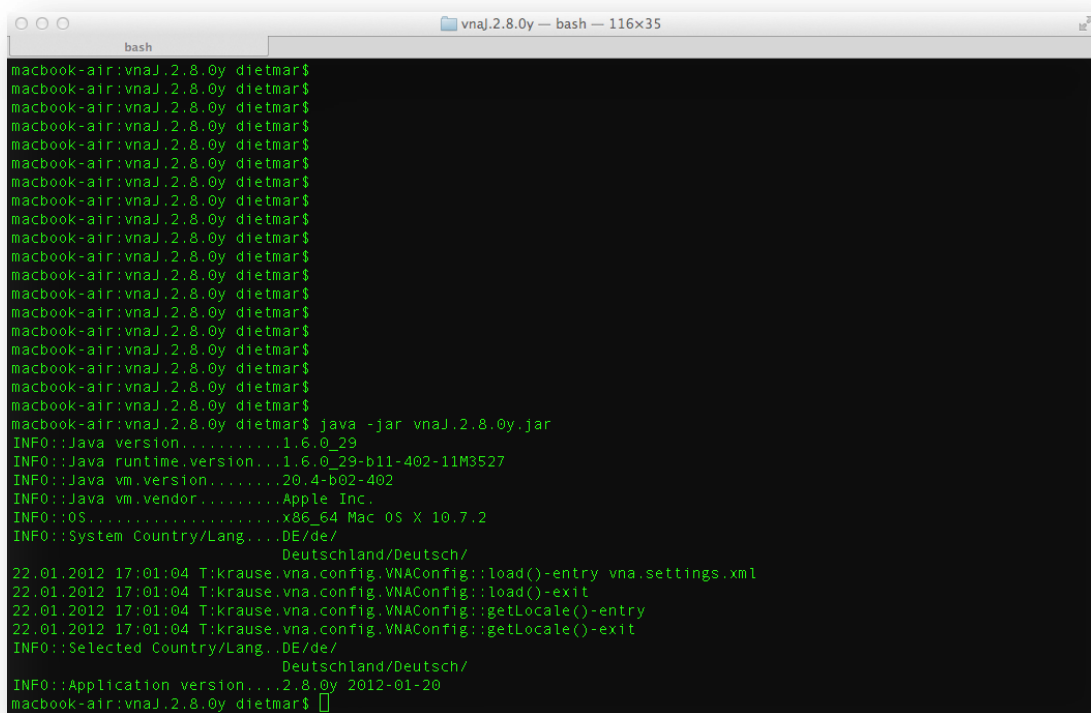
- Open a command window (Shell, Terminal, ...):



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- In the opened window, please navigate to the directory, where you've downloaded the JAR-file.
- Launch the application by entering:

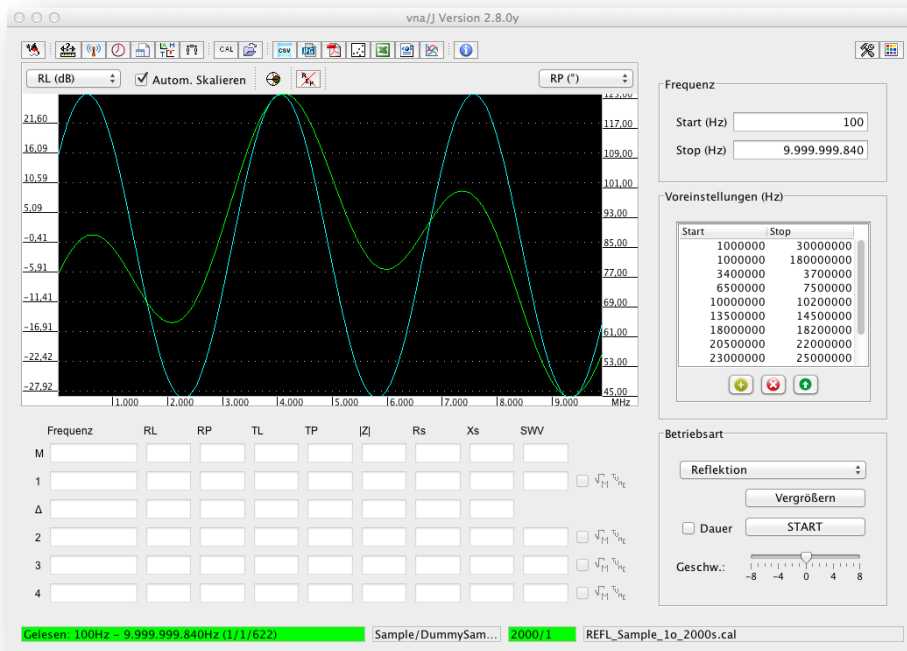
```
java -jar vnaJ.2.8.0.jar
```



```
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
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macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
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macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$
macbook-air:vnaJ.2.8.0y dietmar$ java -jar vnaJ.2.8.0y.jar
INFO:Java version.....1.6_0_29
INFO:Java runtime.version...1.6_0_29-b11-402-11M3527
INFO:Java vm.version.....20.4-b02-402
INFO:Java vm.vendor.....Apple Inc.
INFO:OS.....x86_64 Mac OS X 10.7.2
INFO:System Country/Lang...DE/de/
      Deutschland/Deutsch/
22.01.2012 17:01:04 T:krause.vna.config.VNAConfig::load()-entry vna.settings.xml
22.01.2012 17:01:04 T:krause.vna.config.VNAConfig::load()-exit
22.01.2012 17:01:04 T:krause.vna.config.VNAConfig::getLocale()-entry
22.01.2012 17:01:04 T:krause.vna.config.VNAConfig::getLocale()-exit
INFO:Selected Country/Lang...DE/de/
      Deutschland/Deutsch/
INFO:Application version...2.8.0y 2012-01-20
macbook-air:vnaJ.2.8.0y dietmar$
```

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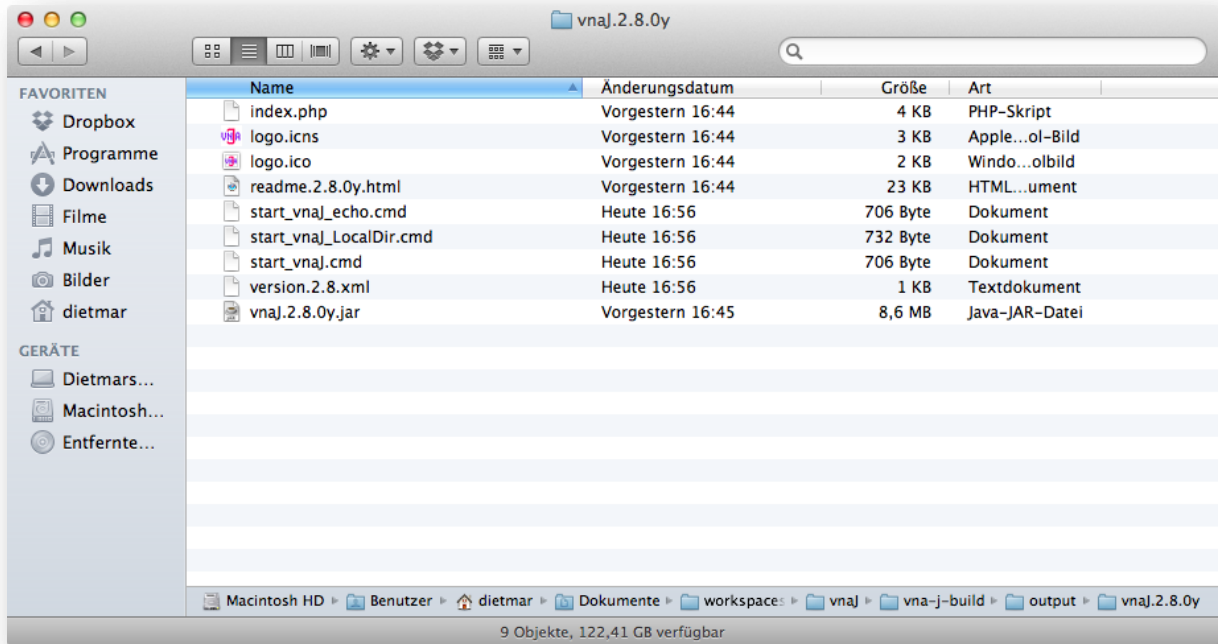
- The application should now start successful.



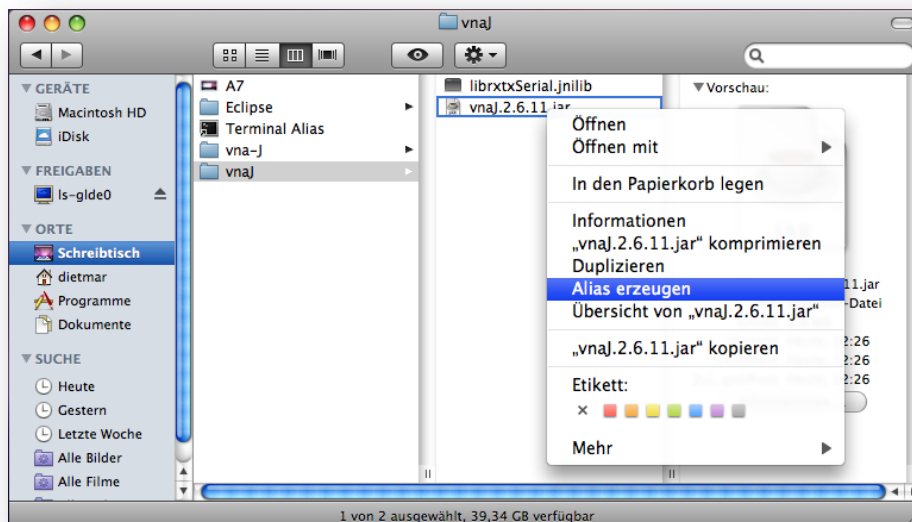
If the application launches successfully, you can create a shortcut on the desktop, as described in chapter " Desktop shortcut" on page 23.

Desktop shortcut

- Open the previously created installation folder in the finder:



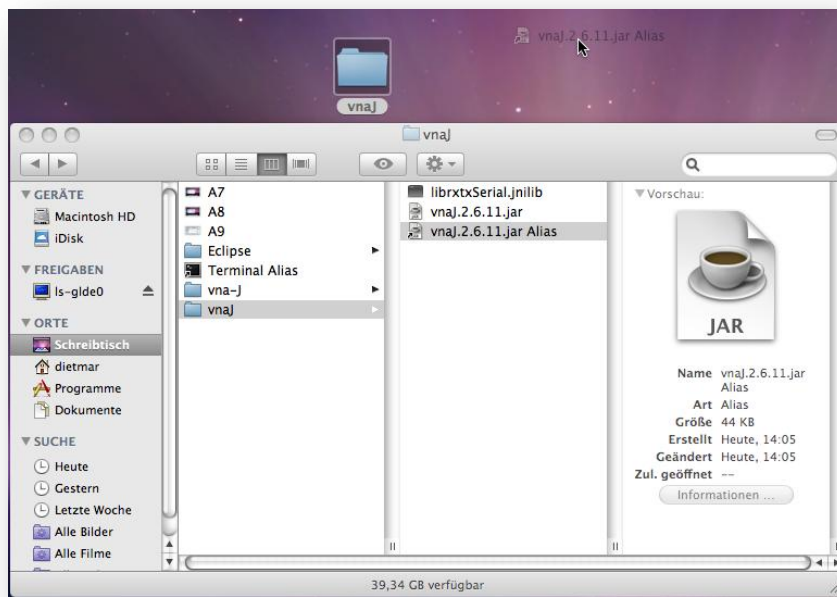
- Select the downloaded JAR-file and right-click on it:



- In the popup select **Create Alias**.
- Drag the created alias to the desktop.

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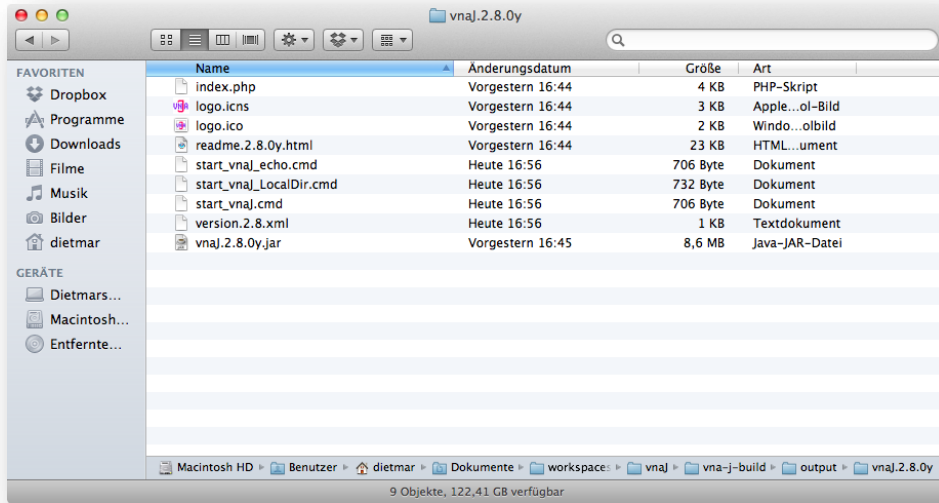
- Rename the alias to a meaningful name:



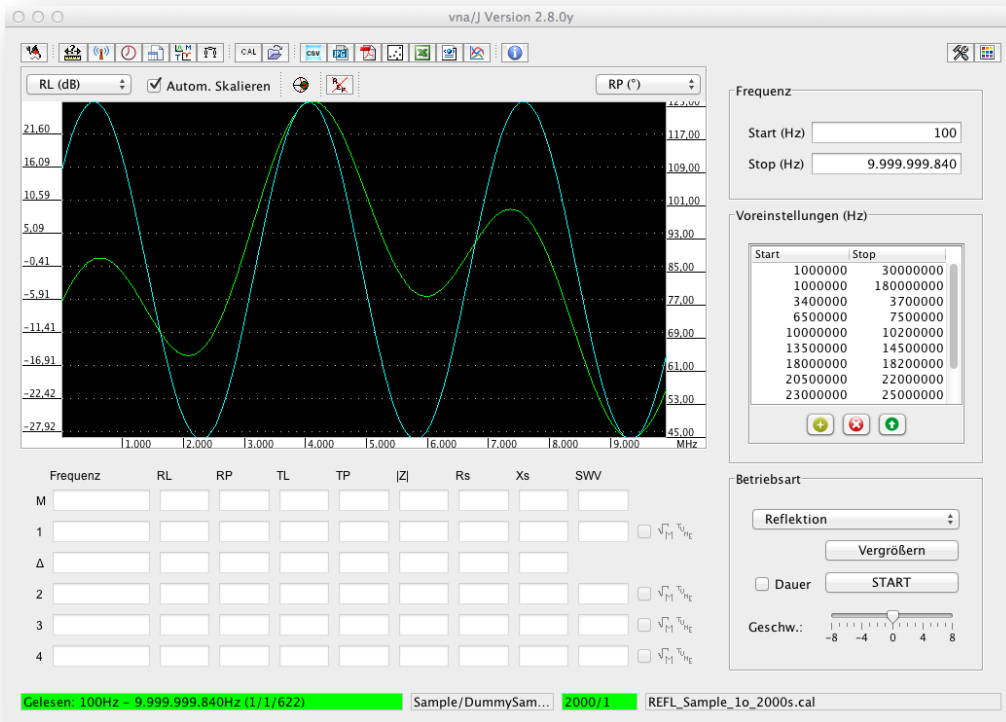
- You now can launch the application by double-clicking on the created alias on the desktop.

Double-click in Finder

- Open the previously created installation folder in the finder



- Launch the application by double clicking on the JAR-file, here **vnaJ.2.8.0y.jar**:



License

Dutch

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English

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Deutsch

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