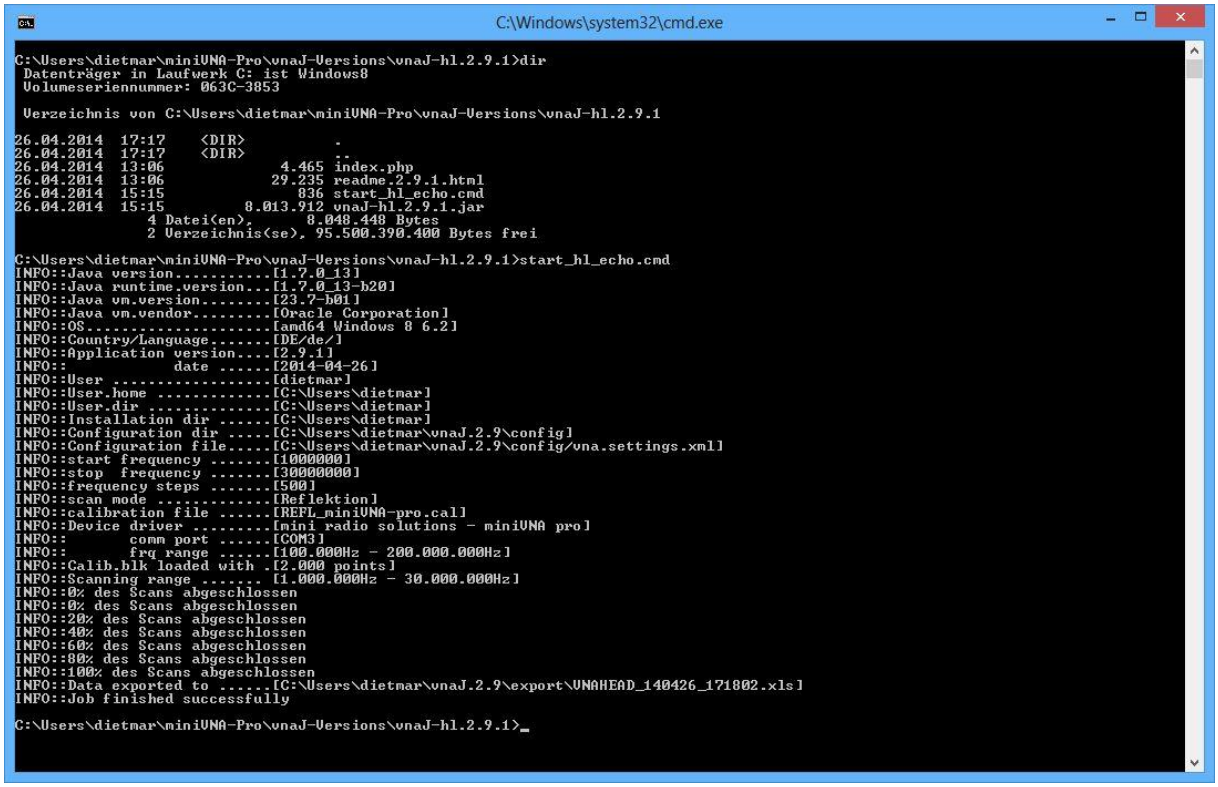

vna/J 3.x
User guide for headless application

Dietmar Krause

DL2SBA

Hindenburgstraße 29

D-70794 Filderstadt

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Changes

Version	Date	Who	Changes
2.9.0	26. April 2014	DL2SBA	Created
3.x	13. December 2014	DL2SBA	Hints & Tips extended
	4. June 2017	DL2SBA	Some bugs corrected
3.1	9. March 2018	DL2SBA	New parameters added Average now available via parameter. Config file from GUI app no longer relevant.

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- The numerous users worldwide giving me permanent feedback.

- And last but not least my cat Ina, who has often helped me in solving complex situations on 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 Windows 98, Windows XP, Windows7-32bit, WindowsVISTA-64bit, Windows8-32bit/-64bit, Windows10-32bit/64bit, Mac OS X 32-bit and Mac OS X 64-bit versions.

History

Since 2007 the GUI application vna/J is available for various network analysers.

I received a bunch of emails asking for an application, which can be used i.e. for automated testing. Until April 2014 I have to postpone these questions...

Starting with vna/J version 2.9, a headless application is available, which can be used i.e. in automated test environments.

Basics

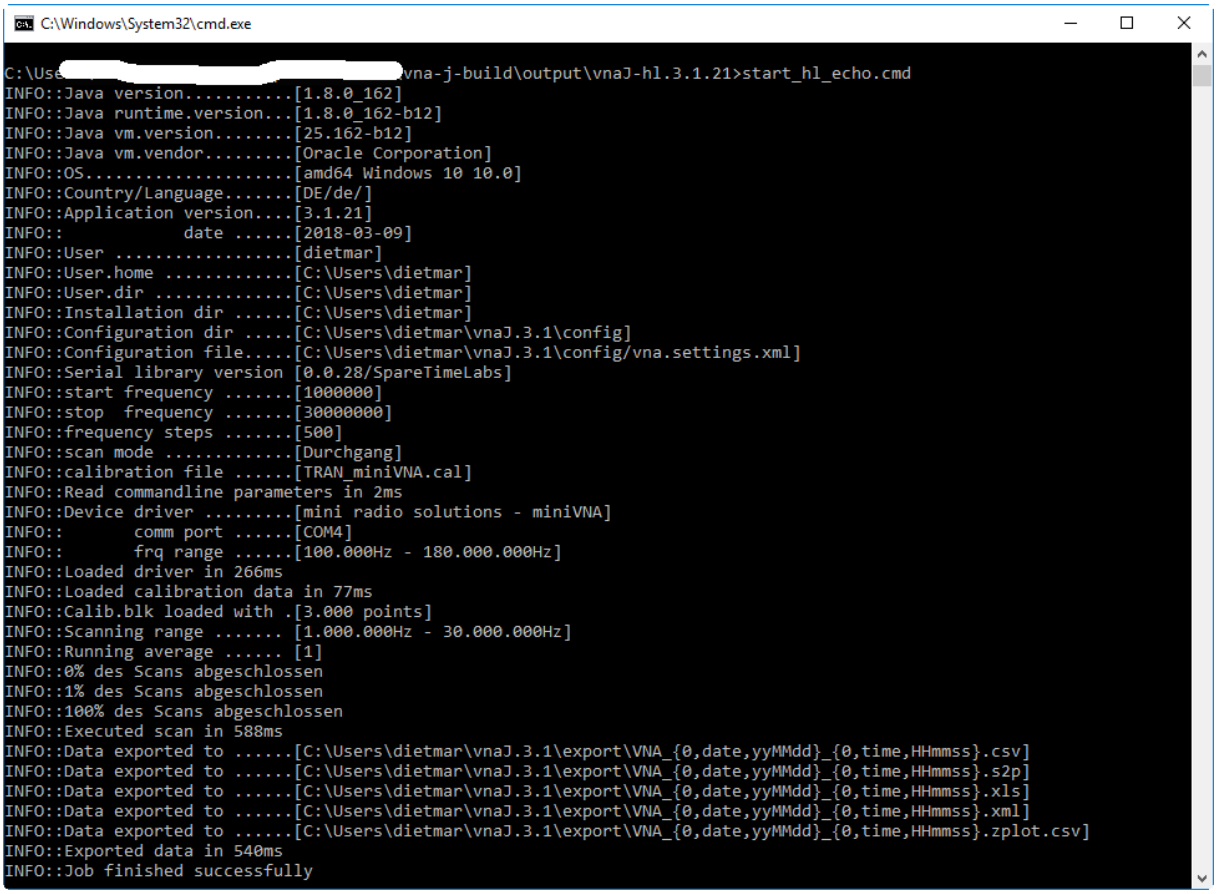
Since version 2.9 of vna/J a command-line version of the vna/J GUI is available (I call this version also headless).

This command-line version can be used to execute automated scans, when no GUI is needed or no graphical screen output is available.

You can use the command-line version to execute a scan and export the data into

- CSV - all scan information inside a comma-separated text-file
- XLS - all scan information inside an XLS-file
- XML - all scan information inside an XML-file
- SnP - S-parameter format
- ZPLOTS - special file format for ZPlots

To get an idea, how this look, have a look at this screen-shot:



Configuration

No configuration data from the regular GUI application is needed. All information must be passed via the command line arguments.

Command-line parameters

The headless vna/J support several command-line parameters via the standard parameter procedure for JAVA execution.

Basically these parameters are passed via the –D option of the JAVA virtual machine.

```
java  -Dfstart=1000000
      -Dfstop=30000000
      -Dfsteps=500
      -DdriverId=1
      -DdriverPort=COM4
      -Daverage=1
      -Dcalfile=TRAN_miniVNA.cal
      -Dscanmode=TRAN
      -Dexports=csv,snp,xml,xls,zplots
      -DexportDirectory="C:\Users\dietmar\vnaJ.3.1\export"
      -DexportFilename="VNA_{0,date,yyMMdd}_{0,time,HHmmss}"
      -DkeepGeneratorOn
      -Duser.home=c:/temp
      -Duser.language=en
      -Duser.region=US
      -jar vnaJ-hl.3.1.21
```

Supported parameters

The following parameters are supported:

Parametername	Mandatory	Usage
user.home	No	Points to the directory, where the root directory for vna/J is located. You can use the path-delimiter "/" on all platforms including Windows.
user.language	No	Sets the users language to one of the supported languages. See details in chapter "Supported region and language codes".
user.region	No	Sets the users region to one of the supported regions. See details in chapter "Supported region and language codes".
fstart	Yes	Specifies the start frequency for the scan. The value must be in Hz and match the selected analyser and must be less than the parameter "fstop"
fstop	Yes	Specifies the stop frequency for the scan. The value must be in Hz and match the selected analyser and must be greater than the parameter "fstart"
fsteps	Yes	Specifies the number of scan steps for the scan. The value

Parametername	Mandatory	Usage
		must match the selected analyser.
calfile	Yes	This must be a valid calibration filename including path. This file must match the selected analyser and the selected scan mode.
driverId	Yes	0 Sample 1 miniVNA 2 miniVNApro 3 miniVNApro + Extender 4 MAX6 5 MAX6-500MHz 10 miniVNA LF 12 miniVNApro LG 20 miniVNAtiny 30 MetroVNA 40 VNAArduino
comport	Yes	Serial port identifier. On Windows i.e. COM3. On linux omit the "/dev" prefix – devices are searched inside the "/dev" directory.
average	No	Number of scans used for averaging. Should be >= 1. Default is 1.
exportDirectory	Yes	The path to the directory for the exported data
exportFilename	Yes	The filename patterns. Identical to the filename pattern in the GUI. Check chapter 6.6.4.1.1 in the vna/J User Guide.
scanmode	Yes	This must be "REFL" for reflection and "TRAN" for transmission measurement.
exports	No	In this parameter, a list of output file types can be specified. The following types are supported: snp for S-parameter files xls for export into Microsoft XLS-format xml for export into XML-format csv for export into CSV-format Default is "snp". For details, please check chapter "The menu bar/Export" in the vna/J User Guide.
keepGeneratorOn	No	If set, the generator is **not** turned off after scan. This can reduce ADC start-up issues on some analysers.

Remark: The parameter names are case-sensitive.

Supported region and language codes

The following combinations of language and region are supported:

user.region	user.language	Remark
US	**en**	Texts and messages are displayed in English. Numbers and timestamps are formatted in English.
DE	**de**	Germany
HU	**hu**	Hungary
PL	**pl**	Poland
SE	**sv**	Sweden
IT	**it**	Italy
ES	**es**	Spain
NL	**nl**	Netherlands
CZ	**cs**	Czech Republic
FR	**fr**	France
JP	**ja**	Japan
RUS	**ru**	Russia

Remark: The parameter values are case-sensitive!

JAVA not found

If you're running a Windows systems, which hasn't the JAVA runtime accessible directly via the command line, you can modify the provided cmd-file this way:

Original

```
@echo off
rem (c) DL2SBA 2014
if not exist vnaJ-hl.3.0.8.jar goto err1

java -Dfstart=1000000 -Dfstop=30000000 -
if errorlevel 3 (
   echo *** error executing scan
   goto end
)
```

Modified

```
@echo off
rem (c) DL2SBA 2014
if not exist vnaJ-hl.3.0.8.jar goto err1

"C:\Program Files (x86)\Java\jre7\bin\java.exe" -Dfstart=1000000 -
if errorlevel 3 (
   echo *** error executing scan
   goto end
)
```

You have to adjust the absolute path to your JAVA installation (marked yellow) in picture above.

The quotation marks are relevant surrounding the path, when blanks are inside the path!

Links

http://vnaj.dl2sba.com

My homepage for vna/J

http://groups.yahoo.com/group/analyzer_iw3hev

An active YAHOO group related to the miniVNA as well as the miniVNA PRO.

In the files sections under **Files > Subjects - Off Topic - (Brainstorming) > SUSE Install for DL2SBA app.** you can find a detailed guide how-to install the stuff on UBUNTU as well as SUSE Linux versions.

http://www.miniradiosolutions.com

Company that produces the miniVNA as well as the miniVNA PRO

License

Dutch

English

Deutsch