

IDA 2/ NRA Series

Web Applications - Description

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Issue date: 2014-10-31

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Printed in Germany

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1

Before you start

The “WebTerminal” and “Live Display Viewer” applications are pre-installed on every NRA/IDA. These are web applications, which you can run in an Internet browser on a PC.

1.1. System requirements and installation

The WebTerminal application is a Java applet and can be started from the browser. It requires the Java Runtime Environment (JRE) to be installed on the PC, and the browser must support Java applets, which must be enabled in the browser security settings.

The “Live Display Viewer” application is purely an HTML page.

No installation on the PC is required for either application.

The applications have been successfully tested with the following browsers:

- Internet Explorer 8® (Windows® XP, V8.0)
- Mozilla Firefox® (Windows® XP, V3.6.3)
- Google™ Chrome
- Opera®

1.2. NRA/IDA Web Server start page

To start a web application:

⇒ Open the browser of your choice.

⇒ Enter the IP address of the NRA/IDA in the URL field of the browser.

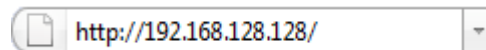


Figure 1: Entering the IP address in the web browser

The NRA/IDA Web Server start page opens and is displayed.



Figure 2: NRA/IDA Web Server → Start page

If the page does not open, you may need to change the configuration of the network card, the firewall settings, and / or the browser's proxy properties.

2

NRA/IDA Web Terminal

To start the NRA/IDA Web Terminal:

⇒ Click on the link "[Web Terminal \(Demo Java Applet\)](#)" on the start page of the NRA/IDA Web Server (see Figure 2).

The application runs as an applet in the browser. The application may take up to 20 seconds to load, depending on the connection. Loading is normally indicated by a symbol (see Figure 3).



Figure 3: Java applet progress bar

If the application does not start or load, you may need to enable the use of Java applets in your browser settings.

Depending on your Java version, you may have to adapt the security settings or you have to add the IP address of the device to the list of exceptions. For more details please check the manual of your Java version.

2.1. The user interface

Figure 4 shows the user interface of the Web Terminal. It consists of the following elements:

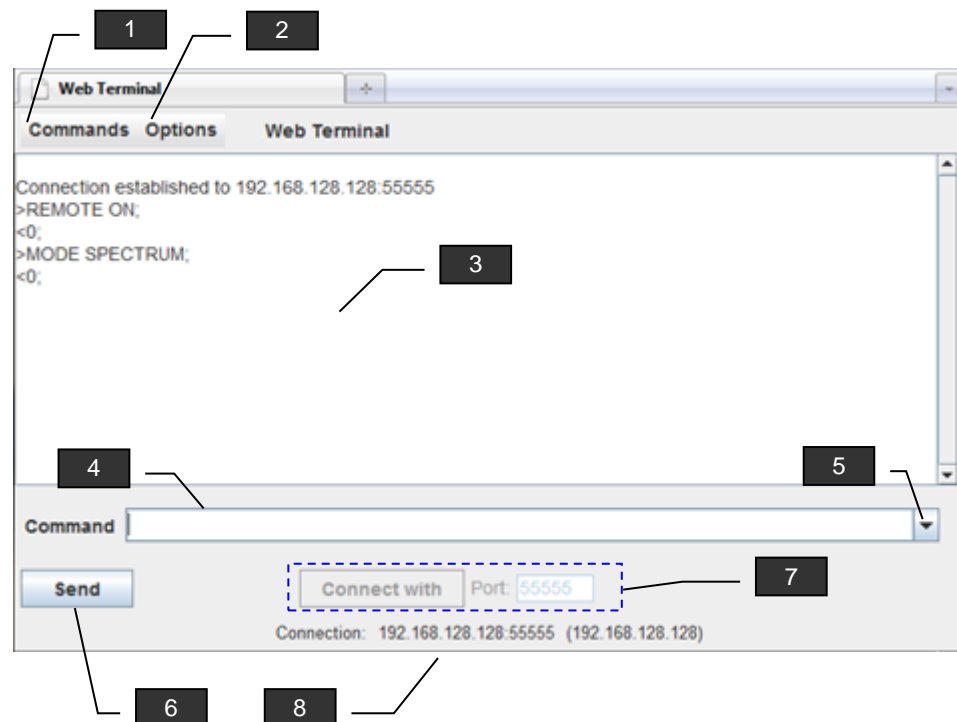


Figure 4: Web Terminal

1) Commands:

The "Commands" menu contains a selection of commands that can be sent to the NRA/IDA. They are intended to give you a quick, intuitive start in the use of the remote commands.

2) Options:

The "Options" menu allows you to perform actions that affect the Web Terminal application (e.g. "Clear terminal screen").



Tip

You can copy the contents of the "Terminal Screen" onto the clipboard by marking them with the mouse cursor and then pressing Ctrl + C. You may have to change the Java security settings to use the content outside the applet (sandbox).

3) Terminal Screen:

The "Terminal Screen" displays the data transferred between the Web Terminal and the device. Commands sent from the Web Terminal are indicated by the "greater than" character (>). Data received from the device is indicated by the "less than" character (<).

4) Command Line:

The "Command Line" is used for manually entering remote commands. All the commands must end with a semicolon (;).

5) Command History:

Click on the arrow at the right-hand end of the “Command Line” to open a list of the remote commands used so far. Select an item in the list to enter it in the “Command Line”.

6) Send Button:

Click on the “Send” button to transmit the command in the “Command Line” to the NRA/IDA.

7) TCP port:

If the Web Terminal cannot make a connection to the NRA/IDA when you start the application, you can select a different port in the “TCP-Port” box.

8) Connection:

The actual connection parameters are displayed here.

2.2. Connecting to the device

A connection to the NRA/IDA is made automatically when you start the Web Terminal application.

If automatic connection fails, this may be because the TCP/IP port setting on the NRA/IDA has been changed from the basic setting.

To change the port setting in Web Terminal and make a connection:

⇒ Enter the new port number in the “TCP port” box (“7” in Figure 4) and click on “Connect with”.

Existing TCP/IP connections can be interrupted by new connections to other applications.

2.3. Using Web Terminal



Tip

You can copy the contents of the “Terminal Screen” onto the clipboard by marking them with the mouse cursor and then pressing Ctrl + C. You may have to change the Java security settings to use the content outside the applet (sandbox).

Once the connection to the device has been made successfully, you can send remote commands to the NRA/IDA and view the responses from the device on the “Terminal Screen” (“3” in Figure 4). Commands sent from the Web Terminal are indicated by the “greater than” character (>). Data received from the device is indicated by the “less than” character (<).

Predefined commands

Some important remote commands are predefined in the sub-menus of the “Commands” menu (“1” in Figure 4) to give you a quick, intuitive start in the use of these commands. The menu item names correspond to the function of the command they represent. The actual command syntax can be seen in the “Terminal Screen” (“3” in Figure 4).

Commands → General:

- Start remote communication
(Sets the NRA/IDA to remote operating mode).
- Stop remote communication
(Sets the NRA/IDA to local operating mode).
- Get device info
(Queries basic information about the device).
- Get mode info
(Queries the current measurement mode setting).
- Get selftest info
(Queries the results of the self test).
- Get sweepstate info
(Queries the current Sweep State).
- Get list of return codes
(Queries a list of available return codes).
- Set newline to CRLF
(Sets the newline character to CRLF).

Commands → Mode Spectrum:

- Set mode to spectrum
(Sets the NRA/IDA to Spectrum mode).
- Get spectrum configuration info
(Queries the current Spectrum mode settings).
- Get actual spectrum data
(Queries the results of a Spectrum measurement).

Commands → Network:

- Get network info
(Queries basic information about the network settings of the NRA/IDA).
- Get detailed network info
(Queries detailed information about the network settings of the NRA/IDA).

Commands → Livescreen:

- Start remote display
(Enables the virtual measuring device display of the NRA/IDA).
- Stop remote display
(Disables the virtual measuring device display of the NRA/IDA).
- Start live display viewer
(Activates transmission of the virtual measuring device display to the “Live Display Viewer”).
- Stop live display viewer
(Deactivates transmission of the virtual measuring device display to the “Live Display Viewer”).
- Get live screen data
(Queries the image data of the virtual measuring device display as ASCII characters).

You can find a detailed description of the commands in the NRA/IDA Command Reference manual.

Entering commands using the “Command Line”

There are many more commands in addition to the predefined commands given above. All these commands can be found in the NRA/IDA Command Reference manual. You can enter these commands directly in the “Command Line” (“4” in Figure 4) using the PC keyboard.

To send a remote command to the NRA/IDA:

- ⇒ Enter the command followed by a semicolon (;) in the “Command Line” (“4” in Figure 4).
- ✎ Confirm that you want to send the command by pressing the Enter key or by clicking on the “Send” button (“6” in Figure 4).

Command History

All the remote commands used during the Web Terminal session are recorded in the “Command History” so they can be used again without needing to type them in again.

To select a remote command from the “Command History”:

⇒ Click on the arrow at the right-hand end of the “Command Line” (“5” in Figure 4).

⇒ Select the desired command from the list displayed (Figure 5).

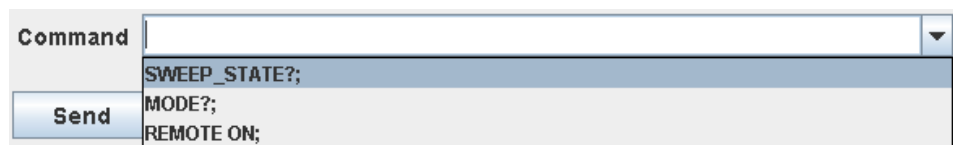


Figure 5: Command History



Tip

To send the same command several times, select the relevant command in the “Command History” and then click several times on the “Send” button.

The selected command is entered in the “Command Line” (“4” in Figure 4), but it is not sent yet. This allows you to make changes e.g. to the parameters.

If you use the “Send” button to transmit a command selected from the “Command History”, the command is not cleared from the “Command Line” when it has been sent. This allows you to transmit the same command several times in succession by using the “Send” button.

Web Terminal Options

You can make the following settings in Web Terminal using the “Options” menu in the application (“2” in Figure 4):

Options:

- Clear command line
(Clears the contents of the “Command Line”).
- Clear history list
(Clears the contents of the “Command History”).
- Clear terminal screen
(Clears the contents of the “Terminal Screen”).

3

NRA/IDA Live Display Viewer

Note

Recording of measurement data can be delayed slightly for technical reasons when the “Live Display Viewer” is activated.

Note

The “Live Display Viewer” is always deactivated whenever you restart the NRA/IDA.

Because the NRA/IDA is designed as a remote measuring set, the measured data have to be queried remotely and downloaded for processing and interpretation using other software.

The NRA/IDA does, however, provide a virtual measuring device display that can be viewed in your web browser using the “(HTML) Live Display Viewer” web application.

Recording of measurement data can be delayed slightly for technical reasons when the “Live Display Viewer” is activated.

The “Live Display Viewer” is always deactivated whenever you restart the NRA/IDA.

To activate the virtual measuring device display:

- ⇒ Start the “Web Terminal” application (see section 2 NRA/IDA Web Terminal).
- ⇒ Select the “Start remote communication” command in the “General” sub-menu under the “Commands” menu.
- ⇒ Select the “Start remote display” command in the “Livescreen” sub-menu under the “Commands” menu.
- ⇒ Select the “Start live display viewer” command in the “Livescreen” sub-menu under the “Commands” menu.

To display the “Live Display Viewer”:

- ⇒ Click on the link:
[“Live Display Viewer \(Simple Device Display Viewer over HTML\)”](#)
on the start page of the NRA/IDA Web Server (see Figure 2).

Tip

You can save the graphics as an image from most browsers (right click on the graphic → Copy / Save image).

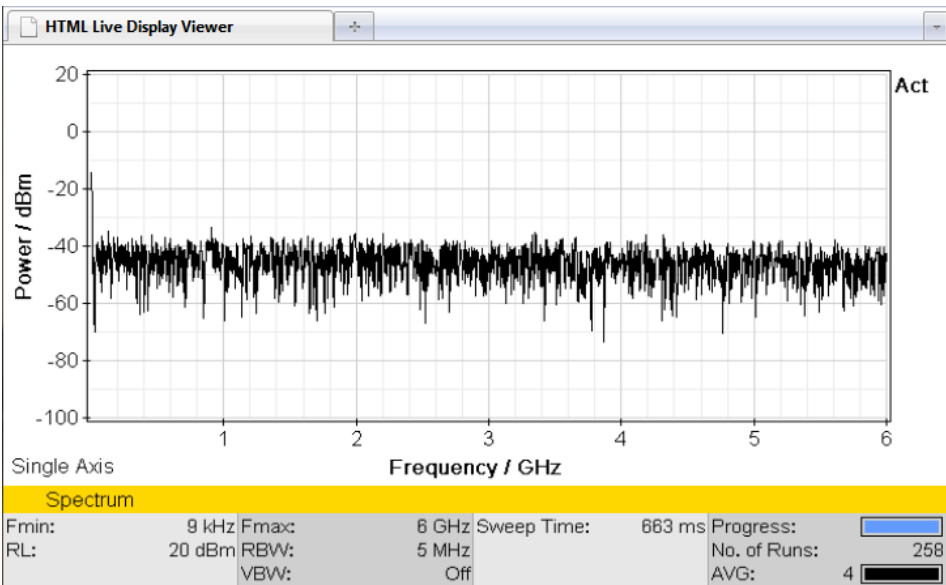


Figure 6: (HTML) Live Display Viewer

4

Glossary

HTTP	HyperText Transfer Protocol is a standard, which describes the transfer of data over a network. It is mainly used to load / transfer web pages from the World Wide Web (WWW) into a web browser.
HTML	HTML stands for HyperText Markup Language and represents a language for describing Internet pages or their elements. Internet browsers are able to interpret this language and thus display the contents of the Internet pages formatted accordingly.
IP address	An IP address is a unique computer network address based on the Internet protocol (IP), which is assigned to each device connected to the network (e.g. the Internet) enabling the device to be addressed and therefore accessed (similar to the house number in a postal address).
Java Runtime Environment (JRE)	The JRE is required in order to execute Java applications on a computer. It converts the general Java byte code into the machine language of the particular processor.
TCP port	The TCP port number is part of the device network address. It indicates the application for which the data are intended. The TCP port number is thus comparable to the name of the recipient (addressee) in the analogy of a postal address.
URL	The Uniform Resource Locator identifies and locates a resource (e.g. a web page) in a network. In this way you can specify the protocol and location of what you want to download (e.g. http://www.narda-sts.de).
Web application	A web application is an application that uses a web browser as its user interface, whereby the actual processing is done on the server.