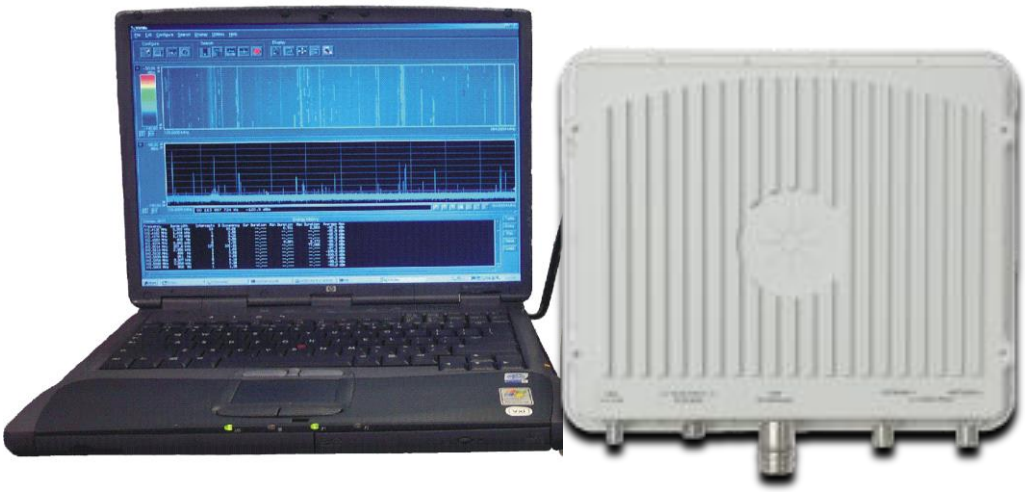
N6820ES
Signal Surveyor 4D
Frequency, Amplitude, Time, Location

Installation and Configuration Reference



Agilent Technologies

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Table of Contents

Hardware Installation

This chapter describes installation and configuration of the N6820ES Signal Surveyor 4D.

Supported Hardware

The N6820ES software supports the N6841A RF Sensor.

Safety Notices

This product has been designed and tested in accordance with accepted industry standards, and has been supplied in a safe condition. The documentation contains information and warnings that must be followed by the user to ensure safe operation and to maintain the product in a safe condition.

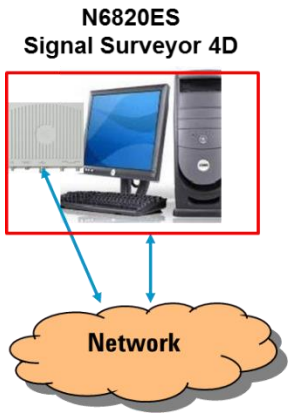
For Safety and Regulatory information, please refer to the General Specifications section and Safety Summary of this manual.

Hardware Installation Process

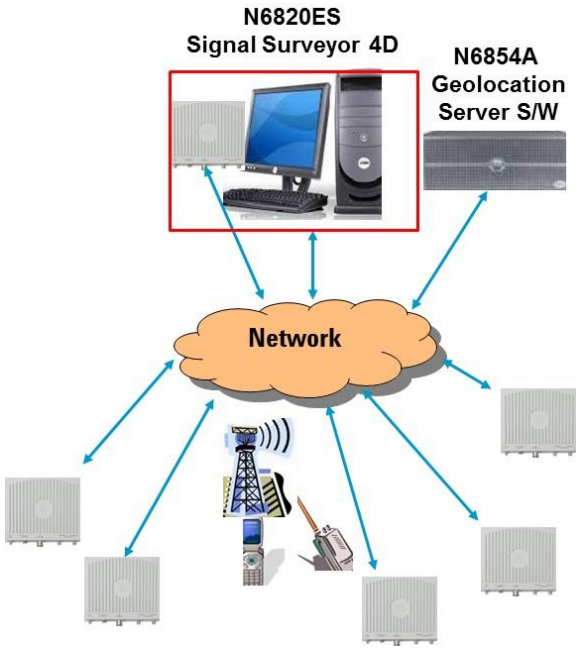
For N6841A RF Sensor hardware and software installation, refer to the documentation that came with the N6841A RF Sensor.

Document	Part No
N6841A Quickstart Guide	N6841-90000
RF Sensor Software User Guide	N6841-90001
N6841A Installation Guide	N6841-90002
Instructions – LAN Connector	N6841-90003

Basic operation consists of an N6841A RF Sensor, a system controller PC and either a direct Ethernet connection (between system controller and RF Sensor) or a switch/router connecting the sensor to the system controller.



RF Sensors can also be networked together to provide synchronized spectral sweeps that are distributed in geography. This network can also be used to compute the location (latitude and longitude) of signals of interest. To network sensors together, wireless (Wifi or cellular) or wired can be used. Wireless connections require that sensors have GPS lock for precision time synchronization. Wired connections require the use of a IEEE1588-compliant switch for precision time synchronization.



Up to four sensors' data can be displayed by a single instance of Signal Surveyor 4D. However, only 1 of these sensors can be used for detection tasks/alarms. If more sensors need to be used as detector sensors, you may use multiple instances of Signal Surveyor 4D, with one instance per sensor (up to 6 instances per system controller, where the number of instances depends on the power of the system controller.

Software Installation and Configuration

Software installation

This chapter describes the installation and configuration of the software for the N6820ES Signal Surveyor 4D.

For new systems - User Integrated To install the software on a commodity laptop, follow the installation procedure described in Installing and Configuring the N6820ES Software (page 11). This procedure should handle most installation issues automatically. The minimum and recommended controller requirements are listed in Controller Requirements (page 8)

For Upgrades To upgrade the software from a previous version just run the `setup.exe` program; see Installing and Configuring the N6820ES Software (page 11). This procedure should handle most installation issues automatically.

N6841A RF Sensor For software and hardware installation information, refer to the manuals that came with the N6841A RF Sensor.

Updating System Components

Various files used in the previous version may need to be changed before the new version can be used.

- Configuration files (such as e3238s.n6841.32bitOS.cfg and e3238s.n6841.64bitOS.cfg)
- Resource file (the E3238s file, if used)
- Custom library extensions

Configuration File Update

When the installation program `setup.exe` is run, a new configuration file is installed as C:\E3238s\N684x_RF_Sensor\e3238s.n6841.32bitOS.cfg and e3238s.n6841.64bitOS.cfg (overwriting the previous copy). Before installation, you should save off your configuration files in use and rename them, then compare with the new ones as appropriate to be compatible with new capabilities.

Resource File Update

The application resource file \E3238s\d.E3238s should also be compared to the resource file in use.

Updating Custom Libraries

It may be necessary to recompile any custom libraries which you have created. An upgrade note describing the details should accompany the material sent as an upgrade kit.

New versions of libraries purchased from Agilent should be delivered to you on separate CDs as part of the upgrade.

For System Recovery

To recover the system from something like replacement of the system disk, first recover the controller operating system using the recovery disks provided with the controller and then perform an installation with the most recent version of the N6820ES software. See Installing and Configuring the N6820ES Software (page 11).

Note

The N6820ES software requires a valid copy of your software license file. If you do not have a valid license file, contact Agilent to have one regenerated and e-mailed to you. See The Software License File (page 19).

Controller Requirements

The following table lists the minimum and recommended requirements for a system controller.

CPU	**MINIMUM**	**RECOMMENDED**
Processor	1.5 GHz Pentium P4 (N6820ES libraries are optimized for Intel Processors)	Dual 3 GHz Pentium (*Load eXceed on one CPU & N6820ES on the other)*
Memory	2 GB (performance suffers with less)	8 GB (More memory is always better)
Operating System:	Win 7	Win 7
Drives	**MINIMUM**	**RECOMMENDED**
Hard Drive	20 GB (750MB required for installation of N6820ES SW)	120 GB (750MB required for application software) (SCSI or Raid0 faster for snapshots)
DVD Drive	DVD drive (Needed to install N6820ES software and License file)	16x DVD+RW (Used to install and backup software
Graphics	**MINIMUM**	**RECOMMENDED**
Display	17" Display Required to view spectral data points	20" LCD Display Required to view spectral data points
Graphic Card	True 1024x1280 (on-screen resolution) 16 Bit True Color 8 Mbyte On-board Video Memory (Required for N6820ES high speed color displays)	True 1600x1600 (on-screen resolution) 32 bit True Color AGP Video Card with 128 Mbyte memory (Required for N6820ES high speed color displays)

Communication (I/O)	MINIMUM	RECOMMENDED
Sound Card (Audio)	Not required for basic operation	32 bit Stereo Audio Card (with Line in/out).
Serial Ports	Not required for basic operation	1-port (Required for Serial handoff receivers)
USB	1-port (USB-1 OK) One port required for License Key	4-ports (USB-2) One port required for License Key
Keyboard / Mouse:	Not required for Laptops. PS/2 or USB required for other controllers (If USB make sure you have enough USB ports)	Not required for Laptops. PS/2 or USB required for other controllers (If USB make sure you have enough USB ports)
Networking	Not required for basic operation. Required for Multiple System Synchronization (MSS) (Use: Connection to other systems on the network.)	100/1000 Mbit/s Network Interface card(NIC). Required for Multiple System Synchronization (MSS) (Use: Connection to other systems on the network.)

Software	MINIMUM	RECOMMENDED
Anti-Virus Software	Not required for basic operation of E3283S system	Symantec Anti-Viruses software
Microsoft Office Suite (Word, Excel & Power Point)	Not required for basic operation of E3283S system (Use: Export of databases to a spreadsheet for manipulation of data and/or report creation	Microsoft Office Word & Excel (Win2K) (Use: Export of databases to a spreadsheet for manipulation of data and/or report creation
Microsoft Visual Studio	Not required for basic operation	Visual Studio .net (Use: User Programming (ASD) and Signals Development)

Installing and Configuring the N6820ES Software

This section describes the procedures used to install the software and associated libraries for the Windows® 7 operating system on a laptop controller.

Note *None* of the installation procedures given here need be performed on systems delivered direct from the factory. All software on a new system is installed, configured, and tested before it is shipped.

The steps to complete these actions are described in the following procedures.

This section describes the installation and configuration process onto a laptop running the Windows® 7 Professional operating system. The procedures are similar on a system running Windows 2000® Server.

Note The installation will check for necessary IO libraries. If they do not exist, you will be prompted to install the Agilent IO Libraries which will require you to repeat the installation a second time.

Note Be sure that the application is installed *before* installing the license software. Also, if your software license uses a USB key, the USB key *must* be disconnected from the computer until after the N6820ES application software has been installed.

Configure the Operating System

The first task is to set up the operating system.

1. Click **Start** - **Control Panel** - **Display**.
2. In the Display Properties dialog box, click the **Settings** tab.
3. Set the **Screen resolution** slider to a setting equal to or greater than 1024 by 768 pixels. Note that some windows created by the program may require a larger screen area than 1024 by 768 pixels. If you encounter this problem, set the slider to a larger screen area.
4. Set the **Color quality** selection to be equal to or greater than 256 colors.
5. Click **OK** to close the Display Properties dialog box. You can also close the Control Panel window.
6. Double-click the desktop icon **My Computer** and then click **Tools**, **Folder Options...**
7. Click the **View** tab
8. Under **Advanced settings,** enable **Show hidden files and folders**.
9. Make sure that **Hide file extensions for known file types** is **disabled**.
10. Click **OK** to close the Folder options dialog box.

Setup the Filesystem

This procedure creates the folders for the N6820ES software. Agilent recommends copying an image of the N6820ES DVD to the computer's C: drive. Placing the image on the C: drive allows the software to be re-installed without the distribution DVD.

1. On the C: disk, create the folder `C:\Images\N6820ES\1.0`
2. Copy the contents of the E3238S DVD to the folder: `C:\Images\N6820ES\1.0`
3. If you are installing any options from a separate CD or DVD, create the folder: `C:\Images\N6820ES\1.0\`*Option*

   Where *Option* is the name of the software of the option you will install.
4. Copy any option CD or DVD to the appropriate folders.

   Installing the options is described in Installing Software Options (page 16)

Alternatively, you can download the latest software image from the Agilent N6820ES web page.

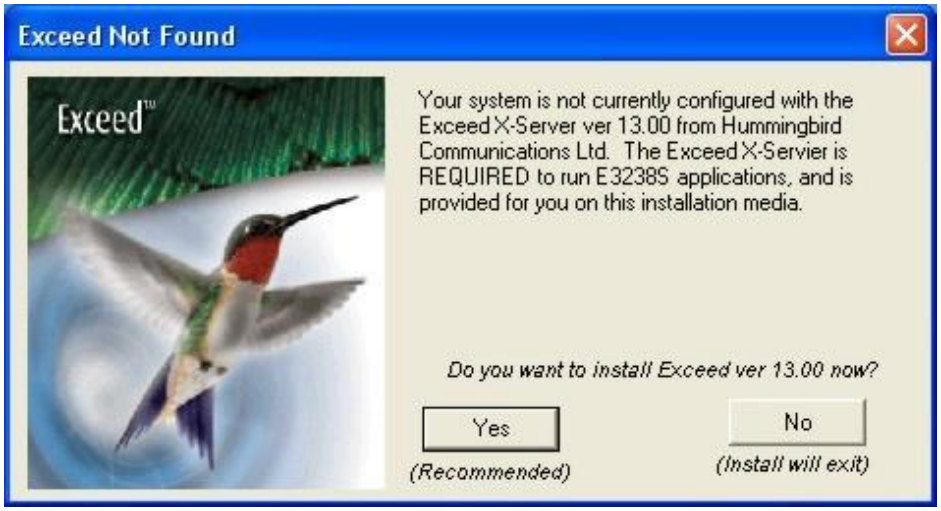
Install the N6820ES Program

Note Be sure that the N6820ES application is installed before installing the license software. Also, if your software license uses a USB key, the USB key must be disconnected from the computer until after the application software has been installed.

1. Insert the Agilent N6820ES application DVD in the drive. It should auto-start and display an opening screen. You may also choose to run the installation from `C:\Images\N6820ES\1.0\Winnt\Setup.exe`
2. From the Installation screen, click "`Install N6820ES now`," read the next screen and click `Next`.
3. If no IO Libraries are installed, you will be prompted to install the Agilent IO Libraries. You should install the Agilent IO Libraries. (The newest version of the installer will not ask this question).

4. Once you have selected to install the Agilent IO Libraries, you will be given a notice that you must Restart the installation of the N6820ES software.

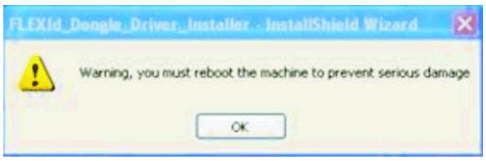
5. When the Agilent IO Libraries installation is complete, clear the "`Yes, I want to connect to my instrument. Launch Agilent Connection Expert`" selection. Click `Finish` and the N6820ES installation should resume. If it doesn't, re-start the installation following the instructions in step 1.
6. If the Exceed X Server is not present on your system, you will be prompted to install the Exceed X server.[1]



7. Click "Yes" to install the Exceed X Server Software
8. Once the Exceed installation is complete, the installation should continue automatically. If it doesn't, re-start the installation following the instructions in step 1.

[1]If the Firewall is enabled, the Exceed installation may generate a security alert.

9. If you are installing the N6820ES software for the first time on a PC, you may encounter a spurious error message generated by the FLEXid dogle driver installer, directing you to reboot your system at that point in the install procedure. .



Click OK and proceed with the installation. You will reboot the system when all of the software has been installed.

10. Click “Finish” to complete the E3238S installation

11. Click "Finish" to complete the installation. You will be prompted to re-start.

12. When the installation is completed, remove the E3238S installation DVD.

Installing Software Options

If your system has one or more software options, use the following procedure to install and configure them:

1. If you have not yet done so, copy the library DVD to the system disk.

   We recommend copying the contents of the E3238S DVD onto the system disk to: `C:\Images\N6820ES\E3.4\`*Option*

   Where *Option* is the name of the software of the option you will install.

2. Run the installation program by executing the `setup.exe` program in the directory: `\images\N6820ES\E3.4\`*`Option`*`\`

3. Modify the `e3238s.cfg` file to enable the selected libraries:

   The sections of the `e3238s.cfg` file that control the libraries are found at the file's end. Details are given in a readme.txt file installed in each library's install directory (e.g., narrow band recorder, option NBR, is installed in `\E3238s\NBR`)

   To enable a library,

   a. Using a text editor, open the configuration file `\E3238s\e3238s.cfg.`

   b. Scroll to the bottom of the file

   c. Remove the exclamation points preceding the appropriate command lines controlling the desired library.

   d. Enter the appropriate arguments to the setup commands.

   Follow the instructions given in the ReadMe file to properly configure the option settings (e.g., maxChannels, loadFactor, etc.)

4. The ReadMe file may also include information describing application settings that must be used to ensure the proper operation of the option. See the following example.

In the following example the Direction Finding library and the Modulation Recognition library are enabled.

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!
!                       Direction Finding                             !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!
df1.enabled:          True
df1.hostLib:         c:/e3238s/DF1/DF1.dll
!df1.args:
!df1.alias:
!df1.latitude:
!df1.longitude:
!df1.declination:
!df1.heading:


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!
!                    Modulation Recognition                           !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!
modRec1.enabled:       True
modRec1.hostLib:      c:/e3238s/MR1/MR1.dll
!modRec1.args:
!modRec1.alias:
```

Software Licensing

Trial License

This section documents how to obtain and install a Trial license for your N6820ES software. The Trial License provides fully licensed N6820ES software for a temporary 30 day trial period. This gives you time to purchase, redeem, and install a permanent license while continuing to use the N6820ES software. When the Trial period expires, the N6820ES software license either reverts back to a Demo license or to any prior installed valid license.

Note You will only be granted one Trial license per license Host ID. Once the trial license is expired, you cannot get another.

Obtaining a Trial License

To enable a Trial license, you must obtain your PC's Host ID, then go to Agilent's online License Manager and redeem the trial license.

Finding Your PC's Host ID

To obtain the License Notifier Host ID for the PC on which you have installed Agilent N6820ES software, follow these steps:

1. Open the Agilent License Notifier dialog box
2. Right-click the Agilent License Notifier program icon in the Windows desktop Toolbar (if the program icon is hidden, click the "Show hidden icons" button on the right side of the toolbar.)
3. Select the About Agilent License Notifer item.
4. Use the Copy button to copy the PC Host ID into the Windows clipboard.

Note On desktop or laptop PCs, the default model number is PCSERNO..

Getting the Trial License

1. Go to the Agilent N6820ES website at http://www.agilent.com/find/N6820ES, select the Software Trials & Licenses tab, then follow the instructions to obtain a Trial license.
    a. You must provide contact information.
    b. The requested Host ID is available from the Agilent License Manager as described above. If you are accessing the website from the same PC that the N6820ES software is installed, you can simply copy and paste the Host ID into the website form.

c. You will only be granted one Trial license per license Host ID.

2. After you finish using the Agilent website, check your email from Agilent containing your license file, then proceed to "Installing a License" below to complete the installation.

Installing a License

When you receive the Agilent email containing your license file, follow these steps to install it:

1. Place the license file either on a network-connected drive or on a drive that is directly connected to the PC.
2. Start the Agilent License Manager by clicking Utilities > Licenses > Status > Agilent License Manager or double clicking on the Agilent License Notifier icon in your Windows notification area.
3. In Agilent License Manager, click File > Install.
4. An Install License File(s) window appears. In this window, browse to the location where you saved the license file. Select the license file, and then click the Open button.

The Agilent License Manager installs the license (from the selected license file)and then displays it in the Tree View as an installed license under localhost (your PC). Note that the install operation takes up to 40 seconds to complete.

For details on other ways to install licenses, see Installing Licenses in the Agilent License Manager Help (click Help > Agilent License Manager Help from within the Agilent License Manager utility or click **Start > (All) Programs > Agilent License Manager > Agilent License Manager Help**).

Transportable License

This section describes the steps to obtain and install a Transportable license. The Transportable license enables the N6820ES software and options that you have purchased. The license must be installed on the same PC that runs the N6820ES software. However, the license can be transferred from one PC to another PC. Transferring the license requires the Agilent License Manager to communicate with the Agilent Software Manager website.

To obtain and install a Transportable license:

1. Purchase an N6820ES Software Transportable License.
2. Receive a Software License Entitlement Certificate.
3. After purchasing a Transportable License, you will receive a Software License Entitlement Certificate.
4. Redeem the License.
5. As described in "Redeeming a Transportable License" below, the Software License Entitlement Certificate provides instructions to redeem your license.
6. Install the License file.
7. As described in "Installing a Transportable License" on the next page, after providing the required information, the Agilent Software Manager website will e-mail a License file (.lic) to you. Install the license file on the same PC that runs the N6820ES software.
8. Activate the License.
9. After installing the license, you need to restart the N6820ES software to activate the license.

Redeeming a Transportable License

After purchasing a Transportable License, you will receive a Software License Entitlement Certificate. You will need information from the certificate to redeem and activate a license. To redeem a transportable license, follow these steps:

1. Collect the Software License Entitlement Certificates for all N6820ES software options that you have purchased. The Software License Entitlement Certificates are emailed to you.
2. Obtain the Host identification information (Host ID). Use the Agilent License Notifier utility or Agilent License Manager to obtain the Host ID.
3. Open the About Agilent License Notifier utility, right click the "Agilent License Notifier" icon in the Windows desktop notification area (lower right side of the Windows Task bar) and select About Agilent License Notifier.
4. Click the Copy button to the right of the Host ID box. The Host ID information is copied into the Windows clipboard.
5. Redeem your licenses and obtain the license files. Follow the instructions included on the Software License Entitlement Certificate to redeem your licenses and obtain the license files. Go to the Agilent Software Manager website: http://www.agilent.com/find/softwaremanager
   - First time access will require you to register

IMPORTANT Remember your user password. The password is required for future access to manage your licenses

   - You will need the *Agilent Order Number* and *Agilent Certificate Number* located on the top of your *Software License Entitlement Certificate.*

6. Install License File(s): Check your e-mail for the license files(s) and then install them on the PC – go to "Installing a Transportable License" below.

Installing a Transportable License

Installing the license file is necessary to license the N6820ES software. After completing "Redeeming a Transportable License" on the previous page, you will receive an Agilent email containing your license file for the redeemed Entitlement Certificates. Follow these steps to install the license files on the PC:

1. Copy the email attachment ".lic" to a folder on your PC, connected hard drive, or USB storage device.
2. Start the Agilent License Manager: click Utilities > Licenses > Status > Agilent License Manager or double clicking the Agilent License Notifier icon.
3. In Agilent License Manager, click File > Install, browse to the location where you saved the ".lic" license file, select the license file, and click the Open button. Or, you can drag-and-drop the license file onto the Agilent License Manager License Features window.

The Agilent License Manager installs the license and lists it in the Agilent License Manager window, localhost node.

Note The install operation can take up to 40 seconds to complete.

For details on other ways to install licenses, see Installing Licenses in the Agilent License Manager Help (click Help > Agilent License Manager Help from within the Agilent License Manager utility or click Start > (All) Programs > Agilent License Manager > Agilent License Manager Help).

Transporting a Transportable License

The Transportable license is a license that can be moved from one PC to different PC. This allows you to use one license to run the N6820ES Software on different PC's. However, only one PC at a time can use a single license. The transportation of a license requires an Internet browser and a connection to the Agilent Software Manager website.

Note A license transport operation may take up to 90 seconds to complete.

Choose one of the following procedures based on your network configuration to transport a Transportable license:

- Both Source and Target PCs Connected to a LAN
- Target PC Not Connected to a LAN
- Source PC Not Connected to a LAN
- Both Source PC and Target PC Not Connected to a LAN

Both Source and Target PCs Connected to a LAN

When both the source PC and the target PC are connected to a LAN, you can easily transport a Transportable license in one of the two following ways. (Note that these methods assume that both the source PC and target PC are connected (use File > Connect) in the Agilent License Manager and visible in the Tree View.)

- In the Agilent License Manager's Tree View, select a license or product (to transport all licenses for the product) on the source PC and drag it to the target PC's IP address/hostname node. The licenses are automatically transported from the source PC to the target PC.

  Or:

- In the Tree View, select a license or product (to transport all licenses for the product), then click **File > Transport**. This opens the *Transport one or more licenses* dialog box. Select the target host name from the drop down box and click the **Transport** button. The licenses are automatically transported from the source PC to the target PC.

Target PC Not Connected to a LAN

When the target PC is not connected to a LAN, the transport operation requires additional steps than if all PCs have network connectivity. To transport a license to a non-connected PC you must:

- Obtain the Host identification of the destination PC.
- Use the Agilent License Manager to remove the license from the source PC and provide a confirmation code of the removal.
- Connect to the Agilent Software Manager website and provide the destination PC's Host identification and the license removal confirmation code.
- Save the new license file.
- Install the new license file on the destination PC.

Use the following procedure to transport a license when the source PC has an Internet connection, but has no connection with the destination PC.

1. On the source PC, click **Start > (All) Programs > Agilent License Manager > Agilent License Manager.**
2. In the Tree View, select a license or product (to transport all licenses for the product). Click **File > Transport**. This opens the *Transport one or more licenses* dialog box.
3. Since the destination PC is off line, keep the Destination Host as <offline>. Click the **Transport** button. You will be asked to verify the transport. Click the **Yes** button.
4. This opens a *Transportation Confirmation* screen, which verifies that the license was deleted from the localhost and displays a confirmation code. This confirmation screen also specifies a path and the URL file so that you can re-host the license at a later time. Click the **Explore** button to view the file, otherwise, click the **OK** button to return to the main display.
5. From the Agilent License Manager, click **Tools > Explore Transport Confirmation URLs**. This opens the folder where the Transport Confirmation files have been saved.
6. Double-click the *.url* Transport Confirmation file for the license you want to re-host. This opens the Agilent Software Manager website, which enables you to acquire a transported license that is node-locked to the target PC.
7. Find the Host identification on the PC on which you are installing the N6820ES software license. The license Host identification (Host ID) is used in the Agilent Software Manager website to redeem your license.
    a. Open the *About Agilent License Notifier* utility, right click the "**Agilent License Notifier** icon in the Windows desktop notification area (lower right side of the Windows Task bar) and select **About Agilent License Notifier**.
    b. Click the **Copy** button to the right of the Host ID box. The Host ID information is copied into the Windows clipboard.
8. On the Agilent Software Manager website, enter the target PC's Host identification (Host ID), and then click the **Submit** button.
9. The Agilent Software Manager website displays a link for the license. On the license link, right-click the link and select **Save Target As**.
10. On the source PC, save the "*.lic*" license file.
11. On the source PC, connect an external, portable mass storage device—such as a USB Flash Drive, an external hard drive, or a writable CD/DVD.
12. On the source PC, copy the license file to the portable mass storage device.
13. Disconnect the portable mass storage device from the source PC and connect it to the target PC.
14. On the target PC, click **Start > (All) Programs > Agilent License Manager > Agilent License Manager**.
15. On the target PC, open Windows Explorer, locate the .lic license file saved on the connected portable storage device, and then drag the license file into the Tree view.

Source PC Not Connected to a LAN

If the source PC is not connected to a LAN, the transport operation requires additional steps than if all PCs have network connectivity. To transport a license from a non-connected PC you

must:

- Use the Agilent license Manager to remove the license from the source PC and provide a *.url* file to confirm the license removal.
- Move the *.url* file to the destination PC.
- On the destination PC, open the *.url* file to connect to the Agilent Software Manager website and provide the destination PC's Host identification.
- Save the new license file.
- Install the new license file on the destination PC.

Follow this procedure to transport a license when the source PC is not connected to a LAN. (Note that this procedure assumes that the destination PC has an Internet connection.)

1. On the source PC, click **Start > (All) Programs > Agilent License Manager > Agilent License Manager**.
2. In the Tree View, select a license or product (to transport all licenses for the product). Click **File > Transport**. This open the Transport one or more licenses dialog box.
3. Since the Target PC is off line, keep the Destination Host as <offline>. Click the **Transport** button. You will be asked to verify the transport. Click the **Yes** button.
4. This opens a Transportation Confirmation screen indicating that the license was deleted from the localhost and shows the confirmation code. This confirmation screen also specifies a path and the *.url* file so that you can re-host the license. Click the **Explore** button to view the file, otherwise, click the **OK** button to return to the Agilent License Manager main display.
5. On the source PC, connect an external, portable mass storage device—such as: a USB Flash Drive, an external hard drive, or a writable CD/DVD.
6. On the source PC, copy the *.url* file to the portable mass storage device.
7. Disconnect the portable mass storage device from the source PC and connect it to the destination PC.
8. On the destination PC, locate the *.url* file on the portable mass storage device and double-click it.
9. On the destination PC, the *.url* file opens a browser window that is connected to the Agilent Software Manager website. Note that the fields are automatically filled in with the license contents.
10. On the Agilent Software Manager website, type the target PC's Host identification (Host ID) and then click the **Submit** button.
11. The Agilent Software Manager website displays a link for the license. On the license link, right-click the link and select **Save Target As**.
12. On the destination PC, save the license file.
13. On the destination PC, click **Start > (All) Programs > Agilent License Manager > Agilent License Manager**.
14. On the destination PC, open Windows Explorer, locate the license file, and then drag the license file into the Tree View.

Both Source and Target PCs Not Connected to a LAN

If neither the source PC nor the target PC are connected to a LAN, the transport operation requires additional steps than if the PCs have network connectivity. To transport a license from a non-connected PC to a non-connected PC you must:

- Use the Agilent license Manager to remove the license from the source PC and provide a *.url* file to confirm the license removal.
- Move the *.url* file to PC that has Internet connectivity.
- On the Internet-connected PC, open the *.url* file to connect to the Agilent Software Manager website and provide the destination PC's Host identification.
- Save the new license file.
- Move the license file to the destination PC.
- Install the new license file on the destination PC.

Follow this procedure to transport a license when both the source PC and the target PC are not connected to a LAN.

1. On the source PC, click **Start > (All) Programs > Agilent License Manager > Agilent License Manager**.
2. In the Tree View, select a license or product (to transport all licenses for the product). Click **File > Transport**. This open the **Transport one or more licenses** dialog box.
3. Since the target PC is off line, keep the Destination Host as <offline>. Click the **Transport** button. You will be asked to verify the transport. Click the **Yes** button.
4. This opens a Transportation Confirmation screen indicating that the license was deleted from the localhost and shows the confirmation code. This confirmation screen also specifies a path and the *.url* file so that you can re-host the license. Click the **Explore** button to view the file, otherwise, click the **OK** button to return to the Agilent License Manager main display.
5. On the source PC, connect an external, portable mass storage device—such as: a USB Flash Drive, an external hard drive, or a writable CD/DVD.
6. On the source PC, copy the *.url* file, to the portable mass storage device.
7. Disconnect the portable mass storage device from the source PC and connect it to a PC with an internet connection.
8. Using Windows Explorer on the internet-connected PC, locate the *.url* file on the portable mass storage device and double-click it.
9. Clicking on the *.url* file opens a browser window that is connected to the Agilent Software Manager website. Note that the fields are automatically filled in with the license contents.
10. On the Agilent Software Manager website, type the target PC's Host identification (Host ID) and then click the **Submit** button.
11. The Agilent Software Manager website displays a link for the (re-issued) license. On the license link, right-click the link and select **Save Target As**.
12. Save the license file to a location on the portable mass storage device.
13. Disconnect the portable mass storage device from the internet-connected PC and connect it to the target PC.
14. On the target PC, click **Start > (All) Programs > Agilent License Manager > Agilent License Manager**.

15. On the target PC, open Windows Explorer, locate the *.lic* license file saved on the connected portable storage device, and then drag the license file into the Tree view.

Firewall Configuration and Setup

The N6820ES installer will automatically configure the following firewalls to allow correct operation of Agilent Licensing:

- Microsoft Windows Firewall
- ZoneAlarm Firewall
- Comodo Firewall

If your PC has another firewall installed and enabled, your system administrator may need to allow certain executables and/or a limited range of port numbers to go through the firewall. Always allow the following executables from Agilent to communicate through the firewall: the AgilentLicenseService, Agilent License Manager and AgilentLicenseNotifier. In addition, you must explicitly open TCP ports 8000, 8001, and 8020.

Pre-May 2014 License Installation

Notes

Be sure that the N6820ES application is installed *before* installing the license software. Also, if your software license uses a USB key, the USB key *must* be disconnected from the computer until after the application software has been installed.

The first time the USB Key is connected to a USB port, Windows runs the New Hardware Found wizard. This wizard associates the USB Key with the correct software drivers.

From a License CD

If you have received a license file CD, then install the E3238S software license file as follows:

1. Place the E3238S license CD into the system's CD or DVD drive.
2. When the automatic installation procedure displays its window, click the button labeled "Next."

When the license installation is complete, remove the license CD and store it in a safe place.

From a File

If you have received a license file in some other manner, such as by E-mail, and the software is installed on the computer, install the license file as follows:

1. Copy the license file to the c:`\E3238s\licenses\new` directory.
2. Run the license installer program that was installed with the N6820ES program. Click **Start** - **Programs** - **Agilent N6820ES** - **Tools** - **License Installer**

When finished, save a copy of the original license file in a safe place. Common problems and their solutions are listed on the next page.

Dealing with License Problems

If the software is unable to validate its license, an error message is displayed. If you experience license problems, check for the following common causes.

- **Is the license file at the location expected by the software?**
  Check for the presence of the environment variables
  `AGILSURV_LICENSE_FILE` or **`LM_LICENSE_FILE`**.
  These are used to specify the directory that contains the license file, (typically C:\E3238s\license\).

  There are two ways to check the environment variables:

  - Open a command window and type "set" (and Enter) at the prompt.
  - Right-click My Computer (icon), click Properties , Advanced (tab), Environment Variables (button)

  Operational license file names end with the .lic extension.

- **Is the license current?**
  Check that the license name does not end in -temp.lic. If it does, it is a temporary license and may have expired. To see if the license has expired, open the file with a text editor; the expiration date is shown on the INCREMENT line. See the note below.

- **Is the license valid for the hardware?**
  - If the license is for a USB Key, make sure that you have the correct USB Key connected securely in the computer's USB port. Compare the serial number listed in the license file with the number on the USB Key.
  - If the license is keyed to a specific computer, make sure that the correct computer is being used. To do this:
    1. Run the HostID utility (Start - Programs - Agilent N6820ES - HostID). This displays the computer's host ID. (pairs of numbers separated by colons)
    2. Open the license file in a text editor. The same number sequence should follow HOSTID=

Note The application is enabled only when the license file and hostID is as provided by Agilent. If changed, the hostID string can be changed back to the proper value and continue to function properly.

- **Is the license valid for the current version of the software?**
  Licenses for earlier versions of the software may not be valid for later releases.
  See the note below.

- **Is the license valid for your software options?**
  Make sure that the license directory contains a valid license. It is acceptable to have more than one license file in the license directory. This is useful for multiple systems and multiple USB Keys. See the following note.

Note Old license files can cause problems. You should rename (change the extension or add another extension after .lic) or delete all old license files.

The Software License File (Pre-May 2014)

The N6820ES software requires a license file to run. This section describes where this file is located, what it is named, and how to resolve some common license problems.

For new, Factory Integrated systems

If your system was integrated at the factory, your license file is correctly configured for using your system. Place the License File CD in a secure location.

For Other Users

This license file is provided directly by Agilent; it is unique for each installation. The license file is installed using the License File CD which is distributed by Agilent for the software installation procedure. The license file is valid only for the software configuration that you have purchased. The license file cannot be edited and remain valid.

If any parameter of the license must be changed (for example, addition of new libraries, expiration date, version number, Ethernet address, or USB Key hostID) the license file must be re-generated by Agilent. The new license must then be re-installed.

The software runs only on a controller or PC upon which its license is valid. The software checks that it is running on a proper controller by one of two processes:

- Verifying the presence of a USB Key in a USB port. This is the most flexible method. This option allows the software to be installed and run on various PCs by moving the key to the new PC.
- Verifying the computer's hostID. This option locks the software to one host computer. This is the simplest method when the software can be locked to a single computer.

Note

The software runs only when the license file is properly installed and the corresponding hostID is present. A computer-keyed license locks the software to a specific computer. A USB-keyed license locks the software to a specific USB Key.

The software and license file for the USB Key may be installed on several different computers. If this is the case, then to use any specific computer, you need only connect one of the valid USB Keys to that computer's USB port.

License File Location

During the installation of the software, the installation process creates an environment variable named AGILSURV_LICENSE_FILE; this variable specifies the pathname of the license file. By default this location value is:

```
\E3238s\licenses\
```

If the environment variable AGILSURV_LICENSE_FILE does not exist, or if the software cannot find the license file at the pathname specified by the variable, the software checks for the presence of a second variable, LM_LICENSE_FILE. Note that this second environment variable is not automatically created and has no default value.

The value of either variable can be changed to modify the location and name of the license file, but use care to ensure that the contents of one of the variables match the pathname of the valid license file.

If the software is, at startup, unable to validate its license because the license file is not in its expected location or the license does not match the expected controller hardware, the software displays an error message. For more information on resolving license problems, see Licensing Validation Problems.

Temporary Licenses

If a copy of the software is used for training or demonstration purposes, it may be provided with a temporary license. Temporary licenses can be identified by the suffix - temp.lic in their names. When a long-term license is installed, the temporary license should be deleted or re-named with a filename extension other than .lic. This action prevents the temporary license from interfering with the software recognizing its correct license.

If a temporary license expires while the software is running, the software provides a 10-minute grace period to save mission data and setup files before shutting down.

USB-Keyed Licenses

A USB-keyed license can be installed on any PC that runs the software (E.01.00 version or higher) and has a free USB port. This license allows the software to start if the corresponding key is connected to one of the PC's USB ports and the value of the license file matches the USB Key hostID. If the key is not present when the software starts, the software displays an error message.

USB Key-based license files have names like the following example:

```
N6820E-20JW1234-FLEXID=9-7e1234e6-SWL-14Apr2006.lic
N6820E-20JW1234-FLEXID=9-7e1234e6-SWL-14Apr2006-temp.lic
```

Where `20JW1234` is the license number, `9-7e1234e6` is the FLEXid (USB Key's hostID), and the date shown is the creation date.

The first time the USB Key is inserted in a USB port, Microsoft Windows runs the 'New Hardware Found' wizard. This wizard associates the hardware key with the correct software drivers. After this first insertion, Windows will run the New Hardware Found wizard only when the key is installed in a different USB port.

If the key is removed while the software is running, within a few minutes the software displays an error message. This message notifies the user that the license that allows the software to run is no longer valid. When this message is displayed, the software provides a 10 minute grace period to save mission data and setup files before shutting down. Good practice recommends immediately saving your mission data and setup files, then re- attaching the USB Key and clicking the dialog box's "OK" button.

Computer-Keyed Licenses

The license file is installed on the PC that has the corresponding hostID. This value is composed of information derived from the computer.

If the hostID does not match the computer when the software starts, the software displays an error message.

The GUI interface will halt until the component is returned and the user clicks the dialog box's "OK" button.

License files provided by Agilent have names like the following example:

```
N6820E-20JW1234-11ab56789a12-SWL-14Apr2006.lic
N6820E-20JW1234-11ab56789a12-SWL-14Apr2006-temp.lic
```

Where `20JW1234` is the license number, `11ab56789a12` is the hostID, and the date shown is the creation date.

In Case of Failure

This recommendation assumes that you have a failure recovery plan for the entire system that includes spares for vital components, especially the computer. To recover from a computer failure, a backup computer should be available that has the software installed and is properly configured. The following discussion describes how to activate the software license on the backup system.

Computer Failure

If the computer has failed and a backup computer is available:

- **On a USB-keyed system**: move the USB Key to the backup system and continue operation.
- **On a computer-keyed system**: (see below)

License hostID Device Failure

This section describes how to recover from the loss of a functional license due to a hardware failure in your hostID device. This is indicated by an error message stating that the licensing system could not validate the license.

Each of the two licensing methods has its associated failure mechanism.

- USB-key based licensing relies on the presence of the USB Key. The failure or loss of the original USB Key disables the licensing on this kind of system.
- Computer-key based licensing relies on a computer identification which is derived from its hardware components. The failure or removal of the components used to characterize it will disable the licensing on such a system.

USB-key Recovery

If the USB Key fails, notify the license administration team. See Licensing Support. Arrangements will be made to send a replacement license file and USB key. You will be asked to return the failed USB key to Agilent.

To continue operation until the replacements arrive, you have two choices:

1. The license administration team can E-mail you a temporary computer-keyed license file to enable a particular system to run.
2. Install the Backup Key. See The Backup Key.

Computer-key Recovery

Notify the license administration team of the failure. See Licensing Support. Arrangements will be made to send a replacement computer-keyed license file. (This can be done via E-mail.) You will be asked to provide documentation of the computer's failure.

To continue operation until the replacement file arrives you can install the Backup Key. See The Backup Key.

The Backup Key

To assure a quick, fail-safe recovery mechanism for the software licensing, a Backup Key is provided. This special USB Key is shipped in a package marked as a "**single-use emergency backup key**."

The Backup Key will enable operation of the software for a limited time[1] whether the original key mechanism was USB-key based or computer-key based. This provides temporary license recovery for situations where you are unable to contact the license administration team at the time of the failure and when you need your system to be back up and running in a very short period of time.

[1]The length of time that the backup key will activate the program is specified on a notice that is delivered with the key.

Licensing Validation Problems

If you are experiencing problems with your license, check for the following common causes.

Is the license file at the location expected by the software?
Check for the presence of the environment variables AGILSURV_LICENSE_FILE and LM_LICENSE_FILE. If either of them are present, make sure that they describe the path that contains the license file, (typically `\E3238s\licenses`). Make sure that directory contains a valid license and that the license file name ends in ".lic".

Is the license current?
If the license name ends in -temp.lic, it may have expired. To check whether a temporary license has expired, open the license file using a text editor and find the first date that appears in the file. This is the license's expiration date.

Is the license valid for the hardware?
On computer-keyed systems, make sure that the license file's hostID (shown both in the file name and in the file text) matches one of the hostID values found in the file C:\temp\e3238sHostID.text file written by the HostID utility program. To run this utility program, click **Start - Programs - Agilent N6820ES - HostID**

When the license is locked to a USB Key, make sure that you have the correct key plugged securely into the laptop's USB port.

Is the license valid for the current version of the software?
Licenses for earlier versions of the software may not be valid for later releases.

Licensing Support

To contact Agilent regarding licensing needs:

Agilent N6820ES Software Licensing Administration:

Telephone:	(425) 356-6261
E-mail:	eveswl@agilent.com
Fax:	(425) 356-6260
Hours:	8 AM to 5 PM Pacific Time, Monday-Friday except Agilent holidays.

Temporary and replacement files require information created with the HostID utility. Start - Programs - Agilent N6820ES - HostID. This creates the file `C:\temp\e3238sHostID.txt` which can be emailed to Agilent.

Modifying the Hardware Configuration File

The application obtains hardware configuration information from the file `e3238s.cfg`, which is located in the N684X_RF_Sensor directory (e.g., `C:\E3238s\N684X_RF_Sensor`). A default hardware configuration file (`d.e3238s.cfg`) is also installed in this directory. If an `e3238s.cfg` file is not found when the N6820ES software is installed, the default configuration file is automatically copied to `e3238s.cfg`.

For more information about hardware configuration and the definitions used in the `e3238s.cfg` file see Hardware Installation on page 4 [1]and Hardware Configuration Reference on page 40.

Upgrades

When upgrading software, new features may not work properly until the new configuration information is specified in the "old" `e3238s.cfg` file. If you are installing the upgrade over the previous version, (i.e., the `e3238s.cfg` configuration file already exists in the E3238S directory) the configuration file is not overwritten. This avoids losing the information in the existing file.

To setup the new configuration

1. Rename the existing `e3238s.cfg` if you wish to save it
2. Copy the file `d.e3238s.cfg` to `e3238s.cfg`
3. Edit the new `e3238s.cfg` file so that it accurately defines the hardware configuration

1

Configuring X Window Application Resources

The X Windows system uses a *resource* file to allow users to control various application variables. Those created specifically for the N6820ES are described in the section called "Application Resources" on page 75.

A default resource file for the program (`d.E3238s`) is provided in the c:\e3238s directory. To modify E3238S resources, copy the `d.E3238s` file to `E3238s` and edit the file as appropriate.

To customize the resources for a specific user, place the modified E3238s file in the user's `Profile` directory (`C:\WINNT\Profiles\<user_name>`), or in the user's HOME directory as defined in the Windows® User Manager.

The resource file in the N6820ES directory (e.g., `C:\E3238s`) applies to all users that do not have a resource file in their Profile or HOME directories.

When the application is started, the window manager searches a number of places until it finds the E3238s resource file. It uses the first one it finds. The resource file search order is as follows:

1. User Profile directory
2. User HOME directory
3. N6820ES directory (as defined during installation)
4. Standard Exceed locations (XUSERFILESEARCHPATH env var & others)

See the Exceed X *Development Kit User's Guide* for more information.

Miscellaneous N6820ES Configurations

Secure Display Setup

The application contains a security feature that blanks the N6820ES window when you select **Utilities**, **Secure Display** (or press Ctrl-S).

- By default, this feature is enabled. It may be disabled by editing the e3238s.cfg file and commenting out the line `disableAccess: Secure Display`
- To restore the normal application display, enter the current user's password.
- To determine the current user's name, press Ctrl-Alt-Del.

Using a blank password

Windows XP security policy can interfere with the use of no password in locations other than the main console logon. To resolve this issue, disable it as follows:

Control Panel...
Administrative Tools...
Local Security Policy...
Local Policies...
Security Options...

If the entry listed below is listed as 'Enabled', double-click it and select 'Disabled':

Accounts: Limit local account use of blank passwords to console logon only:

When this is disabled, user accounts that have no password can recover the secured display without entering a password.

Access Control Security

The application supports control of access to entries in the main menu bar and popup menus by a system administrator. See the dialog box called by **File, Access Control**.

Only the items enabled in this dialog box may be accessed by users. This feature is password protected using a special Windows® user account named `e3238s`.

- When this account exists, its password must be used to make access changes.
- When this account does not exist, no restrictions exist for changing access.

To view existing accounts or setup a new one see **Start, Run and enter "compmgmt.msc". Select the "+" sign next to "Local Users and Groups"**.

Printer Configuration

The N6820ES prints to any printer currently defined on the Windows workstation; see **Start, Printers and Faxes**. To automatically specify a printer other than the default or to set other print options (and avoid displaying the print dialog box) see the discussion in the `d.print` file in the N6820ES directory.

File System Organization

The application executables are in the `c:\e3238s\bin` directory.

The product documentation files are in `c:\e3238s\manuals` (PDF files).

The N6820ES software license file(s) are in the `c:\e3238s\license` directory.

Error correction files are in `c:\e3238s\cal`.

Optional applications each have their own directory. Examples are as follows:

```
C:\e3238s\ctcss          (CTCSS[1] recognition and recording, option PL1)
C:\e3238s\fm             (FM signal recognition and recording, option FMR)
C:\e3238s\mr1            (modulation recognition, type 1 - wide band)
C:\e3238s\vad            (voice activity detector, HF)
C:\e3238s\uvad           (voice activity detector, VHF/UHF)
C:\e3238s\pager          (pager intercept)
C:\e3238s\audio          (audio output; uses DDC channels & PC audio output)
C:\e3238s\featureStudio (used to develop feature extraction & energy filter libs)
C:\e3238s\nbr            (narrow-band recorder)
```

Network Services

To support networked communication between the application and external socket programs, there must be an entry in the `C:\WINNT\system32\drivers\etc\services` file as follows:

```
e3238s    7011/tcp
```

This defines a sockets port and is usually added during installation. This entry must appear in the services file of both the workstation running N6820ES and the remote workstation (the numbers must be the same). Verify that the entry exists as shown above. If not, add it.

[1]Continuous Tone Coded Squelch System (PL is for 'private line', a misnomer)

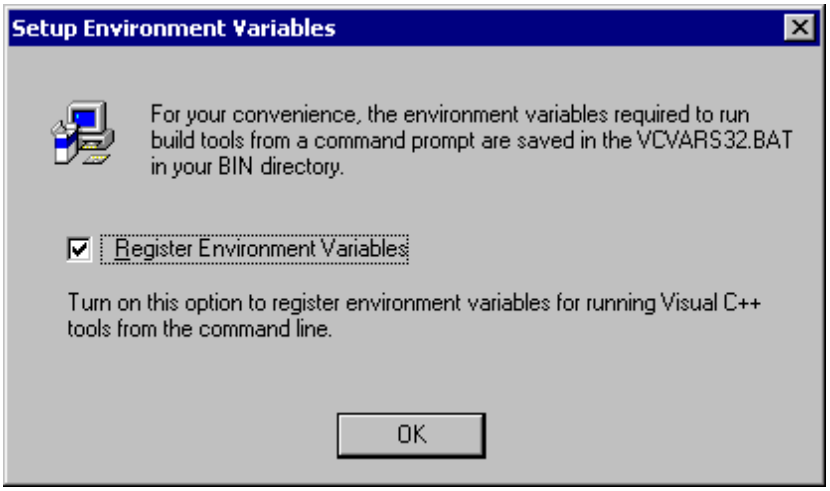
Setting the Compiler Environment Variables for option ASD

The following is required to develop libraries with option ASD:

- Microsoft Visual Studio Ver 6.0
- Microsoft Visual Studio.NET, Ver 7.0
- Microsoft Visual Studio.NET, Ver 8.0

When installing the Microsoft compiler, we recommend allowing the setup program to register the compiler environment variables necessary for command line compilation. See the following figure.

Figure 43. Visual Studio Installation



If you have already installed Visual Studio 6, Visual Studio.NET Ver 7.0 or Visual Studio.NET Ver 8.0, you may need to run the batch file provided to set the environment variables. This can be found in the Visual Studio Installation path in these locations, depending on your version. The following information assumes the Microsoft Software is installed on the C: drive.

- Visual Studio 6.0 - C:\Program Files\Microsoft Visual Studio\VC98\Bin\vcvars32.bat
- Visual Studio .NET Ver 7.0 - C:\Program Files\Microsoft Visual Studio .NET 2003\Common7\Tools\vsvars32.bat
- Visual Studio .NET Ver 8.0- C:\Program Files\Microsoft Visual Studio .NET 2005\Common8\Tools\vsvars32.bat

User Programming

This section describes how to configure the system to use the User Programming feature, option ASD. This procedure establishes access to User Programming features for a single user as well as creating directories for shared library development.

On a Microsoft Windows® system, the application files may be installed wherever the user indicates. The default location is the `C:\E3238s` directory but since this may vary from one installation to the next, the label `$E3238S` is used to indicate the application's home directory in the following discussion.

The include and shared library files are installed in the following directories:

```
C:\e3238s\include    include files
C:\e3238s\lib        shared library files
```

The User Programming example source files are organized under the examples directory. Each User Programming shared library type has its own Makefile and directory as follows:

```
C:\e3238s\examples\alarmTasks
C:\e3238s\examples\fileFormats
C:\e3238s\examples\filterAndFeatures
C:\e3238s\examples\genericLib
C:\e3238s\examples\handoffReceiverDriver
C:\e3238s\examples\sockets
C:\e3238s\examples\userMenu
C:\e3238s\examples\userPane
```

Creating a Development Environment

This discussion describes how to create the user programming development environment for a single user. The home directory for this user is represented as <HOME>. In the following steps, replace <HOME> with the full pathname of the user's home directory.

1. Create the ASD development directory under your <HOME> directory.

```
cd <HOME>
md asd
```

2. Install and modify your personal copy of the configuration file.

```
copy <E3238S>\e3238s.cfg <HOME>\e3238s.cfg
```

Edit the `e3238s.cfg` configuration file to enable the socket server and add the existing shared libraries:

```
energyHistoryFilter:  <HOME>\asd\filterAndFeatures\filterAGE.dll,\
                      <HOME>\asd\filterAndFeatures\filterTEST.dll
userAlarmTask:        <HOME>\asd\alarmTasks\demoUserTask.dll
featureExtraction:    <HOME>\asd\filterAndFeatures\featurePWR.dll,\
                      <HOME>\asd\filterAndFeatures\featureDF.dll
userMenu:             <HOME>\asd\userMenu\userMenu.dll,\
                      <HOME>\asd\userMenu\userMenuCmnd.dll,\
                      <HOME>\asd\userMenu\userMenuArrow.dll
userPane:             <HOME>\asd\userPane\userPane.dll
genericLib:           <HOME>\asd\genericLib\genericLib.dll
```

3. Install a personal copy of the application resource file and modify it.

```
copy <E3238S>\d.E3238s <HOME>\E3238s
```

Note that this copies the file and renames it.

Edit the resource file and add the following line specifying the hardware configuration file to load when the application starts:

```
*hardwareConfiguration: <HOME>\e3238s.cfg
```

If you need multiple lines in the toolbar due to adding user-defined menus, add/modify the following resources to read:

```
*toolbarWrap: True
*toolbar.paneMaximum: 170
```

For more information about application resources see pg 75.

4. Copy the example files (source files) to your private development directory:

```
cd $Home\asd
copy  /s  $E3238S\examples\alarmTasks
copy /s $E3238S\examples\fileFormats
copy   /s   $E3238S\examples\filterAndFeatures
copy /s $E3238S\examples\genericLib
copy   /s   $E3238S\examples\handoffReceiverDriver
copy /s $E3238S\examples\sockets
copy   /s   $E3238S\examples\userMenu
copy /s $E3238S\examples\userPane
```

5. Rebuild the object files (dynamic libraries) from the source in your private development directory.

Hardware Configuration Reference

This section describes the hardware parameter settings used in the initialization configuration file typically named `e3238s.n6841.XXbitOS.cfg, where XX is 32 or 64`. This file defines the system hardware configuration and is loaded when you start the program. If the information in this file does not match the installed configuration, error messages are displayed to help isolate the problem.

Note

The N6841A RF Sensor has its own configuration file. Refer to the documentation that came with the N6841A RF Sensor for configuration information.

df.alias (EDF)

Syntax `df(1..8).alias: string`

`The maximum length is 31 characters.`

Description Specifies an alternate name to be used in the application's user interface so that the real signal name is not displayed.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                          Direction Finding                                  !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:          False
df1.hostLib:          C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:            NorthPole
df1.latitude:
df1.longitude:
df1.declination:
df1.heading:
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

df.args (EDF)

Syntax `df(1..8).args:` *`string`*

`The maximum length is 255 characters.`

Description Specifies the values for any parameters that a custom library might pass in.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                       Direction Finding                               !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:         False
df1.hostLib:         C:\E3238s\lib\demoDF.dll
df1.args:            45 90 135 180 360
df1.alias:           NorthPole
df1.latitude:
df1.longitude:
df1.declination:
df1.heading:
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

df.declination (EDF)

Syntax `df(1..8).declination: float`

`-180 ≤ float ≤ 180`

Description Specifies the initial declination at the system location.

Magnetic declination (or magnetic variation) at any point on the earth is an angle that must be added to or subtracted from a compass reading to derive true North.

Values are entered as decimal values. This parameter may be changed in the GUI.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                          Direction Finding                                  !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:          False
df1.hostLib:          C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:            NorthPole
df1.latitude:         47.21
df1.longitude:        75.42
df1.declination:      -15.2
df1.heading:          80.0
```

See Also
df.heading (EDF)
df.latitude (EDF)
df.longitude (EDF)

Note This parameter is saved as part of the mission state in the current group. If you recall a mission state of a different location, this parameter value may be incorrect.

df.enabled (EDF)

Syntax

```
df(1..8).enabled: enum

enum = {False, True}
```

Description

Specifies whether the direction finding components are to be loaded. This allows you to disable a signal library without commenting out all the lines associated with it.

Another way to disable a signal library is to leave the setting True and just comment out the signal.enabled line.

Example

The following example shows a DF library that is disabled:

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                        Direction Finding                             !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:           False
df1.hostLib:           C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:             NorthPole
df1.latitude:          47.21
df1.longitude:         75.42
df1.declination:       -15.2
df1.heading:           80.0
```

Note

You may use either regular slashes (/) or back slashes (\) in the pathname.

df.heading (EDF)

Syntax `df(1..8).heading: float`

`0 ≤ float ≤ 360`

Description Specifies the initial heading of the DF antenna as taken from a compass reading.

This value can be modified by the declination setting to derive the true heading with respect to true North.

Values are entered as decimal values. This parameter be changed in the GUI.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                       Direction Finding                              !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:          False
df1.hostLib:          C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:            NorthPole
df1.latitude:         47.21
df1.longitude:        75.42
df1.declination:      -15.2
df1.heading:          80.0
```

See Also

df.declination (EDF)
df.latitude (EDF)
df.longitude (EDF)

Note This parameter is saved as part of the mission state in the current group. If you recall a mission state of a different location, this parameter value may be incorrect.

df.hostLib (EDF)

Syntax `df(1..8).hostLib:` *`filename`*

`The maximum length is 127 characters.`

Description Specifies the filename of the DF library to be loaded in the host (system controller). This provides the host component of the typical host-target interaction mechanism.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                       Direction Finding                              !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:          False
df1.hostLib:          C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:            NorthPole
df1.latitude:
df1.longitude:
df1.declination:
df1.heading:
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

df.latitude (EDF)

Syntax `df(1..8).latitude:` *`float`*

`-90 ≤` *`float`* `≤ 90`

Description Specifies the initial latitude position of the system.

Values are entered as decimal values.
Negative values indicate a location in the Southern Hemisphere. This may be changed in the GUI.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                        Direction Finding                             !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:          False
df1.hostLib:          C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:            NorthPole
df1.latitude:         47.21
df1.longitude:        72.45
df1.declination:
df1.heading:
```

See Also df.declination (EDF)
df.heading (EDF)
df.longitude (EDF)

Note This parameter is saved as part of the mission state in the current group. If you recall a mission state of a different location, this parameter value may be incorrect.

df.longitude (EDF)

Syntax `df(1..8).longitude: float`

`-180 ≤ float ≤ 180`

Description Specifies the initial longitude location of the system. This may be changed in the GUI. Values are entered as decimal values. Negative values indicate the Western Hemisphere.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                          Direction Finding                                   !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

df1.enabled:          False
df1.hostLib:          C:\E3238s\lib\demoDF.dll
df1.args:
df1.alias:            NorthPole
df1.latitude:         47.21
df1.longitude:        75.42
df1.declination:
df1.heading:
```

See Also df.declination (EDF)
df.heading (EDF)
df.latitude (EDF)

Note This parameter is saved as part of the mission state in the current group. If you recall a mission state of a different location, this parameter value may be incorrect.

disableAccess

Syntax `disableAccess: string`

`The maximum length is 255 characters.`

Description Specifies which items in the menu bar pulldown menus are inactive at startup. This allows the control of access to the main menu features.

The argument is a string containing the name of the menu label exactly as it appears in the in the pulldown menu. See the following example. Note that multiple strings passed to this command are not delimited by commas. Only spaces separate the values.

Example The following commands disable user control of one entry in the File menu and all entries in the Edit menu:

```
disableAccess:      Secure      Display
disableAccess:    Log    Files     ...
disableAccess:        Clear        Log
disableAccess:    Clear    Log    File
disableAccess:  Clear  Energy  History
disableAccess:  Clear  Signal  Database
disableAccess:  Clear  Frequency  Lists
disableAccess:   Clear   Audio   Output
disableAccess: Clear All
```

The user may change the menu access status by entering the password for user `e3238s` when prompted.

i. Menu access control exists in the GUI in the File, Access Control ... dialog box. There is no password control unless there is a user defined as 'e3238s'.

See Also enableAccess

e3238sService

Syntax `e3238sService: string`

`The maximum length is 79 characters.`

Description Specifies the name of the *service* used to define the port number and service provided. Socket server *services* are listed in a file: For Windows systems, the file is `\WinNT\system32\drivers\etc\Services`.

The line in the file may look like this:

```
e3238s          7011/tcp
```

The default value of this parameter is `e3238s`.

Example The following commands show an example socket configuration:

```
e3238sService:                e3238s
e3238sServiceMaxConnections: 4
e3238sServiceDataBufferSize: 512
e3238sServiceSendBufferSize: 0
e3238sServiceRecvBufferSize: 0
```

See Also e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

maxClientSockets
maxServices
socketServer
socketServerTimerInterval

e3238sServiceDataBufferSize

Syntax `e3238sServiceDataBufferSize: integer`

`512 ≤ integer ≤ 4194304`

Description Specifies the maximum size of the buffer used to hold incoming data (from the sockets receive buffer). For the E3238S, this data amounts to incoming commands.

The default value of this parameter is 512.

Example The following commands show an example socket configuration:

```
e3238sService:                e3238s
e3238sServiceMaxConnections: 4
e3238sServiceDataBufferSize: 512
e3238sServiceSendBufferSize: 0
e3238sServiceRecvBufferSize: 0
```

See Also
e3238sService
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

maxClientSockets
maxServices
socketServer
socketServerTimerInterval

e3238sServiceMaxConnections

Syntax `e3238sServiceMaxConnections: integer`

`1 ≤ integer ≤ 10`

Description Specifies the maximum number of server sockets available on the host. The Sockets Connections dialog box shows the maximum number of connections and any clients connected to the N6820ES service.

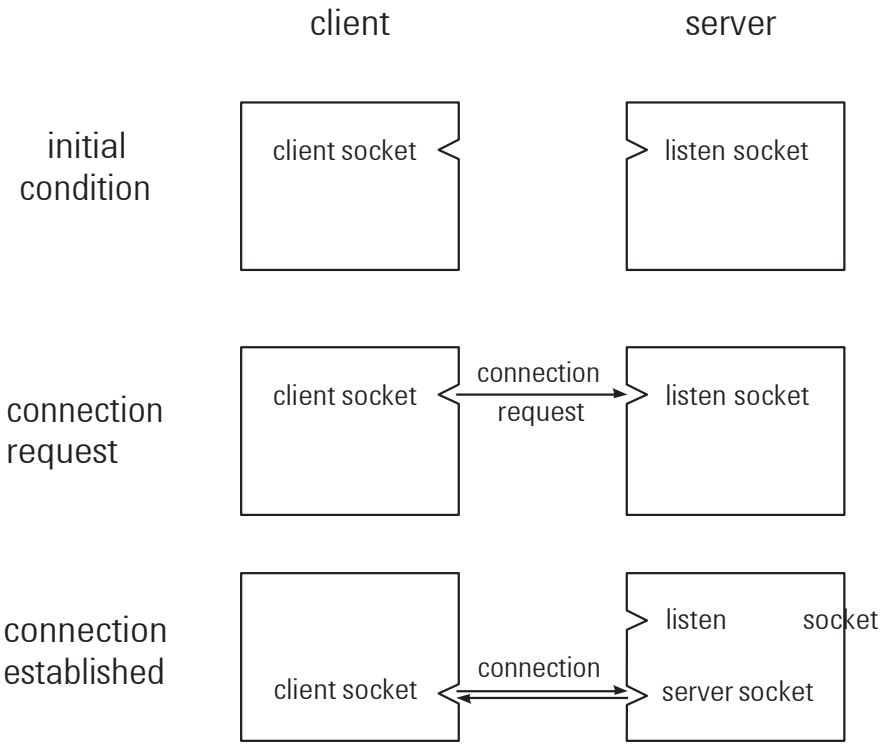
This parameter's default value is 4.

This setting has no impact on the socketServerClientSockets parameter. In fact, a more appropriate name would be socketServerMaxServerSockets.

Example The following commands show an example socket configuration:

```
e3238sService:                 e3238s
e3238sServiceMaxConnections: 4
e3238sServiceDataBufferSize: 512
e3238sServiceSendBufferSize: 0
e3238sServiceRecvBufferSize: 0
```

Figure 47. Socket connection process



See Also
e3238sService
e3238sServiceDataBufferSize
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

maxClientSockets
maxServices
socketServer
socketServerTimerInterval

e3238sServiceRecvBufferSize

Syntax `e3238sServiceRecvBufferSize: integer`

`0 ≤ integer ≤ 8388608`

Description Specifies the number of bytes to allot for the purpose of receiving packets at the operating system level.

The default value for this parameter is 0 which allows the system to adjust the actual value used to match the conditions. The default value for Windows® is 8192.

Example The following commands show an example socket configuration:

```
e3238sService:                e3238s
e3238sServiceMaxConnections: 4
e3238sServiceDataBufferSize: 512
e3238sServiceSendBufferSize: 0
e3238sServiceRecvBufferSize: 0
```

See Also
e3238sService
e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceSendBufferSize

maxClientSockets
maxServices
socketServer
socketServerTimerInterval

e3238sServiceSendBufferSize

Syntax `e3238sServiceSendBufferSize: integer`

`0 ≤ integer ≤ 8388608`

Description Specifies the number of bytes to allot to for the purpose of sending packets. This allows you to select a value to optimize performance given the data rate of the LAN. If the rate is low you may want to choose a large value for this parameter.

The default value for this parameter is 0 which allows the system to adjust the actual value used to match the conditions. The default value for Windows® is 8192.

Example The following commands show an example socket configuration:

```
e3238sService:                e3238s
e3238sServiceMaxConnections: 4
e3238sServiceDataBufferSize: 512
e3238sServiceSendBufferSize: 0
e3238sServiceRecvBufferSize: 0
```

See Also

e3238sService
e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize

maxClientSockets
maxServices
socketServer
socketServerTimerInterval

enableAccess

Syntax `enableAccess: string`

`The maximum length is 255 characters.`

Description Used to restore access to features within the E3238S application that have been restricted through use of the disableAccess. You can also choose to just comment out the disableAccess lines in the e3238s.cfg file

See Also disableAccess

energyHistoryFilter

Syntax

```
energyHistoryFilter: filename

The maximum length is 511 characters.
```

Description

Specifies path and filename(s) of shared library program(s) used to filter entries in the Energy History.

As many as 16 filter definitions may be loaded but no more than 5 of each type (pre or post) may be active at a time.

Notes

If a library contains code for both features and filters, use the same name with both commands.

Either regular slashes (/) or back slashes (\) may be used in the pathname.

Example

```
energyHistoryFilter: /e3238s/filterBUTCH.dll, \
                      /e3238s/filterSUNDANCE.dll

featureExtraction:  /e3238s/featureBUTCH.dll, \
                    /e3238s/featureSUNDANCE.dll
```

See Also featureExtraction

featureExtraction

Syntax

```
featureExtraction: filename

The maximum length is 511 characters.
```

Description Specifies path and filename(s) of shared library program(s) used to extract features from raw spectral search data.

Example

```
featureExtraction:  /e3238s/featureBUTCH.dll, \
                    /e3238s/featureSUNDANCE.dll
```

As many as 4 feature shared libraries may be loaded, each of which may define as many as 4 features.

Note If one shared-library program contains code for both features and filters, use the same name with both commands.

You may use either regular slashes (/) or back slashes (\) in the pathname.

See Also energyHistoryFilter

genericLib

Syntax `genericLib: filename`

`The maximum length is 511 characters.`

Description Specifies a shared library comprising features that do not belong in any of the specific user-defined categories such as panes, feature types, feature filters, alarm tasks, and signal processing.

As many as four generic shared libraries may be loaded.

Example `genericLib: C:/e3238s/examples/doItAll.dll`

handoffRx.driver

Syntax `handoffRx(1..16).driver: filename`

`The maximum length is 79 characters.`

Description Specifies the shared-library file containing the driver code for a specific handoff receiver.

As many as 100 handoff receivers may be controlled by the system. The number 16 that appears in the syntax above is determined by the maxHandoffRxs parameter setting in the resource file. An error occurs when you specify more than this setting.

Example The following commands define the hardware configuration for a handoff receiver.

```
handoffRx1.driver:     C:/e3238s/lib/HD_8607.dll
handoffRx1.interface:            rs232,COM1,9600
handoffRx1.label:      VHF/UHF  Rx
```

See Also handoffRx.interface
handoffRx.label

handoffRx.interface

Syntax `handoffRx(1..16).interface: string`

`The maximum length is 63 characters.`

Description Specifies the interface type connecting the handoff receiver to the system. Some examples are hpib, vxi, and com1.

As many as 100 handoff receivers may be controlled by the system. The number 16 that appears in the syntax above is determined by the maxHandoffRxs parameter setting in the resource file. An error occurs when you specify more than this setting.

Example The following commands define the hardware configuration and driver program for a handoff receiver:

```
handoffRx1.driver:     C:/e3238s/lib/HD_8607.dll
handoffRx1.interface:            rs232,COM1,9600
handoffRx1.label:      VHF/UHF  Rx
```

Note When using a controller with a firewire interface, use “ASRL1” instead of “COM1” in the interface parameter. (The firewire IO interface does not support an alias for the serial port name.)

See Also handoffRx.driver
handoffRx.label

handoffRx.label

Syntax `handoffRx(1..16).label: string`

`The maximum length is 31 characters.`

Description Specifies a label for the handoff receiver listing in the handoff receiver pane.

As many as 100 handoff receivers may be controlled by the system. The number 16 that appears in the syntax above is determined by the maxHandoffRxs parameter setting in the resource file. An error occurs when you specify more than this setting.

Example

```
handoffRx1.driver:     C:/e3238s/lib/HD_8607.dll
handoffRx1.interface:            rs232,COM1,9600
handoffRx1.label:      VHF/UHF  Rx
```

See Also handoffRx.label
handoffRx.interface

maxClientSockets

Syntax `maxClientSockets: integer`

`0 ≤ integer ≤ 16`

Description Specifies the maximum number of client sockets that can be open in the application. The default is 0. However, a user-defined library may use client sockets to connect to external services (typically on other systems).

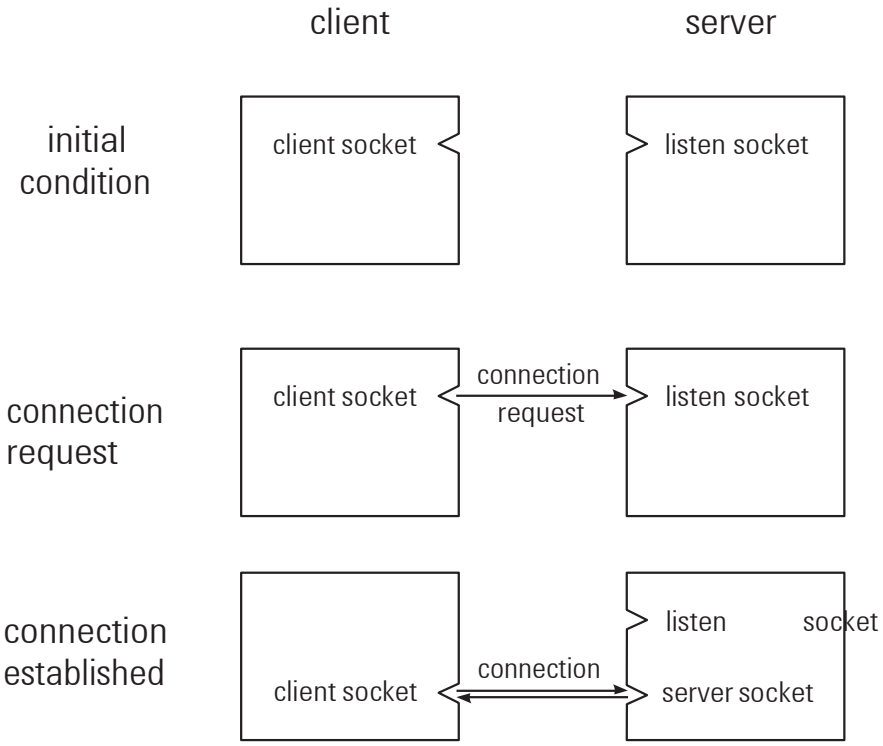
Figure 48 illustrates the socket startup process and the various socket types. The number of 'listen sockets' corresponds to the maxServices setting.

This setting has no impact on the e3238sServiceMaxConnections parameter.

Example

```
socketServer:                Disabled
maxServices:                 1
maxClientSockets:            0
socketServerTimerInterval:   5
```

Figure 48. Socket connection process



See Also
maxServices
socketServer
socketServerTimerInterval
e3238sService
e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

maxServices

Syntax

`maxServices: integer`

`1 ≤ integer ≤ 5`

Description

Specifies the number of sockets used to listen for connections.

The default value of this parameter is 1.

Only one listen socket is required for 1-10 clients to the N6820ES service.

There should be 1 listen socket for every service provided by the system (see `\WINNT\system32\drivers\etc\services`).

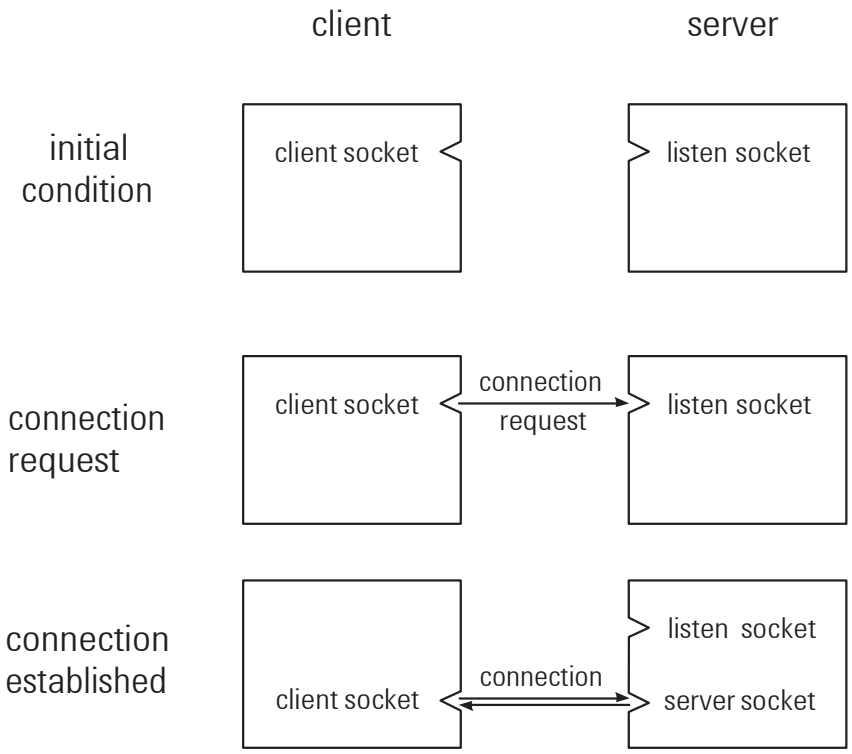
This number may be incremented to support additional socket services implemented through user-defined shared-library programs.

Example

```
socketServer:                Disabled
maxServices:                 1
maxClientSockets:            0
socketServerTimerInterval:   5
```

Figure 49.

Socket connection process



See Also

maxClientSockets
socketServer
socketServerTimerInterval
e3238sService
e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

modRec.alias

Syntax

```
modRec(1..32).alias: string
The maximum length is 31 characters.
```

Description Specifies an alternate name to be used in the application's user interface so that the real signal name is not displayed.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                      Modulation Recognition                                 !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

modRec1.enabled:        False
modRec1.hostLib:        C:\E3238s\mr1\mr1.dll
modRec1.args:
modRec1.alias:           Bob
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

See Also modRec.args (MR1)
modRec.enabled (MR1)

modRec.args

Syntax

`modRec(1..32).args: `*`string`*

`The maximum length is 255 characters.`

Description

Specifies the values for any parameters that a custom library might pass in.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                     Modulation Recognition                            !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

modRec1.enabled:       False
modRec1.hostLib:       C:\E3238s\mr1\mr1.dll
modRec1.args:
modRec1.alias:           Bob
```

Note

You may use either regular slashes (/) or back slashes (\) in the pathname.

See Also

modRec.alias (MR1)
modRec.enabled (MR1)

modRec.enabled

Syntax

`modRec(1..32).enabled:` *`enum`*

`enum` `= {False, True}`

Description

Specifies whether the signal processing components are to be loaded. This allows you to disable a signal library without commenting out all the lines associated with it.

Another way to disable a signal library is to leave the setting True and just comment out the signal.enabled line.

Example

The following example shows a signal that is disabled:

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                    Modulation Recognition                            !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

modRec1.enabled:       False
modRec1.hostLib:       C:\E3238s\mr1\mr1.dll
modRec1.args:
modRec1.alias:           Bob
```

Note

You may use either regular slashes (/) or back slashes (\) in the pathname.

See Also

modRec.alias (MR1)
modRec.args (MR1)

modRec.hostLib

Syntax

```
modRec(1..32).hostLib: filename
The maximum length is 127 characters.
```

Description Specifies the filename of the Mod Rec library to be loaded in the host (system controller). This provides the host component of the typical host-target interaction mechanism.

Example

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                     Modulation Recognition                                   !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
modRec1.enabled:       False
modRec1.hostLib:       C:\E3238s\mr1\mr1.dll
modRec1.args:
modRec1.alias:           Bob
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

socketServer

Syntax `socketServer: enum`

`enum = {Disabled, Enabled}`

Description Specifies whether the sockets feature is active.

The default value of this parameter is *Disabled*.

Example The following commands show an example socket configuration:

```
socketServer:                Enabled
maxServices:                 1
maxClientSockets:            0
socketServerTimerInterval:   5
```

See Also
maxClientSockets
maxServices
socketServerTimerInterval
e3238sService
e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

socketServerTimerInterval

Syntax `socketServerTimerInterval: integer`

`1 ≤ integer ≤ 10000`

Description This specifies how often the system checks for the presence of sockets data.

Units are milliseconds.

Default value is 5 ms.

Example The following commands show an example socket configuration:

```
socketServer:                Enabled
maxServices:                 1
maxClientSockets:            0
socketServerTimerInterval:   5
```

See Also
maxClientSockets
maxServices
socketServer
e3238sService
e3238sServiceDataBufferSize
e3238sServiceMaxConnections
e3238sServiceRecvBufferSize
e3238sServiceSendBufferSize

timeCorrectionMaxBlocksize

Syntax `timeCorrectionMaxBlocksize: integer`

`1 ≤ integer ≤ 2147483647`

Description Specifies the maximum block size for applying Time Corrections.

When Time Correction processing is enabled, time snapshot files larger than this value will not be corrected. If not specified, this defaults to 16 Mega-samples.

Time correction processing is performed on the host computer and is memory intensive, requiring 8 bytes for each sample.

This value can be increased if large corrected capture files are needed, but the host computer should have adequate physical memory available.

userAlarmTask

Syntax `userAlarmTask: filename`

`The maximum length is 511 characters.`

Description Specifies the user-defined alarm task (shared-library) program to load.

Example `userAlarmTask: C:\e3238s\userTaskEmail.dll`

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

userMenu

Syntax `userMenu: filename`

`The maximum length is 511 characters.`

Description Specifies the user-defined menu shared-library program to load.

As many as 4 user-defined menu bar entries may be defined, each with as many as 8 menu entries.

Example

```
userMenu: C:/e3238s/examples/userMenu/userMenu.dll,\
          C:/e3238s/examples/userMenu/userMenuArrow.dll
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

userPane

Syntax `userPane: filename`

`The maximum length is 511 characters.`

Description Specifies the user-defined shared library that implements a custom window pane.

The maximum number of user-defined panes allowed is 4.

To display a pane, add it to the application window with the `layout.pane.type` command.

Example

```
userPane: C:/e3238s/examples/userPane/userPane.sl
```

Note You may use either regular slashes (/) or back slashes (\) in the pathname.

userThreshold

Syntax `userThreshold: filename`

`The maximum length is 511 characters.`

Description Specifies the user-defined shared library that implements a custom threshold algorithm.

Application Resources

X Window applications can declare variables such that their values may be set in an external ASCII file. These settings are called *resources*. The `E3238s` file is an application *resource* file. The entries in this file define fonts, colors, line thickness, window sizes, file lengths, path names, and many other things for each part of the `N6820ES` program. Other application parameters defined in this file are:

- Application Resource file used (see Appendix A: d.E3238s Listing)
- Hardware configuration file listing (see Appendix B: d.e3238s.cfg Listing
- Function key definitions
- Accelerator key definitions
- Memory usage parameters
- Capacity of the log views
- Titles of trace panes and the handoff log pane

This allows you to change how the program looks and works without changing a program source file and recompiling. For more information about Motif resources, see one of the many Motif references available such as *X Toolkit Intrinsics Programming Manual*, Volume Four of the X Window Series by O'Reilly & Associates.

When you first install the software, no resource file exists. Instead, a file named `d.E3238s` is created in the `e3238s` directory ("d" is for default). This avoids overwriting an existing file when the "installation" is really an update. So, after performing an installation on a new disk, you may need to copy this file to create a file named `N6820ES`.

Custom Resources

When the program starts it uses the first resource file it finds; the order of the search is as follows:

1. User Profile directory
2. User HOME directory
3. E3238s directory (as defined during installation)
4. Standard Exceed locations (e.g., XUSERFILESEARCHPATH)

If no file is found, fallback resources defined in the program are used. See also, the discussion above.

Any values specified on the command line with the `-xrm` option are loaded for that instance of the program and override any conflicting variable settings specified in the resource files.

You can specify a resource when you start the program by using the `-xrm` option as follows:

`e3238s -xrm` *`resourcestring`*

This option specifies a resource name and value to override any defaults. It is also very useful for setting resources that don't have explicit command line arguments.

It is recommended that you start by copying the E3238s file into your home directory. This allows users to have custom configurations.

Widget resources, such as fonts and colors, can be set for most widgets in this software. The widget hierarchy can be printed from the File menu.

Application resources are those resources created specifically for this application and are not part of the OSF/Motif widget set. If these resources are not specified, their default values are used. The application resources are described below:

alarmLogViewLength type: Integer default: 100

Specifies the number of alarm entries to keep in the alarm log view. Each handoff requires approximately 90 bytes of memory.

Example: `*alarmLogViewLength: 400`

audioOutput type: XmRString default: 0

Specifies the location of the audio output. The default is the same location that the N6820ES code is executing on.

clientTitles type: Boolean default: False

Specifies whether to put titles on dialog boxes.

commandHelpVolume type: XmRString

default:

```
*commandHelpVolume: <E3238s_home>/help/CommandRef
```

Specifies the help volume for E3238s commands.

Note Windows® path names must use either / or \\ character delimiters.

commandLineEnabled type: Boolean default: True

Specifies whether to enable the command line pane.

Example: `*commandLineEnabled: True`

commandLineHistoryLength type: Integer default: 100

Specifies the number of commands to keep in the command line history. Each command requires approximately 80 bytes of memory.

Example: `*commandLineHistoryLength: 300`

dataBufferSize type: Integer default: 8,000,000

Specifies the amount of memory to allocate for data storage in terms of data points. Each data point is 4 bytes. To sweep from 2 MHz to 2.65 GHz with a 940 Hz RBW, the amount of memory required is calculated as follows:

1. Find the bin spacing. The following tables show the relationship between shape factor, bin spacing, and RBW.

RBW (Hz) vs. Bin Spacing and Shape Factor

	Shape Factor		
Bin Spacing	9.0:1	4.0:1	2.6:1
80,000.0	120 k	177 k	305 k
40,000.0	60 k	88 k	152 k
20,000.0	30 k	44 k	76 k
10,000.0	15 k	22 k	38 k
5,000.0	7.5 k	11 k	19 k
2,500.0	3.8 k	5.5 k	9.6 k
1,250.0	1.9 k	2.8 k	4.8 k
625.0	940	1.4 k	2.4 k
312.5	470	700	1.2 k
156.25	240	350	600
78.125	120	180	300
39.0625	60	90	150
19.5313	29	43	80
9.7656	15	22	37
4.8828	7.3	11	19

2. Next, calculate the number of frequency points.

   ```
   num points = (Stop Frequency - Start Frequency)/ Bin Spacing
   ```

   For our example this would be:

   ```
   num points = (2.65 GHz - 2 MHz) / 625 num
   points = 4,236,800
   ```

3. Now, calculate the host computer memory required.

   ```
   num data points = num points × bytes required per data point
   ```

   For our example this would be:

   ```
   bytes = 4,236,800 × 4
   bytes = 16,947,200
   ```

For this example, almost 17 MB of RAM is required. The value you would assign to the resource is in points.

Example: `*dataBufferSize: 4,300,000`

The software fails when it cannot allocate the amount of memory you specify.

defaultAudioExtension type: XmRString default: *.wav

Specifies the default extension for audio files. The possible audio extensions are:

```
*.u    MuLaw (u-law)
*.al   ALaw (A-law)
*.au   Sun (NeXT)
*.wav  Microsoft RIFF waveform
*.snd  Next
*.l16  Linear16 (16-bit signed)
*.l8   Linear8 (8-bit signed)
*.lo8  Linear8Offset (8-bit unsigned)
```

displayLocalTime type: Boolean default: True

Specifies whether time information is displayed using the local timezone information. When False, time values are displayed as GMT.

e3238sIconPixmap type: XmRString default: none

Specifies a pixmap file to be used as an icon.

enableAudio type: Boolean default: True

Specifies whether the audio output is enabled.

enhancedSpectrogramMarker type: Boolean default: True

Enables the enhanced spectrogram marker.

enhancedSpectrumMarker type: Boolean default: False

Enables the enhanced spectrum marker that adds time information to the marker information.

gridBitmap type: XmRString

default:

```
*gridBitmap:  <E3238S_home>/bitmaps/grid.bm
```

Specifies the grid bitmap used when displaying the handoff frequencies. The handoff frequency is displayed as a solid line and, as bandwidth increases, the trace area is filled with this bitmap. See following note.

hardwareConfiguration type: XmRString

default:

`<E3238S_home>/e3238s.cfg`

Specifies the hardware configuration file. See note below.

Example: `*hardwareConfiguration:  /E3238s/e3238s.cfg.mine`

You can also start the program with the -xrm flag and specify this file. This is very useful for specifying multiple startup icons, each with a different configuration file and/or initial state (specified with the -missionState flag).

handoffLogViewLength type: Integer default: 500

Specifies the number of handoffs to keep in the handoff log view. Each handoff requires approximately 160 bytes of memory.

handoffPaneFont type: XmRString default: 7x14

Specifies the font used by spreadsheet area of the handoff receiver pane.

hideDisplay type: Boolean default: False

Prevents the software from displaying an X window. Error messages *are* displayed. See also remoteMode.

help4helpVolume type: XmRString default: Help4Help Specifies

the help volume that provides help for help.

helpVolume type: XmRString

default:

```
<E3238S_home>/help/e3238s
```

Specifies the help volume.

Note Windows® path names must use either / or \\ character delimiters.

logViewFont type: XmRString default: 7x14

Specifies the fonts for the log views. A fixed spaced font should be used.

maxEnergyHistorySize type: Integer default: 5000

Specifies the maximum number of entries the energy history can contain. When this limit is reached, no new entries can be added to the energy history until some are deleted or the entire energy history is cleared. Each entry is about 128 bytes.

maxHandoffRxs type: Integer default: 16

Specifies the maximum number of handoff receivers that can be controlled at one time. The maximum number is 100.

maxSpectrogramColors type: Integer default: 32

Specifies the maximum number of colors cells to allocate for the color spectrogram display. The maximum allowable is 128.

multiClickTime type: integer default: 200

Specifies the mouse double-click time in milliseconds.

newEnergyLogViewLength type: Integer default: 1000

Specifies the number of new energy entries to keep in the new energy log view. Each handoff requires approximately 60 bytes of memory.

openCommandPort type: String default: none

Specifies a command port program to run at power up.

openScreenTime type: Integer default: 5

Specifies the amount of time the opening screen remains open.

overloadColor type: XmRString default: red

Specifies the color of the trace ID displayed when an ADC overload occurs. If no value is set, the trace ID color does not change when an overload condition occurs.

ownColormap type: Boolean default: False

Enables the software to use its own colormap. This is useful when there are not enough colors available in the system colormap. On computers that have a dual hardware colormap system it works well. However, on single hardware colormap systems, going into and out of the E3238S window causes harsh color usage for the window without focus.

You can also use the -ownColormap flag when stating the program from the prompt.

plotColorBackground type: XmRString default: Black

Specifies the color used for the background in the energy history plot window.

plotColorTrace type: XmRString default: White

Specifies the color used for the trace in the energy history plot window.

plotColor1 type: XmRString default: Yellow

Specifies the color used for the marker in the energy history plot window.

plotColor2 type: XmRString default: Green

Specifies the color used for the average value in the energy history plot window.

plotColor3 type: XmRString default: gray60

Specifies the color used for the minimum to maximum range in the energy history plot window.

powerOnSweep type: Boolean default: True

Specifies whether to start sweeping when the software is first started.

powerUpMissionSetup type: XmRString default:

When a filename is specified, the software's initial state is defined by the mission setup contained in this file.

remoteMode type: Boolean default: False

Prevents the software from displaying an X Window as well as error or message dialog boxes. This allows programs that use N6820ES output and need no control via the graphic user interface (e.g., socket port information) to suppress the normal application window. Any unwritten information at exit time is deleted without warning.

See also, hideDisplay.

signalDatabaseSize type: Integer default: 500000

Specifies the maximum number of signal database entries allowed. When this maximum number of entries is reached, no new entries are recorded.

spectrogramBackingStoreSize type: Integer default: 100000

Specifies the amount of memory, in bytes, to use for storing the spectrogram and color spectrogram display. This is used when the spectrogram needs to be redisplayed such as when a dialog box is removed from being on top of trace area. This amount of memory is used for each of the four traces. The amount of memory needed for the spectrogram per trace can be computed by:

```
MW = maximum width of the trace (in pixels)
ML = maximum height of the trace (in pixels)

memory required (in bytes) = MW * ML / 8
```

The amount of memory needed for the color spectrogram per trace can be computed by

```
MW = maximum width of the trace (in pixels)
ML = maximum height of the trace (in pixels)

memory required (in bytes) = MW * ML * 4
```

At least 5120 bytes of memory is required for each trace.

spectrogramBackingStoreSizeTraceA type: Integer default: 2000000

spectrogramBackingStoreSizeTraceB type: Integer default: 0 **spectrogramBackingStoreSizeTraceC**

type: Integer default: 0 **spectrogramBackingStoreSizeTraceD** type: Integer default: 0

This is a companion resource with 'spectrogramBackingStoreSize'. Since the color spectrogram requires a large amount of memory for a full backing store, you may want to allocate individual trace values. When the value specified is zero, the trace uses the `spectrogramBackingStoreSize` value.

syncDisplayEnabled type: Boolean default: True

Enables the software to do a synchronization with the X server at the end of every sweep. This should always be True except when running over a communications link that has a very long message round trip time.

toolbarWrap type: Boolean default: False

Specifies whether the toolbar icons wrap to a new row or truncate at the end of a single row of icons.

To allow sizing of the toolbar pane when toolbarWrap is True, the resource `toolbar.paneMaximum` should be increased to view the maximum number of rows.

tooltips type: Boolean default: True

Specifies whether to display the toolbar tooltips.

traceBackgroundColor type: XmRString default: Black Specifies

the background color for all traces.

traceFont type: XmRString default: 9x15

Specifies the font used for labeling that appears within the trace.

traceGridColor type: XmRString default: Gray50 Specifies

the grid color for all traces.

traceLabelColor type: XmRString default: White Specifies

the label color for all traces.

traceLineColor type: XmRString default: cyan3

Specifies the line color for all traces.

traceMarkerColor type: XmRString default: Yellow Specifies

the marker color for all traces.

traceThresholdColor type: XmRString default: Blue Specifies

the threshold color for all traces.

traceTranslations type: XmRString default:

Specifies translations for the traces. A common use of these translations is to map function keys to various command line functions. An action routine, commandLine(), is provided to send strings to the command line of this software. For a list of commands available, see the Command Reference (a PDF file).

Example:

```
*traceTranslations: #override\
 <Key>F2: commandLine("*frequencyFullScale")\n\
 <Key>F3: commandLine("*amplitudeAutoScale")\n\
 <Key>F4: commandLine("*markerMode:on")\n\
 <Key>F5: commandLine("*markerMode:off")\n\
 <Key>F6: commandLine("*frequencyFullScale","*amplitudeAutoScale")\n
```

This example maps five function keys as follows:

- F2 to do a frequency full scale
- F3 to do a amplitude auto scale
- F4 to turn the marker on
- F5 to turn the marker off
- F6 to do both an amplitude and frequency auto scale.

transientTitles type: Boolean default: False

Specifies whether to put titles on transient dialog boxes.

useHardware type: Boolean default: True

Specifies whether or not to use the RF Sensor hardware. When True, energy data is random. You can also start the program with the `-noHardware` flag.

useOldTimeSnapshotFileFormat type: Boolean default: False

The software starting with version C.00.01 implements a new time snapshot file format to allow file sizes larger than 1 GB. To save time snapshot files in the old format, set this value to true. You will not be able to save a file larger than 1 GB.

userColorMapEnabled type: Boolean default: False

Enables user color map code.

Specifications

Definitions

Specifications Specifications describe the performance of parameters covered by the product warranty

Characteristics Characteristics describe the product performance that is useful in the application of the product, but is not covered by the product warranty.

Typical Typical indicates performance within specification that 80% of the units exhibit with a 80% confidence level over the temperature range 20 to 30 °C. Typical specifications are not covered by product warranty.

Nominal Nominal values indicate the level that all units are expected to surpass over the specified environmental operating range. Nominal specifications are not covered by product warranty.

Supplemental Information Supplemental information encompasses characteristics, typical, nominal, and other information pertinent to understanding the expected, but unwarranted, performance of a given parameter.

Recommended Calibration Interval The recommended calibration interval is the period after its last calibration during which a product is expected to meet its specified parameters. The recommended calibration interval is expressed in months or years.

Calibration Calibration, as Agilent defines it, is the process of verifying that the product meets its warranted specifications and performing adjustments as necessary to either correct any out-of-tolerance conditions or better optimize a parameter to improve the probability that the parameter will be in-tolerance at the calibration.

Room Temperature Room temperature is generally accepted to be the range from 20 to 30 °C.

Conditions, Certification, and Calibration

Conditions Required to Meet Specifications.

All conditions must be met.

- The product is being operated within the specified conditions for temperature, altitude, and humidity
- Any system components that specify a calibration cycle must calibrated
- Spectrum Corrections must be enabled in the software application
- The product has been warmed up for at least 30 minutes.

Certification

Agilent Technologies certifies that this product met its published specifications at the time of shipment from the factory. Agilent Technologies further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology, to the extent allowed by the Institute's calibration facility, and to the calibration facilities of other International Standards Organization members.

Safety Summary

The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Agilent Technologies, Inc. assumes no liability for the customer's failure to comply with these requirements.

Refer to the RF Sensor product documentation for specific instructions.

WARNINGS

Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), an uninterruptible safety earth ground must be provided from the mains power source to the product input wiring terminals or supplied power cable.

DO NOT operate in an explosive atmosphere
Do not operate the instrument in the presence of flammable gases or flames.

For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type. DO NOT use repaired fuses or short-circuited fuse holders. Refer to the operation and service documentation for the RF Sensor for information on the power supply specifications, grounding, and ventilation requirements.

Keep away from live circuits: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers or shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.

DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to an Agilent Technologies Sales and Service Office for service and repair to ensure that safety features are maintained.

If the equipment is used in a manner not specified by Agilent Technologies, the protection provided by the equipment may be impaired.

DO NOT service or adjust alone: Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to a Agilent Sales and Service Office for service and repair to ensure that safety features are maintained.

Cleaning: To prevent electrical shock, disconnect the system from the mains power before cleaning. Us a dry cloth or one slightly dampened with water to clean the external case parts. Do not attempt to clean internally.

Caution

DO NOT remove the module covers.
Operating personnel must not remove module covers. Component replacement and internal adjustments must be made only by qualified service personnel. Modules that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.

Laser Safety

This product contains Finisar 850nm SFF transceivers that are Class I laser products and comply with Laser Safety requirements per FDA/CDRH and IEC-825-1 regulations. Agilent Technologies, Inc. uses these products in compliance with FDA Laser Notice 42. The Finisar transceivers are certified per the following standards:

Finisar Transceiver Safety Specifications

Feature	Agency	Standard	Certificate Number
Laser Eye Safety	FDA/CDRH	FDA 21(J) CFR	9210176-17
Laser Eye Safety	TÜV	EN60950 EN 60825-1 EN 60825-2	R9772230.07
Electrical Safety	UL/CSA	CLASS 3862.07 CLASS 3862.87	CSA 1034405

Safety Symbols and Instrument Markings

Symbols and markings in manuals and on instruments alert you to potential risks, provide information about conditions, and comply with international regulations. The following table defines the symbols and markings you may find in a manual or on an instrument.

Safety symbols and instrument markings

Safety symbols	
	Warning: risk of electric shock.
	Caution: refer to accompanying documents.
	Alternating current.
	Earth (ground) terminal
	Protective earth (ground) terminal
	Frame or chassis terminal
	Terminal is at earth potential. Used for measurement and control circuits designed to be operated with one terminal at earth potential.
Instrument markings	
	The CE mark is a registered trademark of the European Community. If it is accompanied by a year, it indicates the year the design was proven.
 N10149	The C-tick mark is a registered trademark of the Spectrum Management Agency of Australia. This signifies compliance with the Australian EMC Framework regulations under the terms of the Radio Communications Act of 1992.
ISM1-A	This text indicates that the instrument is an Industrial Scientific and Medical Group 1 Class A product.
	This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste.[1]

[1]The URL for take-back/WEEE information is http://www.agilent.com/environment/product

Service and Support

Any adjustment, maintenance, or repair of this product must be performed by qualified personnel. Contact your customer engineer through your local Agilent Technologies Service Center.

Agilent on the Web

You can find information about technical and professional services, product support, and equipment repair and service on the Web at:

http://www.agilent.com/

1. Click the Select a Country or Area link (upper-right corner of the page) and select your country. When you click "Submit" it returns to the Agilent home.
2. Hover over the Products and Services tab.
3. Select the Repair and Calibration Services link.

Agilent by Phone

Or you can call one of the numbers in the following table.

Agilent Call Centers and Regional Headquarters

United States and Canada:	Test and Measurement Call Center (800) 452 4844 (toll-free in US)
Europe:	(41 22) 780 8111
Japan:	Measurement Assistance Center (81) 0426 56 7832
Latin America:	305 269 7548
Asia-Pacific:	(85 22) 599 7777

Appendix A: d.E3238s Listing

The following file listing is from the d.E3238s Motif resource file in the c:\e3238s home directory. *Do not modify this file.* To modify or add resource parameters, copy it to the name E3238s and modify that file.

```
!! $Revision: 1.14 $
!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!! Application Resources    !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
*openScreenTime:           5
*useHardware:              True
*newEnergyLogViewLength:   1000
*handoffLogViewLength:     500
*alarmLogViewLength:       100
*spectrogramBackingStoreSize: 2000000
*dataBufferSize:           8000000
*maxEnergyHistorySize:     5000
*signalDatabaseSize:       500000
*sr71Enabled:              False
*enhancedSpectrogramMarker:    True
*maxSpectrogramColors:     32
*displayLocalTime:         True
*maxHandoffRxs:            16
```

Appendix B: d.e3238s.cfg Listing

When the E3238S program starts, the system looks for a file named `e3238s.cfg`. If the location of the file is not specifically defined in the resource file (see Application Resources), the configuration file in the `e3238s` directory is used.

The file installed initially is `d.e3238s.cfg` in the `e3238s` directory. If no file exists named `e3238s.cfg`, a duplicate of `d.e3238s.cfg` is created and given that name.

When you upgrade (i.e., install the E3238S software on a system with an earlier version) the installation process does *not* overwrite the existing `e3238s.cfg` file. This avoids destroying configuration information you may need. You may need to edit the file and incorporate new commands from the `d.e3238s.cfg` file before the upgrade will perform properly.

The commands in this file are documented in the chapter titled "Hardware Configuration Reference". The following is a listing of the `d.e3238s.cfg` file.

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!  E3238s Hardware Configuration Resource File    $Revision: 1.8 $     !
!                                                                      !
!  For the N6841A RF Sensor                                            !
!                                                                      !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! This file is initially installed in the E3238s system
!   as d.e3238s.n6841.cfg in the C:\E3238s\N684x_RF_Sensor directory.
!
! This file is used to tell the software what type of hardware to
!   configure into the system.  The file configures the system at
!   startup.
!
! Lines starting with "!" are comments.
!
! Depending on OS used (WinXP or Win7), the location of certain files may
!   either be in 'program files' (WinXP) or 'program files (x86)' (Win7).
! Both versions are included in the lines below, with the Win7 version
!   uncommented.
!
! For more information, see the Hardware Configuration chapter
!   of the E3238S Installation and Configuration Reference
!
!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                 Hardware Platform                                    !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! The platform configuration commands are as follows:
!
!   platform:              [N6841]
!     Specifies the hardware platform type (RF Sensor only).
!
!   platformCfg:  <numSensors>, <address>, ..., <useTcp>, <driverDll>
!     Specifies the driver software and sensor addresses
!       <numSensors>     [1 to 4] Number of RF sensor nodes.
!       <address>        IP address or hostname or ?.
!       <useTcp>         (Optional) 0 = fast UDP data link, 1= TCP/IP.
!       <driverDll>      (Optional) DLL file.
!
!     Note: Use "?" for <address> to prompt for address at startup.
```

```
platform:      N6841

! Single-sensor platform configuration:
platformCfg:   1, ?, 1, C:\program files (x86)\agilent\rfsensor\bin\n6841Driver.dll
!platformCfg:   1, ?, 1, C:\program files\agilent\rfsensor\bin\n6841Driver.dll

! Un-comment one of the following (and comment-out the above line) if you need to
! control more than one RF Sensor from a single instance of the E3238S software.

! Two-sensor platform configuration:
!platformCfg:   2, ?, ?, 1, C:\program files (x86)\agilent\rfsensor\bin\n6841Driver.dll
!platformCfg:   2, ?, ?, 1, C:\program files\agilent\rfsensor\bin\n6841Driver.dll

! Three-sensor platform configuration:
!platformCfg:   3, ?, ?, ?, 1, C:\program files
(x86)\agilent\rfsensor\bin\n6841Driver.dll
!platformCfg:   3, ?, ?, ?, 1, C:\program files\agilent\rfsensor\bin\n6841Driver.dll

! Four-sensor platform configuration:
!platformCfg:   4, ?, ?, ?, ?, 1, C:\program files
(x86)\agilent\rfsensor\bin\n6841Driver.dll
!platformCfg:   4, ?, ?, ?, ?, 1, C:\program files\agilent\rfsensor\bin\n6841Driver.dll

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                  Search Receiver DSP Configuration                          !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! No DSP configuration is specified for the N6841A

searchRx1.dspModel:   None

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                     User Programming Shared Libraries                       !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! The libraries for each of the user-defined feature sets are loaded with
! the following commands.
! (Currently incl. Survey, Menu Arrows, USD and N6854A Geo)

genericLib:            C:/e3238s/usd/usdHost.dll -allownb, c:/e3238s/lib/survey.dll
userMenu:              C:/e3238s/usd/usdHost.dll, c:/e3238s/lib/survey.dll,
C:/e3238s/lib/userMenuArrow.dll
featureExtraction:     C:/e3238s/usd/usdHost.dll, c:/e3238s/lib/survey.dll
energyHistoryFilter:   C:/e3238s/usd/usdHost.dll, C:/e3238s/lib/survey.dll
userPane:              C:\program files (x86)\agilent\rfsensor\bin\n6841DriverExtra.dll
!userPane:              C:\program files\agilent\rfsensor\bin\n6841DriverExtra.dll
userAlarmTask:         C:\program files (x86)\agilent\rfsensor\bin\n6841DriverExtra.dll
!userAlarmTask:         C:\program files\agilent\rfsensor\bin\n6841DriverExtra.dll
userThreshold:

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                     Modulation Recognition                                  !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! Remove or comment out these lines if option MR1 is not available.

modRec1.enabled:    True
modRec1.hostLib:    c:/e3238s/MR1/mr1.dll
modRec1.args:
modRec1.alias:


exportLib: c:/e3238s/e3238sDB/e3238sDB.dll connect_timeout=5
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                    Socket Server Configuration                           !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! The E3238S provides communication to the external world via sockets.
! To enable the socket interface on the workstation you must create a port
! number and enable the E3238S socket commands.  To create the port number
! enter a line in the C:\WINNT\system32\drivers\etc\services file as follows:
!          e3238s    7011/tcp
!
! The socket configuration is defined with the following commands:
!
!
! Parameter/command           Range                    Default value
! ------------------          ------------             --------------
! socketServer:               {Disabled or Enabled}    Disabled
! maxServices:                <1 to 5>                 1
! maxClientSockets:           <0 to 16>                0
! socketServerTimerInterval:  {1 to 10000 mSec}        5

socketServer:                Enabled
maxServices:                 5
maxClientSockets:            5
socketServerTimerInterval:   5

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                  E3238s Service Configuration                            !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! The E3238s service is defined with the following commands:
!
! Parameter/command            Range                     Default value
! ------------------           ------------              --------------
! e3238sService:               {80 character string}     e3238s
! e3238sServiceMaxConnections: {1 to 32}                 4
! e3238sServiceDataBufferSize: {512 to 4194304}          512
! e3238sServiceSendBufferSize: {0 to 8388608}            0 (Use system default)
! e3238sServiceRecvBufferSize: {0 to 8388608}            0 (Use system default)

e3238sService:               e3238s
e3238sServiceMaxConnections:   4
e3238sServiceDataBufferSize:   512
e3238sServiceSendBufferSize:   0
e3238sServiceRecvBufferSize:   0

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                  Handoff Receiver Configuration                          !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! The following handoff receivers are supported in this software:
!
!   None
!   Agilent N6841A RF sensor
!   ICOM R20
!   ICOM R8500
!   ICOM PCR1000
!   WiNRADiO G303, G305, G313, G315
!   WJ-8607
!   WJ-8611
!   WJ-8615P
!   Cubic R-2412/U
!   Software *
!
!   *Note: The software receiver receives handoffs and simulates a real
```

```
!   handoff receiver.  No software detection or processing is done.
!
! The following analyzers are supported in this software:
!
!   Agilent 89441A
!   Agilent 89600
!
! Each handoff receiver is described with three lines in this file:
!
!   handoffRx<N>.driver:      C:\e3238s\lib\<driver shared library>
!   handoffRx<N>.interface:   <interface>,<interface parameters>
!   handoffRx<N>.label:       <label>
!
! where
!   <N> is the number of the handoff receiver that appears on the
!       e3238s user interface (e.g. 1), may be as large as 100.
!   <driver shared library> is the filename of the handoff receiver
!       shared library (e.g. C:\e3238s\lib\HD_8711.dll) #
!   <interface>,<interface parameters> identifies the hardware interface
!       to the receiver and parameters of the interface
!       (e.g rs232,ASRL0,9600)
!   <label> is the label which appears in the handoff receiver pane,
!       and can be up to 31 characters in length.
!
!   #Note: The shared library for the N6841A is located in the
!   agilent\rfsensor\bin folder
!
! Uncomment the lines for any handoff receiver you have available and
!   connected to enable control from the E3238S software.
!
! Examples for each supported handoff receiver are present further down
!   in this file.

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!! Agilent RF Sensor       !!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! The Agilent RF Sensor software must be installed to use this driver.
!
! This enables control of the "same" RF Sensor as a handoff receiver.
! The caveat is that the hostname and sensor name have to be the same and
! you have to use the hostname to connect from the E3238S (not IP address).

handoffRx1.driver:      C:\program files (x86)\agilent\rfsensor\bin\n6841DriverExtra.dll
!handoffRx1.driver:      C:\program files\agilent\rfsensor\bin\n6841DriverExtra.dll
handoffRx1.interface:
handoffRx1.label:       HORx1

! These lines enable control of a second RF Sensor as a handoff receiver.

handoffRx2.driver:      C:\Program Files (x86)\Agilent\RFSensor\bin\n6841DriverExtra.dll
!handoffRx2.driver:      C:\Program Files\Agilent\RFSensor\bin\n6841DriverExtra.dll
handoffRx2.interface:
handoffRx2.label:       HORx2

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!      ICOM PCR1000       !!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! handoffRxN.driver:    c:\e3238s\lib\HD_IcomPcr1000.dll
! handoffRxN.interface: rs232,ASRL<N>,9600,0
!                          |      |     |  |
!                          |      |     |  +-- non-zero for debug output
!                          |      |     +--- baud rate (must be 9600)
```

```
!                          |      +-- ASLR1 or ASRL2 (VISA names for COM1..)
!                          +-- must be rs232

!handoffRx1.driver:    C:\e3238s\lib\HD_IcomPcr1000.dll
!handoffRx1.interface: rs232,ASRL8,9600,0
!handoffRx1.label:     ICOM PCR-1000 Rx

!!!!!!!!!!!!!!!!!!!!!
!!! WiNRADiO       !!!
!!!!!!!!!!!!!!!!!!!!!
!
! "interface" should be "application,<SN>"
! where <SN> is optional. Use it to select from multiple receivers.
! Start the WiNRADiO windows application before starting E3238S.

!handoffRx1.driver:    C:\e3238s\lib\HD_WinRadio.dll
!handoffRx1.interface: application
!handoffRx1.label:     WiNRADiO Rx

!!!!!!!!!!!!!!!!!!!!!
!!! ICOM R20       !!!
!!!!!!!!!!!!!!!!!!!!!
!
! handoffRxN.driver:    c:\e3238s\lib\HD_icom_r20.dll
! handoffRxN.interface: rs232,ASRL<N>,1200,4a,0
!                          |      |     |  |  |
!                          |      |     |  |  +-- non-zero for debug output
!                          |      |     |  +-- radio address in hex
!                          |      |     +-- baud rate
!                          |      +-- ASLR1 or ASRL2 (VISA names for COM1..)
!                          +-- must be rs232

!handoffRx1.driver:    c:\e3238s\lib\HD_icom_r20.dll
!handoffRx1.interface: rs232,ASRL2,9600,6c,0
!handoffRx1.label:     VHF/UHF RCVR

!!!!!!!!!!!!!!!!!!!!!
!!! ICOM R7000     !!!
!!!!!!!!!!!!!!!!!!!!!
!
! handoffRxN.driver:    c:\e3238s\lib\HD_icom_r7000.dll
! handoffRxN.interface: rs232,ASRL<N>,1200,4a,0
!                          |      |     |  |  |
!                          |      |     |  |  +-- non-zero for debug output
!                          |      |     |  +-- radio address in hex
!                          |      |     +-- baud rate
!                          |      +-- ASLR1 or ASRL2 (VISA names for COM1..)
!                          +-- must be rs232

!handoffRx1.driver:    c:\e3238s\lib\HD_icom_r7000.dll
!handoffRx1.interface: rs232,ASRL2,9600,6c,0
!handoffRx1.label:     VHF/UHF RCVR

!!!!!!!!!!!!!!!!!!!!!
!!! ICOM PCR1000   !!!
!!!!!!!!!!!!!!!!!!!!!
!
! handoffRxN.driver:    c:\e3238s\lib\HD_IcomPcr1000.dll
! handoffRxN.interface: rs232,ASRL<N>,9600,0
!                          |      |     |  |
!                          |      |     |  +-- non-zero for debug output
!                          |      |     +-- baud rate (must be 9600)
!                          |      +-- ASLR1 or ASRL2 (VISA names for COM1..)
!                          +-- must be rs232
```

```
!handoffRx1.driver:    c:\e3238s\lib\HD_IcomPcr1000.dll
!handoffRx1.interface: rs232,ASRL2,9600,0
!handoffRx1.label:     VHF/UHF RCVR

!!!!!!!!!!!!!!!!!!!!!
!!! ICOM R8500     !!!
!!!!!!!!!!!!!!!!!!!!!
!
! handoffRxN.driver:    c:\e3238s\lib\HD_icom_r8500.dll
! handoffRxN.interface: rs232,ASRL<N>,1200,4a,0
!                          |      |     |  |  |
!                          |      |     |  |  +-- non-zero for debug output
!                          |      |     |  +-- radio address in hex
!                          |      |     +-- baud rate
!                          |      +-- ASLR1 or ASRL2 (VISA names for COM1..)
!                          +-- must be rs232

!handoffRx1.driver:    c:\e3238s\lib\HD_icom_r8500.dll
!handoffRx1.interface: rs232,ASRL2,9600,6c,0
!handoffRx1.label:     VHF/UHF RCVR

!!!!!!!!!!!!!!!!!!!!!
!!! WJ-8607        !!!
!!!!!!!!!!!!!!!!!!!!!

!handoffRx1.driver:    C:\e3238s\lib\HD_8607.dll
!handoffRx1.interface: rs232,ASRL0,9600
!handoffRx1.label:     VHF/UHF  Rx

!!!!!!!!!!!!!!!!!!!!!
!!! WJ-8611        !!!
!!!!!!!!!!!!!!!!!!!!!

!handoffRx1.driver:    C:\e3238s\lib\HD_8611.dll
!handoffRx1.interface: rs232,ASRL0,9600
!handoffRx1.label:     VHF/UHF  Rx

!!!!!!!!!!!!!!!!!!!!!
!!! WJ-8615P       !!!
!!!!!!!!!!!!!!!!!!!!!

!handoffRx1.driver:    C:\e3238s\lib\HD_8615P.dll
!handoffRx1.interface: gpib,hpib,5
!handoffRx1.label:     VHF/UHF  Rx

!!!!!!!!!!!!!!!!!!!!!
!!! Cubic R-2412/U !!!
!!!!!!!!!!!!!!!!!!!!!

!handoffRx1.driver:    C:\e3238s\lib\HD_2412.dll
!handoffRx1.interface: gpib,hpib,5
!handoffRx1.label:     VHF/UHF RCVR

!!!!!!!!!!!!!!!!!!!!!
!!! Software       !!!
!!!!!!!!!!!!!!!!!!!!!
!
! This is used for demonstration purposes only.

!handoffRx1.driver:    C:\e3238s\lib\HD_software.dll
!handoffRx1.label:     Software Rx

!!!!!!!!!!!!!!!!!!!!!
```

```
!!! Agilent 89441A !!!
!!!!!!!!!!!!!!!!!!!!!

!handoffRx1.driver:    C:\e3238s\lib\HD_89441.dll
!handoffRx1.interface: telnet,11.22.33.44
!handoffRx1.interface: gpib,hpib,19
!handoffRx1.label:     Signal Analyzer

!!!!!!!!!!!!!!!!!!!!!
!!! Agilent 89600  !!!
!!!!!!!!!!!!!!!!!!!!!
!
! See C:\e3238s\89600\Readme.txt for instructions

!handoffRx1.driver:    C:\e3238s\lib\hd_89600.dll
!handoffRx1.interface: hostname, 7016
!handoffRx1.label:     Signal Analyzer

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                    Menu Access Configuration                              !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!
! You can disable access to any of the features that are listed in the
! main menus (those that appear in the menu bar).  Using the 'disableAccess'
! command in this configuration file sets the initial status to disabled.
! Access to these features can be enabled while the application is running
! from the File, Access Control ... dialog box.  This is password protected
! if the user name "e3238s" appears in the password file.  If no such entry
! exists, there are no restrictions on menus access that a user can't change.
!
! To disable a particular menu, use the 'disableAccess' command with an
! argument that is a string that exactly matches the feature label.  You can
! also check the Access Control dialog box for the button label strings.
! Any feature not specifically disabled is, by default, enabled at startup.

!disableAccess: Secure Display
!disableAccess: Log Files ...
!disableAccess: Clear Log
!disableAccess: Clear Log File
!disableAccess: Clear Energy History
!disableAccess: Clear Signal Database
!disableAccess: Clear Frequency Lists
!disableAccess: Clear Audio Output
!disableAccess: Clear All

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                  Other Configuration settings                             !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
! Other configuration command lines can be added here. For command
! examples see the file d.e3238s.cfg typically installed to C:\e3238s.
```