Dialogic

Dialogic® Brooktrout® SR140 Fax Software Windows® User Guide

Brooktrout SDK Release 5.2.0

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Preface

About this Guide

This Dialogic® Brooktrout® SR140 Fax Software User Guide is for users running the SR140 Fax Software in a Windows® environment.

Refer to the Dialogic® Brooktrout® SR140 Fax Software Linux User Guide if you operate in a Linux environment.

This document contains the following:

- Chapter 1 explains how you get started.
- Chapter 2 describes how to activate Dialogic® Brooktrout® products using the Dialogic® Brooktrout® License Manager.
- Chapter 3 describes how to configure the Dialogic® Brooktrout® software.
- Chapter 4 explains testing the Dialogic® Brooktrout® SR140.
- Chapter 5 provides virtual model specifications.

Manual Conventions

This manual uses the following conventions:

- ***Italics*** denote the names of variables in the prototype of a function, and file names, directory names, and program names within the general text.

- The **Courier** font in bold indicates a command sequence entered by the user at the system prompt, for example:

  cd /Brooktrout/boston/bfv.api

- The Courier font not bolded indicates system output, for example:

  C:>Files installed.

- The Courier font also denotes programming code, such as C and C++. Programming code appears in program examples.
- ***Bold*** indicates the data type of the prototype of a function, Bfv API functions, dialog boxes, dialog box controls, windows, and menu items.
- Square brackets [ ] indicate that the information to be typed is optional.
- Angle brackets < > indicate that you must supply a value with the parameter.

The Caution icon is used to indicate an action that could cause harm to the software or hardware.

The Warning icon is used to indicate an action that could cause harm to the user.

Related Documents

For product information, white papers, FAQs, and more, access the Dialogic web site at ***www.dialogic.com***.

System Requirements for the Dialogic® Brooktrout® SR140 Fax Software

Minimum System Requirements

The minimum system requirements for running any number of SR140 channels is a Pentium P4 2.66 GHz with 512MB RAM.

Requirements for Connecting to a Cisco Gateway

If you are interested in connecting to a Cisco gateway, see the Dialogic Technical Support Knowledge Base for White Paper 2120 "Connecting to IP Gateways/PBXs – example of a Cisco Gateway." You can access this white paper from the Dialogic Technical Support site for the Dialogic® Brooktrout® product line.

1. Click on ***Knowledge Base*** in the ***Related Links*** section of the left-hand column.
2. Enter "2120" in the Article # box in the left-hand column.

Prior to connecting to a Cisco Gateway, Dialogic highly recommends that you should have the following:

- Access to the white paper (see instructions above).
- Prior knowledge of Cisco router installation and configurations.
- A basic understanding of Cisco networking and router/gateway configurations.
- Familiarity with basic internet technology.
- Certified or experienced in Cisco IOS router/gateway technology.
- A thorough understanding of LAN/WANs, bridges, switches, protocols, and network management.

Any router listed in the above-mentioned white paper, that you are deploying, should be running Cisco IOS version 12.3 (7) T or higher.

If you do not have these pre-requisites, you should seek assistance either internally from your IP network personnel that performs these functions in your own network, or an external professional who is certified in Cisco router installations and configurations.

Telephony Requirements

Physical	*Media*	*Call Control*
Ethernet 10/100	T.38 v0	H.323
		SIP

Supported Operating Systems

A supported operating system is one for which the Dialogic® Brooktrout® software has been designed and tested. The following operating systems are supported for the Dialogic® Brooktrout® TR Series SDK 5.0.0:

- Windows® 2000 Professional, Service Pack 4 and Windows Update 822831 (see Note).
- Windows 2000 Server, Service Pack 4 and Windows Update 822831 (see Note).
- Windows 2000 Advanced Server, Service Pack 4.
- Windows XP Professional, Service Pack 2.
- Windows Server® 2003, Standard Edition, Service Pack 2
- Windows Server 2003, Enterprise Edition, 32-bit version, Service Pack 2
- Windows Server 2003 x64 Editions, Service Pack 2
  x86-64, Intel 64-Bit Xeon; Intel Pentium with EM64T

Note: Because a Windows defect was introduced with Service Pack 4, use Windows Update 822831 to assist in software installation.

The Microsoft hotfix 909666 is required when running Windows 2003 x64. Obtain the hotfix from Microsoft at ***http://support.microsoft.com/*** by referencing the knowledge base number 909666. System crashes can occur without this hotfix.

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1 - Getting Started

This chapter provides an introduction and quick start installation instructions for installing the Dialogic® Brooktrout® software in a Windows® environment.

Refer to the Dialogic® Brooktrout® SR140 Fax Software Linux User Guide if you operate in a Linux environment.

Note: The Dialogic® Brooktrout® SR140 Fax Software is also referred to herein as the SR140.

Introduction

What is a Virtual Module?

Dialogic's intelligent fax board platform, the Dialogic® Brooktrout®TR1034 Fax Board, provides Dialogic ISV (Integrated Software Vendor) partner's fax application with the capability to communicate from their application to the telephone or IP network. For software-only systems using IP only, Dialogic has implemented the SR140 as a virtual module. Although it is software, the SR140 appears to the fax application just like a board. That helps simplify your fax application publisher to provide a single product that works for hardware and software.

What is a Software License?

The SR140 Virtual Module is delivered inside your fax application. The SR140 license is the right to use the software products in an entitlement purchased from Dialogic. The license is represented by the contents of a License File that is used by the software to restrict use to that entitlement. When you install the software, you acknowledge the License Agreement that governs SR140 licensing. Your License is delivered in paper form and shows you what your entitlement is, and provides a License Key to allow you to apply your entitlement to a computer system when you install the SR140 software.

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supplying your License Key shown on the License Key certificate and a unique identifier of the computer system that can be used to lock a license to a computer (known as node-locking).

What is Configuration?

All modules - virtual modules or real boards - need to know how to handle call control over the IP network. Once you have installed the software and activated your product, you need to enter settings that control how connections are made between the IP network and the virtual module. This process is called configuration.

What is Involved in Getting it Working?

- ***Supported Operating System***

  For a list of supported operating systems see ***Supported Operating Systems on page xviii***.

- ***Installation***

  For more information see ***Verifying Software Installation on page 5***.

- ***Product Activation***

  For more information see ***Using the License Manager to Activate Brooktrout Products on page 9***.

- ***SR140 Configuration***

  For more information see ***Configuring the Dialogic® Brooktrout® SR140 Fax Software on page 39***.

- ***IP Configuration***

  For more information see ***IP Call Control Modules on page 57***.

- ***Test***

  For more information see ***Testing the Dialogic® Brooktrout® SR140 Fax Software on page 73***.

Quick Start Steps

When doing the installation, you need:

- Administrative privileges for the server

and either of the following:

- Windows 2003
- Windows 2000
- Windows XP

Use the installation program provided with your application software to install the software for the SR140.

2 - Activating Dialogic® Brooktrout® Products

This chapter describes how to activate a license for the SR140.

The SR140 functionality is protected against piracy and abuse by licensing technology that uses product activation. A License Key is sold to the user who exchanges the key for a license file during or after installing the software. The license file is tied to the system during activation by imprinting a unique system signature (a Node ID) on the license file, and is based on the machine's MAC address.

The License Key can either be a unique, paid-for license key that provides a perpetual license or a demo license key that results in software that provides limited support for a limited time. Both types of product - licensed as demo or paid-for - require activation. You have several ways to activate the product.

You can use the Dialogic® Brooktrout® License Manager application to verify information about current licenses and to add new licenses for your Dialogic® Brooktrout® products.

The application also verifies the following:

- The signature of the license is not broken.
- The license is not expired.
- The Node ID of the license matches the Node ID of the computer (sometimes referred to as the “Node Lock” of the computer).
- The system clock is not set back.

Please contact Technical Support if you are unable to use the license. See ***Getting Technical Support on page xix***.

This document has the following sections:

- ***Preparing for Activation on page 7.***
- ***Using the License Manager on page 8.***
- ***Activating a License Automatically on page 13.***
- ***The Product Registration window appears: on page 14.***
- ***Activating a License Using the Web on page 17.***
- ***Activating a License Using Email or Fax on page 23.***
- ***Installing Licenses on page 25.***
- ***Logging Information on page 27***.
- ***Managing License Files on page 28***.

Preparing for Activation

To use the License Manager to activate your Brooktrout product, perform the activation process from the system where the Dialogic® Brooktrout® Host Based Fax software is installed. Once the license is activated, install the license file on that system (unless you activate automatically which does not require installation).

Because the Brooktrout Host Based Fax is an IP-based technology, Dialogic uses the IP network and the Internet to perform Product Activation. Ideally, the system you are installing on should be connected to an IP Network and to the Internet.

However you activate, Dialogic strongly recommends that you archive the License Certificate and the License File once the product has been activated.

Automatic activation must be performed using the License Manager on the system which is to be licensed.

Note: Because the license verifies if the system clock has been set back, you should ensure that the system date is set correctly.

Using the License Manager

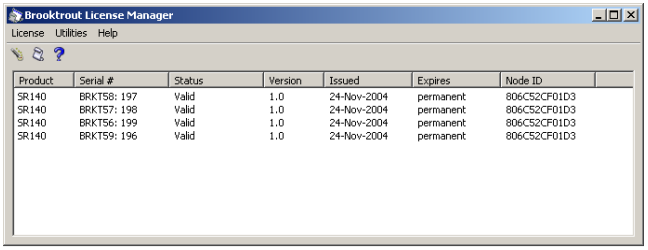
The License Manager application is usually installed with your fax application.

- To start the License Manager, use one of the following methods:
  - Start the License Manager from the Configuration Tool
  - Select Start → Program Files → Brooktrout → Brooktrout License Manager
  - If you accepted the standard location to install your software, double-click the ***brktlicmgr.exe*** file at the following location:

    C:\Brooktrout\Boston\bin

    Otherwise, go to the location where you chose to install the software and double-click the ***brktlicmgr.exe*** file.

  The License Manager window appears.



This window shows information for any installed licenses. The application tries to determine license integrity and authenticity.

Typical problems when validating licenses:

1. The license can have a broken signature.
2. The license can expire.
3. The license can have the wrong Node ID.
4. System clock can be tampered.

If the license has more than one problem, only the first detected problem is indicated. For example, if the license has expired and has a broken signature, only the broken signature is indicated on the main screen.

Displaying and Copying Node IDs

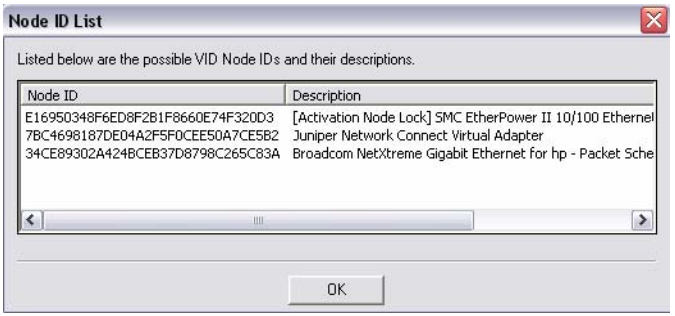
There may be more than one MAC address on the system. If so, you can choose the MAC address in which to lock. The License Manager allows you to view the Node ID representation of the first 20 Ethernet Adapter MAC addresses available on the system.

You need to use this function in order to node lock to a MAC address in the system other than the default MAC address used for node locking.

For information on node locking refer to ***Overriding the Default MAC Address Used for Node Locking on page 16***.

➢ ***Follow the steps below:***

1. From the Utilities menu, select Display all node IDs. A screen like the following appears.:

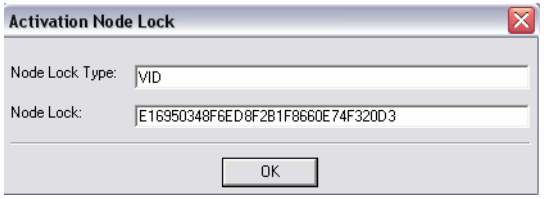


2. Double-click to select the Node ID. Right click and select Copy to copy the Node ID.

Displaying and Copying Node ID

➢ ***Follow the steps below to display and copy a Node ID (referred to as Node Lock in the screen below).***

1. From the Utilities menu, select Display Node Lock. A screen like the following appears:

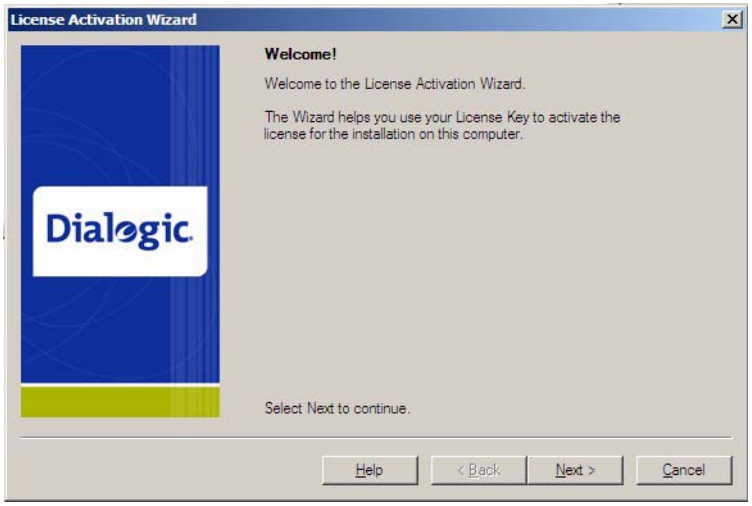


2. Double-click to select the Node ID. Right click and select Copy to copy the Node ID.

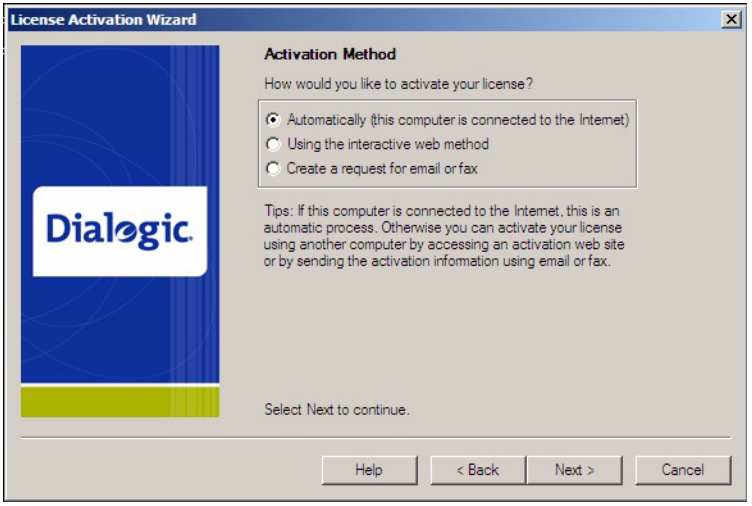
Starting the License Activation Wizard

Start up the License Activation Wizard by selecting Activate License from the License menu.

1. Select License -> Activate License.



2. Click Next. The Activation Method dialog box appears:



3. Select an Activation Method.

   - Automatically (this computer is connected to the Internet)

     Activates licenses automatically to the machine performing the activation. This is the easiest method if your computer is connected to the Internet. If successful, this step completes the product activation process immediately. Your new license files are displayed in the License Manager main window.

     See ***Activating a License Automatically on page 13***.

   - Using the interactive web method

     Activates licenses using the Dialogic License Activation website. After successfully processing activation information, you can choose to download the file immediately or have the license emailed to you. Within a couple of minutes Dialogic sends an email containing a license file, if you select to have the license emailed to you. To complete the activation process, use the License Manager interface to install the license file(s) on the machine specified.

     See ***Activating a License Using the Web on page 17***.

   - Create a request for email or fax

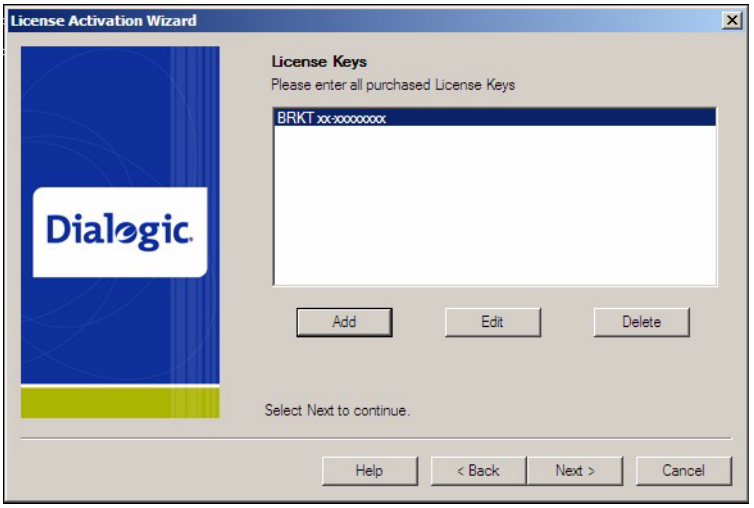
     See ***Activating a License Using Email or Fax on page 23***. After successfully processing activation information, Dialogic sends an email containing a license file. To complete the activation process, use the License Manager interface to install the license file(s) on the machine specified in the email/fax activation request. Dialogic sends a license in about one working day.

Activating a License Automatically

➢ ***To activate a Brooktrout license using the automatic activation method, follow the steps below:***

1. Select the automatic activation option above.

   The License Keys dialog appears:



2. Select the Add button to enter all purchased License Keys one at a time.

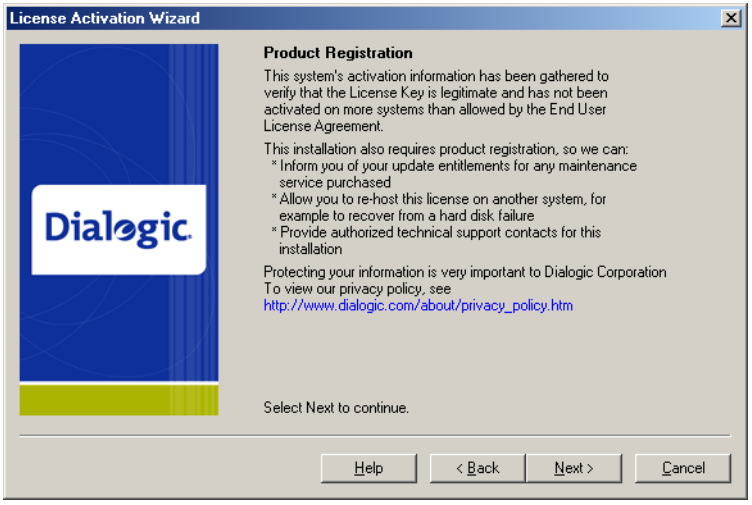
   You can enter more than one License Key. You must enter at least one License Key to proceed, otherwise an Error dialog box appears.

   This License Key can be found on your Licence certificate. The License Key is a variable length ASCII string. An example of such a key is: BRKT111-1234567

Note: Click the Edit button if you need to correct the License Key information. Click the Delete button if you need to delete license key information.

3. The Please enter License Key dialog box appears:

4. Enter the License Key and Click OK.
5. The Product Registration window appears:



For your convenience, Product Registration follows activation in the same session using the License Activation Wizard.

6. Follow the screen prompts if the Product Registration window appears.

   All but one of the registration fields are required (indicated by an asterisk [*]). When required information is not entered, an Error dialog box is displayed. Be sure to enter the information for the person responsible for the day-to-day running of the installation.

7. Verify that your computer is connected to the Internet.
8. Click Next to begin processing your license request.

   The License Manager sends the license request to the Dialogic License Activation Center, where your license request is processed.

   The request process can take a few minutes.
9. The Request Status window appears when the automatic activation process is complete and one of the following messages appears:

   - License Obtained

     The requested license is automatically installed in your system. The product activation process is complete.

   - License Key invalid

     The License Manager provides a Tip when license activation fails. The Tip usually provides a possible solution, or where to get more information that leads to a solution.

     When a License Key is invalid because of a data-entry error, re-enter the correct license key by running the License Activation Wizard again. If the license key has been entered correctly but the request status is invalid, contact Technical Support. See ***Getting Technical Support on page xix***.

   - Request failed

     When you attempt to activate a license key for the second time from the same or another computer, it is considered re-hosting. Please contact Technical Support for solutions to this problem. See ***Getting Technical Support on page xix***.

     Also see ***Managing License Files on page 28*** for more information.

- Activation Center unavailable

  The License Activation Center cannot be reached because the License Activation Center computer is temporarily unavailable or you are experiencing temporary Internet problems.

  Attempt to correct the problem and retry the request. When using the access numbers, if failures persist, contact Technical Support. See ***Getting Technical Support on page xix***.

10. Click Next.

    The Thank you... window appears:

11. Click Finish to complete your activation process.

    Because you activated automatically, you do not need to install licenses. Your activation process is finished.

Overriding the Default MAC Address Used for Node Locking

Note: The follow procedure applies only to automated license activation.

In some cases, when you have multiple MAC addresses in your system, you may want to use a different MAC address other than the default MAC address used for node locking.

Create a file named ***brktlicmgr.cfg*** and place it in the same directory as the License Manager (for example Brooktrout\boston\bin).

This file should be a text file with a single line 'NodeID=<enter node id here>', with no spaces.

➢ ***To obtain the node ID for the MAC address you intend to use follow the steps below.***

1. Launch the License Manager.
2. From the Utilities menu, Select Display All Node Ids option.
3. Select the adapter.
4. Copy and paste into the `brktlicmgr.cfg` configuration file.

For details see ***Displaying and Copying Node IDs on page 9***.

Activating a License Using the Web

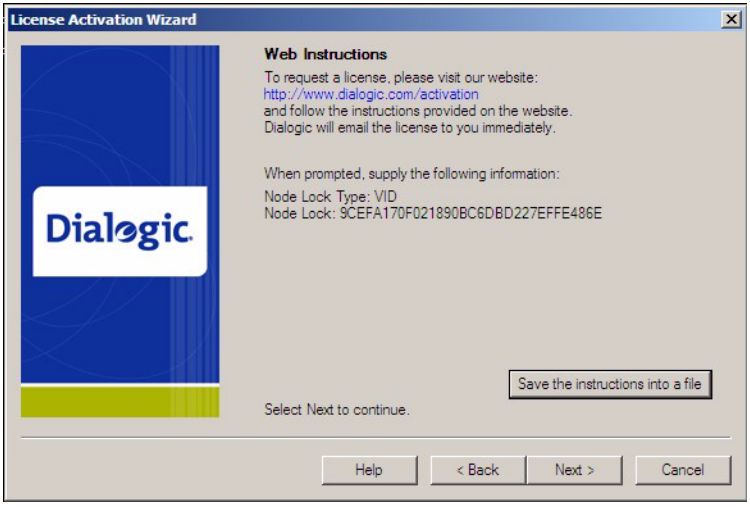
You can also activate your Brooktrout license on the web using a computer that has web access. This can be a different computer than the server on which you are installing the SR140 virtual module.

It is critical that you enter the Node Lock information for the intended machine (Node ID) on the website without errors. The software generates an unusable license when you enter incorrect Node Lock information. The second attempt to obtain the license using the corrected Node Lock information is considered re-hosting. In this case see ***Re-Hosting License Files on page 33***

➢ ***To activate a license using the interactive web method, do the following:***

1. Start up the license manager.
2. Select Using the interactive web method as your method of activation.

   The following License Activation Wizard window appears:

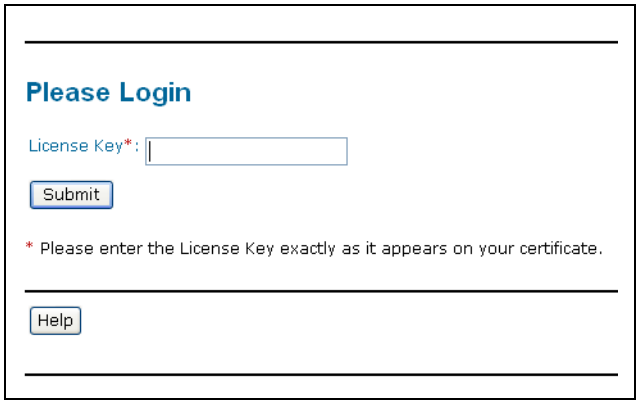


3. Click Save the instructions into a file button.

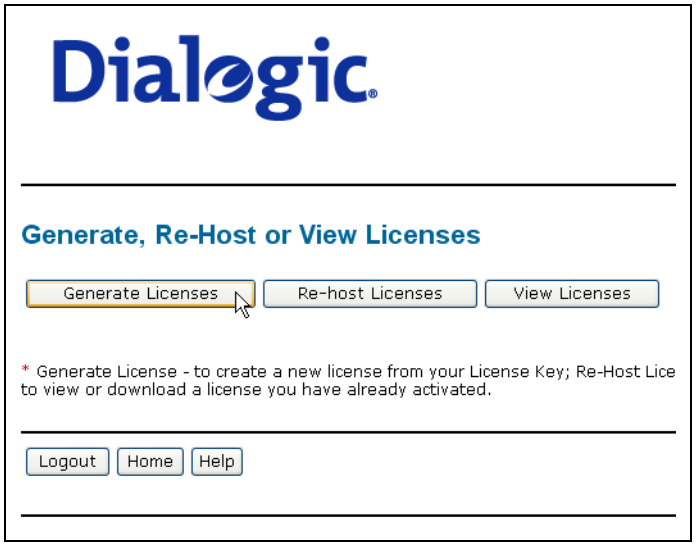
   The instructions shown in the License Activation Wizard window are saved to a file that you can print or refer to at a later date. The instructions provide the Node Lock Type and the Node Lock that you enter when activating from the web.

   You can also display the Node ID information by selecting Display Node Lock under the Utilities menu in the License Manager window.

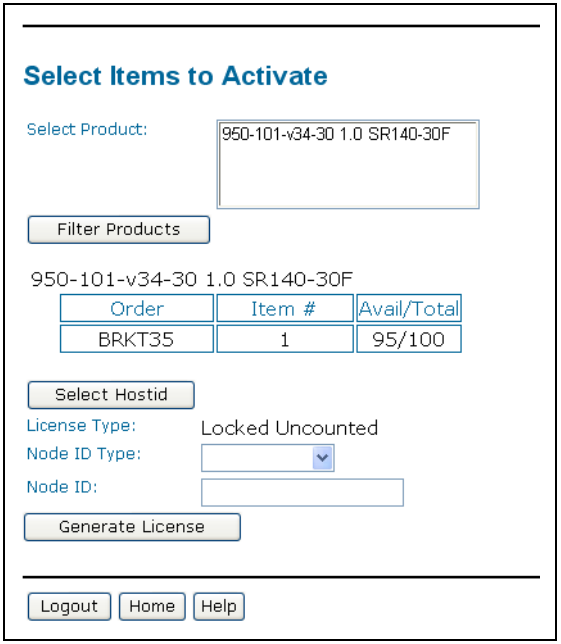
4. On a computer that has Internet Access, enter the web address ***www.dialogic.com/activation***, which directs you to a secure server. The following screen appears.



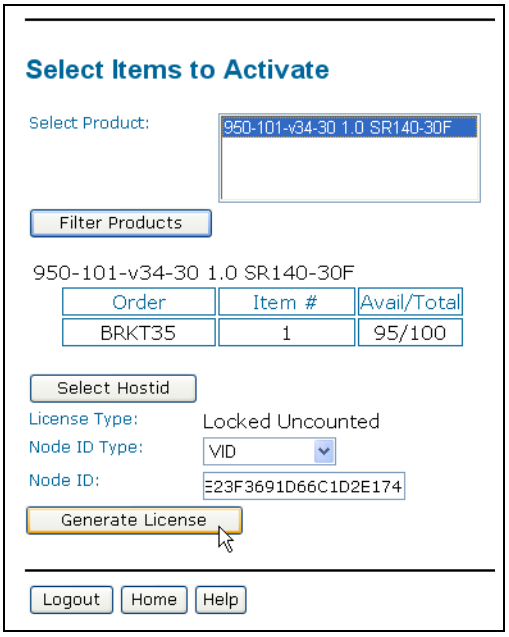
5. Enter your original License Key (this can be found on your License certificate) and click Submit. The following screen appears.



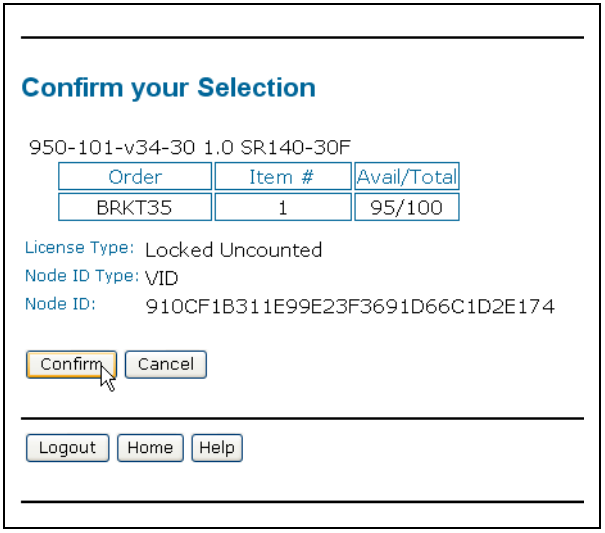
6. Click Generate Licenses. The following screen appears.



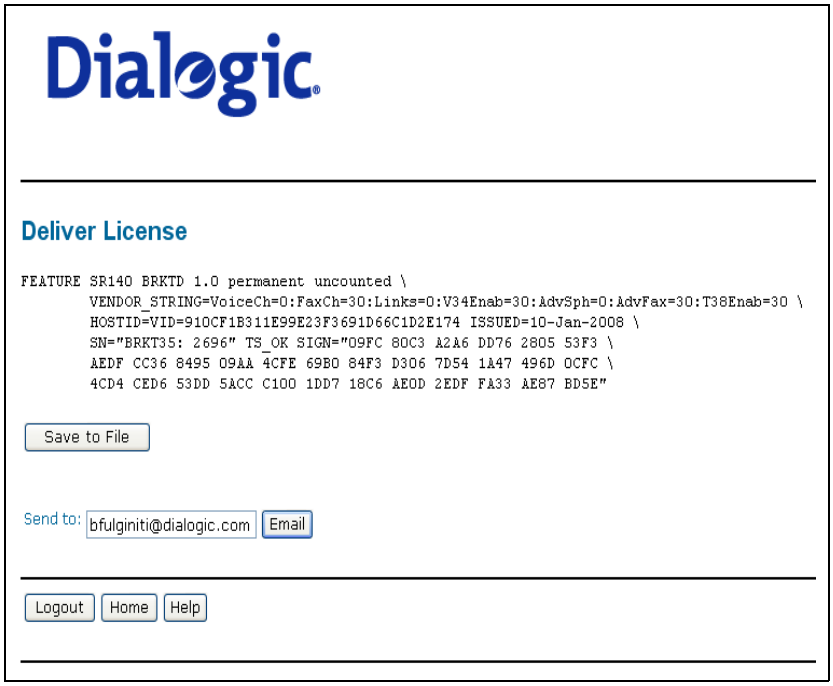
7. Select the Product you are activating. Select the Node ID Type and enter the Node ID. If you are using License Manager version 2.0 or greater, select Node ID type VID. If you are using an earlier version than 2.0, select Node ID type COMPOSITE.



8. Click Generate License.



9. Verify that the information on this screen is correct and click Confirm. The following screen appears.



10. Click Save to File to save the license file to your computer or click Email to have the License file emailed to you. The following screen appears.

11. Follow the instructions ***Installing Licenses on page 25*** to install the license file.

Activating a License Using Email or Fax

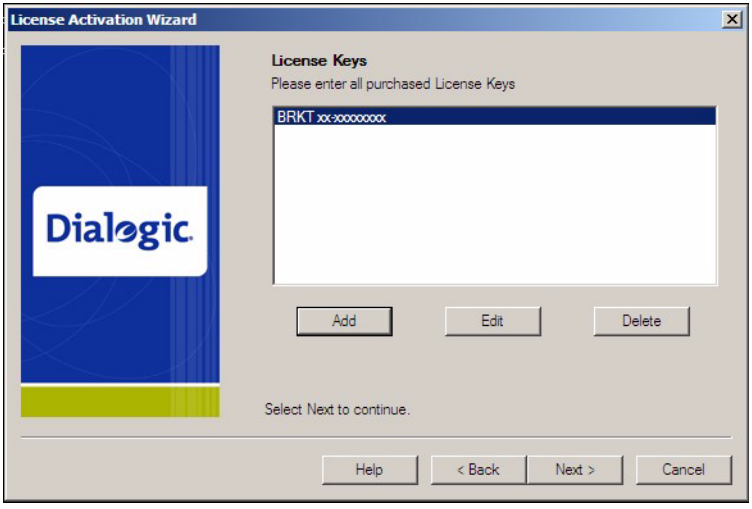
When your system cannot support the previous options (for example, you have no Internet connections) you can activate your license by sending the information to Dialogic using email or fax.

Note: If you activate your license by email or fax, Dialogic will send you the license file in about one business day.

➢ ***To activate a license by Email or Fax, do the following:***

1. Start up the license manager.
2. Select Create a request for email or fax as your method of activation.
3. Click Next.

   The following License Activation Wizard License Key dialog box appears:



- Select the Add button to enter all purchased License Keys one at a time.
  You can enter more than one License Key. You must enter at least one License Key to proceed, otherwise an Error dialog box appears.

  The Please enter License Key dialog box appears (this License Key can be found on your License certificate, for example BRKT111-1234567):

4. Click Next and fill in the registration information as requested.
5. Click Next.

   The Email/Fax Request dialog box appears:
6. Click the Save the request into a file button to save all information entered into the Product Registration dialog boxes to a text file.
7. Email the saved file to activation@dialogic.com as an attachment, or fax this information to 781-433-2350 at the Dialogic License Activation Center for processing.

   When you receive the license file from Dialogic, go to ***Installing Licenses on page 25*** to install it in the correct location.

Installing Licenses

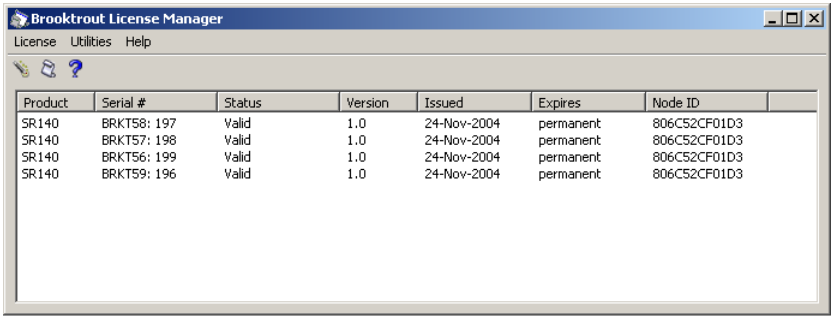
When you receive a license file from the Dialogic License Activation Center (via email or saved from the site) use the License Manager application to install the attached license.

If you receive the license file via email, the licensing information is sent to you in the body of the e-mail. You must create a file with a .LIC extension and copy the licensing information from the e-mail into that file. If you save the license file from the site, you save the file to a temporary site as indicated in step 1 below.

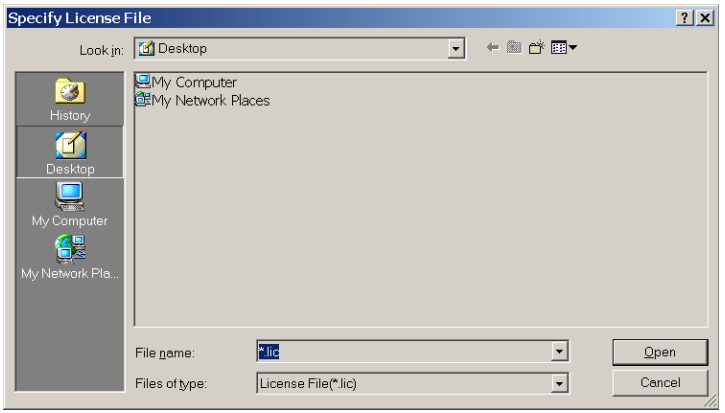
Note: If you use the automatic activation method, you do not need to install licenses. Your activation process is finished.

➢ ***Follow the steps below to install a license:***

1. Save the license file to a temporary location (for example, `\brooktrout\boston\bin`) on your hard drive.
2. Start the License Manager by selecting the following:
   - Start → Program Files → Brooktrout → Brooktrout License Manager
3. The License Manager window appears.



4. Select Install License from the License menu. The following screen appears:



5. Browse to the location of the license file.
6. Highlight the filename, then click Open to activate your product.

Note: When the application is installed, an environment variable is created called: BRKTD_LICENSE_FILE, which refers to a file directory used by the License Manager to store license files. For more information on environment variables, please refer to your operating system documentation.

Logging Information

The License Manager always provides logging information when errors occur. The application logs all messages preceding the error condition as well as messages following the error event. This log is helpful to Technical Support when solving problems.

In addition, you can execute the License Manager with the `/d` or --debug option. For example, run `brktlicmgr /d` in a command window. Then the application logs all the information about the installed licenses.

This text log file, called ***brktlicmgr.log***, is stored in the application directory.

Managing License Files

The section contains the following instructions to manage the license files:

- ***Naming License Files on page 29***
- ***Backing Up Licenses on page 29***
- ***Removing Licenses on page 29***
- ***Replacing Lost or Unrecoverable Licenses on page 30***
- ***Re-Installing Your Product on page 30***
- ***Restoring License Files on page 31***
- ***Re-Hosting License Files on page 33***

You can find license files (*.***lic**) in the path specified by the following environment variable:

```
BRKTD_LICENSE_FILE
```

The License Manager typically stores the files in this path:

```
C:\Program Files\Common Files\Brooktrout\
```

If you remove Ethernet network cards from your system, the license files become invalid if the card has a license file node locked to it. To activate the products, re-host the licenses (see *Re-Hosting License Files on page 33*).

Note: If the ISV followed Dialogic's recommendation, the license files are not removed when you remove the application using the uninstall option. Unless you manually remove the files, they are always located in the following directory:

C:\ProgramFiles\Common Files\Brooktrout

The environment variable `BRKTD_LICENSE_FILE` is removed when the SDK is uninstalled.

Do not copy other files into this directory. Doing so could result in the Configuration Tool reporting errors.

Naming License Files

All license files end with the ***.lic*** extension. One file can contain one or more licenses. The license filename is usually in either form:

dd-mmm-yyyy.lic

dd-mmm-yyyy-x.lic (next available number)

However, the license filename can be any filename with a ***.lic*** extension.

Backing Up Licenses

To back up licenses, copy all ****.lic*** files from the directory into a safe location. Copying the license files back to the same directory restores the licenses.

Typical directory:
c:\Program Files\Common Files\Brooktrout

The path to the directory containing the license files can be found in the environment variable:
`BRKTD_LICENSE_FILE`

Removing Licenses

The License Manager does not provide the means to remove licenses; you need to remove the license manually.

To remove a license manually, you need to know the license serial number (the serial number for each license displays on the main screen of the License Manager).

1. Search the following directory for ***.lic*** files, typically:

   c:\Program Files\Common Files\Brooktrout

   If you cannot locate the ***.lic*** files in this directory, the path can be found in the environment variable:

   `BRKTD_LICENSE_FILE`

2. Open each ***.lic*** file until you find the file that includes the one with the serial number in it.
3. Delete the license containing that serial number.

   If there are no more entries in the ***.lic*** file, you can delete the file.

Replacing Lost or Unrecoverable Licenses

When a license is lost or not recoverable, get a new copy by going through the web activation process again. See ***Activating a License Using the Web on page 17***.

Re-Installing Your Product

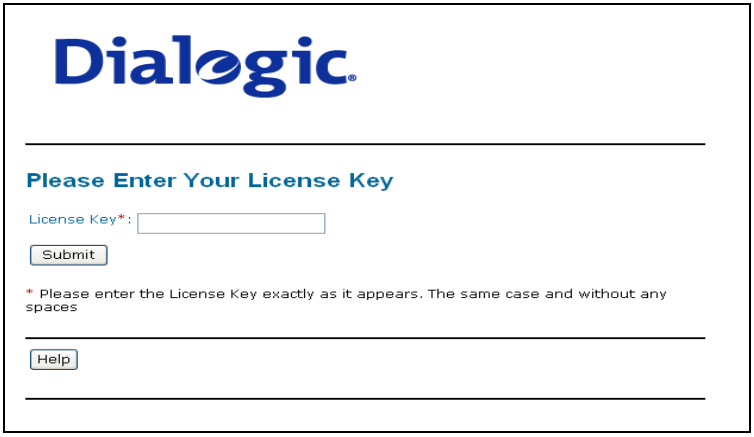
If you want to simply re-install your product on the same computer system after upgrading or replacing your hard disk or any other upgrade that maintains your network card's MAC address, you can use the same license file without having to re-activate your product.

Restoring License Files

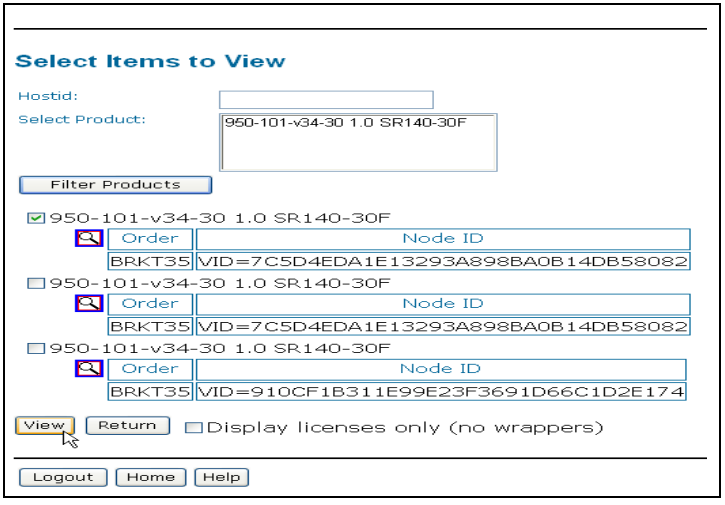
If anything ever happens to your computer that leads to corruption of your software and the License File, retrieving another copy is a simple procedure. To retrieve another copy of your License File,

1. Visit the Dialogic activation website at: www.dialogic.com/activation

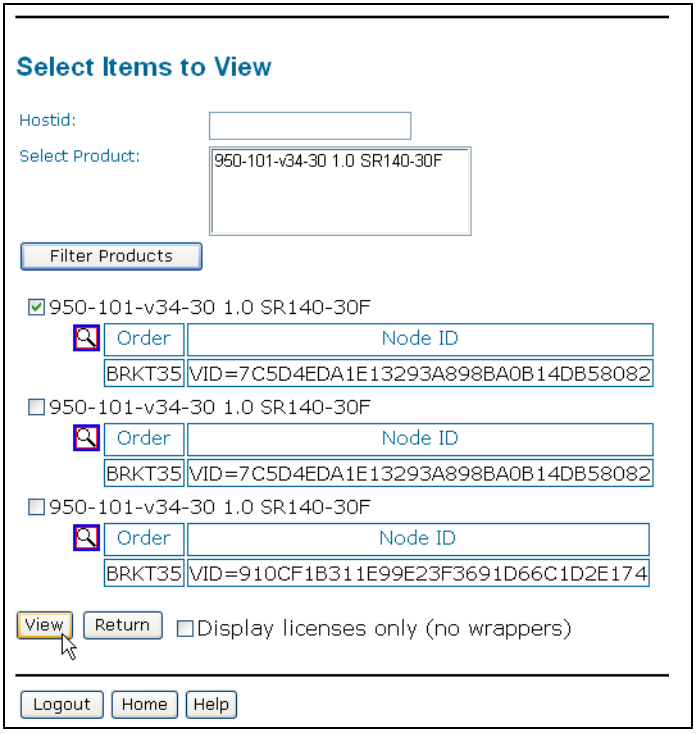
   The following screen appears.



2. Enter your original License Key (this can be found on your License certificate) and click Submit. The following screen appears.



3. Click View Licenses. The following screen appears.



4. In the Select Product window, select your product and then select the appropriate Node ID. Click View. The following screen appears.

5. Click Save to File or click Email to have the License file emailed to you. Follow the instructions ***Installing Licenses on page 25*** to use the License Manager application to install the license file.

Re-Hosting License Files

To allow you to upgrade your computer to a new system or recover from a network card failure, Dialogic allows you to "re-host" your licensed software from one computer system to another. This process involves returning your current license and receiving another one.

The activation center web site allows you to automatically re-host your licensed software one time without technical support. For subsequent re-hosts you will need to contact Dialogic Technical Support.

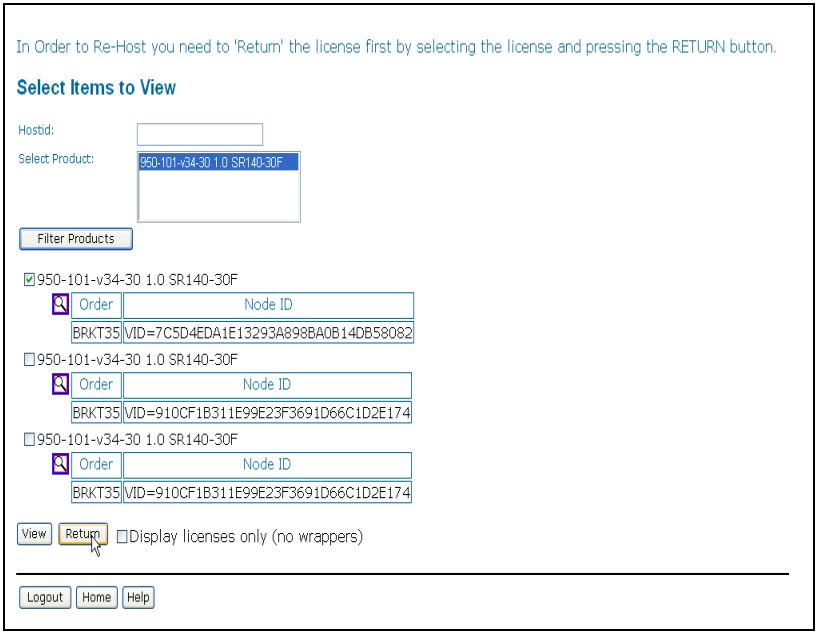
➢ ***Follow the steps below:***

1. Visit the Dialogic activation website at: www.dialogic.com/activation

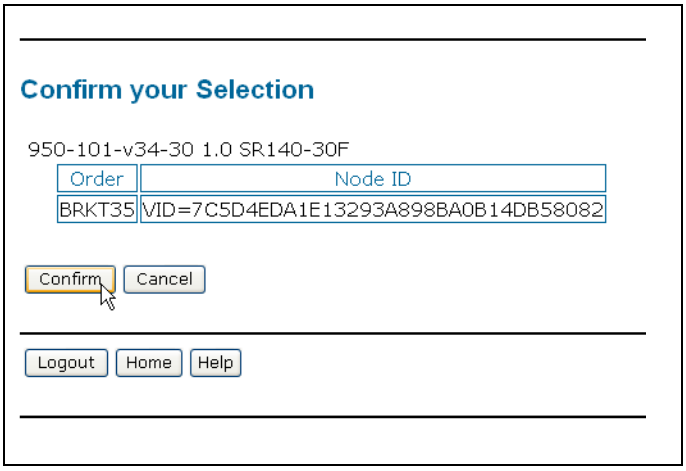
   The following screen appears.

2. Enter your original License Key (this can be found on your License certificate) and click Submit. The following screen appears

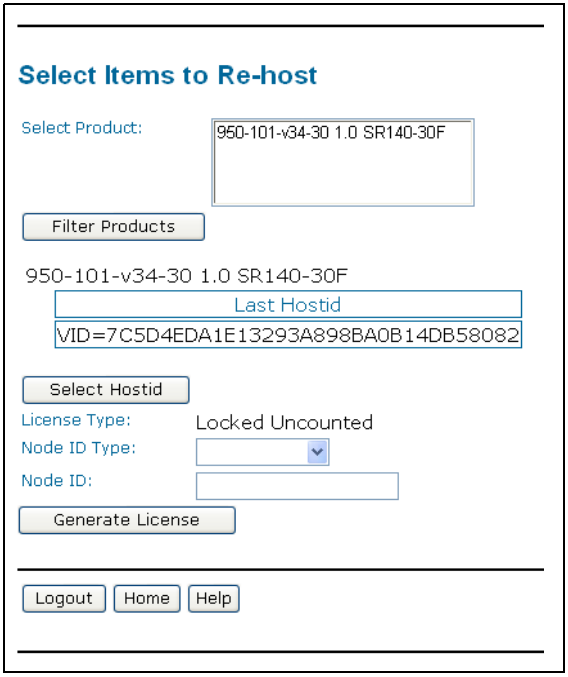
3. Click Re-host Licenses. The following screen appears.



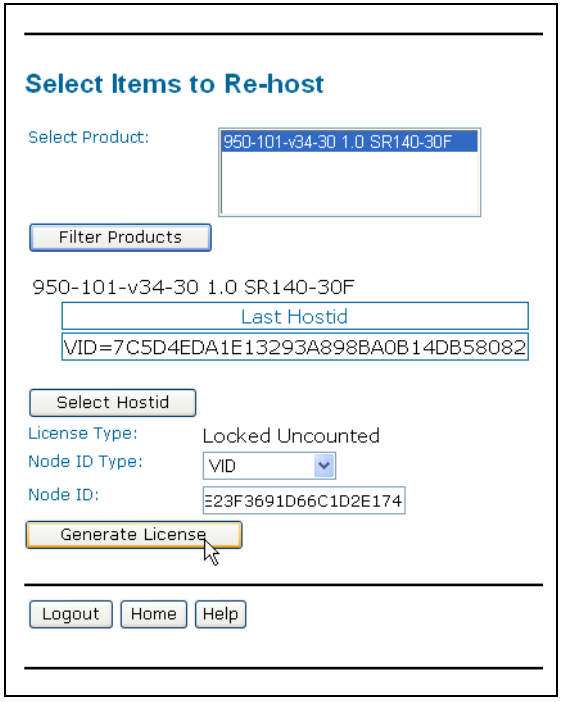
4. Select your product and click Return to return the license to Dialogic. The following screen appears.



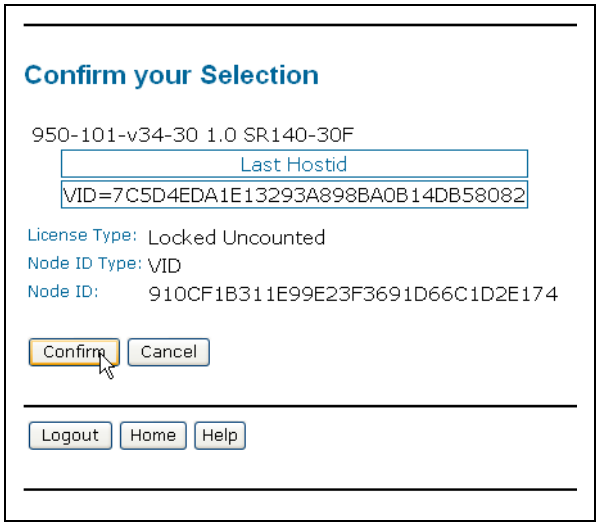
5. Verify that the information on this screen is correct and click Confirm. The following screen appears.



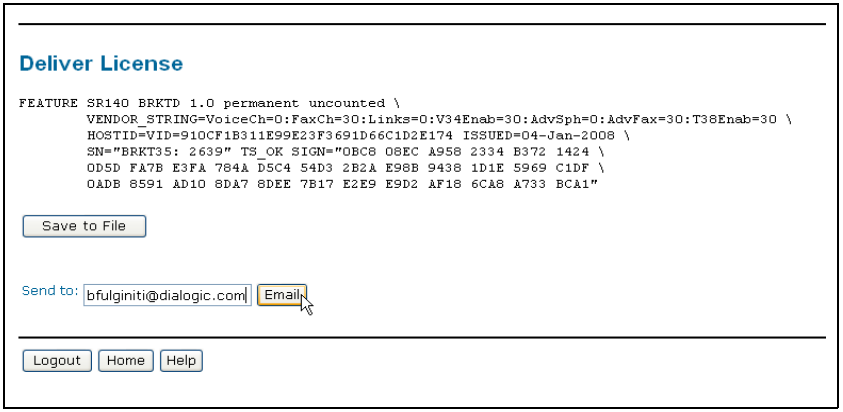
6. In the Select Product box click the product for which you are re-hosting. Select the Node ID Type and enter the Node ID. The Node ID Type must be VID (Vendor Defined Node ID) if you are using License Manager Version 2.0 or later. (Go to the Help Menu, and click About ... if you are not sure of your version of License Manager.)



7. Click Generate License. The following screen appears.



8. Click Confirm. The following license appears.



9. Click Save to File to save the license file to your computer or click Email to have the License file emailed to you. The following screen appears.

10. Follow the instructions ***Installing Licenses on page 25*** to use the License Manager application to install the license file on the appropriate computer.

3 - Configuring the Dialogic® Brooktrout® SR140 Fax Software

This chapter describes how to configure the Brooktrout software for your Brooktrout virtual modules.

Dialogic provides the following method for configuring the virtual module:

- ***Using the Dialogic® Brooktrout® Configuration Tool on Windows Systems on page 40***.

  The Dialogic® Brooktrout® Brooktrout Configuration Tool is used in advanced mode to configure the SR140:

  - ***Advanced Mode on page 45***.

  When a Configuration Tool parameter panel includes Advanced Settings, use the Advanced Settings button to view them. Generally, a user does not need to change the advanced parameters.

  - ***Advanced Settings on page 71***.

However, this method has not been adapted by every ISV software package. Instead, when this method is not used by your ISV application, please skip this chapter and consult the documentation that comes with your ISV application for the configuration of the SR140.

Using the Dialogic® Brooktrout® Configuration Tool on Windows Systems

When you use one of the Windows operating systems, you can configure your module with the Dialogic® Brooktrout® Configuration Tool for Windows (***configtool.exe***).

Note: For the Brooktrout Configuration Tool to work with Windows 2000, you must install Internet Explorer 6.0 or higher.

The Brooktrout Configuration Tool is a graphical user interface program that you can use to create and modify the configuration files, edit and update the driver parameter, and configure and initialize the module. The Configuration Tool also installs the Plug-and-Play driver, if not already installed.

Running the Configuration Tool

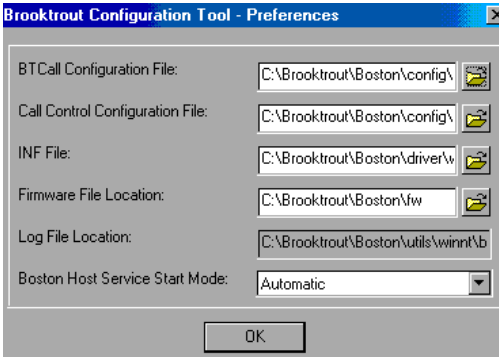
The Configuration Tool starts in Advanced Mode for the SR140.

You can run the Configuration Tool from:

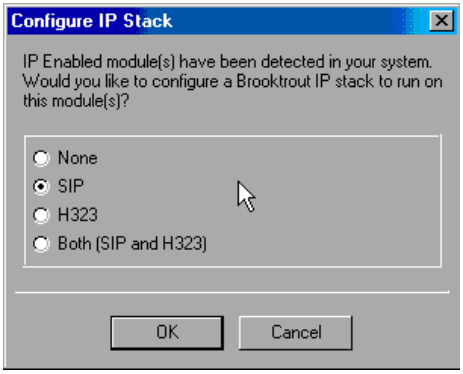
- The program menu:

  `Start` → `Program` → `Brooktrout` → `Configuration Tool`

When you start the Configuration Tool for the first time, you may get a Preferences Dialog box pop up. Only change the locations for the various files used by the Configuration Tool when requested by your application.



When the Configuration Tool detects an IP-enabled device, it displays the Configure IP Stack dialog box. Check with your network administrator whether you will use the SIP or H.323 IP call control. If you don't know yet, select “Both (SIP and H323)” so that both protocol stacks get installed.

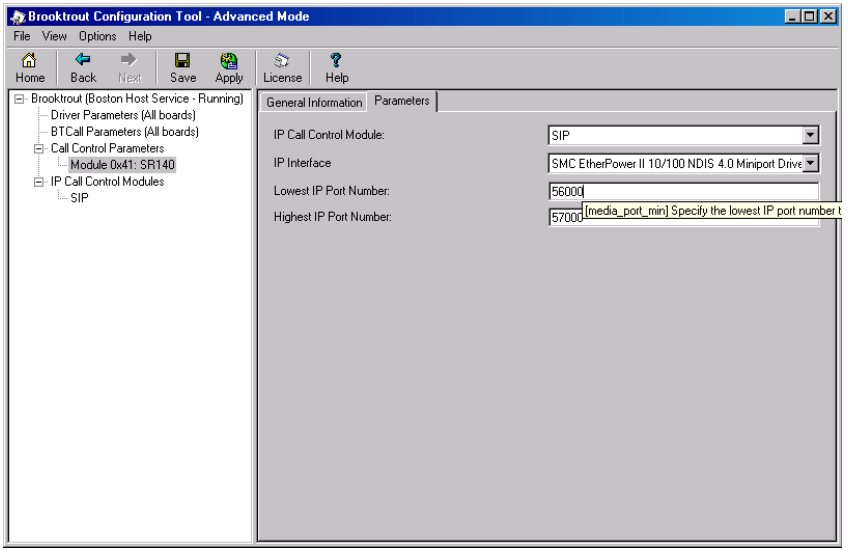


- None - IP stack not installed
- SIP - SIP stack installed (default)
- H.323 - H.323 stack installed
- Both (SIP and H.323) - Both SIP and H.323 stacks installed.

Getting Help From the Configuration Tool

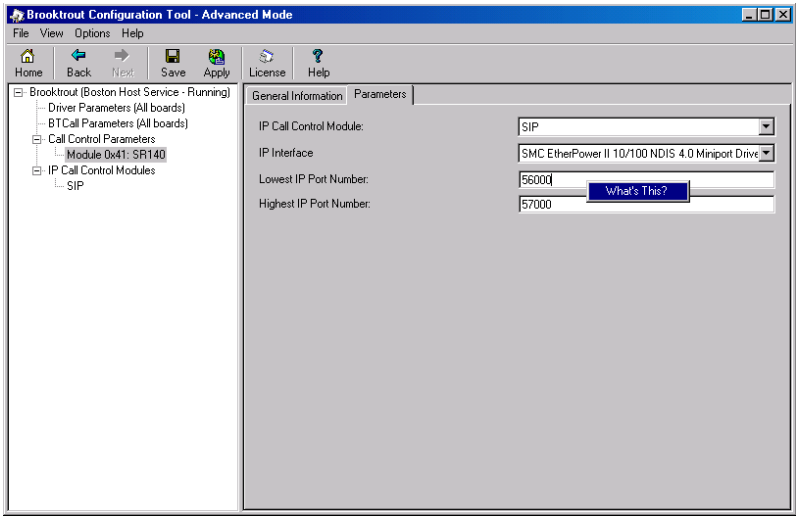
The Configuration Tool provides context sensitive online help for parameters. The Help displays the purpose and description of the parameter including the default value and range, if applicable.

- Hold the cursor over the parameter input area to see a brief parameter description.

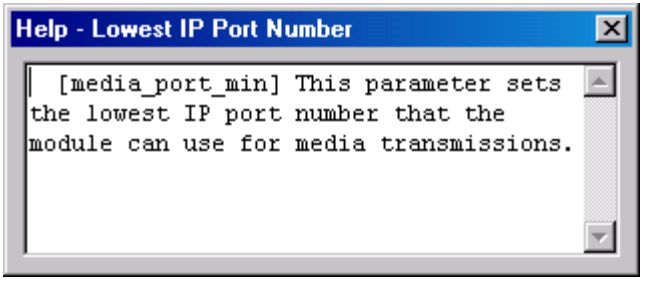


- Right-click the parameter drop-down box to get a more complete definition for Configuration Tool parameters.

  The What's This? popup menu appears:



- Left-click the What's This? popup menu for a definition like the following. You can resize this text box, if necessary.



Advanced Mode

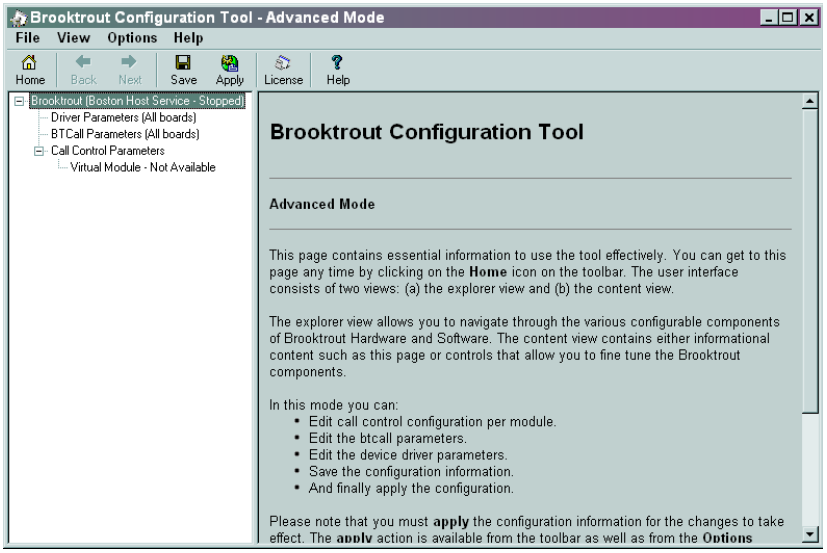
If the SR140 is not detected in Wizard Mode, the Advanced Mode is automatically entered.

The Advanced Settings parameters for all module types are presented in logical groups. Within a group, the ordering of parameters is according to their relative importance first and then listed alphabetically.

Most parameters are hidden unless you click Show Advanced. Generally, a user does not need to change the advanced parameters. See ***Call Control Parameters on page 51***.

Advanced Mode Window

When you enter Advanced Mode, the Brooktrout Configuration Tool - Advanced Mode window appears.



Navigating in Advanced Mode

➢ **To navigate in Advanced Mode use the menus and buttons on the tool bar and the tree view on the left panel of the dialog boxes:**

Select one of the following to view the accompanying right panel information:

- Select Brooktrout to display the welcome window if you are not already there.
- Select Driver Parameters to display the Driver Parameters dialog box.
  For sample values, see ***Driver Parameters (All boards) on page 48***.
- Select BTCall Parameters to display the BTCall Parameters dialog box.
  For sample values, see ***BTCall Parameters (All boards) on page 49***.
- Select Call Control Parameters to display the Call Control Parameters dialog box.
  For sample values, see ***Call Control Parameters on page 51***.
- Select IP Call Control Parameters to display the IP Call Control Parameters dialog box.
  For sample values, see ***IP Call Control Modules on page 57***.

Advanced Mode Menus

➢ **The following menu items are available in the Advanced Mode window:**

- The File menu allows you to exit from the configuration tool.
- The View menu allows you to choose the previous or next window.
- The Options menu allows you to:
  - Choose to apply and/or save the configuration.
  - Reconfigure the driver.
  - Launch the Brooktrout License Manager.
  - Configure the IP Stack.
  - Set your preferences for the locations of the ***btcall.cfg*** and ***callctrl.cfg*** configuration files, the firmware, and log files.
    The Preferences dialog box is shown in ***Getting Help From the Configuration Tool on page 43***.
  - Display the toolbar.

- The Help menu provides the following options:
  - Access to the Configuration Tool Help Index Contents tree.
  - Access to the Configuration Tool Help Index tab where you can navigate through the Help index entries.
  - Search tab where you can look for any text entry.
  - About provides version and copyright information for the Brooktrout Configuration Tool.

Advanced Mode Buttons

➢ **The Advanced Mode window contains these buttons:**

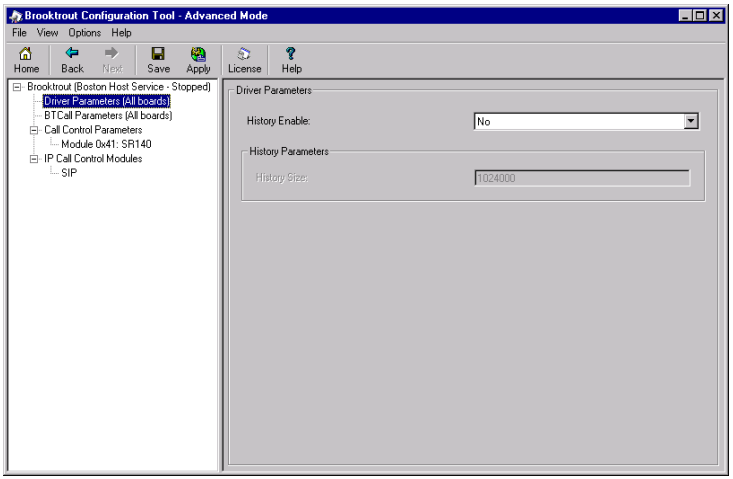
- Home button to go to the welcome window if you are not already there.
- Next and Back buttons take you to the next or previous pages, respectively.
- Save button saves your configuration.
- Apply button installs, starts or stops the Boston Host Service. It also saves your configuration to the appropriate configuration file.

  If you modified driver parameters, it:
  - Dynamically reconfigures the drivers on a Plug and Play (PnP) operating system.
  - Installs the Boston Host Service if the service is not installed.
  - Stops the Boston Host Service if the service is not running.
  - Starts the Boston Host Service.
- License button launches the License Manager (***bkrtlicmgr.exe).***
- Help button displays help for the Configuration Tool in any mode.

Driver Parameters (All boards)

Click on Driver Parameters (All Boards) in the left panel to display the Driver Parameters in the right panel.

Note: The driver is used for both virtual modules and hardware modules.

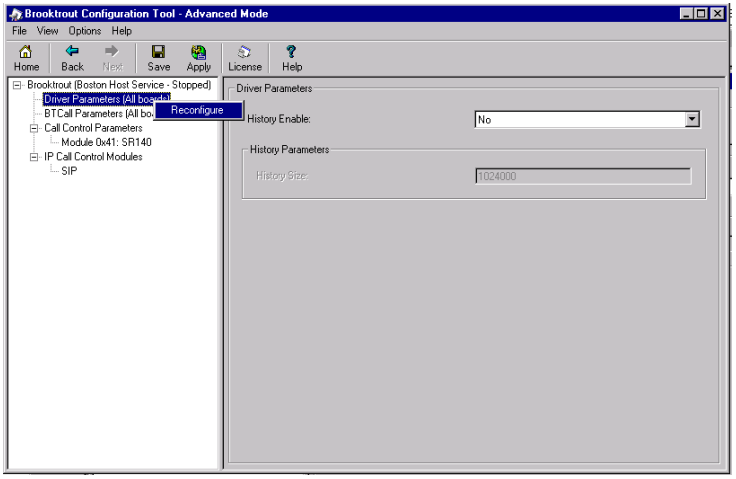


Reconfigure Drivers

Right-click on Driver Parameters (All Boards) in the left panel to reconfigure the driver.

This option dynamically updates the driver parameters by:

- Calling ***reconfig*** on a PnP system.



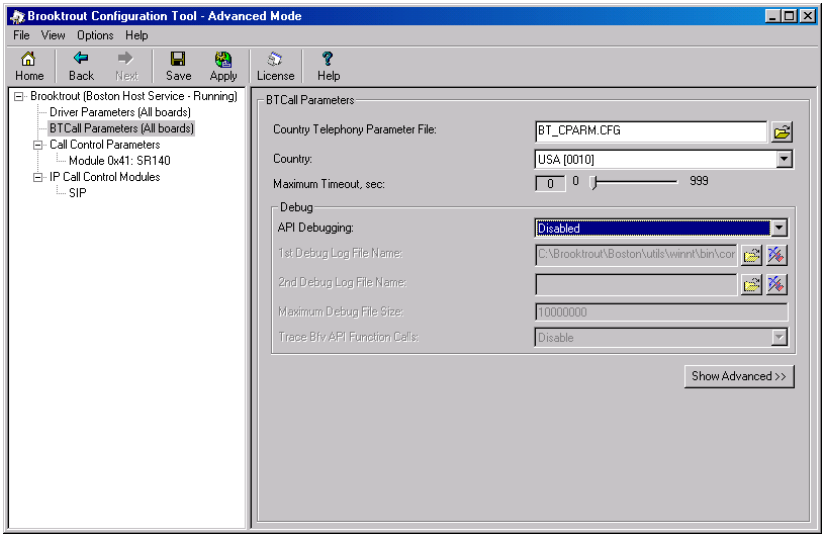
BTCall Parameters (All boards)

Click on BTCall Parameters (All Boards) in the left panel to display the BTCall Parameters in the right panel. No BTCall Parameters need to be changed, except when debugging is required. The country parameter is not used for the SR140.

Debugging Options

Debugging Disabled

When debugging is disabled all the BTCall Parameters debugging-related parameters are grayed out.



Debugging Enabled

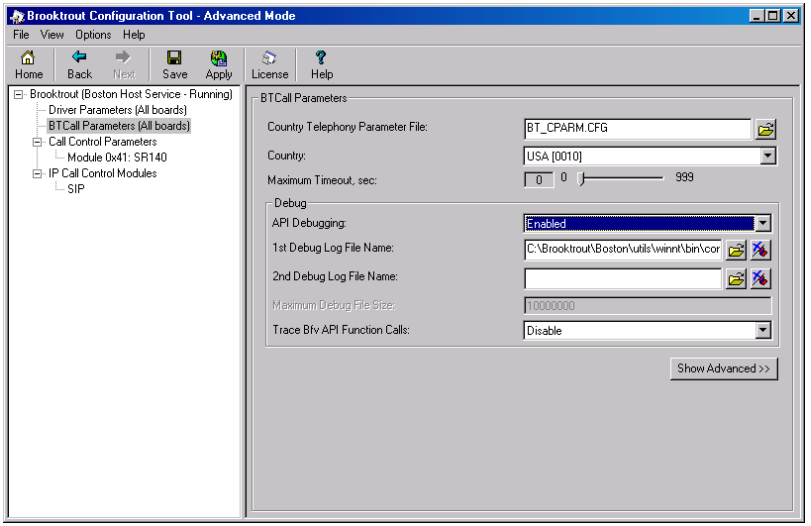
The Brooktrout API Debug file is the main Brooktrout log, capturing debug information about faxing.

When you enable API Debugging, you need to specify a file name to write the Brooktrout debug information to. You can even specify a second file name, and set the size of the first file so that a second file is created when the first file has reached the specified size.

When you enable API Debugging, and you enable “Trace Bfv API Function Calls”, you will get the following info added to the log file:

- Trace the entry to each Bfv API function call.
- List the parameter passed into a function.
- Trace the exit from each Bfv API function call.

See the right panel for specific debug parameter information.



For more information about the Show Advanced >> button, see ***Advanced Settings on page 71***.

Note: Most users never need to alter the Advanced Settings parameter values.

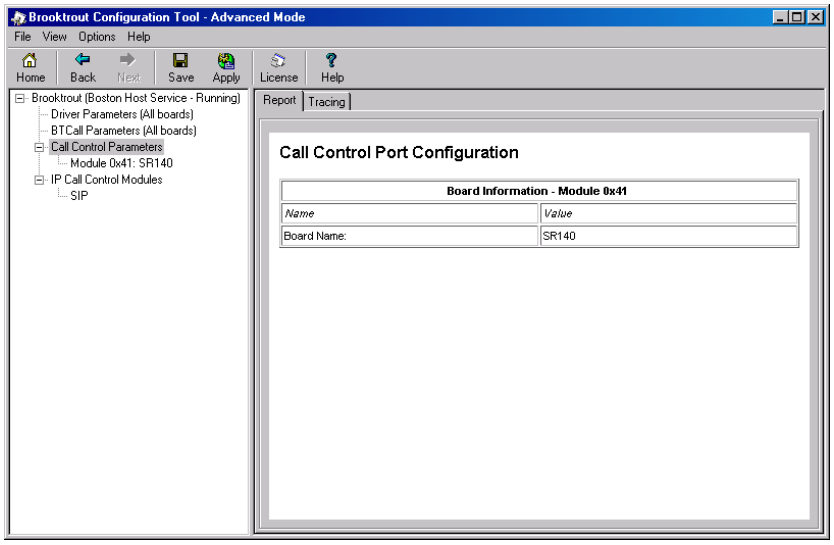
Call Control Parameters

Click Call Control Parameters in the left panel to display the Report tab in the right panel.

Reporting and Debugging (Tracing)

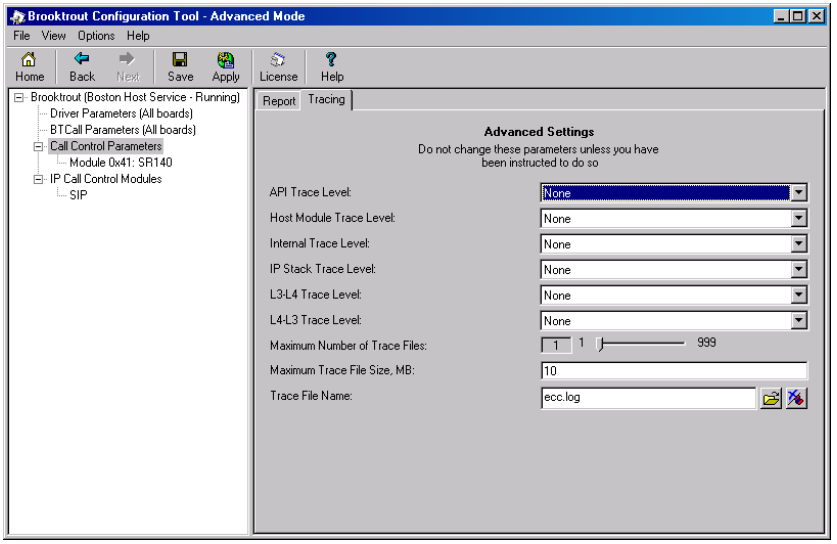
Report Panel

The Report tab displays the Call Control Parameters port configuration information.



Tracing Panel

The Tracing tab displays the Call Control Tracing debug parameters. Turning the parameters on will create a call control trace, sometimes called ECC-trace, which captures all call related debug information, similar to call setup and call tear down of the SIP or H.323 call.



Note: Do not change any of these parameters until you have consulted with Technical Support. See ***Getting Technical Support on page xix***.

Module Tab Settings

Click the module name in the left panel tree view to modify information about each module.

SR140 modules features and number of channels depends on the license installed on the user system. You can obtain, install, and update the license using the License Manager utility. When you have installed multiple licenses, you will still typically see only one SR140 module. So, licenses get added up to look like a single module.

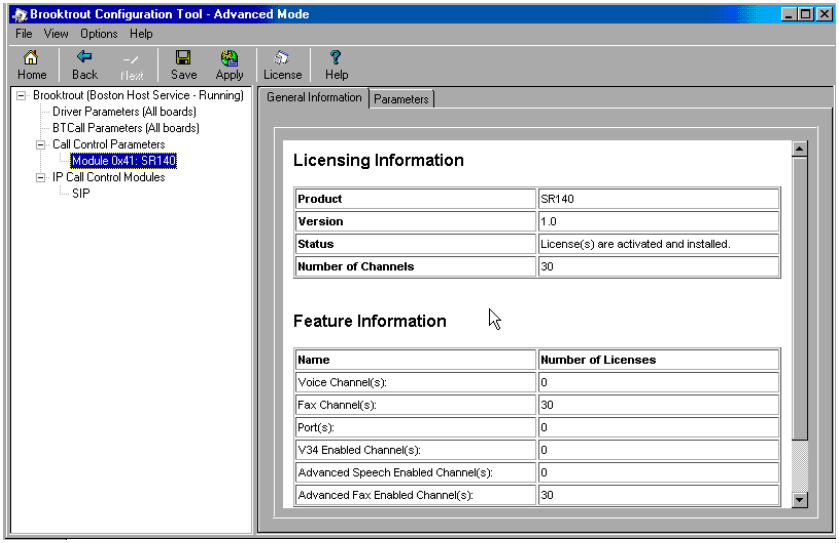
Note: A special demo license is available in either a single- or two-channel configuration that will run for a 30 day period. Contact your Dialogic sales representative to obtain this license.

The Apply button on the toolbar starts the Boston Host Service to initialize the module. See ***Advanced Mode Buttons on page 47***.

The License button on the toolbar launches the License Manager (***bkrtlicmgr.exe***).

General Information Tab for SR140

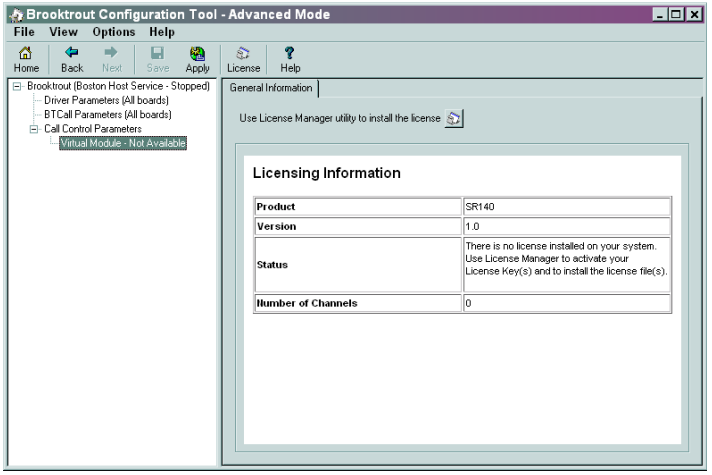
Use this feature to query the SR140 licensing.



Virtual Module - Not Available

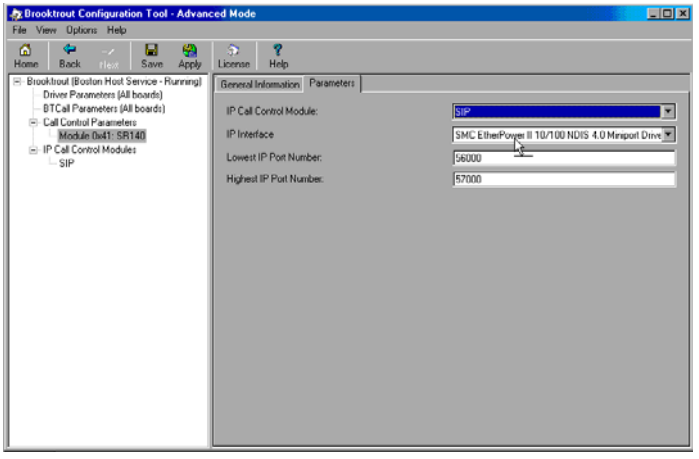
An SR140 module displays in the General Information tab even when there is no valid license installed.

After Use License Manager utility to install the license displays, you can click the icon to invoke the License Manager utility (***brktlicmgr.exe***).



Parameters Tab for SR140

The Parameters tab displays the call control module type, IP Interface and IP port number information. You have to choose the IP call control type and you have to set the IP Interface.



IP call control module

The options are SIP or H.323 as call control protocol for your IP calls. Choose the IP option to associate this Call Control Type with the Brooktrout virtual module. Please check with your IP provider.

IP Interface

Specifies the identity of the device on the PC with the IP interface that the virtual module can use for sending Fax Over IP (T.38) messages. Set the value of this parameter to the name of any device in the PC with an IP interface. Lists the network cards in the fax server and their IP addresses - select the network card you want to use for your FOIP traffic and give this network card a static IP address. Contact your network administrator to assign a static IP address to this Ethernet port since DHCP- dynamic host configuration protocol is currently not supported by Dialogic. If DHCP is used on the interface it can work, but only when the IP address does not change while the SR140 virtual module is running. If you do not provide a value (blank string), the virtual module chooses the first interface in the PC to send its messages. The format for the value provided in this parameter is: The name of the IP device (Global Unique IDentifier (GUID)) followed by a colon (:) character followed by the index number of the device's IP address, For example: {4D36E96E-E325-11CE-BFC1-08002BE10318}:0

Note: Currently, the API only supports the GUID information on Windows operating systems.

Value Type: character string (up to 256 characters)

Default: <blank> (the virtual module uses the first interface in the PC for sending IP messages)

Lowest IP Port Number

Specifies the lowest IP port number that the module can use for media transmissions. Set this value to a value 1000 below the value specified for the ***media_port_max*** parameter. Valid values are:

Range: 1024 - 64535

Value Type: decimal

Default: 56000 (sets this value as the lowest port number)

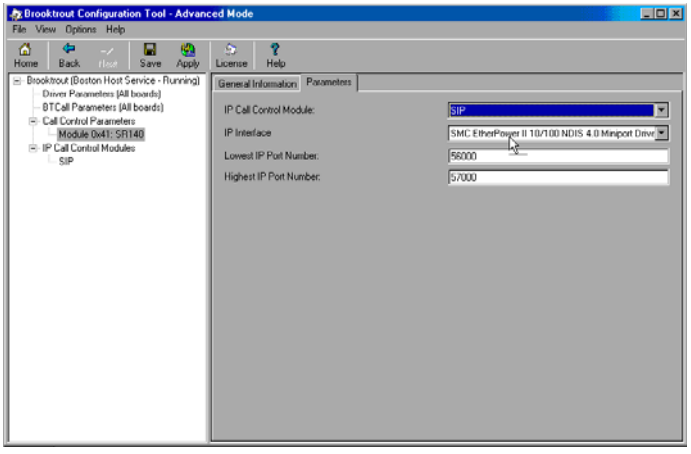
Highest IP Port Number

Specifies the highest IP port number that the module can use. Set this value to a value 1000 above the value specified for the ***media_port_min parameter***. Valid values are:

Range: 2024 - 65535

Value type: decimal

Default: 57000 (sets this value as the highest port number)

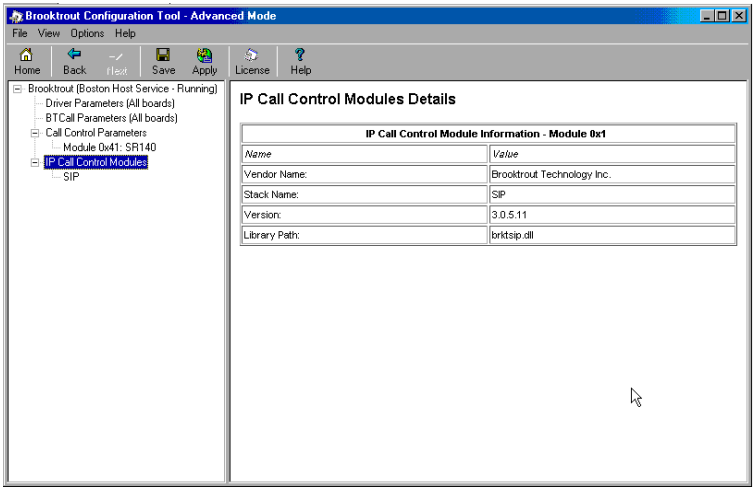


IP Call Control Modules

➢ **Click IP Call Control Modules on the left panel to display information about any IP-enabled modules:**

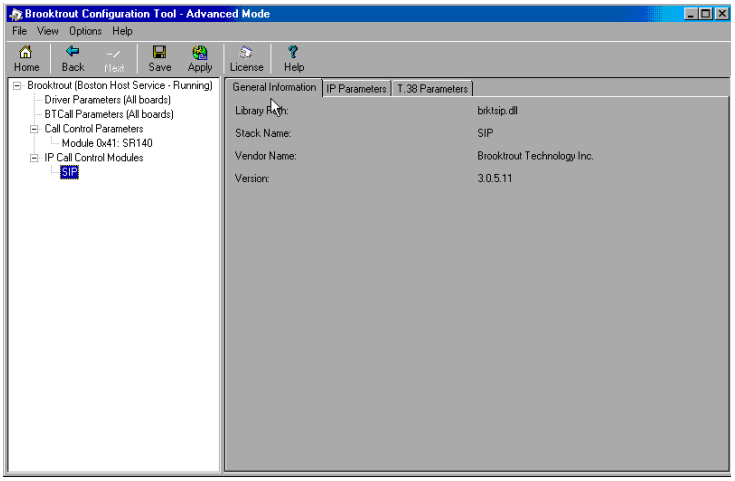
IP Call Control Modules Details

Both SIP and H.323 are supported for the call control over IP.



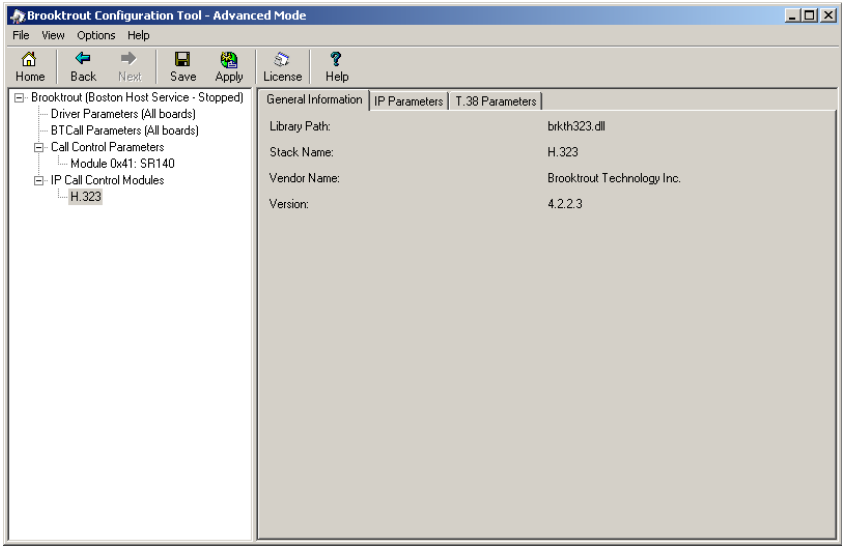
General Information Tab for SIP Stack

The General Information tab contains information about the library path, stack name, vendor name, and version number.



General Information Tab for H.323 Stack

When you select an H.323 stack to configure, the General Information tab displays, as shown in the following example:



IP Parameters Tab for SIP Stack

The SIP IP Parameters tab (see example on ***page 63***) allows you to set values for the following parameters. Most of these parameters don't need to be set; the defaults will work, but in practice, just like you configure the ID of a fax machine, you should set ***sip_From*** and ***sip_phone***. However, if you have multiple NIC cards in your system, and you don't want to use the first NIC card for the SIP traffic, you need to specify the static (fixed) IP address of the NIC card you want to use for the SIP messages in the ***sip_Contact*** field. This IP address will typically be the same as the IP address selected under "IP Interface" in the Parameters tab under the SR140 module, which selects the NIC card for the FOIP traffic. If the local network has a SIP proxy server and a SIP registration server, please contact your network administrator to set ***sip_proxy_serverx*** and ***sip_registration_serverx***. If you don't have a SIP proxy/registration server, you have to set ***sip_default_gateway*** when your application isn't setting this already.

sip_Contact

Set this parameter to the IP address of the network interface (NIC) in the machine that you want to use for the SIP messages. Here, you typically want to set the same IP address as the one selected under the IP Interface parameter in the IP Parameters tab under the SR140 module. When left blank, it defaults to the first network interface in the system.

When this parameter is set to its default value (`sip_Contact=0.0.0.0`), the SIP stack automatically attempts to find the IP address of the local host during initialization. If the host has not registered its host name, the SIP initialization process will fail and SIP calls will not be processed. To process SIP calls in this case, the value in the ***sip_Contact*** parameter must be specifically set to an IP address of one of the host network interface boards.

When set, this parameter must contain an IP address in the form:

`xxx.xxx.xxx.xxx:PortNumber` (port number is optional)

`10.128.22.6:5060` (port number specified)
`10.128.22.6` (no port number specified)

Note: For the SIP protocol, the port defaults to 5060 if not specified.

Range: `0` – `255` for each dotted decimal position of the IP address.

1 – 65535 for the port number

Value Type: dotted decimal

Default: `0.0.0.0:0` (system uses the IP address of the local host and port 5060)

sip_default_gateway

Indicates the IP address of a default gateway to use for outbound calls. If you only specify a phone number when making a SIP call and the application is not using a SIP proxy server, the API forwards the call to the gateway specified with this parameter. The API forwards the specified phone number to the gateway for routing purposes.

When set, this field must contain an IP address in the form:

`xxx.xxx.xxx.xxx:`PortNumber (Port number is optional)

`10.128.22.6:5060` (port number specified)

`10.128.22.6` (no port number specified)

Note: For the SIP protocol, the port defaults to 5060 if not specified.

Range: `0` – `255` for each dotted decimal position of the IP address.

1 – 65535 for the port number

Value Type: dotted decimal

Default: `0.0.0.0:0` (no default gateway defined)

The API does not use this parameter if the configuration file specifies a ***sip_registration_server*** or ***sip_proxy_server***.

sip_description_URI

Indicates the value used for the u= line in the SIP SDP. The u= line identifies the SIP uniform resource identifier (URI) of the session description. Valid values are:

Range: 1 - 255 characters

Value Type: character string (up to 256 characters)

Default: <blank> (empty string)

sip_email

Indicates the value used for the e= line in the SIP SDP. The e= line identifies the email address of the person or entity responsible for the session. Valid values are:

Range: 1 - 255 characters

Value Type: character string (up to 256 characters)

Default: <blank> (empty string)

sip_From

Indicates the value provided in the SIP header for the From field. The From field contains a display name and a SIP uniform resource identifier (URI) or SIPS (secure SIP) URI that identifies the originator of the session request. So, set the SIP address of the SR140 here. Valid values are:

Range: 1 - 255 characters

Value Type: character string (up to 256 characters)

Default: "Anonymous <sip:no_from_info@anonymous.invalid>"

sip_max_sessions

Indicates the maximum number of concurrent session initiation protocol (SIP) call control sessions. Note: setting this to a value higher than the number of channels licensed for the SR140 virtual module will not increase the number of simultaneous faxes that the SR140 can send/receive. Valid values are:

Range: 1 through 1000

Value Type: decimal

Default: 256

sip_phone

Indicates the value used for the p= line in the SIP SDP. The p= line identifies the phone number to associate with the session. Phone numbers use the conventional international format: the number preceded by a + (plus symbol), the country code and a space or hyphen character. For example:
+1 408-370-0881 So, please set this to the externally published phone number for the SR140 virtual fax module. Valid values are:

Range: 1 - 255 characters

Value Type: character string (up to 256 characters)

Default: <blank> (empty string)

sip_proxy_server1

sip_proxy_server2

sip_proxy_server3

sip_proxy_server4

Indicates the address of the specified SIP proxy server. Define a maximum of 4 proxy servers. Valid values are:

Domain name Indicates the name or IP address of the proxy server.

Range: 1 - 4 proxy servers specifying any valid domain name (for example, `www.my_sip_server.com` or `192.168.1.45`)

Value Type: character string (up to 256 characters)

Default: <blank> (empty string indicating no proxy server defined)

sip_registration_server1

sip_registration_server2

sip_registration_server3

sip_registration_server4

Indicates the address of the specified SIP registration server. The user can define a maximum of 4 registration servers. Valid values are:

Domain name	Indicates the name or IP address of the registration server (up to 256 characters).
Range:	1 - 4 registration servers specifying any valid domain name (for example, www.my_registration_server.com or 192.168.1.45)
Value Type:	character string (up to 256 characters)
Default:	<blank> (empty string indicating no registration server defined)

sip_session_description

Indicates the value used for the i= line in the SIP SDP. The i= line provides a textual string that describes the session's purpose or provides information about the session. Valid values are:

Range:	1 - 255 characters
Value Type:	character string (up to 256 characters)
Default:	<blank> (empty string)

sip_session_name

Indicates the value used for the s= line in the SIP SDP. The s= line provides a textual string that gives a name to the session. Valid values are:

Range:	1 - 255 characters
Value Type:	character string (up to 256 characters)
Default:	***no_session_name***

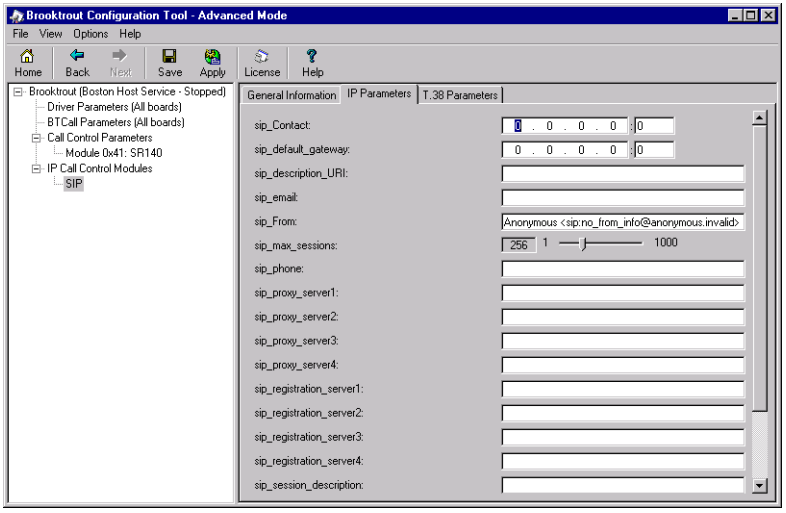
sip_username

Indicates the name inserted into the o= line in the SIP session description protocol (SDP). The o= line defines the owner or creator of the session and the session identifier. This value must not contain spaces. Valid values are: - (dash) = A dash or hyphen character indicates the absence of an owner name or session ID.

Range: 1 - 255 characters

Value Type: character string (up to 256 characters)

Default: - (dash or hyphen character)



IP Parameters Tab for H.323 Stack

When you select an H.323 stack to configure, the IP Parameters tab allows you to set values for the following parameters (see example on ***page 70***). Most of these parameters only need to be configured when you have a gatekeeper in your local network. However, if you have multiple NIC cards in your system, and you don't want to use the first NIC card for the H.323 traffic, you need to set the static (fixed) IP address of the NIC card you want to use for the H.323 messages in the ***h323_local_ip_address*** field. This IP address will typically be the same as the IP address selected under "IP Interface" in the IP Parameters tab under the SR140 module, which selects the NIC card for the FOIP traffic. If not set, it will take the IP address of the first Ethernet interface (NIC card) in the chassis. If you don't have an H.323 gatekeeper, you have to set ***h323_default_gateway*** when your application isn't setting this already.

h323_default_gateway

Indicates the IP address of a default gateway to use for outbound calls. If you only specify a phone number when making an H.323 call and the application is not using an H.323 gatekeeper, the API forwards the call to the gateway specified with this parameter. The API forwards the specified phone number to the gateway for routing purposes. When set, this field must contain an IP address in the form: xxx.xxx.xxx.xxx:PortNumber (Port number is optional)

Examples

10.128.22.6:1720 (port number specified)

10.128.22.6 (no port number specified

Note: For the H.323 protocol, the port defaults to 1720 if not specified.

Range: `0` – `255` for each dotted decimal position of the IP address.

1 – 65535 for the port number

Value Type: dotted decimal

Default: `0.0.0.0:0`

Note: The API does not use this parameter if the configuration file specifies a value of 1 for the ***h323_register*** parameter.

h323_e164alias

Specifies the E.164 alias of the H.323 terminal. This alias is used during gatekeeper registration and call establishment. It identifies the phone number of the H.323 terminal.

You can specify multiple aliases, each starting on a new line using the same parameter name. For example:

```
h323_e164alias    123456
h323_e164alias    4084839648
h323_e164alias    5102987468
h323_e164alias    9627842899
```

When you specify multiple values, the system registers every value with the gatekeeper.

Valid values are:

Range: 1 - 128 characters (inclusive)

Value Type: character string restricted to numbers 0 through 9 and the star (*) and pound (#) symbols

Default: <blank>

h323_gatekeeper_id

Specifies the ID of the H.323 gatekeeper that the H.323 terminal will attempt to find during the gatekeeper discovery routine. If you do not set this parameter, the H.323 terminal will attempt to register with the first gatekeeper it finds. Valid values are:

<blank> = Uses the first gatekeeper the H.323 terminal locates.

Value Type: Unicode character string (up to 256 characters)

Default: <blank>

h323_gatekeeper_ip_address

Specifies the IP address of the H.323 gatekeeper that will receive the registration request from the H.323 terminal. If you leave this parameter blank, the H.323 terminal will perform a multicast gatekeeper discovery routine to find the gatekeeper using port number 1719. Valid values are:

`xxx.xxx.xxx.xxx`	Configures the system to use the specified H.323 gatekeeper. Set the gatekeeper IP address in the form: `xxx.xxx.xxx.xxx:PortNumber`
`0.0.0.0:0`	Configures the system to use a multicast process to discover the H.323 gatekeeper using port number 1719.
Range:	`0` – `255` for each dotted decimal position of the IP address. `1` – `65535` for the port number
Value Type:	dotted decimal
Default:	`0.0.0.0:0` (uses multicast discovery process and port number 1719)

h323_gatekeeper_ttl

Specifies the number of seconds to allow between registration request messages sent from the H.323 terminal to the gatekeeper. After reaching this limit, the H.323 terminal generates another registration request to the gatekeeper because the previous request is now considered invalid. Valid values are:

Unit:	second
Range:	`0 - 32,000,000` (`0` means that gatekeeper registrations do not expire; 32,000,000 seconds equals one calendar year)
Value Type:	integer
Default:	`0`

h323_h323IDalias

Specifies the H.323 ID of the H.323 terminal. This alias is used during gatekeeper registration and call establishment. It identifies the name of the H.323 terminal. You can specify multiple aliases, each starting on a new line using the same parameter name. For example:

```
h323_h323IDalias    andrew
h323_h323IDalias    bob
h323_h323IDalias    charles
h323_h323IDalias    david
```

When you specify multiple values, the system registers every value with the gatekeeper. Valid values are:

Range:	Up to 256 characters
Value Type:	Unicode character string
Default:	<blank>

h323_local_ip_address

Specifies the transport address of the H.323 terminal. The transport address can be an IP address or a combination of the IP address and the port number that the H.323 call control stack uses. If you do not provide an address, the system uses the IP address of the first Ethernet interface (NIC) in the system and port number 1720. Here, you typically want to set the same IP address as the one selected under the "IP Interface" parameter in the IP Parameters tab under the SR140 module. Valid values are:

`xxx.xxx.xxx.xxx`	Configures the system to use the specified IP address for H.323 calls. Set the transport address in the form: xxx.xxx.xxx.xxx:PortNumber
`0.0.0.0:0`	Configures the system to use the address of the first Ethernet module and port number 1720.
Range:	`0` – `255` for each dotted decimal position of the IP address. `1` – `65535` for the port number
Value Type:	dotted decimal
Default:	`0.0.0.0:0` (uses first Ethernet module and port number `1720`)

h.323_manufacturerCode

Specifies a code that identifies the manufacturer of the H.323 terminal making the call.

Range: 0 – 255

Value Type: decimal

Default: 48

Note: 48 is the H.323 manufacturer code for Dialogic Corporation.

h.323_Manufacturer

Specifies a string naming the H.323 terminal's manufacturer.

Range: Up to 256 characters

Value Type: Unicode character string

Default: "Dialogic Corporation"h323_max_sessions

Indicates the maximum number of concurrent H.323 calls that the host module can support at one time. Set this value to a number that at least doubles the number of channels licensed in the system because the system can be tearing down a call while processing the next call. Setting this to a value even higher will not increase the number of simultaneous faxes that the SR140 virtual fax module can send/receive. Valid values are:

Range: 1 through 65535 (inclusive)

Value Type: decimal

Default: 256

h323_register

Specifies an integer value that determines whether to register with an H.323 gatekeeper. Valid values are:

`0` = Does not register with an H.323 gatekeeper.

`1` = Registers with an H.323 gatekeeper.

Value type: integer

Default: `0`

h323_support_alternate_gk

Specifies whether to support alternate gatekeepers. The gatekeeper receiving the registration request from the H.323 terminal must also support alternate gatekeepers.

When the H.323 terminal sends a registration request to its primary gatekeeper, the primary gatekeeper will send the H.323 terminal a list of alternate gatekeepers that it knows about. If, for some reason, the H.323 terminal can no longer communicate with its primary gatekeeper, it will go through the list of alternate gatekeepers and attempt to register with them.

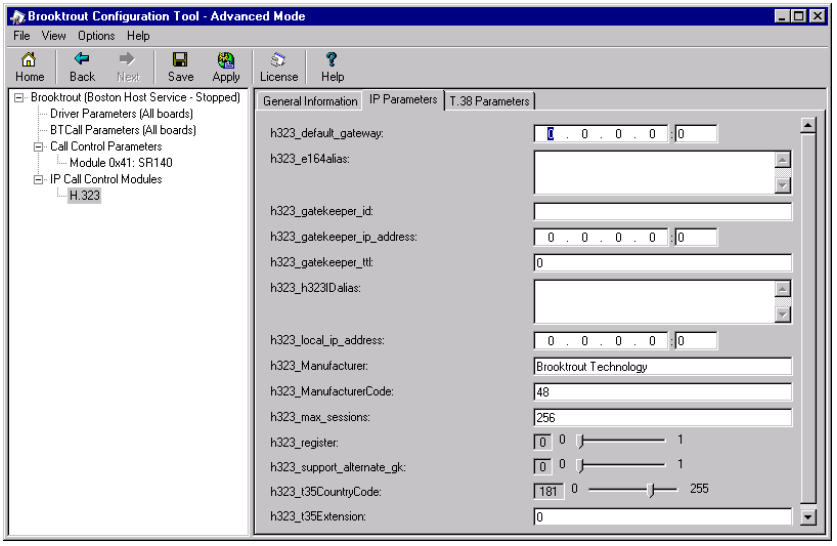
When alternate gatekeepers are not supported and the H.323 terminal can no longer communicate with its primary gatekeeper, it will go through the multicast gatekeeper discovery routine to find an available gatekeeper. Valid values are:

`0` = Does not support alternate gatekeepers.

`1` = Supports alternate gatekeepers when necessary.

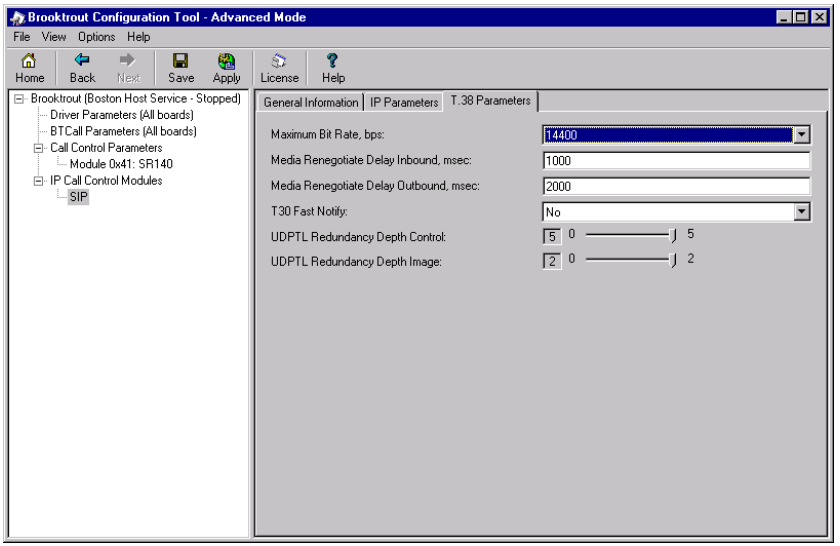
Value type: integer

Default: `0`



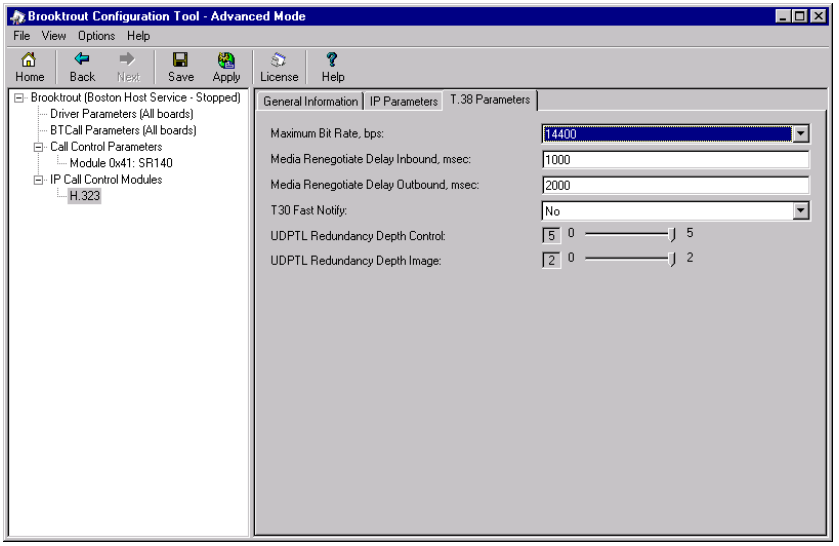
T.38 Parameters Tab for SIP Stack

The T.38 Parameters tab for a SIP stack allows you to set values for the following parameters. These parameters should work without being modified.



T.38 Parameters for H.323 Stack

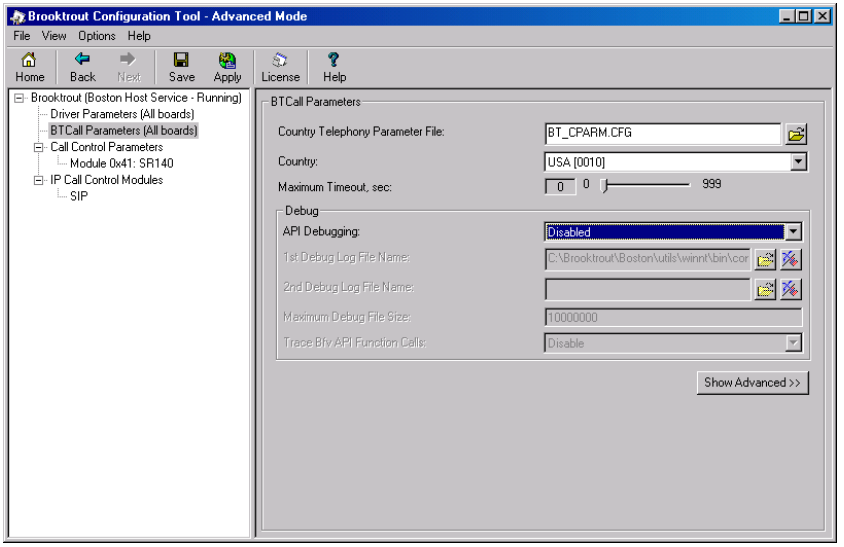
The T.38 Parameters tab for an H.323 stack allows you to set values for the following parameters. These parameters should work without being modified.



Advanced Settings

Show Advanced Button

When a parameter panel (for example: Driver Parameters, BTCall Parameters, Call Control Parameters) has advanced settings, the Show Advanced >> button appears on the bottom right of the right panel.



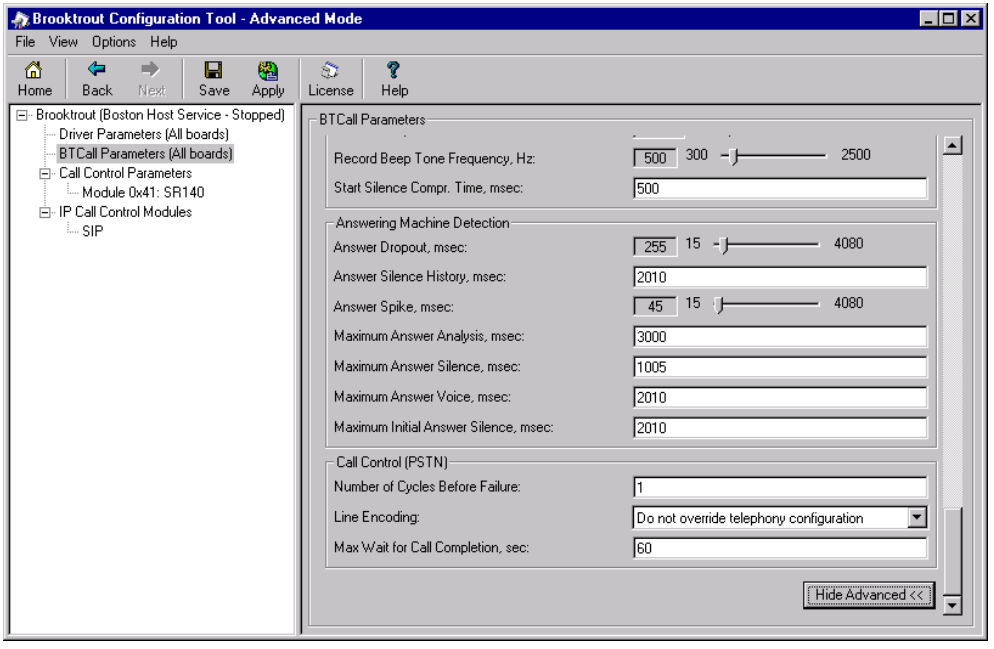
Hide Advanced Button

When you click Show Advanced, the Advanced Settings portion of the panel appears, and the Hide Advanced << button is displayed.

There can be more than one panel of parameter information for Advanced Settings.

Click the Hide Advanced << button to remove advanced parameters from the screen view.

Note: Most users never need to alter the Advanced Settings parameter values. If you know these settings are incorrect, please contact Technical Support for more information. See ***Getting Technical Support on page xix***.



4 - Testing the Dialogic® Brooktrout® SR140 Fax Software

This chapter explains how to use Dialogic® Brooktrout® Fax/Voice Diagnostic Test Tool for Windows SDK version 5.0 to test your host-based SR140 virtual fax module over IP.

You must have installed the SR140 license file and therefore your SR140 virtual module, before you continue here with configuration and testing. See *Chapter , Activating Dialogic® Brooktrout® Products on page 5*.

If your ISV's application doesn't contain the Diagnostic Test Tool, you can download a copy from the Technical Support website. See ***Getting Technical Support on page xix*** and download the faxvoicediag test tool that supports Boston driver version 5.4.x (and others).

Also under the same link, www.cantata.com/support, you will find White Papers and Frequently Asked Questions besides Downloads. Dialogic recommends that you look on this site under the SR140 product and FOIP/T.38.

If you have already installed your LAN Fax application, you might want to first use the LAN Fax application to test your boards. If your application functions properly, then you do not need to use this test tool.

You can test a maximum of 30 channels simultaneously on the Fax/Voice Diagnostic Tool in a Windows operating system. See ***System Requirements*** on page 75.

This chapter covers the following major topics:

- ***System Requirements***
- ***Installing the Diagnostic Test Tool***
- ***Checking the Installed Files***
- ***Menus and Submenus***
- ***Initializing the SR140 Module***
- ***Sending a Fax***
- ***Receiving a Fax***
- ***Generating Logs for Troubleshooting***
- ***Using Help***

System Requirements

The Fax/Voice Diagnostic Test Tool provides all the necessary software to send/receive a Fax over IP using the SR 140 virtual module.

You must have the following system requirements in order to use this tool to test your SR140 virtual module:

- Windows® 2000 Professional, Service Pack 4 and Windows Update 822831
- Windows® 2000 Server, Service Pack 4 and Windows Update 822831
- Windows® 2000 Advanced Server, Service Pack 4
- Windows XP Professional, Service Pack 2
- Windows Server® 2003, Standard Edition, Service Pack 2
- Windows Server® 2003 x64 Editions, Service Pack 2 x86-64, Intel 64-Bit Xeon; Intel Pentium with EM64T
- Windows Server® 2003, Enterprise Edition, 32-bit version, ServicContact Cantata/Dialogic Tech Supporte Pack 2

Windows® 2000 with Service Pack 4 requires Windows Update 822831 due to a Windows defect introduced with Service pack 4 that would cause the PnP driver to fail.

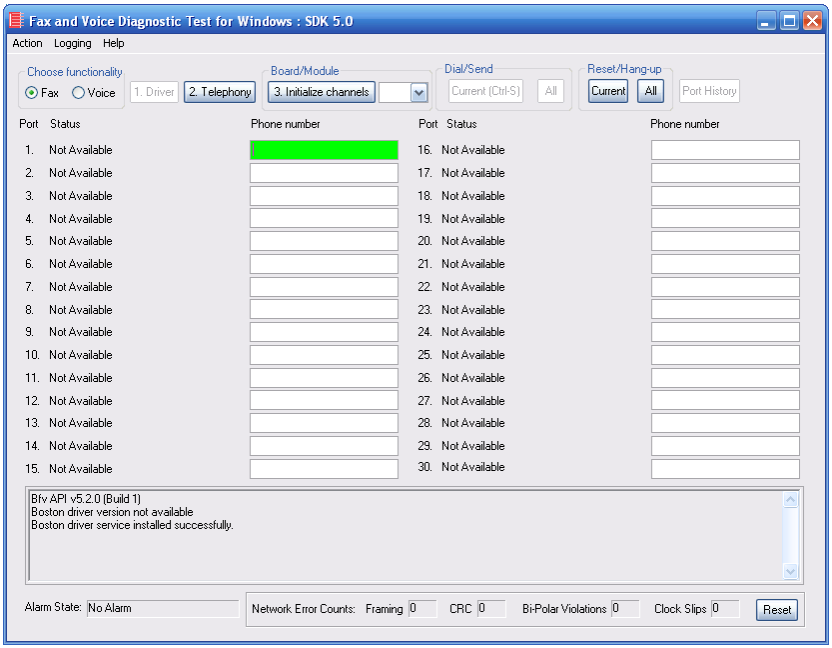
Installing the Diagnostic Test Tool

This section describes how to install and configure the diagnostic test tool and generate log files.

Note: You might have received the Brooktrout Hardware Test files as part of your fax application. If not, download a self-extracting zip file from the web by doing the following:

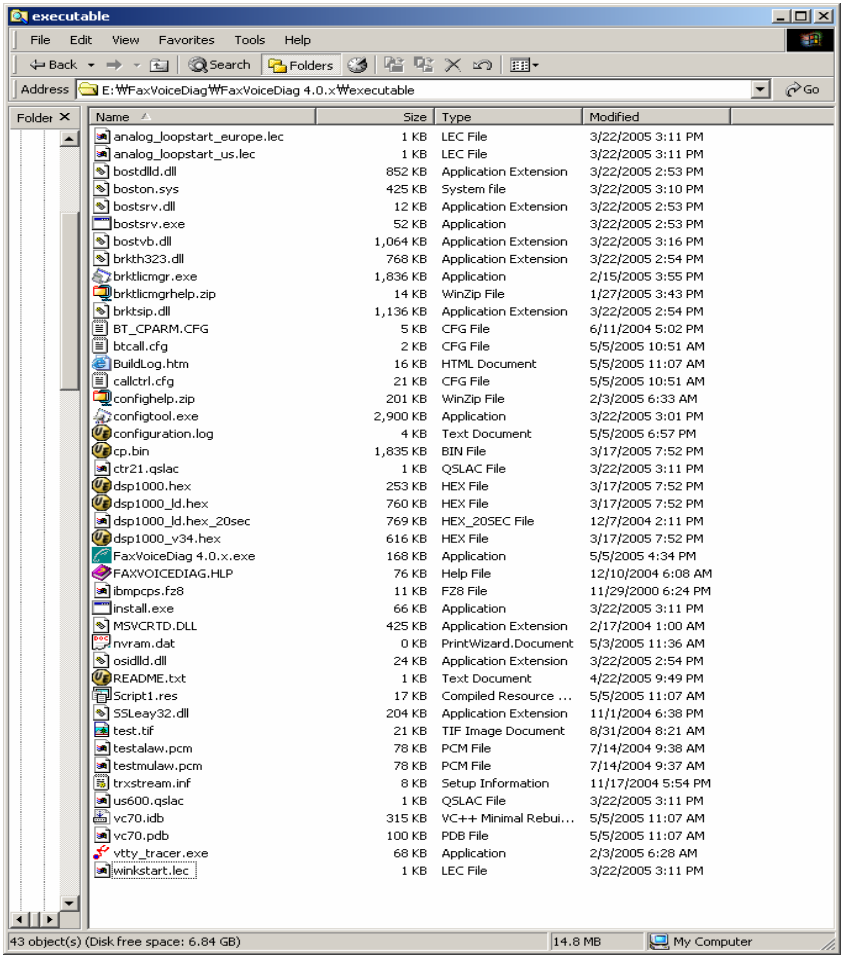
1. Go to the Dialogic website (***www.dialogic.com***).
2. Select Support.
3. Select your board number (model).
4. Select Download.
5. Click GUI-based Fax and Voice Diagnostic Test for Windows.
6. Select ***FaxVoiceDiag.exe*** to download the required files.
7. Save the zip file to an empty directory.
8. Click the file to extract the test files to the current directory.
9. To launch the Diagnostic Test Tool, double-click the Fax/VoiceDiag.exe icon.

The Fax and Voice Diagnostic Test for Windows SDK v.5.0.x appears.



Checking the Installed Files

After extracting the test tool file, you should see the following files.



Menus and Submenus

The following table lists the menus and submenus of the Diagnostic Test Tool.

Table 1. Diagnostic Test Tool Menus and Submenus

Menus	Submenus
Action	◆ All Modules Board Info ◆ Exit
Logging	◆ Brooktrout Debug Logging ◆ Channel/Port History Logging ◆ Save Dump History ◆ Save All Channel/Port History
Help	◆ Usage... ◆ About...

Initializing the SR140 Module

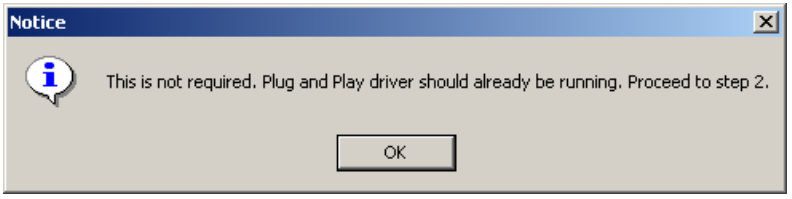
To set up the Diagnostic Test Tool to test your SR140 virtual module/license, you must initialize fax channels for the SR140 module/license.

At the Main menu, in the Choose functionality box, the Fax radio button is the default.

Note: For the SR140 virtual module, Fax functionality is the only choice.

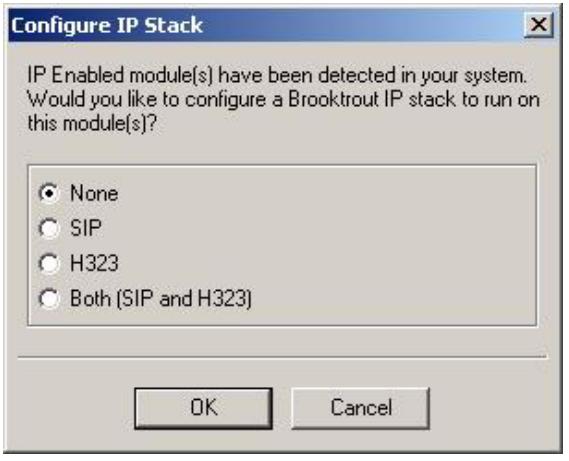
➢ ***To initialize the SR140 virtual module for IP:***

1. From the Main menu, click 1. Driver button. The following screen might appear because you already have the Plug and Play driver installed.



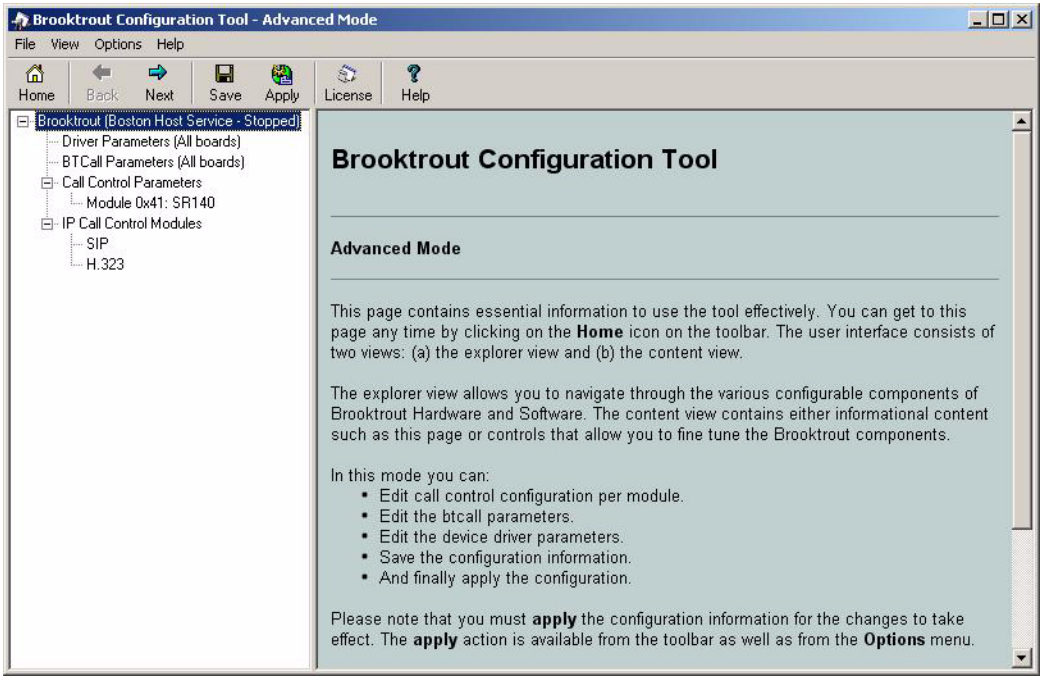
2. Click OK.
3. Click 2. Telephony button.

The Configure IP Stack screen appears.



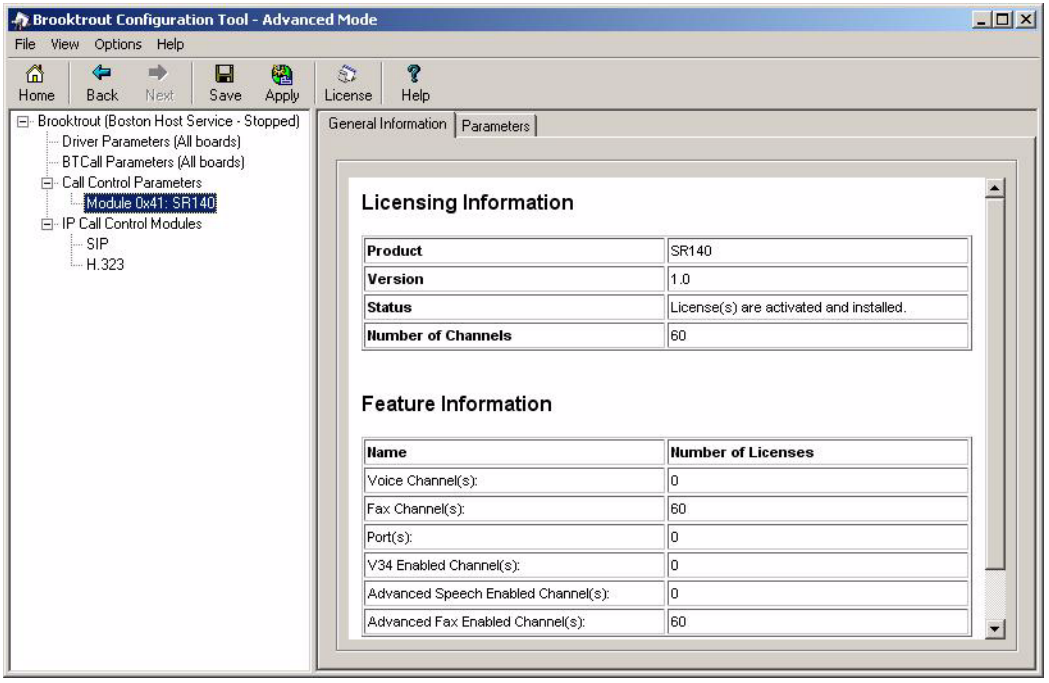
4. Select one of the following:
   - None (default)
   - SIP
   - H323
   - Both (SIP and H323)
5. Click OK.

The Brooktrout Configuration Tool appears.



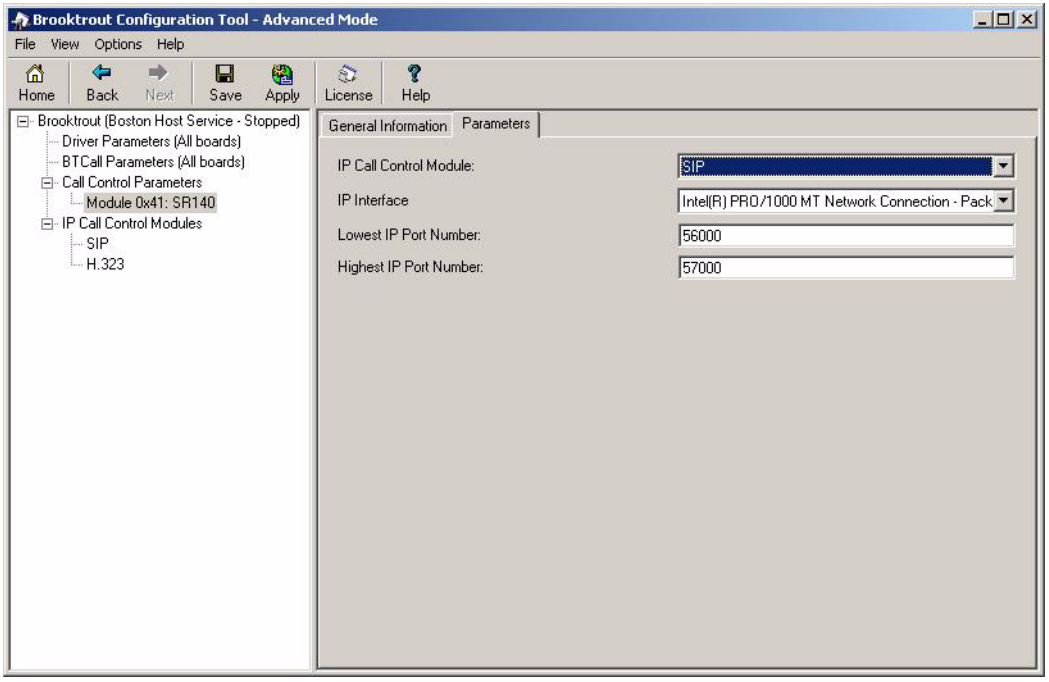
6. In the left pane, select Module 0x41:SR140.

   The read-only License/Feature Information screen appears.



7. At this screen, you can review the General Information and/or click the Parameters tab.

8. Click the Parameters Tab to configure your SR140 for Fax over IP.



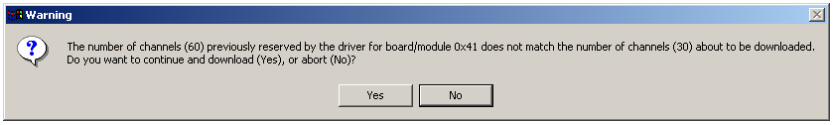
Note: See ***Configuring the Dialogic® Brooktrout® SR140 Fax Software on page 39*** for details concerning these parameters.

9. At the Parameters screen, set the following parameters:
   - IP Call Control Module (one of the following):
     - SIP
     - H.323
     - None
   - IP Interface:
     - Select the LAN network card from your system that you want to use for the fax over IP traffic
     - Lowest IP Port Number.
     - Highest IP Port Number.
10. Select Apply.

    Immediately, a progress bar window appears, indicating that the initialization process is complete.

11. After you select Apply, make sure the following displays in the left pane of the main window:
    Brooktrout (Boston Host Service - Running).
12. Close the Configuration Tool.
13. From the drop-down list under the Board/Module box, select 0x41. Then click 3. Initialize channels.

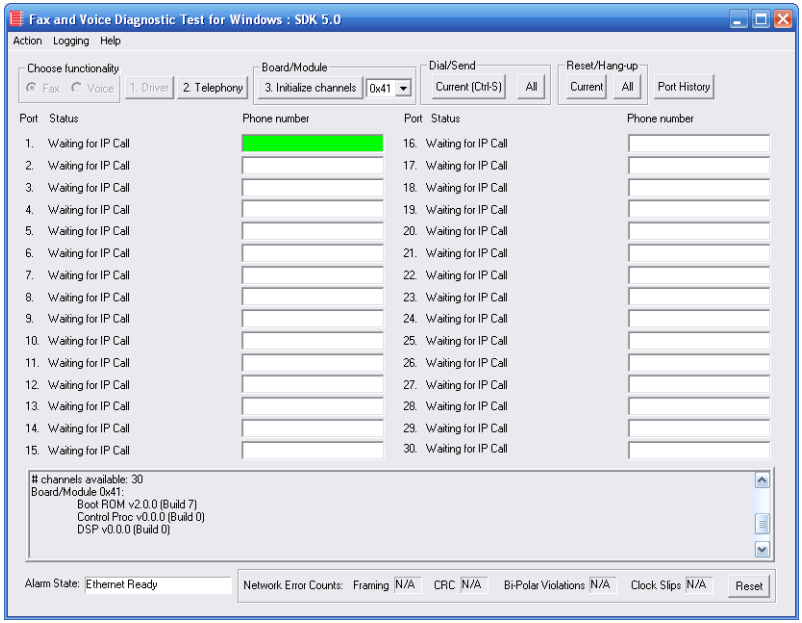
Note: You might see the following warning message after entering the above information if you have more than one license.



14. Click Yes.

Note: You can purchase additional SR140 licenses to increase the number of system channels up to a limit of 120 channels. The licenses are additive. For example, if you currently have a license for 30 channels and purchase and add a 60 channel license, your product will be licensed for 90 channels. Regardless of how many channels your system is licensed for, the Fax Diagnostic Test Tool will only show the first 30 channels.

The following screen appears.



Sending a Fax

➢ ***To send a Fax:***

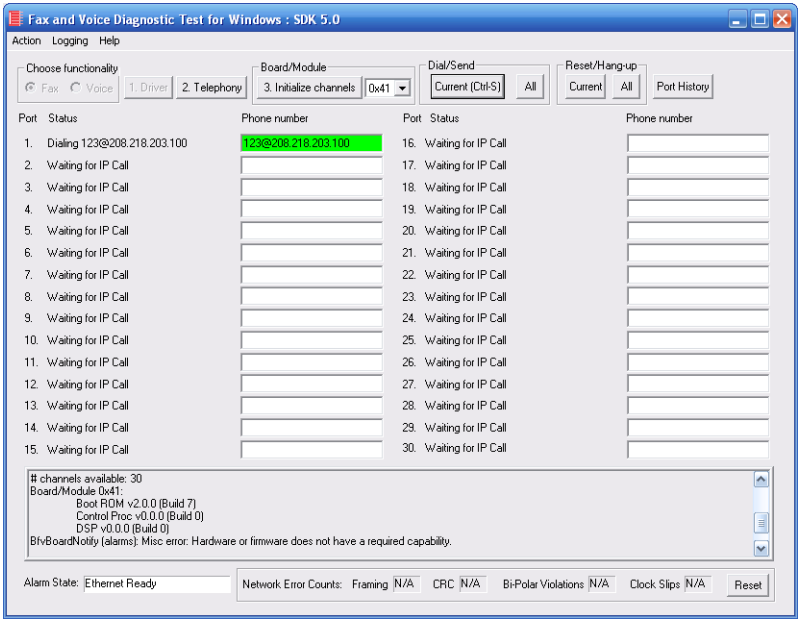
1. Enter Fax IP number in the Phone Number field.

   A SIP phone number has for instance the format of a usual phone number, plus an @ symbol, followed by the IP address of the IP gateway; for example, 12345678@208.242.16.70. Whenever you place your cursor in the Phone Number field, the field highlights in green, which means that this field is active.

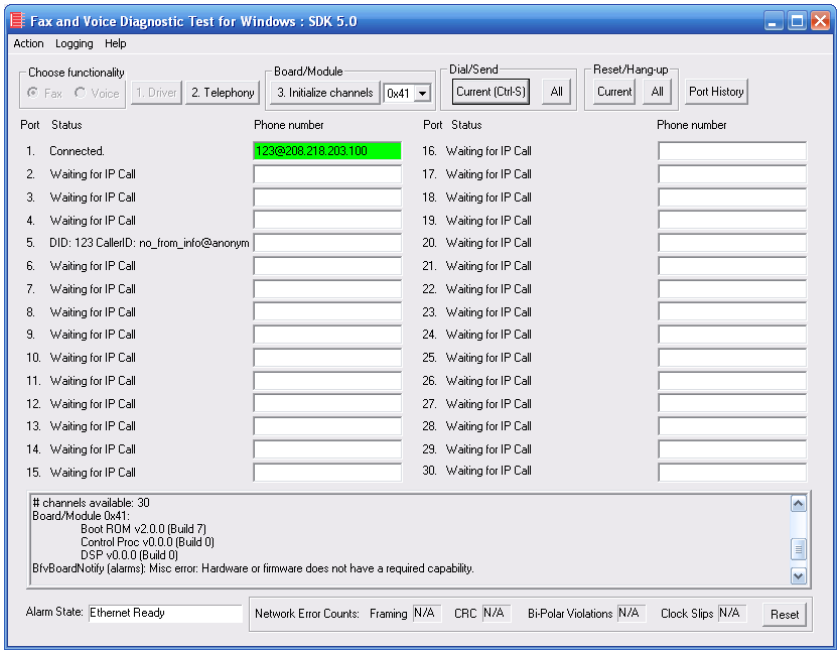
2. After entering the Fax IP number, in the Dial/Send box, click Current (Ctrl-S) to send a fax on only the selected channel.

   If you entered more than one IP Fax number, click All.

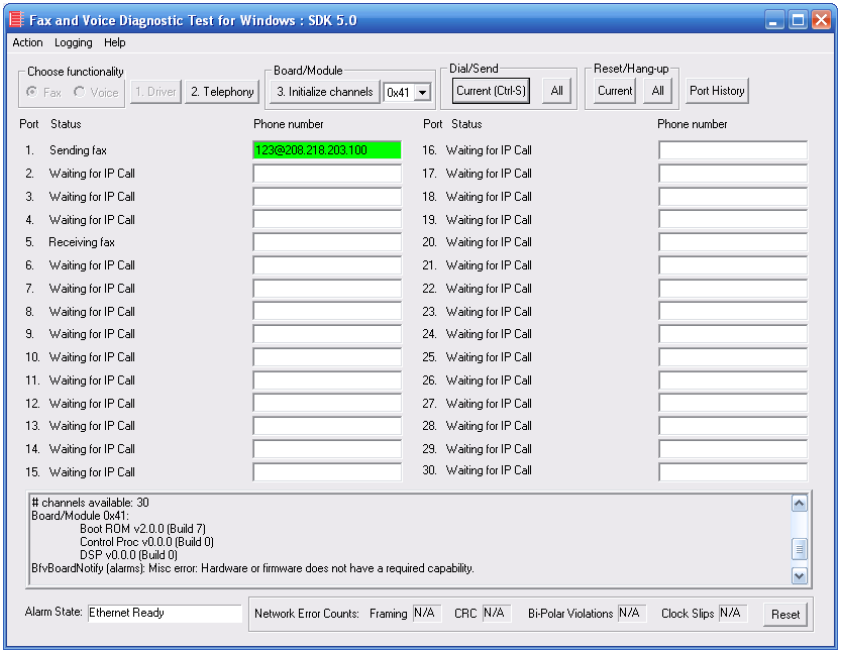
   This screen shows that the following Fax IP number was entered: 123@208.218.203.100 for 0x41 and the status changed from "Waiting for Call" to "Dialing 123@208.218.203.100".



For instance, when you send a fax to yourself, you should see a changed status on two channels (Ports) as in the following screen: the Status for Port 1 shows as “Connected” to Port 5.



The following screen shows "Sending Fax" as the Status. When the fax is sent successfully, the Status returns back to "Waiting for Call".

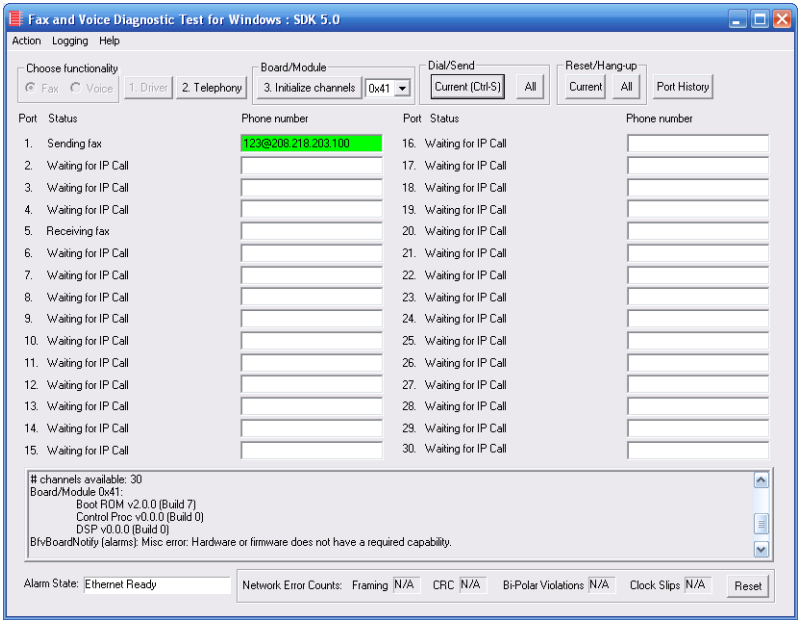


Receiving a Fax

➢ ***To receive a fax from a remote IP fax:***

1. Wait for the incoming call.

   When the call arrives, you should see something like the following, which is showing that Status for Port 5 changed to "Receiving Fax".



Reset/Hang-up

The Reset/Hangup function stops the call and can be executed at any time.

Click Current for stopping one call; click All for stopping several calls.

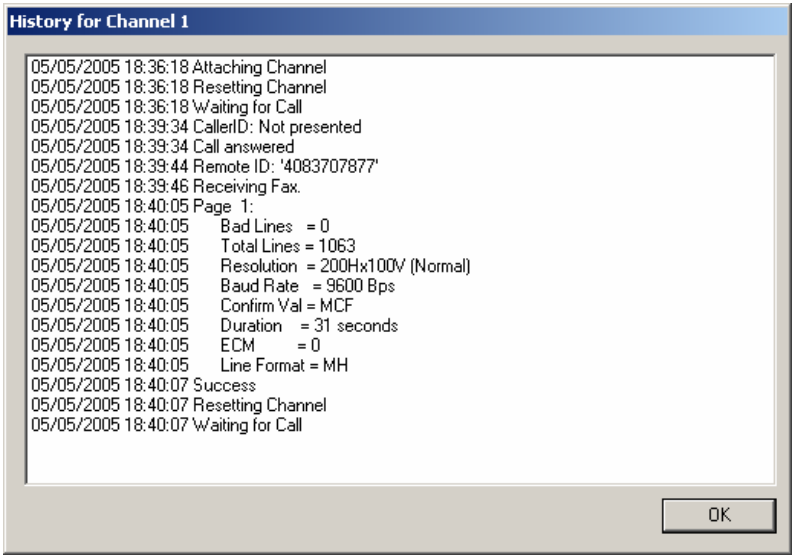
Port History

The Port History function provides channel activity history for the active channel. This is the channel (Port) with the green field next to it. You can make this field green by selecting the number field with your cursor.

1. Select Port History.

   The following screen appears. This screen shows an example of the History for Channel 1, because the number field next to first channel (Port) was green and therefore active.

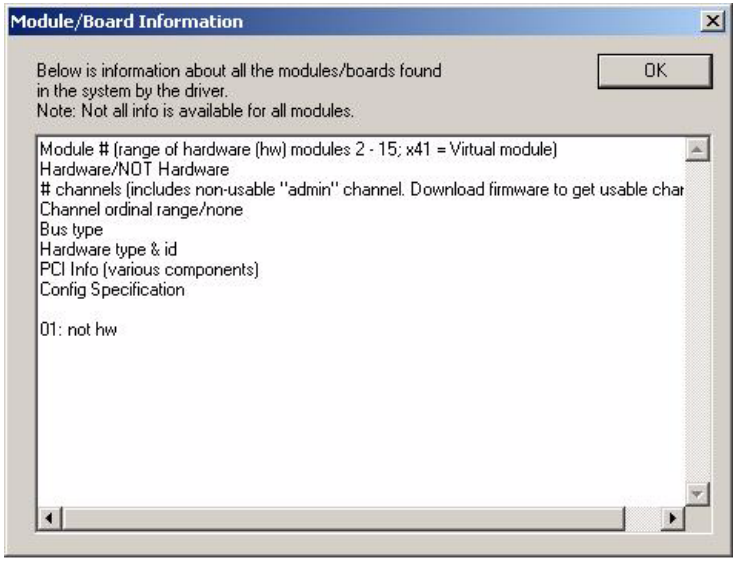
2. Click OK to exit.



All Modules/Boards Info

1. Select All Modules/Boards Info to access detailed information about your SR140 virtual module.

   The following screen shows Module/Board Information.



2. Click OK.

Exit

Select Exit to exit the Fax/Voice Diagnostic Test Tool.

Generating Logs for Troubleshooting

Various log files can be created for troubleshooting. Logs are created in several ways:

- Automatically, without user intervention
- On demand
- Over time, by enabling debugging

All logs are created in the directory where the test tool is extracted.

Note that logs are appended to and not overwritten, even between successive runs of the utility, unless you delete them manually first.

The Logging feature allows you to collect/capture and save several different types of logs. There is no file size limit for logs of any type and they are not overwritten.

Note: When Technical Support requests that you send log files to them, make sure you ***zip*** the log files prior to sending them.

Logging

The Logging menu provides the following logging/saving functions:

- Brooktrout Debug Logging
- Channel/Port History Logging
- Save Dump History
- Save All Channel/Port History

Brooktrout Debug Logging

The most useful logging information for Technical Support generally is the Brooktrout debugging logs. The various possibilities for these files are: logxx.txt, log_driver.txt, log_isdn.txt, log_admin.txt, and log_other.txt. These logs are written to continuously when you select the Brooktrout Debug Logging submenu.

These logs grow quickly in size and can overload your hard disk capacity. Therefore, turn Debug Logging on only when you need to collect logging information and then turn it off immediately.

The Debug logging feature should be turned on only under the direction of Technical Support.

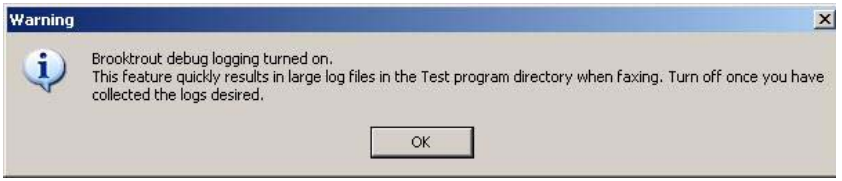
Brooktrout debug logging files are either created or appended to the ***logxx.txt*** and other files (not overwritten). Logs even between

successive runs of the test tool are not overwritten, unless you first delete them manually.

Note: Turn off this feature when not needed to save hard disk space.

➢ ***To turn on debug logging:***

1. From the Logging menu, select Brooktrout Debug Logging. The following screen displays.



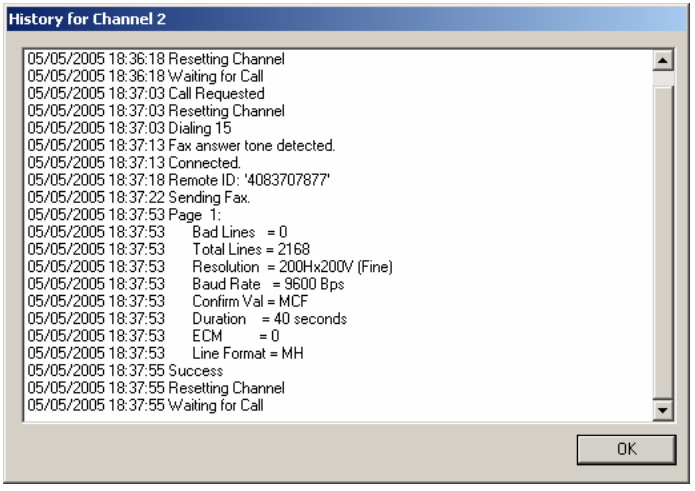
2. Click OK.
3. To turn this feature off, simply uncheck the Brooktrout Debug Logging submenu.

Channel/Port History Logging

The Channel/Port History Logging function allows you to view a channel's entire history since download.

1. Highlight a specific channel's phone number (turns green
2. From the Logging menu, select Channel/Port History Logging to turn on this function.

   The following screen shows the History for Channel 2.



3. Click OK.

To turn off this function, simply uncheck the Channel/Port History Logging submenu.

Save Dump History

The Save Dump History allows you to capture the dump history.

However, you should perform a dump history only if requested by Technical Support. The dh.log file can be created on demand using the Save Dump History submenu item, and contains low-level details about the Brooktrout firmware and driver.

If the driver was not installed by the test tool, then it is possible that the capability to do a dump history is disabled at the driver level. Technical Support can help you enable Save Dump History at the driver level, if needed.

Use this option only when requested by Technical Support.

From the Logging menu, select Save Dump History.

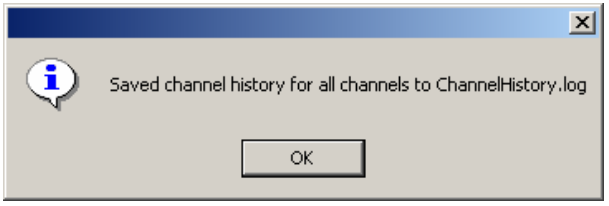
To stop Dump History, simply select the Dump History submenu again.

Save ALL Channel/Port History

Save ALL Channel/Port History saves current channel history for all channels to the ***ChannelHistory.log*** file.

1. From the Logging menu, select Save Channel/Port History to save all of the channel/port history logs.

   The following screen appears.



2. Click OK.

Using Help

Help

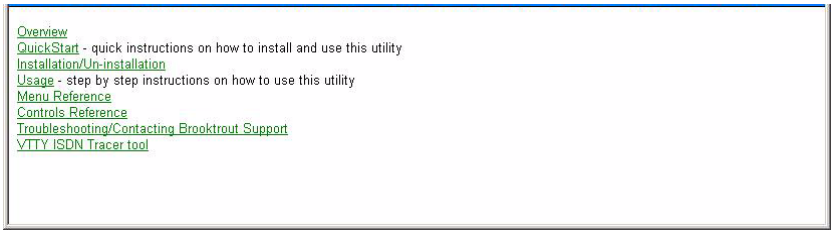
The Help menu provides two submenus:

- Usage...
- About...

Note: The Help menu and submenus provide detailed information and assistance across the entire Dialogic® Brooktrout® Fax Boards, not just for the SR140 virtual module.

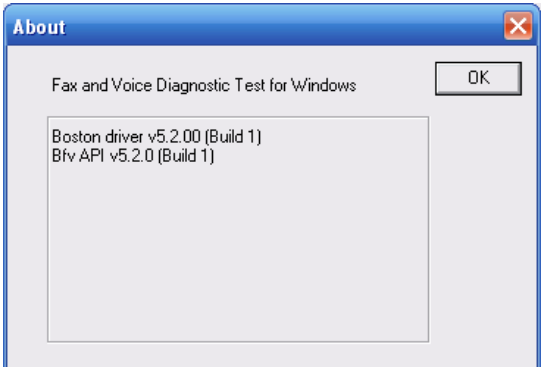
Usage...

From the Help menu, select Usage... The following screen displays.



About...

From the Help menu, click About... which provides detailed information about the Fax and Voice Diagnostic Test for Windows SDK v5.0.x.



5 - Dialogic® Brooktrout® SR140 Fax Software Specifications

Virtual Module Specifications

Fax

- ITU T.30; ITU T.38; Group 3
- V.17, V.23, V.29, V.27ter, V.21 modulation
- Up to 14.4Kbps with auto fallback
- Normal and fine resolution: 100x200, 200x200
- MH, MR, MMR compression
- Transparent image conversion
- A4, A3 and B4 page sizes with scaling
- A4 and B4 TIFF F file widths
- Enhanced ASCII conversion support with headers
- Error Correction Mode (ECM)
- Line error detection/repeat good line

Call Control

- H.323
- SIP

Operating Systems

- Windows 2000 Server, 2003 Server, Windows, and XP Professional.

Installation and Configuration

- Windows Graphical Configuration Tool

Models/Configurations

Model Name	***Description***
SR140-DEMO (1)	1 port T.38 HBF Demo license w/ 30 day time limit
SR140-DEMO (2)	2 port T.38 HBF Demo license w/ 30 day time limit
SR140-2F	2 port T.38 HBF
SR140-4F	4 port T.38 HBF
SR140-8F	8 port T.38 HBF
SR140-12F	12 port T.38 HBF
SR140-24F	24 port T.38 HBF
SR140-30F	30 port T.38 HBF
SR140-48F	48 port T.38 HBF
SR140-60F	60 port T.38 HBF
SR140-DEV	60 port T.38 HBF for Customer Development

Application Programming Interface

- Dialogic® Brooktrout® Fax and Voice (BFV)

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