

# **Dialogic® Brooktrout® Fax Products**

Windows® End User Guide

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# About this Publication

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## Introduction

This ***Dialogic® Brooktrout® Fax Products Windows® End User Guide*** is for users running either of the following in a Windows® environment:

- Dialogic® Brooktrout® SR140 Fax Software
- Dialogic Brooktrout® TR1034 Series and Dialogic Brooktrout® TruFax® boards.

Refer to the ***Dialogic® Brooktrout® Fax Products Linux End User Guide*** if you operate in a Linux environment.

This document contains the following:

- Chapter 1 explains how you get started installing and configuring Dialogic® Brooktrout® software and hardware in a Windows® environment.
- Chapter 2 explains how to install your Dialogic® Brooktrout® TR1034 Series and Dialogic® Brooktrout® Trufax® boards.
- Chapter 3 describes how to activate Dialogic® Brooktrout® SR140 Fax Software using the Dialogic® Brooktrout® License Manager.
- Chapter 4 describes how to configure the Dialogic® Brooktrout® Fax Software, Dialogic Brooktrout® TR1034 Series boards, and Dialogic Brooktrout® TruFax® boards.
- Chapter 5 explains testing the Dialogic® Brooktrout® SR140 Fax Software and Dialogic® Brooktrout® Trufax® boards. This chapter does not apply to users of the Dialogic Brooktrout® TR1034 Series and Dialogic Brooktrout® TruFax® boards.

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- Chapter 6 provides specifications for Dialogic® Brooktrout® TR1034 Series and Dialogic® Brooktrout® Trufax® boards.

## 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, Dialogic® Brooktrout® 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](http://www.dialogic.com)***.

## Telephony Requirements

<b><i>Physical</i></b>	<b><i>Media</i></b>	<b><i>Call Control</i></b>
Ethernet 10/100	T.38 v0 RTP V2 G.711	H.323 SIP

## Terminology

### Updated Terminology

The current version of this document includes terminology that differs from previous versions. Please note the changes below:

<b>Former Terminology</b>	<b>Replaced with...</b>
Host-based fax	Dialogic® Brooktrout® SR140 Fax Software or Brooktrout SR140 Fax Software or SR140 Software or SR140
Virtual modules	
Virtual boards	
Software modules	
VoIP modules	
SR140 virtual modules	
TR1000 Series SDK	Dialogic® Brooktrout® SDK
TR1000 Series Product	Dialogic® Brooktrout® Fax Board or Brooktrout fax board or board
TR1000 Series Module	
TR1000 Series Board	
Brooktrout System Software	
	Dialogic® Brooktrout® Runtime Software

## **Dialogic® Brooktrout® TR1034 Fax Board Terminology**

The Dialogic® Brooktrout® TR1034 Fax Board is also referred to herein by one or more of the following terms, or like terms including "TR1034":

- Brooktrout TR1034 Fax Board
- Brooktrout TR1034 Board
- TR1034 Fax Board
- TR1034 Board
- TR1034

# Getting Technical Support

Dialogic provides technical support and services for customers who have purchased hardware or software products from Dialogic. If you purchased products from a reseller, please contact that reseller for technical support.

To obtain technical support, please use one of the following methods:

Web: [www.dialogic.com/support/default.asp](http://www.dialogic.com/support/default.asp)

Technical <http://www.dialogic.com/support/helpweb/default.aspx>  
Help Web

Phone:	North America:	+1 781-433-9600
	Belgium:	+32 2-658-5170
	Japan:	+81 3-3234-2176

# 1 - Getting Started

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

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

## **Fax Board and Virtual Modules (SR140)**

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 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

# SR140 Product Family

There are two major SR140 products, the original full SR140 and the SR140-L. Each product differs in the available functionality, with the full SR140 having the highest functionality. The tables below summarize the feature set available for the different SR140 products over the course of their release history.

**Note:** Full SR140 and SR140-L licenses cannot co-exist in the same system.

**Table 1. Full SR140 Release History**

Release	Date	Example Model Name	Feature Set
R1	March 2008	SR140-4F	<ul style="list-style-type: none"><li>■ T.38 V17</li><li>■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)</li></ul>
R2	February 2009	SR140-4F-V34	<ul style="list-style-type: none"><li>■ T.38 V34</li><li>■ T.38 V17</li><li>■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)</li></ul>
R3	April 2010	SR140-4-R3	<ul style="list-style-type: none"><li>■ G.711 RTP</li><li>■ IVR</li><li>■ T.38 V34</li><li>■ T.38 V17</li><li>■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)</li></ul>

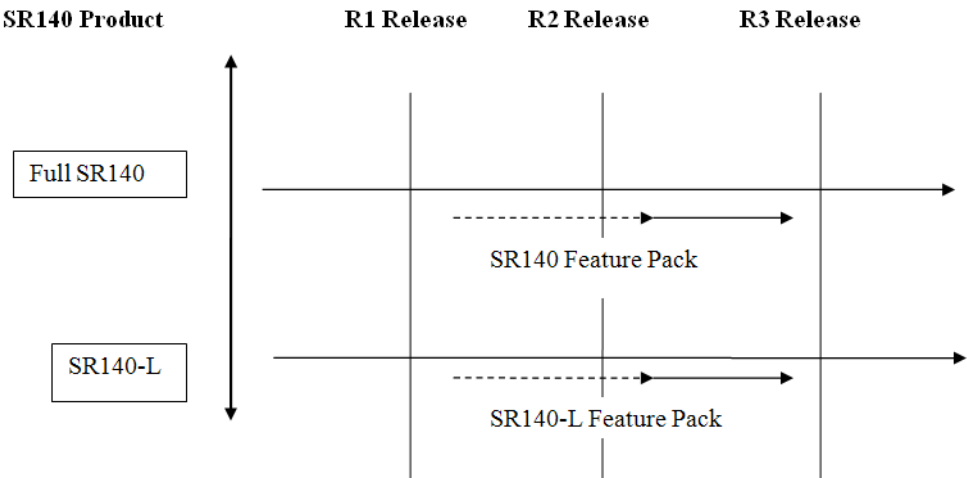
Table 2. SR140-L Release History

Release	Date	Example Model Name	Feature Set
R1	April 2010	SR140-L-4-R1	<ul style="list-style-type: none"><li>■ Maximum eight channels per system</li><li>■ T.38 V17</li><li>■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)</li></ul>

Feature Pack Licenses

Feature pack licenses are available to allow you to add features matching a later release. The feature pack license is added to your existing license to bring you up to the latest set of available features.

For example, if you currently own an original SR140 R1 (SR140-4F), you can obtain an upgrade pack license (SR140-FeaturePack-4-R3) that will add in the new features, without first requiring an R2 feature pack license.

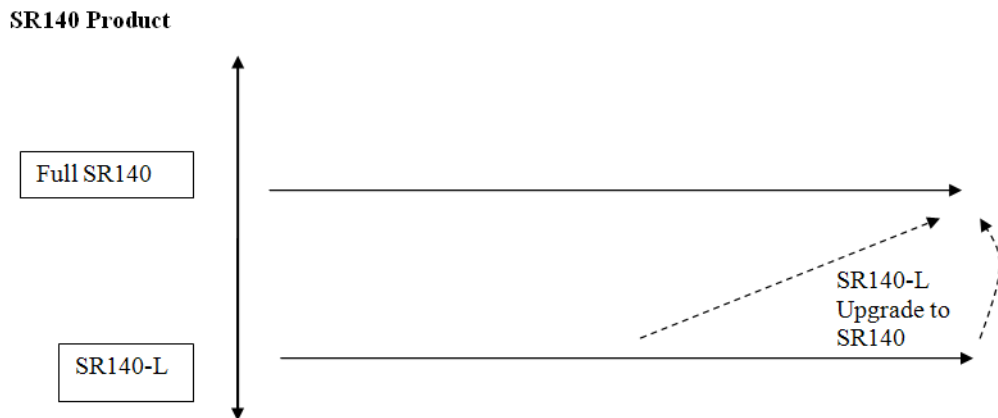




## Upgrade Licenses

Upgrade licenses allow you to add the feature set of the full SR140 to the SR140-L.

For example an SR140-L-2-R1 together with a SR140-L-UPGRADE-SR140-2-R3 will have the same features as an SR140-2-R3.



## Demonstration Licenses

Demonstration licenses are available for both the SR140 and SR140-L. Demonstration licenses will cause each transmitted or received page to be overlaid with the word 'Demonstration'. Only one demonstration license can be installed in a system at any time and cannot be used together with non-demonstration licenses.

Demonstration licenses expire after some time period, typically 30 days from when the license was first activated. The License Manager displays when a demonstration license is due to expire. If a demonstration license expires, it will cause the SR140 to stop functioning. You will need to use the License Manager to delete any demonstration licenses that have expired, or before you can use a non-demonstration license.

# Software Licenses

The SR140 Virtual Module is delivered together with 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 Fax Software.

Make sure to keep your License Key certificate in a safe place, where you can find it easily.

# Product Activation

As well as helping you stay within your entitlement, your SR140 Fax Software product uses copy protection technology. Following installation of the software, Product Activation is a process for tying a license to a particular system, limiting use of that licensed software to one computer system. Product Activation is simple and may be completed via the Internet, email or by fax and involves 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).

## 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.

## Getting it Working

Follow the steps below to get your Brooktrout fax hardware and/or software working.

- **Hardware Installation**
- See *[Installing TR1034 and Trufax® Hardware on page 21](#)*
- **Software Installation**  
See *[Verifying Software Installation on page 5](#)*.
- **Product Activation**  
See *[Using the License Manager to Activate Brooktrout Products on page 9](#)*.
- **SR140 Configuration**  
See *[Configuring Dialogic® Brooktrout® SR140 Software and Dialogic® Brooktrout® TR1034 /Trufax Boards on page 63](#)*.
- **IP Configuration**  
See *[IP Call Control Modules on page 111](#)*.

■ ***Test***

See ***Testing the Dialogic® Brooktrout® SR140 Fax Software on page 123.***

## 2 - Installing TR1034 and Trufax® Hardware

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This chapter applies to users of the **Dialogic® Brooktrout®** TR1034 Series and **Dialogic® Brooktrout®** Trufax® boards. This chapter does not apply to users of the **Dialogic® Brooktrout®** SR140 Fax Software.

For detailed hardware installation instructions, see the hardware installation card that came with your Brooktrout board.

# Installation Overview

This section describes how to install your fax board on a Windows Server 2003 system.

If you already have the Brooktrout System Software installed and working on your system, do the following:

- Install your fax board. Refer to ***Installing Your Board on page 23.***
- Reboot your computer and configure the telephony for your Brooktrout board.
- Enter your dialing information.
- Verify the installation. Refer to ***Verifying Brooktrout Board Installation on page 24***
- Register with Dialogic.

If this is a new installation, do the following:

- Check your system to verify the minimum system requirements.
- Install your fax board. Refer to ***Installing Your Board on page 23.***
- Reboot your computer and configure the telephony for your Brooktrout board.
- Enter your dialing information.
- Refer to ***Verifying Brooktrout Board Installation on page 24***
- Register with Dialogic.

# Installing Your Board

Before installing your board, make sure you have assigned the board a unique module number (see Determining the Board Module Number).

➤ ***Follow these instructions to install your Brooktrout board into your computer:***

1. Power off your PC and any peripheral equipment connected to it.
2. Unplug your PC power cord.
3. Remove the outside cover of your computer.
4. Open your computer and locate a free PCI slot in the computer chassis.
5. Remove the slot cover.
6. Carefully align the Brooktrout board with the PCI slot and firmly seat the board into the slot.
7. Tighten the mounting bracket screw to secure the board to the chassis.



**Warning:** When installing the board, be sure that the mounting bracket is securely fastened to the chassis and the chassis is plugged into a grounded three prong plug. Improper chassis or bracket grounding can result in harmful or fatal electrical shock as well as component damage.

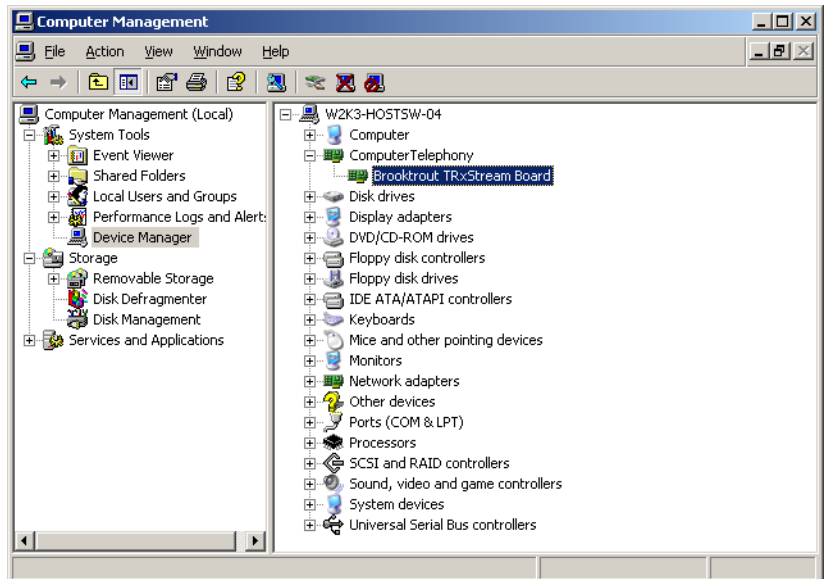
8. Replace the outside cover of your computer.
9. Use the cable supplied with your board and connect one end of the cable into the RJ-45 telephone connector on the board's mounting bracket.
10. Plug the other end of the cable into the wall connector for your telephone service.
11. Reconnect your PC power cord, and power on your computer.

## Verifying Brooktrout Board Installation

➤ ***Verify that the Brooktrout board is successfully installed in your system:***

1. Click either:
  - ♦ Control Panel, Administrative Tools, Computer Management
  - ♦ Control Panel, System, Hardware, Device Manager

The following screens appear, respectively.

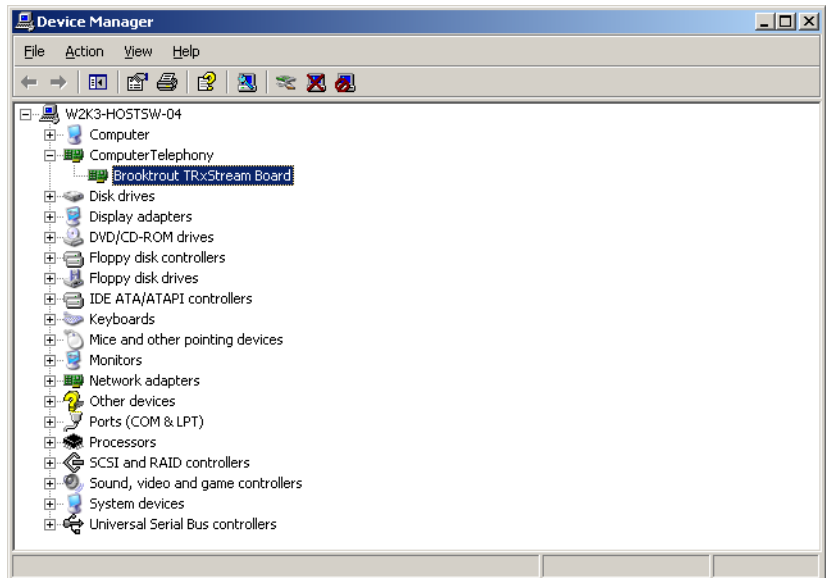


2. After installing your Brooktrout fax board, allow Windows Plug and Play to locate and accept the device driver for the Brooktrout board.



You must wait several moments while Windows Plug and Play performs board verification and driver installation. Do not use your mouse or press any keys on your keyboard during this time.

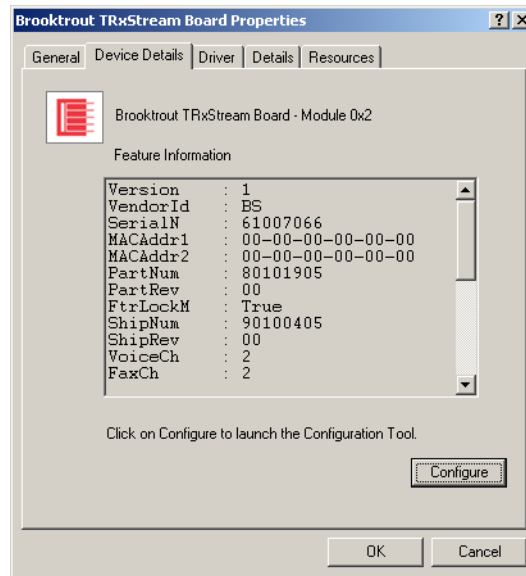




## Viewing Brooktrout Board Properties

➤ ***To view the board's properties:***

1. Double-click the board name in one of the screens, as shown in the above window. The Brooktrout TRxStream Board Properties dialog box appears.
2. Click the **Device Details** tab.



3. Click the **Configure** option to use the Brooktrout Configuration Tool to configure telephony.

# 3 - Activating Dialogic® Brooktrout® SR140 Fax Software

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This chapter describes how to activate a license for the Dialogic® Brooktrout® SR140 Fax Software.

The SR140 Fax Software 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 demonstration license key that results in software that provides limited support for a limited time. Both types of product - licensed as demonstration 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.

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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 Dialogic Technical Services and Support if you are unable to use the license. See ***Getting Technical Support on page 12.***

This document has the following sections:

- ***Preparing for Activation on page 29.***
- ***Using the License Manager on page 30.***
- ***Activating a License Automatically on page 36.***
- ***Activating a License Using the Web on page 41.***
- ***Activating a License Using Email or Fax on page 47.***
- ***Installing Licenses on page 49.***
- ***Logging Information on page 51.***
- ***Managing License Files on page 52.***
- ***Removing Licenses on page 53***
- ***Re-installing a License on page 54***

# Preparing for Activation

To use the License Manager to activate your Brooktrout product, perform the activation process from the system where the Dialogic® Brooktrout® SR140 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 SR140 Fax Software 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.

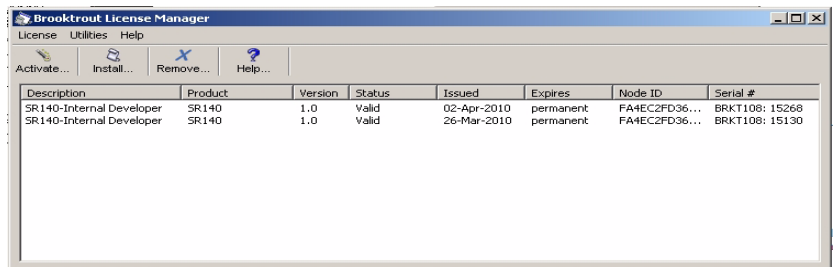
# Using the License Manager

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

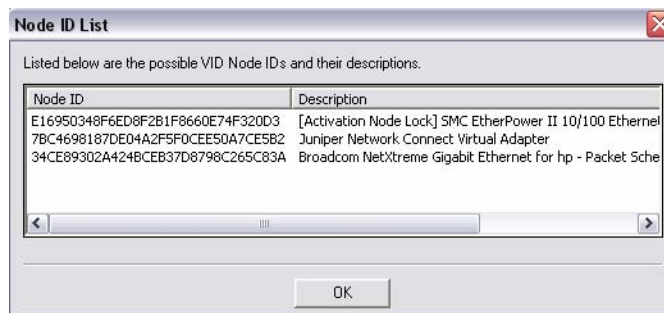
There may be more than one MAC address on the system. If so, you can choose the MAC address in which to lock. The License Manager allows you to view the Node ID representation of the first 20 Ethernet Adapter MAC addresses available on the system.

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 40](#).

➤ **Follow the steps below:**

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

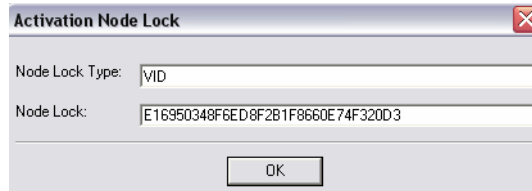


2. Double-click to select the Node ID. Right click and select Copy to copy the Node ID.

## 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:



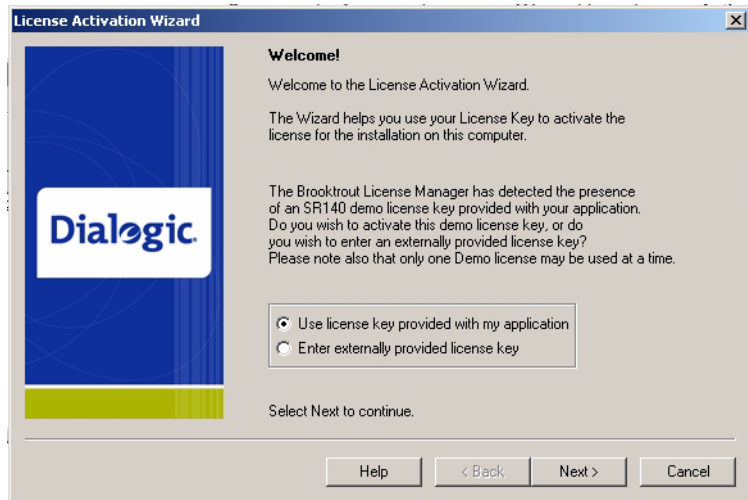
2. Double-click to select the Node ID. Right click and select **Copy** to copy the Node ID.



# Starting the License Activation Wizard

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

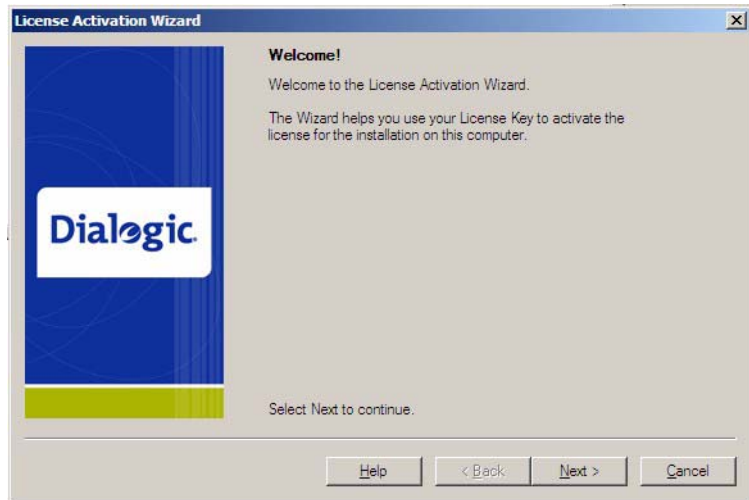
1. Select **License -> Activate license...**  
If a Demonstration License Key file (.dlk) file is located, then the License Activation Wizard Welcome dialog below appears. If no Demonstration License Key file (.dlk) is located, the **Welcome Dialog (no .dlk file) on page 34** appears:



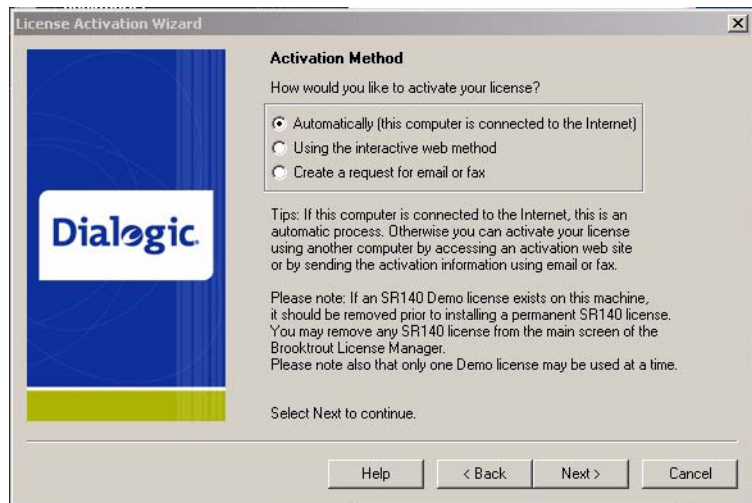
The .dlk file (Demonstration License Key file) contains a license key for the SR140 demonstration mode. This file is part of the SDK release and is located in the same directory as the License Manager executable. The .dlk file gets read only when the License Manager is initially launched. Do not edit this file while the License Manager is running.

2. Select ***Use license key provided with my application*** to activate the demonstration license. If you would like to enter a purchased license key then select ***Enter externally provided license key***.

## Welcome Dialog (no .dlk file)



3. Click **Next**. The **Activation Method** dialog box appears:



4. 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 36\*](#).

- ◆ **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 41\*](#).

- ◆ **Create a request for email or fax**

See [\*Activating a License Using Email or Fax on page 47\*](#). 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.

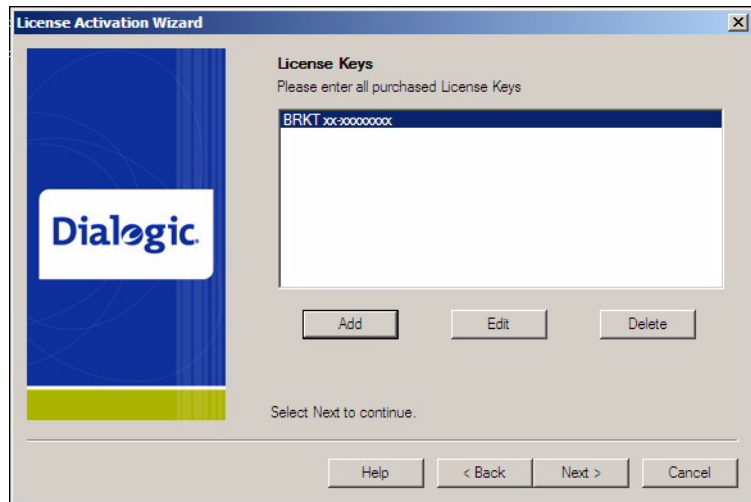
# Activating a License Automatically

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

1. Select the automatic activation option above.

If you chose the option **Use license key provided with my application** on the Welcome dialog then skip to step 5 below.

If you chose the option **Enter externally provided license key** on the Welcome dialog or there was no .dlk file located when the License Manager was launched, then 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.

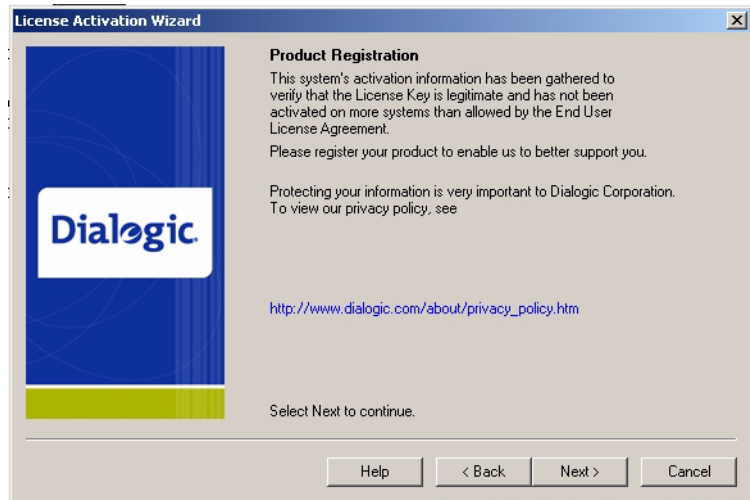
This License Key can be found on your Licence certificate. The License Key is a variable length ASCII string. An example of such a key is: BRKT111-1234567

**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. 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:

- ◆ License Obtained

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

- ◆ Request Failed. Invalid license key.

The following is the tip associated with this failure:

**Tip:** The license key you are trying to activate is not valid. Please confirm the license key was entered accurately into the License Activation Wizard.

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 Dialogic Technical Services and Support. See ***Getting Technical Support on page 12.***

- ◆ Request Failed. License already activated.

The following is the tip associated with this failure:

**Tip:** The license key you are trying to activate has already been activated. You cannot activate the same License Key on different systems. Please refer to your user documentation for details about moving licenses from one system to another or restoring lost licenses.

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 Dialogic Technical Services and Support for solutions to this problem. See ***Getting Technical Support on page 12.***

Also see [\*Managing License Files on page 52\*](#) for more information.

- ◆ Request Failed. Cannot communicate with the License Activation Center.

The following is the tip associated with this failure:

**Tip:** The License Activation Center cannot be reached. Please check your Internet connection, network and firewall settings. Please try again. You can also restart the License Activation Wizard. Select either the option to use the interactive web method or the option to request a license via email or fax.

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 Dialogic Technical Services and Support. See [\*Getting Technical Support on page 12\*](#).

- ◆ Request Failed. Internal error code["err #"].

The following is the tip associated with this failure:

**Tip:** Please try again. You can also restart the License Activation Wizard; select either the option to use the interactive web method or the option to request a license via email or fax.

If failures persist, contact Dialogic Technical Services and Support. See [\*Getting Technical Support on page 12\*](#).

10. Click **Next**.

The final License Activation Wizard window appears indicating which license keys have been activated and which license keys have failed activation.

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 31.***



# Activating a License Using the Web

You can also activate your SR140 Fax Software 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.

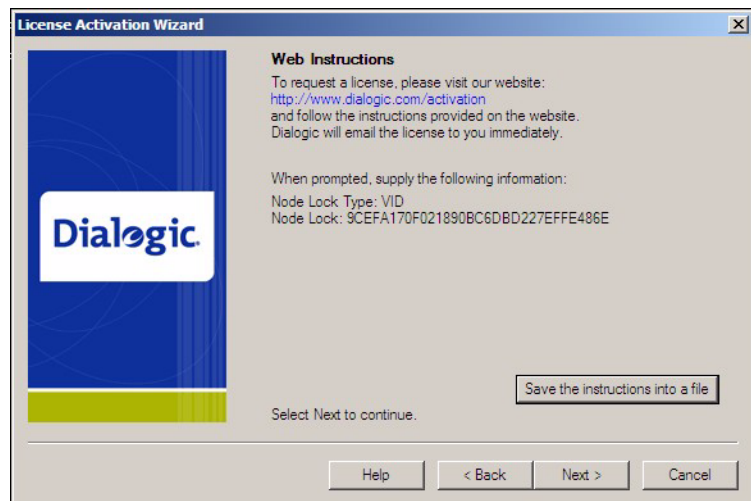


It is critical that you enter the Node Lock information for the intended machine (Node ID) on the website without errors. The software generates an unusable license when you enter incorrect Node Lock information. The second attempt to obtain the license using the corrected Node Lock information is considered re-hosting. In this case see [\*Re-Hosting License Files on page 57\*](#)

➤ ***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:

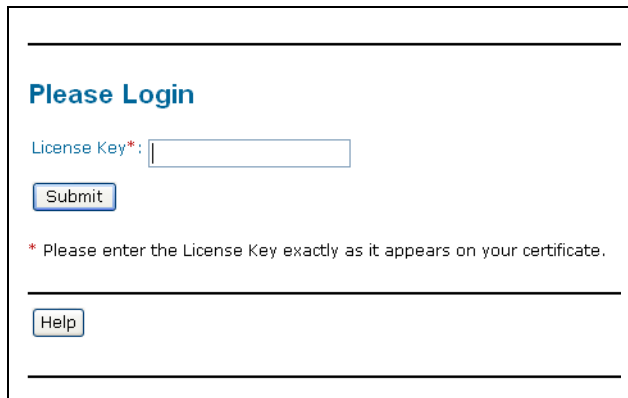


3. Click **Save the instructions into a file** button.

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](http://www.dialogic.com/activation), which directs you to a secure server. The following screen appears.



The screenshot shows a web form titled "Please Login" in blue text. Below the title is a label "License Key\*" followed by a text input field. Under the input field is a "Submit" button. Below the button is a red asterisk followed by the text "Please enter the License Key exactly as it appears on your certificate." At the bottom of the form is a "Help" button. The entire form is enclosed in a rectangular border.

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

# Dialogic

---

## Generate, Re-Host or View Licenses

[Generate Licenses](#) [Re-host Licenses](#) [View Licenses](#)

\* Generate License - to create a new license from your License Key; Re-Host License to view or download a license you have already activated.

[Logout](#) [Home](#) [Help](#)

6. Click **Generate Licenses**. The following screen appears.

## Select Items to Activate

Select Product:

[Filter Products](#)

950-101-v34-30 1.0 SR140-30F

Order	Item #	Avail/Total
BRKT35	1	95/100

[Select Hostid](#)

License Type:

Node ID Type:

Node ID:

[Generate License](#)

[Logout](#) [Home](#) [Help](#)

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.

### Select Items to Activate

Select Product: 950-101-v34-30 1.0 SR140-30F

Filter Products

950-101-v34-30 1.0 SR140-30F

Order	Item #	Avail/Total
BRKT35	1	95/100

Select Hostid

License Type: Locked Uncounted

Node ID Type:

Node ID:

Generate License

Logout Home Help

8. Click **Generate License**.

### Confirm your Selection

950-101-v34-30 1.0 SR140-30F

Order	Item #	Avail/Total
BRKT35	1	95/100

License Type: Locked Uncounted

Node ID Type: VID

Node ID: 910CF1B311E99E23F3691D66C1D2E174

Confirm Cancel

Logout Home Help

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

# Dialogic

---

## Deliver License

```
FEATURE SR140 BRKTD 1.0 permanent uncounted \
VENDOR_STRING=VoiceCh=0:FaxCh=30:Links=0:V34Enab=30:AdvSph=0:AdvFax=30:T38Enab=30 \
HOSTID=VID=910CF1B311E99E23F3691D66C1D2E174 ISSUED=10-Jan-2008 \
SN="BRKT35: 2696" TS_OK SIGN="09FC 80C3 A2A6 DD76 2805 53F3 \
AEDF CC36 8495 09AA 4CFE 69B0 84F3 D306 7D54 1A47 496D 0CFC \
4CD4 CED6 53DD 5ACC C100 1DD7 18C6 AED0 2EDF FA33 AE87 BD5E"
```

Send to:

---

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.

# Dialogic

---

## Deliver License

License has been sent to: bfulginiti@dialogic.com

---

11. Follow the instructions ***Installing Licenses on page 49*** to install the license file.

# Activating a License Using Email or Fax

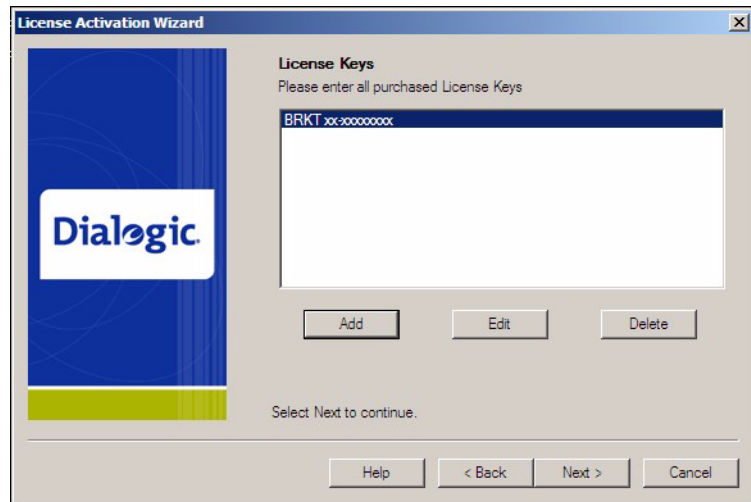
When your system cannot support the previous options (for example, you have no Internet connections) you can activate your license by sending the information to Dialogic using email or fax.

**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](mailto:activation@dialogic.com) as an attachment, or fax this information to +1 781-433-2350 at the Dialogic License Activation Center for processing.

When you receive the license file from Dialogic, go to ***Installing Licenses on page 49*** to install it in the correct location.



# Installing Licenses

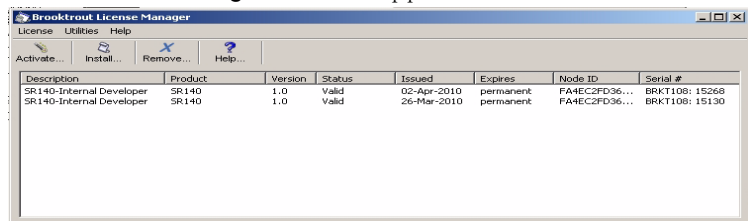
When you receive a license file from the Dialogic License Activation Center (via email or saved from the site) use the License Manager application to install the attached license.

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.

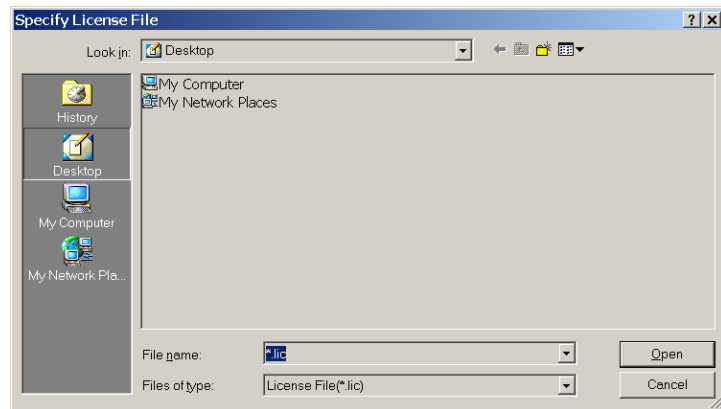
**Note:** If you use the automatic activation method, you do not need to install licenses. Your activation process is finished.

➤ ***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 previously activated 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 Dialogic Technical Services and 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 53\*](#)
- [\*Backing Up Licenses on page 53\*](#)
- [\*Removing Licenses on page 53\*](#)
- [\*Re-Installing Your Product on page 54\*](#)
- [\*Re-Installing Your Product on page 54\*](#)
- [\*Restoring License Files on page 55\*](#)
- [\*Re-Hosting License Files on page 57\*](#)

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 57\*](#)).

**Note:** If the ISV took the necessary steps, 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 Brooktrout 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 only one license. 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 provides the means to remove licenses.

➤ **Follow the steps below to remove a license:**

1. Start the License Manager by selecting the following:

Start → Program Files → Brooktrout → Brooktrout License Manager

2. The License Manager window appears.
3. Find the serial number of the license you would like to remove.
4. Left click the license.
5. Select **Remove selected license** from the License menu or click the blue X with **Remove...** on the toolbar. A **Confirm License Removal** screen appears.
6. If you are sure you want to remove the selected license, click **Yes**, otherwise click **No**.

7. A popup will appear indicating the serial number and file name of the file which was removed.
8. The selected file will be renamed from `licensefile.lic` to `licensefile.lic.removed`. This file is located in the directory which the environment variable `BRKTD_LICENSE_FILE` (typically ***C:\Program Files\Common Files\Brooktrout\***) refers to.

## Re-installing a License

➤ ***If a license was removed using License Manager, you need to shut down License Manager and re-install the license manually as follows:***

1. Select ***Exit*** from the License menu to stop the License Manager.
2. Go to the directory that the environment variable `BRKTD_LICENSE_FILE` refers to and find the license file which was removed (typically `c:\Program Files\Common Files\Brooktrout\`). These files are in the format ***licensefile.lic.removed***.
3. If there is more than one file that has been removed, then you will need to open each of the removed files and locate the serial number of the license which you would like to reinstall.
4. Once you find the file to reinstall, rename the ***licensefile.lic.removed*** to ***licensefile.lic***
5. Restart License Manager by selecting the following:  
  
Start → Program Files → Brooktrout → Brooktrout License Manager
6. The license appears in the license manager window.

## Re-Installing Your Product

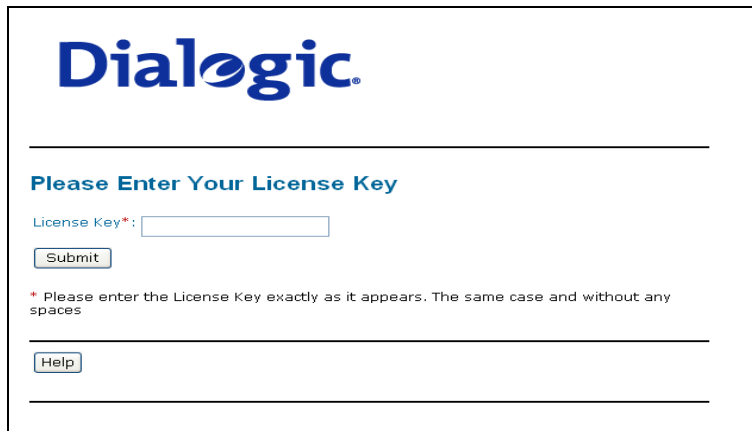
If you want to simply re-install your product on the same computer system after upgrading or replacing your hard disk or any other upgrade that maintains your network card's MAC address, you can use the same license file without having to re-activate your product.

## 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,

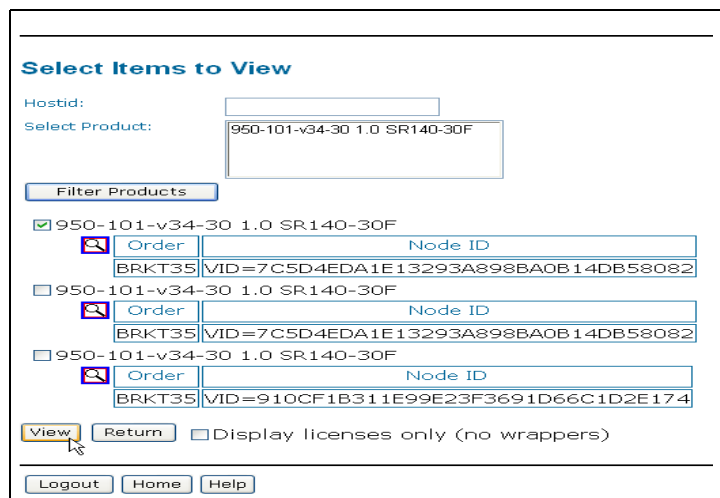
1. Visit the Dialogic activation website at:  
[www.dialogic.com/activation](http://www.dialogic.com/activation)

The following screen appears.



The screenshot shows the Dialogic website's activation page. At the top is the Dialogic logo. Below it is a section titled "Please Enter Your License Key". There is a text input field labeled "License Key\*" and a "Submit" button. A note below the button states: "\* Please enter the License Key exactly as it appears. The same case and without any spaces". At the bottom of the section is a "Help" button.

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



The screenshot shows the "Select Items to View" page. It has a "Hostid:" field and a "Select Product:" dropdown menu showing "950-101-v34-30 1.0 SR140-30F". Below this is a "Filter Products" button. A list of products is shown, each with a checkbox, a magnifying glass icon, an "Order" button, and a "Node ID" field. The first product is selected, and its Node ID is "BRKT35 VID=7C5D4EDA1E13293A898BA0B14DB58082". The other two products have the same Node ID. At the bottom, there is a "View" button (with a mouse cursor over it), a "Return" button, and a checkbox labeled "Display licenses only (no wrappers)". At the very bottom are "Logout", "Home", and "Help" buttons.

3. Click **View Licenses**. The following screen appears.

### Select Items to View

Hostid:

Select Product:

☒ 950-101-v34-30 1.0 SR140-30F

	Order	Node ID
<input type="checkbox"/>	BRKT35	VID=7C5D4EDA1E13293A898BA0B14DB58082

☐ 950-101-v34-30 1.0 SR140-30F

	Order	Node ID
<input type="checkbox"/>	BRKT35	VID=7C5D4EDA1E13293A898BA0B14DB58082

☐ 950-101-v34-30 1.0 SR140-30F

	Order	Node ID
<input type="checkbox"/>	BRKT35	VID=910CF1B311E99E23F3691D66C1D2E174

☐ Display licenses only (no wrappers)

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

### Deliver License

```
FEATURE SR140 BRKTD 1.0 permanent uncounted \
VENDOR_STRING=VoiceCh=0;FaxCh=30;Links=0;V34Enab=30;AdvSph=0;AdvFax=30;T38Enab=30 \
HOSTID=VID=7C5D4EDA1E13293A898BA0B14DB58082 ISSUED=08-Nov-2007 \
SN="BRKT35: 2122" TS_OK SIGN="0893 F8BC D985 2C75 1A0E 3DA8 \
F91E 1BC7 016E EF10 2587 25D4 DOAS 21B9 BCCD 0898 CEFC 5DF0 \
98D3 E990 8D15 C720 6F6D DBB7 F5E8 8565 5DF6 4F73 6725 A5BA"
```

Send to:

5. Click **Save to File** or click **Email** to have the License file emailed to you. Follow the instructions ***Installing Licenses on page 49*** 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 Services and Support.

➤ ***Follow the steps below:***

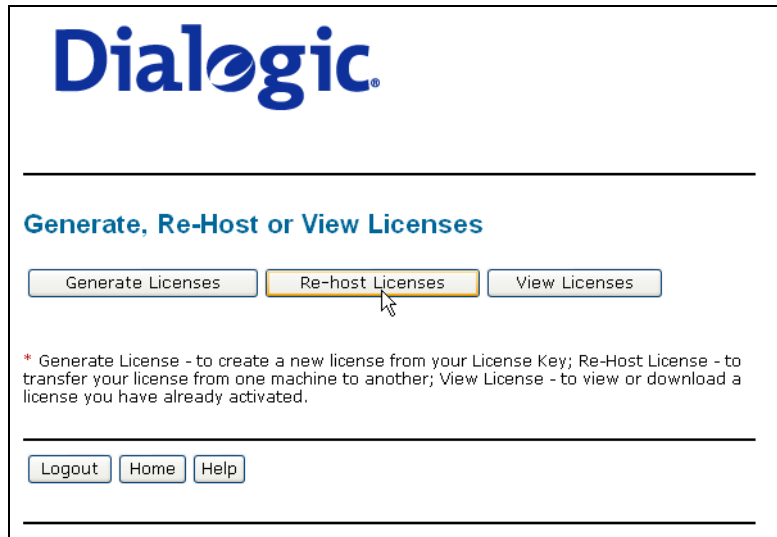
1. Visit the Dialogic activation website at:  
[www.dialogic.com/activation](http://www.dialogic.com/activation)

The following screen appears.



The screenshot shows the Dialogic activation website. At the top is the Dialogic logo in blue. Below it is a horizontal line. The text 'Please Enter Your License Key' is displayed in blue. Underneath is a text input field labeled 'License Key\*:' with a red asterisk. Below the input field is a 'Submit' button. A note below the button reads: '\* Please enter the License Key exactly as it appears. The same case and without any spaces'. At the bottom of the form is a 'Help' button.

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



# Dialogic

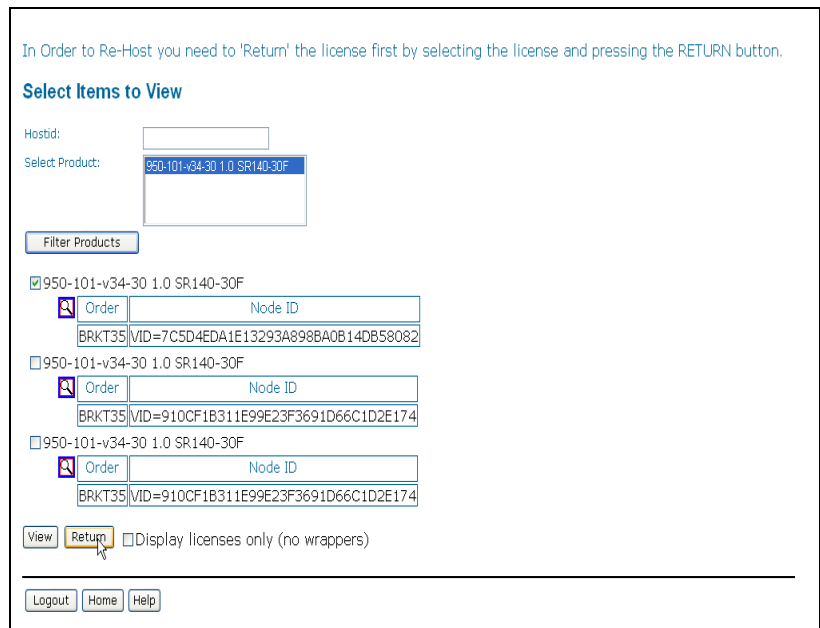
---

## Generate, Re-Host or View Licenses

\* Generate License - to create a new license from your License Key; Re-Host License - to transfer your license from one machine to another; View License - to view or download a license you have already activated.

---

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



In Order to Re-Host you need to 'Return' the license first by selecting the license and pressing the RETURN button.

### Select Items to View

Hostid:   
 Select Product:

<input checked="" type="checkbox"/>	950-101-v34-30 1.0 SR140-30F	<input type="button" value="Order"/>	<input type="text" value="Node ID"/>
	BRKT35	VID=7C5D4EDA1E13293A898BA0B14DB58082	
<input type="checkbox"/>	950-101-v34-30 1.0 SR140-30F	<input type="button" value="Order"/>	<input type="text" value="Node ID"/>
	BRKT35	VID=910CF1B311E99E23F3691D66C1D2E174	
<input type="checkbox"/>	950-101-v34-30 1.0 SR140-30F	<input type="button" value="Order"/>	<input type="text" value="Node ID"/>
	BRKT35	VID=910CF1B311E99E23F3691D66C1D2E174	

☐ Display licenses only (no wrappers)

---

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

---

### Confirm your Selection

950-101-v34-30 1.0 SR140-30F

Order	Node ID
BRKT35	VID=7C5D4EDA1E13293A898BA0B14DB58082

---

---

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

---

### Select Items to Re-host

Select Product:

950-101-v34-30 1.0 SR140-30F

Last Hostid
VID=7C5D4EDA1E13293A898BA0B14DB58082

License Type:

Node ID Type:

Node ID:

---

---

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.)

### Select Items to Re-host

Select Product:

950-101-v34-30 1.0 SR140-30F

License Type: Locked Uncounted

Node ID Type:

Node ID:

7. Click **Generate License**. The following screen appears.

### Confirm your Selection

950-101-v34-30 1.0 SR140-30F

Last Hostid

VID=7C5D4EDA1E13293A898BA0B14DB58082

License Type: Locked Uncounted  
Node ID Type: VID  
Node ID: 910CF1B311E99E23F3691D66C1D2E174

Confirm

Cancel

Logout

Home

Help

8. Click **Confirm**. The following license appears.

### Deliver License

```
FEATURE SR140 BRKTD 1.0 permanent uncounted \  
  VENDOR_STRING=VoiceCh=0:FaxCh=30:Links=0:V34Enab=30:AdvSph=0:AdvFax=30:T38Enab=30 \  
  HOSTID=VID=910CF1B311E99E23F3691D66C1D2E174 ISSUED=04-Jan-2008 \  
  SN="BRKT35: 2639" TS_OK SIGN="OBC8 08EC A958 2334 B372 1424 \  
  OD5D FA7B E3FA 784A D5C4 54D3 2B2A E98B 9438 1D1E 5969 C1DF \  
  QADB 8591 AD10 8DA7 8DEE 7B17 E2E9 E9D2 AF18 6CA8 A733 BCA1"
```

Save to File

Send to: 

bfulginiti@dialogic.com

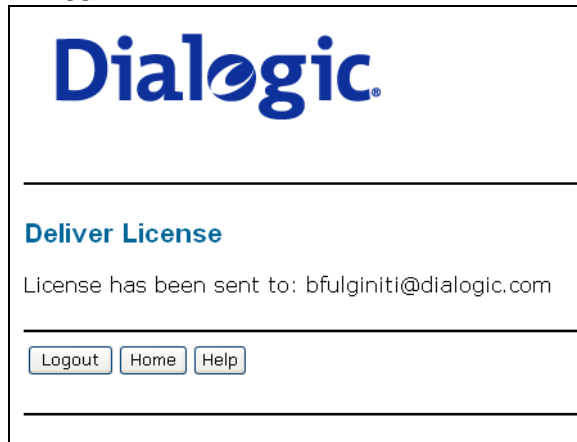
Email

Logout

Home

Help

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 49*** to use the License Manager application to install the license file on the appropriate computer.

# 4 - Configuring Dialogic® Brooktrout® SR140 Software and Dialogic® Brooktrout® TR1034 /Trufax Boards

---

This chapter describes how to configure the following products:

- Dialogic® Brooktrout® SR140 Fax Software
- Dialogic Brooktrout® TR1034 Series and Dialogic Brooktrout® TruFax® boards

Dialogic provides the following method for configuring the virtual module:

- ***Configuring in Wizard Mode on page 64*** (adequate for most configurations)
- ***Advanced Mode on page 90.***

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 Fax Software.

# Configuring in Wizard Mode

This section describes how to use the Wizard Mode to configure Dialogic® Brooktrout® Fax Software. You can use Wizard Mode to get most typical systems up and running with minimal effort.

In Wizard Mode, after you answer the basic questions, the Configuration Tool does the following.

- Automatically creates the necessary configuration file
- Installs and starts the drivers, if required
- Starts the Boston Host Service

Wizard Mode requires that all the modules be of the same kind. All modules are configured identically, that is, the modifications to the configuration apply uniformly to all the modules.

You can use Wizard Mode in a homogeneous configuration where:

- all the boards are of an identical type

or

- the system contains only SR140 virtual boards.

In a non-homogeneous configuration, the Configuration Tool will automatically start in Advanced Mode.

➤ **To use Wizard Mode:**

1. Start the Configuration Tool if it has not already been started by the Plug-and-Play installation procedure. See ***Running the Dialogic® Brooktrout® Configuration Tool on page 95.***



2. The **Welcome** window appears.



3. When the **Welcome** window appears, you can choose to click the **Advanced Mode** button or the **Next** button.

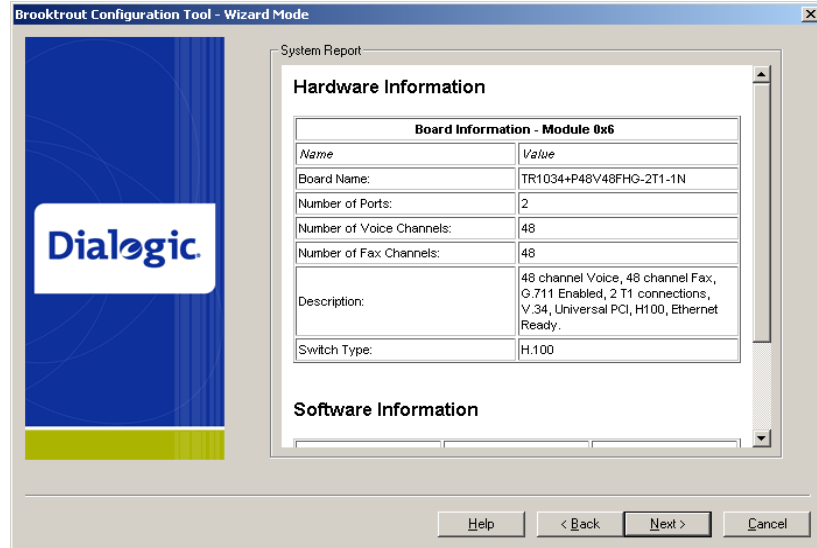
- ◆ **Advanced Mode**

If you select **Advanced Mode**, the Configuration Tool exits Wizard Mode and starts in Advanced Mode (see [Advanced Mode on page 90](#)).

- ◆ **Next**

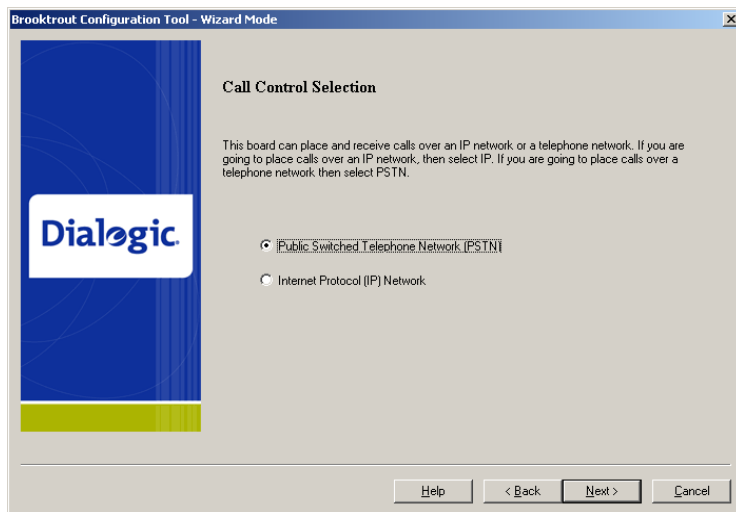
If you click the **Next** button, Wizard Mode continues and creates the necessary configuration file after you answer the basic questions.

- The **System Report** appears on the right-hand panel, then click **Next**.



This example shows the information for a T1 board.

- Click **Next** and the following screen appears if the system detects a board that supports both IP and PSTN.



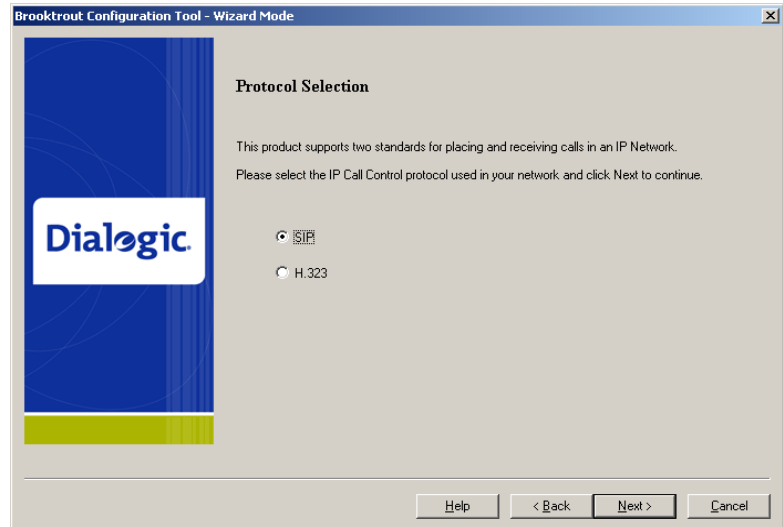
- If you want to configure IP call control, select **Internet Protocol (IP) Network** and refer to [\*Configuring IP Call Control on page 68\*](#).

If you want to configure PSTN call control, select **Public Switched Telephone Network (PSTN)** and refer to ***Configuring PSTN on page 86***

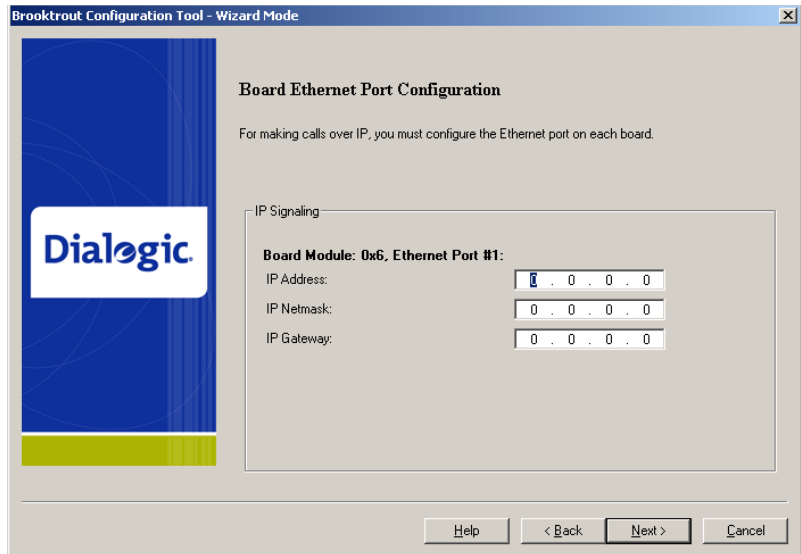
# Configuring IP Call Control

➤ **Follow the steps below to configure IP Call Control:**

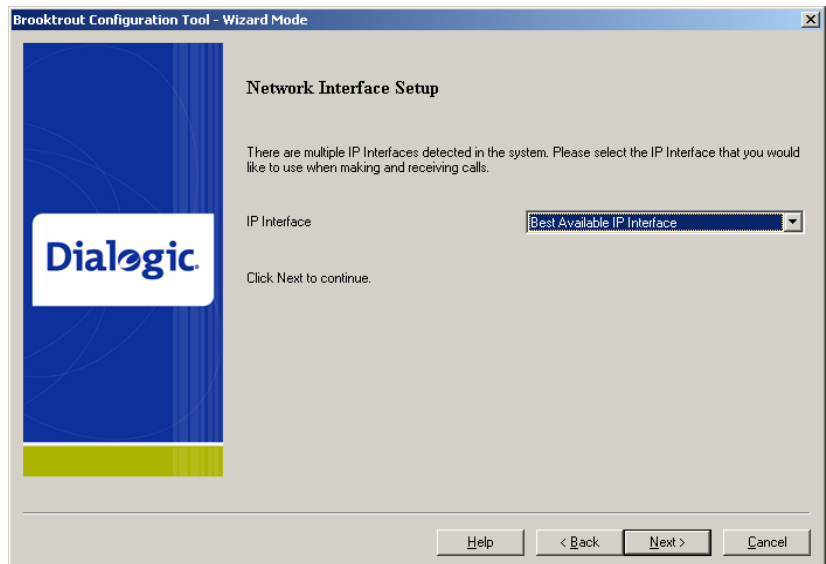
1. The following screen appears either after you select **Internet Protocol (IP) Network** or if your system supports only IP Call Control.



2. Select **SIP** or **H.323**. Click **Next** and the following screen appears if your system is board-based. If your system is software based the following step is skipped.



3. Configure the Ethernet Port for each board detected. Click **Next** and the following screen appears if there are multiple IP Interfaces detected in the system.



4. Specify which network interface to use for IP calls.

5. Refer to one of the sections below depending on which protocol you want to configure:

***Configuring SIP Call Control Protocol on page 70***

***Configuring H.323 Call Control on page 78***

## Configuring SIP Call Control Protocol

The section contains the following procedures.

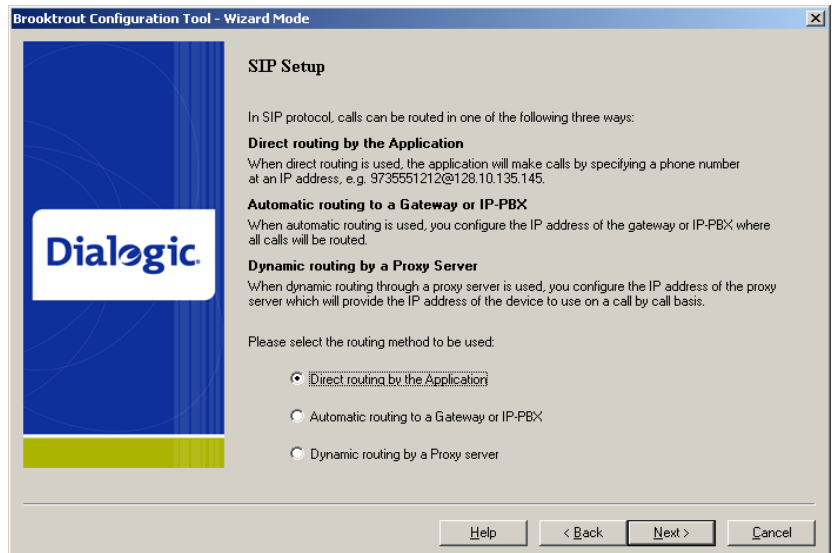
***Configuring Direct Routing by the Application on page 70***

***Configuring SIP Call Control with Gateway or IP-PBX on page 71***

***Configuring SIP Call Control with a Proxy Server on page 72***

## Configuring Direct Routing by the Application

If you chose to configure the SIP Call Control protocol the following screen appears:



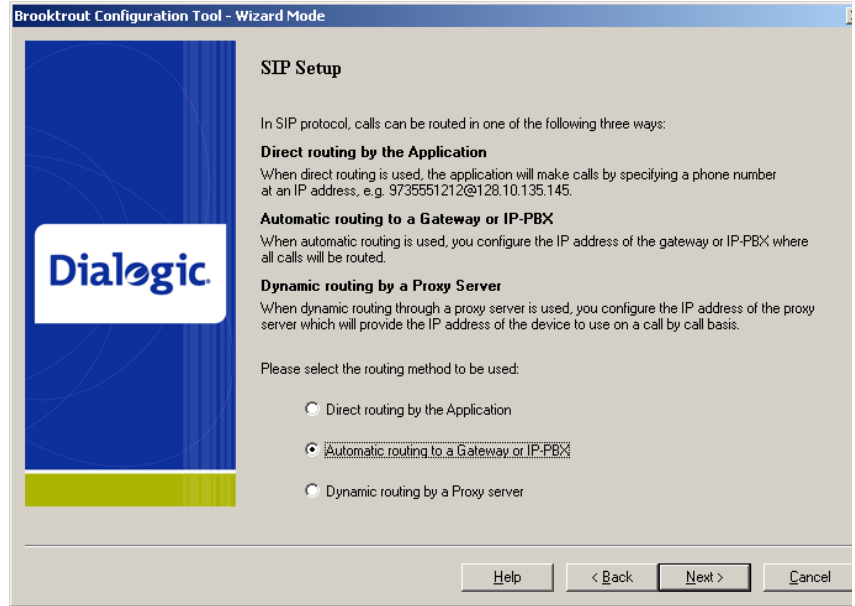
- **Follow the steps below to configure Direct Routing by the Application.**

1. Select Direct routing by the Application.

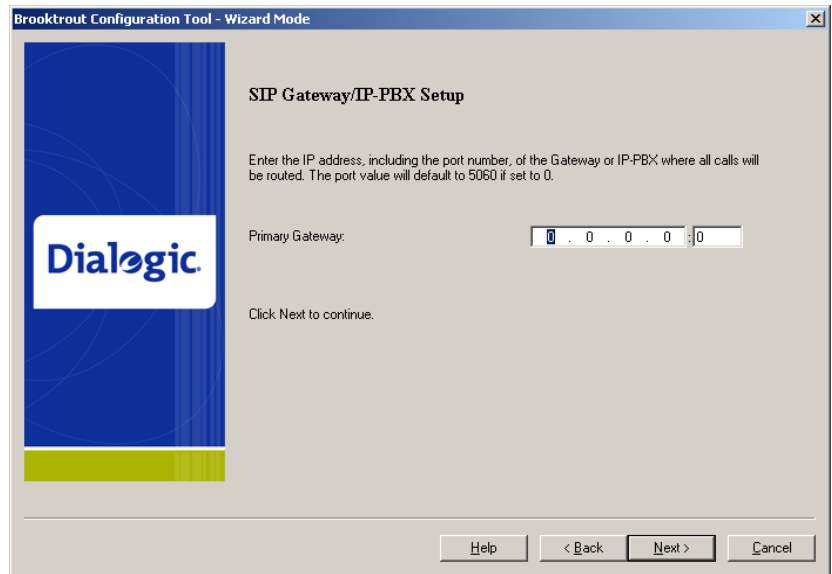
2. There is no routing configuration required because the application routes the call. Click **Next** and refer to [Configuring SIP Fax Setup on page 77](#)

## Configuring SIP Call Control with Gateway or IP-PBX

If you chose to configure the SIP Call Control, the following screen appears.



- **Follow the steps below to configure SIP Call Control with a Gateway or IP-PBX.**
1. Select **Automatic routing to a Gateway or IP-PBX**. Click **Next** and the following screen appears.



2. Enter the Primary Gateway. Click **Next** and refer to [\*Configuring the SIP Registrar on page 75\*](#)

## Configuring SIP Call Control with a Proxy Server

If you chose to configure the SIP Call Control the following screen appears.



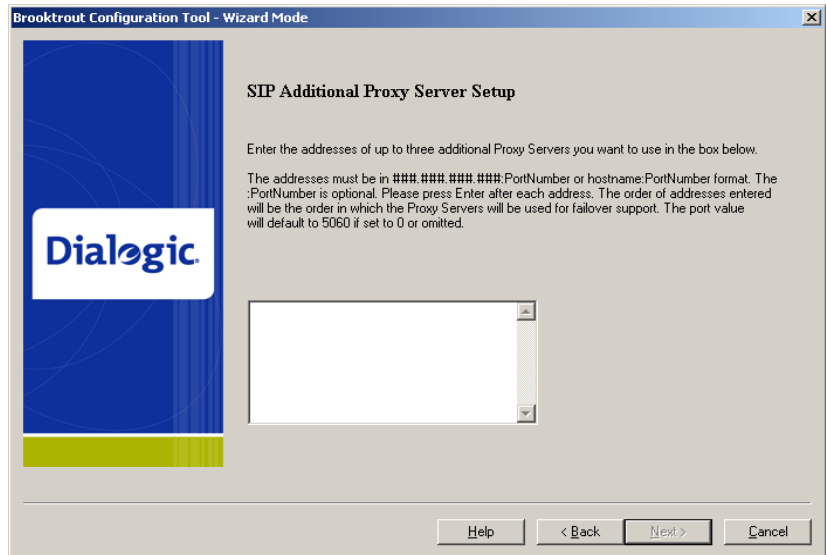


➤ **Follow the steps below to configure SIP Call Control with a SIP Proxy Server**

1. Select **Dynamic routing by a Proxy Server**. Click **Next** and the following screen appears.



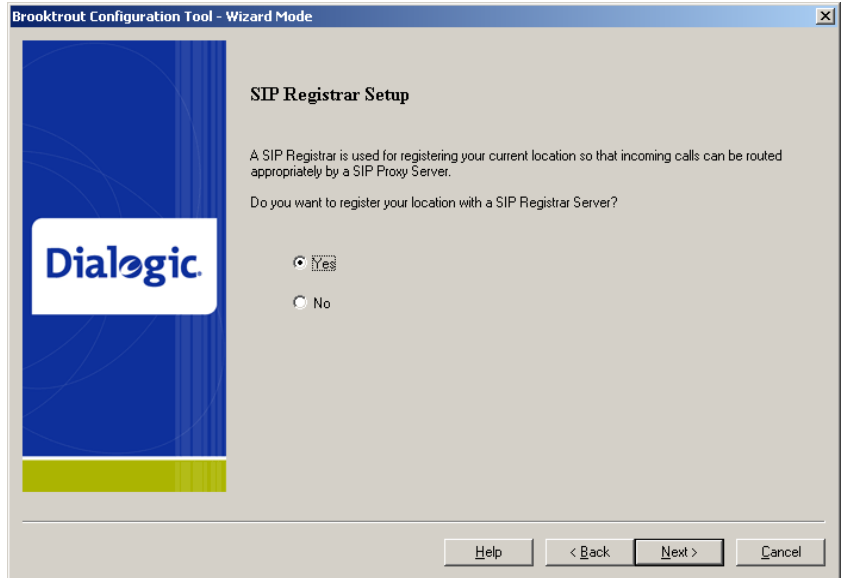
2. Enter the IP address of the Primary Proxy Server and select **Yes** if there are additional proxy servers to configure. Click **Next** and the following screen appears.



3. Enter the IP address of any additional proxy servers. Click **Next** and continue to the next step ***Configuring the SIP Registrar on page 75***

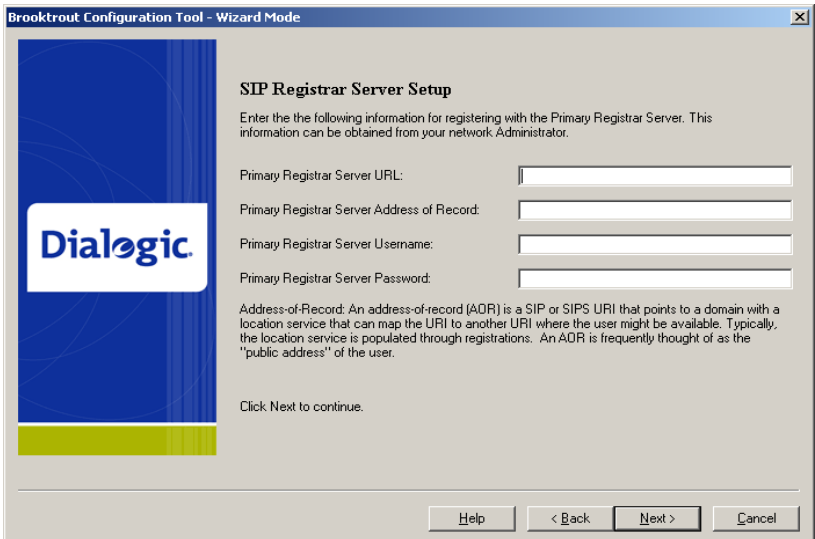
## Configuring the SIP Registrar

- When the screen below appears, you can configure a SIP Registrar.



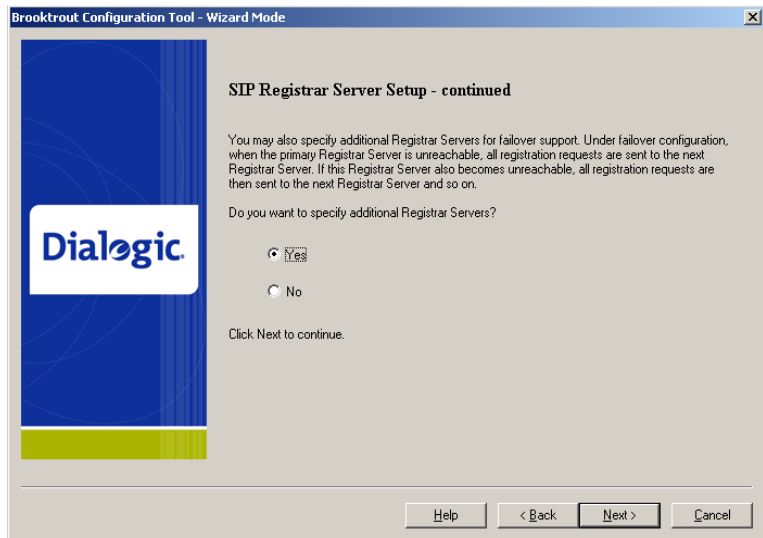
The screenshot shows the 'SIP Registrar Setup' window of the Brooktrout Configuration Tool. On the left is a blue sidebar with the 'Dialogic' logo. The main area has a title 'SIP Registrar Setup' and a description: 'A SIP Registrar is used for registering your current location so that incoming calls can be routed appropriately by a SIP Proxy Server.' Below this is the question 'Do you want to register your location with a SIP Registrar Server?' with two radio buttons: 'Yes' (selected) and 'No'. At the bottom are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.

1. From the screen above, select **Yes** to set up a SIP registrar. Click **Next** and the following screen appears.

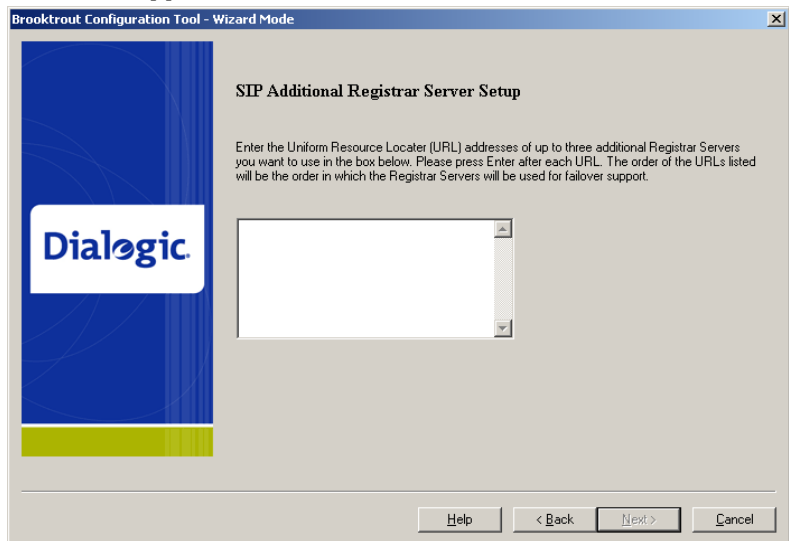


The screenshot shows the 'SIP Registrar Server Setup' window. It has the same blue sidebar with the 'Dialogic' logo. The main area is titled 'SIP Registrar Server Setup' and contains the instruction: 'Enter the the following information for registering with the Primary Registrar Server. This information can be obtained from your network Administrator.' Below this are four text input fields labeled: 'Primary Registrar Server URL:', 'Primary Registrar Server Address of Record:', 'Primary Registrar Server Username:', and 'Primary Registrar Server Password:'. A paragraph explains the Address-of-Record (ADR): 'Address-of-Record: An address-of-record (ADR) is a SIP or SIPS URI that points to a domain with a location service that can map the URI to another URI where the user might be available. Typically, the location service is populated through registrations. An ADR is frequently thought of as the "public address" of the user.' Below this is the instruction 'Click Next to continue.' At the bottom are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.

2. Complete the information on this screen and click **Next**. The following screen appears.



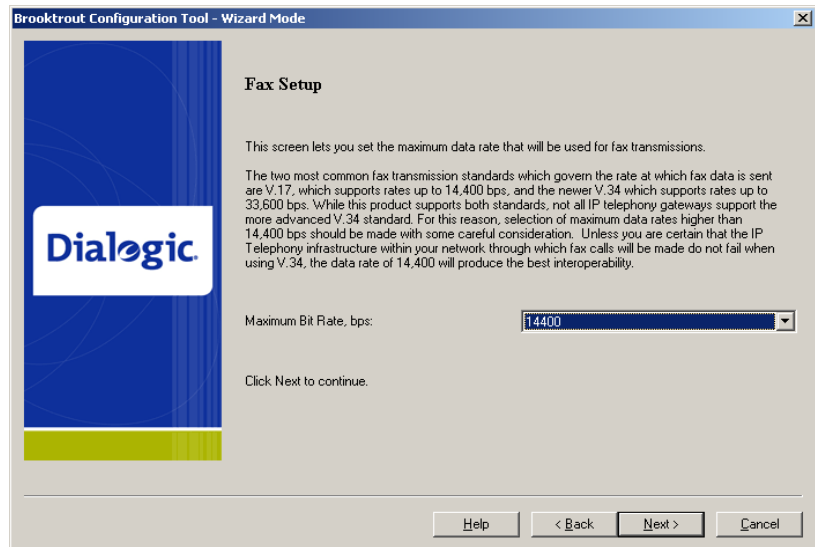
3. Select **Yes** to configure additional registrar servers. The following screen appears.



4. Enter the IP addresses of the additional registrar servers. Click **Next** and the following screen appears. Refer to [\*Configuring SIP Fax Setup on page 77\*](#)

## Configuring SIP Fax Setup

- When the screen below appears, you can configure Fax.



1. Configure the fax transmission and the configuration is complete. Click **Next** and refer to ***Applying Changes after the Configuration is Complete on page 84.***

## Configuring H.323 Call Control

You can configure H.323 Call Control three ways:

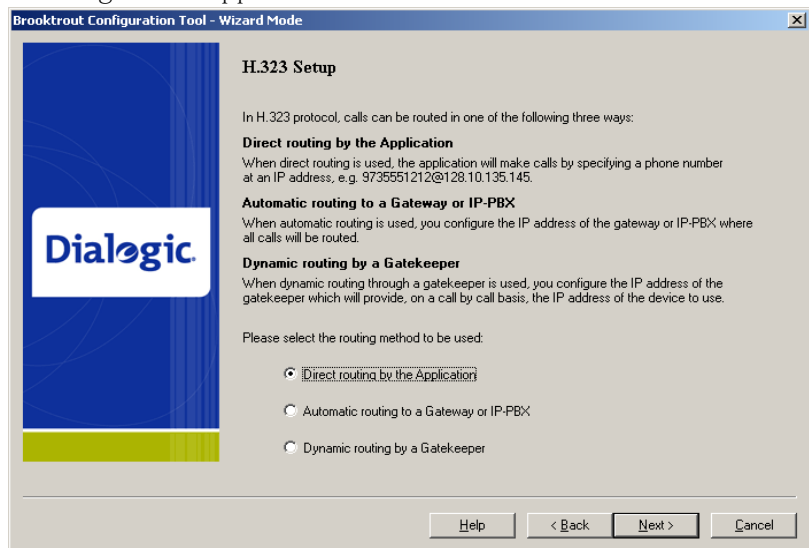
***Configuring H.323 Direct Routing by the Application on page 78***

***Configuring H323 Call Control with a Gateway on page 79***

***Configuring H.323 Call Control with a Gatekeeper on page 80***

### Configuring H.323 Direct Routing by the Application

If you chose to configure the H.323 Call Control, protocol the following screen appears.



➤ **Follow the steps below to configure Direct Routing by the Application.**

1. Select **Direct routing by the Application**.
2. This is no routing configuration required because the application routes the call. Click **Next** and refer to ***Configuring H.323 Fax Setup on page 82***

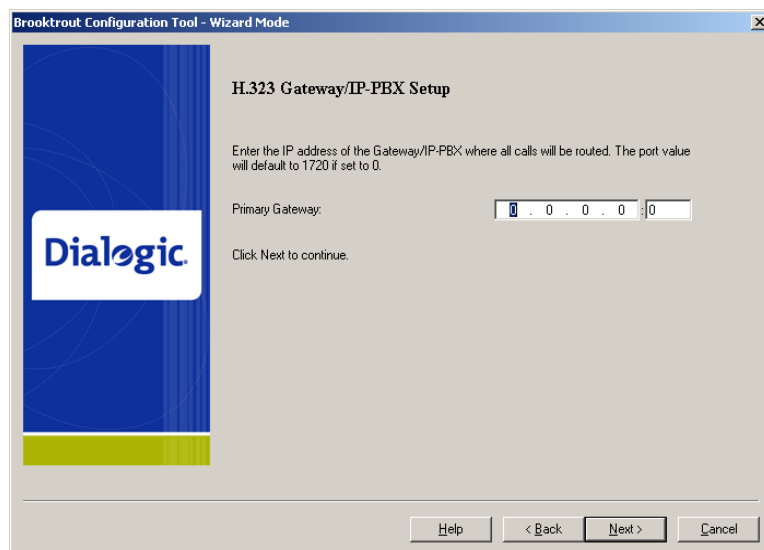
## Configuring H323 Call Control with a Gateway

If you chose to configure the H.323 Call Control protocol the following screen appears.



➤ **Follow the steps below to configure H.323 Call Control with a Gateway or IP-PBX.**

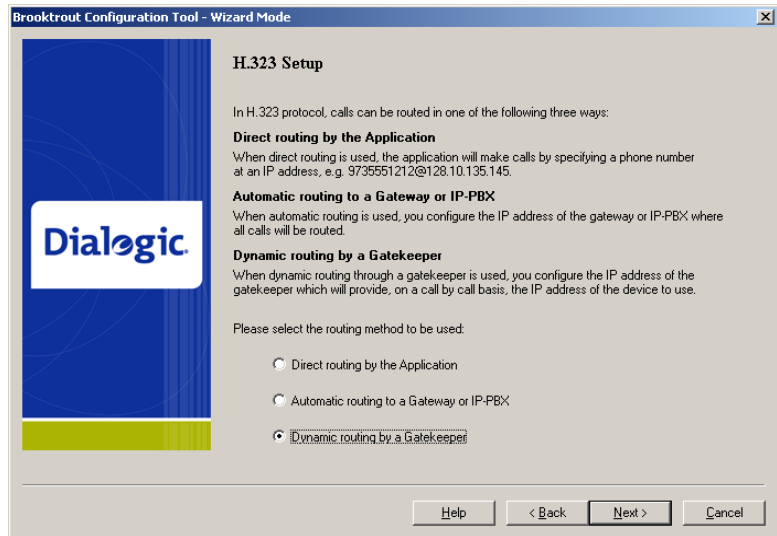
1. Select **Automatic Routing to a Gateway or IP-PBX**. Click **Next** and the following screen appears.



2. Enter the Primary Gateway IP address. Click **Next** and refer to ***Configuring H.323 Fax Setup on page 82.***

## Configuring H.323 Call Control with a Gatekeeper

If you chose to configure the H.323 Call Control protocol the following screen appears.





➤ **Follow the steps below to configure H.323 Call Control with a Gatekeeper:**

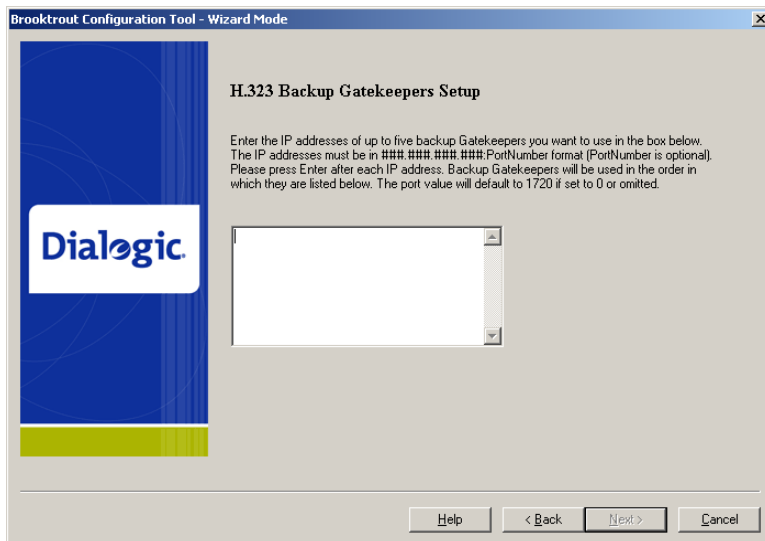
1. Select **Dynamic Routing by a Gatekeeper**. Click **Next** and the following screen appears.

The screenshot shows a window titled "Brooktrout Configuration Tool - Wizard Mode". On the left is a blue vertical bar with the "Dialogic" logo. The main area is titled "H.323 Gatekeeper Setup". It contains the following text: "Enter the IP address, including port number, of the primary Gatekeeper where all calls will be routed. The port value will default to 1720 if set to 0." Below this is a text input field for the "Primary Gatekeeper" with the value "0.0.0.0" and a port field set to "0". Below the input fields is the text "Click Next to continue." At the bottom right are four buttons: "Help", "< Back", "Next >", and "Cancel".

2. Enter the IP Address of the Primary Gatekeeper. Click **Next** and the following screen appears.

The screenshot shows a window titled "Brooktrout Configuration Tool - Wizard Mode". On the left is a blue vertical bar with the "Dialogic" logo. The main area is titled "H.323 Gatekeeper Setup - continued". It contains the following text: "You may also specify backup Gatekeepers that can be used for failover situations. If the primary Gatekeeper cannot be reached, all calls will then be routed to the next backup Gatekeeper that is available." Below this is the question "Do you want to specify backup Gatekeepers?". There are two radio button options: "Yes" (which is selected) and "No". Below the radio buttons is the text "Click Next to continue." At the bottom right are four buttons: "Help", "< Back", "Next >", and "Cancel".

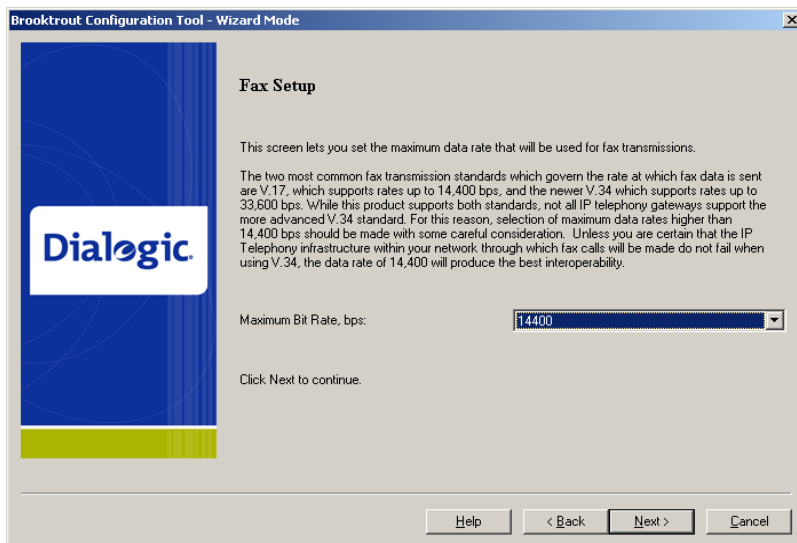
3. Select **Yes** to specify additional gatekeepers. Click **Next** and the following screen appears.



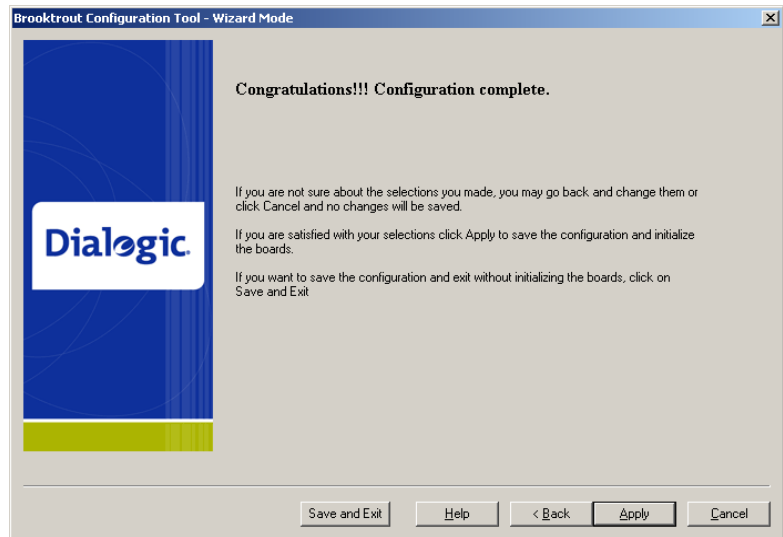
4. Enter the IP addresses of the additional gatekeepers. Click **Next** and refer to [Configuring H.323 Fax Setup on page 82](#)

## Configuring H.323 Fax Setup

- When the screen below appears, you can configure Fax.

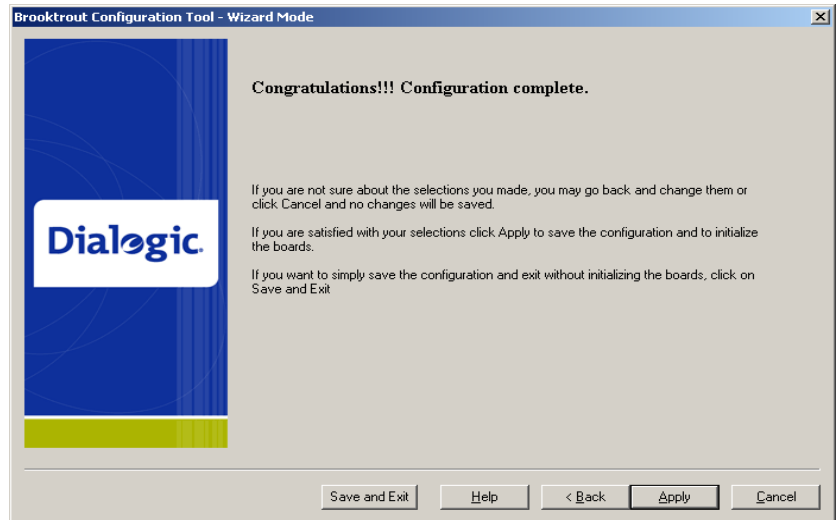


1. Configure the fax transmission and the configuration is complete. Click **Next** and refer to ***Applying Changes after the Configuration is Complete on page 84.***



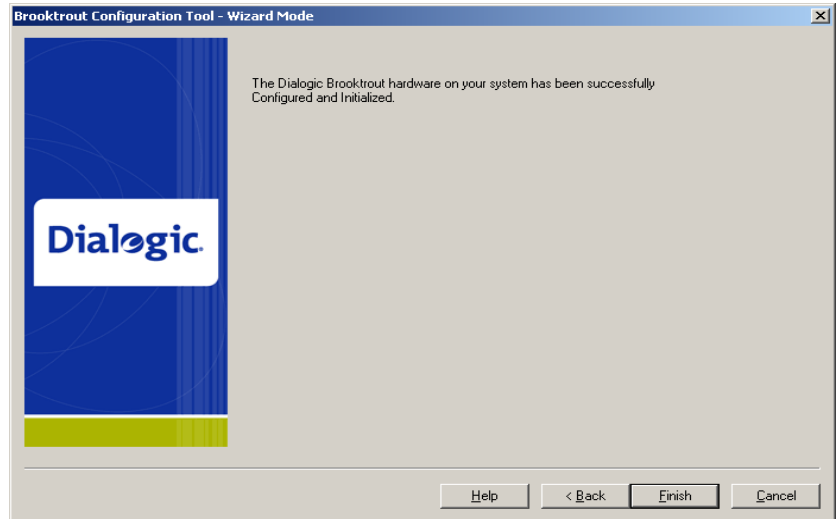
## Applying Changes after the Configuration is Complete

➤ *Follow the steps below to save apply the changes.*



1. Click either **Save and Exit**, **Help**, **Back**, **Apply**, or **Cancel**.
  - ◆ **Save and Exit**
    - ◆ Save the configuration and Exit without initializing the modules.
  - ◆ **Help**
    - ◆ Displays help for the Configuration Tool.
  - ◆ **Back**
    - ◆ Displays previous page.
  - ◆ **Apply**
    - ◆ Saves the configuration and initializes the modules.
  - ◆ **Cancel**
    - ◆ Does not save the configuration and exits.

2. Click **Apply** and the board is initialized and configured. The following screen appears.

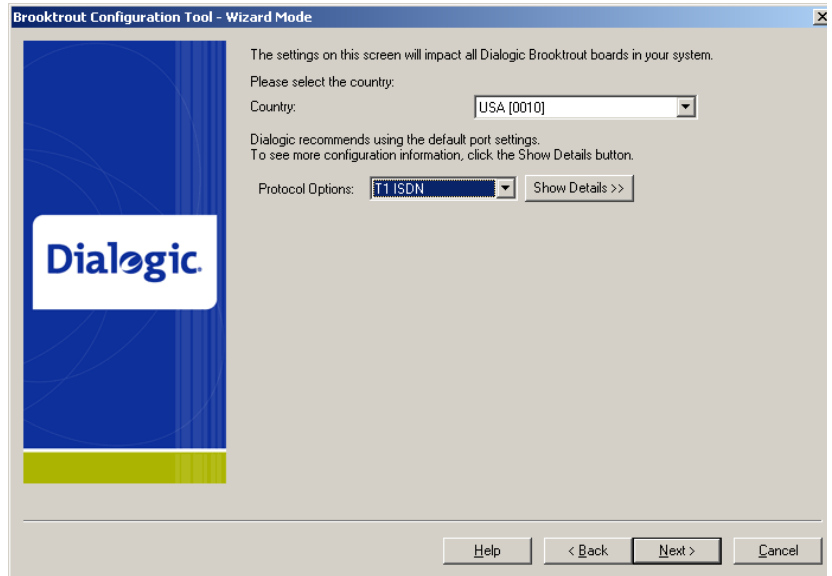


# Configuring PSTN

## Protocol Options

Dialogic recommends that you accept the defaults that are based on the modules the Configuration Tool identified in your system. In this example, the module uses the T1 ISDN protocol.

**Note:** In Wizard Mode all the ports of all the modules will be configured with the same port setting.



- Click the **Show Details >>** button.

Note the details of the protocol chosen by the Configuration Tool.

## Protocol Details

The protocol details appear in the panel below the **Protocol Options**. The options are dependent on the protocol chosen.

This example displays the options for the T1 ISDN protocol.

See the Configuration Files in **Volume 6** of the ***Bfv API Reference Manual*** for more information about the protocol parameters.

**Note:** In wizard mode all the ports of all the modules will be configured with the same port setting.

Brooktrout Configuration Tool - Wizard Mode

The settings on this screen will impact all Brooktrout boards in your system.

Please select the country:

Country:

Brooktrout recommends using the default port settings.  
To see more configuration information, click the Show Details button.

Protocol Options:

Analog

Protocol File:

Country Variant File:

Max DID Digits:

DID Offset:

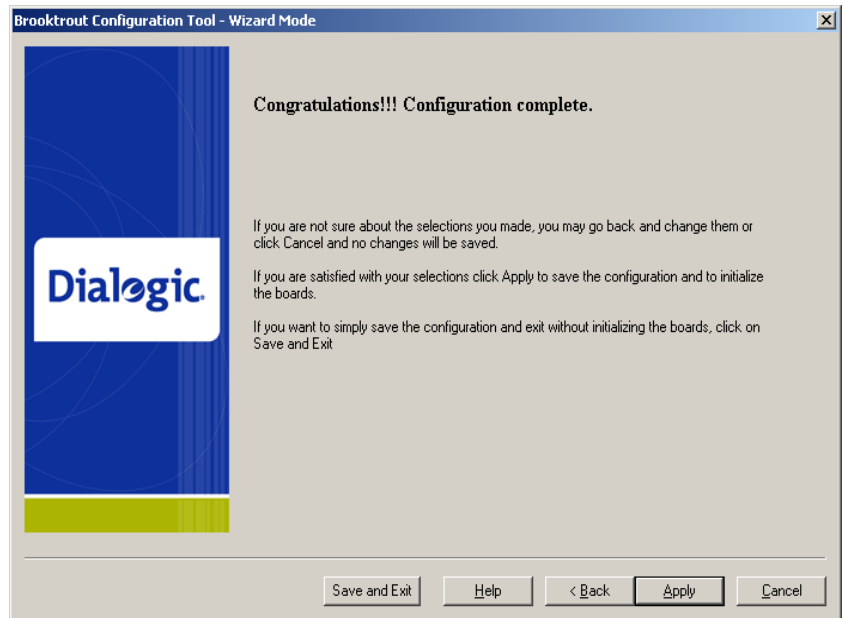
Enable Caller ID:

Number of Rings:

Enable Loop Reversal For Connect:

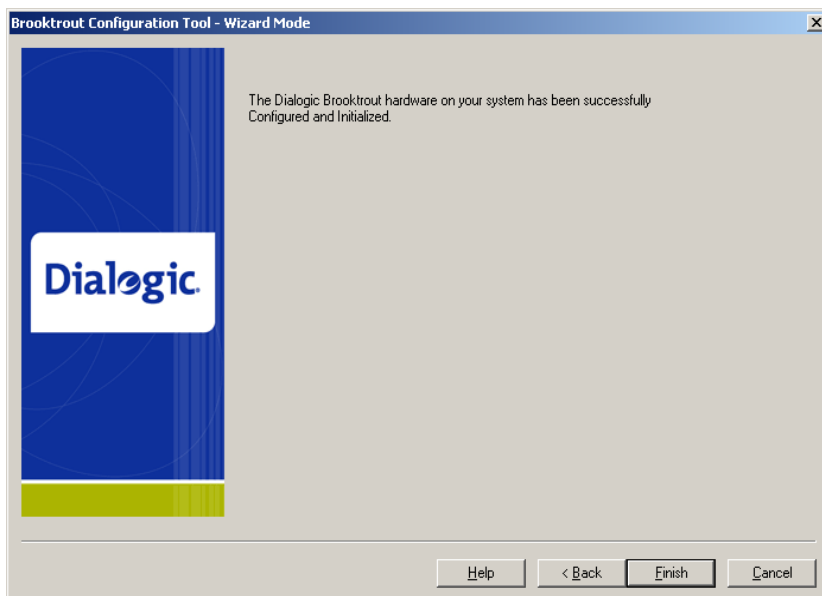
- Click **Next**.

The following screen appears.



5. Click either Save and Exit, Help, Back, Apply, or Cancel.
  - ◆ Save and Exit
    - ◆ Save the configuration and Exits without initializing the modules.
  - ◆ Help
    - ◆ Displays help for the Configuration Tool.
  - ◆ Back
    - ◆ Displays previous page.
  - ◆ Apply
    - ◆ Saves the configuration and initializes the modules.
  - ◆ Cancel
    - ◆ Does not save the configuration and exits.
6. The **Finish** window appears if you selected **Apply**.





7. Click **Finish** to complete the configuration.

# Advanced Mode

If you have different types of Dialogic® Brooktrout® modules in your system or you want to configure your identical modules differently, you must use Advanced Mode:

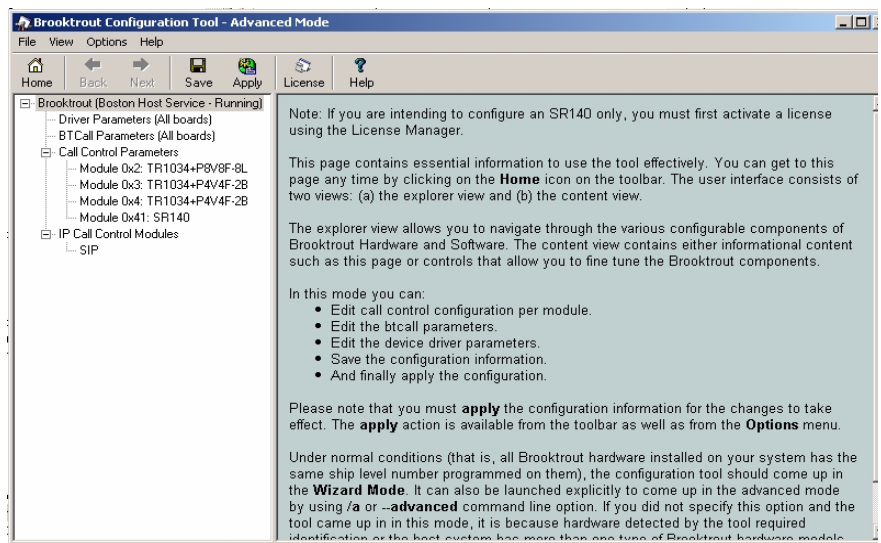
- When the Dialogic® Brooktrout® Configuration Tool detects that you have different modules, it starts in Advanced Mode.
- When you start the Configuration Tool in Wizard Mode, you can move to Advanced Mode immediately by clicking the **Advanced Mode** button.

The Advanced Settings parameters for all module types are presented in logical groups. The ordering of the groups is alphabetical. The ordering of parameters within a group is according to their relative importance.

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 104](#).

## 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 93.\*](#)
- ◆ Select **BTCall Parameters** to display the BTCall Parameters dialog box.  
For sample values, see [\*BTCall Parameters \(All boards\) on page 102.\*](#)
- ◆ Select **Call Control Parameters** to display the Call Control Parameters dialog box.  
For sample values, see [\*Call Control Parameters on page 104.\*](#)
- ◆ Select **IP Call Control Parameters** to display the IP Call Control Parameters dialog box.  
For sample values, see [\*IP Call Control Modules on page 111.\*](#)

## 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 Dialogic® Brooktrout® License Manager.
  - ◆ Configure the IP Stack.
  - ◆ Edit Trace Connections Settings.
  - ◆ 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 Dialogic® Brooktrout® Configuration Tool on page 97.\*](#)
  - ◆ 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 Configuration Tool.

## Advanced Mode Buttons

### ➤ The Advanced Mode window contains these buttons:

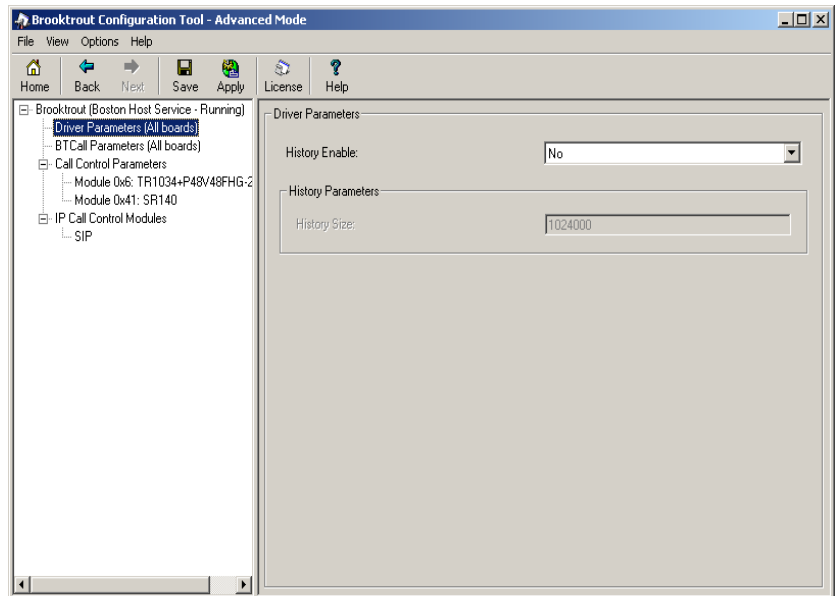
- Select the **Home** button to go to the welcome window if you are not already there.
- The **Next** and **Back** buttons take you to the next or previous pages, respectively.
- The **Save** button saves your configuration.
- The **Apply** button installs, starts or stops the Boston Host Service. It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

If driver parameters were modified, it dynamically reconfigures the drivers on a PnP operating system.

- The **License** button launches the Dialogic® Brooktrout® License Manager (***bkrthcmgr.exe***).
- The **Help** button displays help for the Configuration Tool in any mode.

## Driver Parameters (All boards)

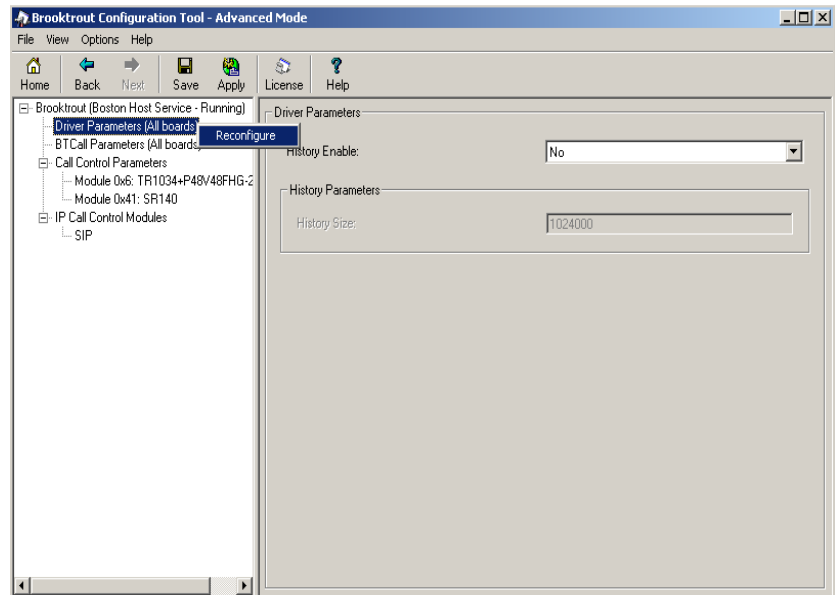
Click on **Driver Parameters (All Boards)** in the left panel to display the **Driver Parameters** in the right panel.



## Reconfigure Drivers

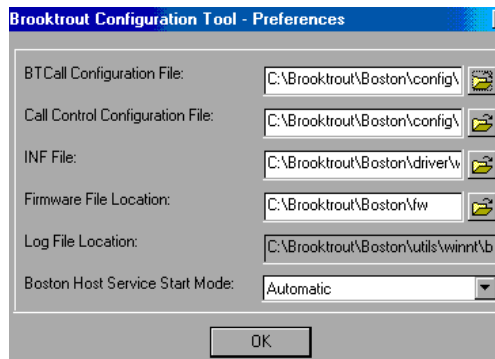
Right-click on **Driver Parameters (All Boards)** in the left panel to reconfigure the driver.

This option dynamically updates the driver parameters by calling ***reconfig*** on a PnP system.

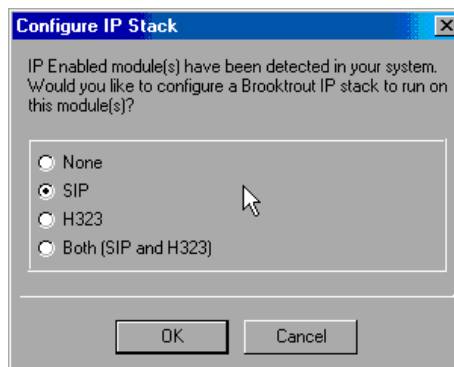


# Running the Dialogic® Brooktrout® Configuration Tool

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)

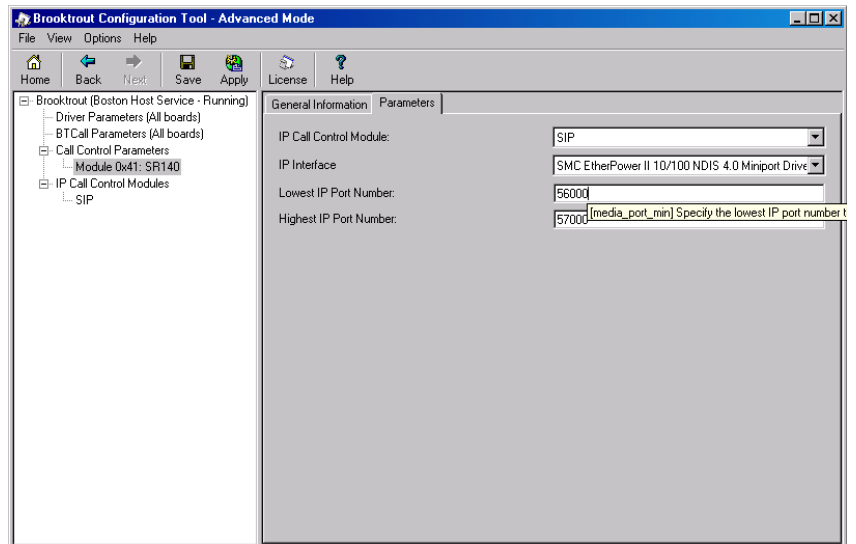
- H.323 - H.323 stack installed
- Both (SIP and H.323) - Both SIP and H.323 stacks installed.



# Getting Help From the Dialogic® Brooktrout® Configuration Tool

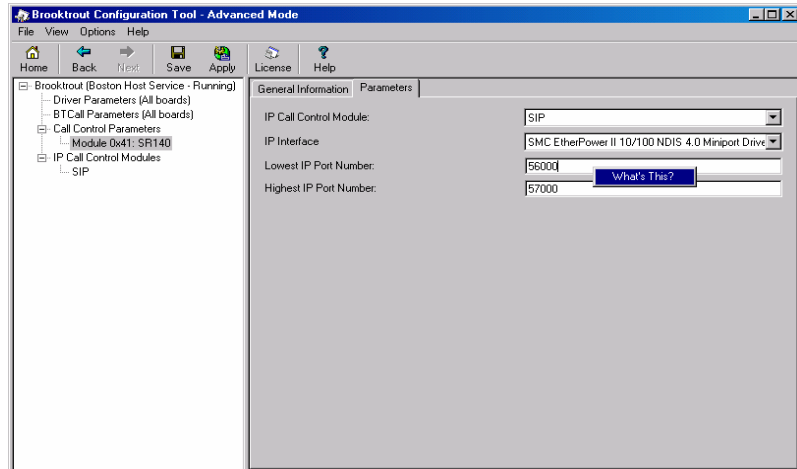
The Dialogic® Brooktrout® Configuration Tool provides context sensitive online help for parameters. The Help displays the purpose and description of the parameter including the default value and range, if applicable.

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

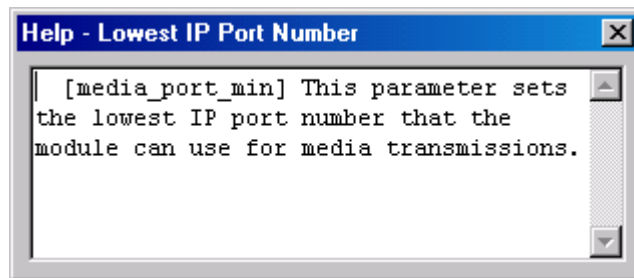


- Right-click the parameter drop-down box to get a more complete definition for Configuration Tool parameters.

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 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 Dialogic® Brooktrout® Configuration Tool on page 97***.
- ◆ 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:

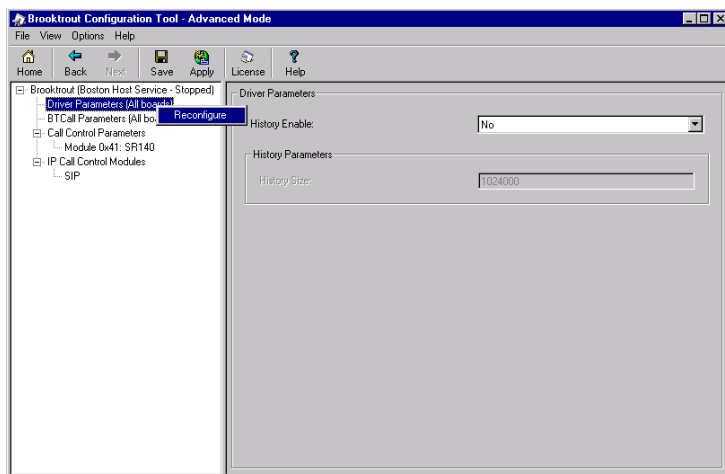
- ◆ Dynamically reconfigures the drivers on a Plug and Play (PnP) operating system.
- ◆ Installs the Boston Host Service if the service is not installed.
- ◆ Stops the Boston Host Service if the service is not running.
- ◆ Starts the Boston Host Service.
- **License** button launches the License Manager (**bkrlicmgr.exe**).
- **Help** button displays help for the Configuration Tool in any mode.

## 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.



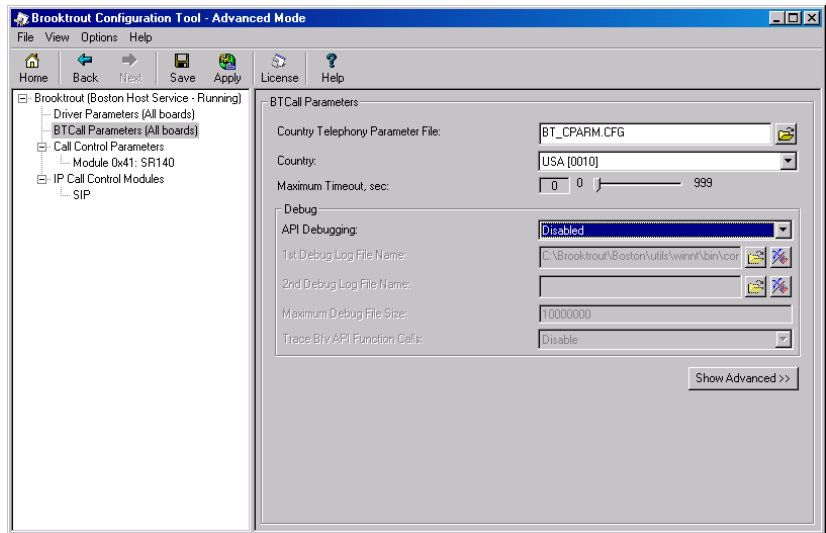
## BTCall Parameters (All boards)

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

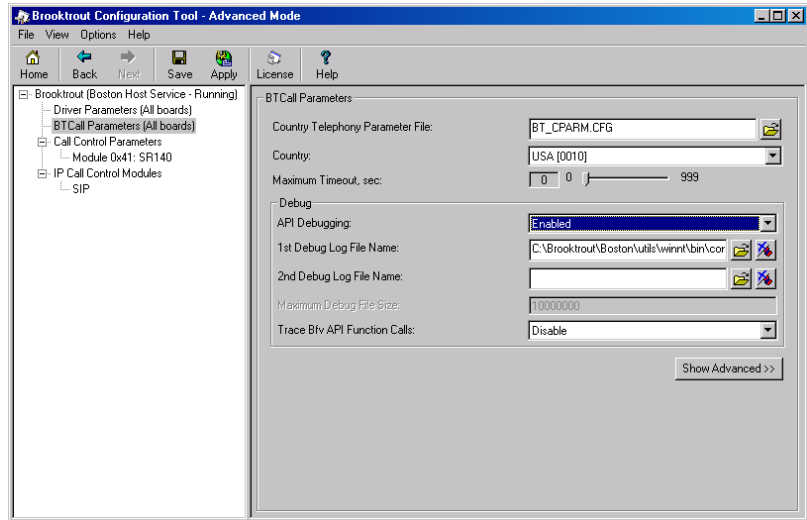
The Bfv API Debug file is the main Brooktrout log, capturing debug information about faxing.

When you enable Bfv 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 Bfv 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 127](#).

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

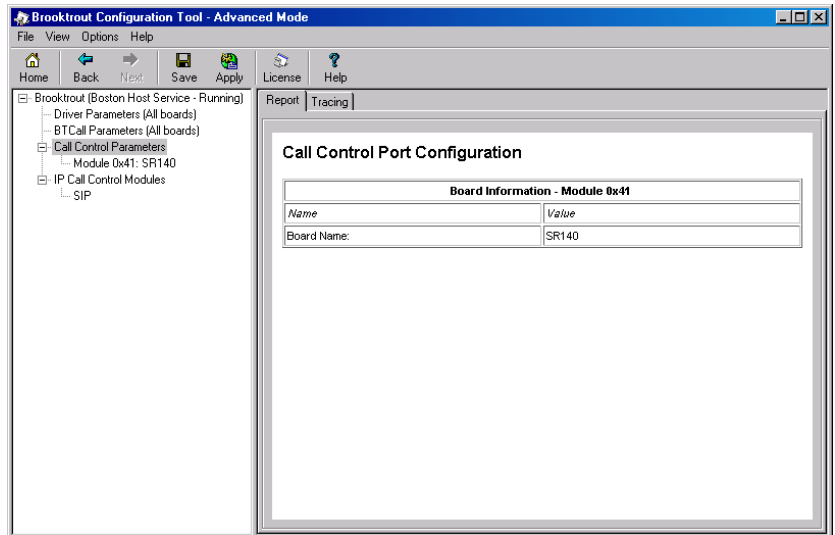
## Call Control Parameters

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

## Reporting and Debugging (Tracing)

### Report Panel

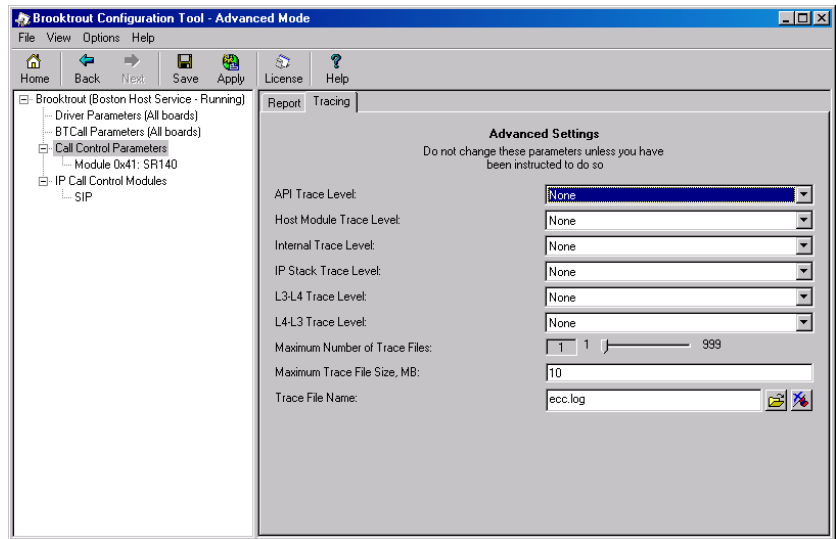
The **Report** tab displays the Call Control Parameters port configuration information.





## 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 Dialogic Technical Services and Support. See [\*Getting Technical Support on page 12.\*](#)

## 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 demonstration 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.

Products with demonstration licenses run with limited functionality. Please note that only one demonstration license may be used at a time. Demonstration licenses have incoming

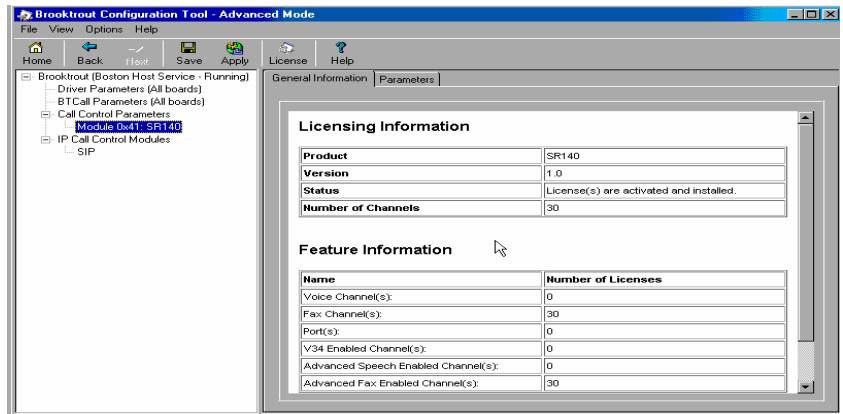
and outgoing fax pages overlaid with a ***Demonstration*** watermark. Once a demonstration license is upgraded to a permanent license, there will be no watermark on the incoming or outgoing fax pages. You can upgrade the demonstration license to a permanent license by activating new license keys without having to re-install the software.

The **Apply** button on the toolbar starts the Boston Host Service to initialize the module. See [Advanced Mode Buttons on page 100](#).

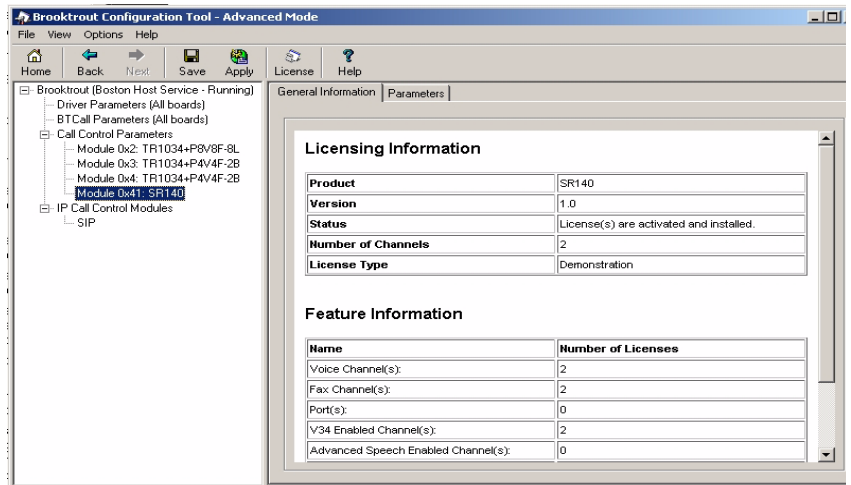
The **License** button on the toolbar launches the License Manager (*bkrlicmgr.exe*).

## General Information Tab for SR140

Use this feature to query the SR140 Fax Software licensing. The following window shows a permanent license:



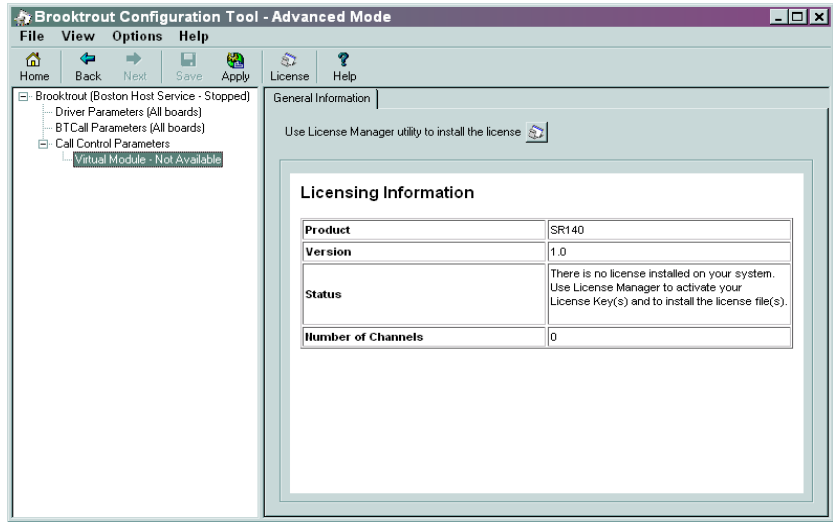
The following window shows a demonstration license:



## Virtual Module - Not Available

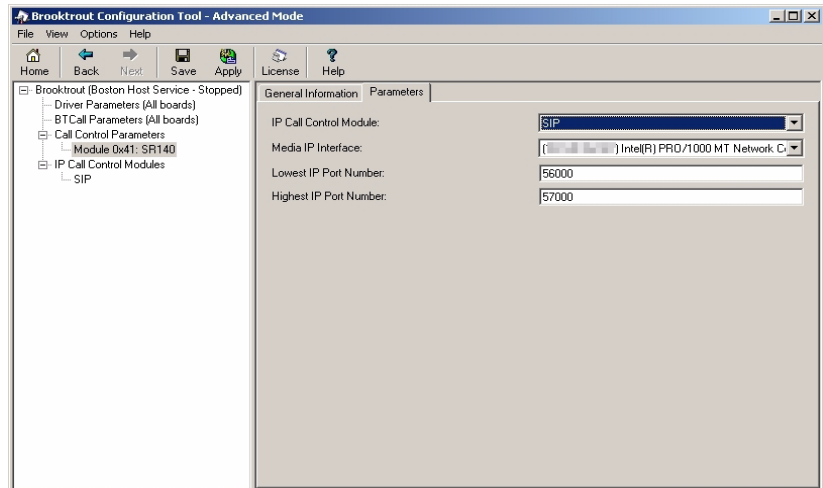
An SR140 module displays in the **General Information** tab even when there is no valid license installed.

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, Media 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.

***Media 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 and RTP) messages and Voice Over IP (RTP G.711) packets. 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 Bfv 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)

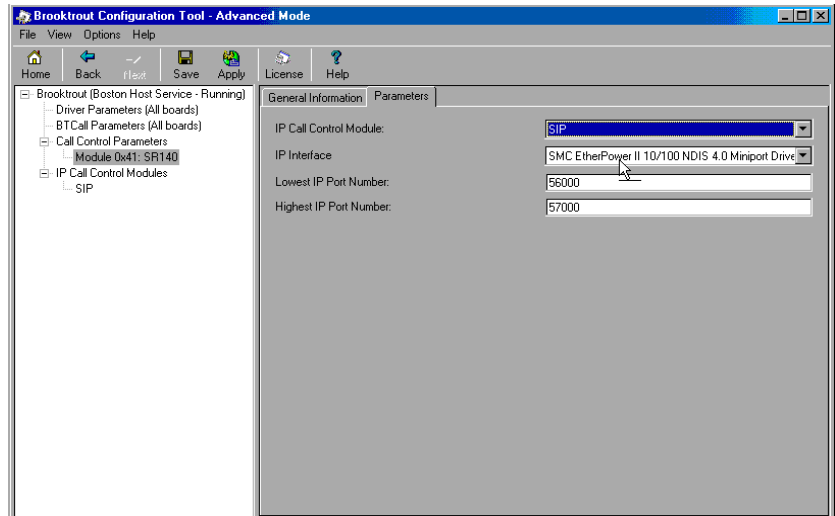
### ***Highest IP Port Number***

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)

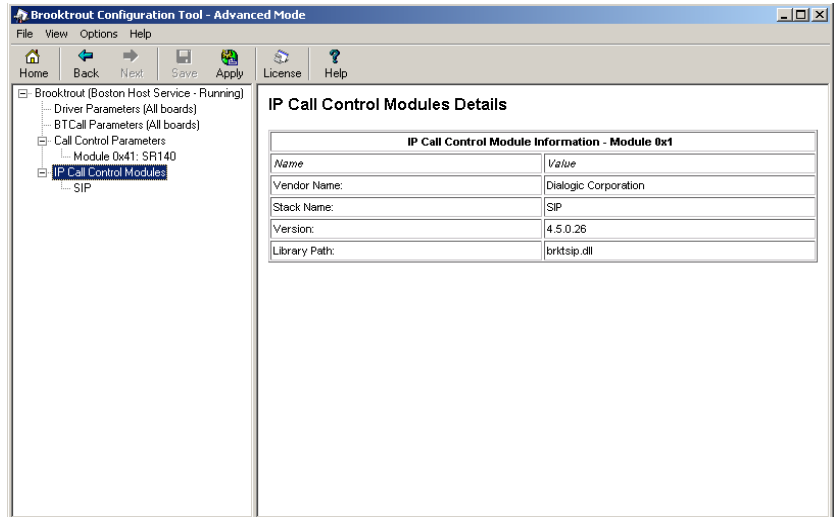


# IP Call Control Modules

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

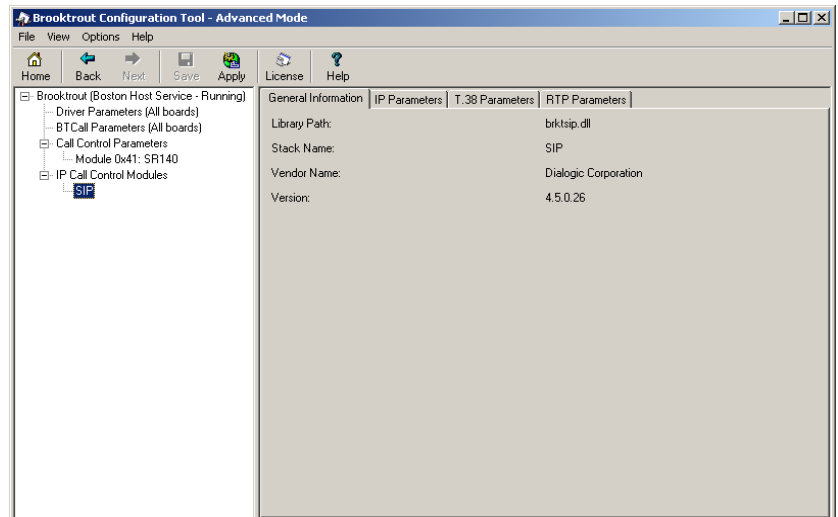
## IP Call Control Modules Details

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



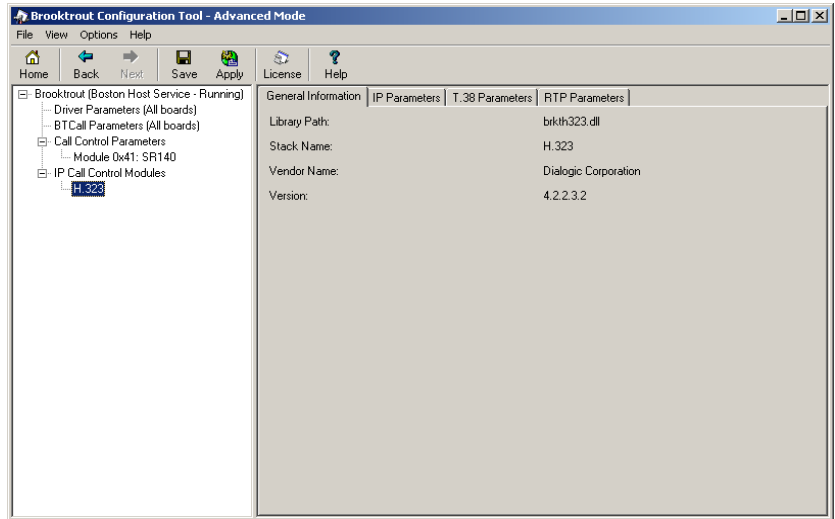
## General Information Tab for SIP Stack

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 allows you to set values for the following parameters. Most of these parameters do not need to be set; the defaults will work, but in practice, just like you configure the ID of a fax machine, you should set **From value** and **Phone Number**. However, if you have multiple NIC cards in your system, and you do not 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 **Contact name** field. This IP address will typically be the same as the IP address selected under "Media 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 the **Primary Proxy Server** and **Primary Registrar Server**. If you do not have a SIP proxy/registration server, you have to set **Primary Gateway** when your application is not setting this value already.



**Contact Name**

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 Media 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)

**Primary 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 Bfv API forwards the call to the gateway specified with this parameter. The Bfv 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 Bfv API does not use this parameter if the configuration file specifies a ***sip\_registration\_server*** or ***sip\_proxy\_server***.

### ***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)

### ***Email Address***

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)

### ***From Value***

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 Fax Software here. Valid values are:

**Range:** 1 - 255 characters

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

**Default:** Anonymous  
<sip:no\_from\_info@anonymous.invalid>"

**Maximum SIP 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

**Phone Number**

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)

**Primary Proxy Server****Additional Proxy Server #2****Additional Proxy Server #3****Additional Proxy Server #4**

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)

***Primary Registrar Server******Additional Registrar Server #3******Additional Registrar Server #4******Additional Registrar Server #4***

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)

***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)

***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***

**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)

The screenshot shows the 'Brooktrout Configuration Tool - Advanced Mode' window. The left sidebar contains a tree view with the following structure:

- Brooktrout (Boston Host Service - Running)
  - Driver Parameters (All boards)
  - BT Call Parameters (All boards)
  - Call Control Parameters
    - Module 0x41: SR140
    - IP Call Control Modules
      - SIP** (selected)

The main configuration area is divided into tabs: General Information, IP Parameters, T.38 Parameters, and RTP Parameters. The 'IP Parameters' tab is active, showing the following fields:

- Maximum SIP sessions: 256 (slider from 1 to 1000)
- Primary Gateway: 0 . 0 . 0 . 0 :0
- Primary Proxy Server: [empty text box]
- Additional Proxy Server #2: [empty text box]
- Additional Proxy Server #3: [empty text box]
- Additional Proxy Server #4: [empty text box]
- Primary Registrar Server: [empty text box]
- Additional Registrar Server #2: [empty text box]
- Additional Registrar Server #3: [empty text box]
- Additional Registrar Server #4: [empty text box]
- From value: Anonymous <sip:no\_from\_info@anonymous.invalid>
- Contact name: 0 . 0 . 0 . 0 :0
- Username: [empty text box]
- Session name: no\_session\_name
- Session description: [empty text box]
- Description URI: [empty text box]

## 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 123](#)). 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 Media 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.

### **Primary 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 Bfv API forwards the call to the gateway specified with this parameter. The Bfv 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 Bfv API does not use this parameter if the configuration file specifies a value of 1 for the **h323\_register** parameter.

### ***E.164 Aliases***

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>

### ***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>

**Primary Gatekeeper****Fallback Gatekeeper #2****Fallback Gatekeeper #3****Fallback Gatekeeper #4****Fallback Gatekeeper #5****Fallback Gatekeeper #6**

Specifies the IP address of up to six H.323 gatekeepers 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)

**Gatekeeper Time to Live**

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



**Local H.323 Terminal ID**

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>

**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 Media IP Interface parameter in the **IP Parameters** tab under the SR140 module. Valid values are:

<b>xxx.xxx.xxx.xxx</b>	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
<b>0.0.0.0:0</b>	Configures the system to use the address of the first Ethernet module and port number 1720.
<b>Range:</b>	0 – 255 for each dotted decimal position of the IP address. 1 – 65535 for the port number
<b>Value Type:</b>	dotted decimal
<b>Default:</b>	0.0.0.0:0 (uses first Ethernet module and port number 1720)

***Name of Manufacturer***

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

**Range:** Up to 256 characters

**Value Type:** Unicode character string

**Default:** "Dialogic Corporation"

***Manufacturer Code***

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.

***Maximum H323 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 in the system because the system can be tearing down a call while processing the next call. Setting this to a higher value will not increase the number of simultaneous fax calls that have been licensed. Valid values are:

**Range:** 1 through 65535 (inclusive)

**Value Type:** decimal

**Default:** 256

***Register with Gatekeeper***

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

***Support Alternate Gatekeepers***

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.35 Country Code**

Specifies a code identifying the international country that manufactured the H.323 terminal making the call. The code allows other H.323 terminals to know the origin of the H.323 terminal. The ITU-T Recommendation T35 Annex A lists the country codes used for H.323 Non-Standard Facilities (NSF).

***Range:*** 0 - 255

***Value type:*** decimal

***Default:*** 181

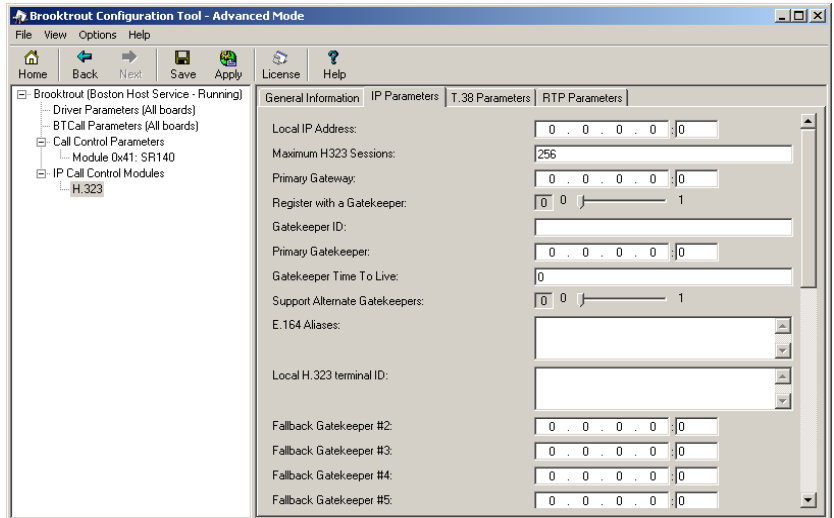
### T.35 Country Code Modifier

This parameter specifies a modifier for the country code of the vendor's H.323 terminal making the call. If the T.35 country code is defined as hexadecimal FF, this extension value defines a two-byte manufacturer country code.

- 0 = Does not support alternate gatekeepers.
- 1 = Supports alternate gatekeepers when necessary.

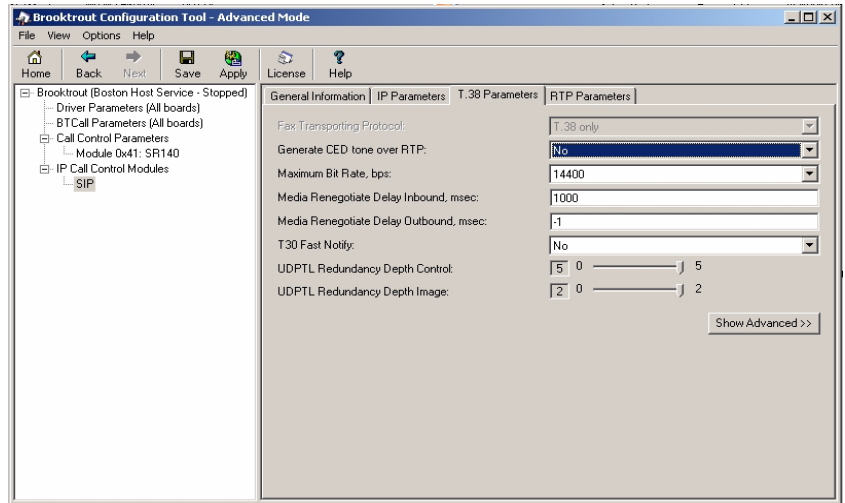
**Value type:** integer

**Default:** 0



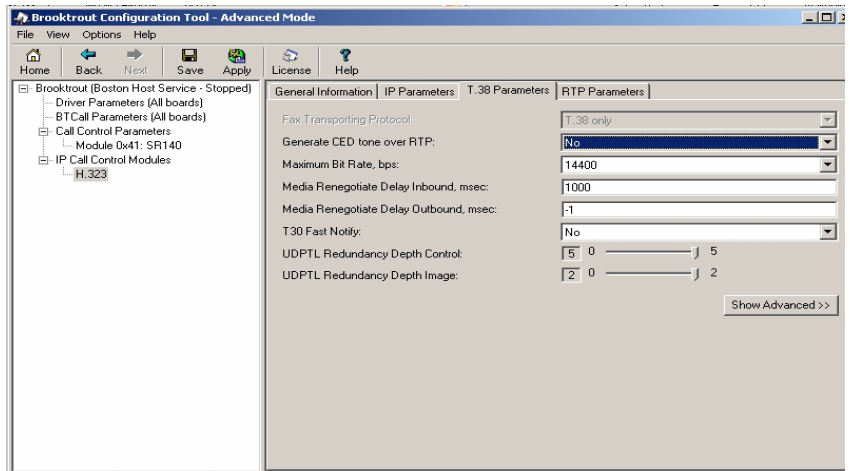
### T.38 Parameters Tab for SIP Stack

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.



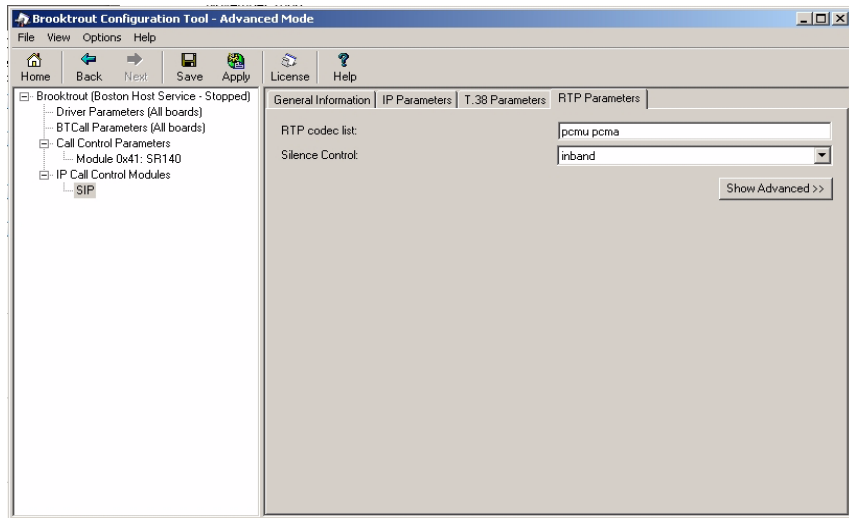
### T.38 Parameters for H.323 Stack

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.



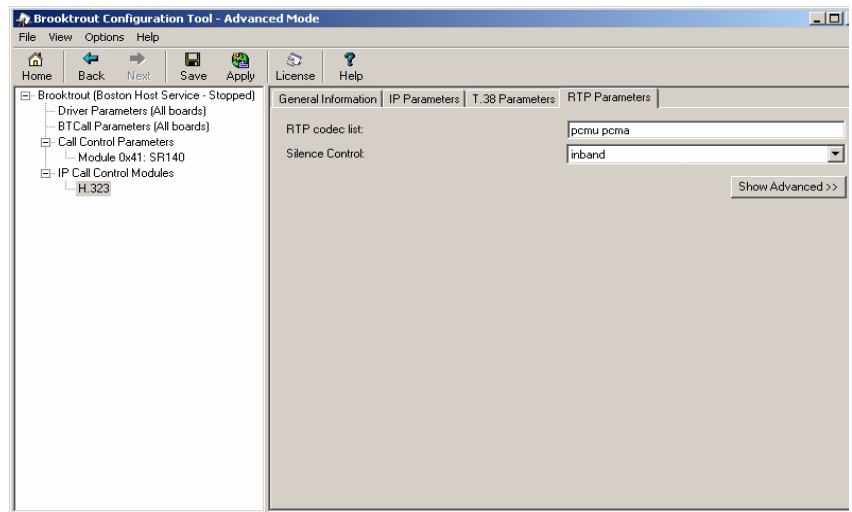
## RTP Parameters for SIP Stack

In the current release you cannot modify the values on the RTP Parameters tab.



## RTP Parameters for H.323 Stack

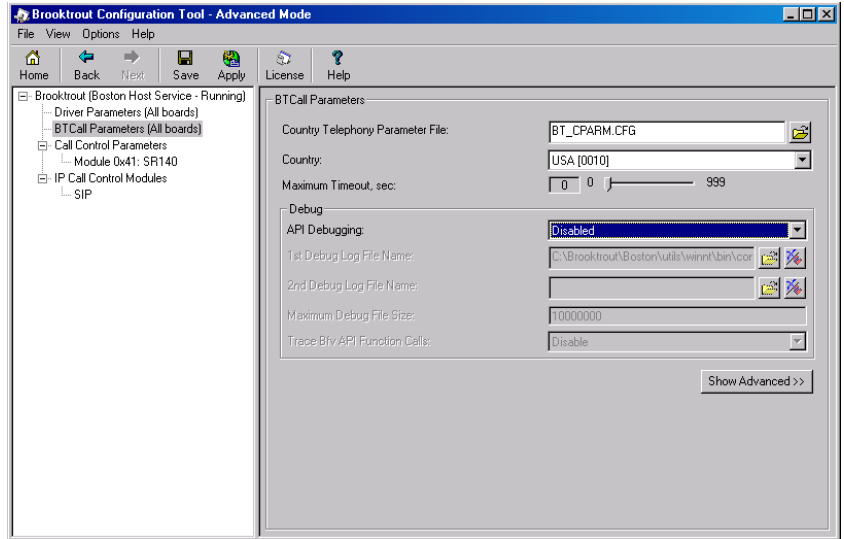
In the current release, you cannot modify the values on the RTP Parameters tab.



# 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.



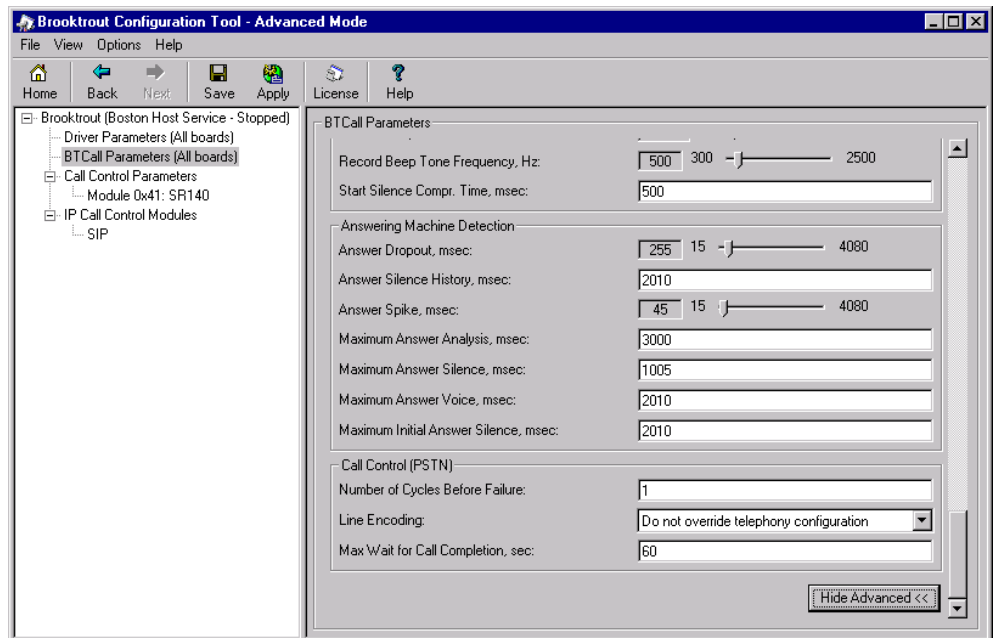
## Hide Advanced Button

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 Dialogic Technical Services and Support for more information. See [Getting Technical Support on page 12](#).





# Returning to the Default Configuration

➤ ***To return to the default configuration, follow the instructions below:***

1. While in the Advanced Mode, click on Options->Preferences and notice where the BTCall Configuration File and the Call Control Configuration File are located.
2. Exit from the Configuration Tool.
3. Delete either the BTCall Configuration File or the Call Control Configuration File or both based on what you would like to reset.
4. Next start the Configuration Tool again.

# 5 - Testing Dialogic® Brooktrout® SR140 Software and TR1034/Trufax Boards

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This chapter explains how to use Dialogic® Brooktrout® Fax/Voice Diagnostic Test Tool for Windows® SDK version 6.3 to test the following:

- Dialogic® Brooktrout® SR140 Fax Software
- Dialogic Brooktrout® TR1034 Series and Dialogic Brooktrout® TruFax® boards



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® SR140 Fax Software on page 27](#).

If you ISV's application does not contain the Diagnostic Test Tool, you can download a copy from the Dialogic Technical Services and Support website. See [Getting Technical Support on page 12](#) and download the FDTool test tool that supports Boston driver version 6.3.

Also at the website 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 8 channels simultaneously on the FDTTool Diagnostic Tool in a Windows® operating system. See System Requirements on page 128. The System Requirements should be the same as in the SDK 6.3 Release Notes.

This chapter covers the following major topics:

- ***System Requirements***
- ***Installing the Diagnostic Test Tool***
- ***Menus and Submenus***
- ***Generating Logs for Troubleshooting***

# 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 fax software and TR1034/Trufax boards:

- 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, Service Pack 2
- Windows Server® 2008



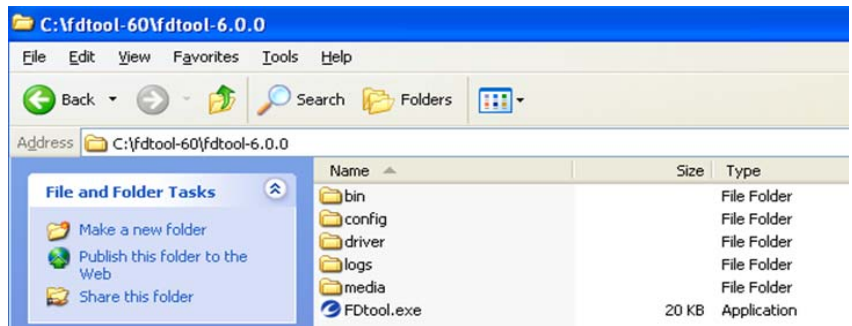
**Windows® 2000 with Service Pack 4 requires Windows® Update 822831 due to a Windows® issue with Service pack 4 that would cause the PnP driver to fail.**

# Installing the Diagnostic Test Tool

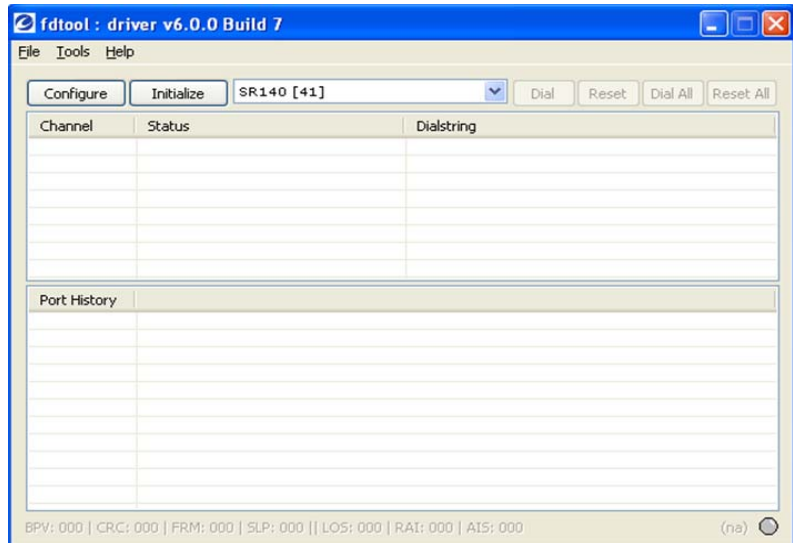
This section describes how to install and configure the diagnostic test tool and generate log files.

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:

5. Go to the following Dialogic website  
<http://www.dialogic.com/support/helpweb/brooktrout/>).
6. Under Diagnostic and Testing Utilities selected Using the Dialogic Brooktrout Fax and Voice Diagnostic Tool for Windows.
7. Below FDtool for Drivers v6.3 - SDK 6.3, select **Download**.
8. Save the zip file to an empty directory and unzip it.
9. Extract the files to the current directory.



10. To launch the Diagnostic Test Tool, double-click the FDTool.exe icon. The following screen appears.



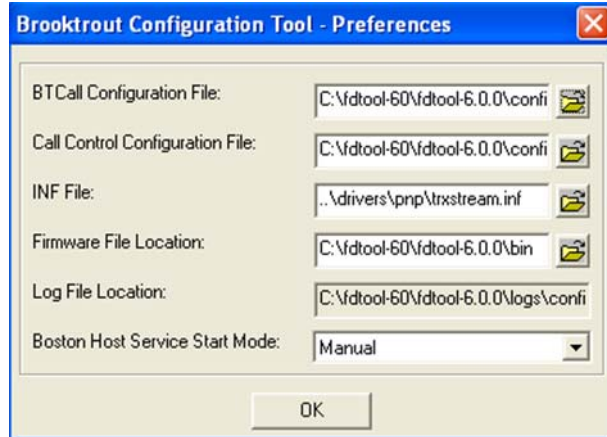
# Menus and Submenus

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

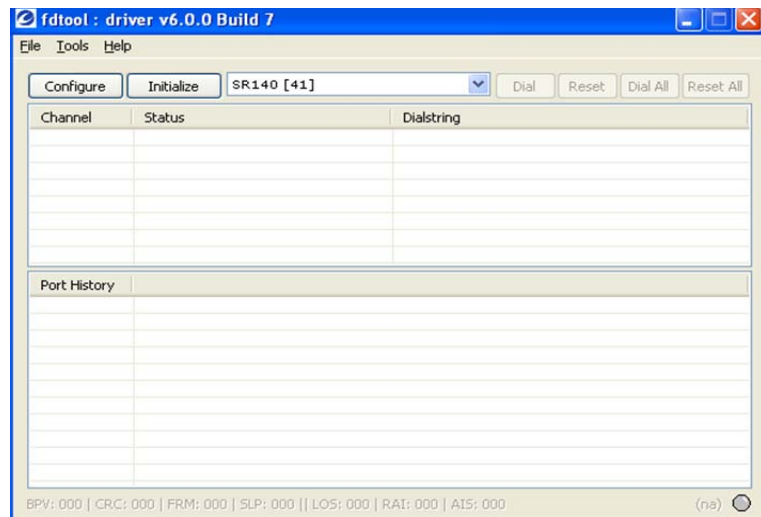
**Table 3. Diagnostic Test Tool Menus and Submenus**

Menus	Submenus
<b><i>File</i></b>	<ul style="list-style-type: none"><li>◆ Configure</li><li>◆ Initialize</li><li>◆ Exit</li></ul>
<b><i>Tool</i></b>	<ul style="list-style-type: none"><li>◆ Debug</li><li>◆ VTTY Tracer</li><li>◆ Reset Alarm Counters</li><li>◆ Reset Configuration</li><li>◆ Send Multiple TIFF</li><li>◆ Reject Incoming Calls</li></ul>
<b><i>Help</i></b>	<ul style="list-style-type: none"><li>◆ Help</li><li>◆ About fdtool</li></ul>

11. From the fdtool-60\fdtool-6.0.0 screen click the **Configure** button.  
The following screen appears

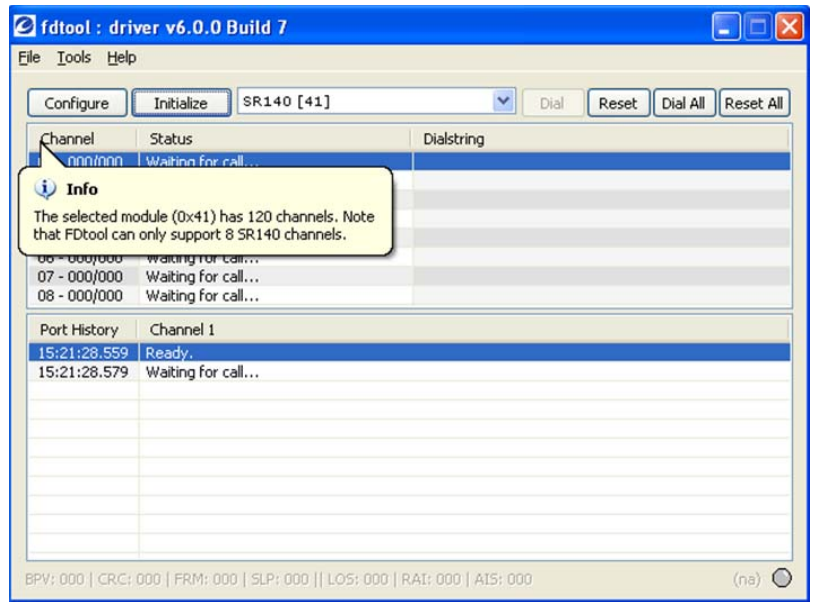


12. Refer to the ***Running the Dialogic® Brooktrout® Configuration Tool on page 95*** for instructions for using the Configuration Tool.
13. Click OK and the following screen appears.

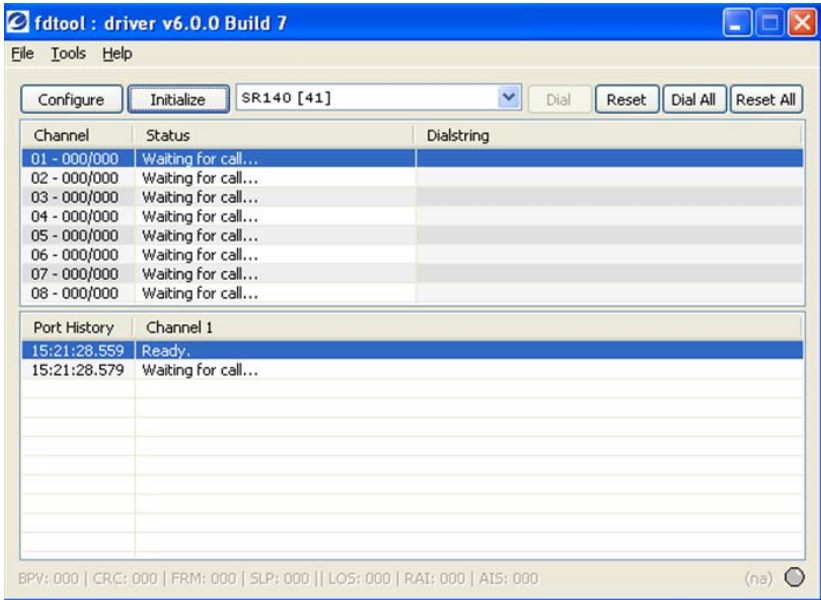




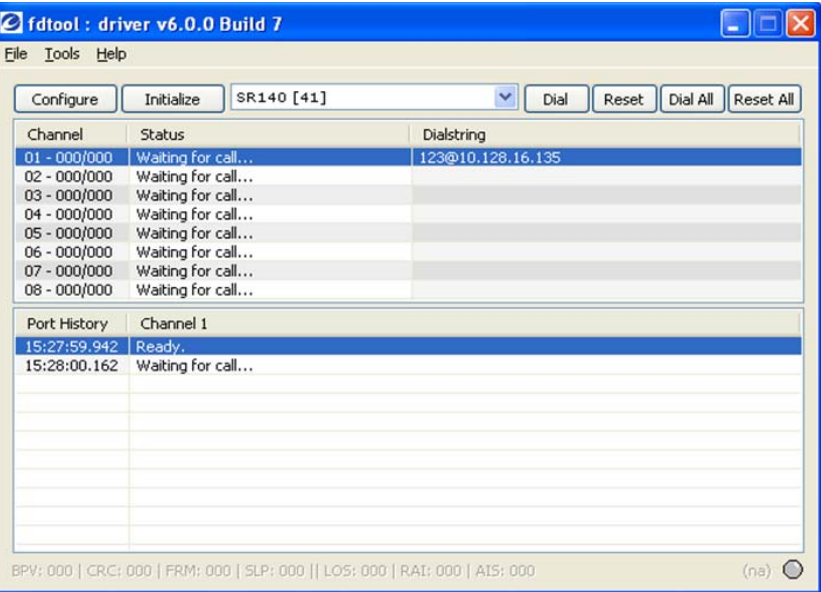
14. Click **Initialize**. The following screen appears.



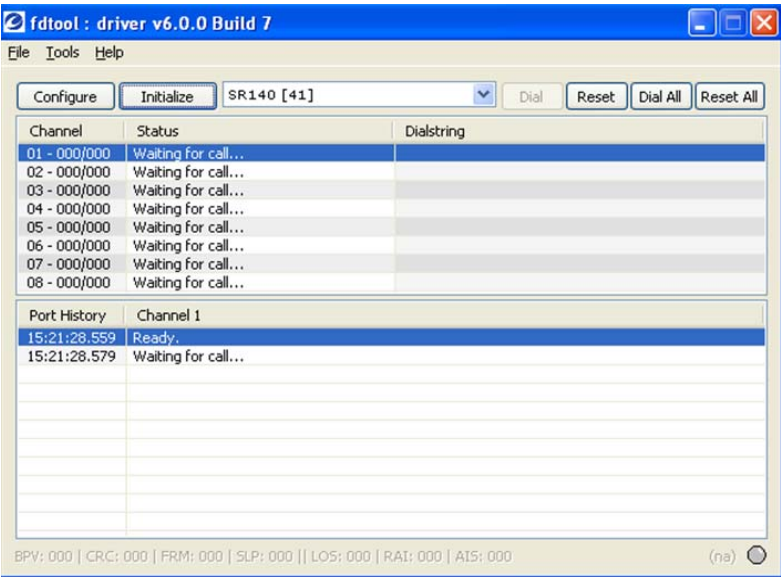
15. If there are more than eight SR140 channels, the information bubble above appears. If not, the following screen appears.



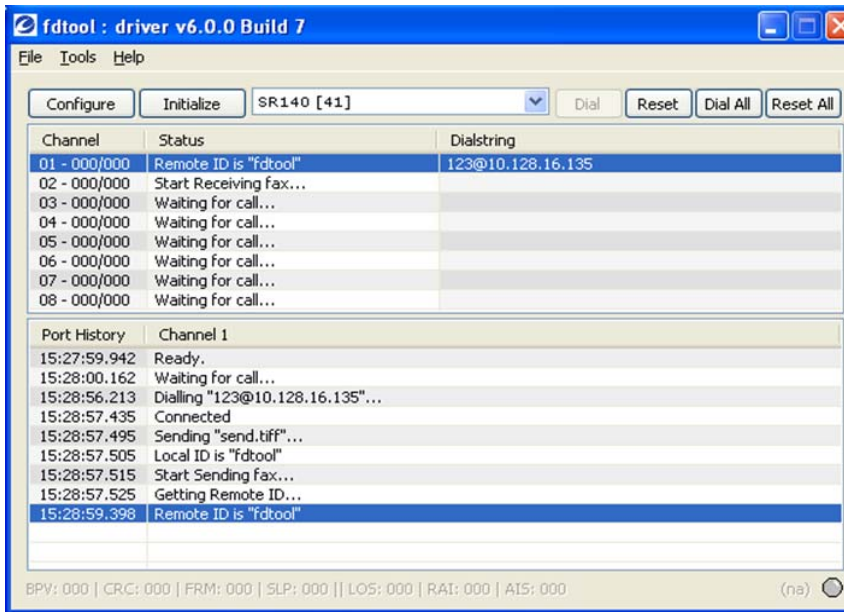
16. The following screen indicates that you have entered a dial string.



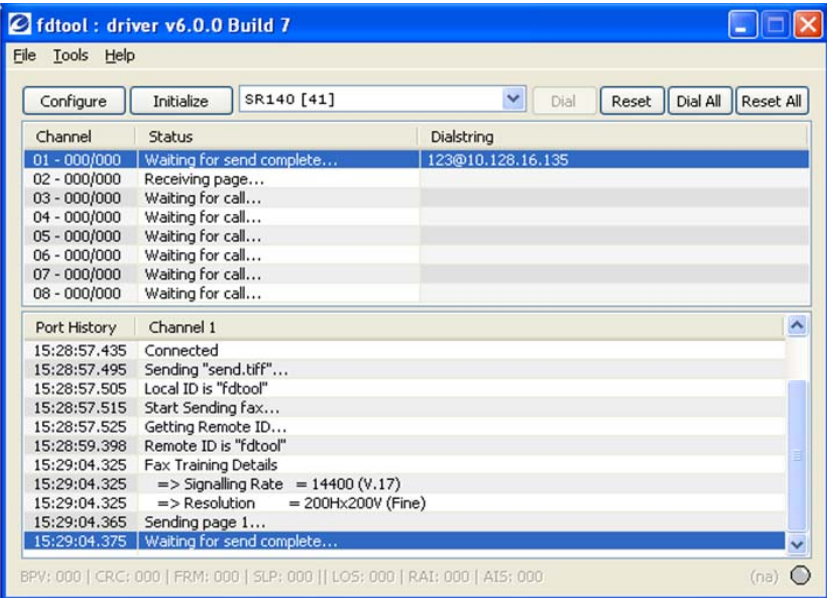
17. Click **Dial** to start the outgoing fax.



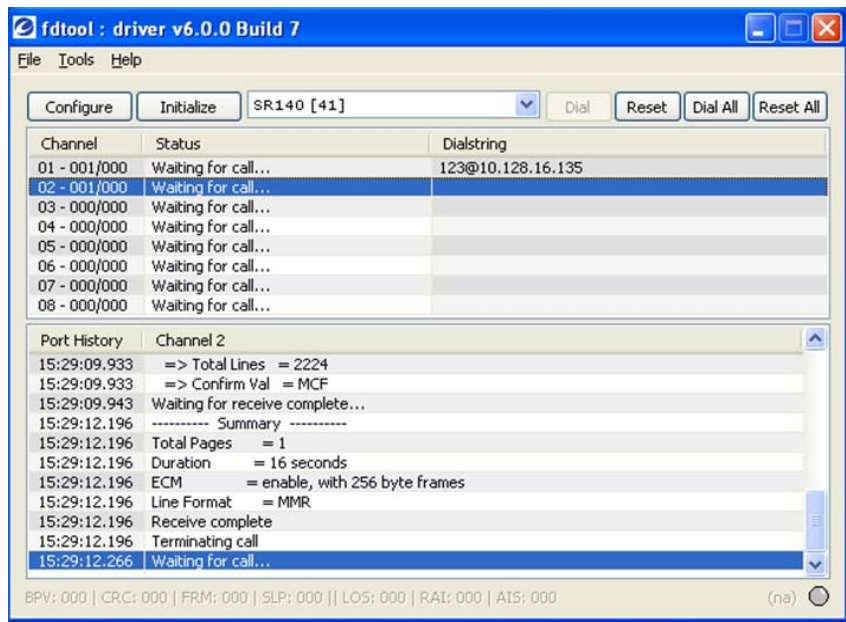
18. The following screen indicates that the fax is being sent from channel 1 to 2.



19. The following screen displays the history information for channel 1.



20. Click on the line for channel 2 to display the information for that channel.



21. To enable logging, click Debug from the Tools menu.
22. Click Help About and the following screen appears:



# Generating Logs for Troubleshooting

Various log files can be created for troubleshooting. All logs are created in the directory where the test tool is extracted.

**Note:** When Dialogic Technical Services and 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:

- Debug
- VTTY Tracer

### Debug Submenu

The most useful logging information for Dialogic Technical Services and Support generally is the Brooktrout debugging logs. The various possibilities for these files are as follows:

- apidebug\_unit\_xx.log
- apidbug\_systemlog

These logs are written to continuously when you select the **Brooktrout Debug Logging** submenu.

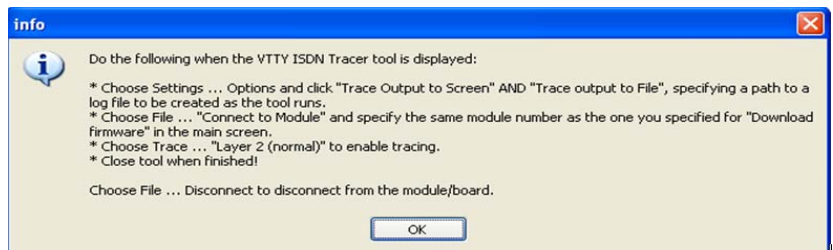


The Debug logging feature should be turned on only under the direction of Dialogic Technical Services and Support.

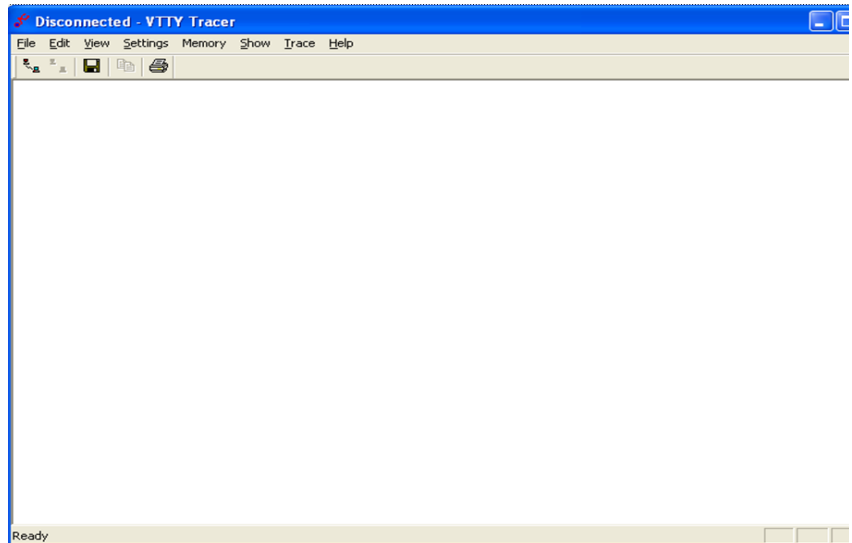
### VTTY Tracer Submenu

➤ ***You can select the VTTY Tracer from the Tools menu.***

1. Follow the instructions on the screen below.



2. Click **OK** and the VTTY Tracer utility appears. The select the setting indicated on the screen above.



## Other Tools Options

There are three other options under the Tools menu:

- **Reset Configuration** - clears out the configuration files created with the Configuration tool. The Configuration tool would need to be run again by clicking on the Configuration button before the FDTool can be used again. It resets the whole configuration.
- **Send Multipage TIFF** - Usually only a single-page TIFF file is used for sending faxes with the FDTool. Selecting this option sends out a three pages TIFF file that alternates the fax resolution from fine to normal - bank to fine.
- **Reject Incoming Calls** - If this is selected, incoming calls will not be answered. The utility would only be able to place outbound calls.



# 6 - Dialogic® Brooktrout® SR140 Software and TR1034/Trufax Specifications

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## Specifications

### Fax

- ITU T.30; ITU T.38; IETF RTP; Group 3
- V.17, V.29, V.27ter, V.21, V.34 (T.38 ONLY) modulation
- Up to 33.6 Kbps (14.4Kbps for RTP G.711 fax pass-through) with auto fallback
- Normal and fine resolution: 1200x1200
- 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

## **RTP**

- G.711 20 and 30ms packets

## **Voice**

- Prompt Playback
- Prompt Record
- Playback Gain Control
- Inbound and Outbound Silence Suppression
- Dynamic Range Control
- High Frequency Preemphasis

## **Signal Generation/Detection**

- G.711 Single Frequency Tone Generation
- G.711 DTMF Tone Generation
- G.711 DTMF Tone Detection
- Adaptive Call Progress Analysis

## Call Control

- H.323
- SIP

## Operating Systems

- Windows® 7, 32-bit version
- Windows® 7, 64-bit version
- Windows Server® 2008 R2, Enterprise Edition, 64-bit version
- Windows Server® 2008, Enterprise Edition, 32-bit version
- Windows Server® 2008, Enterprise Edition, 64-bit version
- Windows Server® 2003, Standard Edition, 32-bit version, Service Pack 2
- Windows Server® 2003, Standard Edition, 64-bit version, Service Pack 2
- Windows Server® 2003, Enterprise Edition, 32-bit version, Service Pack 2
- Windows Server® 2003, Enterprise Edition, 64-bit version, Service Pack 2
- Windows® XP Professional, Service Pack 3
- Windows® 2000 Advanced Server, Service Pack 4
- Windows® 2000 Server, Service Pack 4
- Windows® 2000 Professional, Service Pack 4

## Installation and Configuration

- Windows® Graphical Configuration Tool

## Application Programming Interface

- Dialogic® Brooktrout® Fax and Voice (BFV)

## Supported and Tested Devices for Interoperability

For the latest listing of Dialogic® Brooktrout® FoIP interoperability information refer to the following site:

[\*http://www.dialogic.com/interoperability/fax.htm\*](http://www.dialogic.com/interoperability/fax.htm)

This list includes the following hardware devices (and their respective software revisions) that have been tested for interoperability with the SR140 Fax Software:

- IP PBX
- Gateways
- Other devices

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