



Dialogic® Brooktrout® Fax Products

Windows End User Guide

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<http://www.dialogic.com/warranties>

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About this Publication

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 chapters:

- 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 with Dialogic® Brooktrout® SR140 Software and TR1034/TruFax boards.
- Chapter 5 explains testing the Dialogic® Brooktrout® SR140 Fax Software and Dialogic® Brooktrout® TR1034/TruFax® boards.
- Chapter 6 provides specifications for Dialogic® Brooktrout® SR140 Fax Software and Dialogic® Brooktrout® TR1034/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.

SR140 Telephony Requirements

<i>Physical</i>	<i>Media</i>	<i>Call Control</i>
Ethernet 10/100	T.38 v0 or v3 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:

Former Terminology	Replaced with...
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

Getting Technical Support

Dialogic provides technical services and support 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 the web site below:

[*www.dialogic.com /support*](http://www.dialogic.com/support)

1 - Getting Started

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 Products 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	■ T.38 V.17 ■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)
R2	February 2009	SR140-4F-V.34	■ T.38 V.34 ■ T.38 V.17 ■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)
R3	April 2010	SR140-4-R3	■ G.711 RTP ■ IVR ■ T.38 V.34 ■ T.38 V.17 ■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)

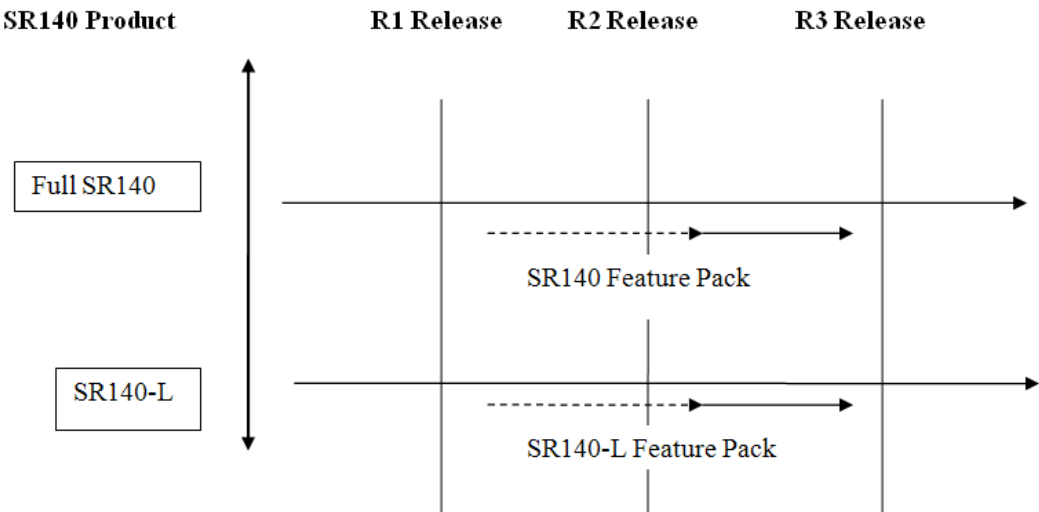
Table 2. SR140-L Release History

Release	Date	Example Model Name	Feature Set
R1	April 2010	SR140-L-4-R1	■ Maximum eight channels per system ■ T.38 V.17 ■ Advanced Fax (Very High Res, MMR, JBIG/Color pass-through)

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.

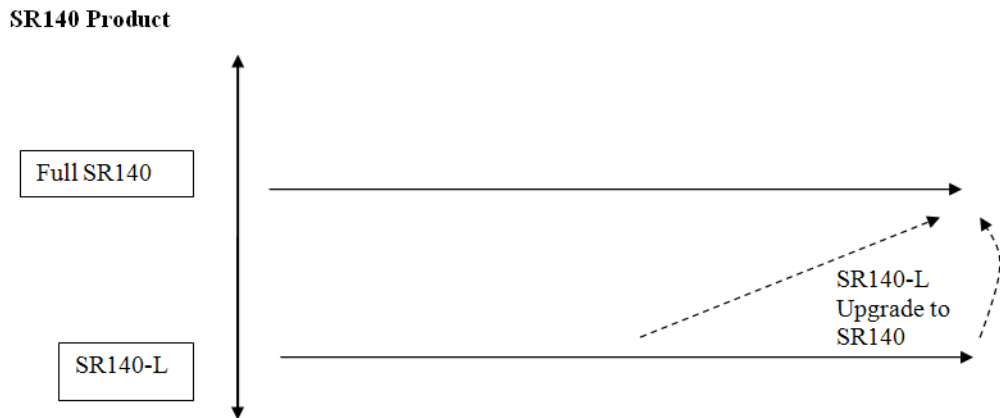
For example, if you currently own an original SR140 R1 (SR140-4F), you can obtain an upgrade pack license (SR140-FeaturePack-4-R3) that will add in the new features, without first requiring an R2 feature pack license.



Upgrade Licenses

Upgrade licenses allow you to add the feature set of the full SR140 to the SR140-L. The upgrade license is added to your existing license to bring you up to the latest set of available features.

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 delete any demonstration licenses that have expired before you can use a nondemonstration license. You may delete the demonstration license using the License Manager or manually.

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.

A License Key is delivered in paper form or electronic 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 License Manager, 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 Dialogic® Brooktrout® TR1034 and TruFax® Hardware on page 20](#)

- *Product Activation*

See [Activating Dialogic® Brooktrout® SR140 Software on page 26](#).

- *Configuration*

See [Configuring Dialogic® Brooktrout® SR140 Software and TR1034/TruFax® Boards on page 63](#).

- *Test*

See [Testing Dialogic® Brooktrout® SR140 Software and TR1034/TruFax® Boards on page 134](#).

2 - Installing Dialogic® Brooktrout® TR1034 and TruFax® Hardware

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 system.

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

- Check your system to verify the minimum system requirements.
- Install your fax board. Refer to [*Installing Your Board on page 22*](#).
- If this is a new installation, install the Brooktrout Software.
- Configure your Brooktrout board. Refer to [*Configuring Dialogic® Brooktrout® SR140 Software and TR1034/TruFax® Boards on page 63*](#).
- Enter your dialing information.
- Verify the installation. Refer to [*Verifying Brooktrout Board Installation on page 23*](#).

Installing Your Board

Before installing your board, make sure you have assigned the board a unique 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 connector for your telephone service.
11. Reconnect your PC power cord, and power on your computer.

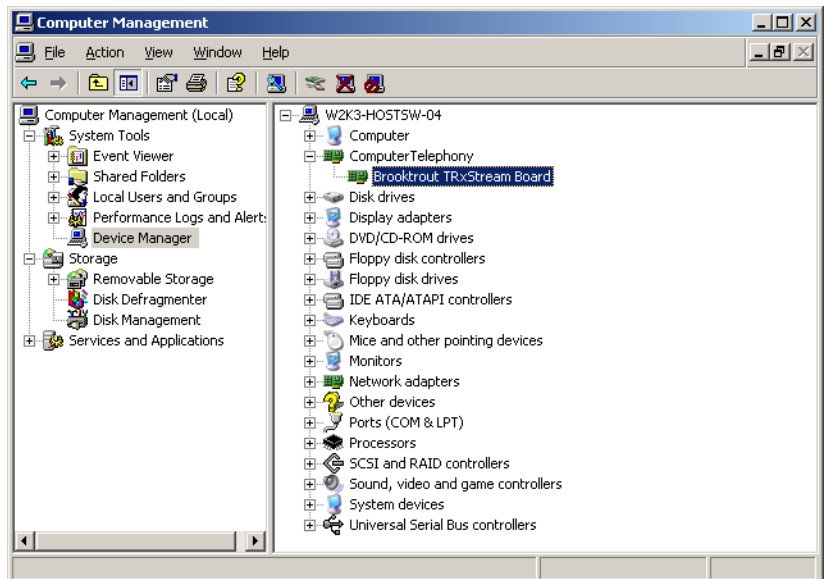
Verifying Brooktrout Board Installation

➤ *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

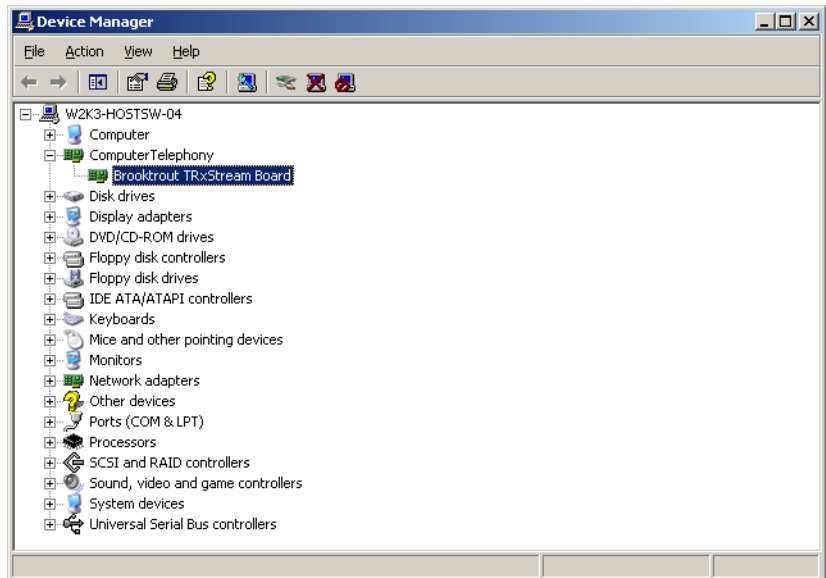
The following screens appear, respectively.



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



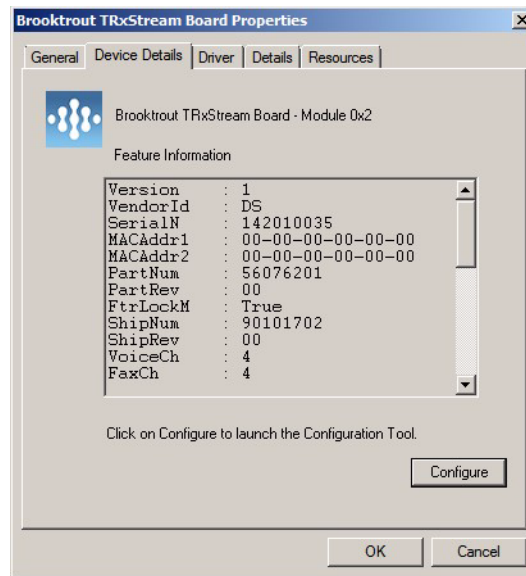
You must wait several moments while Windows Plug and Play performs board verification and driver installation. Do not use your mouse or press any keys on your keyboard during this time.



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 Software

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.

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 28.](#)
- [Using the License Manager on page 29.](#)
- [Activating a License Automatically on page 35.](#)
- [Activating a License Using the Web on page 41.](#)
- [Activating a License Using Email or Fax on page 46.](#)
- [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.

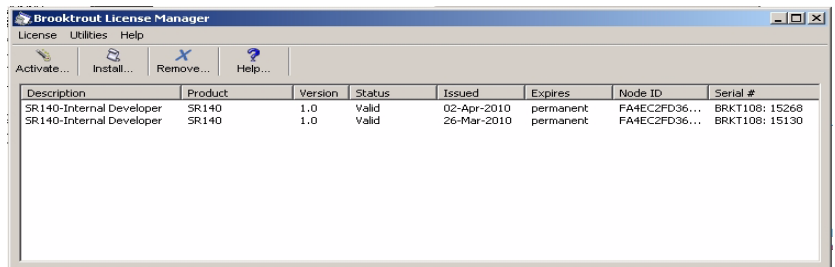
Using the License Manager

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

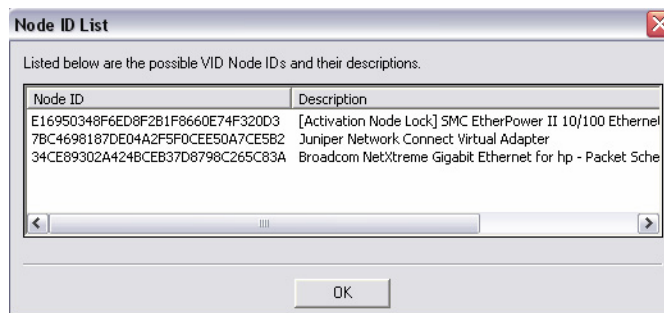
There may be more than one MAC address on the system. If so, you can choose the MAC address in which to lock. The License Manager allows you to view the Node ID representation of the first 20 Ethernet Adapter MAC addresses available on the system.

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 39](#).

➤ *Follow the steps below:*

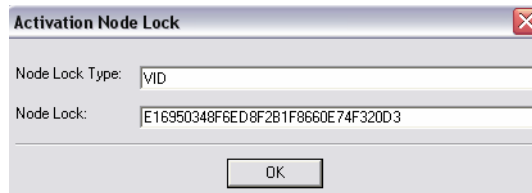
1. From the **Utilities** menu, select **Display all node IDs**. A screen like the following appears.:



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

Displaying and Copying Node ID

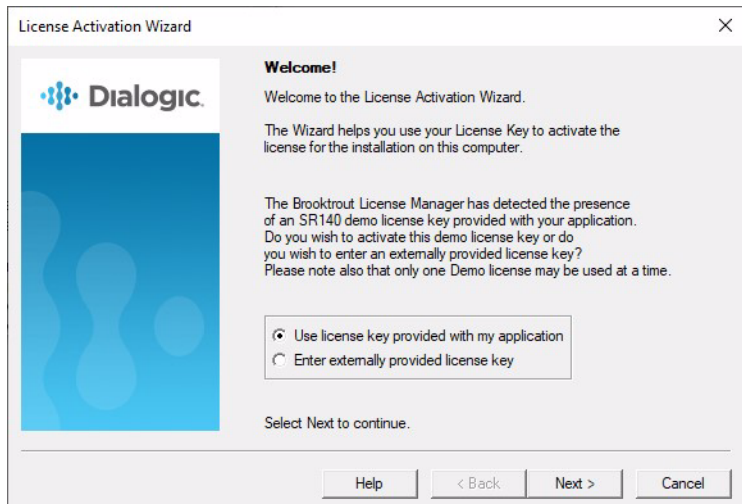
- *Follow the steps below to display and copy a Node ID (referred to as Node Lock in the screen below).*
1. From the **Utilities** menu, select **Display Node Lock**. A screen like the following appears:



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

Starting the License Activation Wizard

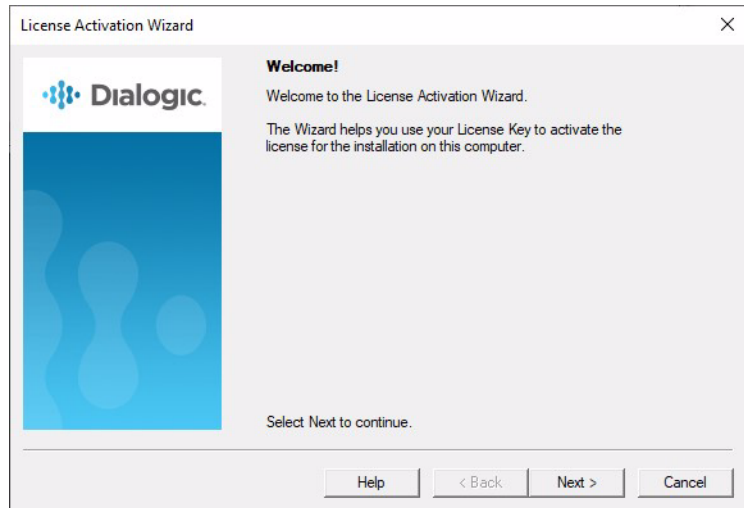
- *Start up the License Activation Wizard by selecting Activate License from the License menu.*
- 1. Select License -> Activate license...
If a Demonstration License Key file (.dlk) file is located, then the License Activation Wizard Welcome dialog below appears. If no Demonstration License Key file (.dlk) is located, the [Welcome Dialog \(no .dlk file\) on page 33](#) appears:



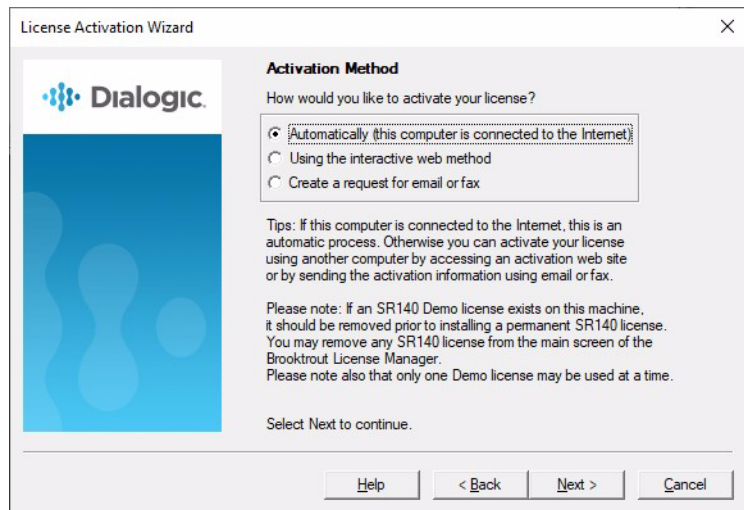
The .dlk file (Demonstration License Key file) contains a license key for the SR140 demonstration mode. The user's application can provide such a file. It will then be located in the same directory as the License Manager executable. The .dlk file gets read only when the License Manager is initially launched. 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 35](#).

- ◆ 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 46](#). 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.

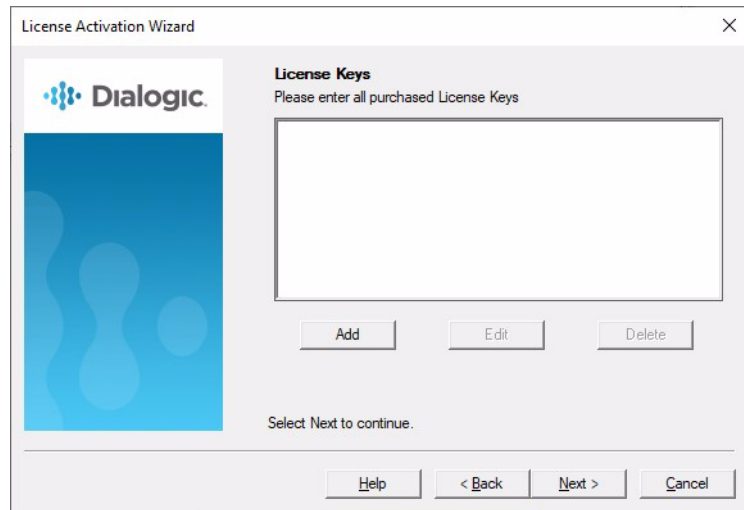
Activating a License Automatically

- *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.

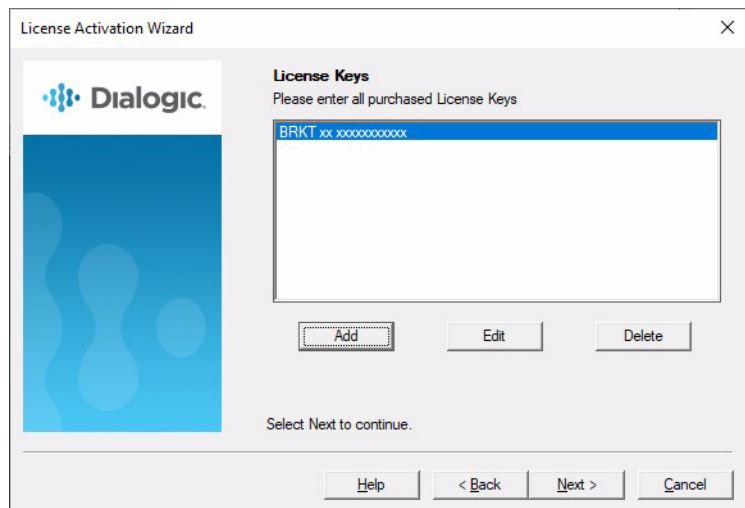
This License Key can be found on your Licence certificate. The License Key is a variable length ASCII string. An example of such a key is: BRKT111-1234567

- 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.

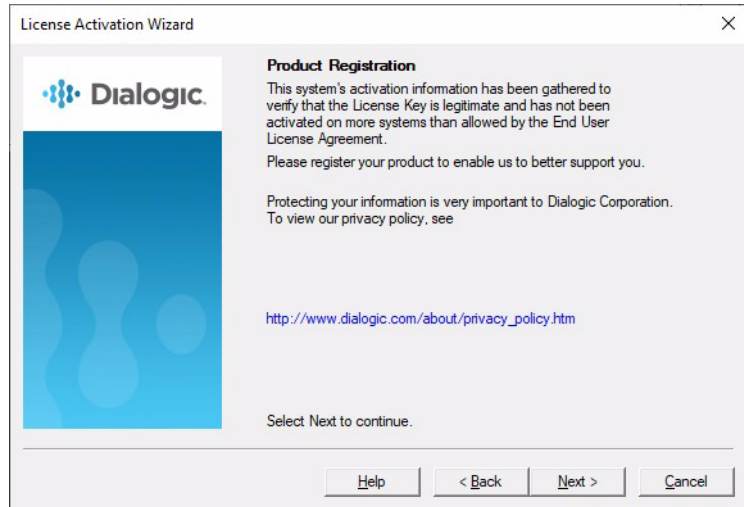
3. The Please enter License Key dialog box appears:



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 30](#).

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.

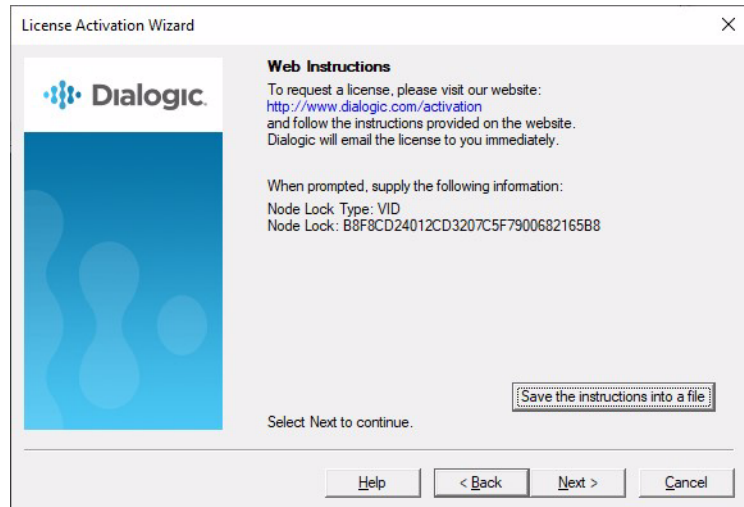


It is critical that you enter the Node Lock information for the intended machine (Node ID) on the website without errors. The software generates an unusable license when you enter incorrect Node Lock information. The second attempt to obtain the license using the corrected Node Lock information is considered re-hosting. In this case see [Re-Hosting License Files on page 58](#).

➤ *Follow the steps below to activate a license using the interactive web method:*

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

The following License Activation Wizard window appears:



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

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

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

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



Please Enter Your License Key

License Key*:

* Please enter the License Key exactly as it appears. The same case and without any spaces

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

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 Lice 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:

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

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

Order	Item #	Avail/Total
BRKT35	1	95/100

License Type: Locked Uncounted

Node ID Type:

Node ID:

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

9. Verify that the information on this screen is correct and click **Confirm**. 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\  
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 AE0D 2EDF FA33 AE87 BD5E"
```

Save to File

Send to: bfulginiti@dialogic.com

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.

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

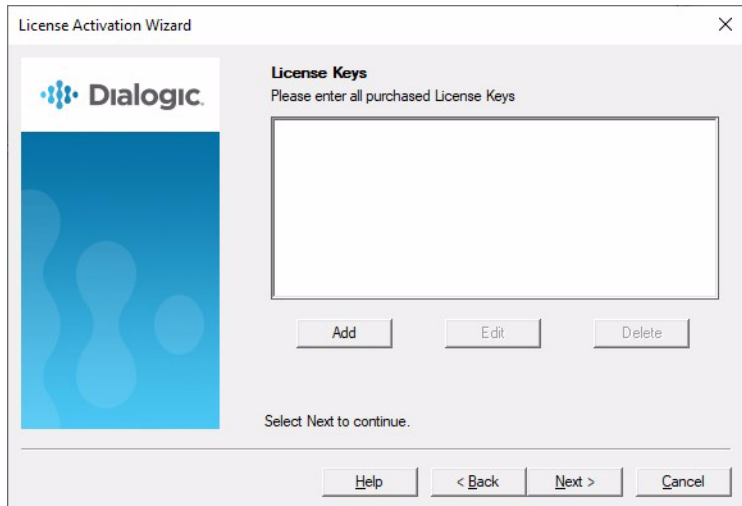
When your system cannot support the previous options (for example, you have no Internet connections) you can activate your license by sending the information to Dialogic using email or fax.

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:



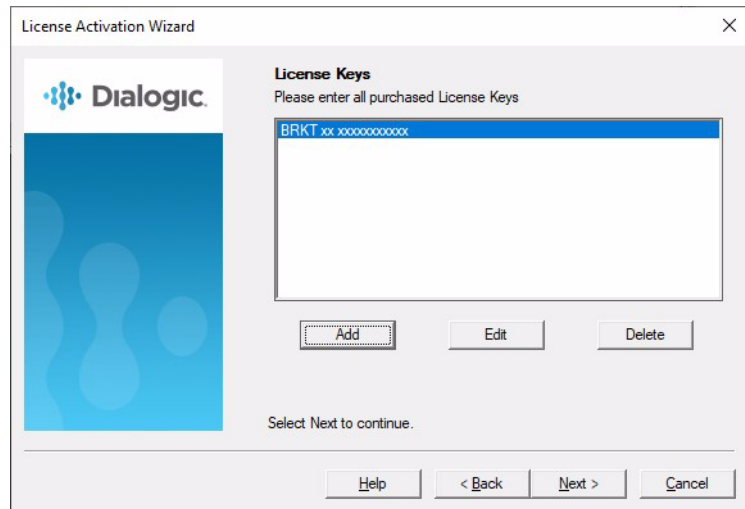
The image shows a screenshot of the 'License Activation Wizard' dialog box. The title bar reads 'License Activation Wizard' with a close button (X) on the right. The dialog is divided into two main sections. On the left, there is a blue graphic with the Dialogic logo. On the right, the section is titled 'License Keys' and contains the instruction 'Please enter all purchased License Keys'. Below this instruction is a large, empty rectangular text area for entering license keys. Underneath the text area are three buttons: 'Add', 'Edit', and 'Delete'. At the bottom of the dialog, there is a row of four buttons: 'Help', '< Back', 'Next >', and 'Cancel'. The text 'Select Next to continue.' is positioned above the 'Next >' button.

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

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



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



5. Click **Next**.

The **Email/Fax Request** dialog box appears:

6. Click the **Save the request into a file** button to save all information entered into the **Product Registration** dialog boxes to a text file.
7. Email the saved file to activation@dialogic.com as an attachment, or fax this information to +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

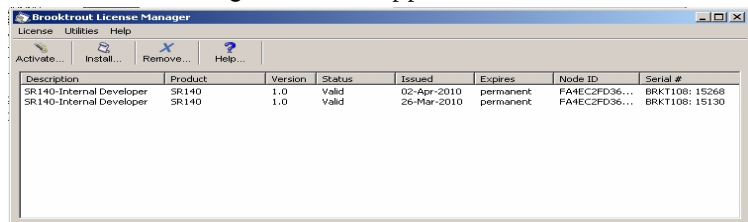
When you receive a license file from the Dialogic License Activation Center (via email or saved from the site) use the License Manager application to install the attached license.

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.

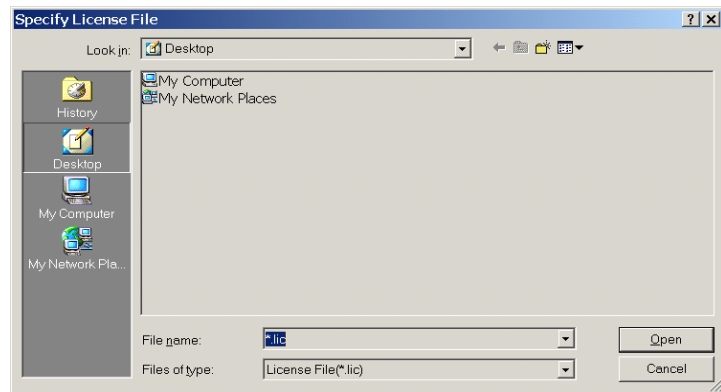
Note: If you use the automatic activation method, you do not need to install licenses. Your activation process is finished.

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

1. Save the license file to a temporary location (for example, C:\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 55](#)
- [Restoring License Files on page 56](#)
- [Re-Hosting License Files on page 58](#)

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 58](#)).

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 still located in the same directory as before, typically:

C:\Program Files\Common Files\Brooktrout

The environment variable BRKTD_LICENSE_FILE is removed when the Brooktrout software is uninstalled.

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

Naming License Files

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

dd-mm m-yyyy.lic

dd-mm m-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 license key 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 license key 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 license key 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.

Replacing Lost or Unrecoverable Licenses

When a license is lost or not recoverable, get a new copy by going through the web activation process again. See [Activating a License Using the Web on page 41](#).

Re-Installing Your Product

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

Restoring License Files

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

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

The following screen appears.



Please Enter Your License Key

License Key*:

* Please enter the License Key exactly as it appears. The same case and without any spaces

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

Select Items to View

Hostid:

Select Product:

☒ 950-101-v34-30 1.0 SR140-30F

BRKT35 VID=7C5D4EDA1E13293A898BA0B14DB58082

☐ 950-101-v34-30 1.0 SR140-30F

BRKT35 VID=7C5D4EDA1E13293A898BA0B14DB58082

☐ 950-101-v34-30 1.0 SR140-30F

BRKT35 VID=910CF1B311E99E23F3691D66C1D2E174

☐ Display licenses only (no wrappers)

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
BRKT35	VID=7C5D4EDA1E13293A898BA0B14DB58082

☐ 950-101-v34-30 1.0 SR140-30F

Order	Node ID
BRKT35	VID=7C5D4EDA1E13293A898BA0B14DB58082

☐ 950-101-v34-30 1.0 SR140-30F

Order	Node ID
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:T381
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 D0A5 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

The following screen appears.



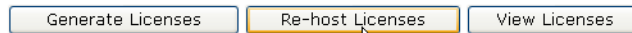
Please Enter Your License Key

License Key*:

* Please enter the License Key exactly as it appears. The same case and without any spaces

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

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.

Select Items to View

Hostid:

Select Product:

☒	950-101-v34-30 1.0 SR140-30F	Order	Node ID
	BRKT35		VID=7C5D4EDA1E13293A898BA0B14DB58082
☐	950-101-v34-30 1.0 SR140-30F	Order	Node ID
	BRKT35		VID=910CF1B311E99E23F3691D66C1D2E174
☐	950-101-v34-30 1.0 SR140-30F	Order	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

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

Last Hostid
VID=7C5D4EDA1E13293A898BA0B14DB58082

License Type: Locked Uncounted

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

License Type: Locked Uncounted

Node ID Type: VID

Node ID: 910CF1B311E99E23F3691D66C1D2E174

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  
HOSTID=VID=910CF1B311E99E23F3691D66C1D2E174 ISSUED=04-Jan-2008 \  
SN="BRKT35: 2639" TS_OK SIGN="0BC8 08EC A958 2334 B372 1424 \  
OD5D FA7B E3FA 784A D5C4 54D3 2B2A E98B 9438 1D1E 5969 C1DF \  
OADB 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.

Deliver License

License has been sent to: bfulginiti@dialogic.com

Logout

Home

Help

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 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

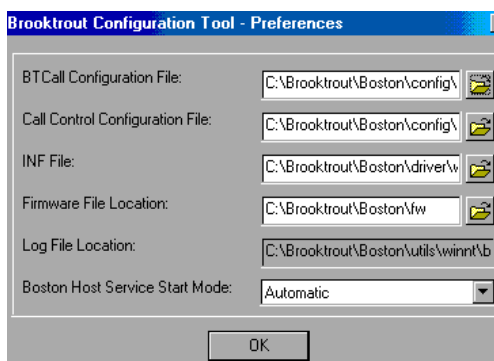
Dialogic provides the following configuration methods:

- *Configuring in Wizard Mode on page 66* (adequate for most configurations)
- *Configuring in Advanced Mode on page 93*

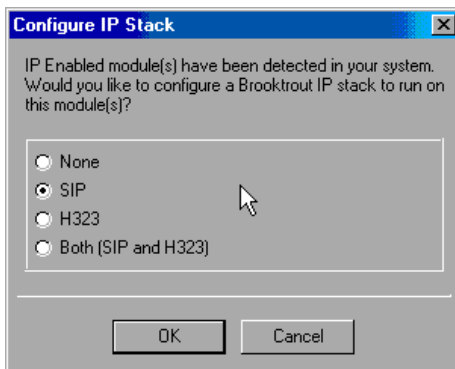
However, this method has not been adapted by every ISV software package. Instead, when this method is not used by your ISV application, please skip this chapter and consult the documentation that comes with your ISV application for the configuration of the SR140 Fax Software.

Running the Dialogic® Brooktrout® Configuration Tool for the First Time

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.

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 [Returning to the Default Configuration on page 133](#).

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 [Configuring in Advanced Mode on page 93](#)).

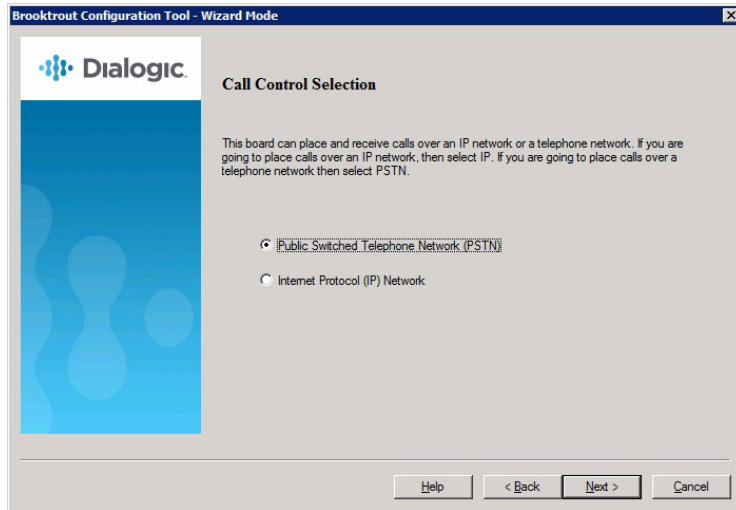
◆ Next

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

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

This shows the information for a T1 board.

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



6. If you want to configure IP call control, select Internet Protocol (IP) Network and refer to [Configuring IP Call Control on page 69](#).

If you want to configure PSTN call control, select Public Switched Telephone Network (PSTN) and refer to [Configuring PSTN on page 88](#).

Configuring IP Call Control

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

1. The following screens appear either after you select Internet Protocol (IP) Network or if your system supports only IP Call Control. Configure the Ethernet Port for each board detected. Click **Next**. This screen appears if your system is board-based. If your system is software-based, the following step is skipped.

Brooktrout Configuration Tool - Wizard Mode

Dialogic

Board Ethernet Port Configuration

For making calls over IP, you must configure the Ethernet port on each board.

IP Signaling

Board Module: 0x3, Ethernet Port #1:

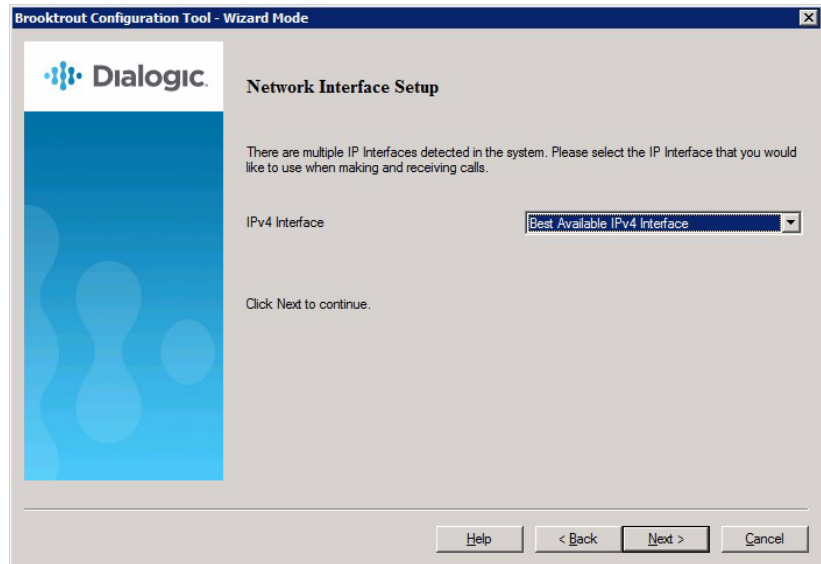
IP Address: 0 . 0 . 0 . 0

IP Netmask: 0 . 0 . 0 . 0

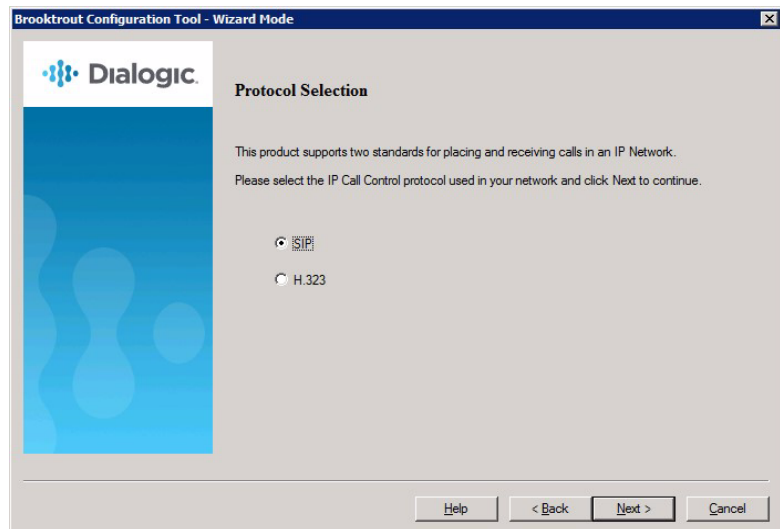
IP Gateway: 0 . 0 . 0 . 0

Help < Back Next > Cancel

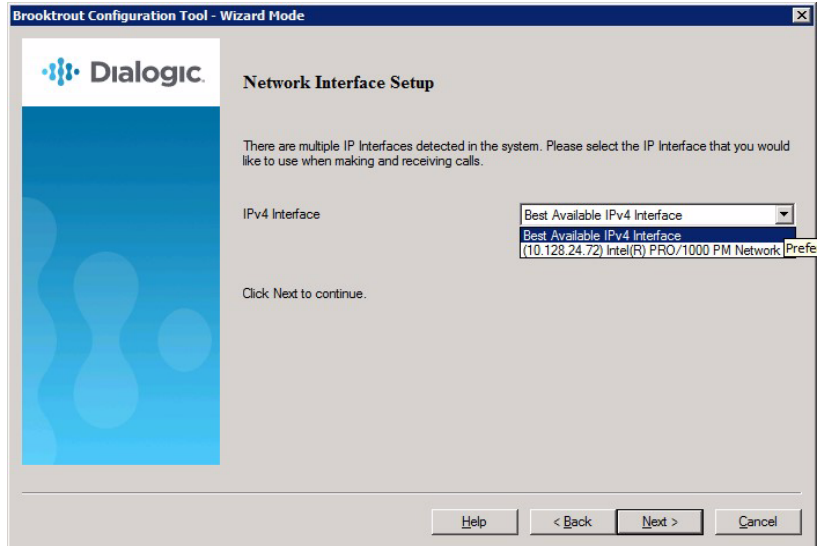
2. The following screen appears if the system supports IPv4 and IPv6. IPv6 is only supported on the Dialogic® Brooktrout® SR140. If a Dialogic® Brooktrout® TR1034 is present in the system or using H.323, the dialog will not be available.



3. Select SIP or H.323. Click Next.



4. Select the appropriate Internet Protocol supported by your provider. Click Next. The following screen appears if there are multiple IP Interfaces detected in the system.



5. The IPv4 and IPv6 options are available based on what the system supports and the selected Internet Protocol preference.
Note: If you are using IPv6, you must select the IPv6 Interface to configure where the IPv6 calls will be accepted. Select the IP Interface where the IP calls will be accepted or let the Configuration Tool choose the best available configuration. Click **Next**.
6. Refer to one of the sections below depending on which protocol you want to configure:
 - ◆ [Configuring SIP Call Control Protocol on page 72](#)
 - ◆ [Configuring H.323 Call Control on page 80](#)

Configuring SIP Call Control Protocol

The section contains the following procedures.

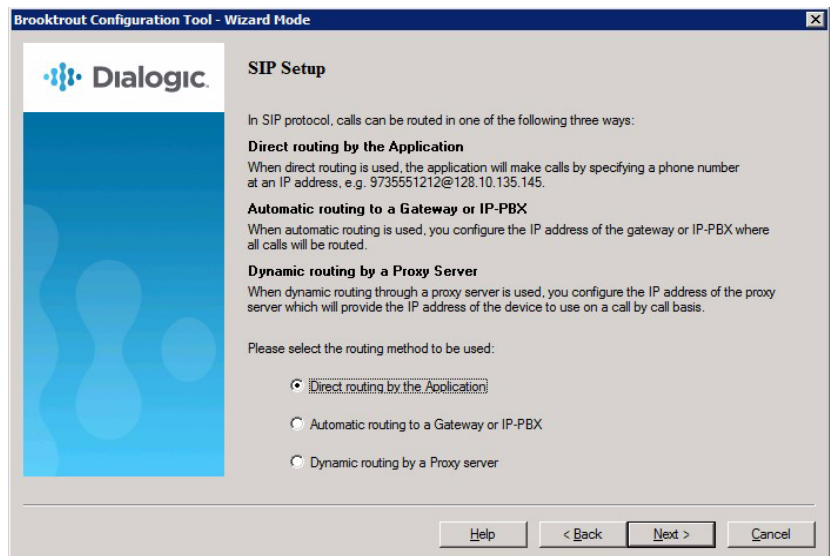
[Configuring Direct Routing by the Application on page 72](#)

[Configuring SIP Call Control with Gateway or IP-PBX on page 73](#)

[Configuring SIP Call Control with a Proxy Server on page 74](#)

Configuring Direct Routing by the Application

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

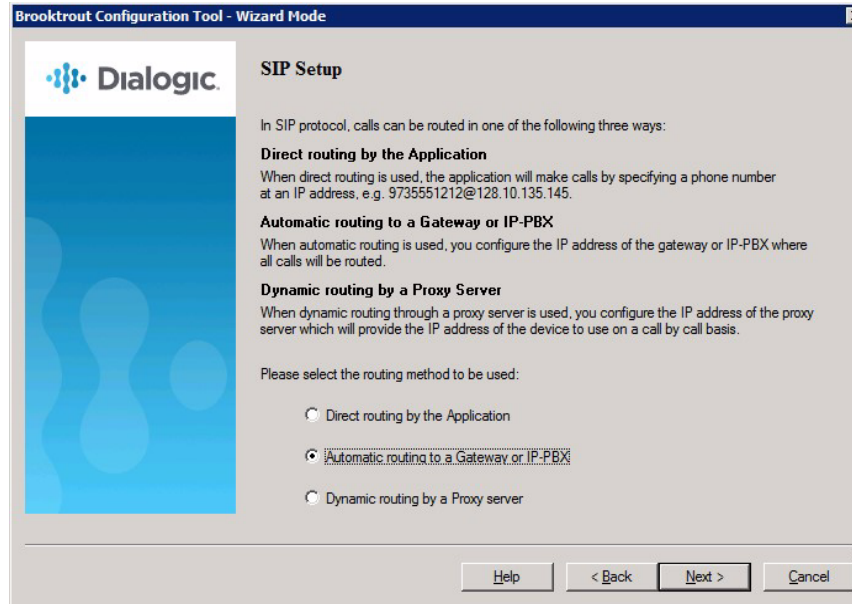


➤ **Follow the steps below to configure Direct Routing by the Application.**

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 79](#).

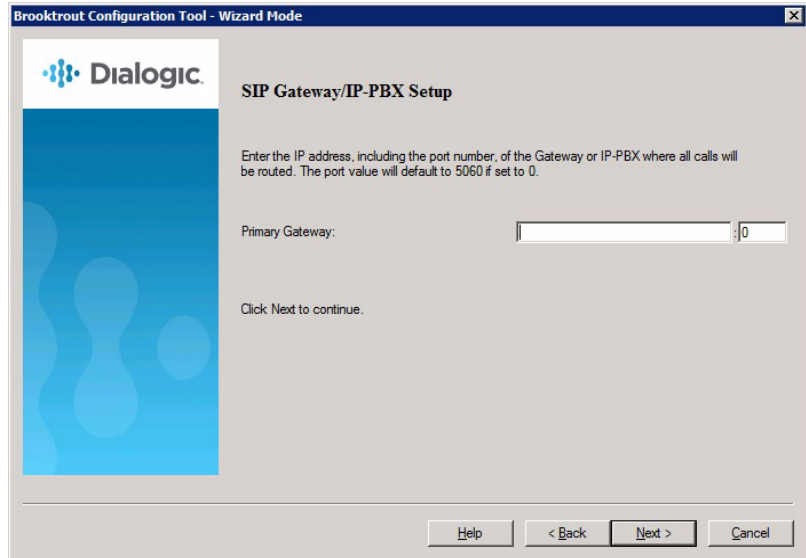
Configuring SIP Call Control with Gateway or IP-PBX

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.**

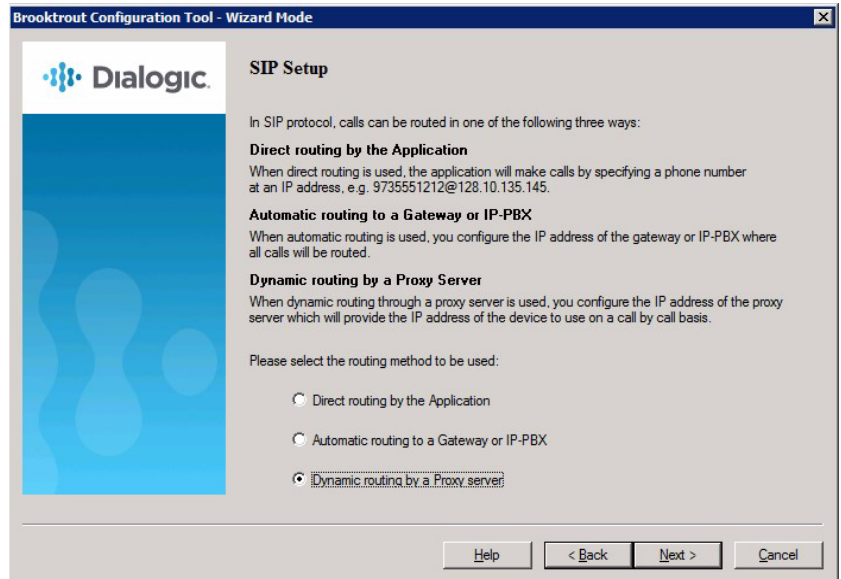
1. Select Automatic routing to a Gateway or IP-PBX. Click Next and the following screen appears.



2. Enter the Primary Gateway. Click Next and refer to [Configuring the SIP Registrar on page 77](#).

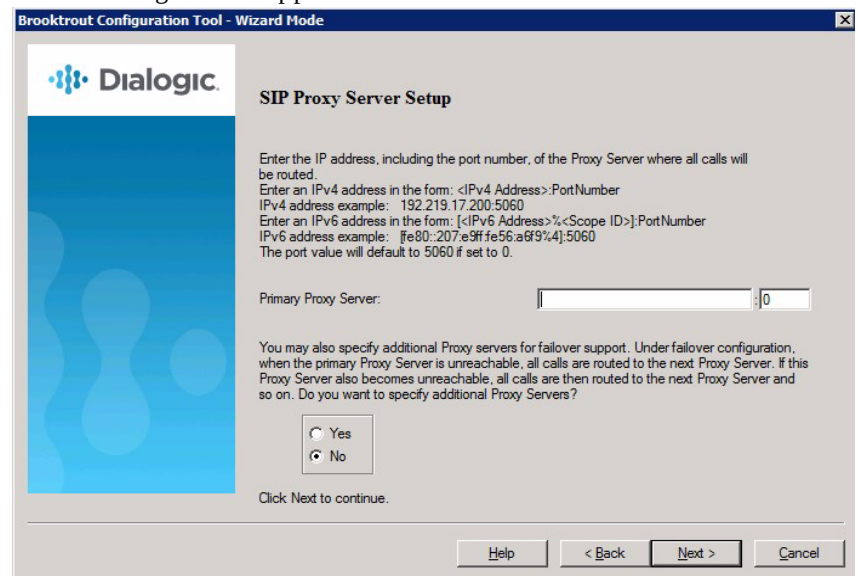
Configuring SIP Call Control with a Proxy Server

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

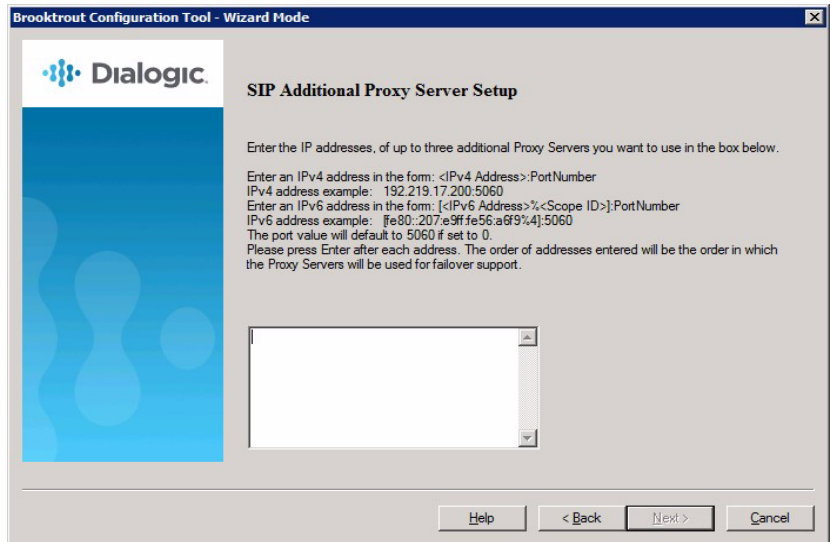


➤ **Follow the steps below to configure SIP Call Control with a SIP Proxy Server**

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.



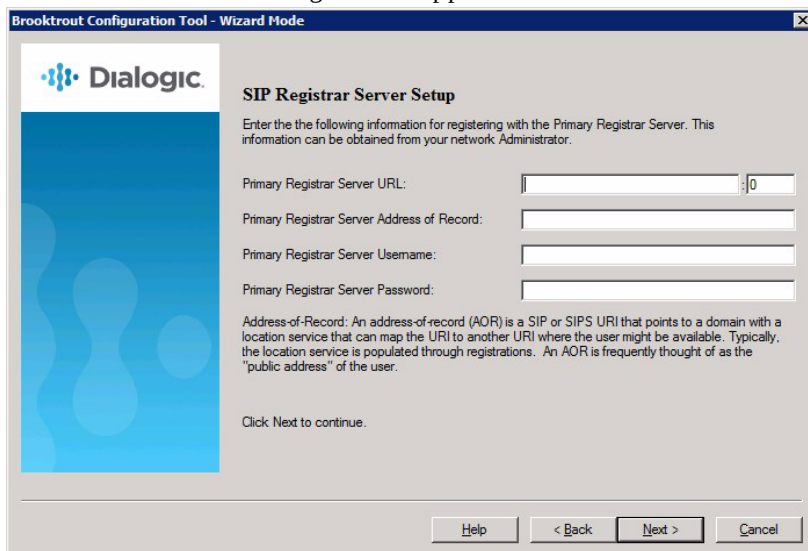
3. Enter the IP address of any additional proxy servers. Click **Next** and continue to the next step [Configuring the SIP Registrar on page 77](#).

Configuring the SIP Registrar

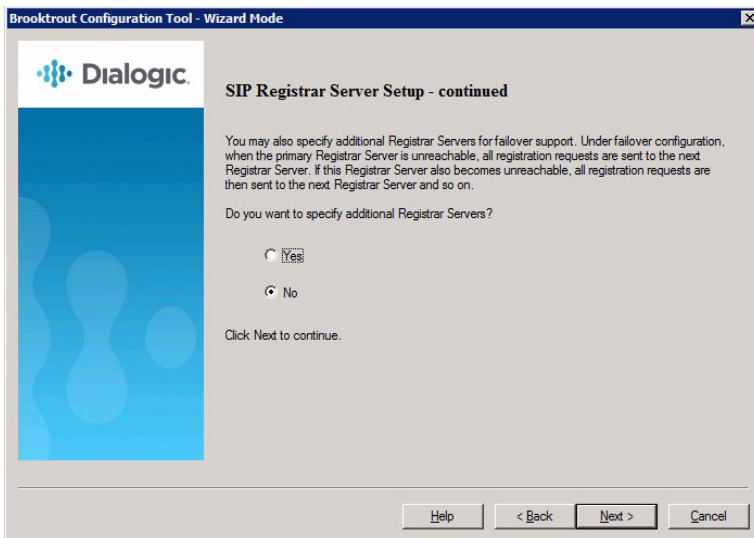
- When the screen below appears, you can configure a SIP Registrar.



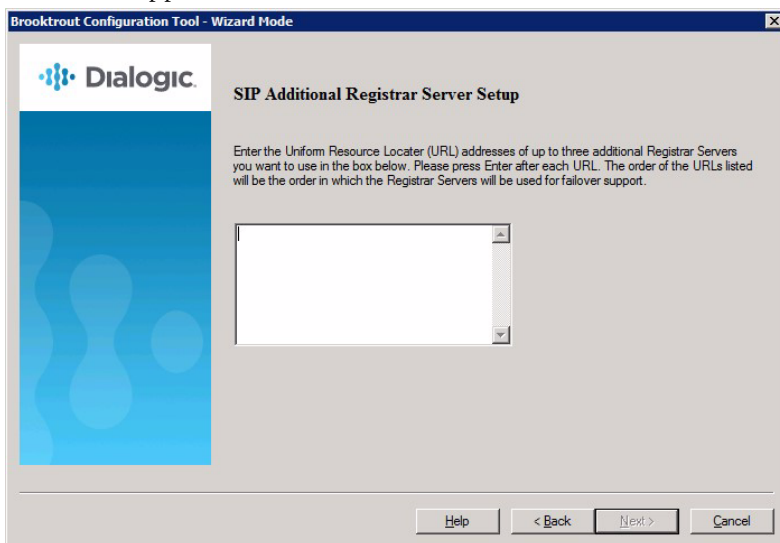
1. From the screen above, select **Yes** to set up a SIP registrar. Click **Next** and the following screen appears.



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



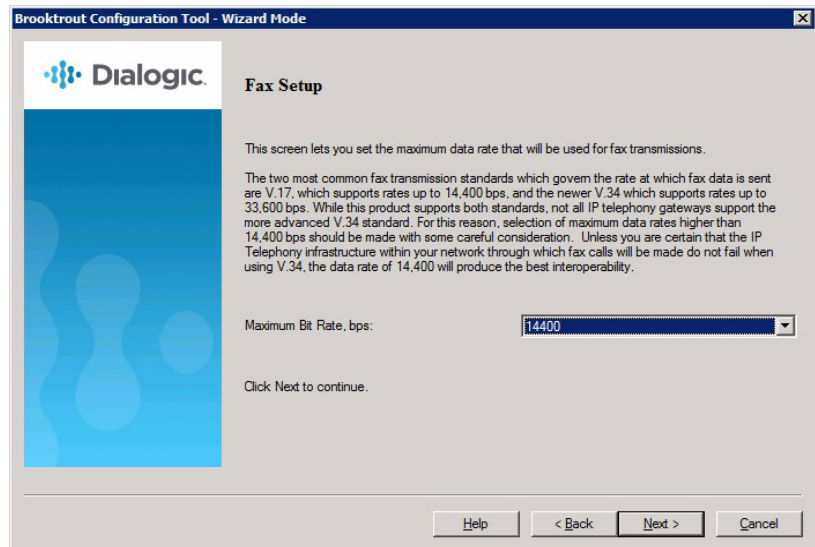
3. Select **Yes** to configure additional registrar servers. The following screen appears.



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 79](#).

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 86](#).

Configuring H.323 Call Control

You can configure H.323 Call Control three ways:

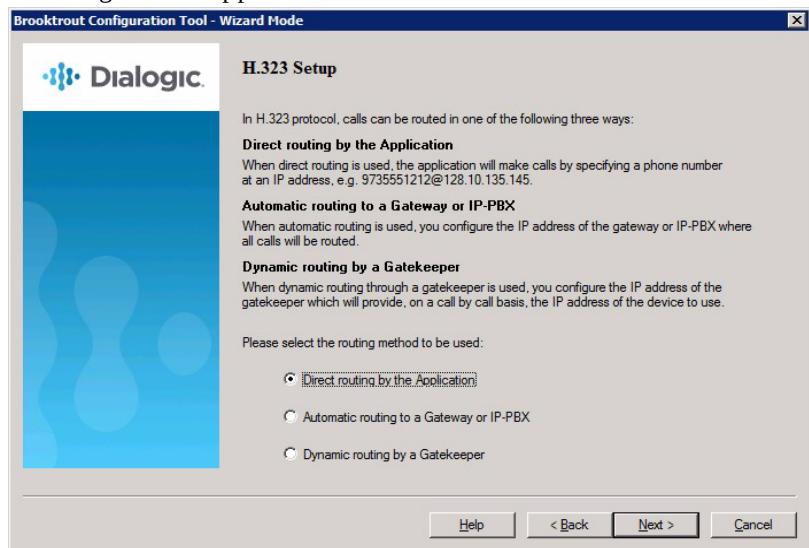
[Configuring H.323 Direct Routing by the Application on page 80](#)

[Configuring H323 Call Control with a Gateway on page 81](#)

[Configuring H.323 Call Control with a Gatekeeper on page 82](#)

Configuring H.323 Direct Routing by the Application

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

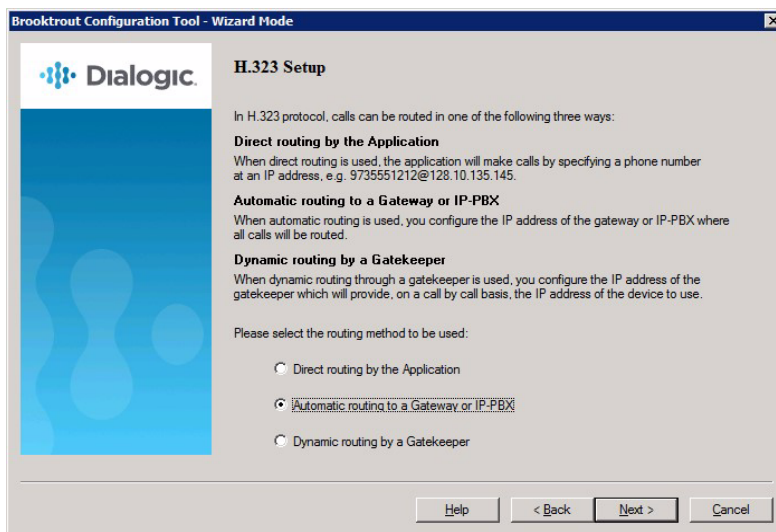


➤ Follow the steps below to configure Direct Routing by the Application.

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 84](#)*.

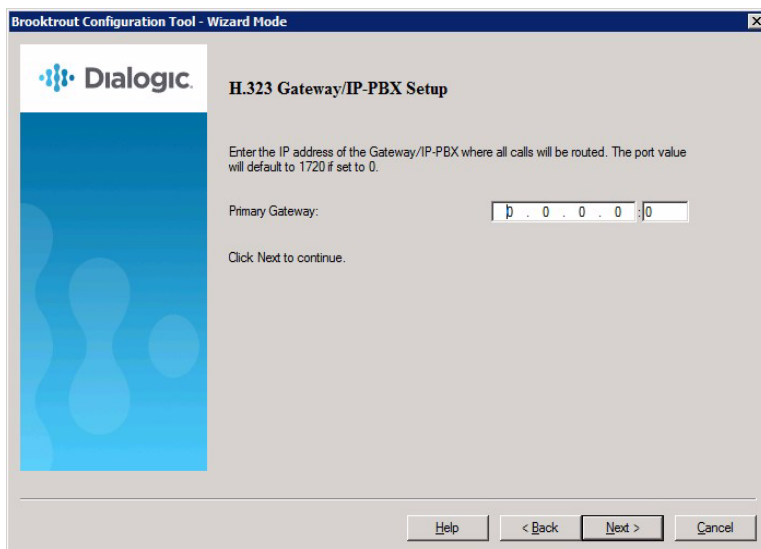
Configuring H323 Call Control with a Gateway

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.**

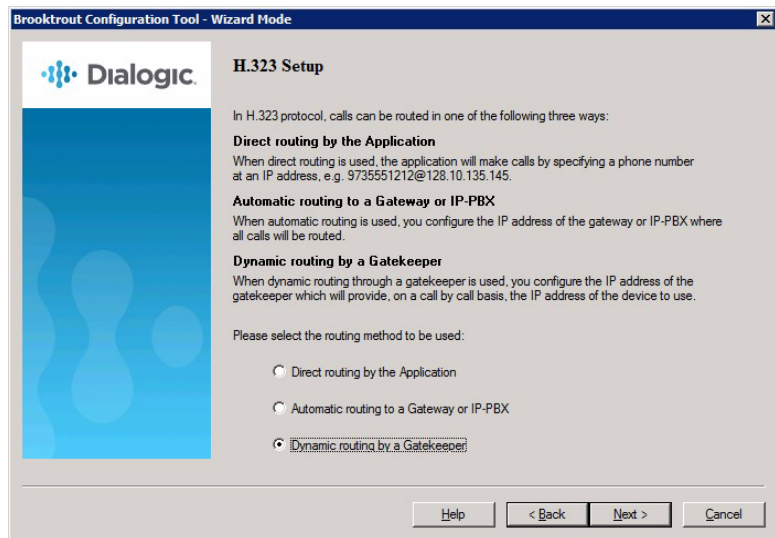
1. Select Automatic Routing to a Gateway or IP-PBX. Click Next and the following screen appears.



2. Enter the Primary Gateway IP address. Click **Next** and refer to [Configuring H.323 Fax Setup on page 84](#).

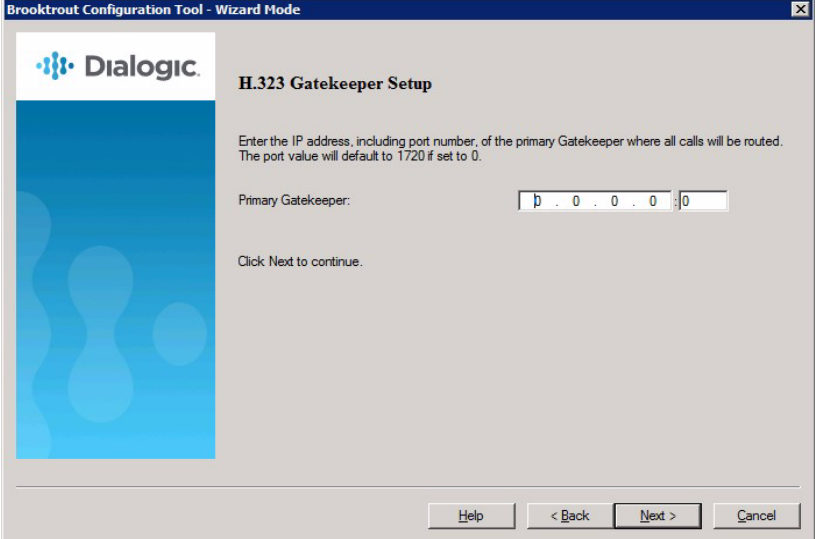
Configuring H.323 Call Control with a Gatekeeper

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.



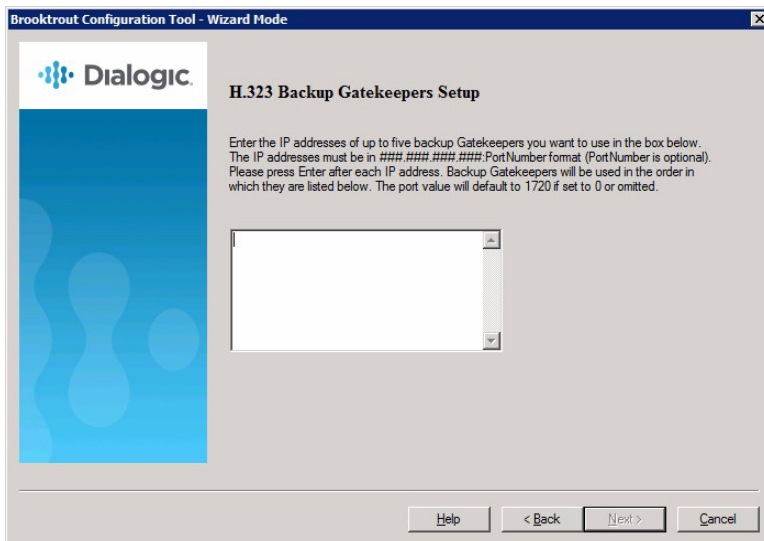
The screenshot shows the 'H.323 Gatekeeper Setup' window. It features the Dialogic logo on the left. The main text instructs the user to enter the IP address and port number of the primary Gatekeeper, with a default port of 1720. A text input field is pre-filled with '10.0.0.0' and '0'. Below the input field, it says 'Click Next to continue.' At the bottom, there are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.

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



The screenshot shows the 'H.323 Gatekeeper Setup - continued' window. It features the Dialogic logo on the left. The main text explains that backup Gatekeepers can be specified for failover situations. Below this, it asks 'Do you want to specify backup Gatekeepers?' with two radio button options: 'Yes' (selected) and 'No'. Below the options, it says 'Click Next to continue.' At the bottom, there are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.

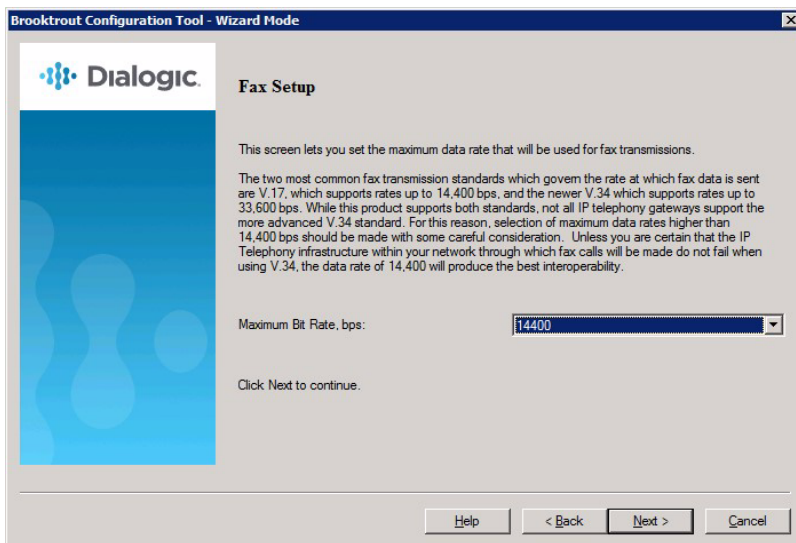
3. Select **Yes** to specify additional gatekeepers. Click **Next** and the following screen appears.



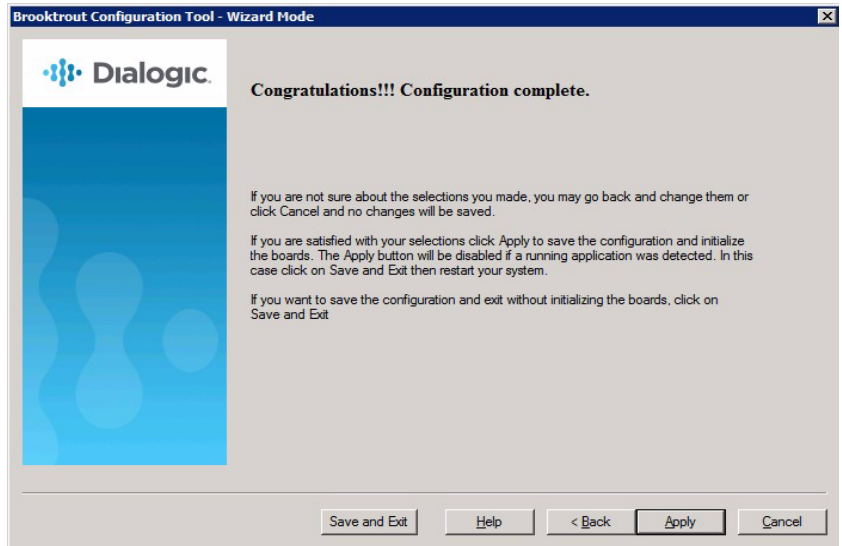
4. Enter the IP addresses of the additional gatekeepers. Click **Next** and refer to [Configuring H.323 Fax Setup on page 84](#).

Configuring H.323 Fax Setup

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

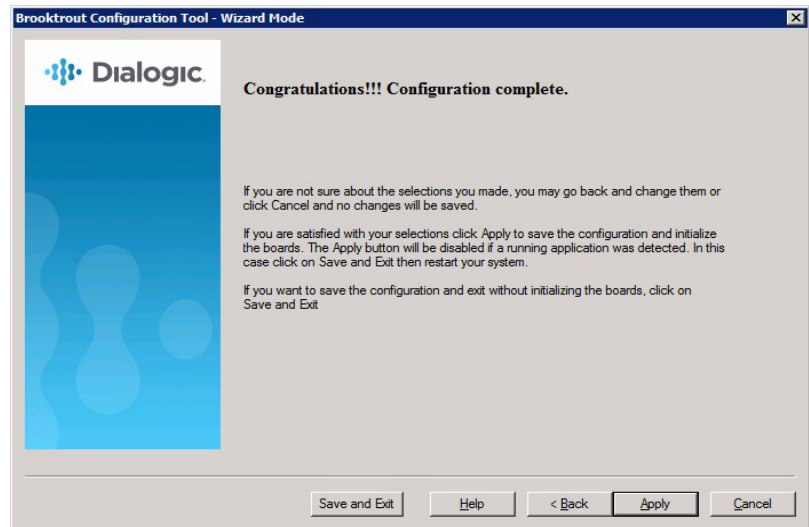


1. Configure the fax transmission and the configuration is complete. Click **Next** and refer to *Applying Changes after the Configuration is Complete on page 86*.



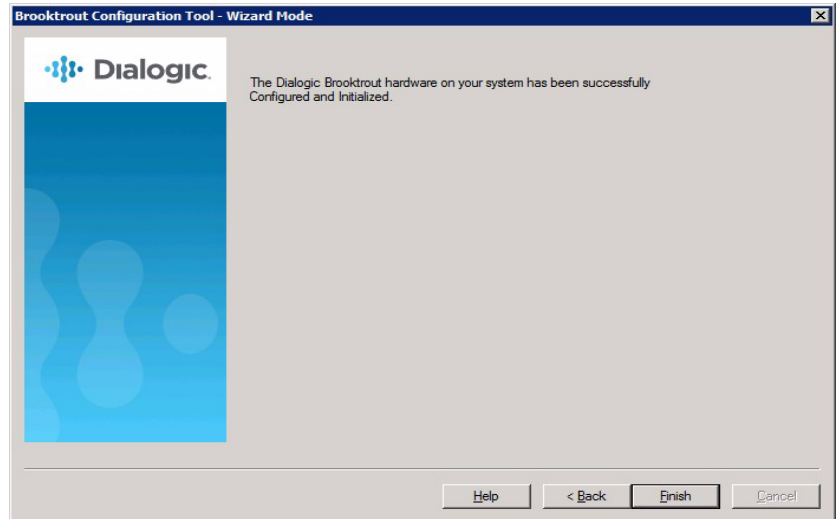
Applying Changes after the Configuration is Complete

➤ *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.

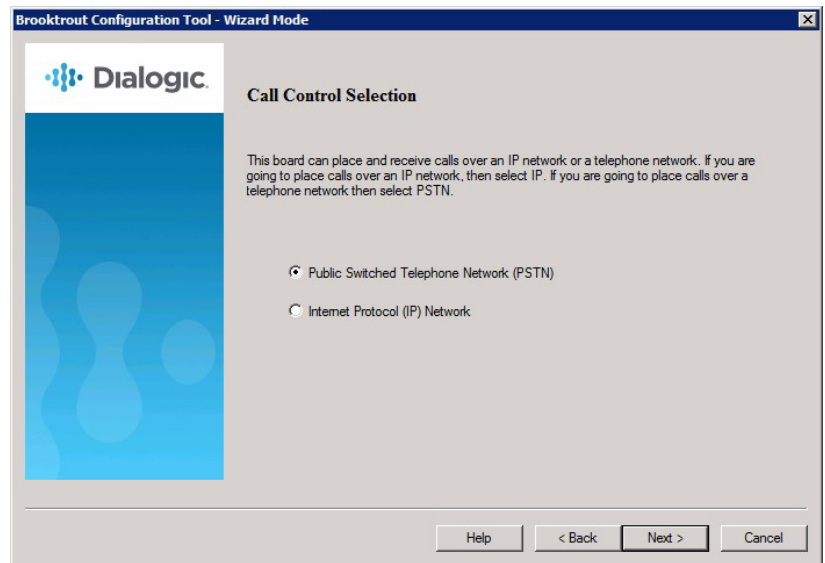


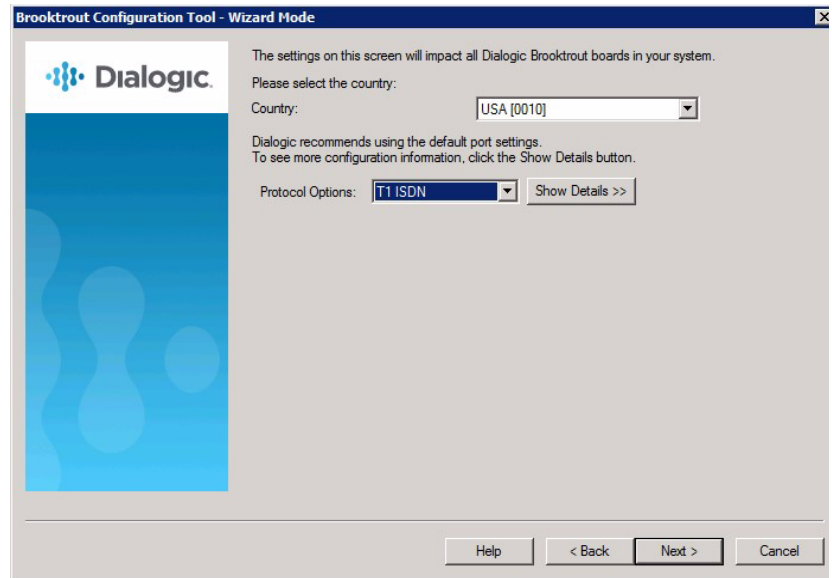
Configuring PSTN

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.





➤ *Follow the steps below:*

1. 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 Dialogic® Brooktrout® 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 Dialogic Brooktrout boards in your system.

Please select the country:

Country: USA [0010]

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

Protocol Options: T1 ISDN Hide Details <<

T1 ISDN

Switch Type: AT&T #4 ESS

Protocol (Variant): AT&T PUB 41449

Emulation: Customer Premise Equipment

Line Coding: Bipolar 8-Zero Suppression (B8ZS)

Line Build Out: 0 - 133 feet

Network Specific Facility: No message is sent

Max DID Digits: 0 0 255

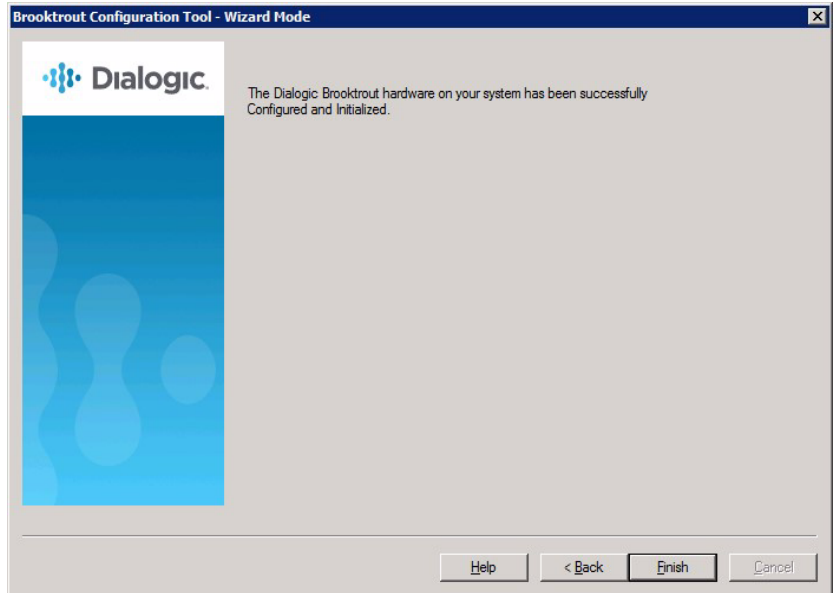
Help < Back Next > Cancel

2. Click Next.

The following screen appears.



3. 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.
4. The Finish window appears if you selected Apply.



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

Configuring in 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:

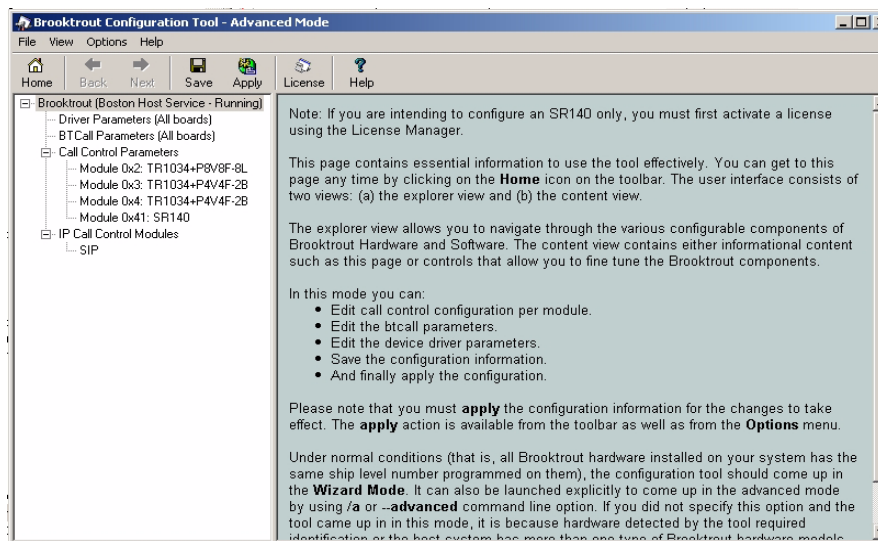
- When the Dialogic® Brooktrout® Configuration Tool detects that you have different modules, it starts in Advanced Mode.
- When you start the Configuration Tool in Wizard Mode, you can move to Advanced Mode immediately by clicking the **Advanced Mode** button.

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 105](#).

Advanced Mode Window

When you enter Advanced Mode, the Dialogic® 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 [Getting Help From the Dialogic® Brooktrout® Configuration Tool on page 97](#).

- ◆ Select **BTCall Parameters** to display the BTCall Parameters dialog box.

For sample values, see [Driver Parameters \(All boards\) on page 101](#).

- ◆ Select **Call Control Parameters** to display the Call Control Parameters dialog box.

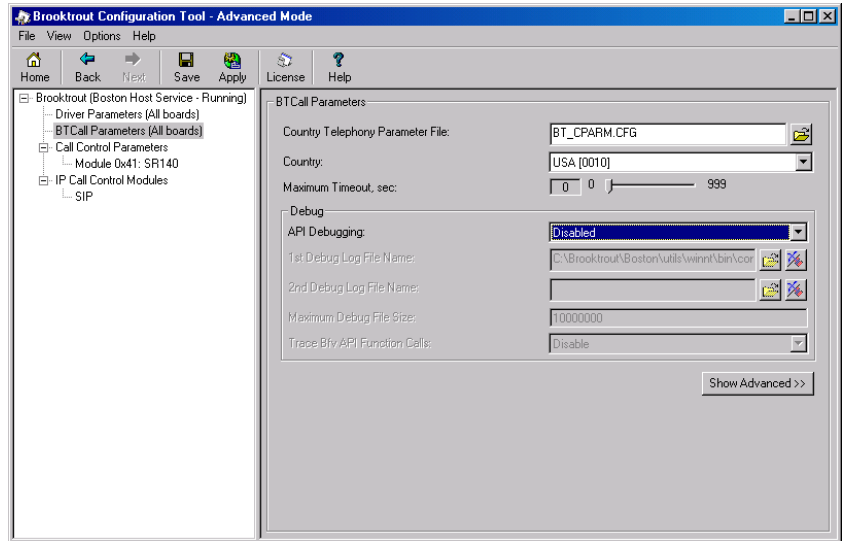
For sample values, see [Call Control Parameters on page 105](#).

- ◆ 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](#).

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.

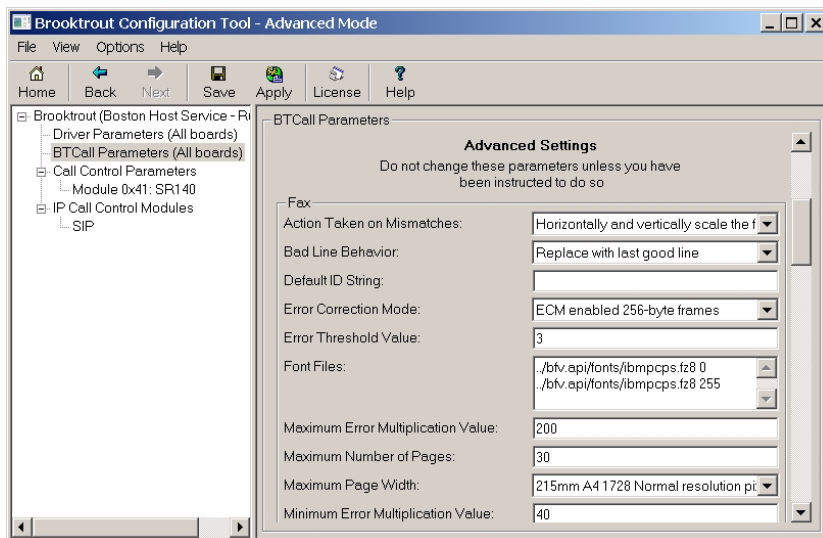
**Hide Advanced Button**

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.

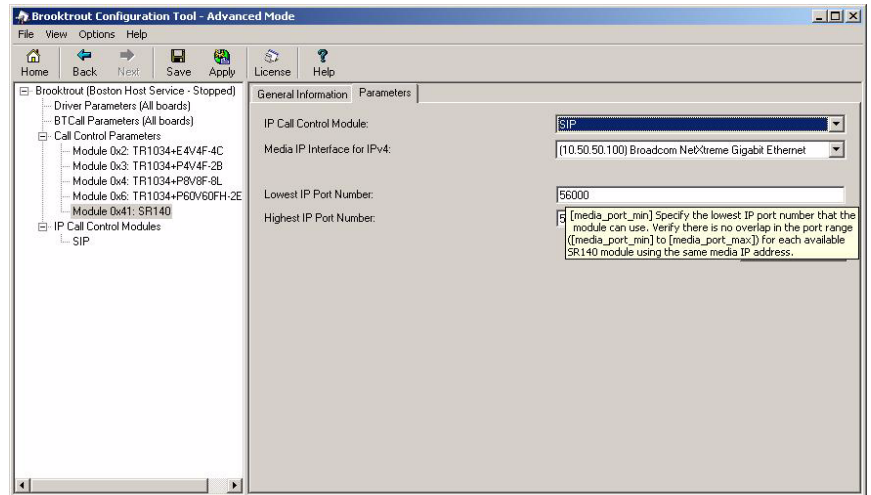
Note: Most users never need to alter the Advanced Settings parameter values. If you know these settings are incorrect, please contact Dialogic Technical Services and Support for more information. See [Getting Technical Support on page 12](#).



Getting Help From the Dialogic® Brooktrout® Configuration Tool

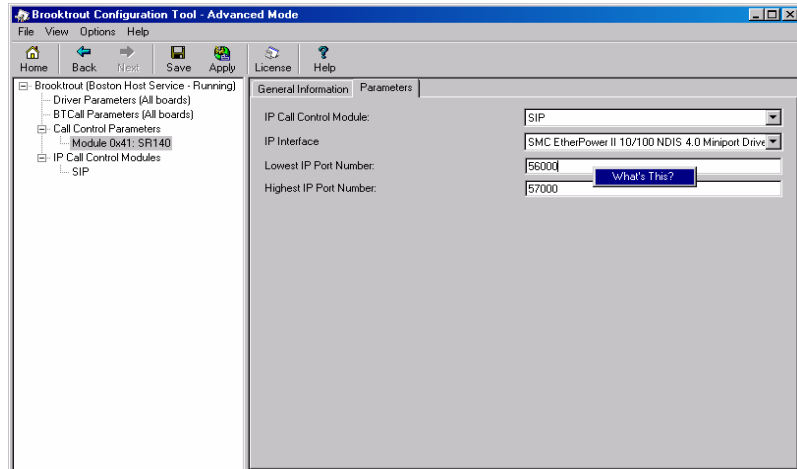
The Dialogic® Brooktrout® Configuration Tool provides context sensitive online help for parameters. The Help displays the purpose and description of the parameter including the default value and range, if applicable.

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

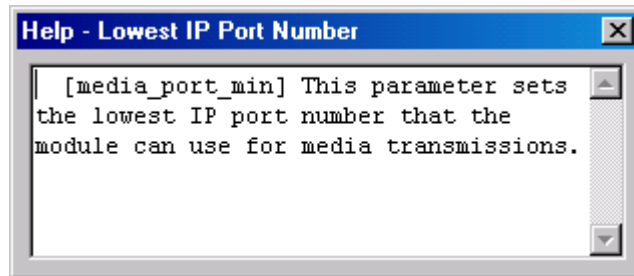


- Right-click the parameter drop-down box to get a more complete definition for Configuration Tool parameters.

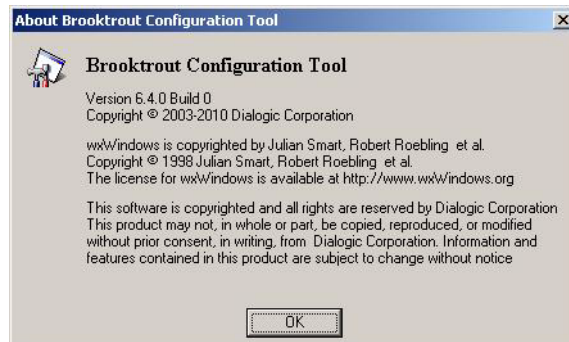
The What's This? popup menu appears:



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



- Select **About** from the **Help** menu to display the version and copyright information for the Brooktrout Configuration Tool.



Configuration Tool Menu

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 [Returning to the Default Configuration on page 133](#).

- ◆ 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

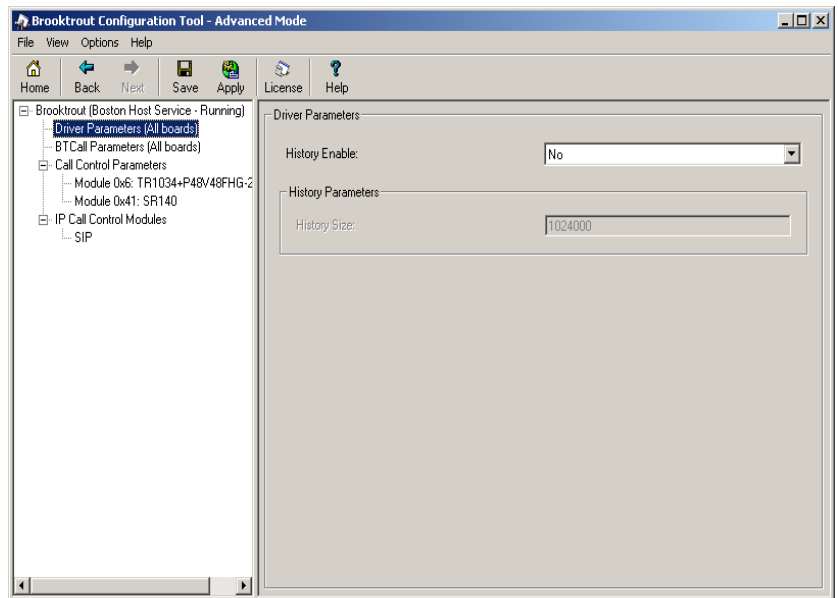
➤ **The Advanced Mode window contains these buttons:**

- 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.

Driver Parameters (All boards)

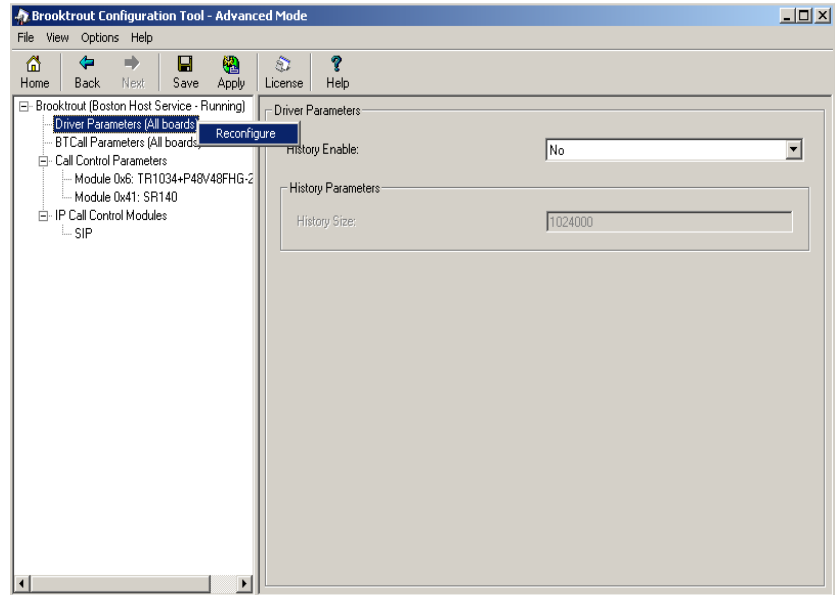
Click on Driver Parameters (All Boards) in the left panel to display the Driver Parameters in the right panel.



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.



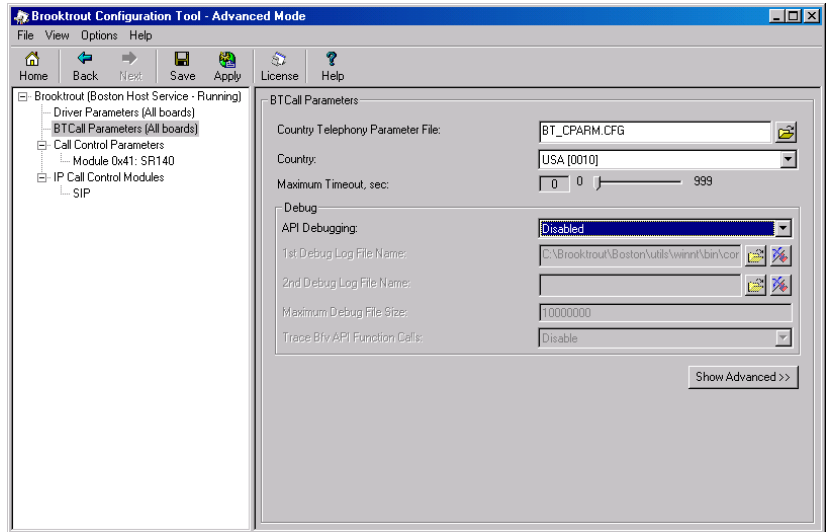
BTCall Parameters (All boards)

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

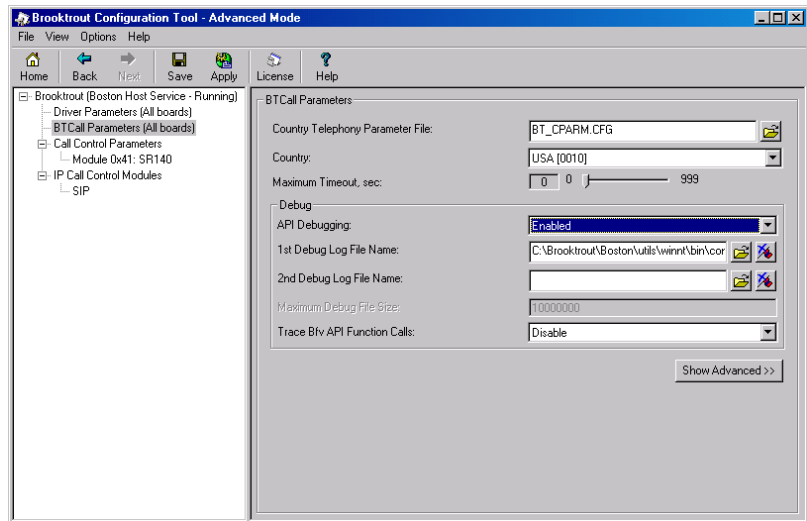
The Bfv API Debug file is the main Brooktrout log, capturing debug information about faxing.

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 [Driver Parameters \(All boards\) on page 101](#).

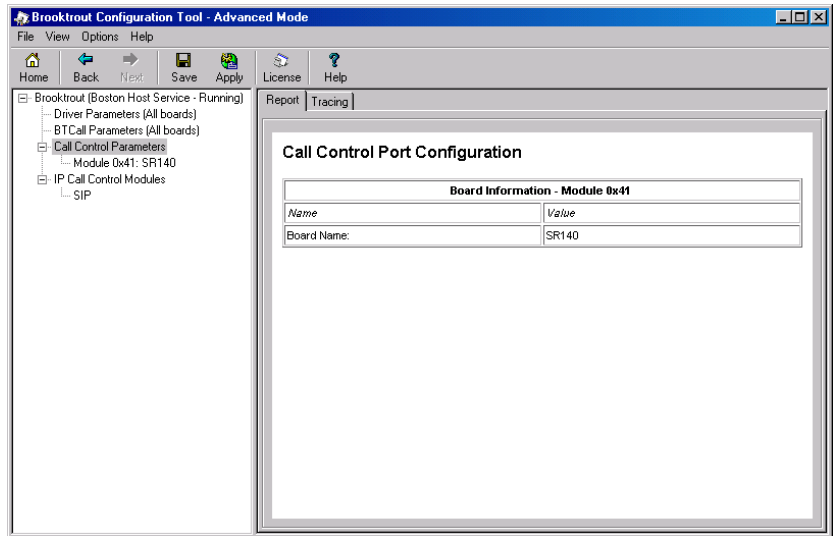
Note: Most users never need to alter the Advanced Settings parameter values.

Call Control Parameters

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

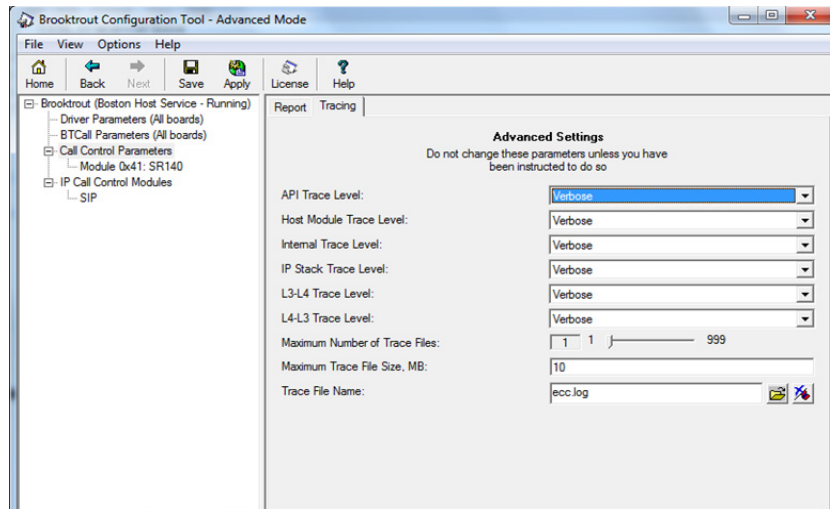
Report Panel

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.



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 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.

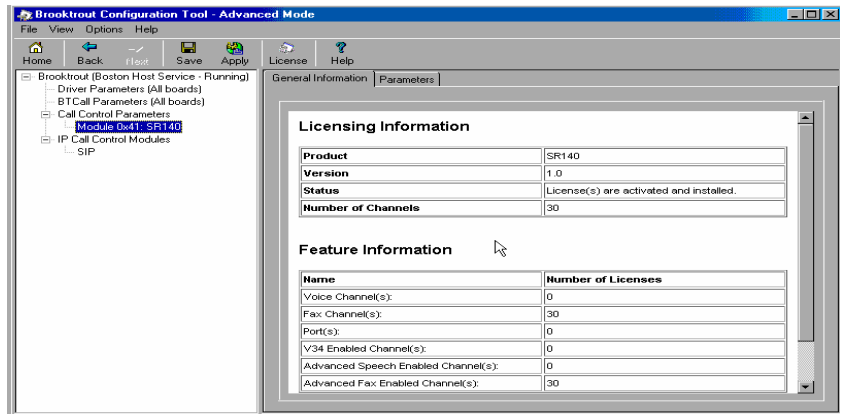
Products with demonstration licenses run with limited functionality. Please note that only one demonstration license may be used at a time. Demonstration licenses have incoming and outgoing fax pages overlaid with a *Demonstration* watermark. Once a demonstration license is upgraded to a permanent license, 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](#).

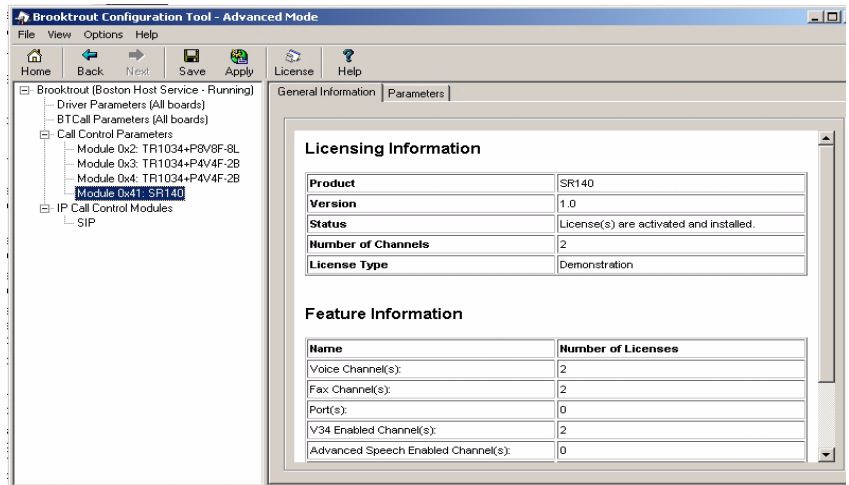
The **License** button on the toolbar launches the License Manager (*bkrlicmgr.exe*).

General Information Tab for SR140

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



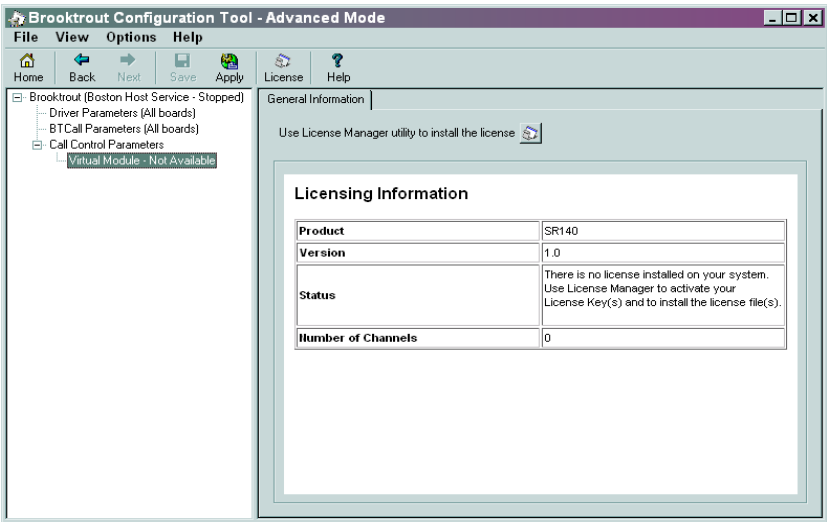
The following window shows a demonstration license:



Virtual Module - Not Available

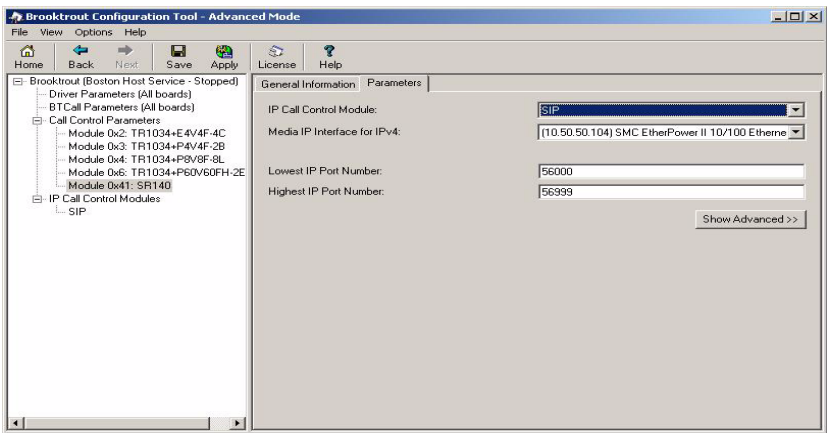
An SR140 module displays in the General Information tab even when there is no valid license installed.

To invoke the License Manager utility (brktlicmgr.exe), press the icon Use License Manager utility to install the license.



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. 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

Specify the lowest IP port number that the module can use. Verify there is no overlap in the port range ([media_port_min] to [media_port_max]) for each available SR140 module using the same media IP address. Set this value to a value 999 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

Specify the highest IP port number that the module can use. Verify there is no overlap in the port range ([media_port_min] to [media_port_max]) for each available SR140 module using the same media IP address. Set this value to a value 1000 above the value specified for the media_port_min parameter. Valid values are:

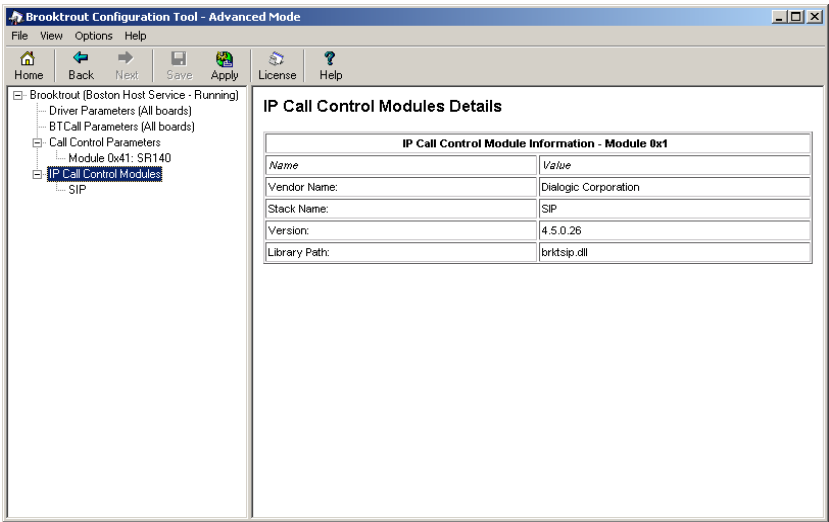
- Range: 2024 - 65535
- Value type: decimal
- Default: 56999 (sets this value as the highest port number)

IP Call Control Modules

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

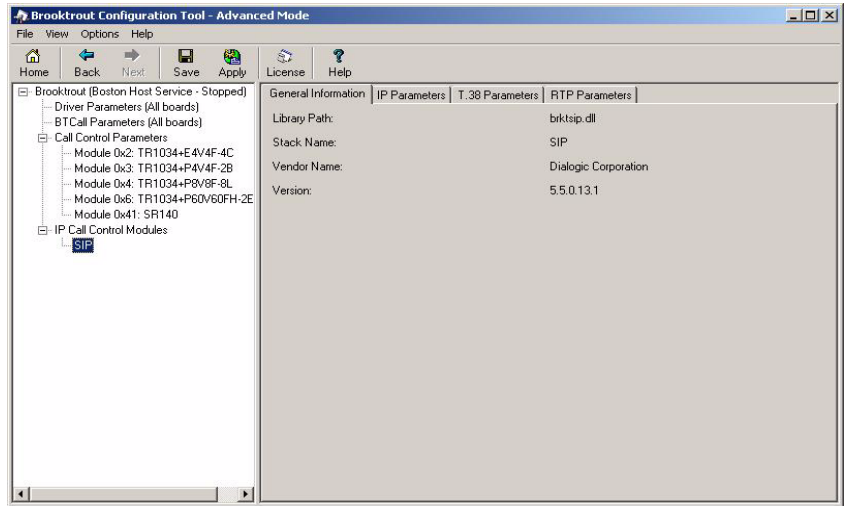
IP Call Control Modules
Details

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



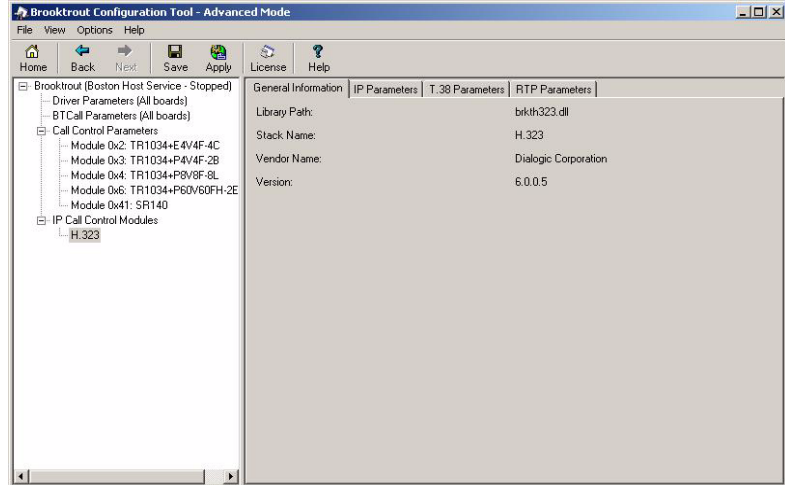
General Information Tab for SIP Stack

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 SR140 SIP stack. 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*.

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)

`10.128.22.6:0` (no port number specified)

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

This parameter can also be specified with an optional name prefix as shown in the following examples:

`Name@xxx.xxx.xxx.xxx:PortNumber`

`username@10.128.22.6:5060`

`username@10.128.22.6`

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

This parameter specifies the IP address of a default gateway to use for outbound calls. If a user only specifies a phone number when making a SIP call and the application is not using a SIP proxy server, the API forwards the call to the gateway specified with this parameter. The API forwards the specified phone number to the gateway for routing purposes. The API does not use this parameter if the configuration file specifies a *sip_registration_server* or *sip_proxy_server*.

When set, this parameter must contain an IP address of type IPv4, IPv6, or Hostname in the form:

`xxx.xxx.xxx.xxx:PortNumber`

`hostname:PortNumber`

`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. There are also parameters when more than one default gateway is available such as *sip_gateway2*, *sip_gateway3*, etc.

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. 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 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 65535

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

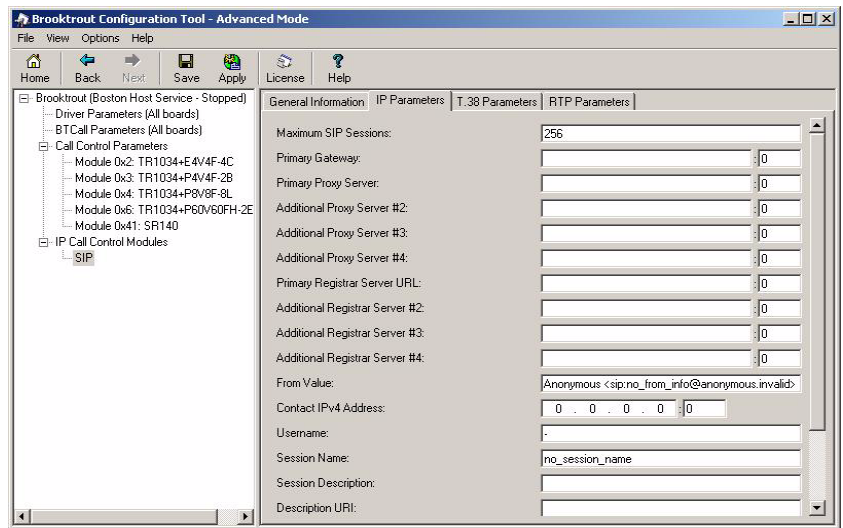
Username

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)



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 SR140 H.323 stack. 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.

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:

<code>xxx.xxx.xxx.xxx</code>	Configures the system to use the specified H.323 gatekeeper. Set the gatekeeper IP address in the form: <code>xxx.xxx.xxx.xxx:PortNumber</code>
<code>0.0.0.0:0</code>	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:

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

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

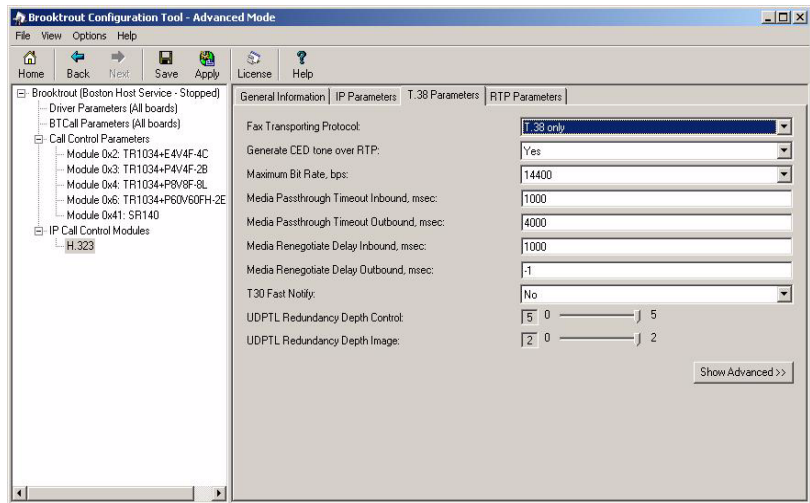
T.35 Country Code Modifier

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

The T.38 Parameters tab allows you to configure parameters used when sending or receiving faxes using the T.38 protocol. Most of the parameters normally may be left as default.

Parameter	Value
<i>fax_transport_protocol</i>	Specifies the method for transporting fax media. t38_never Fax will use G.711 pass-through only. t38_only Fax will use T.38 only and the call will fail if T.38 cannot be negotiated. t38_first Fax will attempt T.38 and fall back to G.711 pass-through if T.38 cannot be negotiated. <i>Value Type:</i> Character string <i>Default:</i> t38_only
<i>media_renegotiate_delay_inbound</i>	Controls media renegotiation to image (T.38) on inbound calls. If the gateway is responsible for media renegotiation, set this parameter to -1 to disable initiating the media renegotiation to image. If the UAC is responsible for media renegotiation to image, set this parameter to a value between 0 and 60000. Numbers greater than 0 indicate the number of milliseconds to delay before attempting media renegotiation. The time difference between inbound and outbound media renegotiate delay should be at least 500 ms. A value of 0 will cause an immediate renegotiation, while -1 will wait for a renegotiation to image. Set this parameter to: -1 Disables media renegotiation on inbound calls. 0 Does not delay before attempting to renegotiate the media. >0 Waits this number of milliseconds before attempting to renegotiate the media. Note: Set at least 500 ms of time difference between inbound and outbound media renegotiate delay parameters. <i>Unit:</i> ms <i>Range:</i> -1 and 0 to 60000 <i>Value Type:</i> decimal <i>Default:</i> 1000 (1 second)

Parameter	Value
<i>media_renegotiate_delay_outbound</i>	Controls media renegotiation to image (T.38) on outbound calls. If the gateway is responsible for media renegotiation, set this parameter to -1 to disable initiating the media renegotiation to image. If the UAC is responsible for media renegotiation to image, set this parameter to a value between 0 and 60000. Numbers greater than 0 indicate the number of milliseconds to delay before attempting media renegotiation. The time difference between inbound and outbound media renegotiate delay should be at least 500 ms. A value of 0 will cause an immediate renegotiation, while - 1 will wait for a renegotiation to image. Set this parameter to: -1 Disables media renegotiation on outbound calls. 0 Does not delay before attempting to renegotiate the media. >0 Waits this number of milliseconds before attempting to renegotiate the media. Note: Set at least 500 ms of time difference between inbound and outbound media renegotiate delay parameters. <i>Unit:</i> ms <i>Range:</i> -1 and 0 to 60000 <i>Value Type:</i> decimal <i>Default:</i> -1
<i>rtp_ced_enable</i>	Specifies whether to play the CED/ANSam tone for inbound IP calls. If set to true, channels will generate CED/ANSam tone using the RTP protocol for SIP and H.323 fax calls which do not immediately start as a T.38 fax call. If set to false, the CED/ANSam tone is not generated. - FALSE CED/ANSam tone is not generated - TRUE Channels generate CED/ANSam tone <i>Value Type:</i> Boolean <i>Default:</i> TRUE Note: Setting this parameter to true can cause some gateways to attempt an RTP fax rather than a T.38 fax.

Parameter	Value
<i>t38_fax_version</i>	Controls the maximum T.38 ASN.1 version the IP Call Control offers or accepts from a remote party. Versions 0, 1, 2 support a maximum bit rate of 14,400 bps. Version 3 supports V.34 and the following are the possible bit rates: 33,600 (default), 31,200, 28,800, 26,400, 24,000, 21,600, 16,800 Must be version 1 or higher in order to support T.38 Internet Aware Fax (IAF) modulation. <i>Unit:</i> not applicable <i>Range:</i> 0,1,2,3 <i>Value Type:</i> decimal <i>Default:</i> 0
<i>t38_UDPTL_redundancy_depth_control</i>	Specifies a value that defines the number of prior messages to include as redundancy messages in a transmitted UDPTL packet carrying signal information (FSK signals). Set this parameter to: 0 – 5 Specifies a number value defining how many prior messages to include as redundancy messages in a packet carrying control data. <i>Unit:</i> number <i>Range:</i> 0 through 5 <i>Value Type:</i> decimal <i>Default:</i> 5
<i>t38_UDPTL_redundancy_depth_image</i>	Specifies a value that defines the number of prior messages to include as redundancy messages in a transmitted UDPTL packet carrying image data. Set this parameter to: 0 – 2 Specifies a number value defining how many prior messages to include as redundancy messages in a packet carrying image data. <i>Unit:</i> number <i>Range:</i> 0 through 2 <i>Value Type:</i> decimal <i>Default:</i> 2

Parameter	Value
<i>t38_max_bit_rate</i>	Sets the advertised max bitrate for T.38. If a remote T.38 terminal specifies a maximum bit rate that differs from the setting specified by this parameter, the actual maximum bit rate selected for a call will be negotiated to the lower of the two values. <i>Unit:</i> bits per second <i>Range:</i> 2400, 4800, 7200, 9600, 12000, 14400, 16800, 19200, 21600, 24000, 26400, 28800, 31200, 33600 <i>Value Type:</i> decimal <i>Default:</i> 14400
<i>t38_fax_max_buffer</i>	Specifies value for T38FaxMaxBuffer attribute of T.38 codec. This parameter is used to specify the maximum number of octets that can be stored before an overflow condition occurs. <i>Unit:</i> octets <i>Range:</i> 64 through 65535 <i>Value Type:</i> decimal <i>Default:</i> 200
<i>t38_fax_max_datagram_send</i>	Specifies value for T38FaxMaxDatagram attribute for T.38 in the SDP. This value or the maximum datagram size from the remote side will be used for the T38FaxMaxDatagram attribute for T.38 which is sent in the SDP, whichever value is smaller. <i>Unit:</i> octets <i>Range:</i> 1 through 65535 <i>Value Type:</i> decimal <i>Default:</i> 72

RTP Parameters Tab

The RTP Parameters tab allows you to configure parameters used when sending or receiving faxes using G.711 protocol. Most of the parameters normally may be left as default.

Parameter	Value
<i>rtp_frame_duration</i>	Specifies the duration of outbound RTP packets in multiple of 10ms. SR140 virtual modules do not support outbound 10ms packets. <i>Unit:</i> ms <i>Range:</i> 10 - 30 <i>Value Type:</i> decimal <i>Default:</i> 20

Parameter*rtp_jitter_buffer_depth***Value**

Specifies the depth of the RTP jitter buffer in multiples of 10ms.

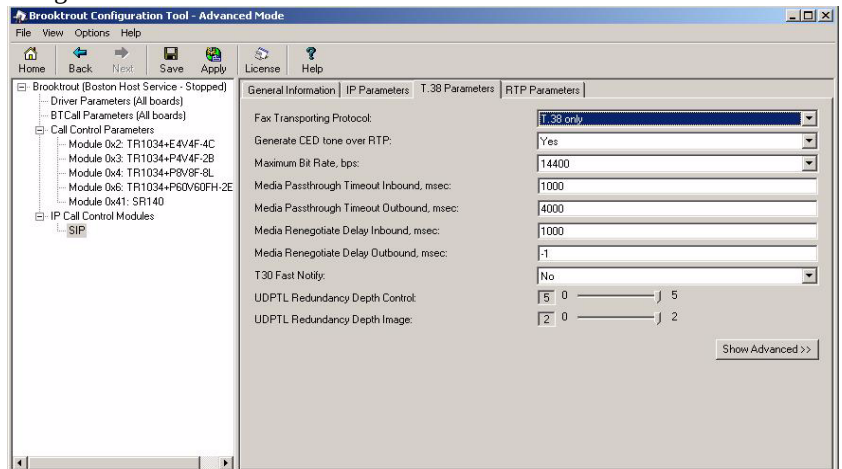
The depth of the jitter buffer determines the playout delay imposed by the RTP stack before passing data to the signal processing algorithms. This delay should be considered when performing time sensitive tone detection in IVR applications. A longer playout delay also provides a better opportunity for recovering from RTP packets received out of order.

Unit: ms*Range:* 0 - 500*Value Type:* decimal*Default:* 100*rtp_codec*

Defines the codecs supported and codec order offered to a remote device during call negotiation. This parameter may be set to one or two codecs. Codec names should be entered without quotes and separated by a space. The first codec after the keyword is given the highest order of priority. For example, *rtp_codec=pcmu pcma* will offer both codecs, but *pcmu* will be the preferred one. Another option is to set *rtp_codec=pcmu* followed by *rtp_code=pcma* on the next line. This will offer both codecs, but *pcmu* will be the preferred one.

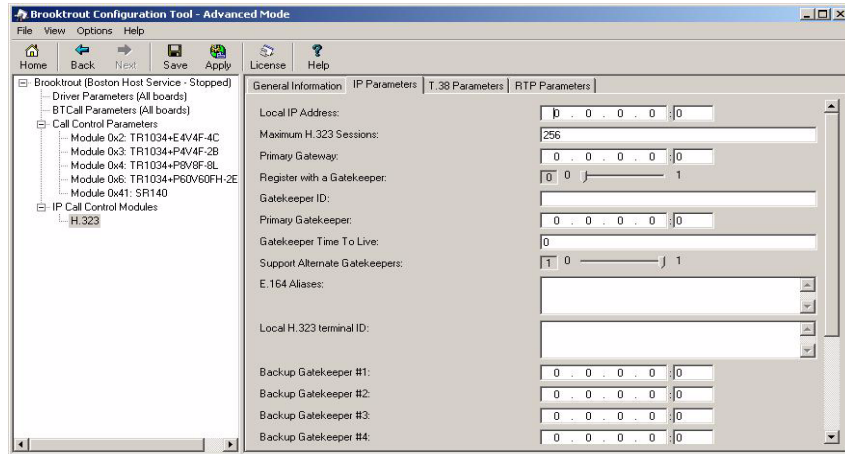
Unit: none*Range:* pcmu (PCM Mu-law), pcma (PCM A-law)*Value Type:* null-terminated case insensitive string*Default:* pcmu**T.38 Parameters Tab for SIP Stack**

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.

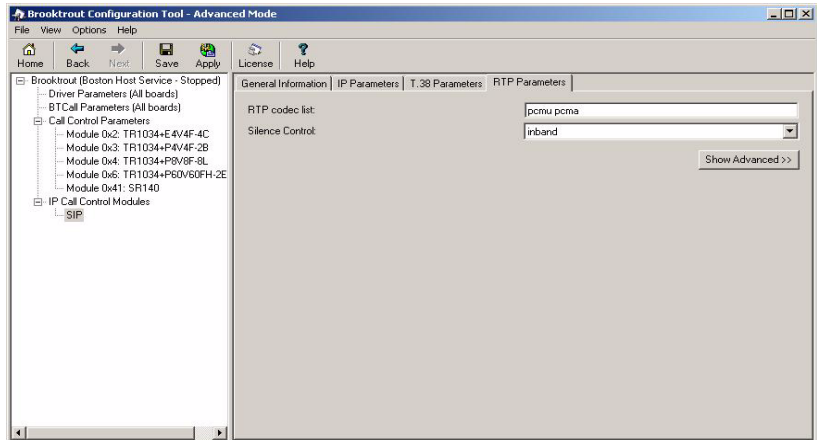


T.38 Parameters for H.323 Stack

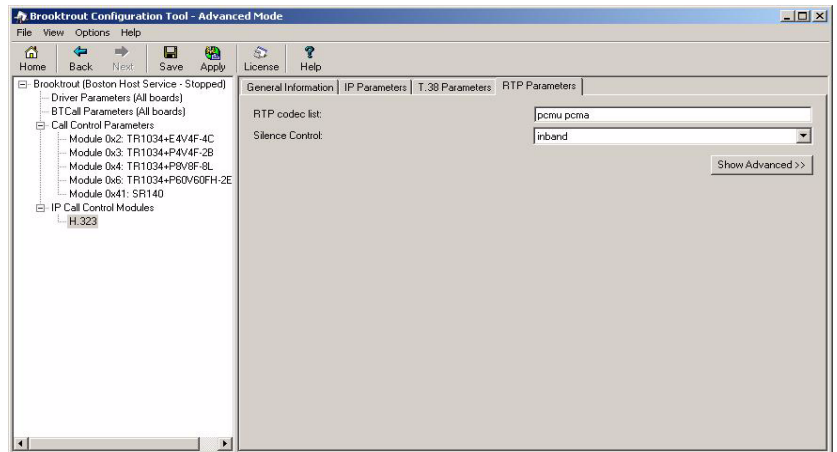
The T.38 Parameters tab for an H.323 stack allows you to set values for the following parameters. These parameters should work without being modified.



RTP Parameters for SIP Stack



RTP Parameters for H.323 Stack



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. Note the location of the following files:
 - ◆ The *btcall.cfg* in the BTCall Configuration field.
 - ◆ The *callcnt.cfg* in the Call Control Configuration field.
 2. Exit from the Configuration Tool.
 3. Delete either the *btcall.cfg* or the *callcnt.cfg* 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

This chapter explains how to use Dialogic® Brooktrout® Fax/Voice Diagnostic Test Tool (FDTool) for Windows SDK 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 [Activating Dialogic® Brooktrout® SR140 Software on page 26](#).

If you ISV's application does not contain the FDTool, you can download a copy from the Dialogic Technical Services and Support website. See [Getting Technical Support on page 12](#) and download the FDTool that supports your Brooktrout software version.

See [Returning to the Default Configuration on page 133](#) to get the version of your Brooktrout software.

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 FDTool.

You can test a maximum of 8 channels simultaneously on the FDTool Diagnostic Tool in a Windows operating system. See [*Installing the FDTool on page 136*](#).

This chapter covers the following major topics:

- [*Installing the FDTool on page 136*](#)
- [*Menus and Submenus on page 137*](#)
- [*Generating Logs for Troubleshooting on page 144*](#)

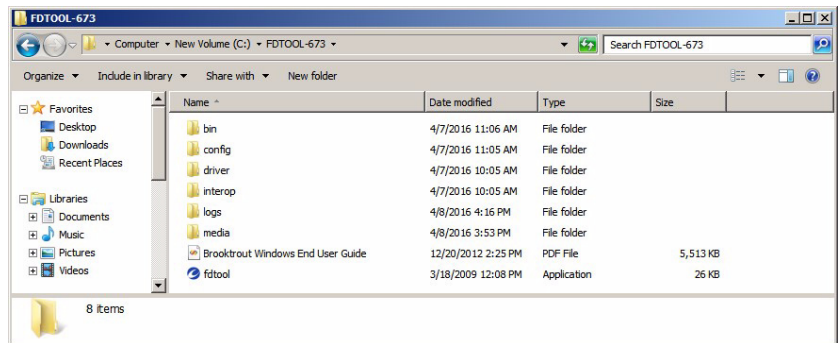
Refer to [*Dialogic® Brooktrout® SR140 Software and TR1034/TruFax® Specifications on page 146*](#).

Installing the FDTool

This section describes how to install and configure the FDTool and generate log files.

- *You might have received the FDTool as part of your fax application. If not, download a self-extracting zip file from the web by following the steps below:*

 1. Go to the following Dialogic website
<http://www.dialogic.com/support/helpweb/default.aspx/TR1034>
 2. Under Troubleshooting select How to download and use the Dialogic Brooktrout Fax Diagnostic Tool for Windows.
 3. Locate the FDTool for your version of the software. See [Getting Help From the Dialogic® Brooktrout® Configuration Tool on page 97](#) to get the version of your Brooktrout software. Below FDTool for SDK of your version, select Download.
 4. Save the zip file to an empty directory and unzip it.
 5. Extract the files to the current directory.



6. To launch the FDTool, double-click the fdtool.exe icon.

Menus and Submenus

The following table lists the menus and submenus of the FDTool.

Table 3. FDTool Menus and Submenus

Menus	Submenus
<i>File</i>	■ <i>Configure</i> - Launch the Configuration Tool to configure your telephony ■ <i>Initialize</i> - Initialize FDTool with the selected module ■ <i>Exit</i> - Exit FDTool

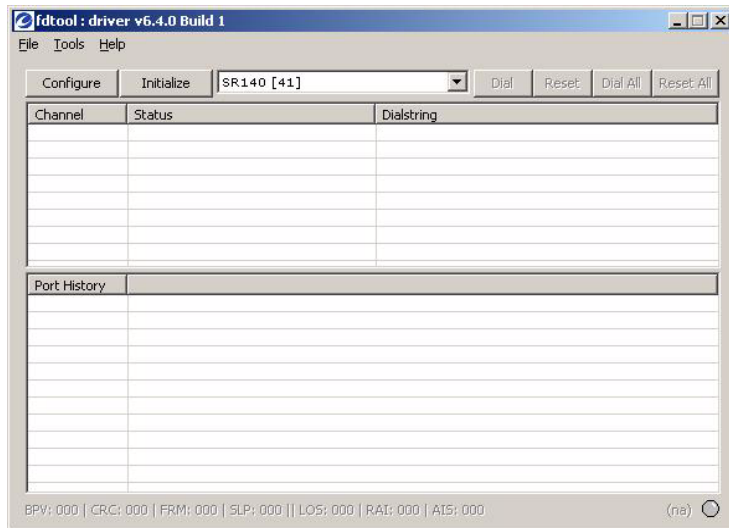
Table 3. FDTool Menus and Submenus

Menus	Submenus
<i>Tool</i>	■ <i>Debug</i> - Enables/Disable the Brooktrout API logging. ■ <i>VTTY Tracer</i> - Launch the VTTY Tracer utility for logging PSTN. ■ <i>Reset Alarm Counters</i> - Resets the counters maintained by FDTool. ■ <i>Reset Configuration</i> - 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. ■ <i>Send Multipage TIFF</i> - Usually only a single-page TIFF file is used for sending faces with the FDTool. Selecting this option sends out a three page TIFF file that alternates the fax resolution from fine to normal - bank to fine. ■ <i>Reject Incoming Calls</i> - If this is selected, incoming calls will not be answered. The utility would only be able to place outbound calls. ■ <i>Start Interop Test Suite</i> - Run a set of tests for inter-opting with other devices. In order to run an interop SR140 license is required.
<i>Help</i>	■ <i>Help</i> - disabled ■ <i>About fdtool...</i> - Provides version information.

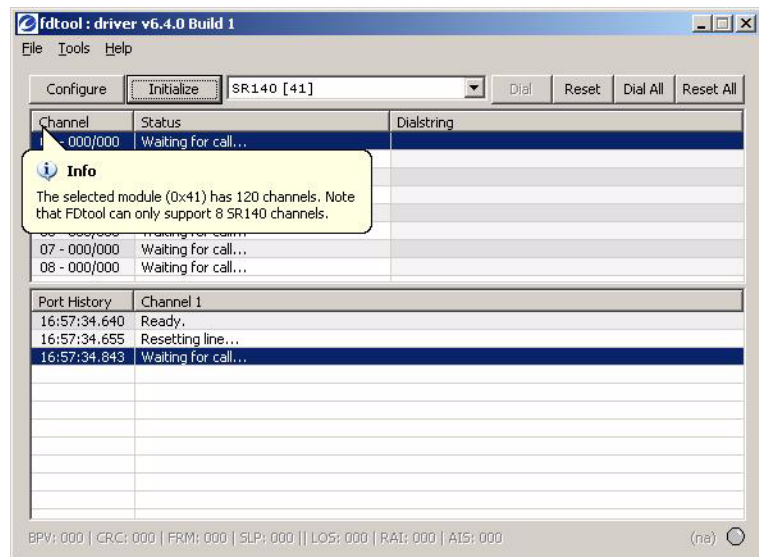
Running the FDTool

➤ *Follow the steps below to run the FDTool.*

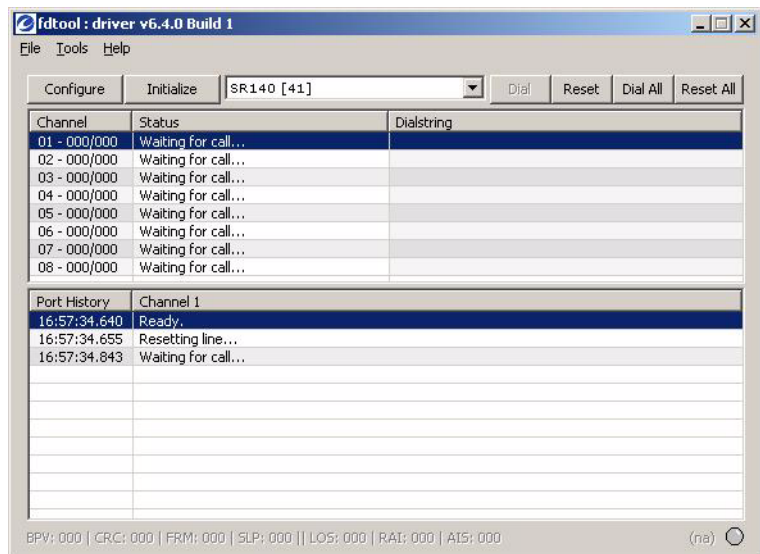
1. From the FDTool screen click the **Configure** button to launch the Configuration Tool.
2. Refer to the [Returning to the Default Configuration on page 133](#) for instructions for using the Configuration Tool.
3. After successfully configuring the system and closing the Configuration Tool, FDTool will list the available modules.



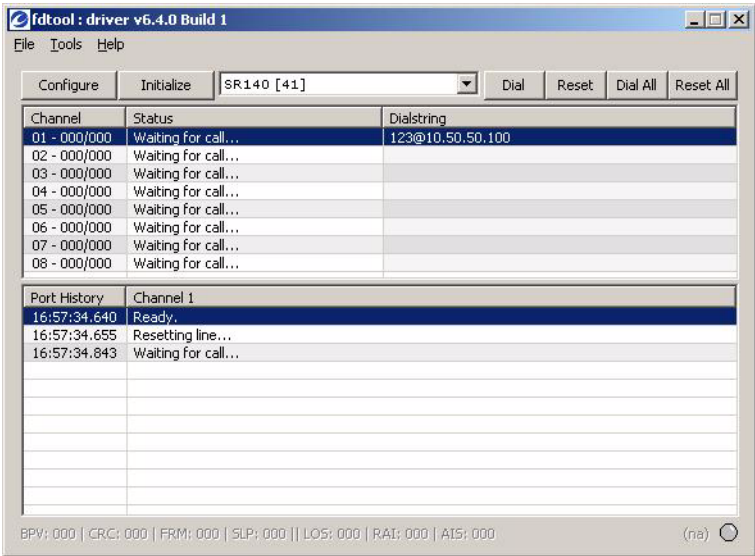
4. Click Initialize. The following screen appears.



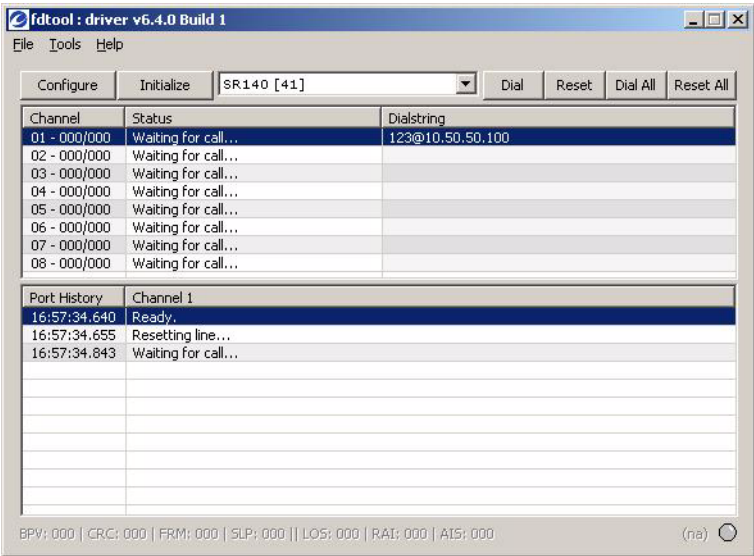
5. If there are more than eight SR140 channels, the information bubble above appears. If not, the following screen appears.



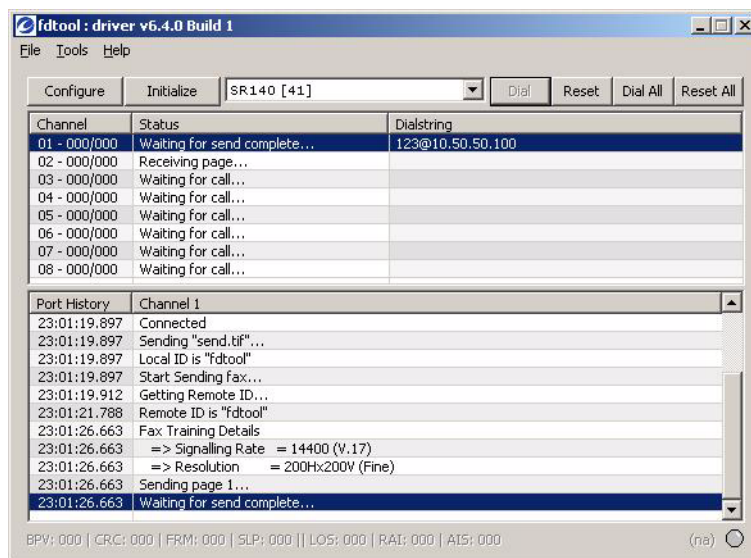
6. The following screen indicates that you have entered a dial string.



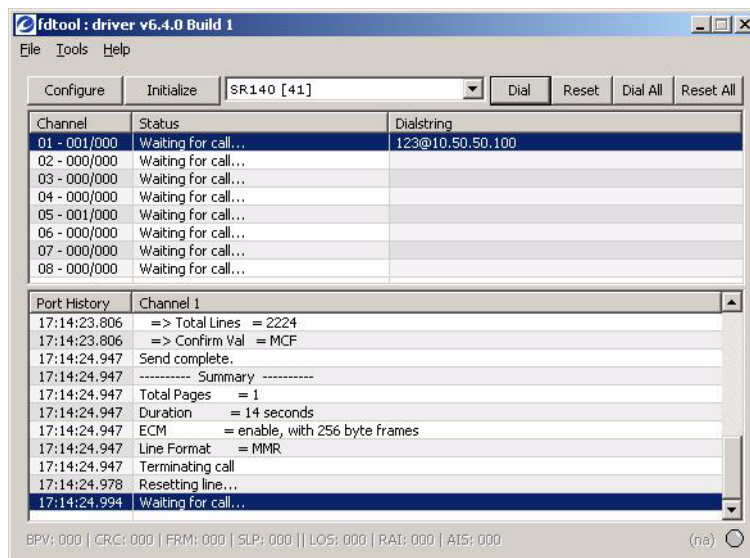
7. Select a channel configured with a Dialstring to enable the Dial button. Click Dial to start the outgoing fax.



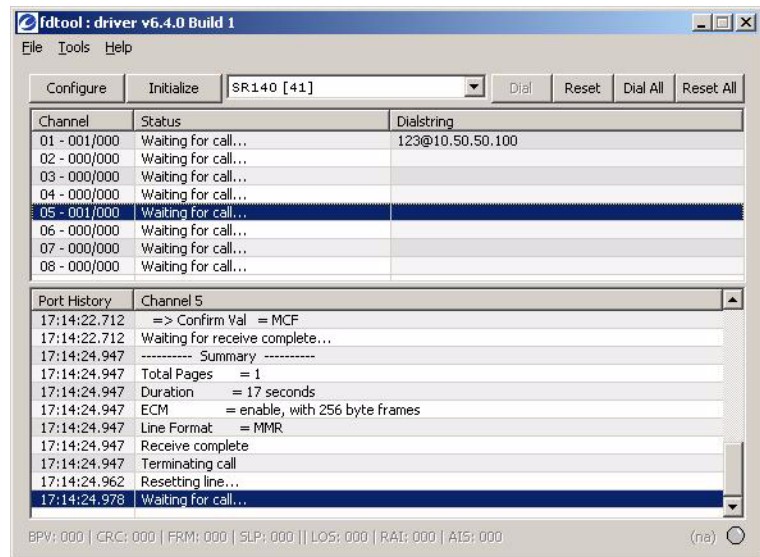
8. The following screen indicates that the fax is being sent between two channels.



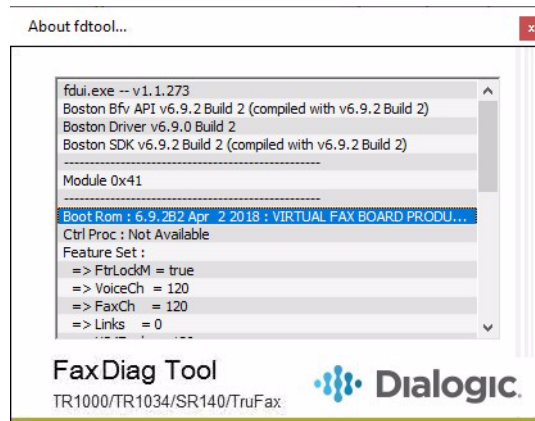
9. The following screen displays the history information for the first channel.



10. Click on the second channel to display the history information for that channel.



11. To enable logging, click Debug from the Tools menu.
12. Click Help, About fdtool and the following screen appears:



Generating Logs for Troubleshooting

FDTool creates various log files for troubleshooting. All logs are created in the logs directory where the FDTool is located. The log history for each channel is saved in a file porthistory_xx.log where xx is the channel number displayed in FDTool. The log history is the output displayed in FDTool for each channel.

Additional logging can be enabled from FDTool's Tools menu:

- Debug
- VTTY Tracer

Additional logging can be enabled under the direction of Dialogic Technical Services and Support.

Debug

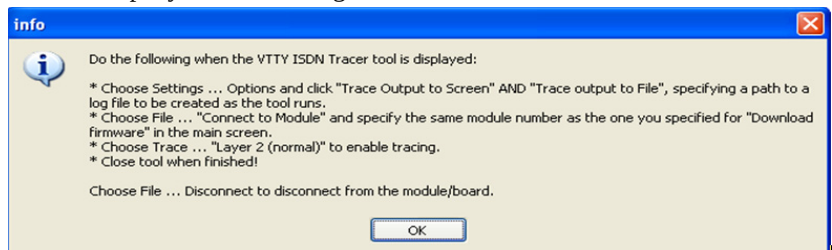
Enabling logging with Tools | Debug will cause the Dialogic® Brooktrout® API to start logging continuously. This is the most common logging requested by Dialogic Technical Services and Support. Enabling Debug logging will generate logs to the following files:

- apidbug_systemlog
- apidebug_unit_xx.log

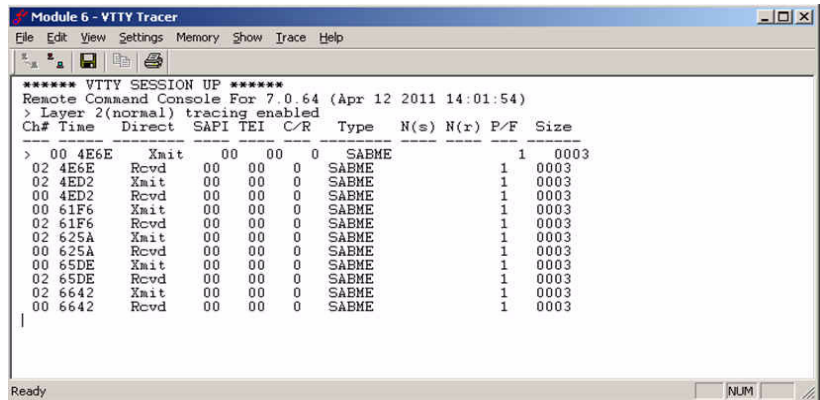
VTTY Tracer

VTTY Tracer is a separate logging utility for PSTN boards. It can be launched from the menu of FDTool, Tools | VTTY Tracer.

When launching the VTTY Tracer utility the following instructions will be displayed in a dialog box.



Click OK, then follow the direction displayed in the dialog box. If enabled successfully, the output may appear as follows.



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 faces with the FDTool. Selecting this option sends out a three page 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

Fax

- ITU T.30; ITU T.38; IETF RTP; Group 3
- ASN.1 (2002)
- V.17, V.29, V.27ter, V.21, V.34 modulation
- Up to 33.6 Kbps 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
- G.711 pass-through

RTP

- G.711 20ms 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

System Requirements

Minimum System Requirements

The minimum system requirements for running any number of SR140 channels is a Pentium P4 2.66 GHz with 512MB RAM. Refer to the *System Configurations* section of the *Dialogic® Brooktrout® Release Notes* for a table describing the CPU utilization for this and other system types.

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>

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

Telephony Requirements

- *Physical:* Ethernet 10/100
- *Media* T.38, RTP v2, G.711
- *Call Control:*
 - ◆ *IP:* H.323, SIP
 - ◆ *PSTN:* Analog, DID, BRI, T1, E1

Operating Systems

- Windows Server 2019 64-bit
- Windows Server 2016 64-bit
- Windows Server 2012 R2 64-bit
- Windows Server 2012 64-bit
- Windows Server 2008 R2 64-bit
- Windows 10 Enterprise Edition 32-bit and 64-bit

Installation and Configuration

- Windows Graphical Configuration Tool

Application Programming Interface

- Dialogic® Brooktrout® Fax and Voice (BFV)

Dial String Formats

Dial strings (phone numbers) may be up to a maximum of 255 characters.

PSTN Telephony

The dial string field supports the following digits and control characters. Invalid characters are ignored; upper and lower case letters are equivalent. Some protocols ignore control characters and only accept DTMF characters.

Valid Digits and Control Characters

0 - 9	Dials digits '0' through '9'.
# (pound)	Dials a pound.
* (asterisk)	Dials an asterisk.
A - D	Sends the DTMF tone corresponding to the specified alphabetic character.
p	Changes the current or default dialing mode from tone dialing to pulse dialing.
t	Changes the current or default dialing mode from pulse dialing to tone dialing.
w	Waits for dial tone.
, (comma)	Causes a 1-second pause.
; (semicolon), i or I	Causes a 5-second pause. To create longer pauses, string any of these characters together.
! (exclamation point)	Sends a hook flash on analog and T1 robbed bit modules.

Note: In an analog environment or when using a T1 robbed bit FXS loopstart or E1 CAS loopstart protocol, the 'w' character means wait for dial tone. All other protocols ignore the 'w' and 'i' characters. Only analog environments and T1 robbed bit or E1 CAS protocols use the 'p', 't', comma and semicolon characters.

IP Telephony

For IP outbound calls using the H.323 protocol:

- **Phone#@IP Address:Port#**

If the receiving side does not require a phone number, a value for Phone# is optional. Also, :Port# is optional — the Bfv API uses 1720 as the default port value.

- **TA:IP Address:Port#, Phone#**

:Port# is optional — the Bfv API uses 1720 as the default port value. If the receiving side does not require a phone number, a value for Phone# is optional.

- **Name:<name of person to dial>**

Use this form only if using gatekeeper

- **E164alias:7894561234**

Use this form only if using gatekeeper

Note: DNS lookups are not supported in H.323. You can use an H.323 or E.164 alias in conjunction with a gatekeeper to provide similar functionality.

Examples

4082345555@10.155.89.6:175

4082345555@10.155.89.6

TA:10.155.89.6:175,4082345555

TA:10.155.89.6,4082345555

TA:10.155.89.6

Name:Fred Smith

E164alias:4082345555

For IP outbound calls using the SIP protocol:

Phone#@IP Address:Port#

If the receiving side does not require a phone number, a value for Phone# is optional. Also, :Port# is optional - the Bfv API uses 5060 as the default port value.

Examples (IPv4 Addresses)

4082345555@10.155.89.7:175

4082345555@10.155.89.7

Examples (IPv6 Addresses)

```
4082345555@[2000::2ef3:1dff:ea3]:175  
4082345555@[fe80::1f4:189c:74da:69f7]
```

Note: IPv6 addresses must be enclosed in brackets. In addition, if a link-local IPv6 address is specified, the Scope ID should be omitted from the address.

DTMF Post Dialing

For all types of IP calls, the character '&' (ampersand) may be included to initiate post-dialing. This character indicates that the rest of phonenum specifies a sequence of DTMF digits to be "post-dialed" after messages from the remote side indicate the call is proceeding towards connecting.

Within the post-dial string, all dialing characters listed for PSTN Telephony are allowed except for 'p', 't', 'w', and '!'. The appearance of an additional '&' will terminate processing of the string.

Post-dialing of the specified digits will occur upon the first receipt of one of the following IP call control messages:

- SIP -- 183 Progress
- SIP -- 200 OK
- H.323 -- Progress
- H.323 -- Connect

The post-dial feature is controlled by the user configuration file parameter *post_dialing_enable*. If the feature is disabled by that parameter, then the ampersand has no special effect and the entire phonenum field is used as is.

Note: If a program accepts a phone number on the command line, the phone number will likely need to be quoted if it contains an ampersand, since this is a special character on most OSes. (Use double quotes (") on Windows, or single (') or double (") quotes on Linux.)