Software Manual

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Table of Contents

Introduction and Setup

The iBR9000™ is the latest addition to the Videx data collection family of products. It is a lightweight, portable device that reads *iButtons*®. The reader is small enough to fit on a keychain, yet durable enough to withstand repeated drops and harsh environmental operating conditions. The memory can store at least 9,000 button reads before it becomes necessary to download the data.

Applications for the iBR9000 include:

- Security guard tours
- Cell checks and inmate tracking at correctional institutions
- Transport and container tracking
- Industrial maintenance rounds
- Fire equipment inspections
- Data collection in agricultural settings

The iBR9000 software is web-based, meaning that the application runs within a browser window. The *iBREncoderLink* helper application is powered by Java™, which provides the interface between the software and the hardware.

System and Hardware Requirements

The iBR9000 software requires Windows XP or Vista, or Mac OS X 10.4 or later (Intel processor machines only). Windows machines require a minimum of 512MB of RAM, a 1GHz or faster processor, and 4GB of free disk space.

Besides a computer that meets the necessary requirements, a functional iBR9000 system must comprise at least one iBR9000, one IR Encoder, and one iButton.

Software Installation

To install the iBR9000 software, insert the application disc into the CD-ROM drive and double-click the *iBR9000-Setup* icon to launch the setup wizard. Once the InstallShield wizard launches, simply follow the prompts given on the screen.

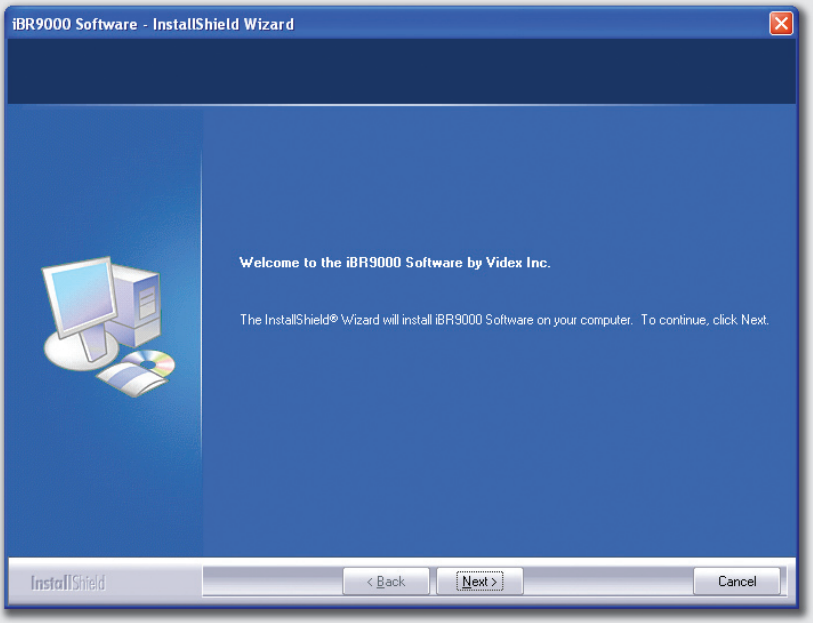


Figure 1-1: ***Installing the iBR9000 Software***

Adding Hardware

In order to view information on iButtons, readers and audit trails in the software application, the hardware components must be introduced to the system. Once in the system, readers and iButtons may be given meaningful names to make the audit trail data more recognizable.

Using the iBREncoderLink Software

Adding iButtons to the software is as simple as touching them with an iBR9000 reader and then downloading the data from the reader to the software. Downloading data from iBR9000 readers is accomplished through the use of a helper application and a USB device called the IR Encoder, which uses infrared light to communicate with the reader. The helper application is called *iBREncoderLink*, and is started by clicking the *Launch* button in the upper right-hand corner of the iBR9000 application window.

Figure 2-1: ***Reading an iButton***

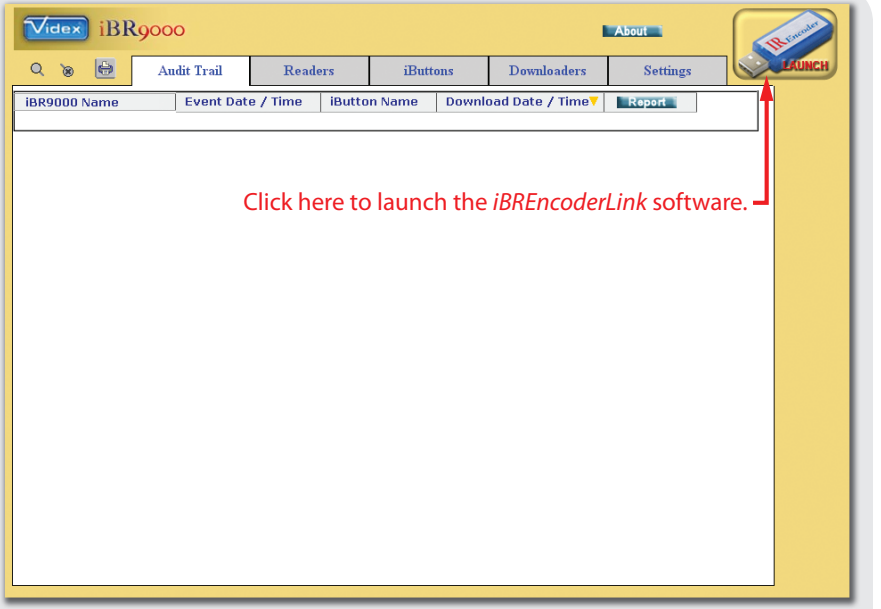


Figure 2-2: ***Launching the Helper Application***

If prompted by the web browser, either save the file to disk or choose to open the application with the Java Web Start Launcher. If available, check the box labeled *"Do this automatically for files like this from now on"* to avoid being prompted every time the application is launched.

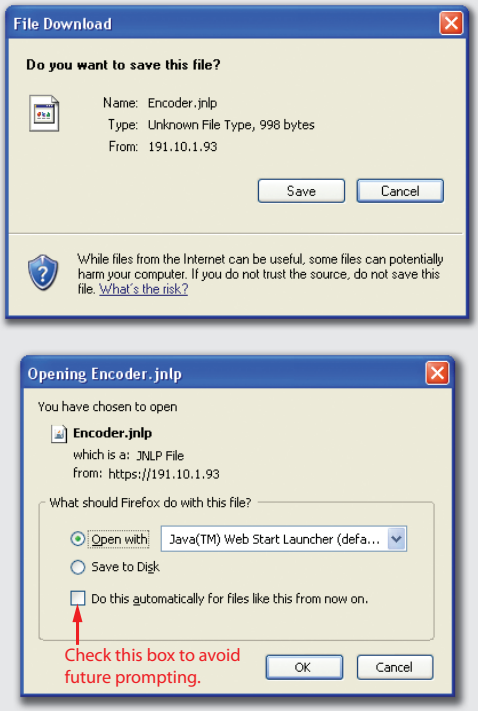


Figure 2-3: ***Web Browser Prompting for Action on File Launch***

After the application has been launched, the *iBREncoderLink* window will appear. It is ready for use when the following message appears:

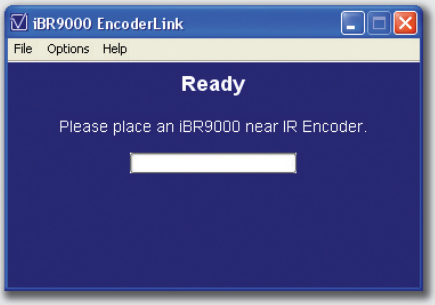


Figure 2-4: ***Helper Application Ready for Use***

Place an iBR9000 reader approximately 3 inches from the IR Encoder, as shown in the photo below. The use of a USB extension cable is recommended for convenience.

Figure 2-5: ***Downloading an iBR9000 Reader***

When the IR Encoder detects an iBR9000 reader, it will initiate communication. The reader should remain near the IR Encoder while the communications session is in progress. Messages describing the current operation or status will be displayed by the iBREncoderLink application. The reader may be removed when the success message shown in Figure 2-9 appears.

Figure 2-6: ***iBREncoderLink Downloads iButton Read Events from Reader***

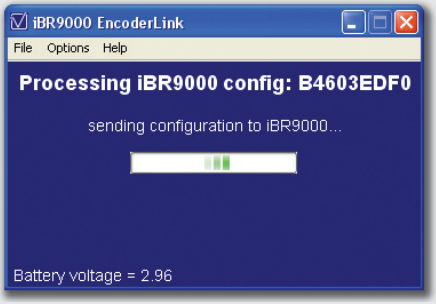


Figure 2-7: ***Configuration Information is Transferred to the Reader***

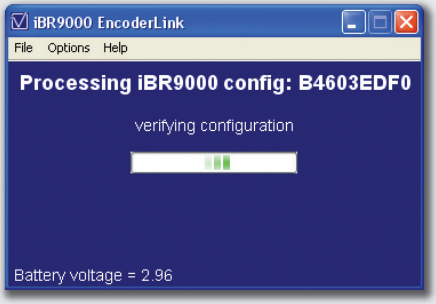


Figure 2-8: ***The Software Verifies the Configuration It Transferred***

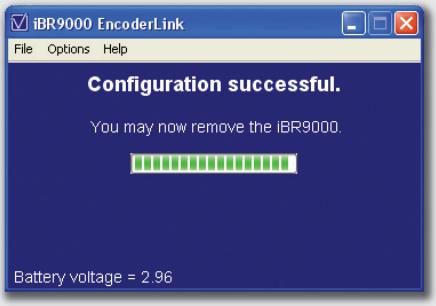


Figure 2-9: ***A Configuration Success Message Is Displayed***

Repeat this process for each iBR9000 reader that will be used with the system. The serial numbers of the readers and all the iButtons they have contacted will automatically be added to the iBR9000 software.

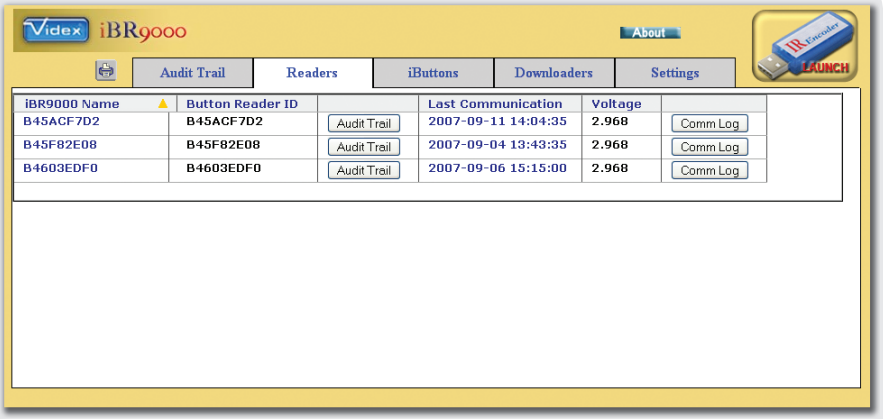


Figure 2-10: ***Hardware Displayed in the iBR9000 Application***

Software Operation

The main page of the iBR9000 software displays audit trail data for the iButton contacts that have been recorded and downloaded from readers. The next three tabs display information pertaining to readers, iButtons or downloaders. The *Settings* tab contains all the options which specify how the system operates.

The Audit Trail Tab

Under the *Audit Trail* tab, each entry contains the ID or name of the reader that made the iButton contact, the date and time of the contact, the name or ID of the iButton contacted, and the date and time that the event was downloaded to the software. To change the order in which the entries are displayed, click on any of the column headings to sort by that field. Clicking the selected heading more than once will toggle the sort order between ascending and descending order. A yellow triangle appearing in one of the heading cells identifies the current sort key and order.

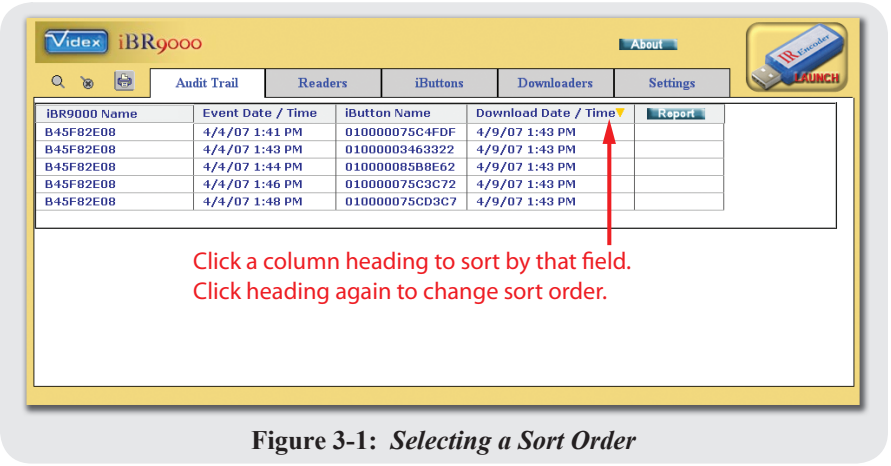


Figure 3-1: ***Selecting a Sort Order***

Clicking on any of the data cells will filter the displayed entries so that only those for the selected item will be shown. For example, clicking on a particular download date will filter the list so that only events from that date and time are shown.

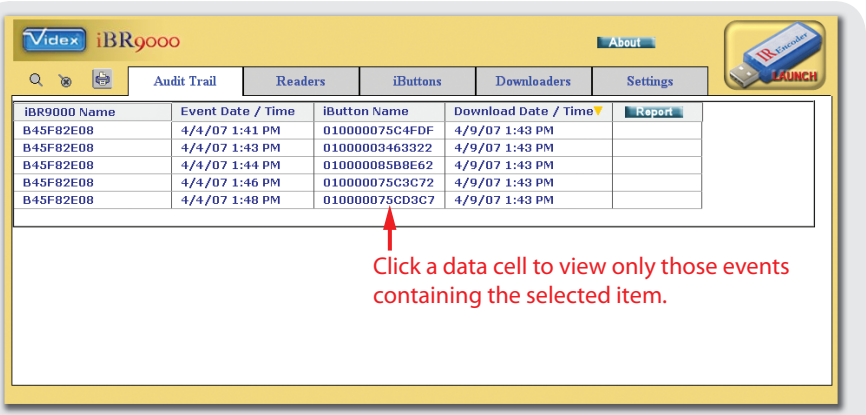


Figure 3-2: ***Filtering the List by Selecting a Data Cell***

When the search/filter mode is active, the 'x' in the center of the icon pulses slowly, fading in and out between gray and red. Click this icon to remove filtering from the list (showing all entries again).

When there are many entries in the system, it can sometimes be difficult to locate the desired item by which to filter the list. In this case, it may be easier to use the software's search mode. Click the icon to bring up the *Audit Trail Search* page. Enter search criteria as desired, then click the *Go* button to retrieve the results. The search results will override an active filter.

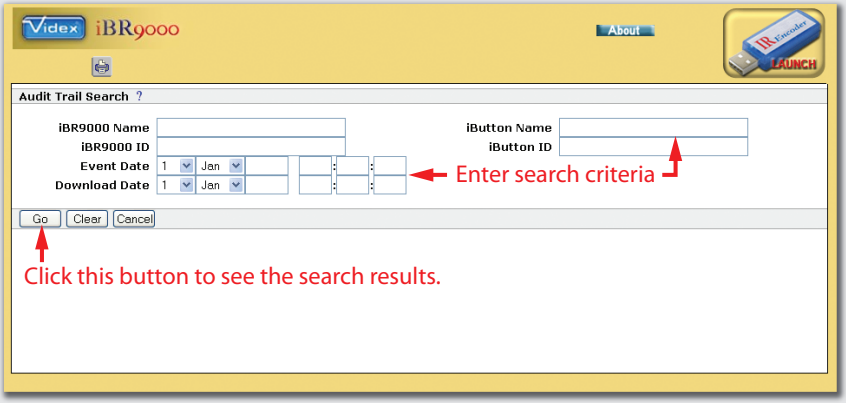


Figure 3-3: ***The Audit Trail Search Page***

Clicking the button will cause the current screen to be sent to the printer. However, only those items which are viewable on the screen will be printed. For a more printer-friendly audit report, click the Report button in the main page. This will open a new browser window which will show the selected audit events.

Audit Trail Report

9/12/07 1:05 PM

48 events

iBR9000 Name	Event Date / Time	iButton Name	Download Date / Time
B45ACF7D2	8/29/07 7:11 AM	0100000546885D	9/11/07 2:04 PM
B45ACF7D2	8/29/07 6:55 AM	01000006BD4E43	9/11/07 2:04 PM
B45ACF7D2	8/29/07 6:55 AM	040000003DBAD8	9/11/07 2:04 PM
B45ACF7D2	8/29/07 6:55 AM	0100000546885D	9/11/07 2:04 PM
B45ACF7D2	8/29/07 6:55 AM	010000075C533B	9/11/07 2:04 PM
B45ACF7D2	8/29/07 1:27 AM	01000006BD4E43	9/11/07 2:04 PM
B45ACF7D2	8/27/07 9:29 AM	0100000546885D	9/11/07 2:04 PM
B45ACF7D2	8/24/07 2:46 AM	01000002DB1236	9/11/07 2:04 PM
B45ACF7D2	8/23/07 9:44 AM	010000075C533B	9/11/07 2:04 PM
B45ACF7D2	8/23/07 9:44 AM	010000035E61D0	9/11/07 2:04 PM

Figure 3-4: ***An Audit Trail Report***

The Readers Tab

The *Readers* tab displays a list of all the iBR9000 readers which have been added to the system. This list shows reader names, IDs, the date and time the reader was last downloaded, and what the reader's battery voltage was at the time of the last download. Like the *Audit Trail* tab, entries may be sorted by clicking on the column headings.

After iButtons and iBR9000 readers have been added to the system, it is helpful to give them meaningful names so that audit trail data from individual components will be easily recognizable.

To rename a reader, select its ID (or current name) from the first column in the list.

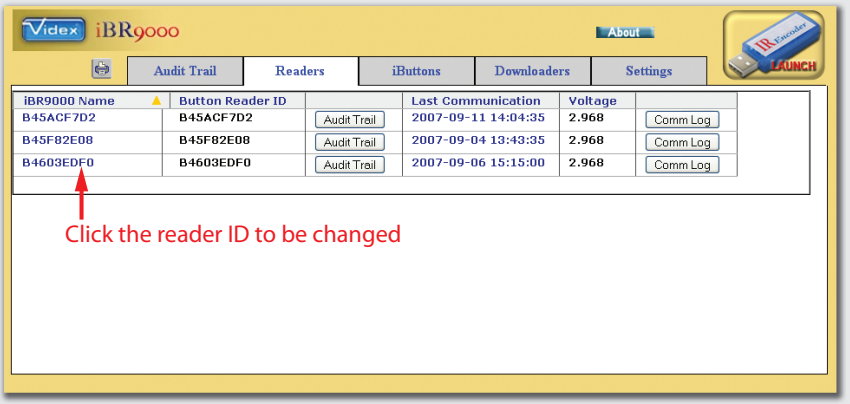


Figure 3-5: ***Selecting a Reader to Give It a Name***

This will bring up a *Properties* page, which lists information about the selected reader. The only editable field on this page is the *Name* field. Enter the desired name, then click the *Save* button.

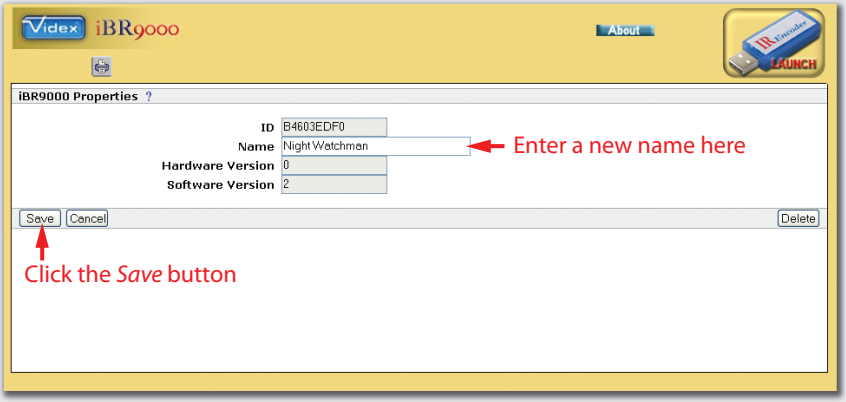


Figure 3-6: ***The iBR9000 Properties Page***

The new name will be displayed in place of the reader's ID in all lists, audit trails, and communications logs.

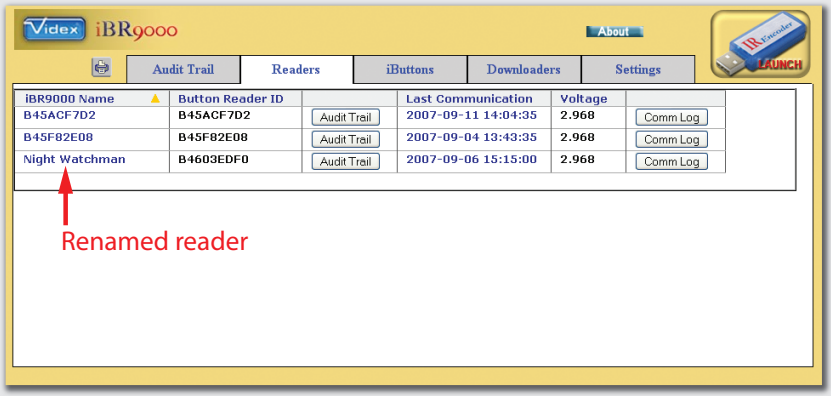
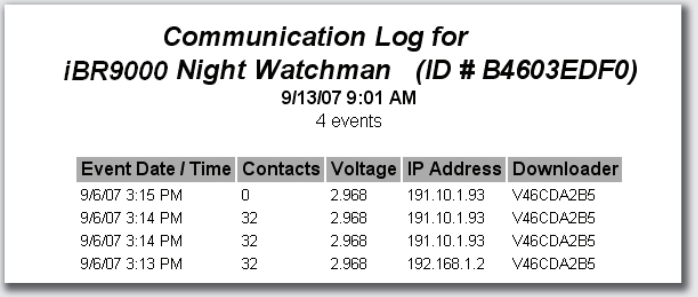


Figure 3-7: ***Readers List Showing Renamed iBR9000 Reader***

Clicking on the *Audit Trail* button in a reader's row will display an audit report such as the one shown in Figure 3-4, but will include only those events which were recorded by the selected reader. To view a report showing the dates and times when a reader was downloaded, click the *Comm Log* button at the end of the desired reader's row. A new browser window will appear, displaying a report similar to that shown in Figure 3-8.



Communication Log for
iBR9000 Night Watchman (ID # B4603EDF0)
9/13/07 9:01 AM
4 events

Event Date / Time	Contacts	Voltage	IP Address	Downloader
9/6/07 3:15 PM	0	2.968	191.10.1.93	V46CDA2B5
9/6/07 3:14 PM	32	2.968	191.10.1.93	V46CDA2B5
9/6/07 3:14 PM	32	2.968	191.10.1.93	V46CDA2B5
9/6/07 3:13 PM	32	2.968	192.168.1.2	V46CDA2B5

Figure 3-8: ***An iBR9000 Communication Log***

The iButtons Tab

The *iButtons* tab is very simple. It is very similar to the *Readers* tab, but, as iButtons have no batteries and cannot communicate with the software, only the name and ID are shown in the *iButtons* tab, along with an *Audit Trail* button.

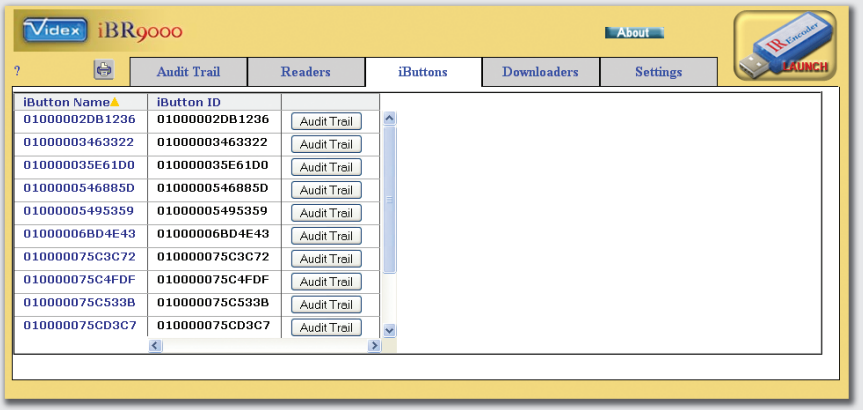


Figure 3-9: ***The iButtons Tab***

Clicking any entry in the *iButton Name* column will bring up the *iButton Properties* page for the selected button. The only editable field on this page is the *Name* field, which may be changed to something which identifies the location or function of the button.

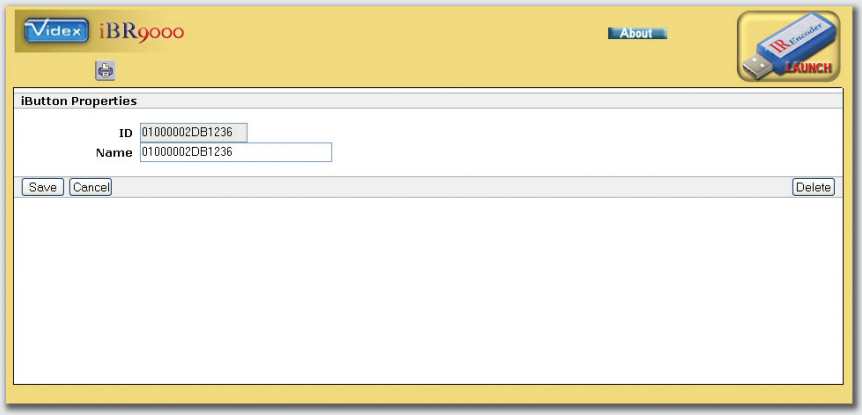
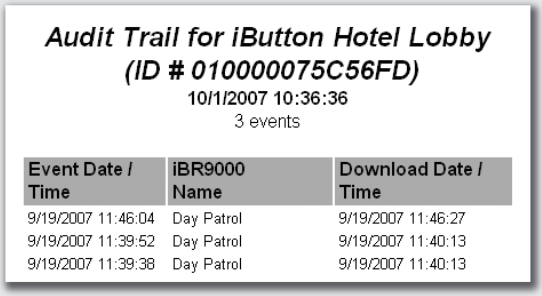


Figure 3-10: ***The iButton Properties Page***

Clicking the *Audit Trail* button in any row will open a new browser window and display an audit trail report for the selected iButton.



Audit Trail for iButton Hotel Lobby (ID # 010000075C56FD)

10/1/2007 10:36:36

3 events

Event Date / Time	iBR9000 Name	Download Date / Time
9/19/2007 11:46:04	Day Patrol	9/19/2007 11:46:27
9/19/2007 11:39:52	Day Patrol	9/19/2007 11:40:13
9/19/2007 11:39:38	Day Patrol	9/19/2007 11:40:13

Figure 3-11: ***An iButton Audit Trail Report***

The Downloaders Tab

The *Downloaders* tab displays information about the devices used to transfer information between the software and iBR9000 readers.

Each row in the *Downloaders* tab displays the assigned name of the associated downloader, its ID, a button which opens the communications log for the downloader, and the downloader type.

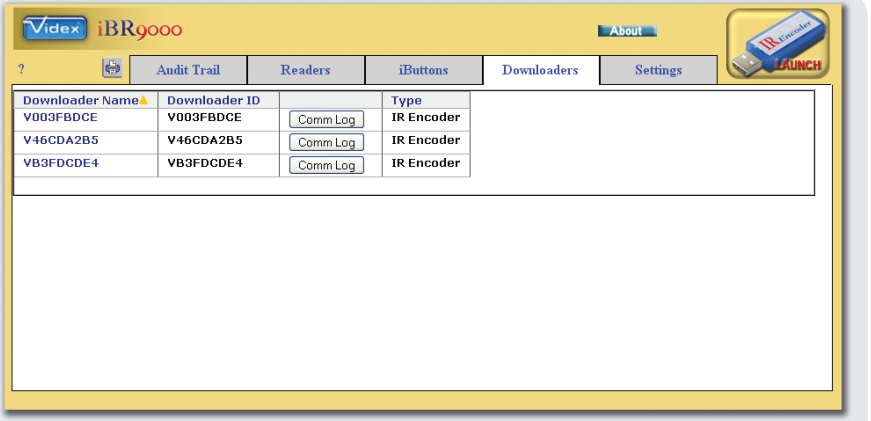


Figure 3-11: ***The Downloaders Tab***

The *Downloader Properties* page may be accessed by clicking the *Downloader Name* cell of the desired downloader. The only editable field on this page is the *Name* field, which may be changed to something that helps identify the location where downloads using the selected device occur.

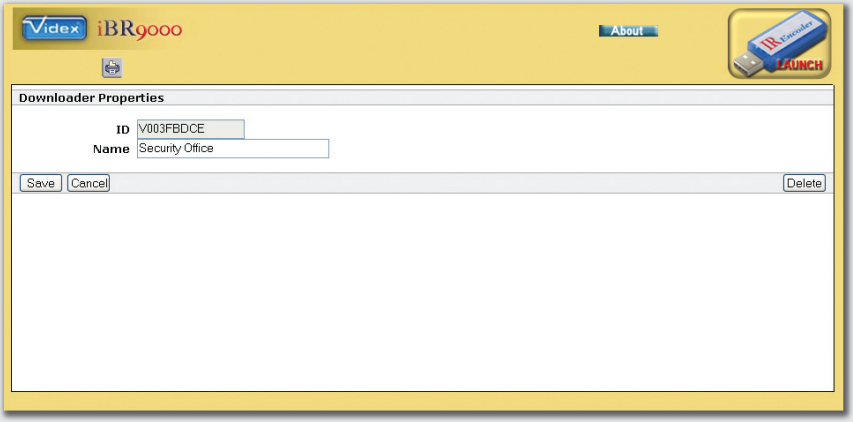
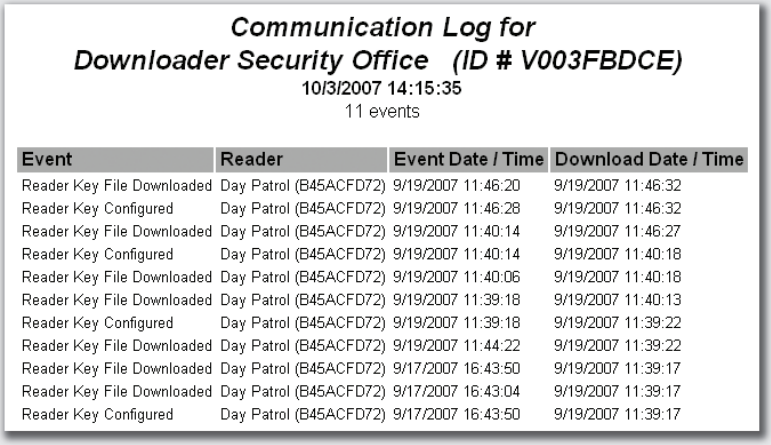


Figure 3-12: ***The Downloaders Properties Page***

Clicking the *Comm Log* button in any row will open a new browser window which displays a report of communication events involving the selected downloader.



Communication Log for
Downloader Security Office (ID # V003FBDCE)
10/3/2007 14:15:35
11 events

Event	Reader	Event Date / Time	Download Date / Time
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:46:20	9/19/2007 11:46:32
Reader Key Configured	Day Patrol (B45ACFD72)	9/19/2007 11:46:28	9/19/2007 11:46:32
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:40:14	9/19/2007 11:46:27
Reader Key Configured	Day Patrol (B45ACFD72)	9/19/2007 11:40:14	9/19/2007 11:40:18
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:40:06	9/19/2007 11:40:18
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:39:18	9/19/2007 11:40:13
Reader Key Configured	Day Patrol (B45ACFD72)	9/19/2007 11:39:18	9/19/2007 11:39:22
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:44:22	9/19/2007 11:39:22
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/17/2007 16:43:50	9/19/2007 11:39:17
Reader Key File Downloaded	Day Patrol (B45ACFD72)	9/17/2007 16:43:04	9/19/2007 11:39:17
Reader Key Configured	Day Patrol (B45ACFD72)	9/17/2007 16:43:50	9/19/2007 11:39:17

Figure 3-13: ***A Downloader Communication Log***

The Settings Tab

Located under the *Settings* tab are various options which affect the operation of the software, as well as some settings which affect the behavior of iBR9000 readers.

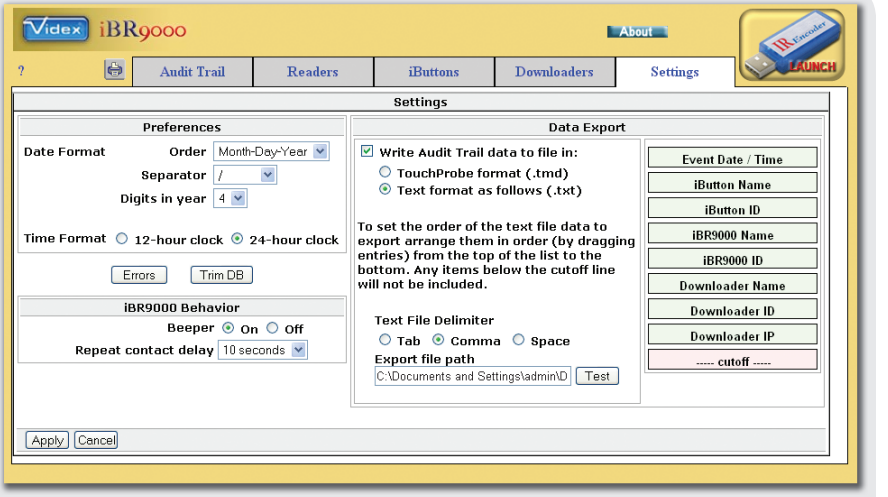


Figure 3-14: ***The Settings Tab***

The formatting options in the *Preferences* section affect the manner in which dates and times are displayed throughout the pages of the software and in reports. Changing these options only affects the display of the data, not the data itself.

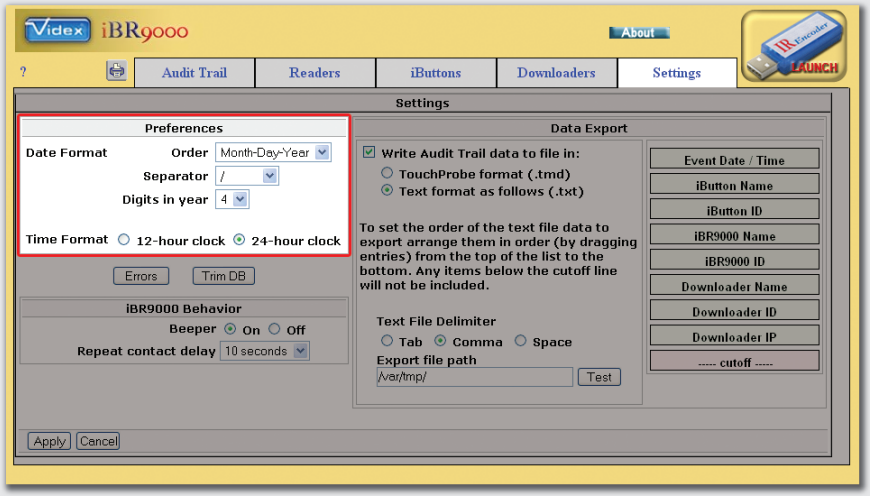


Figure 3-15: ***The Settings Tab - Preferences Section***

Whenever an error occurs in the software, it is recorded in a special log file. After a period of time, these error logs are compressed and archived, and a new log is generated. If the software is not functioning properly, reviewing the error logs may help determine the cause of the problem. Clicking the *Errors* button on the *Settings* page will bring up the *Errors/Log Files* page, where the logs are available for download. These pages are shown in Figure 3-16.

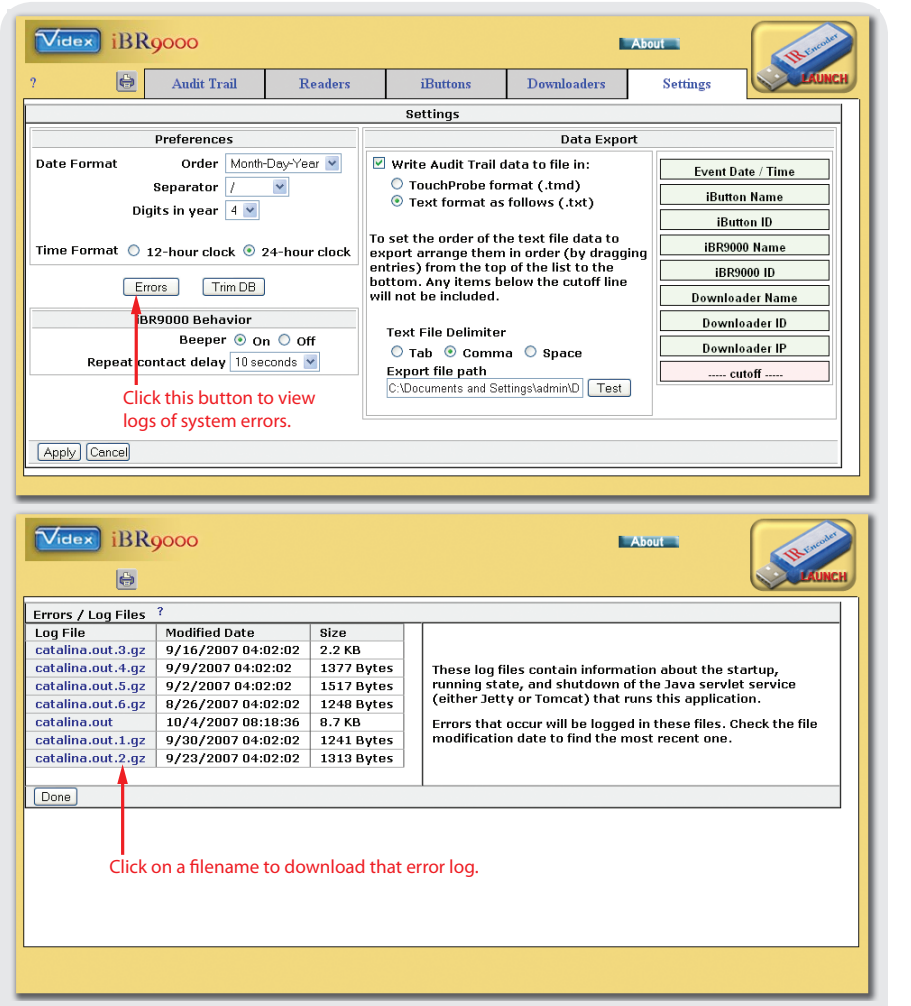


Figure 3-16: ***The Errors/Log Files Page***

While errors are automatically archived, normal events in the database must be manually removed and stored. This process is called *trimming the database*. The user enters a specific date, and all events occurring before that date will be removed from the database and written to a file in the directory of the user's choosing. To bring up the *Trim Database* page, click the *Trim DB* button on the *Settings* page, as shown in the top image of Figure 3-17.

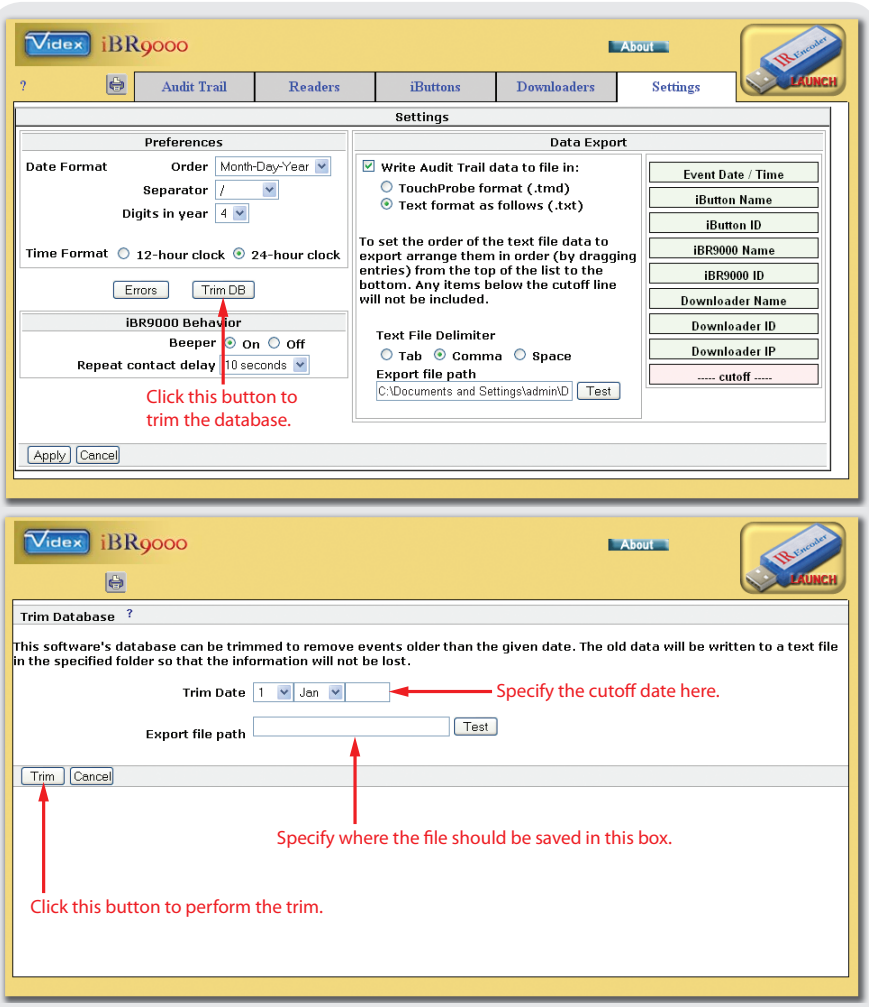


Figure 3-17: ***The Trim Database Page***

The settings in the *iBR9000 Behavior* section of the *Settings* page, shown in Figure 3-18, affect all of the iBR9000 readers used with the system. Any changes made to these settings will be transferred to each reader the next time it is downloaded. The *Beeper* setting toggles the audible read success tone emitted by readers on or off. The *Repeat contact delay* setting specifies how much time must elapse before readers will record a second contact of the same iButton.

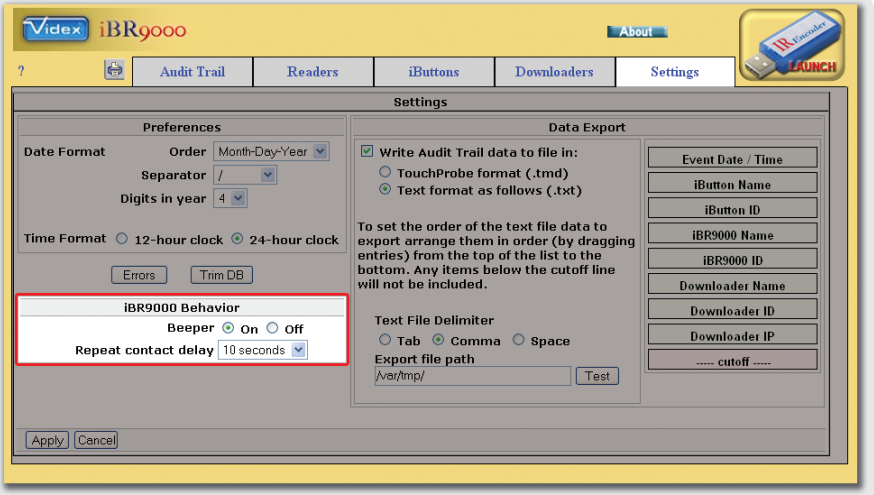


Figure 3-18: ***The Settings Tab - iBR9000 Behavior Section***

The *Data Export* section of the *Settings* page allows the user to create a data set for use with existing TouchProbe® tools or other custom applications or reporting tools. To enable this feature, check the box labeled *"Write Audit Trail data to file in:"* and select a data format for the exported file. For text files, select a delimiter and a folder into which the file should be written. The fields to be included in the data set, and their order, can be set by dragging the boxes on the right side of the section into the desired locations, as shown in Figure 3-19. Any fields which are arranged after the box labeled *"----cutoff----"* will not be included in the exported data file.

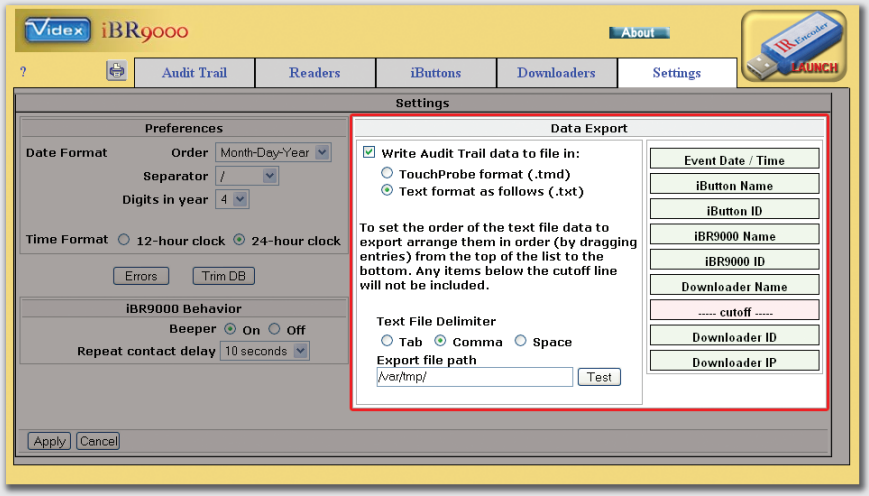


Figure 3-19: ***The Settings Tab - Data Export Section***

Help and Support

Help pages are available within the iBR9000 application. If the information available on these pages is not sufficient to answer any questions, please contact Videx Technical Support:

Phone: (541) 758-0521
Email: support@videx.com

Context Help

Most pages within the iBR9000 application contain a hyperlink in the shape of a question mark in the upper left hand corner of the page. When clicked, this link will open a small browser window containing helpful hints about items on the current page.

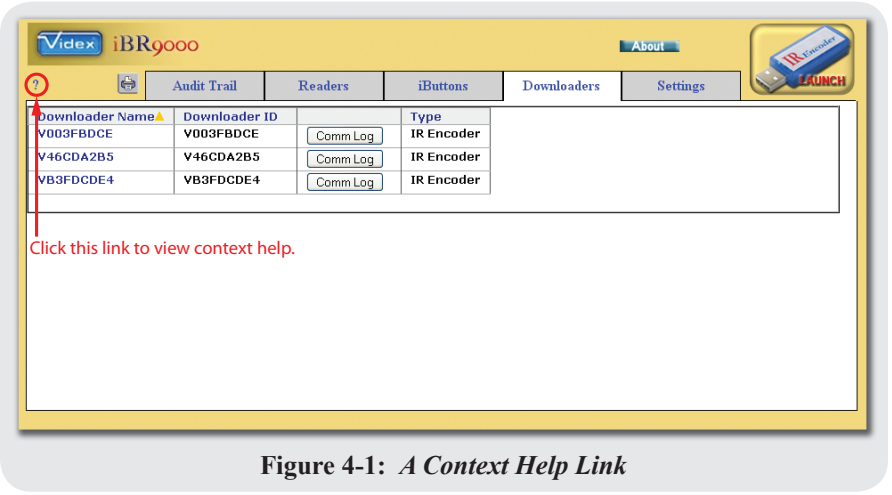


Figure 4-1: ***A Context Help Link***

Occasionally, the hyperlink will appear next to the page title.

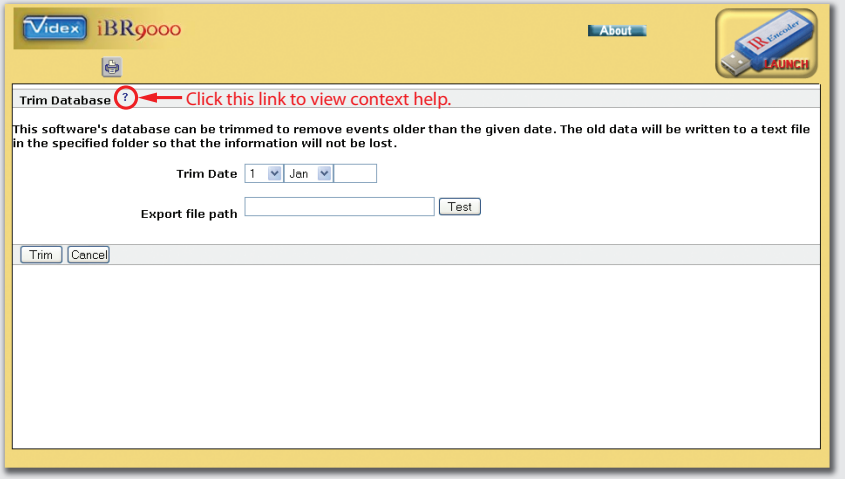


Figure 4-2: ***A Context Help Link***

Customer Support Policy

Videx has a commitment to provide excellent customer support. In the event you experience any problems with Videx equipment, please contact the Videx Technical Support Department and our technicians will assist you:

Phone: (541) 758-0521
Fax: (541) 752-5285
E-mail: support@videx.com
Web: www.videx.com

If, after contacting Technical Support, it has been determined that a product is to be returned, please carefully pack the product, together with your purchase receipt or other proof of the date of original purchase, and send it prepaid and adequately insured to:

Videx, Inc.
1105 NE Circle Blvd.
Corvallis, OR 97330 USA

A note detailing the problem is most helpful and should be included in the box.

Technical Information

WARNING:

This section contains information for advanced users only! Modifying system setups described in this appendix could cause irreparable damage to databases if not properly executed. Be extremely certain of your actions before making any changes!

Application Specifics

The iBR9000 software is written in Java. Java version 1.5 or higher must be installed on the system in order for it to run. To find out which version of Java is installed on the system, click the *"About..."* button in the Java control panel, or type *"java -version"* at the system command prompt.

Application pages are served to the web browser by a program called Jetty, but Tomcat could also be used. For more information on Jetty, visit *www.mortbay.org*. Jetty may be started or stopped by right-clicking on the icon in the Windows system tray.

Date and time data is stored by the application in Videx UTC format. This is an integer representation of the number of seconds which have elapsed since midnight on January 1, 1996.

Database Information

The default database server is Derby, though it is possible to use MySQL or SQL-Server. For more information on Derby, visit the Apache Group's website at *www.apache.org*.

The type of database used and its necessary configuration options may be changed by editing the file named *"ibutton.properties"* located in the *"webapps"* subfolder of the Jetty installation directory. By default, Jetty is installed in *"C:\Program Files\videx\iBR9000 Software\jetty"*, though it is possible to select a different directory when installing the software. To change the type of database used, uncomment the appropriate section of the file and comment out the default section (commented lines begin with *'#'*). Specify the appropriate location of the database, its name, and the required username and password.

A sample *ibutton.properties* file is shown below.

```
# derby
database.type=Derby
database.host=default
database.global.name=ibutton_global
database.user=APP
database.pswd=APP

# SQL-SERVER
#database.type=SqlServer
#database.host=172.10.1.92;
#database.global.name=ibutton_global
#database.user=sql-ibutton
#database.pswd=ibr9000

# MYSQL
#database.type=MySql
#database.host=localhost
#database.global.name=ibutton_global
#database.user=mysql-ibutton
#database.pswd=ibr9000

# common
database.connections.poolsize=10
database.connections.detectleaks=0
```

The default database location is a folder named *"derby-data"*, also located in the *"webapps"* folder.

To run direct queries on the database (using SQL), open the URL *http://localhost:8080/ibutton/executeSql.do* in a web browser.

Running iBR9000 from a Server

Because a web browser is used to interface with the application, it is possible to install the iBR9000 software on a server machine and access it over a LAN or the Internet. Multiple persons will be able to use the application simultaneously (up to a maximum of 10), and all data will be stored in the same database.

To change the port number on which Jetty communicates, (so as not to interfere with other TCP/IP services) two files must be modified. Both are located beneath the Jetty installation directory.

The first file, *"url.txt"*, contains only one line:

```
http://localhost:8080/ibutton/
```

To change the port, simply replace the value *"8080"* with the new port number.

The second file, *"jetty.xml"*, is located in the *"etc"* subfolder of the Jetty directory and contains all the information needed to launch the web server. The parameter named *"jetty.port"* must be edited to reflect the desired port number. Locate the following line in the file:

```
<Set name="port"><SystemProperty name="jetty.port" default="8080"/></Set>
```

Replace *"8080"* with the same value entered for the new port number in the first file.

Developer Tools

A package of developer tools is available on approval from Videx. This package includes infrared communications libraries and a database schema. Please contact Videx Technical Support for details.

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