

iBR9000TM

Software Manual

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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 *iBR9000 EncoderLink* 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 - PC

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.

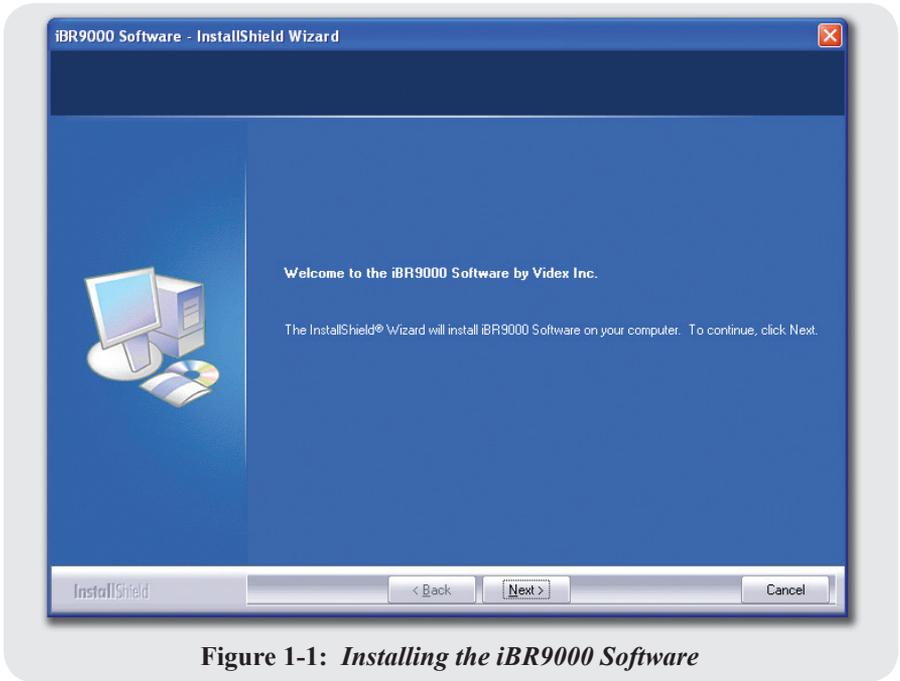


Figure 1-1: Installing the iBR9000 Software

Software Installation - Macintosh

To begin, insert the iBR9000 software installation disc into the computer's CD-ROM drive. A window displaying the contents of the disc will appear automatically.



Figure 1-2: *Contents of the iBR9000 Software Installation Disc*

Double-click the icon for the iBR9000 installer package. The installer will launch and then prompt for confirmation before beginning the installation process. After confirming the install, follow the prompts given on the screen.

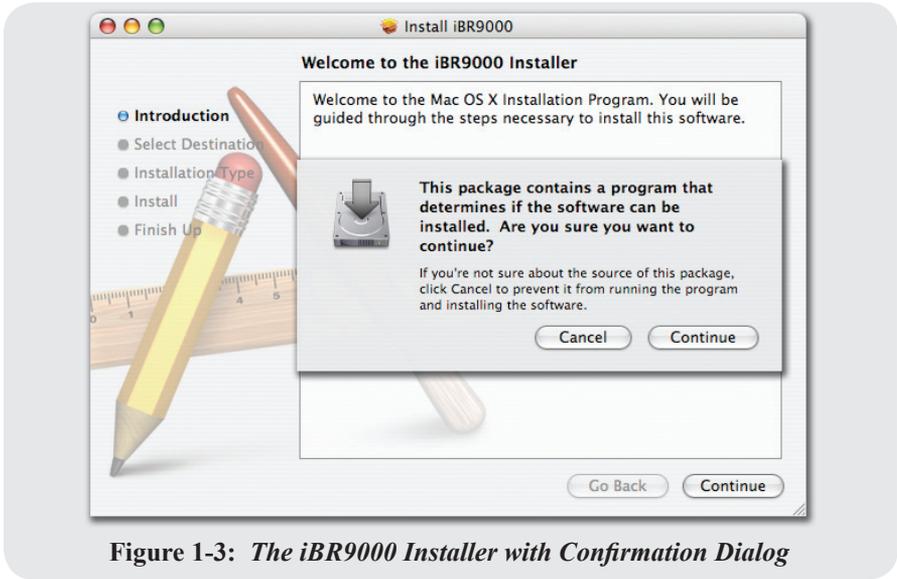


Figure 1-3: *The iBR9000 Installer with Confirmation Dialog*

The default installation location is the *Applications* folder. To launch the iBR9000 software, double-click its icon.



Figure 1-4: *The iBR9000 Icon in the Applications Folder*

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 iBR9000 EncoderLink 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 *iBR9000 EncoderLink*, 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

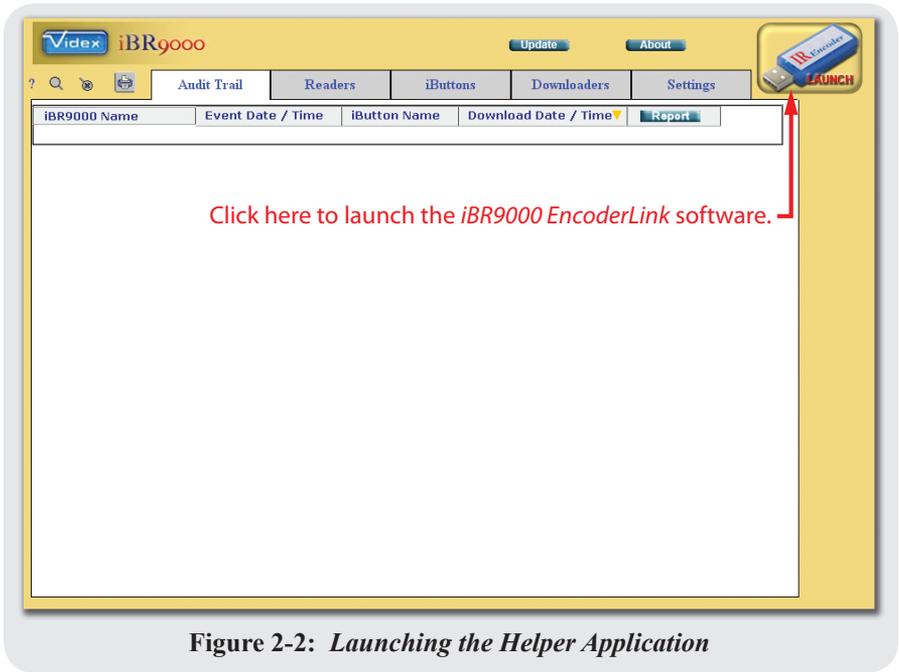


Figure 2-2: *Launching the Helper Application*

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.

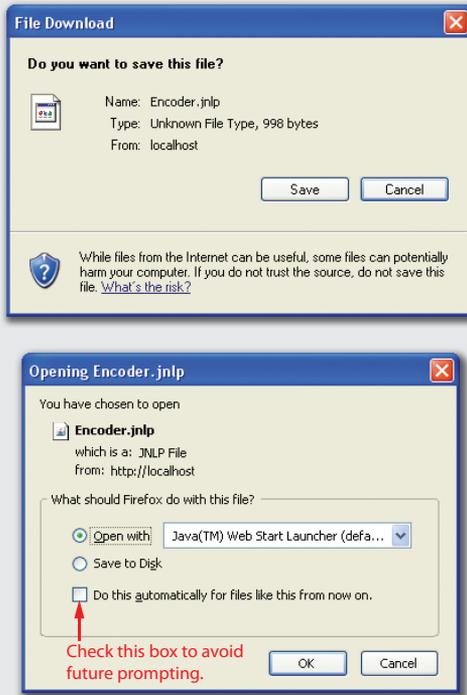


Figure 2-3: Web Browser Prompting for Action on File Launch

After the application has been launched, the *iBR9000 EncoderLink* window will appear. It is ready for use when the following message appears:

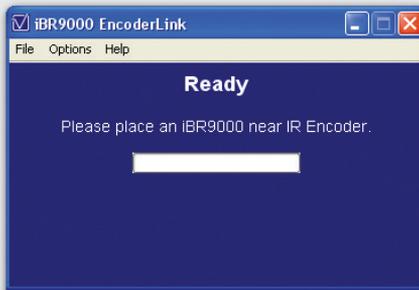


Figure 2-4: Helper Application Ready for Use

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 iBR9000 EncoderLink application. The reader may be removed when the success message shown in Figure 2-9 appears.



Figure 2-6: iBR9000 EncoderLink Downloads iButton Read Events



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.

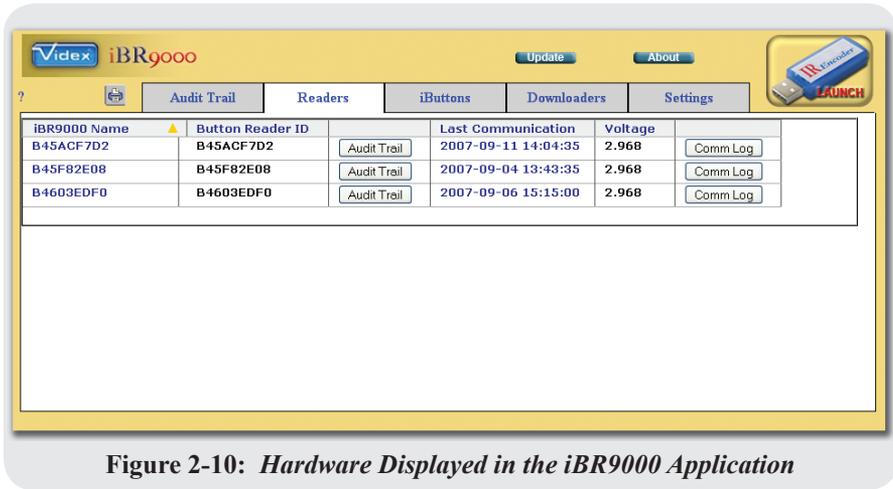


Figure 2-10: Hardware Displayed in the iBR9000 Application

Alternatively, iButton IDs may be imported from a text file. This process is detailed in the section titled “*The iButtons Tab*” in Chapter 3.

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, and 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.

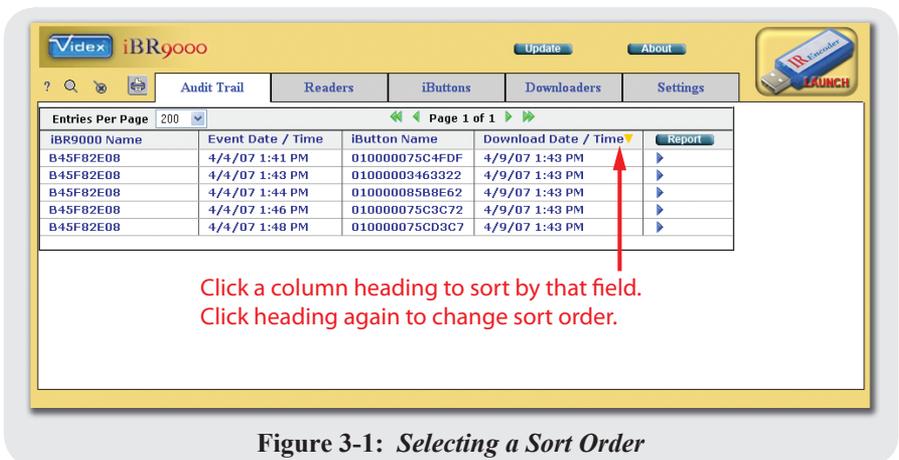


Figure 3-1: Selecting a Sort Order

Pagination allows the user to customize the display of audit trail data by selecting the number of events to display at one time. Events are then divided up into pages of the selected size, rather than being displayed all at once in a long list. This helps to maintain good browser performance, since rendering larger pages takes more time.

To use pagination, select a number from the *Entries Per Page* pull-down list, and navigate through the pages using the green arrow buttons. The double arrows (◀◀ and ▶▶) skip to the first or last page of events, respectively. The single arrows (◀ and ▶) flip to the previous or next page in the set.

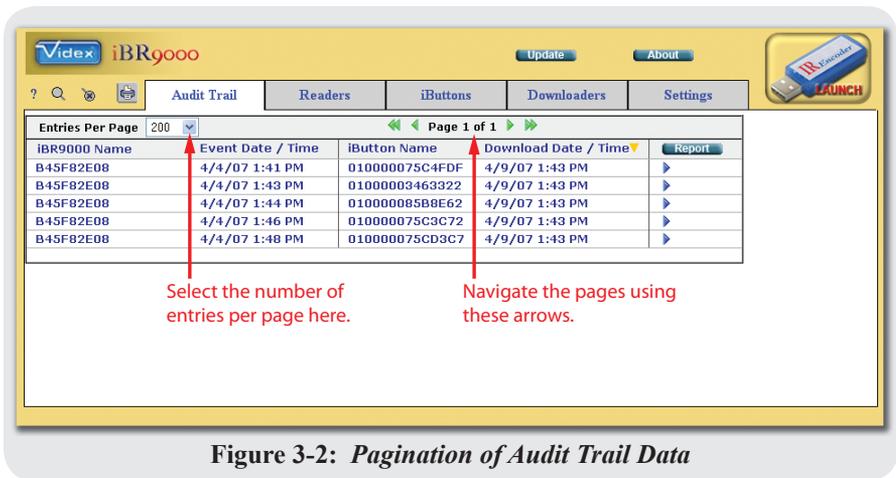


Figure 3-2: *Pagination of Audit Trail Data*

Rolling the mouse pointer over the blue ▶ icon in any row will cause a pop-up menu to appear, containing options for renaming the listed iBR9000 reader or iButton. Selecting either option will bring up the appropriate *Properties* page, where the item name may be changed. For further information, see the sections titled “*The Readers Tab*” or “*The iButtons Tab*.”

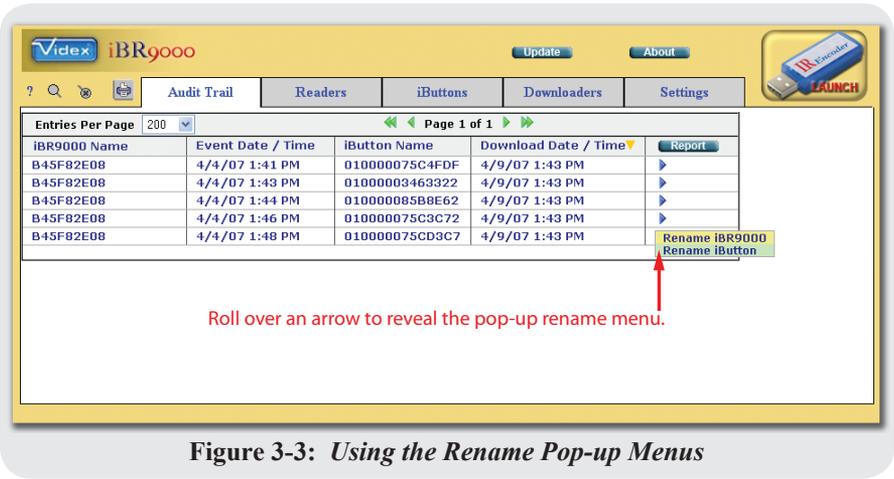


Figure 3-3: Using the Rename Pop-up Menus

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.

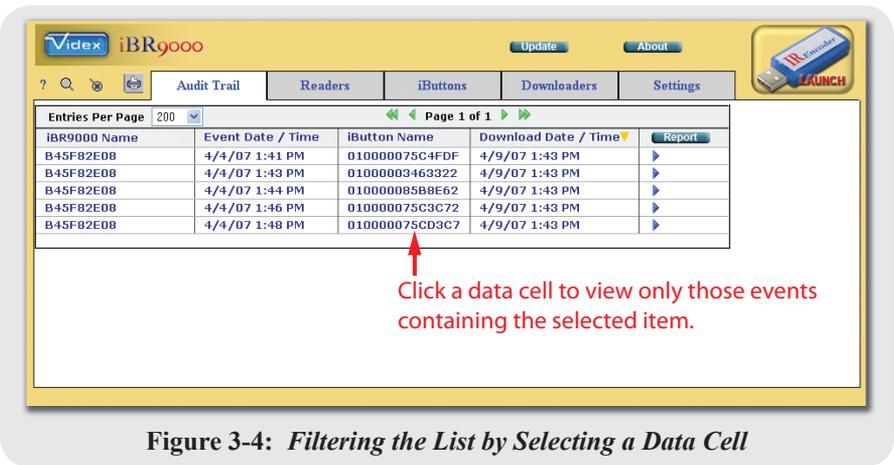


Figure 3-4: Filtering the List by Selecting a Data Cell

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.

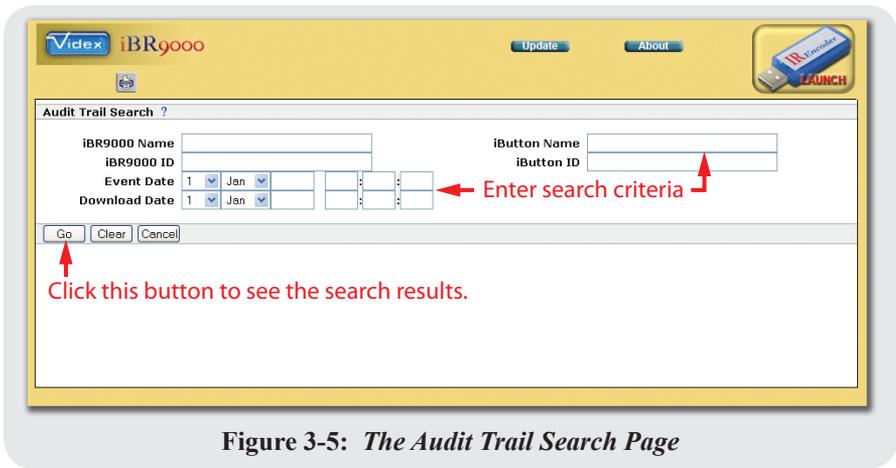


Figure 3-5: *The Audit Trail Search Page*

Clicking the  or **Report** button will open a new browser window containing a printer-friendly audit report.



Figure 3-6: *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 that time. 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.

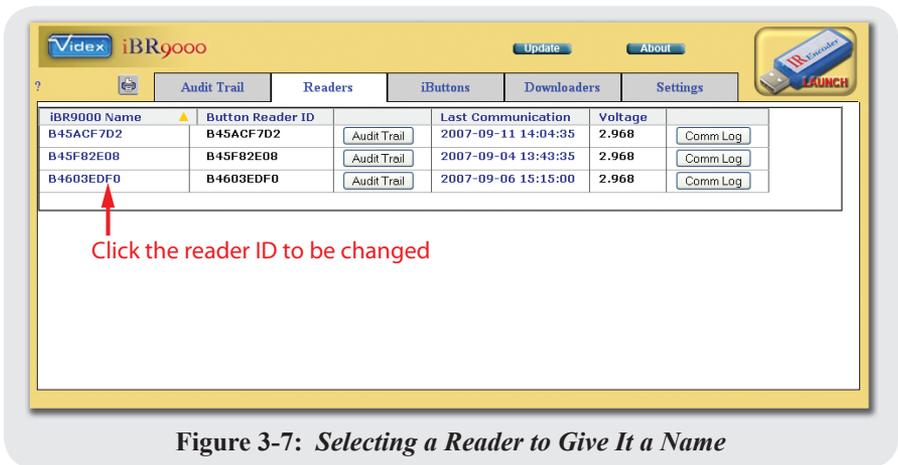


Figure 3-7: Selecting a Reader to Give It a Name

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.

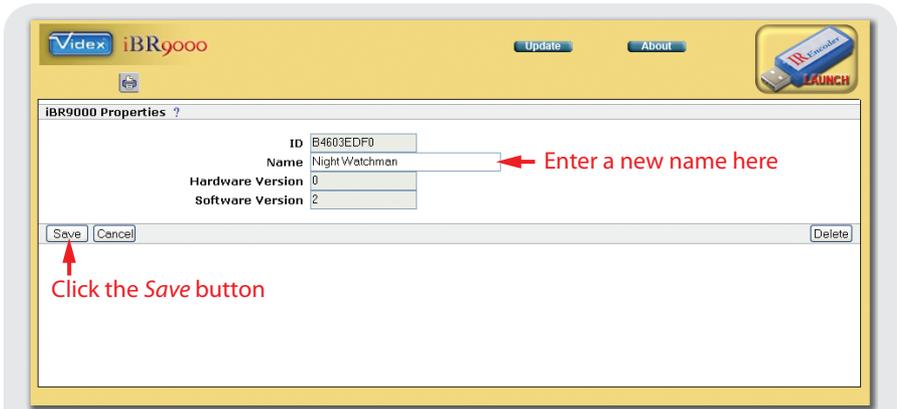


Figure 3-8: The iBR9000 Properties Page

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

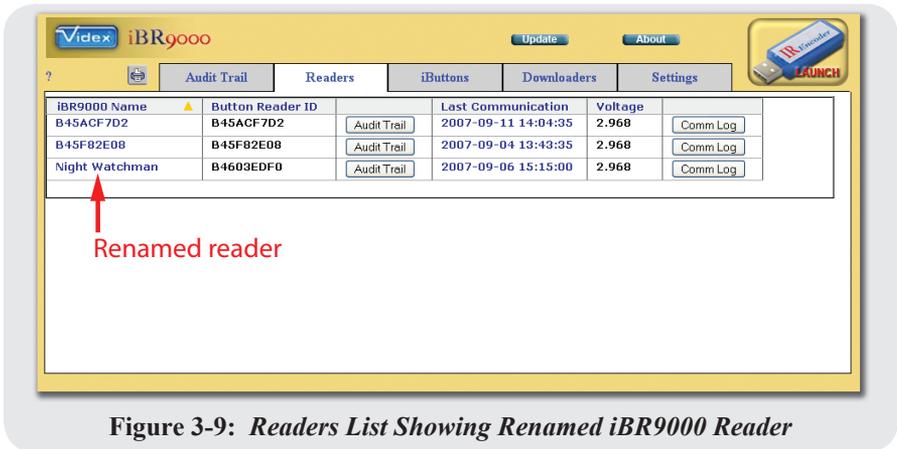


Figure 3-9: Readers List Showing Renamed iBR9000 Reader

Clicking on the *Audit Trail* button in a reader's row will display an audit report such as the one shown in Figure 3-6, 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 3-10.

**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 3:15:10 PM	0	2.968	191.10.1.93	V46CDA2B5
9/6/07 3:14:32 PM	32	2.968	191.10.1.93	V46CDA2B5
9/6/07 3:14:14 PM	32	2.968	191.10.1.93	V46CDA2B5
9/6/07 3:13:07 PM	32	2.968	192.168.1.2	V46CDA2B5

Figure 3-10: 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.

iButton Name ▲	iButton ID	Import
01000002DB1236	01000002DB1236	Audit Trail
01000003463322	01000003463322	Audit Trail
010000035E61D0	010000035E61D0	Audit Trail
0100000546885D	0100000546885D	Audit Trail
01000005495359	01000005495359	Audit Trail
01000006BD4E43	01000006BD4E43	Audit Trail
010000075C3C72	010000075C3C72	Audit Trail
010000075C4FDF	010000075C4FDF	Audit Trail
010000075C533B	010000075C533B	Audit Trail
010000075CD3C7	010000075CD3C7	Audit Trail

Figure 3-11: 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.

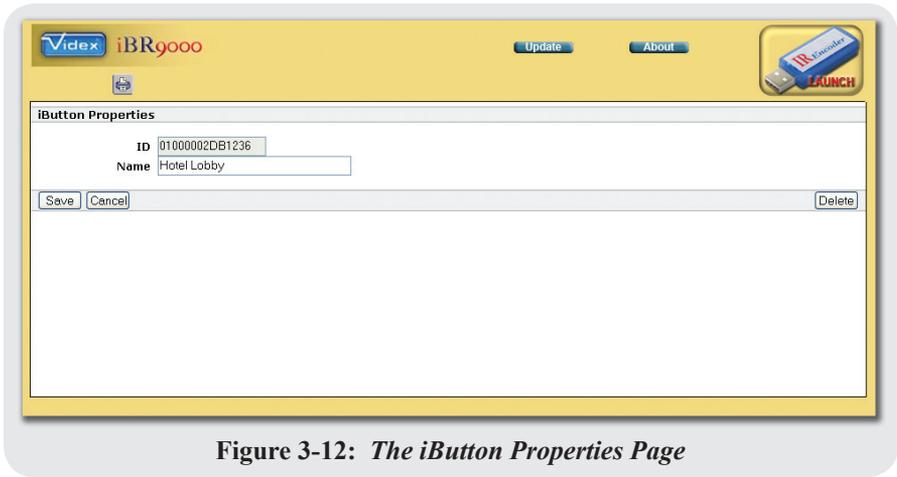


Figure 3-12: The iButton Properties Page

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



Figure 3-13: An iButton Audit Trail Report

To import iButton IDs from a text file, click the **Import** button in the table header to bring up the *Import iButtons* page.

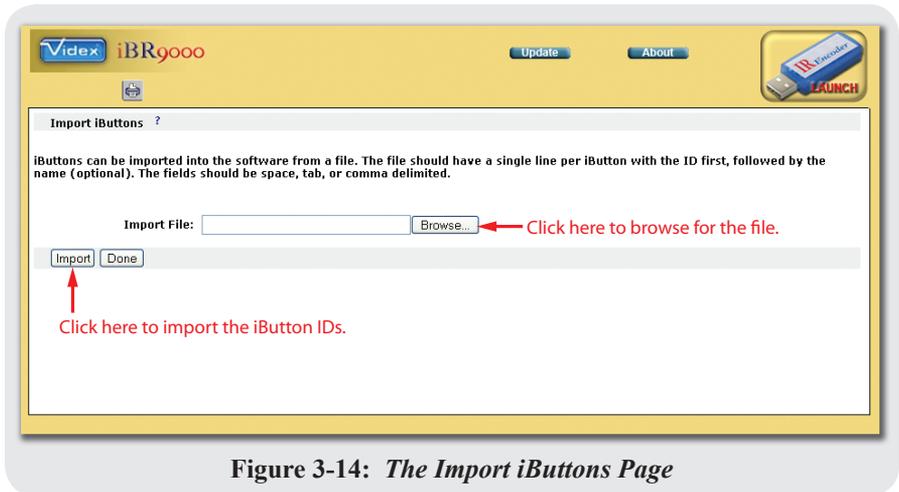


Figure 3-14: *The Import iButtons Page*

Select the file to be imported by clicking the “*Browse...*” button, then click the *Import* button to read in the iButton IDs it contains.

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.

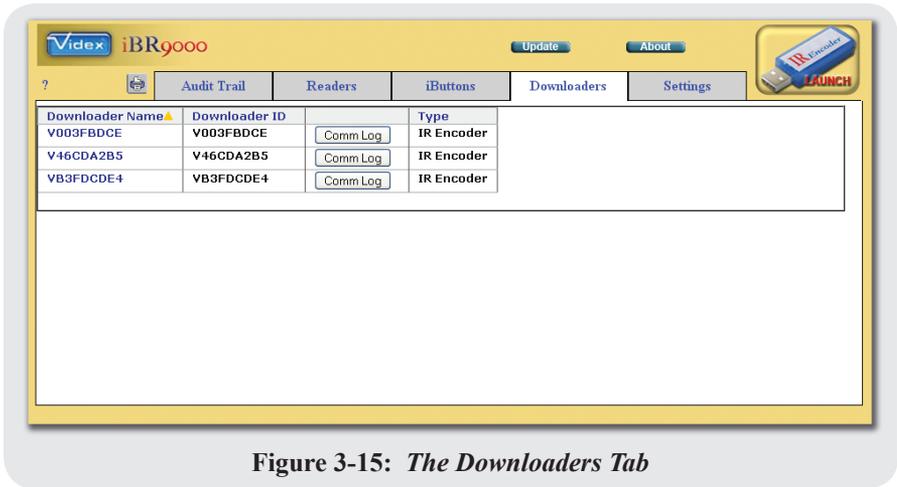


Figure 3-15: *The Downloaders Tab*

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.

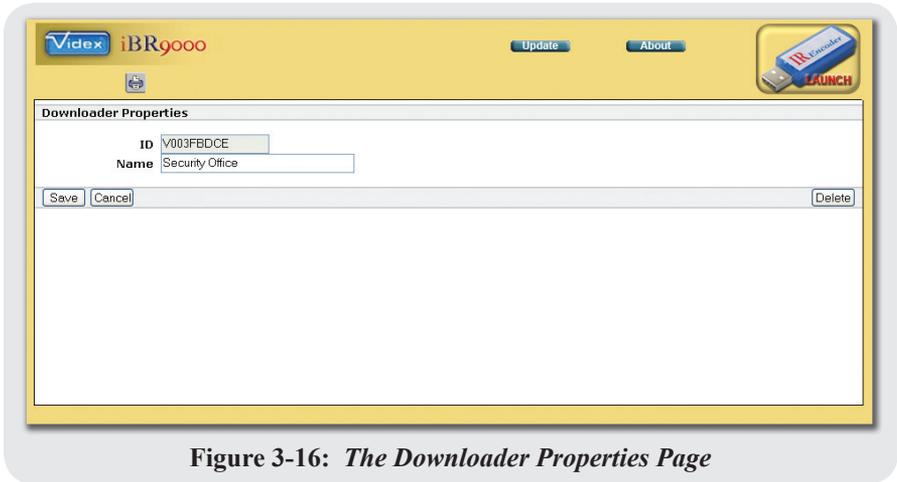


Figure 3-16: *The Downloader Properties Page*

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
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:46:20	9/19/2007 11:46:32
iBR9000 Configured	Day Patrol (B45ACFD72)	9/19/2007 11:46:28	9/19/2007 11:46:32
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:40:14	9/19/2007 11:46:27
iBR9000 Configured	Day Patrol (B45ACFD72)	9/19/2007 11:40:14	9/19/2007 11:40:18
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:40:06	9/19/2007 11:40:18
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:39:18	9/19/2007 11:40:13
iBR9000 Configured	Day Patrol (B45ACFD72)	9/19/2007 11:39:18	9/19/2007 11:39:22
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/19/2007 11:44:22	9/19/2007 11:39:22
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/17/2007 16:43:50	9/19/2007 11:39:17
iBR9000 File Downloaded	Day Patrol (B45ACFD72)	9/17/2007 16:43:04	9/19/2007 11:39:17
iBR9000 Configured	Day Patrol (B45ACFD72)	9/17/2007 16:43:50	9/19/2007 11:39:17

Figure 3-17: 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.

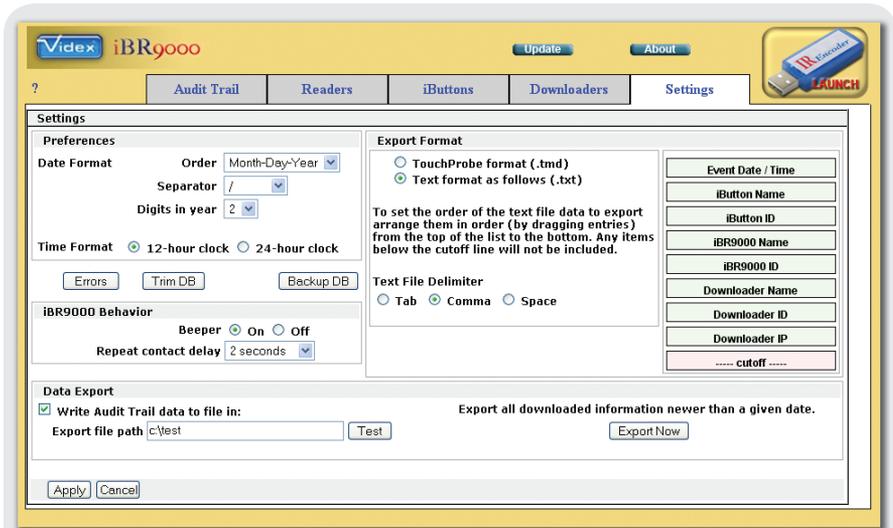


Figure 3-18: The Settings Tab

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.

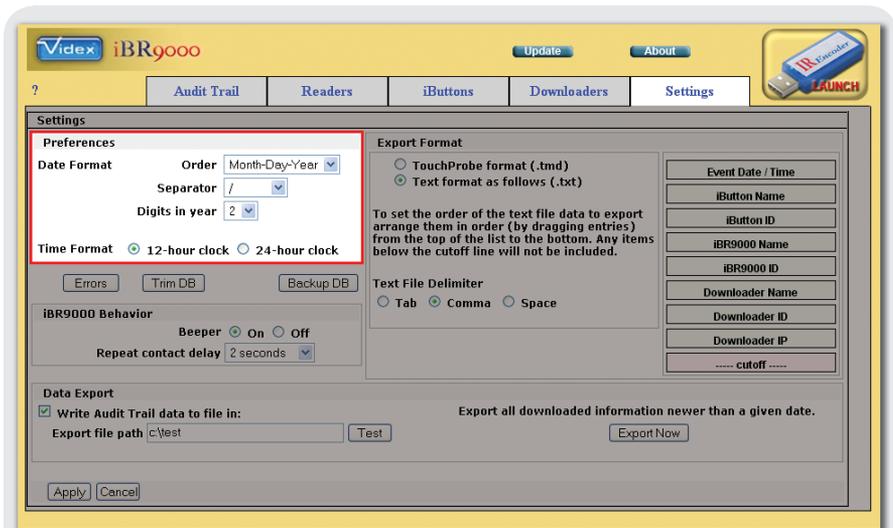


Figure 3-19: The Settings Tab - Preferences Section

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 3-20.

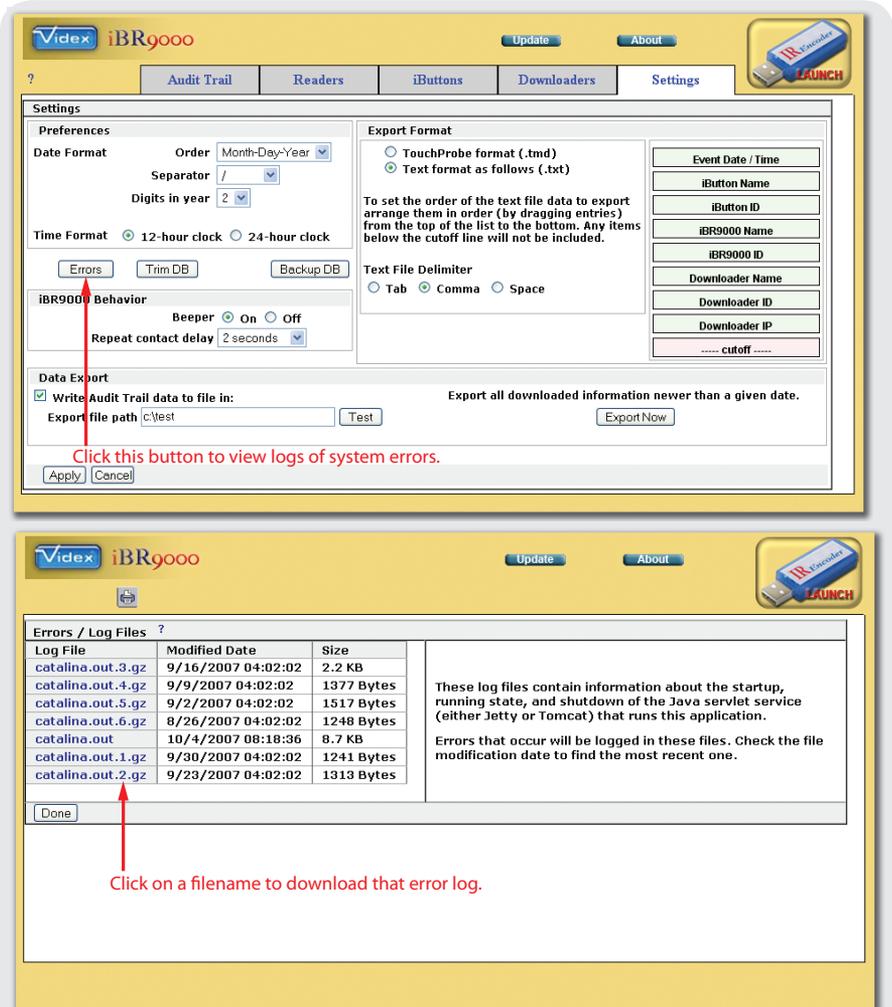


Figure 3-20: The Settings and Errors/Log Files Pages

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 named with the current date. To bring up the *Trim Database* page, click the *Trim DB* button on the *Settings* page, as shown in the top image of Figure 3-21.

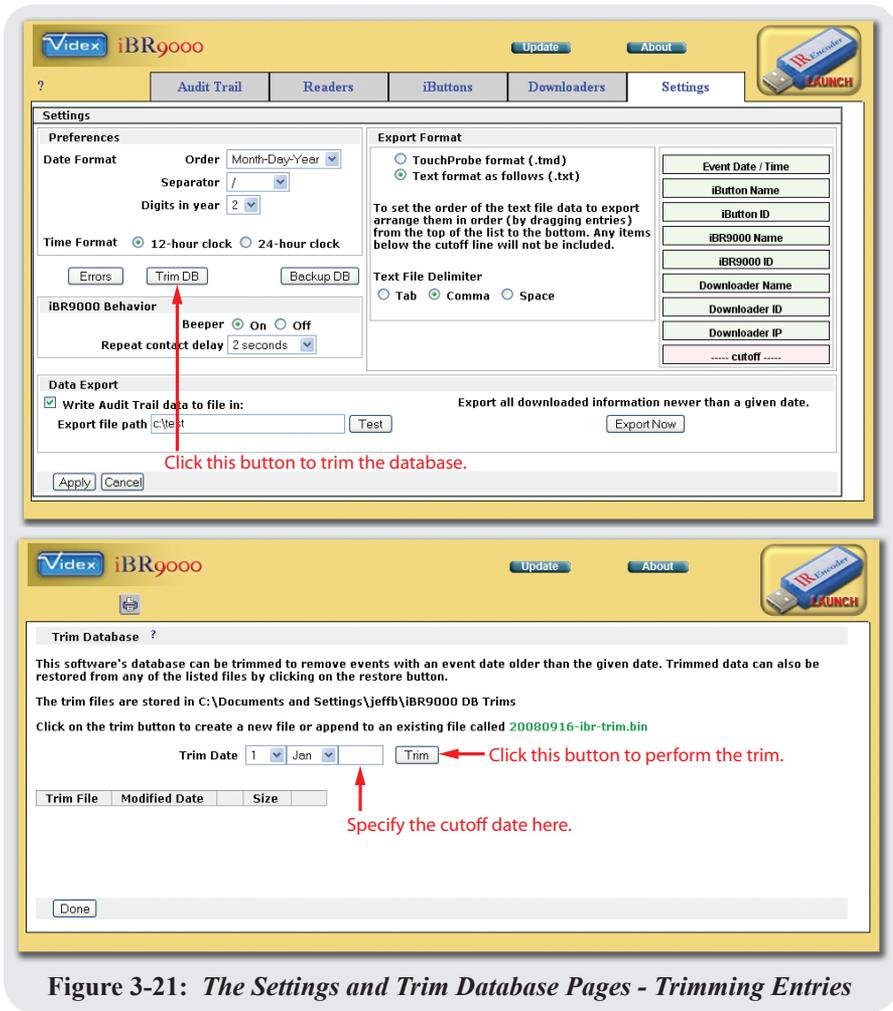


Figure 3-21: The Settings and Trim Database Pages - Trimming Entries

To restore trimmed entries to the visible database, click the *Restore* button in the row of the appropriate trim file.

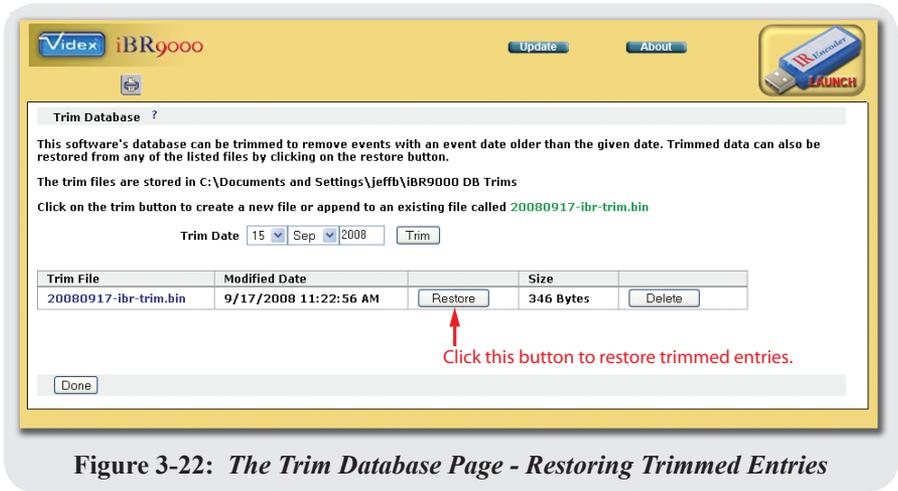


Figure 3-22: The Trim Database Page - Restoring Trimmed Entries

A complete backup of the database is performed automatically by the application when it is started for the first time on any day. These backups are written to files named with the convention “<day>-ibr-backup.ibk”, where <day> is a three-letter abbreviation for the current day of the week.

Additional backup files may be created manually. Manual backup files are named with the convention “<YYYYMMDD-HHmm-SS>-ibr-backup.ibk” to distinguish them from the backup files created automatically by the software. The <YYYYMMDD-HHmm-SS> string corresponds to the date and time at which the manual backup file was created.

To view the *iBR9000 Database Backup Files* page, where backup files may be viewed and created, click the *Backup DB* button on the *Settings* page.

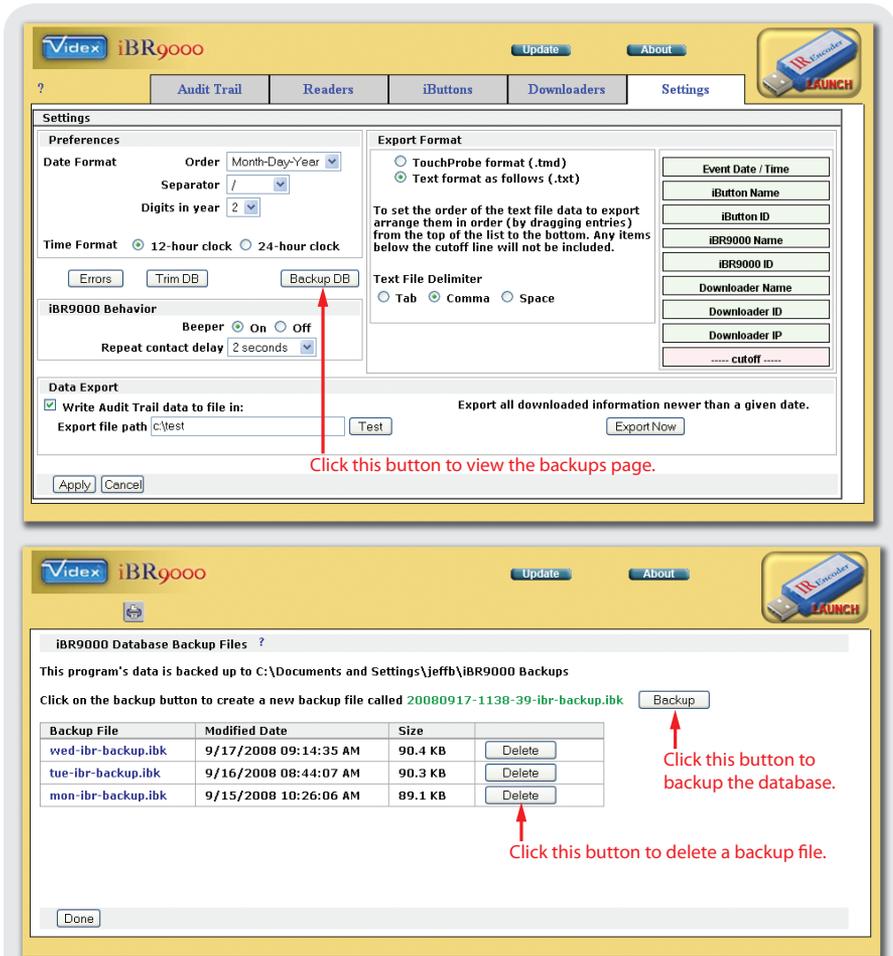


Figure 3-23: The Settings and iBR9000 Database Backup Files Pages

The settings in the *iBR9000 Behavior* section of the *Settings* page, shown in Figure 3-24, 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 tones 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.

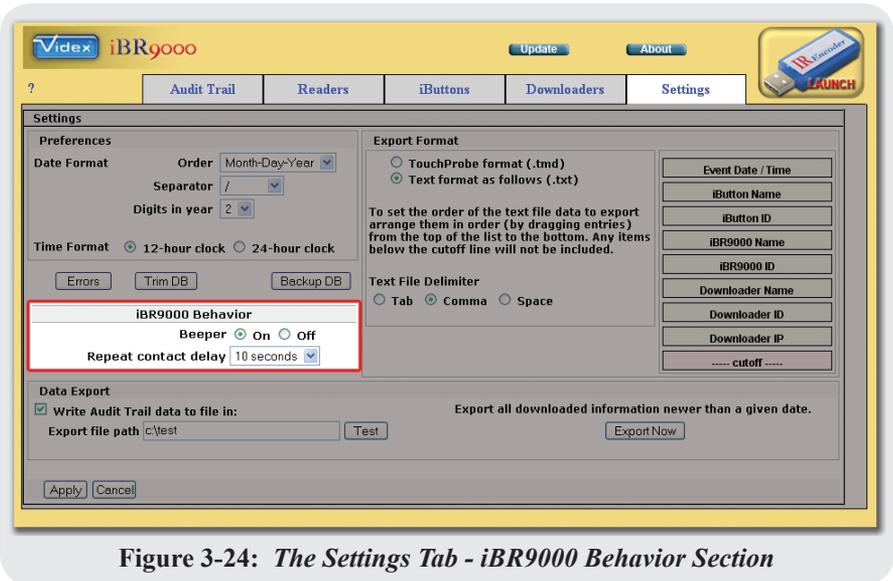


Figure 3-24: The Settings Tab - iBR9000 Behavior Section

The *Export Format* and *Data Export* sections of the *Settings* page work in tandem to allow the user to create a data set for use with existing TouchProbe® tools or other custom applications and reporting tools.

The type of the created file is determined by the options selected in the *Export Format* section. TouchProbe files have a pre-defined format, but text files may be customized. Select a delimiter to separate the fields, then specify which fields should be included. The fields, 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 3-25. Any fields which are arranged after the box labeled “----cutoff----” will not be included in the exported data file.

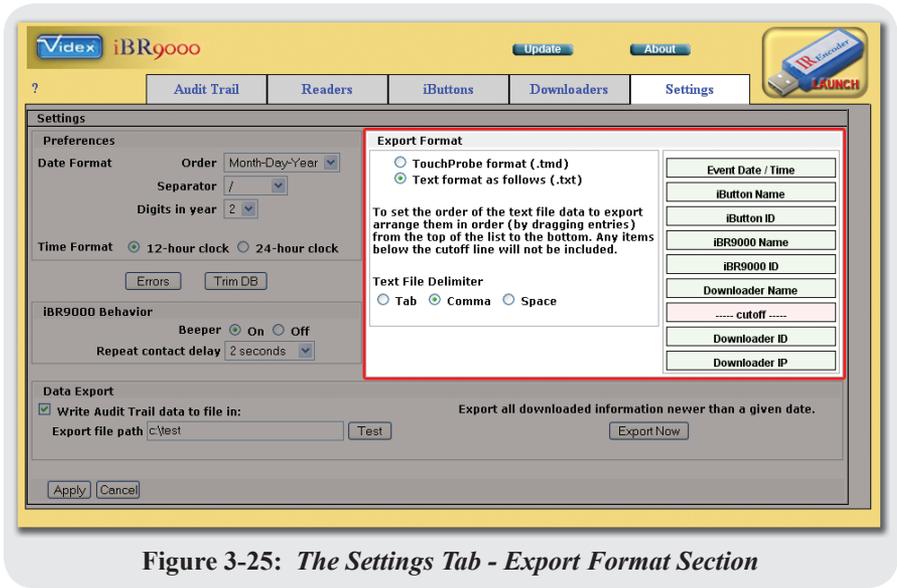


Figure 3-25: The Settings Tab - Export Format Section

The *Data Export* section of the *Settings* page includes options for both automatic and manual export of audit data from the database to a separate file.

To automatically export data, check the box labeled “*Write Audit Trail data to file in:*” and specify a path to a folder in the “*Export file path*” text box. Audit data will be appended to the file as events are downloaded from iBR9000 readers.

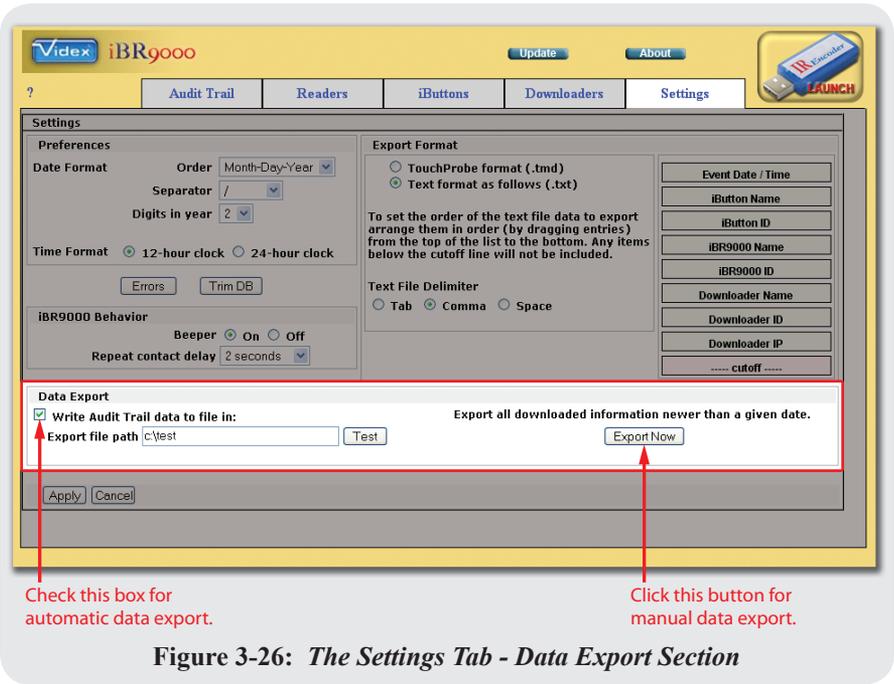


Figure 3-26: The Settings Tab - Data Export Section

To manually export data, click the *Export Now* button to bring up the *Export Downloaded Events* page. A folder path and filename must be specified, as well as a starting date and time. Events occurring after the specified date and time will be written to the export file.

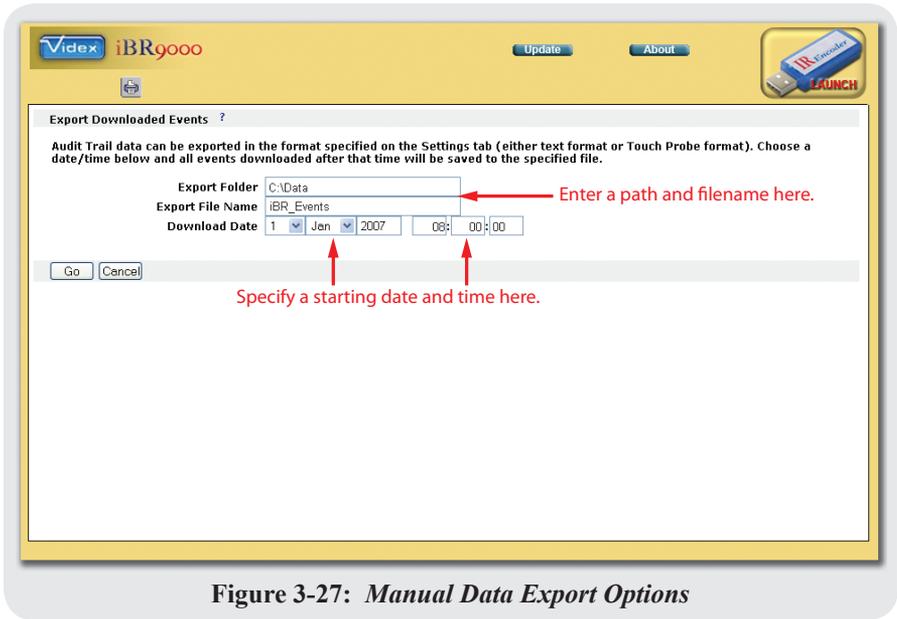


Figure 3-27: Manual Data Export Options

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.

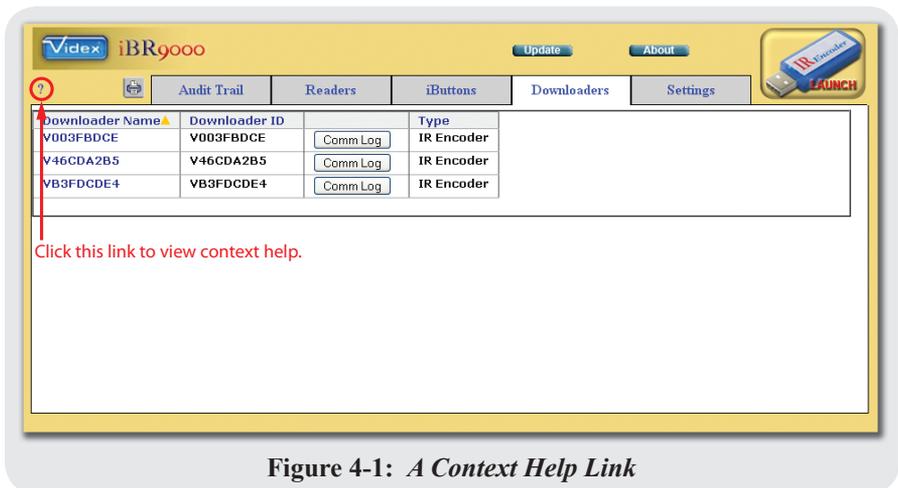


Figure 4-1: A Context Help Link

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

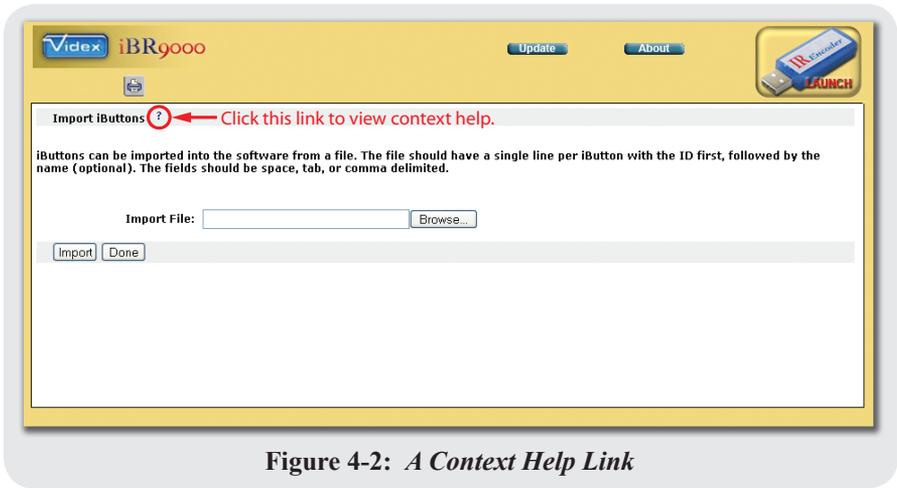


Figure 4-2: A Context Help Link

Software Updates

The ability to find and download updates to the iBR9000 software is built into the application. To display the *Update Software* page, click the **Update** button from anywhere within the application.

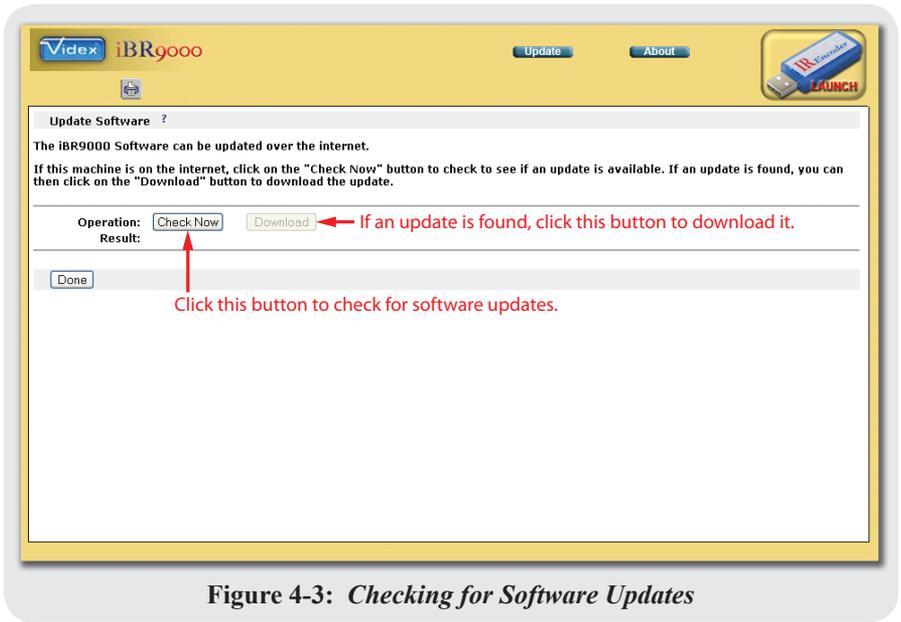


Figure 4-3: Checking for Software Updates

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, or via the *iBR9000 Controller* window on Macintosh systems.

Date and time data is stored by the application in Videx UTC format. This is 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=USER_HOME\\iBR9000
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 another subfolder of the Jetty installation directory named “*derby-data*”.

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.

Changing the Jetty port number on Mac servers is much easier. While the application is running, choose “*Preferences...*” from the *iBR9000* application menu to display the *iBR9000 Controller* window. The server status may be seen at a glance in this window. If the server is running, a green traffic light is displayed. If the server is stopped, a red traffic light is displayed.



Figure A-1: *The iBR9000 Controller Dialog*

The server may be started and stopped using the buttons provided in this window. The network port on which the Jetty server listens may also be changed in this window, provided that the server is stopped first. Finally, if the *iBR9000* browser window has been closed, but the server is still running, the application window can be re-launched by clicking the *Log In* button.

Additional Communication Options

To utilize IrDA hardware other than the IR Encoder, an application called *iBRAgent* was created for Windows and Pocket PC users. It functions in similar fashion to the *iBR9000 EncoderLink* application.

The download page for *iBRAgent* is available at the URL <http://localhost:8080/ibutton/download>. If downloading remotely, replace “localhost” with the IP address of the machine running the iBR9000 software.

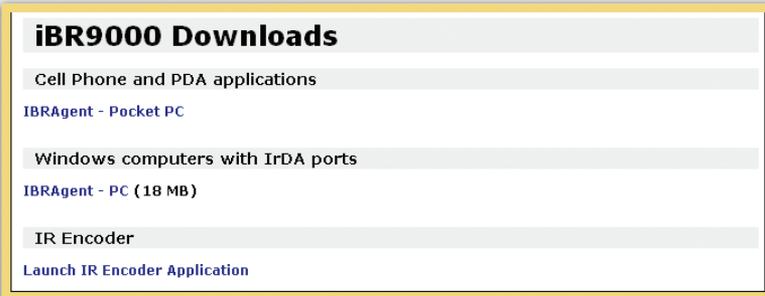


Figure A-2: *The iBR9000 Downloads Page*

The Jetty server must be running on the host computer in order for these applications to work, but the web browser need not be open.

System Tray Icon Functionality

The icon representing the iBR9000 software in the system tray on Windows computers provides at-a-glance information about application status and two additional functions.

When the Jetty web server application is loading, the *IR* icon will have a white background: . When the server is running, the background will be green: . When the server is stopped, the background will be red: .

Right-clicking on the icon will display a context menu which shows the software version and provides options for starting/stopping the server and restoring the database from a backup file.

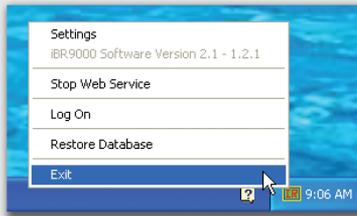


Figure A-3: *The System Tray Icon Context Menu*

If the Jetty server is running, but the application is not open, clicking the “*Log On*” option will open it in the default web browser.

Restoring the Database

To restore the database from a backup file, choose the “*Restore Database*” option from the system tray icon’s context menu. Restoring a database backup file will overwrite the current database contents. The application will prompt for confirmation before continuing.

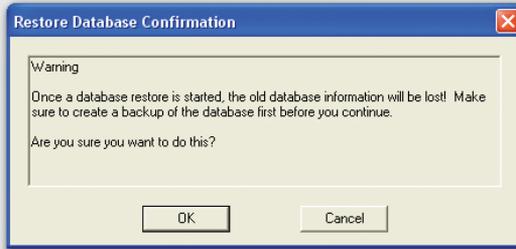


Figure A-4: *Restore Database Confirmation Dialog*

Select the desired backup file and click the *Open* button. When the restore is complete, a success message will be shown.

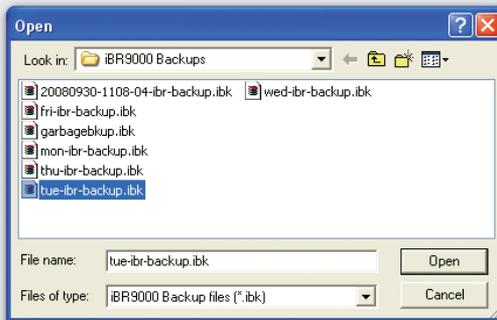


Figure A-5: *Selecting a Backup File to Restore*

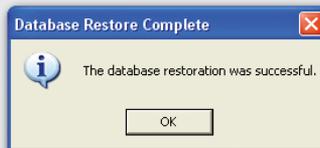


Figure A-6: *Restore Success Message*

Troubleshooting

Problem - iBR9000 reader sirens when it touches an iButton.

Possible Solutions:

1. The battery was disconnected long enough to stop the reader's internal clock. Synchronize it with the software.
 2. The reader's memory is full. Download it using the software.
-

Problem - iBR9000 reader does nothing when it touches an iButton.

Possible Solutions:

1. Replace the battery - a low or dead battery will prevent the unit from operating.
 2. The reader could be damaged. Contact the reseller from whom the unit was purchased.
-

Problem - the software page won't load in the web browser.

Possible Solutions:

1. Make sure the web server is running. Check for the  icon in the system tray. Start the web service from the pop-up context menu if necessary.
 2. Check the URL. In most cases, it should be `http://localhost:8080/ibutton`.
-

Problem - iBR9000 reader won't communicate with the software.

Possible Solutions:

1. Make sure the *iBR9000 EncoderLink* application is running.
2. Make sure an IR Encoder is connected to the PC, and the reader is placed within 3 inches of it.



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