

Baby Explorer™ 1.3 Installation Guide



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Chapter 1: Introduction

The *Baby Explorer* software application is designed to capture data from an ultrasound machine and process the data to provide a 3D volume rendering of a baby months before it is born. Images can be acquired in either parallel or fan motion directly from a conventional ultrasound system.

This installation guide describes how to install the *Baby Explorer* application and configure the standard options. It is intended to be used by service personnel who have a working knowledge of Microsoft® Windows® operating systems. Please consult the appropriate Microsoft documentation before using this guide if you are not familiar with Microsoft® Windows® operating systems.

Workstation Requirements

The *Baby Explorer* application can run on a standard personal computer with an installed video device. [Table 1-1](#) lists the minimum and recommended workstation requirements. A workstation that is intended to be used in a clinical environment should meet the *recommended* requirements.

It is important to note that these requirements are only a guideline. Each installation will have different requirements based on the number of images being viewed, as well as other considerations, such as the operating system services which may be running in the background. To avoid system overload caused by resource contention, we recommend you do not install any other graphic intensive applications on the workstation.

WARNING: Use only workstations that have the proper electrical certification.

Table 1-1: Workstation Requirements

Component	Minimum Requirement	Recommended Requirement
Processor	Intel® Pentium® 3, 600 MHz	Intel® Pentium® 4, 1 GHz
Memory	128 megabytes RAM	512 megabytes RAM
Hard drive	600 megabytes free space	600 megabytes free space
Video Card	AGP or 4 megabyte PCI	16 megabyte Video Card
USB*	USB 2.0 x 2	USB 2.0 x 2

* Not required for demo version

Supported Operating Systems

Release 1.3 of the *Baby Explorer* application has been validated to run on the Microsoft® Windows® XP SP2 operating system.

Precautions

Computer viruses can prevent the application from working properly.

Caution: We recommend that you install anti-virus software on the workstation.

Customer Support

If the procedures in this manual do not help you solve the problem, or the symptoms you are experiencing do not appear in this manual, contact Merge eMed for assistance.

Note: Before calling Merge eMed for assistance, please prepare the following information:

- Site name and location.
 - System Administrator's name and contact information.
 - Detailed description of the problem.
 - Detailed description of troubleshooting attempts.
-

USA

Tel: 414-977-4000
Toll Free: 1-877-741-5369
FAX: 414-977-4200
email: support@merge.com

Canada

Tel: 1-416-204-9355
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email: support@merge.com

World Wide Web

www.merge-emed.com

About this Guide

This section describes various conventions used in this guide.

Drive Letter Conventions

When referring to drive letters, we make the assumptions listed below. If your drive letters are different, use them instead.

- Hard Drive = C:
- Floppy Drive = A:
- CD Drive = D:

The examples provided throughout this guide assume that the application is installed under the default path, C:\Program Files\Cedara\Baby Explorer.

Document Conventions

Throughout this guide, the following conventions are used:

- Words shown in large, boldface text, such as **Exit**, indicate software functions that can be clicked with the mouse (e.g. buttons, tools, items in drop-down lists).
- Words shown in regular, boldface text, such as **Administrator**, indicate characters that you must type exactly as they appear (i.e., if you are instructed to log on as **Administrator**, you should type the characters exactly as they are printed).
- Words shown in uppercase, such as ENTER, indicate keys on the keyboard that you press.
- Words shown in *italics* are used for emphasis.
- Words shown in `courier` indicate system responses.

Note: Notes are used to indicate information which may be helpful or of special interest to the reader.

Caution: **Caution messages indicate procedures which, if not observed, could result in a loss of data or damage to the equipment. Do not proceed beyond a CAUTION message until the indicated conditions are fully understood and met.**

Chapter 2: Installing the Application

This chapter describes how to install and uninstall the *Baby Explorer* application. This chapter applies to both the demo version and full version of the *Baby Explorer* application.

Installing the Application

If you have a previous version of the *Baby Explorer* application installed on your workstation, uninstall it before proceeding (see “[Uninstalling the Application](#)” on page 11).

Also, a Microsoft program called AMCAP is installed during the installation process. To ensure that this program is installed correctly, connect to the Microsoft web site and install the latest DirectX updates before proceeding.

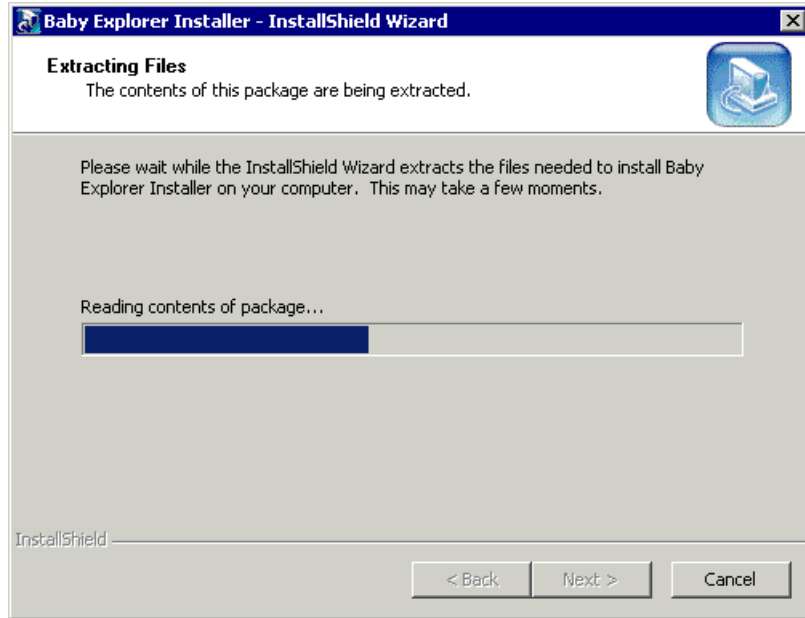
Installation Procedure

Follow this procedure to install the *Baby Explorer* application.

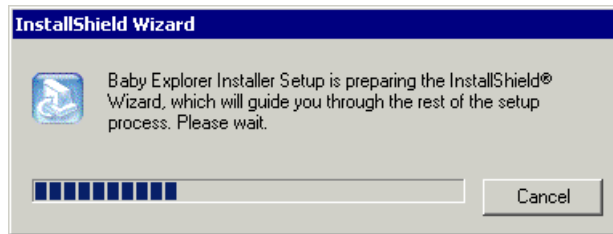
> **To install the application**

1. Turn on the workstation.
2. Log on as **Administrator**.
3. Insert the *Baby Explorer* CD in the CD drive.
 - If the CD Auto Read feature is enabled, the installation starts automatically.
 - If the CD Auto Read feature is not enabled, navigate to the CD drive and double-click **BabyExplorerInstaller.exe** to start the installation.

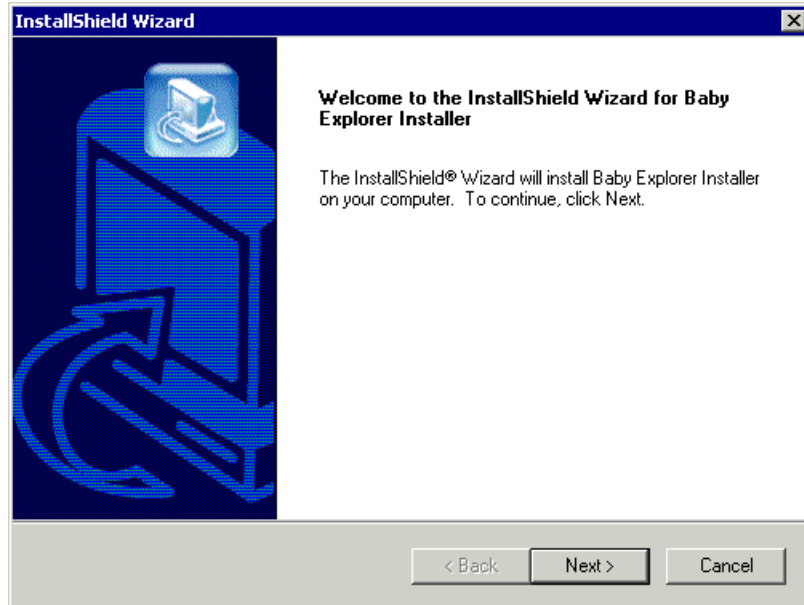
4. The InstallShield Wizard extracts the required files.



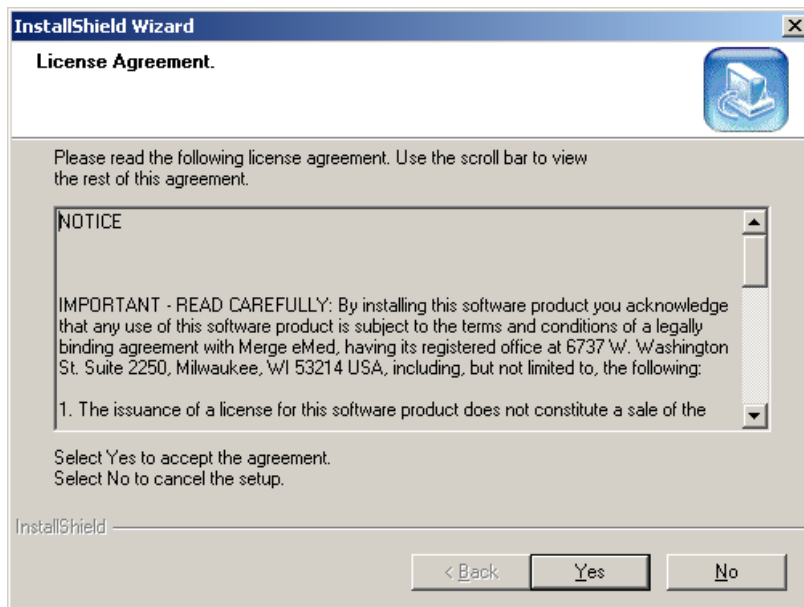
5. Setup displays the *Baby Explorer* splashscreen and prepares the InstallShield Wizard.



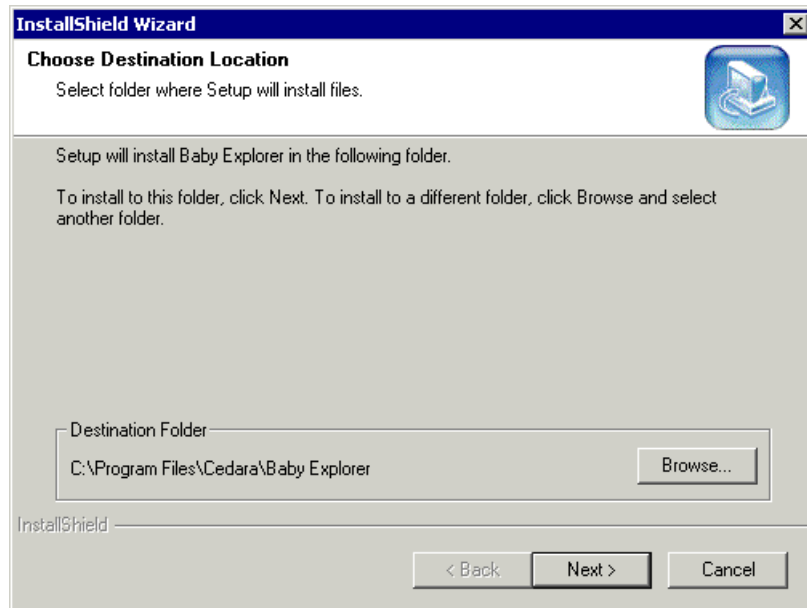
6. In the InstallShield Wizard Welcome dialog box, click **Next**.



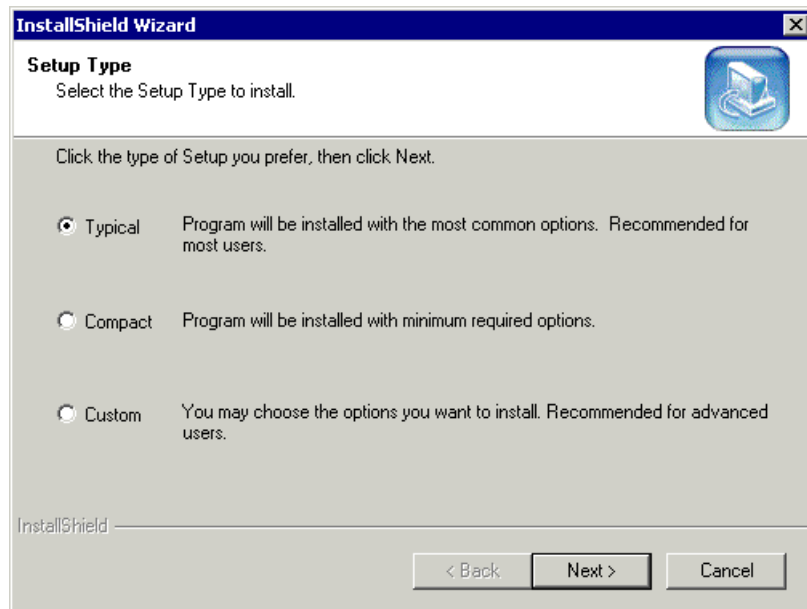
7. The Rainbow SuperPro dongle driver will automatically install in the background. If the driver installation fails, you will need to install the driver manually. To install the driver manually, please contact Customer Support (see [“Customer Support”](#) on page 3).
8. Read the License Agreement carefully, then click **Yes**. A window may appear telling you to wait a few minutes for the dongle license to complete its installation process.



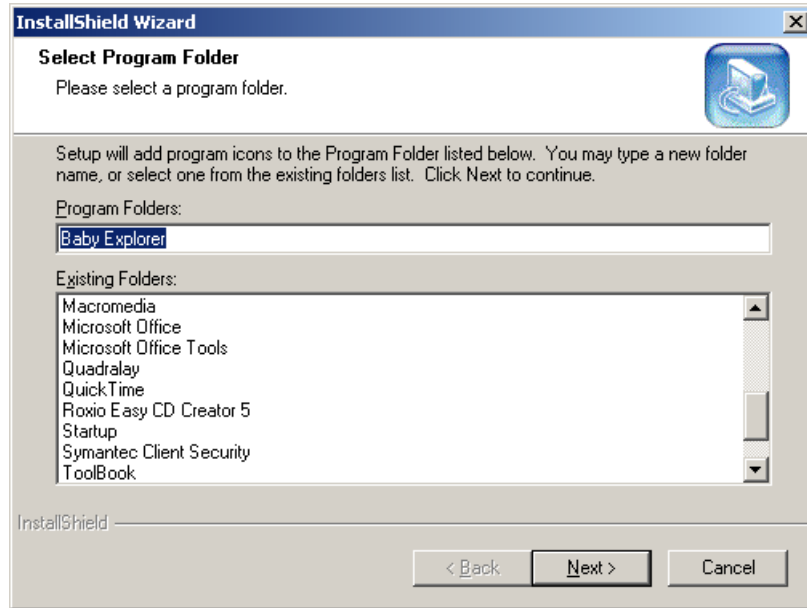
9. In the Choose Destination Location dialog box, click **Next** to select the default location.



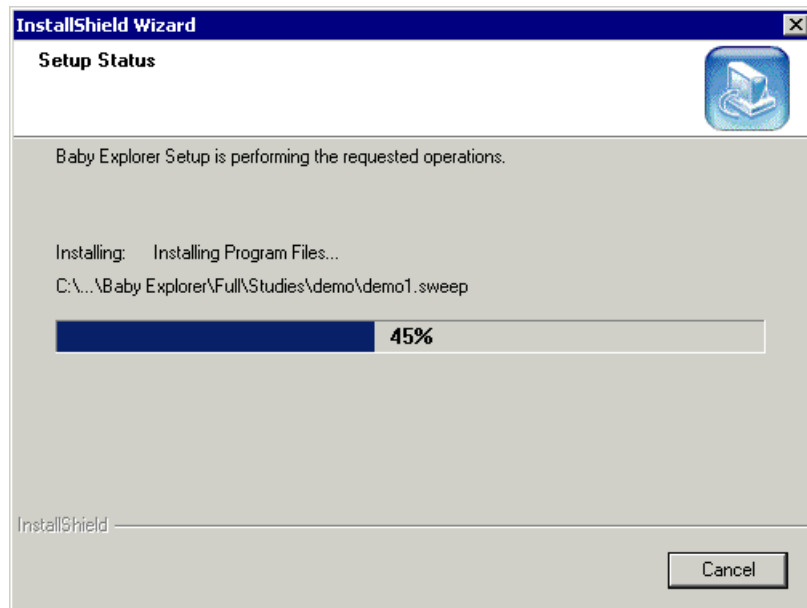
10. In the Setup Type dialog box, click **Next** to select the Typical option. At this time, the Custom option does not offer any customization.



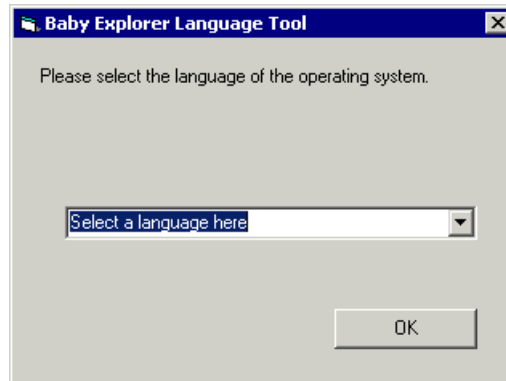
11. In the Select Program Folder dialog box, click **Next** to select the default folder.



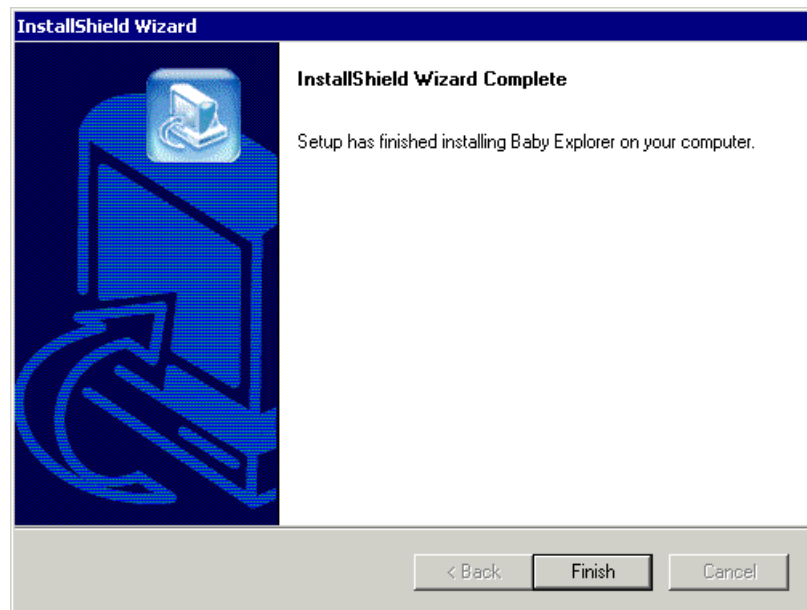
12. The InstallShield Wizard installs the required program files.



13. If the *Baby Explorer* Language Tool dialog box appears, select a language from the dropdown list then click **OK**.



14. When the installation is complete, click **Finish**.



Note: If you are using the demo version of the *Baby Explorer* application, do not continue with the remainder of this installation guide.

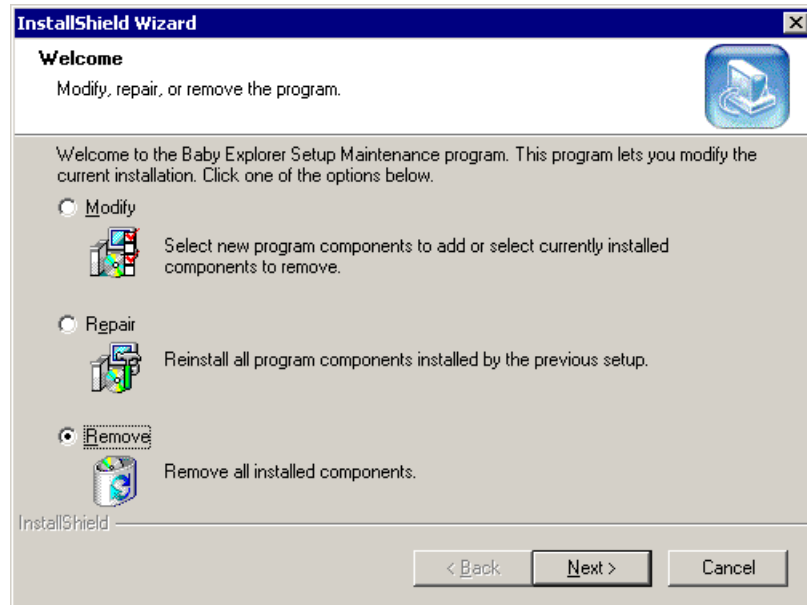
Uninstalling the Application

This section describes how to completely uninstall the *Baby Explorer* application.

> **To uninstall the application**



1. In the Taskbar, click **Start**, **Settings**, then **Control Panel**.
2. Double-click **Add or Remove Programs**.
3. Highlight the *Baby Explorer* application in the list of installed programs.
4. Click **Change/Remove...**
5. Select **Remove**, then click **Next**.



6. When the InstallShield Wizard asks you to confirm that you want to completely remove the application, click **OK**.
7. If the InstallShield Wizard asks if you want to remove the read-only files detected, click **Yes**.
8. When the InstallShield Wizard indicates that maintenance is complete, click **Finish**.
9. In the Add or Remove Programs window, highlight Sentinel Protection Installer 7.1.0 in the list of installed programs.
10. Click **Remove...**
11. Click **Yes** to confirm the request to remove the program.
12. Click **No** when asked to restart the system.

13. Close the Add or Remove Programs window.
14. Close the Control Panel.
15. Navigate to the C:\Program Files folder and delete the Cedara folder.
16. Restart the workstation.

Chapter 3: Installing the Hardware

This chapter describes how to:

- install the video capture device required to accept the video input from the ultrasound machine and convert it to digital data;
- install the dongle required to install a licensed version of the *Baby Explorer* application; and
- connect the ultrasound machine to the workstation.

We recommend that you install the latest Microsoft® Windows® updates on the workstation prior to performing these procedures.

Installing the Video Capture Device

Performing analog capture requires a video capture device to take the video input from a Composite Video or S-Video signal on the ultrasound machine and convert it to digital data. This section describes how to install the video capture device and the software device driver.

Device Requirements

The video capture device:

- must support Microsoft DirectX;
- must capture 24-bit RGB or 8-bit monochrome data;
- must have a Windows-compatible device driver; and
- can be a PCI bus device, USB device, or IEEE1394 device.

Refer to the manufacturer's documentation to ensure that your video capture device meets these requirements.

Validated Devices

We have validated the following devices:

- AVerMedia AverTV
- AVerMedia DVD EZMaker USB2.0*
- Belkin USB VideoBus II
- D-Link DSB-V100
- Imaging Source DFG/1394
- ViewCast Osprey-100
- ViewCast Osprey-200

* Preferred device

Installing the Device

This procedure depends on the type of video capture device you have.

> To install a PCI-based video capture device

1. Turn off the workstation.
2. Open the workstation's case.
3. Insert the video capture card into an empty PCI slot on the motherboard.
4. Close the workstation's case.

Note: We recommend that you wait until after you install the license dongle (see [“Installing the License Dongle” on page 15](#)) before you turn on the workstation again.

> To install a USB video capture device

1. Turn off the workstation.
2. Insert the video capture device cable into a USB port located on the back of the workstation. If the USB ports are already occupied, you can attach a USB hub to provide more ports and plug in additional devices, as needed.

Note: We recommend that you wait until after you install the license dongle (see [“Installing the License Dongle” on page 15](#)) before you turn on the workstation again.

Installing the Device Driver

Follow the manufacturer's instructions for installing the software driver for the video capture device.

Caution: The device driver must be intended for the video capture device. The use of an incorrect driver can cause damage to the video capture device or the workstation. Refer to the model number, part number, product ID, and product description to ensure that the proper device driver is being used.

Installing the License Dongle

To execute a licensed version of the *Baby Explorer* application you must first install a Rainbow SuperPro dongle — a serialized hardware key that prevents unauthorized use of the application.

Note: If the dongle is not installed, only a demonstration version of the application will be executed.

There are two types of dongle depending on the port available on the workstation.



USB Port Dongle
(Preferred device)



Parallel Port Dongle

> To connect a USB port dongle

1. Plug the dongle into a USB port located on the back of the workstation. The USB port dongle is a Plug and Play device and therefore you do not need to shut down the system to install the device. If the USB ports are already occupied, you can attach a hub to provide more ports and plug in additional devices as needed.
2. In the Found New Hardware wizard dialog box, click **Cancel**.



> **To connect a parallel port dongle**

Note: The parallel port is typically used for printer or scanner connections. You can still connect a printer or scanner cable to the dongle, just make sure you connect the dongle first.

1. Turn off the workstation if it is not already turned off.
2. Attach the dongle to the parallel port on the back of the workstation and tighten the thumbscrews.
3. Turn on the workstation.

Connecting the Ultrasound Machine

After installing the video capture device, you must establish a connection between the ultrasound machine (i.e., the video source) and the workstation.

One of the following cables can be used for the video connection:

- **S-Video cable** — This cable has a round end with six prongs. S-Video transmits separate signals for color and brightness, producing a sharper image. Use an S-Video cable if you can because it offers more scan lines than Composite Video, and can yield higher quality video. Older ultrasound machines may not support S-Video cable.
- **Composite Video cable** — Composite Video transmits all information as one signal. This cable may require that you use a BNC to RCA adapter.

> **To connect an S-Video cable**

1. Connect one end of the S-Video cable to the S-Video Output port on the ultrasound machine.
2. Connect the other end of the S-Video cable to the S-Video Input port on the video capture device on the workstation.

> **To connect a Composite Video cable**

1. Connect one end of the Composite Video cable to the Video Out port on the ultrasound machine. You need to use the BNC to RCA adapter.
2. Connect the other end of the Composite Video cable to the Input port on the workstation.

Chapter 4: Configuring the Video Settings

Use the *Baby Explorer* application to configure the video settings. The Microsoft program AMCAP allows you to set the input connection and improve the format settings.

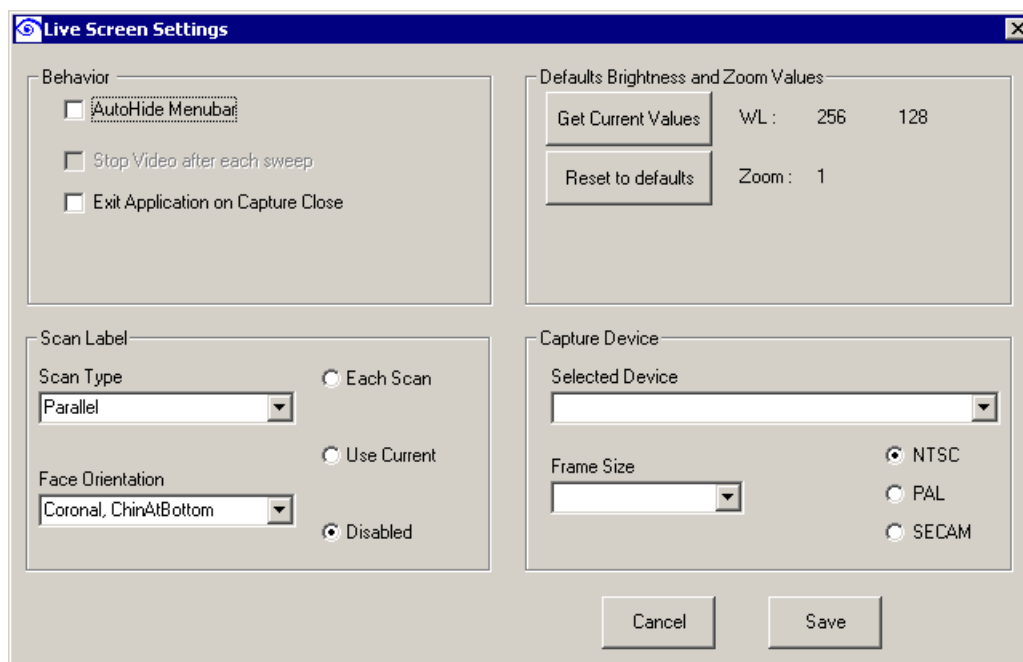
Configuring the Video Capture Device Settings

The Options dialog box allows you to configure the settings for the video capture device.

> To configure the video capture device



1. In the Taskbar, click **Start, Programs, Cedara, Baby Explorer Launcher**, or double-click the *Baby Explorer* shortcut on the desktop (shown here).
2. In the 2D window, click **Options** button at the top bar.
3. In the Live Screen Settings dialog box under Capture Device, select the video capture device installed on your workstation from the Selected Device dropdown list.



4. In the Frame Size text box, select the appropriate frame size as recommended in the manufacturer's documentation of the video capture device (e.g., 640x480).

5. If necessary, select an appropriate video standard. NTSC is the default standard.
6. Click **Save**. The Live Screen Settings dialog box closes automatically.
7. Close the *Baby Explorer* application.

Configuring the Video Source Settings

The Microsoft program AMCAP allows you to set the video input connection and adjust the format settings.

> To configure the video source settings

Note: The menu names and options in the AMCAP program differ depending on the type of video capture device you have installed (see “[Installing the Video Capture Device](#)” on page 13). This procedure only provides one example.

1. In the Taskbar, click **Start, Programs, Cedara, amcap**.
2. Select the video capture device you are using, normally from the Devices menu.
3. Select the appropriate video source (i.e., **Composite** or **S-Video**) depending on the type of video capture device you have installed. This is normally selected from the Options menu. If necessary, also select an appropriate video standard.
4. Select the appropriate video format, normally from the Options menu. This can include Color Format and Custom Size. For Custom Size, enter the width and height appropriate for your video device.
5. In the Options menu, select **Preview** to view the input video that is being recorded in the application’s window.
6. Close all windows.

> To test the configuration



1. In the Taskbar, click **Start, Programs, Cedara, Baby Explorer Launcher**, or double-click the *Baby Explorer* shortcut on the desktop (shown here).
2. In the 2D window, click **Live Video**.
3. The application starts the live video feed from the connected ultrasound machine.
4. Right-click anywhere on the window to start image acquisition. The application displays a red circle indicating that acquisition has begun.
5. Right-click to stop the acquisition.
6. If the Input Scan Information dialog box appears, click **OK**.
7. The application removes the red circle and displays the acquired image at the bottom of the window.

Chapter 5: Troubleshooting

This chapter provides techniques that can help you identify and solve common problems encountered during installation.

Video Capture Problems

This section describes how to resolve some potential problems you can encounter with the video capture software.

Version Conflict During Driver Installation

If you encounter a “version conflict” during driver installation, you should click **Yes** to retain the newer version of the file rather than install an older version.

AMCAP Program Does Not Work Properly

AMCAP is a Microsoft program installed by the *Baby Explorer* installation package. If the program does not work properly, first ensure that the system has adequate system resources (see “[Workstation Requirements](#)” on page 1). If so, close down all other applications and restart the AMCAP program. You may need to restart the workstation to free up system resources that other applications may not be properly releasing. If you still encounter problems, you should reinstall the program as described below to ensure it is installed correctly.

Possible problems with starting up the AMCAP program may also be related to corrupt system files. Power up errors often display a file name causing the problem. Acquiring the latest version of a problematic file should clear up the AMCAP power up errors. After the cause of the problem has been addressed, you should reinstall the AMCAP programs as described below.

> **To reinstall the AMCAP program**

1. Connect to the Microsoft web site and install the latest updates for DirectX.
2. Uninstall the *Baby Explorer* software (see “[Uninstalling the Application](#)” on page 11).
3. Reinstall the *Baby Explorer* software (see “[Installing the Application](#)” on page 5).

AMCAP Program Stopped Working

This problem may be related to programs or hardware that were subsequently installed on the workstation. In this case, follow the procedure described below.

If no additional programs or hardware have recently been installed, file corruption is suspect. We recommend the use of a reliable anti-virus program, as well as running Scandisk and Defrag.

> **To resolve this problem**

1. Remove any recently installed programs or hardware.
2. Uninstall the *Baby Explorer* software (see “[Uninstalling the Application](#)” on page 11).
3. Reinstall the *Baby Explorer* software (see “[Installing the Application](#)” on page 5).

Capture Problems

If you are having problems capturing live video, perform the following procedure.

> **To check the video capture device**

1. Ensure that a video input source is connected to the video capture device, and that the capture device is connected to the computer.
2. Open the AMCAP program and confirm that the video device is selected.
 - If the Video capture device appears in the Devices menu but there is no check mark to the left of the entry, select the entry to enable the device.
 - If the video capture device does not appear in the Devices menu, the problem may be related to the connection of the computer or the connection of the video capture device. Check the connections.
3. If the device is properly connected, ensure that the port is functioning properly.
 - Open the Control Panel and select **System**.
 - Click the **Hardware** tab.
 - Click **Device Manager**.
 - Select the “Sound, video and game controllers” option.
 - Confirm that the video device appears in the list.

Rainbow SuperPro Dongle Problems

This section describes how to resolve some problems you can encounter with the Rainbow SuperPro dongle device.

Dongle Not Detected

If you receive a message stating the Rainbow SuperPro dongle device cannot be found, it means the system cannot detect the dongle so it may be disconnected. Check the connection.

2D Window Not Displayed

If the application opens displaying the 3D window, it means that the demonstration version is loaded.

> **To install the full version**

1. Ensure that the dongle is connected.
2. Uninstall the *Baby Explorer* software (see [“Uninstalling the Application” on page 11](#)).
3. Reinstall the *Baby Explorer* software (see [“Installing the Application” on page 5](#)).

Protection System Error

You may receive a “protection system” error when the dongle is installed using a parallel port (see [“Installing the License Dongle” on page 15](#)).

> **To resolve this error**

1. Confirm that you can print properly.
2. If you can print properly, the error may be BIOS related. When parallel-port devices are daisy-chained, one of the devices may not work correctly if the BIOS is not correctly configured. Enter the BIOS setup and verify that the LPT port is set to one of the following: ECP, ECP+EPP or AT.
3. If the LPT port is configured properly, the problem may be software related. Uninstall the *Baby Explorer* software (see [“Uninstalling the Application” on page 11](#)), then reinstall it (see [“Installing the Application” on page 5](#)).
4. If the error persists after reinstalling the software, the problem is with the actual Rainbow SuperPro device.

***Baby Explorer* Application Problems**

This section describes how to resolve some problems you can encounter with the *Baby Explorer* application.

Startup Errors

Startup errors can occur if some Windows files are missing. To resolve this problem, you can go to the Microsoft web page to obtain any missing files that are indicated in the error message.

Startup errors can also occur if the *Baby Explorer* application was not installed properly. To resolve this problem, uninstall the application (see “[Uninstalling the Application](#)” on page 11), and then reinstall it (see “[Installing the Application](#)” on page 5).

AVI File Does Not Replay Automatically in HTML Report

Some video display cards, such as S3 Savage Pro, do not work properly with Windows Media Player. Since *Baby Explorer* uses Windows Media Player, in some cases, you must configure the graphics hardware to replay the AVI file automatically.

> **To configure the graphics hardware**

1. Open the Control Panel and select **Display**.
2. Click the **Settings** tab.
3. Click the **Advanced** button.
4. Click the **Troubleshoot** tab.
5. In the Hardware Acceleration group box, drag the slider to None.
6. Click **OK**.
7. Click **OK**.

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