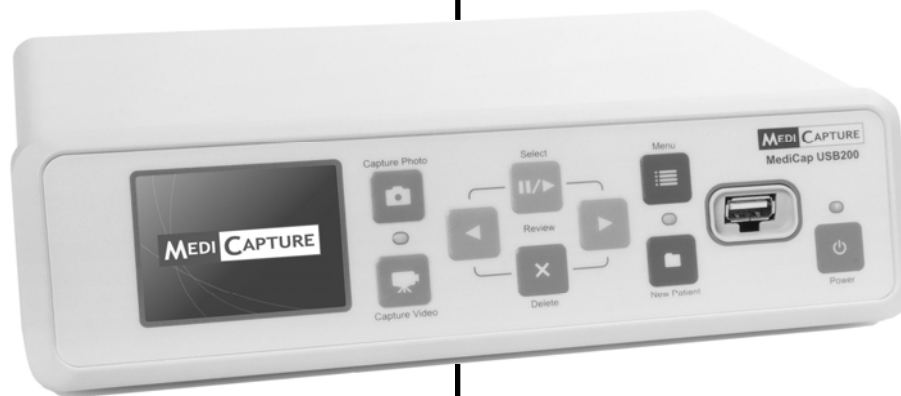






MediCap[®] USB200


Medical Digital
Video Recorder


User Guide




Precautions for Use

 <p>The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.</p>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">CAUTION</div> <div style="background-color: black; color: white; padding: 2px; margin-bottom: 5px;">RISK OF ELECTRIC SHOCK DO NOT OPEN</div> <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK), NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>	 <p>The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.</p>
---	---	---

 **WARNING:** To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

 **CAUTION:** To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

 **CAUTION:** Do not use the images for diagnosis or evaluation purposes. The compression reduces the information of the picture and is therefore not appropriate for diagnosis.

USA FCC CLASS A:
 This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.
 These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. Like all similar equipment, this equipment generates, uses, and can radiate radio frequency energy; and if not installed and used in accordance with the operator manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case you will be required to correct the interference at your own expense.

CANADA ONLY / CANADA SEULEMENT

Caution:
 This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Attention:
 L'interférence radioélectrique générée par cet appareil numérique de type A ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

Disposal Method: Use your local regulations for proper disposal.

Important Safety Instructions

1. Read all of these instructions.
2. Keep these instructions.
3. Heed all warnings in these instructions.
4. Follow all of these instructions.
5. Do not misuse this apparatus.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat source such as radiators, heat registers, stoves or other apparatus that produces heat.
9. Do not tamper with the polarized or grounding-type plug. A polarized plug has two types of blades with one being wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched especially near plugs, outlets, and the point where the cord exits from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to prevent the cart from tipping over and to avoid injury.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Disconnection Method: Switch off AC power by the rocker switch on the rear panel, disconnect power cord.
15. Rocker switch on the rear panel is a single port switch. In switch OFF position, neutral wire is still connected to the unit. To make sure of the complete unit disconnection from the mains, please use disconnection method (14).
16. Do not place vessels containing water or other liquids (such as vases, etc.) on top of the apparatus. Do not splash water on top of the apparatus.
17. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a power supply cord or plug has been damaged, liquid has been spilled on the apparatus, objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, or does not operate normally, or has been dropped.

Table of Contents

Introduction	5
Ordering Information	5
Technical Support	5
Front Panel.....	6
Back Panel	6
Typical Connections.....	7
Quick Start Guide.....	8
Connecting the MediCap USB200	9
Inserting a USB Flash Drive.....	9
Capturing Images.....	9
Capturing Videos.....	10
Reviewing Images and Video Clips.....	10
Creating Patient Folders	11
Using the Menus	11
Main Menu	12
Setup Menu.....	13
Image Options Menu.....	13
Video Options Menu.....	14
Advanced Options Menu.....	14
Volume Menu	15
Transferring Images to Your Computer.....	15
Viewing and Editing Still Images	15
Viewing and Editing Video Clips	15
Other Features	16
Using a Footswitch	16
Deleting Images.....	16
Anti-Blur Option	16
Patient Information Feature	16
Using an External Hard Drive	17
Connecting to a Network	18
Appendix A: Specifications.....	19
Appendix B: MediCapture Limited Warranty	20

Introduction

The MediCap® USB200 allows you to easily capture digital medical images and video clips from virtually any analog medical imaging device that has standard BNC or S-Video output.

To get started, connect your USB200 as shown on page 7 and then insert the included MediCapture USB flash drive into the *front panel*. Now you can use your medical imaging device as you normally do while capturing images and video clips with your USB200.

To turn on the USB200, first turn on the Master Power Switch on the back panel and then press the *Power* button on the front panel.

Capturing Still Images

When you see an image on your monitor that you would like to capture, press the *Capture Photo* button. This will save a still image. You can continue pressing this button to save more images.

Capturing Video Clips

When you see a video stream on your monitor that you would like to capture, press the *Capture Video* button once to begin recording and then press the button again to stop recording.

Quick Start: Review the front and back panels, and the connection diagrams on the following pages. Then refer to the “Quick Start Guide” on page 8.

Important Note: If you do not see a video image on your monitor, use the Menu button to access the Main Menu. In the Setup Menu, make sure the NTSC and PAL settings are properly selected.

Note: The first time you turn on your new MediCap, you will need to set the clock. To do so, press the Menu button on the front panel, go to the Setup Menu, and select Date/Time. **To ensure that the clock remains accurate, leave the Master Power Switch on the back panel in the ON position at all times.** You can use the Power button on the front panel to turn the unit on and off during daily use without affecting the clock.



Important Note: There is a *very brief* delay (0.06 second) between the time when the video signal enters the USB200 and when it is displayed on a monitor connected to the USB200. If this delay is not suitable for your medical environment, do not connect your monitor to the USB200. Instead, connect your monitor directly to your video source; then connect the USB200 to the secondary output on your video source or use a “Y-Splitter” (not included).

Ordering Information

MediCapture recommends MediCapture® brand USB flash drives. Please visit medicapture.com for information on how to purchase flash drives.

Technical Support

For technical support and other questions, please visit medicapture.com or call 888-922-7887 (toll free from within the USA) or 503-445-6935 (from outside the USA).



MediCapture® Inc.

580 West Germantown Pike, #103
Plymouth Meeting, PA 19462 USA

Front Panel

LCD Monitor

Displays live video feed or menus. Also displays images and videos from USB drive during review.*

Select, Back, Next buttons

Used to review captured images and videos, and select menu items.

USB Drive connector

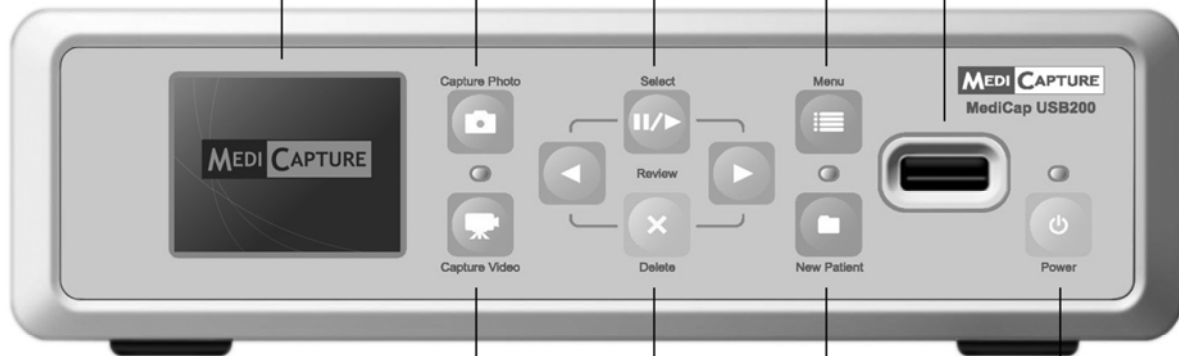
Connect a USB drive here. Images and videos are captured to the drive.

Capture Photo button

Captures the image on the monitor to the USB drive.

Menu button

Displays or hides the Main Menu.



* It is recommended that the LCD monitor be used for navigational purposes only. An external monitor is required for diagnosis

Delete button

Deletes selected image or video clip from USB drive.

Power button

LED is green when power is on.

Capture Video button

Captures video clips of what is displayed on monitor. Press once to start recording and again to stop.

New Patient button

Press before each patient session. Opens a new folder on the USB drive to store the patient's images.

Back Panel

Capture Switch connectors

Standard 3.5mm jacks. Use to connect optional foot switches for hands-free capture. "Still" performs the same function as the Capture Photo button on the front panel. "Motion" performs the same as the Capture Video button.

Power connector

Use supplied power cable to connect to 100V - 240V outlet. Correct voltage is set automatically.

Video Output connectors

Composite (BNC) or S-Video. Connect one to external monitor.

Video Input connectors

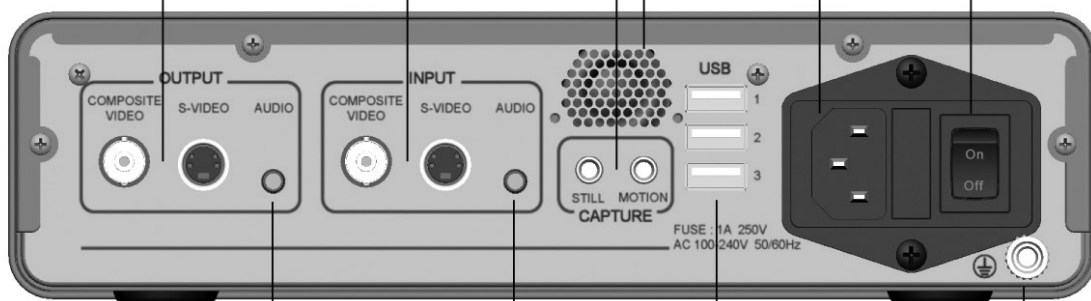
Composite (BNC) or S-Video. Connect one to video source (e.g., ultrasound, endoscope).

Speaker

Same audio as Audio Output Connector.

Master Power Switch

For resetting or moving unit. For day-to-day operation, use Power button on front panel.



Audio Output connector

Standard 3.5mm stereo jack. Connect to external powered speaker if audio desired.

Audio Input connector

Standard 3.5mm stereo jack. Connect to audio source if audio desired.

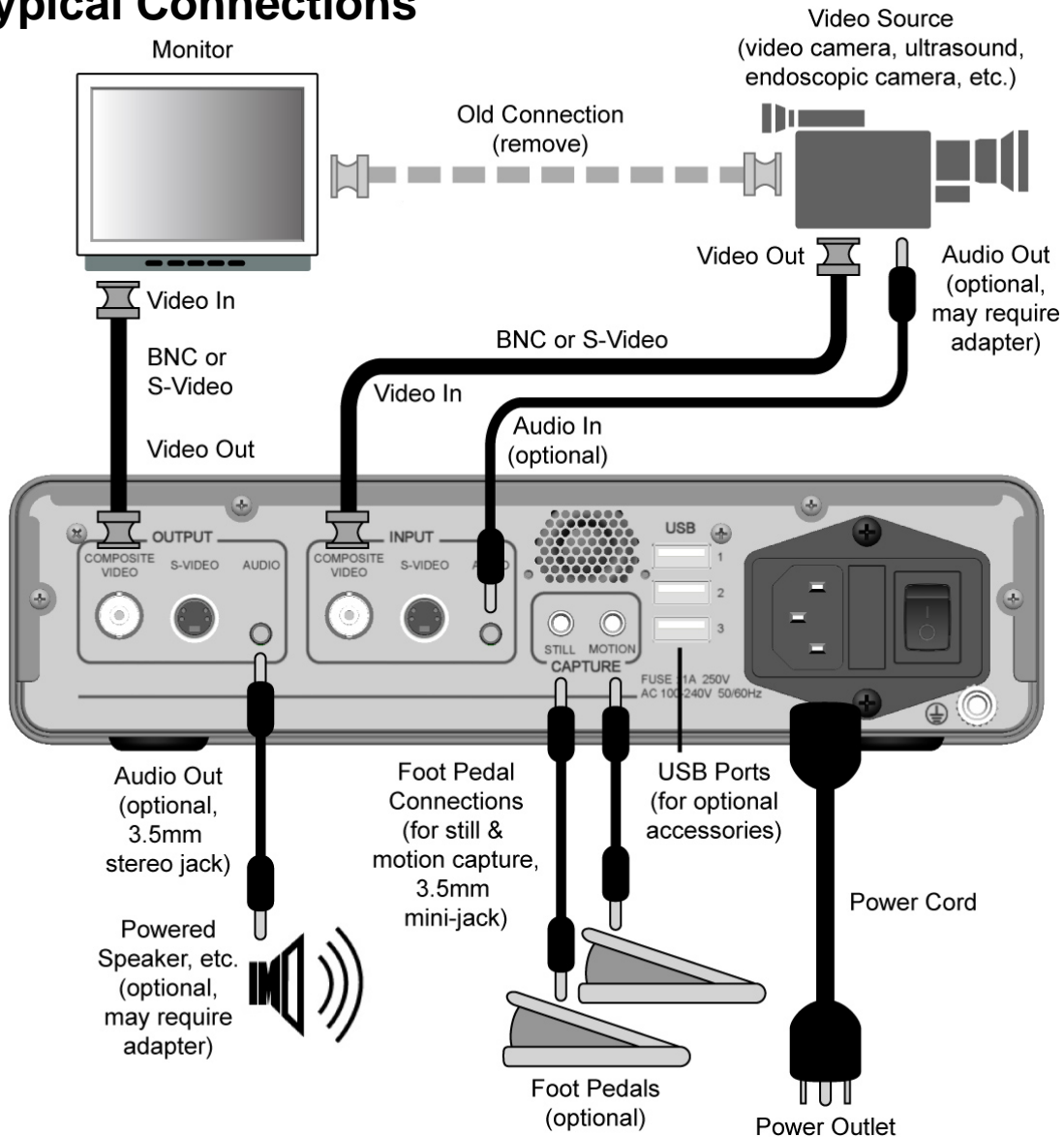
USB connectors (3)

For optional accessories. Powered.

Ground connector

Use for grounding the unit if needed.

Typical Connections



Important Note: There is a *very brief* delay (0.06 sec.) between the time when the video signal enters the USB200 and when it is displayed on a monitor connected to the USB200. If this delay is not suitable for your medical environment, do not connect your monitor to the USB200. Instead, connect your monitor directly to your video source; then connect the USB200 to the secondary output on your video source or use a “Y-Splitter” (not included).



The unit is for exclusive interconnection with IEC60601 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment.

A certified power supply cord set must be used with this equipment. The relevant national installation and/or equipment regulations shall be considered. The power supply cord shall be not less robust than an ordinary tough rubber-sheathed flexible cord according to IEC 60245 (designation 53) or ordinary polyvinyl chloride sheathed flexible cord according to IEC 60227 (designation 53).

The power cord set shall have a power supply cord with conductors providing a cross-sectional area of 3 x 0.75mm² minimum.

Quick Start Guide

1. Connect the USB200 as shown on page 7 and turn it on.
2. After a few seconds, you will see your live video on the monitor.
3. Insert the supplied MediCapture USB flash drive in the front panel. (This is a small “stick” with a silver connector on one end.)
4. Use your imaging equipment as you normally do, except now you can capture images and video clips onto the USB flash drive.
5. To capture images and video clips:
 - a. **Images:** When you see an image on the monitor that you want to capture, press the *Capture Photo* button.
 - b. **Video Clips:** If you want to capture a video clip, press the *Capture Video* button one time to start recording. Press the *Capture Video* button again to stop the recording. Wait a few seconds for the video to save.
6. You can review the images and video clips that you have captured by using the *Select (Play / Pause)*, *Back* and *Next* buttons on the front panel.
7. **IMPORTANT:** When you **finish** capturing **all** the images and video clips for the current patient, press the *New Patient* button to start capturing images and videos for the next patient. This will store the new patient’s images and video clips in a new folder.
8. After you are finished capturing images and video clips, remove the USB flash drive from the USB200.
9. Insert the flash drive in the USB connector of a Windows or Apple computer or laptop.
10. On your Windows or Apple computer, navigate to the USB drive. You can then access the images and video clips that you have just captured and move them from the USB drive to your computer.

Important Note: If you do not see video on your monitor, use the *Menu* button to access the *Main Menu*. In the *Setup Menu*, make sure the *NTSC* and *PAL* settings are properly selected.

To best configure your MediCap USB200, see the *Menu* sections in this manual starting on page 12.

The first time you turn on your new MediCap, you will need to set the clock. To do so, press the *Menu* button on the front panel, go to the *Settings Menu*, and select *Date/Time*. **To ensure that the clock remains accurate, leave the Master Power Switch on the back panel ON at all times.** You can use the *Power* button on the front panel to turn the unit on and off during daily use without affecting the clock.

Important Note: When you press the *New Patient* button, a new folder is opened to store the next set of images. **Make sure you press this button after each patient’s imaging session so that the next patient’s images will be stored in a new folder.**

That’s it! You’ve captured your first batch of digital images!

Connecting the MediCap USB200

To connect the MediCap USB200, see the diagram on page 7.

The MediCap USB200 is easy to set up. It connects “in-line” between a monitor and a video source (for example, an ultrasound camera, surgical video camera, etc.)

1. If you are adding the USB200 to imaging equipment that you are already using, then begin by unplugging the existing video cable that connects the monitor and the video source.
2. Connect a cable between the “Video Out” on the video source and the “Video Input” on the back panel of the USB200. Then connect another cable between the “Video Out” on the USB200 and the “Video Input” on the monitor.
3. Plug in the power cord.
4. As an option, you may connect audio cables (not included) to the input and output of the USB200. Connect in the same manner as the video cables in Step 2 above.
5. You can also connect standard footswitches to the “Capture” connectors on the back panel. A footswitch connected to the "Still" connector performs the same function as the *Capture Photo* button on the front panel. The "Motion" connector performs the same function as the *Capture Video* button. Footswitches are available as an option at medicapture.com.

Note: To make the video connections, you can use BNC or S-Video cables. If your camera or monitor uses RCA connectors, you will need to obtain a BNC-to-RCA adapter. (Some USB200 models ship with this adapter.)

Inserting a USB Flash Drive

Before you begin using your USB200, insert the supplied MediCapture brand USB flash drive in the USB connector on the front panel.



MediCapture brand flash drives come in a variety of models. The flash drive supplied with your USB200 may not look the same as the one in the above illustration, but it will function in the same way.

MediCapture brand USB flash drives are recommended because they have been tested for compatibility with the USB200. You may use other brand name USB flash drives. However, please note that compatibility is not guaranteed for non-Medicapture brand flash drives.

Capturing Images

Capturing images with your USB200 is simple. When you see an image on your monitor that you would like to capture, simply press the *Capture Photo* button on the front panel. The image will be saved directly to the inserted USB flash drive (later, you can transfer your images from the USB flash drive to your computer).

Capture Photo button



Each time you press the *Capture Photo* button, one image is captured (unless you have turned on the Multi-Shot option in the Image Options menu – then three images will be captured).

Two things will help you confirm that you have captured an image:

- The image number will be displayed in the upper-left corner of the monitor.
- The 'Capture Light' located between the two capture buttons will blink once.

Important Note: If your still images appear blurry due to camera motion or moving objects, then refer to the "Anti-Blur Option" on page 16.

Capturing Videos

Capturing video clips with your USB200 is just as easy as capturing images. When you want to start capturing video, simply press the *Capture Video* button on the front panel. Press the button again to stop recording. The video clip will be saved directly to the USB flash drive (later, you can transfer the video clips to your computer).



Capture Video button

Two things will help you confirm that you are capturing a video clip:

- The 'Capture Light' located between the two capture buttons will blink during recording.
- A recording indicator will display on your monitor during recording.

To stop reviewing and resume capturing, simply press one of the Capture buttons.

Reviewing Images and Video Clips

At any time during an imaging session, you can review the images and video clips from your current patient session. Simply press the *Back and Next* buttons on the front panel. This will step you through the images. If you see a video clip that you wish to review, simply press the *Select* button to play or pause the video clip.

The image review feature only displays images from the current imaging session. In order to review images from previous sessions, you must access the files on your computer.



Select, Back, Next and Delete buttons are used for reviewing images and playing video.

Pressing the Capture Photo or Capture Video button while you are reviewing will not capture an image or video, but it will place you back into live mode so that the next time you press the button, it will capture.

After you review the images and video clips, you can capture more by pressing either the *Capture Photo* or *Capture Video* button.

Creating Patient Folders

Each time you start a new imaging session, you can create a new folder to store the images and videos from that session (this keeps the images and videos captured during your new session separate from the ones captured in previous sessions). To create a new folder, simply press the *New Patient* button on the front panel.



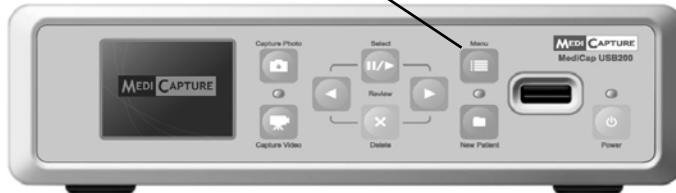
New Patient button

Each time the *New Patient* button is pressed, a new folder will be created on the USB flash drive. The folders will be numbered sequentially (CASE.001, CASE.002, CASE.003, etc.).

Using the Menus

Settings and options for the MediCap USB200 can be accessed via the Menus.

Menu button



Press the *Menu* button to display the Main menu. You can scroll through the menu choices using the *Back* and *Next* buttons on the front panel. Use the *Select* button to make a choice.



Select, Back, Next buttons are used for navigating through menus

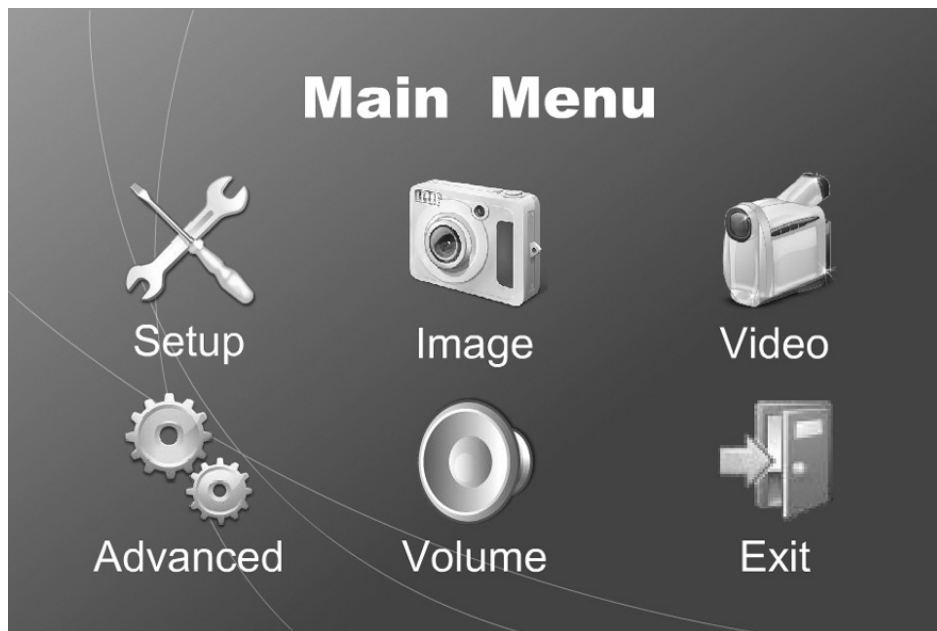
Important Note:

If the USB flash drive has no cases on it, a new patient folder will be created automatically the first time you press the Capture Photo or Capture Video button. If there are already cases on the USB flash drive, you need to press the New Patient button to create a new folder.

Patient Information:

If the "Patient Information" feature is turned on, each time a new folder is created the Patient Information screen will be displayed. This gives you the opportunity to enter the patient's name, etc. See page 16 for more information.

Main Menu



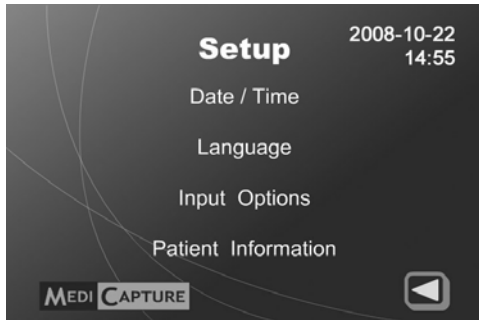
To display the Main Menu, press the *Menu* button on the front panel. Then you can use the *Next* and *Back* buttons to navigate through the submenus. Use the *Select* button to make a choice.

The submenus to the Main Menu are:

- **Setup:** Use this menu to set the clock, language preference, and input options. You can also use this menu to turn on and configure the "Patient Information" feature. This feature allows you to enter patient information at the start of each imaging session. Using this feature requires a USB keyboard (available as an option) and may require a firmware upgrade to your USB200 (see page 16 for more information).
- **Image Options:** Use this menu to select the format and resolution of images.
- **Video Options:** Use this menu to select the capture quality. You can also set the time lengths for captured video clips, and turn audio capture on or off.
- **Advanced:** Use this menu to select advanced options. You can also view all of the current settings and reset them to factory defaults. In addition, you can upgrade your USB200 to add options and features (requires a special "upgrade USB flash drive" available from MediCapture).
- **Volume:** Use this menu to set the volume of the internal speaker and the audio output.
- **Exit:** Selecting Exit returns the USB200 to live mode so you can capture images and video clips. This option is the same as pressing the *Menu* button on the front panel.

These submenus are described in the following sections.

Setup Menu



Use the Setup Menu to configure general settings (clock, language, and input options). Submenus to the Setup Menu:

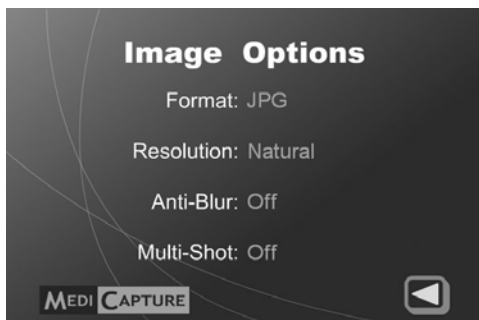
- ### Setup

 - **Date / Time**
 - Clock Set
 - Date / Time Stamp
 - **Language**
 - English, German, French, Spanish, Italian, Portuguese, Japanese, Chinese
 - **Input Options**
 - Input Source (BNC / S-Video)
 - Video System (NTSC / PAL)
 - **Patient Information**
 - Collect Patient Info? (Yes / No)
 - Add Info to File Names?
 - None / Name / ID / Name+ID
 - Add Info Stamp to Images?
 - Upper Left / Upper Right / etc.

- **Date / Time:** Use this menu to set the internal clock. You can also select an option that displays a “date/time stamp” on your images. **Note:** If the clock is not set, question marks will be displayed in the upper-right corner of the Setup Menu instead of the date and time.

It is important to set the clock so that your image files will have the proper date and time associated with them. To maintain the current clock setting, leave the Master Power Switch on the back panel ON at all times; to turn the unit on and off, use the front panel Power button.
- **Language:** Use this menu to select your language preference for the menus.
- **Input Options:** Use this menu to select the video input type (S-Video or Composite BNC) and the video system being used (NTSC or PAL).
- **Patient Information:** Use this menu to turn on and configure the “Patient Information” feature which allows you to enter patient information at the start of each imaging session. The information can be included in image file names and imprinted on images. *Requires a USB keyboard (available as an option) and may require a firmware upgrade. See page 16 for more information.*

Image Options Menu



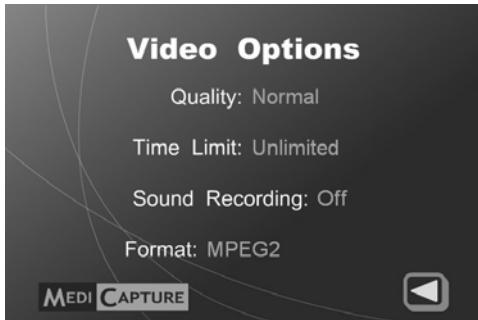
Use the Image Options Menu to configure how your USB200 captures images. Submenus to the Image Options Menu:

- ### Image Options

 - **Format**
 - JPG, TIFF, PNG, DICOM
 - **Resolution** (in pixels)
 - Natural
 - 1024 x 768
 - 800 x 600
 - 640 x 480
 - **Anti-Blur**
 - On / Off
 - **Multi-Shot**
 - On / Off

- **Format:** Use this menu to select the image format you want to save your photos in. JPG is the format most commonly used on computers.
- **Resolution:** Use to select the resolution (in pixels) of captured images. The recommended setting is “Natural.” This setting automatically captures the optimal number of pixels to ensure maximum possible image detail from the video equipment you are using.
- **Anti-Blur:** Use *only* if your images appear blurry due to moving objects. See p. 16 for more information.
- **Multi-Shot:** If “Multi-Shot” is off, then each time you press the *Capture Photo* button, one still image will be captured. If “Multi-Shot” is on, then each time you press the *Capture Photo* button, three still images will be captured in rapid succession.

Video Options Menu



Video Options

- **Quality**
 - High (DVD+)
 - Normal (DVD)
 - Low (DVD-)
- **Time Limit**
 - Unlimited, 5 sec., etc.
- **Sound Recording**
 - On / Off
- **Format**
 - MPEG2

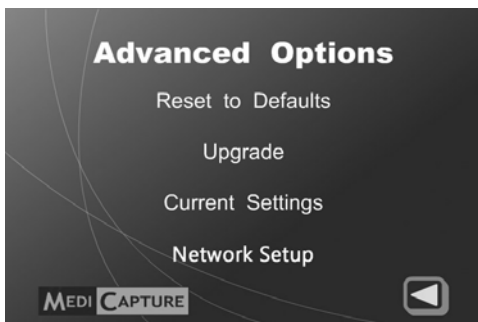
Use the Video Options Menu to configure how your USB200 captures video clips.

- **Quality:** Use to select the quality of video that you capture. The available quality levels are:
 - Low (DVD-): 352 x 240 pixels, 1.5 Mbps Variable Bit Rate (VBR)
 - Normal (DVD): NTSC (720 x 480 pixels) or PAL (720 x 576 pixels), 3.5 Mbps VBR
 - High (DVD+): NTSC (720 x 480 pixels) or PAL (720 x 576 pixels), 8 Mbps VBR

Important Note: The higher the video quality, the larger the file size of video clips.

- **Time Limit:** Use to set the maximum length of video clips. If you select any of the time limits other than *Unlimited*, then a video clip will automatically stop recording after the specified limit.
- **Sound Recording:** Use to turn on or off the recording of audio associated with the video. If you are capturing video that does not contain audio, you can set this option to *Off*. If you want to record audio, set this option to *On* and connect an audio input as shown in the diagram on page 7.
- **Format:** MPEG2.

Advanced Options Menu



Advanced Options

- **Reset to Defaults**
 - **Upgrade**
 - **Current Settings**
 - **Network Setup***
 - Machine Name
 - Password
 - IP Address (Auto or Manual)
- * Only displayed if a network adapter is plugged into the back panel *and* the latest firmware is installed.

Use the Advanced Menu to configure advanced options, perform a firmware upgrade, or view or reset the current settings.

- **Reset to Defaults:** Select this option to reset all options to their factory default settings.
- **Upgrade:** This option is used to upgrade the firmware on your system. This allows you to add new features and options to your USB200. To use the upgrade option, you must insert a special “upgrade USB flash drive” in the front panel. Contact your MediCapture representative for a list of available upgrades and for information on how to order an “upgrade USB flash drive.”
- **Current Settings:** This option displays a “snapshot” of all of the current settings on your USB200. This can be useful if you need to troubleshoot your system configuration.
- **Network Setup:** Only displayed if you have plugged a “network adapter” into the back panel (included in the Network Upgrade Kit available from MediCapture) *and* the latest firmware is installed (also available from MediCapture). Use this option to set the machine name, password, IP address, etc. For more information, see page 18.

Volume Menu

The Volume Menu allows you to set the system volume (this affects the internal speaker *and* the audio output to an external speaker). When using an external speaker, it is recommended that you leave this setting at a medium volume and use the volume controls on the external speaker to adjust the volume levels. When troubleshooting audio issues, please note the following:

- The Audio Input jack on the USB200 is designed to be connected to a microphone (not included) or the audio output on a medical device (for example, an ultrasound).
- The Audio Output jack on the USB200 is designed to be connected to an external *powered* speaker (not included) or the audio input on a medical device (for example, an ultrasound). (Note: A *powered* speaker contains its own amplifier that is powered via batteries or an electrical outlet.)
- Adapters (not included) may be required to connect with the Audio Input and Output jacks.
- If the audio on the external speaker is distorted, try lowering the volume level in the Volume Menu and increasing the volume level using the volume control on the external speaker.
- If the audio on the external speaker is too low (even when the volume control on the external speaker is set to full volume), try increasing the volume level in the Volume Menu. When increasing the volume levels in this menu, do so in small increments and test the effect on the external speaker. *Excessively high volume levels in this menu may cause problems with some models of external speakers.*

Transferring Images to Your Computer

1. Insert the USB flash drive containing captured images into a USB connector on your computer.
2. The computer will manage the flash drive just like any other drive on your computer. Navigate to the drive and open it so you can see the folders it contains.
3. You can now click on the images and videos to review them while they are on the flash drive, or you can move them to your computer's hard drive and review and store them there (recommended).

Note: Refer to Windows or Mac OS documentation for information on how to access drives on your computer and manage files.

Viewing and Editing Still Images

To view JPG, TIFF, or PNG images in Windows or Mac OS, simply double-click on them and an easy-to-use viewer will open. You can also view and edit your still images using specialized medical image management programs available from many third-party vendors (required for viewing DICOM images).

Viewing and Editing Video Clips

IMPORTANT NOTE FOR WINDOWS COMPUTER USERS: The USB200 saves video in the industry's highest quality format which is the preferred format for medical videos (MPEG2). *Windows Media Player* (that comes with your Windows computer) does not play MPEG2 videos by default. The upgrade needed to play MPEG2 videos may already be installed on your computer. To check, try playing several videos captured with the USB200. If they play, then your configuration is OK. If they do not play, then you need to do **either** of the following:

- **Download an MPEG2 upgrade for *Windows Media Player*.** To assist its customers, MediCapture has purchased licenses for Windows Media Player MPEG2 upgrades which are available for free to MediCapture customers at medicapture.com/support. **OR**
- **Download a media player that will play MPEG2 videos.** For example, *VLC media player*. This is a free download that can be found at many locations on the web.

IMPORTANT NOTE FOR APPLE COMPUTER USERS: The USB200 saves video in the industry's highest quality format which is the preferred format for medical videos (MPEG2). The *Quicktime* and *Quicktime Pro* media players that are widely used on Apple computers do not play MPEG2 videos by default. The upgrade needed to play MPEG2 videos may already be installed on your computer. To check, try playing several videos captured with the USB200. If they play, then your configuration is OK. If they do not play, then you need to do **either** of the following:

- **Download an MPEG2 upgrade for *Quicktime* or *Quicktime Pro*.** Apple.com offers an MPEG2 upgrade (go to Apple's online store and search for "MPEG2"). **OR**
- **Download a media player that will play MPEG2 videos.** For example, *VLC media player*. This is a free download that can be found at many locations on the web.

Other Features

Using a Footswitch

Standard footswitch connectors are located on the back panel. Using a footswitch will allow you to capture images and video clips "hands free." The two footswitches serve the same function as the corresponding *Capture Photo* and *Capture Video* buttons on the front panel.

Note that the footswitch connector responds to a simple "closed contact." In other words, if you have other types of switches that operate using a closed contact, you can also plug them into the footswitch connection and use them to trigger an image capture. For example, a "closed contact" timer could be used to capture images at regular intervals. Also, some endoscopic cameras have a simple "closed contact" trigger that can be used to capture images via the footswitch connector.

Deleting Images

While you are reviewing images, you can delete them from memory. To do so, press the *Delete* button on the front panel (hold down the *Delete* button for about 3 seconds). This will delete the image or video clip currently displayed on the monitor.

Anti-Blur Option

The Anti-Blur option is available in the Image Options menu (see page 13). Here are some simple guidelines on the best way to set this option:

- If you are capturing images of still objects and the camera is stationary, set Anti-Blur to *Off*. This will capture the most detail. Try this option first (it is the factory default).
- If you are capturing images of a moving object (for example, a beating heart) or if the camera is moving, you may find that your captured images are blurry or have "jaggy" edges. If this is the case, try setting Anti-Blur to *On*. **This will reduce the blurry appearance of moving objects, but it also captures less detail.** For more information, please see the USB200 Frequently Asked Questions in the Support section at medicapture.com.

Patient Information Feature

This feature allows you to enter patient information at the start of each imaging session. The information can be included in the file names of still images and video clips, and can be "stamped" on still images. The information is also stored in a text file in the same folder as the images and videos. If you have selected the DICOM option in Image Options (p. 13), the information will also be in the DICOM header.

Important Requirements for the Patient Information Feature

1. Plug a USB keyboard into one of the USB connectors on the back panel. Keyboards from most manufacturers are compatible.
2. If the Patient Information option is not displayed in the Setup Menu as shown on page 13, your USB200 will require a firmware upgrade. Please contact your MediCapture representative for information on how to install the upgrade.

Setting Up the Patient Information Feature

To turn on this feature, press the *Menu* button on the front panel to display the Main Menu. Then select “Setup” and select “Patient Information.” The Patient Information Menu will be displayed. Set “Collect Patient Information” to “Yes.” Then set the following options:

- **Add Info to File Names?** - Allows you to specify what patient information, if any, will be automatically included in folder and file names. You can select:
 - **None** - No patient information will be included in folder and file names
 - **Name** - The patient’s name will be included
 - **ID** - The patient’s ID will be included
 - **Name+ID** - The patient’s name *and* ID will be included
- **Add Info Stamp to Images?** - Allows you to imprint patient information on each still image (information is not stamped on video clips). You can select *None* (no stamping), or *Upper Left*, *Upper Right*, *Lower Left*, or *Lower Right* (stamps the patient information in the selected area). The following information is stamped on the image: Patient First and Last Name, Sex, and ID. If you use this option, you may also want to consider using the Time Stamp option which can be accessed by going to Main Menu > Setup Menu > Date / Time.

Using the Patient Information Feature

After you turn on this feature, a Patient Information screen will be displayed at the start of each imaging session (each time you press the *New Patient* button or insert a flash drive). Use a USB keyboard plugged into the back of the unit to enter Patient First and Last Name, ID, Birth Date, and Sex. An “Other” field allows you to enter information such as the name of the attending physician.

To move to the next field, use the Tab key on the keyboard. If you need to go to a previous field, simply tab several times and the cursor will go to the top of the screen (or you can use Shift+Tab to back up).

The screenshot shows a dark-themed screen titled "Patient Information" with the instruction "(TAB to next field)". The fields are as follows:

First Name	John
Last Name	Doe
Patient ID	12345
Birth Date	1975 - 11 - 21
Sex	Male
Other	Dr. Jane Smith

At the bottom left is the "MEDI CAPTURE" logo and at the bottom right is an "Enter" button.

When you finish entering information, press the Enter key on the keyboard. If you don’t want to enter any information, simply press the Enter key as soon as the Patient Information screen is displayed.

Accessing Patient Information

The Patient Information for each imaging session is stored in a text file in the same folder as the images (for example, 1_Patient_Info_John_Doe.txt). The information is also shown in an image of the Patient Information screen (for example, 2_Patient_Info_John_Doe.jpg), and, if you selected the DICOM option in the Image Options menu (p. 13), the information will be in the DICOM header.

Using an External Hard Drive

You can plug an external hard drive into one of the USB connectors on the front or back panel of the USB200. A hard drive can provide increased storage capacity compared with a flash drive. For example, a 500GB hard drive can store about 200 hours of DVD-quality video. **Before purchasing an external hard drive, please note the following:**

- **The hard drive must use the “FAT32” format, not the “NTFS” format.**
- Delete any software that came pre-loaded on the drive (it may be incompatible with the USB200).
- To protect your videos and images, it is important to back them up by transferring them from the external hard drive to your computer or network.
- Only one copy of an image or video is recorded. In other words, if a hard drive is plugged into the back panel and then you plug a flash drive into the front, videos and images will only be recorded to the hard drive. If want to record to the flash drive in the front, unplug the hard drive from the back and turn the USB200 off and back on.
- For more information, please see the document titled *Using a Hard Drive with the MediCap USB200 or USB170* which is available in the Support section at medicapture.com.

Connecting to a Network





You can connect the USB200 to a network by using an adapter which is available from MediCapture. Making the connection requires knowledge of computer networks. It is recommended that you contact a computer professional to make the connection.

When you connect the USB200 to your network, you can access the USB200 drive from any computer on the network. The USB200 drive will be displayed on your computer just like any other drive. You can then “drag and drop” recorded videos and images from the USB200 drive onto your computer’s drive.

To connect the USB200 to your network, you will need the following:

- Network Upgrade Kit available from MediCapture. The kit includes a network adapter that plugs into the back of the USB200. It may also contain an “Upgrade USB Flash Drive” if your USB200 model requires a firmware upgrade in order to use this feature.
- A USB keyboard plugged into the back of the USB200 (needed to make entries in the Network Setup menu on the USB200). USB keyboards from most manufacturers are compatible with the USB200.
- The document titled *How to Connect the MediCap USB200 or USB170 to a Network* which is available in the Support section at medicapture.com.

Appendix A: Specifications

Model	MediCap USB200. Digital medical image capture device. Saves digital images and video clips from analog video sources to a USB flash drive or USB hard drive.
Case	Rugged metal case with high-impact plastic faceplate
Buttons	Sealed membrane, fluid resistant
LCD Monitor	2 1/2", full color (for video confirmation and navigation only, not for diagnosis)
Built-in Speaker	200Hz-15kHz, 1W, menu selectable volume control (for audio confirmation only, not for diagnosis)
Video Input/Output	PAL or NTSC (menu selectable) S-Video or composite BNC connections for both input and output
Audio Input/Output	Standard 3.5mm stereo phone jacks (one for input and one for output)
USB Support	USB2.0, high speed, 1 front connector, 3 rear connectors (all powered). Front connector is for capturing images and video to USB drive. Rear connectors are for additional options.
Footswitch Support	For hands-free capture (compatible with standard footswitches, not included) Standard 3.5mm mini jacks (one for still capture, one for video clip capture)
Mechanical	Size: 240 x 200 x 63mm / 9.5 x 7.9 x 2.5" Weight: 1.7kg / 3lb 12oz
Environmental	Storage and transportation: -40° to +85° C Operating: -20° to +40° C
Power	100-240V 50-60Hz 20W 3-prong AC jack
Media	USB flash drives (MediCapture brand recommended) or external USB hard drive
Image Formats	JPEG, TIFF, PNG, DICOM
Image Size	1024 x 768 pixels, 800 x 600 pixels, 640 x 480 pixels
Video Formats	MPEG2 PS, DVD-quality. Quality Levels: Low (DVD-): 352 x 240 pixels, 1.5 Mbps Variable Bit Rate (VBR) Normal (DVD): NTSC: 720 x 480 pixels, 3.5 Mbps VBR PAL: 720 x 576 pixels, 3.5 Mbps VBR High (DVD+): NTSC: 720 x 480 pixels, 8 Mbps VBR PAL: 720 x 576 pixels, 8 Mbps VBR
Audio Format	MPEG1 L2, 2 channels, 16 bits/channel, 48 kHz sampling 256 kbps bitrate
Kit Contents	MediCap USB200, USB flash drive, video cables, power cable, user guide
Certifications	 Conforms to Medical Devices Directive 93/42/EEC  Medical Equipment with respect to electrical shock, fire and mechanical hazards only in accordance with UL 60601-1, IEC 60601-1-2, CSA C22.2 No.601.1, E306417, PSE  This device complies with Part 15 of the FCC Rules.  RoHS compliant
Classification	Class I Equipment Mode of operation: continuous

No AP/APG. No Applied Part.

Note: These specifications are subject to change without notice.

Appendix B: MediCapture Limited Warranty

MediCapture Inc. (“MediCapture”) warrants the product(s) listed below to be free of defects in materials and workmanship for a period of one (1) year. Should warranty service be required, the warranty period will be extended by the number of days required to restore normal operation and return the product(s).

MediCapture MediCap® USB200 medical image capture device

Warranty Conditions

If, during the year that immediately follows the purchase date, a product covered by this warranty is found to have a defect in material or workmanship, MediCapture (or a service facility authorized by MediCapture) will restore the product to its original operating condition without charge for parts or labor. Note: MediCapture reserves the right to utilize reconditioned subassemblies as warranty replacements.

This warranty applies only to those products sold by retailers authorized by MediCapture to sell such products and is enforceable by the original purchaser only.

THIS WARRANTY IS APPLICABLE IN THE FIFTY (50) STATES OF THE USA AND THE DISTRICT OF COLUMBIA ONLY. IT IS NOT APPLICABLE IN THE POSSESSIONS OR TERRITORIES OF THE USA OR IN ANY OTHER COUNTRY. THIS IS THE ONLY EXPRESS WARRANTY WHICH MEDICAPTURE MAKES IN CONNECTION WITH THE ABOVE LISTED PRODUCT(S). ANY IMPLIED WARRANTIES APPLICABLE TO THESE PRODUCTS ARE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY. MEDICAPTURE SHALL NOT BE LIABLE FOR LOSS OF REVENUES OR PROFITS, INCONVENIENCE, EXPENSE FOR SUBSTITUTE EQUIPMENT OR SERVICE, STORAGE CHARGES, LOSS OR CORRUPTION OF DATA, OR ANY OTHER SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE OR MISUSE OF, OR INABILITY TO USE, THE ABOVE LISTED PRODUCT(S), REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED, AND EVEN IF MEDICAPTURE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL THE RECOVERY OF ANY KIND AGAINST MEDICAPTURE BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT(S) LISTED ABOVE AND CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, YOU ASSUME ALL RISK AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO YOU AND YOUR PROPERTY AND TO OTHERS AND THEIR PROPERTY ARISING OUT OF USE OR MISUSE, OR INABILITY TO USE, THE ABOVE LISTED PRODUCT(S) NOT CAUSED DIRECTLY BY THE NEGLIGENCE OF MEDICAPTURE (SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY MAY LAST, OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU).

This warranty gives you specific legal rights. You may also have other rights which vary from state to state. In the event any of the provisions of this warranty are found to be unenforceable, all remaining provisions shall retain full force.

Owner Responsibilities

- Read the User Guide completely.
- Warranty registration is not necessary. However, should warranty service be required, you must be able to provide proof of the purchase date and the identity of the seller who made the sale (either MediCapture or an authorized reseller). Please save your sales receipt and invoice.
- Make sure that the proof of purchase that you save contains the serial number and that it matches the number on the unit that you purchased.
- Depending on where you purchased your unit, promptly notify either MediCapture or the authorized reseller of any malfunction upon discovery.
- In the event service is required, return the product to an authorized MediCapture service center. All shipments must be PREPAID. No COLLECT shipments will be accepted. Products repaired under warranty by MediCapture, or an authorized service center, will be returned to the sender PREPAID.
- Products returned for service (in or out of warranty) MUST have a Return Authorization Number issued by MediCapture or an authorized service center.

Exclusions

IMPORTANT: The following conditions can cause this warranty to be unenforceable.

- Purchase of the product listed above from resellers NOT authorized by MediCapture to sell the product.
- Alteration or removal of the trademark, name, or identification number or serial number of the products.
- Use of parts or supplies (other than those sold by MediCapture) that cause damage to the products.
- Product failures that are the result of: neglect, abuse, misuse, modification, or accidental damage

© 2011 MediCapture, Inc.