MEDI CAPTURE

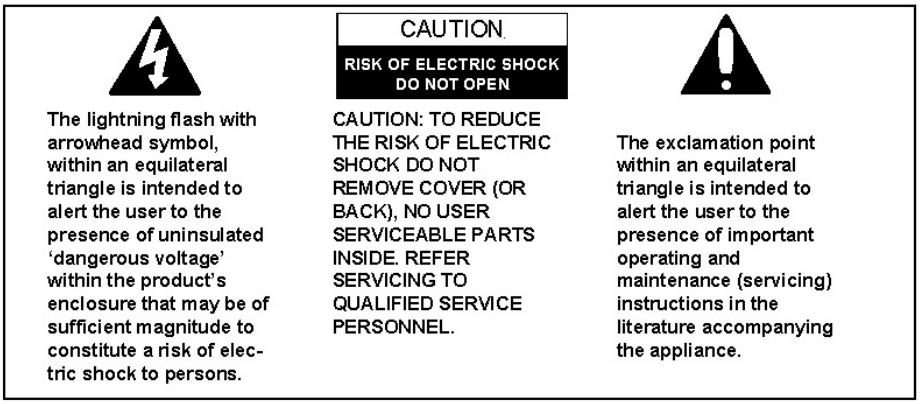
MediCap™ USB100

Medical Image
Capture Device

User Guide

M1001A 060304

Precautions for Use



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.

FCC NOTE:

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

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. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his 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 numerique de type A ne dépasse pas les limites éconcées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

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 damp 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. 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.
15. 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.

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Introduction

The MediCap™ USB100 allows you to easily capture digital medical images from virtually any analog medical imaging device that has standard BNC or S-Video output.

To get started, connect the USB100 as shown on page 8 and insert a MediCapture brand USB flash drive into the front panel. Then use your medical imaging device as you normally do. When you see an image on your monitor that you would like to capture, press the Capture Images button to save the image. You can continue pressing the Capture Images button to save more images.

When you are done with your imaging session, press the Save to USB Memory button to save all the images onto the USB flash drive. Then you can remove the flash drive and insert it in a Windows computer that has a USB connection. The MediCapture Image Transfer wizard will help you transfer the images onto your computer. You can then take full advantage of the power of digital imaging; you can view your images, archive them, share them on a network, email them, and so on.

To get started quickly with your USB100, review the front panel, back panel, and connections diagrams on the following pages and then refer to the "Quick Start Guide" on page 8.

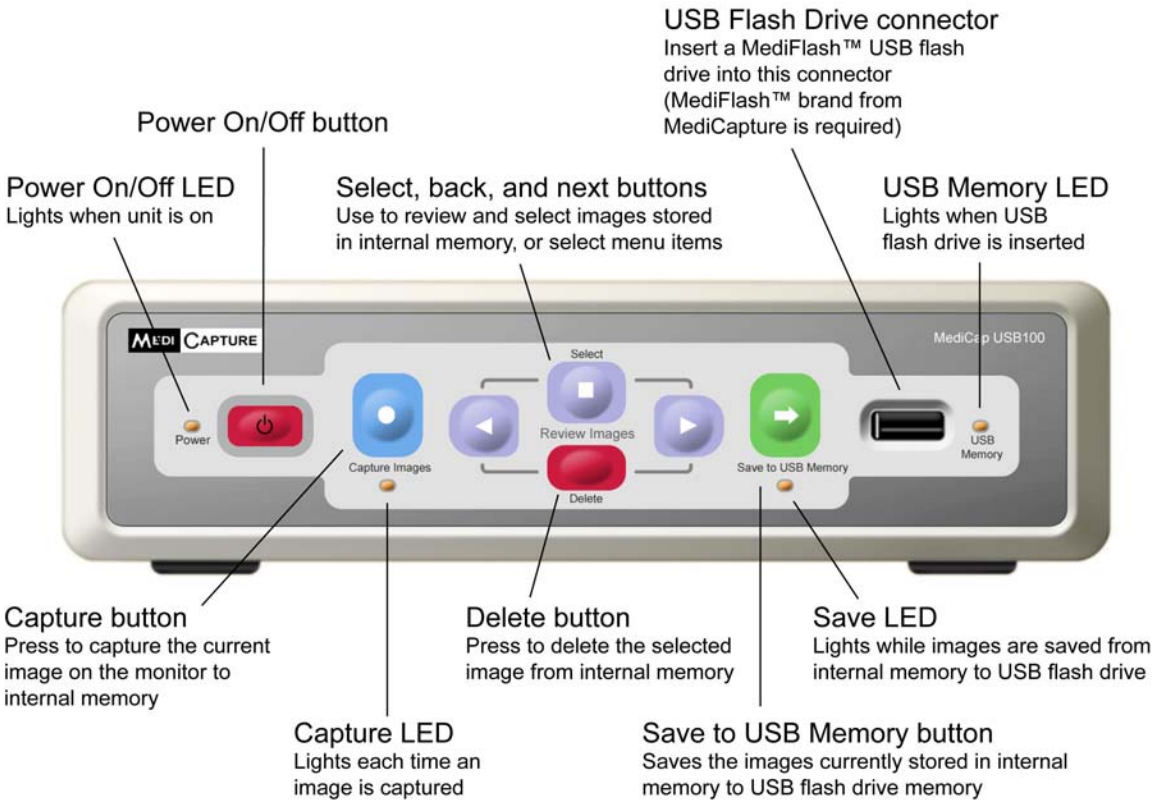
Ordering Information

The MediCap™ USB100 requires MediCapture™ brand USB flash drives available from MediCapture dealers (flash drives from other manufacturers are not compatible with the USB100). To locate a MediCapture dealer, please call 1-888-9CAPTURE (1-888-922-7887).

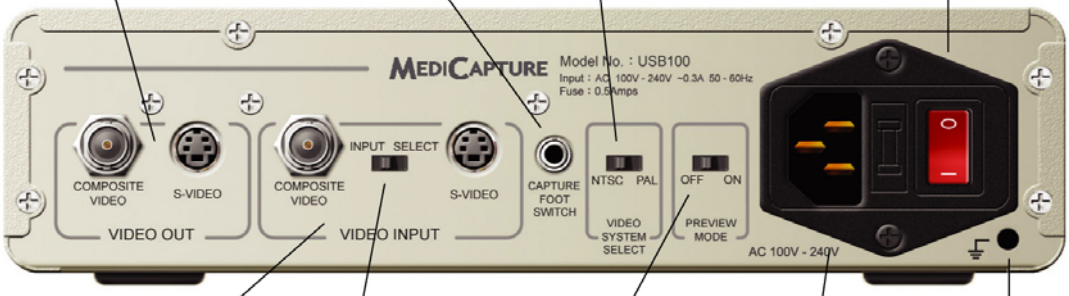
Technical Support

For technical support and other questions, please call 1-888-9CAPTURE (1-888-922-7887).

Front Panel


USB Flash Drive connector
Insert a MediFlash™ USB flash drive into this connector (MediFlash™ brand from MediCapture is required)
Power On/Off button
Power On/Off LED
Lights when unit is on
Select, back, and next buttons
Use to review and select images stored in internal memory, or select menu items
USB Memory LED
Lights when USB flash drive is inserted
MEDI CAPTURE
MediCap USB100
Select
Power
Review Images
Capture Images
Save to USB Memory
USB Memory
Delete
Capture button
Press to capture the current image on the monitor to internal memory
Delete button
Press to delete the selected image from internal memory
Save LED
Lights while images are saved from internal memory to USB flash drive
Capture LED
Lights each time an image is captured
Save to USB Memory button
Saves the images currently stored in internal memory to USB flash drive memory

Back Panel



Foot Switch connector (optional)
Foot switch performs the same function as the Capture Images button on the front panel. Standard 3.5mm mini-jack.

Video System Select switch
Set to PAL or NTSC, depending on the type of video source. NTSC is common in the U.S., Canada and Japan. PAL is common in Europe and China.

Video Out connectors
Composite Video (BNC) or S-Video. Connect one of these to the Monitor.

Master Power Switch
Use this switch when resetting, or moving the unit. For day-to-day use, the Power button on the front panel is recommended instead.

Video Input connectors
Composite Video (BNC) or S-Video. Connect one of these to the video source (e.g., ultrasound, endoscopic camera, etc.)

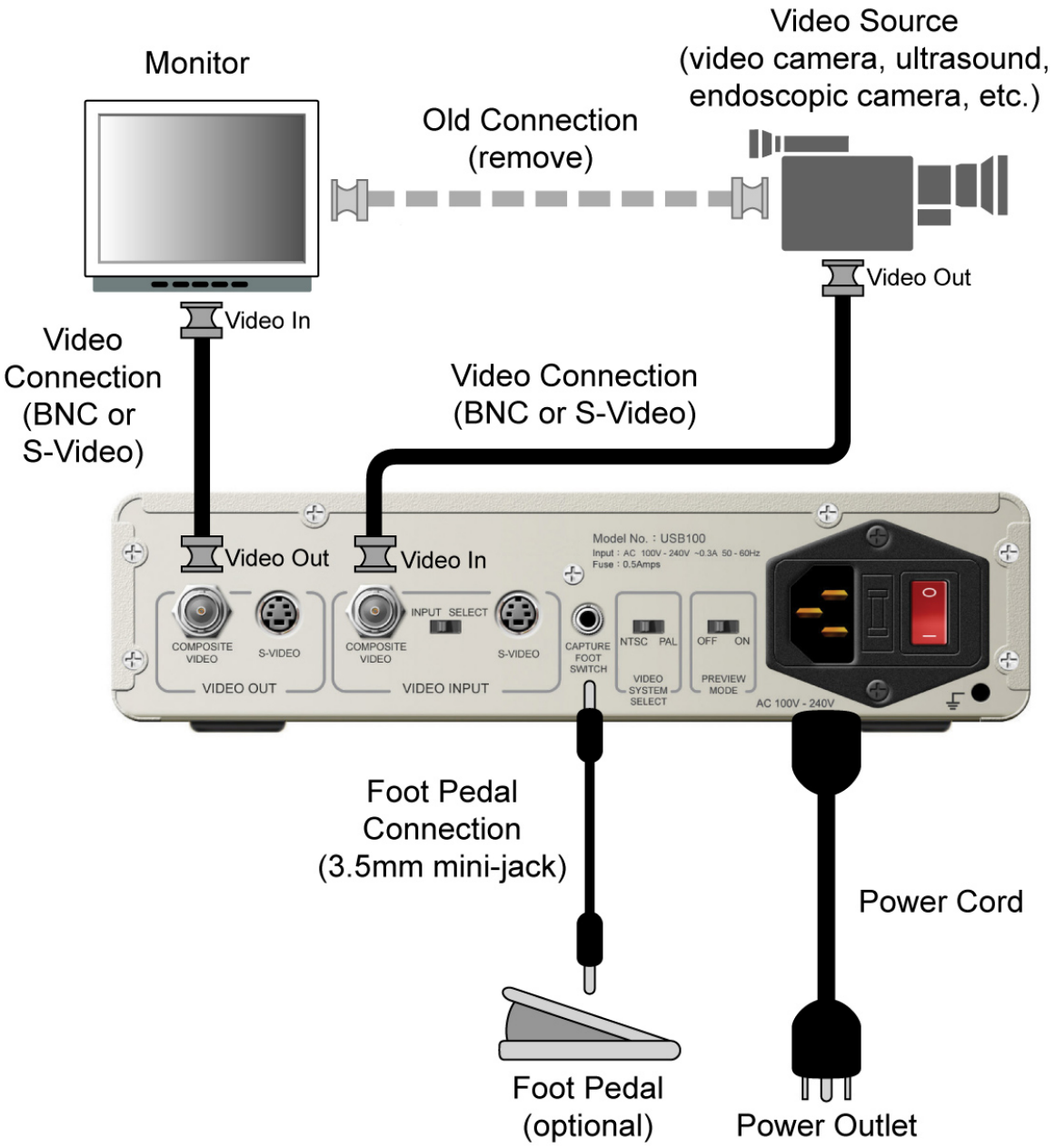
Preview Mode switch
Set to On for Preview Mode (image on monitor will "freeze" for several seconds each time you capture an image).

Ground connector
Use for grounding the unit (if needed)

Input Select switch
Set to Composite Video or S-Video, depending on which connection you have used.

Power connector
Use the supplied power cable to connect to a 110V or 220V outlet. The correct voltage is set automatically.

Connections



Quick Start Guide

1. Connect the USB100 as shown on page 8 and turn it on.

   Make sure the "Input Select" and "PAL/NTSC" switches on the back panel are properly positioned.

2. Insert the supplied MediCap USB flash drive in the front panel. (This is a small "stick" with a silver connector on one end.)

   You must use a MediCapture brand flash drive. Drives from other manufacturers will not work with the USB100.

3. Use your imaging equipment as you normally do, except now you can capture still images onto the USB flash drive.

4. When you see an image on the monitor that you would like to capture, press the *Capture Images* button.

   Follow the on-screen instructions. They will guide you while using the USB100.

5. You can review the images you have captured by using the *Back* and *Next* buttons (**<** **>**) on the front panel.

6. ***IMPORTANT:*** When you finish your imaging session, press the *Save to USB Memory* button. This copies the images from internal memory in the box to the memory in the flash drive. *You **must** follow this step to save your images.*

   After you press the "Save to USB Memory" button, it may take a minute or up to several minutes for the images to be saved. Do not remove the flash drive until you see the on-screen message: "All images saved to USB."

7. Remove the flash drive from the USB100.

8. Insert the flash drive in the USB connector of a Windows computer or laptop. Use the supplied USB extension cable if needed.

   Windows 98, ME, NT, 2000, or XP required

9. Start the MediCapture Image Transfer wizard (if it does not start automatically). To do so, double-click on My Computer. Then double-click on the USB flash drive letter, for example, MediCap - USB (D:). Then double-click on mcwiz.exe. The wizard will help you transfer images from the flash drive to your computer.

That's it! You've captured your first batch of digital images with your USB100!

Connecting the MediCap USB100

To connect the MediCap USB100, see the diagram on page 8.

The MediCap USB100 is very 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 USB100 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 USB100. Then connect another cable between the “Video Out” on the USB100 and the “Video Input” on the monitor.

3. Plug in the power cord.

4. As an option, you can also connect a foot pedal to the “Capture Foot Switch” connector on the back panel of the USB100. The foot pedal performs the same function as the Capture Image button on the front panel.

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.

Inserting a USB Flash Drive

Before you begin using your USB100, insert the supplied MediCapture brand USB flash drive in the USB connector on the front panel.

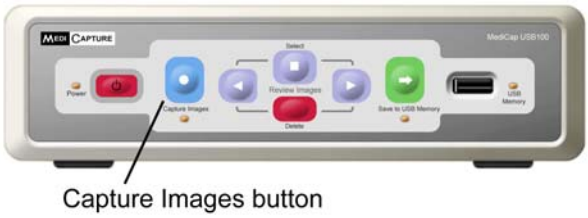
You must use a MediCapture brand flash drive. Drives from other manufacturers will not work with the USB100.

NOTE: MediCapture brand flash drives come in a variety of models. The flash drive supplied with your USB100 may not look the same as the one in the above illustration, but it will function in the same way.

Capturing Images

Capturing images with your USB100 is simple. When you see an image on your monitor that you would like to capture, simply press the *Capture Images* button on the front panel. The image will be saved to the internal memory inside the USB100 box (later, you will copy your images from this internal memory to the USB flash drive).

IMPORTANT: Images are captured to "internal memory" inside the USB100. After you finish your imaging session, you must press the "Save to USB Memory" button to copy the images from internal memory to the USB flash drive.



Each time you press the *Capture Images* button, one still image is captured.

If "Preview Mode" is on, the screen image will freeze for about three seconds each time you capture an image. The "Preview Mode" on/off switch is on the back panel.

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.
- You will hear a "beep."

Two Types of Memory

It's important to note that there are two types of memory used with the USB100: Internal memory and USB flash drive memory.

Internal memory is cleared when the machine is turned off or when you select "Clear internal memory" in one of the on-screen menus.

Internal memory is inside the USB100 box -- it is used to *temporarily* store images as you capture them.

USB flash drive memory is inside the plastic "stick" that you insert in the front panel.

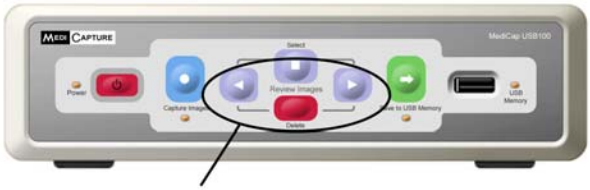
Once you have saved images to your USB flash drive, they will be stored on the drive until you move them off onto your computer.

You ***must*** press the *Save to USB Memory* button when you have finished your imaging session. This copies your images from internal memory to the memory in your USB flash drive.

Reviewing Images

At any time during an imaging session, you can review the images you have already captured to internal memory. Simply press the *Back* and *Next* buttons on the front panel. This will step you through the images in internal memory.

To stop reviewing images and resume capturing images, simply press the "Capture Images" button.



Back, Next, and Delete buttons
Use for reviewing and deleting images

After you review all of the images, a menu will be displayed allowing you to do any of the following: continue reviewing the images, capture more images, or copy the images from internal memory to the USB flash drive (for more details, see the section titled "Saving Images to the USB Flash Drive" on page 13).

The image review feature only displays images that are stored in internal memory. It does not display images that are on the USB flash drive. To display images that are on the flash drive, remove it from the USB100 and insert it in a computer.

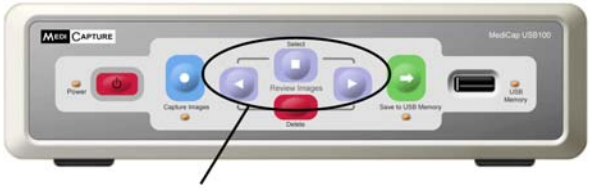
Deleting Images

While you are reviewing images (as described in the previous section), you can delete images from internal memory. To do so, press the Delete button on the front panel. This will delete the image currently displayed on the monitor.

Using the On-Screen Menus

The MediCap USB100 displays helpful messages and menus on the monitor screen.

When a menu is displayed, you can scroll through the menu choices by using the *Back* and *Next* buttons on the front panel. To select a menu choice, press the *Select* button.



Back, Next, and Select buttons
Use for navigating through menus

Saving Images to the USB Flash Drive

Each time you press the Capture Images button, a still image is saved to internal memory located inside the USB100 box. When you finish your imaging session, you ***must*** press the *Save to USB Memory* button to copy the images from the internal memory to the USB flash drive memory. Then you can safely remove the flash drive to transport your images to your computer.

While the images are being copied to the flash drive, the on-screen message “Saving Images to USB” will be displayed. Also the LED light under the *Save to USB Memory* button will flash on and off. The copy process may take up to several minutes depending on how many images are being copied

When all the images have been copied to the flash drive, the message, “All Images Saved to USB” will be displayed.

Clearing Internal Memory

From time to time, you will need to clear the internal memory to make room for more images (for a description of internal memory, see page 11). Usually, you will do this after you save images from internal memory to the flash drive (that is, after you press the *Save to USB Memory* button).

After saving images to the flash drive, a menu will be displayed that allows you to clear the internal memory. Since all of your images are now on the flash drive, you usually do not need to keep them in internal memory any longer so you will select “Clear Internal Memory” in the menu. An exception is if you want to load the same images onto a second flash drive (see the next section).

Clearing internal memory frees up the entire internal memory. You can also free up some of the internal memory by deleting individual images as described on page 12.

Saving the Same Images onto Multiple Flash Drives

After saving images from the internal memory to a flash drive, you can remove the flash drive, insert another flash drive and save the same batch of images to that drive. In this way, you can save the same images to as many drives as you want.

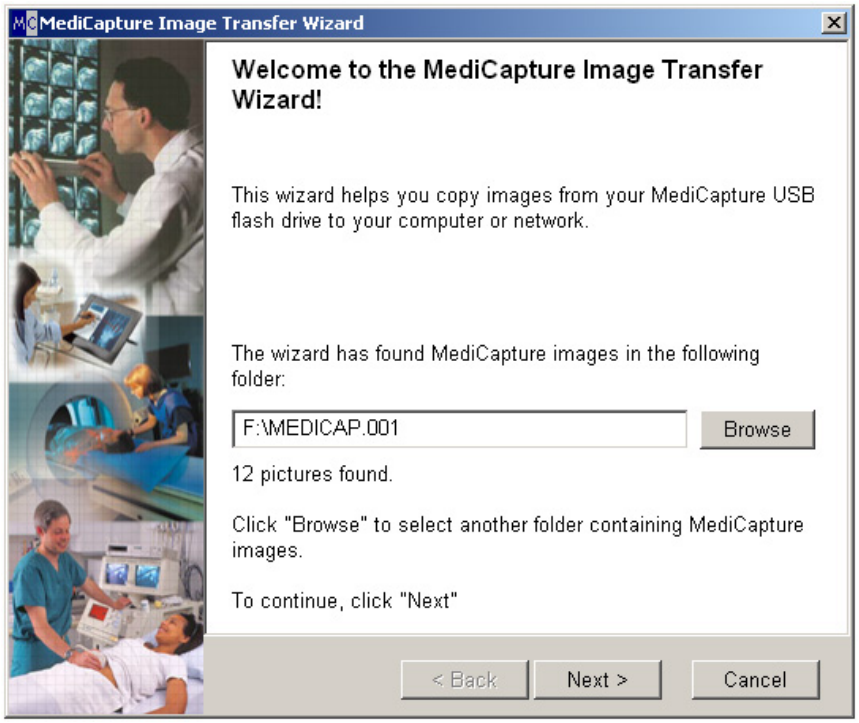
For example, suppose you have just finished an imaging session with a patient and you want to keep a flash drive containing the images, but you also want to give the patient a flash drive with the images. To do so, press the *Save to USB Memory* button. After the images are saved from internal memory to the flash drive, a menu will be displayed allowing you to “Clear internal memory” or “Save to another USB.” Remove the current USB flash drive from the front panel, insert another one, and select “Save to another USB.” You can repeat this procedure to save to additional flash drives.

Once you have saved the images to as many flash drives as you want, you can select “Clear internal memory” because you will no longer need to keep the images in internal memory (and you will be freeing up needed memory space for more images).

Transferring Images from the USB Flash Drive to Your Computer

After you finish your imaging session and save the images to the USB flash drive, remove it from the front panel.

Then insert the flash drive in the USB connector of a Windows computer. The MediCapture Image Transfer wizard will start automatically on most systems. (If the wizard does not start automatically, then double-click on My Computer, and double-click on the USB flash drive letter, for example, MediCap - USB (D:). Then double-click on the wizard program, for example, mcwiz.exe.)



System Requirements:

- *Windows 98, ME, NT 2000, or XP*
- *USB support*
- *At least 32MB RAM, 600MHz processor, 1GB free space on hard drive*
- *If using Windows 98, you may need to download USB drivers from www.medicapture.com*

If the USB connection on your computer is in the back, you can plug in the supplied USB cable so that you do not need to reach behind the computer each time you want to connect the flash drive. If the USB connector on your computer is easily accessible, you do not need the USB cable.

It’s a good idea to regularly use the Image Transfer Wizard to move images off your flash drive onto your computer. This will free up memory space on the flash drive so you can capture more images.

The Image Transfer Wizard will help you transfer the files off of the flash drive on to your computer or network. Simply follow the on-screen instructions.

Other Features

Using a Foot Switch

A standard connector for a foot switch is located on the back panel. Using a foot switch will allow you to capture images “hands free.” The foot switch serves the same function as the “Capture Images” button on the front panel.

Note that the foot switch 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 foot switch connection and use them to trigger an image capture. For example, a “closed contact” timer could be used to capture images at regular intervals.

Preview Mode

If Preview Mode is on, then each time you capture an image it will be “frozen” on the screen for a few seconds. This allows you to confirm that you have captured the image you wanted.

The Preview Mode on/off switch is located on the back panel.

You don’t need to wait until a freeze frame is finished to capture a new image. In other words, even when Preview Mode is on, you can capture a series of images in rapid succession.

Appendix A: System Messages

ALERT! Internal Memory is FULL

Description: Images are captured to internal memory, but when you see this message, you cannot capture any more images because the internal memory is full.

Action: Select the "Save images to USB" menu choice at the bottom of the screen (to do so, use the *Back, Next,* and *Select* buttons on the front panel). This will copy the images to the USB flash drive. Then you can clear the internal memory to make more room for capturing images. See the "Clearing Internal Memory" section on page 13.

ALERT! USB memory NOT sufficient

Delete some images
or insert new USB memory

Description: This message will be displayed after you press the *Save to USB Memory* button, and the system has determined that there is not enough memory available in the USB flash drive to hold the images that it is trying to copy from internal memory to the flash drive.

Action: Remove the USB flash drive from the front panel and insert it in a Windows computer (98, ME, NT, 2000 or XP required). Follow the procedures described on page 14 to transfer any images on the flash drive to your computer and then clear the memory on the flash drive. Then you can re-insert the flash drive in the front panel of the USB100 and press the *Save to USB Memory* button again.

If the flash drive still does not have sufficient memory, you will need to delete some images from internal memory by using the Review Images and Delete buttons on the MediCap USB100 front panel.

ERROR! Images NOT saved to USB

Insert USB memory and press SAVE TO USB MEMORY button

Description: This message will be displayed if you remove the USB flash drive before the images in internal memory have been saved.

Action: Insert a MediCapture USB flash drive and press the *Save to USB Memory* button again. If the USB flash drive does not have sufficient memory, you will need to follow the "Action" procedures in the previous system message (*ALERT! USB memory NOT sufficient*).

WRONG USB DEVICE

Description: This message will be displayed if you insert a non-MediCapture brand USB flash drive in the front panel. Only MediCapture brand flash drives can be used.

Action: Contact your MediCapture dealer for information on how to obtain the proper flash drives.

ALERT! Cannot read USB flash drive

Description: This message will be displayed if you insert a USB flash drive in the front panel and the system is unable to connect with it. The flash drive may be defective or broken.

Action: Contact your MediCapture dealer for information on how to obtain a new flash drive.

Appendix B: Specifications

Model	MediCap USB100. Digital medical image capture device. Saves digital images from analog video sources to USB flash drive.
Case	Rugged metal case with high-impact plastic faceplate
Buttons	Sealed membrane, fluid resistant
Video	PAL/NTSC (switch selectable) S-video or composite BNC connections for both input and output
Foot Switch	Hands-free capture Standard 3.5mm mini jack
Mechanical	Size: 240 x 200 x 63mm / 9.5 x 7.9 x 2.5” Weight: 680g / 24oz (appx.)
Environmental	Storage: -40° to +85° C Operating: -20° to +40° C
Power	110/220V 3-prong AC jack
Media	MediCapture brand USB flash drives (required)
Image Formats	DICOM, DICOM True Color, JPEG, BMP, PCX color, PCX grayscale
Image Size	800 x 600 pixels
Certifications	UL, FCC
Kit Contents	MediCap USB100 USB flash drive Power cable User guide

Appendix C: MediCapture Limited Warranty

MediCapture Inc. (“MediCapture”) warranties 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™ USB100 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 APPLICAPLE 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/or 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.