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Warranty and Service Information

Proprietary Notice

Information contained in this document is copyrighted by Smiths Medical PM, Inc. and may not be duplicated in full or part by any person without prior written approval of Smiths Medical PM, Inc. Its purpose is to provide the user with adequately detailed documentation to efficiently install, operate, maintain and order spare parts for the device supplied. All information contained in this document is believed to be current and accurate as of the date of publication or revision, but does not constitute a warranty.

Warranty

Limited Warranty

Smiths Medical PM, Inc. ("Seller") warrants to the original purchaser that the Product, not including Flash Card and Card Reader accessories, shall be free from defects in material and workmanship under normal use, if used in accordance with its labeling, for one year from the date of shipment to the original purchaser.

The foregoing shall be the sole warranty remedy. Except as set forth herein, Seller makes no warranties, either expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. No warranty is provided if the products are modified without the express written consent of Smiths Medical PM, Inc., and Seller shall not be liable in any event for incidental or consequential damage. This warranty is not assignable.

Warranties are subject to change. Please contact Smiths Medical PM, Inc. for current warranty information.

Disclaimer of Warranties

THE FOREGOING EXPRESS WARRANTY, AS CONDITIONED AND LIMITED, IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Seller disclaims responsibility for the suitability of the Product for any particular medical treatment or for any medical complications resulting from the use of the Product. This disclaimer is dictated by the many elements which are beyond Seller’s control, such as diagnosis or patient, conditions under which the Product may be used, handling of the Product after it leaves Seller’s possession, execution of recommended instructions for use and others.

Conditions of Warranty

This warranty is void if the Product has been altered, misused, damaged by neglect or accident, not properly maintained or repaired by persons not authorized by Seller. Misuse includes, but is not limited to, use not in compliance with the labeling. This warranty does not cover normal wear and tear and maintenance items.

Limitation of Remedies

The original purchaser’s exclusive remedy shall be, at Seller’s sole option, the repair or replacement of the Product. THIS IS THE EXCLUSIVE REMEDY. In no event will Seller’s liability arising out of any cause whatsoever (whether such cause is based in contract, negligence, strict liability, tort or otherwise) exceed the price of the Product, and in no event shall Seller be responsible for consequential, incidental, or special damages of any kind or nature whatsoever, including but not limited to, lost business, revenues and profits.
Warranty Procedure

To obtain warranty service or repair of SurgiVet® equipment, please contact Veterinary Clinical Support to obtain a Return Authorization Number. Please provide the serial number of all equipment that will be returned. **Any equipment returned for evaluation must be cleaned and decontaminated prior to being handled by our service technicians.** For cleaning instructions, please refer to the appropriate section in the operation manual. If equipment is returned prior to cleaning, and in our opinion it represents a potential biological hazard, the equipment will be returned to the sender as is.

Reference the return authorization number when returning your Product, freight and insurance prepaid by Purchaser, to:

Smiths Medical PM, Inc.  
Attn: Repairs / return #  
N7W2202S Johnson Drive  
Waukesha, WI 53186

Veterinary Clinical Support  
Telephone: 1-262-513-8500  
Toll-Free: 1-888-745-6562 (USA only)  
Fax: 1-262-513-9069  
Web: www.surgivet.com

Seller will not be responsible for unauthorized returns or for loss or damage to the Product during the return shipment. The repaired or replaced Product will be shipped, freight prepaid by Seller, to Purchaser.

**NOTE! Shipments received without a return number will be returned to sender.**

Keep all original packing material, including any inserts. If you need to ship the device, use only the original packaging material, including inserts. Box and inserts should be in original condition. If original shipping material in good condition is not available, it should be purchased from Smiths Medical PM, Inc.

Damages occurred in transit in other than original shipping containers are the responsibility of the shipper. All costs incurred returning devices for repair are the responsibility of the shipper.
Chapter 1: Introduction

About this Manual

This Operation Manual provides installation, operation, and maintenance instructions for the Veterinary Data Logger. This manual is meant for veterinary health-care professionals and other users of the Advisor® Veterinary Vital Signs Monitor with Data Logger attached. Please consult the Advisor® operation manual for instructions specific to the Advisor® Veterinary Vital Signs Monitor.

It is strongly advised that the operator perform a trial run of all the steps outlined in this manual before using the Veterinary Data Logger on a patient.

Definition of Symbols

<table>
<thead>
<tr>
<th>ICONS SHOWN ON THE ADVISOR® DISPLAY</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRN</td>
<td>Recording Trends</td>
</tr>
<tr>
<td>ECG</td>
<td>Recording Primary ECG Waveform</td>
</tr>
<tr>
<td>IMG</td>
<td>Recording Screen Image Snapshot</td>
</tr>
<tr>
<td>ERR</td>
<td>Indicates problem with the Data Logger</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>Advisor® On/Off</td>
</tr>
<tr>
<td></td>
<td>Advisor® Print Key</td>
</tr>
<tr>
<td>!</td>
<td>Attention, see instructions for use.</td>
</tr>
<tr>
<td></td>
<td>Refer servicing to qualified service personnel</td>
</tr>
<tr>
<td></td>
<td>Date of Manufacture</td>
</tr>
<tr>
<td>IPX1</td>
<td>Drip Proof</td>
</tr>
<tr>
<td>^</td>
<td>Electrostatic Sensitive Device</td>
</tr>
</tbody>
</table>

**Disposal (EU Countries)**

Under the Waste Electrical and Electronic Equipment (WEEE) Directive 2006/96/EC and implementing regulations, all devices and service items within the scope of the Directive purchased new after August 13, 2005 must be sent for recycling when ultimately becoming waste. Devices and items must not be disposed of with general waste.

If purchased before that date, they may also be sent for recycling if being replaced on a one-for-one, like-for-like basis (this varies depending on the country). Recycling instructions to customers using Smiths Medical products are published on the internet at:

http://www.smiths-medical.com/recycle

**Disposal (other countries)**

When disposing of this device, its batteries or any of its accessories, ensure that any negative impact on the environment is minimized. Contact your local waste disposal service and use local recycling or disposal schemes. Separate any other parts of the equipment where arrangements can be made for their recovery, either by recycling or energy recovery. The main batteries are potentially harmful and will require separate disposal according to manufacturer’s instructions or local regulations.

**Note:** If applicable, EU, national or local regulations concerning waste disposal must take precedence over the above advice.
**Chapter 1: Introduction**

<table>
<thead>
<tr>
<th>KEYWORD</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WARNING</strong></td>
<td>Tells you about something that could hurt the patient or hurt the operator.</td>
</tr>
<tr>
<td><strong>CAUTION</strong></td>
<td>Tells you something that could damage the monitor.</td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Tells you other important information.</td>
</tr>
</tbody>
</table>

**Warnings**

**WARNING!** Veterinary Data Logger is only compatible with the SurgiVet® Advisor®. The Data Logger has not been designed or tested for any other use. Connection of the Data Logger to any other place other than the SurgiVet® Advisor® may cause unknown hazards up to and including death.

**WARNING!** This device is NOT for use in the home.

**WARNING!** This device is intended for use by persons trained in professional health care. The operator must be thoroughly familiar with the information in this manual before using the monitor.

**WARNING!** Any monitor that has been dropped or damaged should be checked by a qualified service personnel to insure proper operation prior to use.

**WARNING!** ELECTRICAL SHOCK HAZARD when cover is removed. Do not remove covers. Do not disassemble unit. Unit is not user serviceable. Refer servicing to qualified personnel.

**WARNING!** Do not autoclave, ethylene oxide sterilize, or immerse in liquid. Unplug before cleaning or disinfecting.

**WARNING!** The monitor should not be used in the presence of electrosurgical equipment. The device has no protective mechanisms to prevent burns when used with high frequency surgical equipment.

**WARNING!** Operation of this device may be adversely affected in the presence of conducted transients or strong electromagnetic (EM) or radiofrequency (RF) sources, such as electrosurgery and electrocautery equipment, x-rays, and high intensity infrared radiation.

**WARNING!** Do not use this device in the presence of magnetic resonance imaging (MR or MRI) equipment.

**WARNING!** Operation of this device may be adversely affected in the presence of computed tomograph (CT) equipment.

**WARNING!** Do not use this device in the presence of flammable anesthetics.

**WARNING!** In the event that earth ground integrity is lost, the performance of this device and/or other devices nearby may be affected due to excessive RF emissions.

**WARNING!** Do not remove the Flash Card while recording! Recording is in process when the blue light is on. Removing the card during recording can damage the card or cause corrupt files.

**WARNING!** Do not turn the monitor off or enter suspend mode before stopping the recording, as this can cause corrupt files. The monitor will try to close the files if the monitor is turned off or suspend mode is activated while recording.
Cautions

CAUTION! The Flash Card is an Electrostatic Sensitive Device. Before touching the Flash Card, ground yourself by touching a convenient electrically grounded metal surface. This discharges static electricity and helps prevent any potential damage to the ESD sensitive Flash Card and socket.

CAUTION! Please be sure that the Advisor® is powered off when connecting the Veterinary Data Logger to the Advisor®.

CAUTION! Tighten the Data Logger mounting screws until snug. Be careful not to over-tighten the screws as this can damage the Data Logger and/or Advisor®.

CAUTION! Chemicals used in some cleaning agents may cause brittleness of plastic parts. Follow cleaning instructions in this manual.

CAUTION! Follow local governing ordinances and recycling instructions regarding disposal and recycling of device components.

Notes

NOTE: Copy the Data Logger template to your desktop (or the desired location on your PC) before beginning.

NOTE: Only Microsoft® Excel® 2002, 2003 and 2007 are supported.

NOTE: The Data Logger uses SD-type Flash Cards. The recommended size is 512 MB or 1 GB. Flash Card sizes larger than 2 GB cannot be properly formatted and will not record data.

NOTE: The Data Logger only uses Flash Cards formatted to the FAT format. An improperly formatted Flash Card will not record data.

NOTE: SD flash cards come pre-formatted, so formatting is not always necessary before use. For instructions on formatting a Flash Card, see Formatting a Flash Card section in Chapter 5.

NOTE: Only format the Flash Card if it has been corrupted. For instructions on formatting a Flash Card, see Formatting a Flash Card section in Chapter 5.

NOTE: The ECG TRACE capture mode selection does not affect the normal PRINT key operation.

NOTE! To avoid a paper print-out when the print key is pressed select the appropriate option in the TREND/ CAPTURE MODE menu. (See Capture Mode section in Chapter 3.)

NOTE: Do not press the PRINT key again while recording an image. This will result in a corrupt bitmap file.

NOTE: All user and patient accessible materials are non-toxic.
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Chapter 2: Intended Use and Device Features

Intended Use

The Smiths Medical PM, Inc. Veterinary Data Logger (hereafter called Data Logger) is designed to capture real-time trend data from the SurgiVet® Advisor® multi-parameter vital signs monitor to an SD-type Flash (memory) Card. It also offers the options to capture primary lead ECG waveforms and/or Advisor® Screen Captures. The SurgiVet® Advisor® controls all the functions of the Data Logger.

Data Logger Features

Data Logger can perform the following functions:

- Record trend data at regular intervals.
- Capture (record) a 30 second primary ECG waveform image. This records the primary (topmost) ECG only.
- Capture a screen image, that is, a bitmap snapshot of the entire Advisor® screen.
- The Data Logger and Flash Card offer an improvement over current methods of transferring patient data from vital signs monitors to a personal computer.
- The Data Logger accumulates trend data from the SurgiVet® Advisor® Vital Signs Monitor onto a removable Flash Card. The data then can be uploaded by the clinician to a personal computer.
- The Flash Card helps improve clinical efficiency by making the transfer of trend data and screen snapshots portable, eliminating reliance on a cable. This is especially important in an environment where cable proliferation is a problem.
- The Data Logger eliminates the need to purchase a separate computer for the procedure area. It also eliminates the inconvenience of wheeling a vital signs monitor from procedure area to personal computer.

System Requirements

- Smiths Medical PM, Inc. Veterinary Data Logger module connected to the serial port on a SurgiVet® Advisor®.
- Advisor® software version VAVRD 1.11 or higher.
- SD (Secure Digital) type flash card; recommended size: 512 MB or 1 Gigabyte.
- Flash Card Reader with SD Flash Card capability.
- Computer with CD-ROM drive to access the Data Logger installation disc and Excel® templates and a USB port to interface with Flash Card Reader.
- PC running Microsoft® Excel® 2002, 2003 or 2007. (See Excel® installation notes from Microsoft® for PC system requirements.)

NOTE: Smiths Medical PM, Inc.'s Data Logger system has been tested using Windows XP with Excel® 2002, 2003 and 2007.
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Chapter 3: Operating Instructions

Getting Started

CAUTION! Please be sure that the Advisor® is powered off when connecting the Data Logger to the Advisor®.

With the Advisor® powered off, connect the Data Logger to the serial port on the back of the Advisor®. Fasten the Data Logger with the screws provided. To prevent stripping the screws or damage to the Advisor®, do not use a power screwdriver.

Press the % key on the Advisor® to turn the monitor on. Under setup, select the service menu.

Note: Turn the rotary knob to navigate the cursor and push to select highlighted options for all menu options.

To enter the service menu:
1. Go to the Main menu at the bottom of the monitor screen.
2. Select SETUP to display the Setup menu.
3. Select SERVICE MENU. The password menu will be displayed (Fig. 2).
4. Enter the factory-installed password ADVISOR (all capital letters).

NOTE! The password may have been changed by authorized personnel. Refer to Chapter 17 Changing the Service Menu Password in the Advisor® operation manual (cat # V1886R) for information.
Chapter 3: Operating Instructions

5. Select ENTER to enter and exit the password menu. If the password is correct, the Service Menu will be displayed.


7. Scroll to the SERIAL OUTPUT MODE menu item, then select FLASH CARD DATA LOGGER to enable Data Logger functions.

Data Logger Functions and Indicators

Data Logger can perform the following functions:

- Record trend data at regular intervals.
- Capture (record) a 30 second primary ECG waveform image. This records the primary (topmost) ECG only.
- Capture a screen image, that is, a bitmap snapshot of the entire Advisor® screen.

A green icon appears at the top of the Advisor® screen next to the patient type during a Data Logger recording session. Different icons indicate different types of recording. (See icons and explanations below.)

- TRN - TRN indicates that Trend Data Logger mode is activated. This means that trend data for each parameter will be recorded at pre-selected intervals. The green RECORD dot TRN is present when trend data files are being recorded to the Flash Card.

- ECG- A primary lead ECG waveform is being recorded (ECG Capture) when the green record dot is present or flickering ECG. The capture starts when the PRINT key is pressed, and stops by itself in approximately 30 seconds.

- IMG - A bitmap screen image is being recorded (image capture) when the green record dot is present or flickering IMG. The capture starts when the PRINT key is pressed, and stops by itself in approximately 1 minute.

When a Data Logger error occurs, a yellow icon ERR appears at the top of the Advisor® screen next to the patient type. See Error Messages and Clearing the Error Indicator sections at the end of this chapter for more information on the error indicator.

Recording Real-Time Trends

To begin recording Real-Time Trends:

1. If a Flash Card is not present, insert a Flash Card (formatted to the FAT type file system) into the VDL.

NOTE: Flash Cards come preformatted, so formatting is not always necessary before use. See Formatting a Flash Card in Troubleshooting if there are card formatting error messages.

2. In the Advisor® menu options, select the trend record interval by selecting TRENDS | TABULAR VITAL SIGNS | INTERVAL: and choosing the desired interval. Default is 30 seconds.

3. Optionally, to set a Procedure number, select TRENDS | PROCEDURE and choose a number from 1 to 99.

NOTE: This number will be automatically incremented each time a procedure is stopped. The recorded data is tagged with this number and a time/date stamp. If a patient name is entered, data folders will be labeled with date, time and name.

NOTE: For instructions on how to enter the patient name, see the Advisor® Operation Manual.
4. Select **TRENDS | START RECORDING** to begin recording trends at the selected interval. A small green icon TRN will appear at the top of the screen.

**NOTE:** The veterinary data logger requires up to 30 seconds for configuration when a procedure is initiated, as indicated by a solid green dot in the TRN block. During this time the print key will not cause waveforms or images to be stored to the device. Once the initial green dot is turned off, the image and waveform storage is enabled.

5. To end the recorded session, select **TRENDS | STOP RECORDING**.

**WARNING!** Do not remove the SD Flash Card while recording! Removing the card during recording can damage the card or cause corrupt files.

**WARNING!** Do not turn the monitor off or enter suspend mode before stopping the recording, as this can cause corrupt files. The monitor will try to close the files if the monitor is turned off or suspend mode is activated while recording.

**Capture Mode**

Capture mode allows the operator to use the PRINT key to capture (record) data snapshots to the Flash Card.

There are 3 capture menu options to record real-time trends:

- **OFF** – Nothing will be recorded to the Flash Card when the PRINT key is pressed during a recorded session.
- **ECG TRACE** – A 30 second primary lead ECG Trace will be captured to the Flash Card when the PRINT key is pressed during a recorded session.
- **SCREEN IMAGE** – A bitmap file will be created on the Flash Card when the PRINT key is pressed during a recorded session.

The following are present only when the optional printer is installed.

- **ECG TRACE WITH PRINTING** – A 30 second primary lead ECG Trace will be captured to the Flash Card and an PRINT ALL printout on the Advisor® printer will occur when the PRINT key is pressed during a recorded session.
- **SCREEN IMAGE WITH PRINTING** – A bitmap file will be created on the Flash Card and an PRINT ALL printout on the Advisor® printer will occur when the PRINT key is pressed during a recorded session.

**NOTE!** To avoid a paper print-out when the print key is pressed select the appropriate option in the TRENDS/CAPTURE MODE menu. (See Capture Mode section in Chapter 3.)

**NOTE:** Flash Cards come preformatted, so formatting is not always necessary before use. See Formatting a Flash Card in Troubleshooting if there is card formatting error messages.

**NOTE:** Only format the SD Flash Card if it has been corrupted. For instructions on formatting an SD Flash Card, see Formatting an SD Flash Card section in Chapter 5 of these instructions.
Capturing an ECG Trace

To capture an ECG trace:

1. Select a capture mode. To select a capture mode, select the TRENDS | CAPTURE MODE option and select ECG TRACE. This selection will capture an ECG trace onto the SD Flash Card when the PRINT key is pressed during recording. TRN will change to ECG.

   NOTE: This selection does not affect the normal PRINT key operation.

   NOTE: Trend information will be written to the card during ECG capture.

   2. To stop recording, press the print key or wait until the 30 second capture is complete. ECG will revert back to TRN.

Capturing an ECG Trace with Printing

With this option enabled, pressing the PRINT key will start a PRINT ALL printout as well as capture an ECG trace to the Flash Card.

To capture an ECG trace:

1. Select a capture mode. To select a capture mode, select the TRENDS | CAPTURE MODE option and select ECG TRACE. This selection will capture an ECG trace onto the SD Flash Card when the PRINT key is pressed during recording. TRN will change to ECG.

   NOTE: This selection does not affect the normal PRINT key operation.

   NOTE: Trend information will be written to the card during ECG capture.

   2. To stop recording, press the print key or wait until the 30 second capture is complete. ECG will revert back to TRN.

Capturing a Screen Image

To capture a screen image:

1. Select a capture mode. To select a capture mode, select the TRENDS | CAPTURE MODE option and select SCREEN IMAGE. This selection will capture a screen image onto the Flash Card when the PRINT key is pressed during recording. TRN will change to IMG and will revert back to TRN after approximately 1 minute.

   NOTE: Pressing the PRINT key again while recording an image will end the Capture and will result in a corrupt bitmap file.

   NOTE: Trend information will be written to the Flash Card during Screen Image capture.

Capturing a Screen Image with Printing

With this option enabled, pressing the PRINT key will start a PRINT ALL printout as well as capture a screen image to the Flash Card.

To capture a screen image:

1. Select a capture mode. To select a capture mode, select the TRENDS | CAPTURE MODE option and select SCREEN IMAGE. This selection will capture a screen image onto the Flash Card when the PRINT key is pressed during recording. TRN will change to IMG and will revert back to TRN after approximately 1 minute.

   NOTE: Pressing the PRINT key again while recording an image will end the Capture and will result in a corrupt bitmap file.

   NOTE: Trend information will be written to the Flash Card during Screen Image capture.
Error messages

If a Data Logger error occurs, a yellow error indicator \texttt{ERR} appears at the top of the Advisor\textsuperscript{®} screen next to the patient type. This error indicator can be cleared as described in Clearing the Error Indicator section below.

An error message will also appear in the lower right corner of the Advisor\textsuperscript{®} display. This error message will be displayed for approximately 10 seconds. See Troubleshooting in Chapter 5 for possible corrective actions.

<table>
<thead>
<tr>
<th>ERROR MESSAGE</th>
<th>POSSIBLE CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA LOGGER ERROR</td>
<td>Recording initiated with no data logger attached to the Advisor\textsuperscript{®} monitor.</td>
</tr>
<tr>
<td></td>
<td>Data Logger not securely connected to the Advisor\textsuperscript{®} monitor.</td>
</tr>
<tr>
<td>DATA LOGGER CARD NOT PRESENT</td>
<td>No card inserted in the device.</td>
</tr>
<tr>
<td></td>
<td>Card not completely inserted or improperly inserted.</td>
</tr>
<tr>
<td>DATA LOGGER CARD LOCKED</td>
<td>Slide switch on the card is in the locked position.</td>
</tr>
<tr>
<td>DATA LOGGER CARD FULL</td>
<td>No available memory remains on the memory card.</td>
</tr>
<tr>
<td>DATA LOGGER CARD FORMAT ERROR</td>
<td>The card has not been formatted or has been formatted to an incompatible format.</td>
</tr>
</tbody>
</table>

Clearing the Error Indicator \texttt{ERR}

1. When a Data Logger error occurs, the \texttt{START RECORDING / STOP RECORDING} menu option will change to \texttt{CLEAR DATA LOGGER ERROR}.

2. Select \texttt{CLEAR DATA LOGGER ERROR} to erase the error indicator \texttt{ERR} from the top of the display. This will then allow recordings to be initiated again.
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Chapter 4: PC Application - Data Logger Excel® Spreadsheet

Introduction

Intended Use

The Data Logger Excel® Template is designed to extract captured real-time trend data and optionally captured primary lead ECG waveform and Advisor® screen image from a Flash Card. The spreadsheet is also designed to graphically represent each available parameter and primary ECG waveform captured and to be able to print the numerical trend data, graphical trend data, and the primary ECG Waveform.

Getting Started

NOTE: Prior to installing the Data Logger template, ensure your operating system is fully updated. Contact your local System Administrator for assistance.

1. Copy the Data Logger template from the CD provided to your desktop (or the desired location on your PC) before beginning.

2. To extract data saved to an SD Flash Card:
   1. Remove the Flash Card from the Data Logger. Gently press the card in to eject the Flash Card.
   2. Insert the Flash Card into the Flash Card reader and attach the card reader to the USB port on your PC.

NOTE: Make sure recording is not in process before removing the card! Recording is in process when the blue LED on the Data Logger is lit and the green [TRN] is shown on the Advisor®.

3. Double click on the Data Logger Excel® Template icon.

NOTE: Any Flash Card reader will work.

4. For Excel® 2003: Depending on your macro settings, a Security Warning message may appear. If it does, macros must be enabled in order for the Excel® Template to work. For Excel® 2007: A warning message will not appear, but macros need to be enabled.

Viewing Procedure Data

Once the correct settings for Microsoft® Excel® are enabled, the data recorded on the Flash Card may now be viewed.

To view the recorded data:

1. Click SELECT DATA FOLDER. (Step 1 on Template)

   a. In the Choose Procedure Folder screen, navigate to the Flash Card Reader option (Removable Disk). Double click on the Advisor® folder. The folders are named based on the year and month of the procedure. Navigate to the correct folder and double click.
b. The data is then placed into folders based on the day. Navigate to the correct folder and double click. Then navigate to the correct procedure folder. The folders are named based on the procedure number, date, time and patient information (if any of these were entered on the Advisor® at the start time of the recording). A procedure number is always assigned automatically. Click the OK button.

![Select Day of Procedure]

![Select a Procedure Folder]

c. A box will appear to enter Patient Data: Name, Patient ID, Species, Date of Birth. Click OK.

NOTE: The Name and Patient ID fields are copied from the Advisor® by default. These fields may be edited as needed.

![Enter Patient Data]
c. The **Select Parameters** box will now appear. All recorded parameters are preselected to be graphed. If there is no data present for a parameter, it will be unselected by default. Deselect any other parameters that are not to be graphed.

d. Similarly, units of measurement, Anesthesia Record Type and Captured Waveforms to be plotted may be chosen.

e. Click OK. The parameters previously selected to be graphed will now be displayed under the corresponding tab at the bottom of the screen.

f. Click the Anesthesia Record tab (Basic or Detailed as previously selected). Enter additional information into the selectable fields. Scroll to the right for more selectable cells.
Printing Procedure Data and Graphs

To print procedure data and/or graphs:

NOTE: Before printing, be sure your printer is set as default. The printer selection must be mapped correctly to your PC. See your System Administrator for assistance.

1. Click WORKBOOK CONTROL tab on the bottom of the screen.

   a. To print Tabular Trend Data and anesthesia record, click PRINT DATA SHEETS.

   b. To print the Graphical Trend Data, click PRINT GRAPHS.
c. To print the plotted ECG Waveforms, click PRINT ECG Waveforms.

Saving Procedure Data to the PC

To save the Procedure Data to the PC:

1. Before exiting the Data Logger Excel® Template, click on the WORKBOOK CONTROL tab. Click **Step 2 SAVE**.
   
   Rename the file as desired, and select the appropriate folder on your PC.

   - The default file name is “SurgiVet Data Logger” followed by the patient name, patient ID, and the date and time of the procedure. The template’s default save location is your hard drive.
Viewing a Recorded Screen Image

The screen image is automatically saved with the trend data and ECG waveform(s).

1. When data was saved from the Flash Card to the PC, it was saved in a folder. Navigate to this folder to access the saved screen image file. See Saving Procedure Data to the PC in this Chapter.

2. Click on the icon or file labeled “scrn________” in the saved file folder. A bitmap image of the Advisor® screen will appear.

NOTE: Screen Image icons will vary based on computer settings. The file name, however, will always have the same format.

NOTE: It is not recommended to print this file, as the background is black and will consume vast quantities of ink.
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Chapter 5: Maintenance and Troubleshooting

Schedule of Maintenance

<table>
<thead>
<tr>
<th>MAINTAIN THIS ITEM</th>
<th>HOW OFTEN</th>
<th>BY DOING THIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disinfecting the device.</td>
<td>When necessary.</td>
<td>Wipe the surfaces of the device with a soft, clean cloth dampened in isopropyl alcohol. Use only a cloth that is dampened, not wet. CAUTION! Do not allow isopropyl alcohol or water to enter any of the openings on the device. Evidence that liquid has been allowed to enter the device voids the warranty.</td>
</tr>
</tbody>
</table>

CAUTION! Chemicals used in some cleaning agents may cause brittleness of plastic parts. Follow cleaning instructions in this manual.

Storage

If the monitor will be stored for a long period of time, pack the monitor and its accessories in the original packing materials and shipping carton.

Storage specifications are as follows:

- Indoor
  - From –40 to +75 °C (–40 to +167 °F)
  - Relative humidity from 10 to 95% (non-condensing)
  - No periodic inspection required
# Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue LED on the Data Logger module is flickering.</td>
<td>This is normal. The blue light flashes while the Data Logger is recording.</td>
<td>None.</td>
</tr>
<tr>
<td>Cannot read data files.</td>
<td>The SD flash card is corrupt.</td>
<td>Reformat the SD flash card. See Formatting an SD Flash Card section in this chapter for instructions.</td>
</tr>
<tr>
<td>No data present.</td>
<td>Did not follow Real Time Trend procedure.</td>
<td>Refer to Recording Real Time Trends section.</td>
</tr>
<tr>
<td>Blank graph.</td>
<td>No data was collected for that parameter.</td>
<td>Check parameter connections.</td>
</tr>
<tr>
<td>Unable to open data files.</td>
<td>Network Access is secured/password protected.</td>
<td>Contact Network Administrator.</td>
</tr>
<tr>
<td>Advisor® is printing paper during a capture mode.</td>
<td>The appropriate menu option was not selected.</td>
<td>Disable the printer in the TRENDS/CAPTURE MODE menu by choosing either ECG TRACE or SCREEN IMAGE.</td>
</tr>
<tr>
<td>Data Logger menu options not present on Advisor®.</td>
<td>Advisor® SERIAL OUTPUT MODE menu option is not set to FLASH CARD DATA LOGGER.</td>
<td>See Getting Started section in Chapter 3.</td>
</tr>
<tr>
<td>DATA LOGGER ERROR</td>
<td>Recording initiated with no Data Logger attached to the Advisor® monitor.</td>
<td>Connect the Data Logger to the back of the Advisor® before starting a recording.</td>
</tr>
<tr>
<td></td>
<td>Data Logger not securely connected to the Advisor® monitor.</td>
<td>Make sure that the Data Logger is securely connected to the Advisor® and the screws have been adequately tightened.</td>
</tr>
<tr>
<td></td>
<td>No record is written to the Flash Card. Data Logger cannot record.</td>
<td>Try recording onto a different Flash Card.</td>
</tr>
<tr>
<td>DATA LOGGER CARD NOT PRESENT</td>
<td>No Flash Card inserted in the device.</td>
<td>Make sure that a Flash Card has been completely inserted into the Data logger. You will hear the card click into place.</td>
</tr>
<tr>
<td></td>
<td>Flash Card not completely inserted or improperly inserted.</td>
<td></td>
</tr>
<tr>
<td>DATA LOGGER CARD LOCKED</td>
<td>Slide switch on the Flash Card is in the locked position.</td>
<td>Eject the Flash Card from the Data Logger and adjust the slide switch to the unlocked position. Reinsert the card.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Try recording onto a different Flash Card.</td>
</tr>
<tr>
<td>DATA LOGGER CARD FULL</td>
<td>No available memory remains on the Flash Card.</td>
<td>Eject the Flash Card from the Data Logger, delete any unwanted data or transfer data from the card to a PC and then retry saving data onto the card.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Try recording onto a different Flash Card.</td>
</tr>
<tr>
<td>DATA LOGGER CARD FORMAT ERROR</td>
<td>The Flash Card has not been properly formatted or has been formatted to an incompatible format.</td>
<td>Make sure the card being used has been formatted to the FAT format (not “FAT32”). See Formatting a Flash Card later in this chapter.</td>
</tr>
</tbody>
</table>

If the corrective actions do not resolve any of the above problems, please contact Veterinary Clinical Support.

Smiths Medical PM, Inc.
N7W22025 Johnson Drive
Waukesha, WI 53186

Veterinary Clinical Support
Telephone: 1-262-513-8500
Toll-Free: 1-888-745-6562 (USA only)
Fax: 1-262-513-9069
Web: www.surgivet.com
Formatting a Flash Card

NOTE: The Data Logger uses SD-type Flash Cards. The recommended size is 512 MB or 1 GB. Flash Cards with memory capacity larger than 2 GB will not work properly.

NOTE: Only format the SD Flash Card if it has been corrupted.

To format the Flash Card:
1. Insert an SD Flash Card into a card reader.
2. Connect the reader to your PC.
3. Double click on My Computer on your PC.
4. Select the flash card drive (Removable Disk).
5. Select FILE | FORMAT.
6. Change the File Systems setting to FAT, then click start.

EMI Interference

CAUTION! This device has been tested and found to comply within the limits for medical devices to IEC 601-1-2:1993, EN 60601-1-2:1994, and the Medical Device Directive 93/42/EEC. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. However, because of the proliferation of radio-frequency transmitting equipment and other sources of electrical noise in the health-care environment (for example, cellular phone, mobile two-way radios, electrical appliances), it is possible that high levels of such interference due to close proximity or strength of a source, may result in disruption of performance of this device.

The device is designed for use in environments in which the signal can be obscured by electromagnetic interference. During such interference, measurements may seem inappropriate or the device may not operate correctly.

The device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with these instructions, may cause harmful interference with other devices in the vicinity. Disruption may be evidence by erratic readings, cessation of operation, or other incorrect function. If this occurs, the site of use should be surveyed to determine the source of this disruption, and actions taken to eliminate the source:

- Turn equipment in the vicinity off and on to isolate the offending equipment.
- Reorient or relocate the other receiving device.
- Increase the separation between the interfering equipment and this equipment.

If assistance is required, contact the Smiths Medical PM, Inc. Veterinary Clinical Support.
Chapter 6: Specifications

Indicators & Keys

Indicators: (on Advisor® display)
- TRN: Trend Data Logger Mode is activated.
- TRN: Recording Trends (icon on the Advisor® display)
- ECG: Recording Primary ECG Waveform (icon on the Advisor® display)
- IMG: Recording Screen Image Snapshot (icon on the Advisor® display)
- ERR: Indicates a problem with the Data Logger

LED (On Data Logger)
- Blue (●) flashes when recording data.

Keys: (On Advisor®)
- On/Off key
- PRINT key

Equipment Classification

Type of Protection Against Electric shock: Class 1 & Internally Powered
Degree of Protection Against Ingress of Liquids: IPX1, drip proof

Power Requirements

The Veterinary Data Logger is powered by the SurgiVet® Advisor®.

Flash Memory Recommendation

Recommended Card Type: SD (Secure Digital) Flash Card
Recommended Capacity: 512 MB or 1 GB

Dimensions

Width: 51.1 mm (2.01 inches)
Height: 22.5 mm (0.89 inches)
Depth: 58.5 mm (2.30 inches)
Weight: 38.0 grams (1.34 ounces)

Environmental Specifications

Operating Temp.: 0 to 40°C (32 to 104 °F)
Storage Temp.: -40 to +75°C (-40 to +167 °F)
Relative Humidity: 15 to 95% (non-condensing) Operating
10 to 95% (non-condensing) Storage
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