**PC-VetChek**™ Wireless ECG, Respiration and Temperature Monitor

**Operating Instructions**

**ACCESSORIES AND COMPONENTS**

Check packaging and ensure the following standard items are included:

- PC-VetChek wireless monitor
- ECG chest probe for small animals with 36 inch cable
- Three lead skin clips with 7 foot cable
- Temperature probe with 8 foot cable
- Bluetooth adaptor
- PC-Display install CD with electronic manual
- Hanging protective pouch
- Vinyl storage pouch
- Quick start instructions

The following optional items are available:

- ECG interpretation software install CD
- Yoke cable for long term monitoring leads
- Three long term monitoring leads with clips
- PET4 esophageal ECG and temperature probe for kittens, small puppies and exotics
- PET6 esophageal ECG and temperature probe for cats and small dogs
- PET8 esophageal ECG and temperature probe for larger breeds
PRECAUTIONS

- **DO NOT PLUG** PC-VETCHEK SENSORS INTO ANY OTHER EQUIPMENT OR INTO AC LINE RECEPTACLES.

- PC-VETCHEK IS NOT REGISTERED WITH THE FDA FOR HUMAN USE.

- Do not use in the presence of flammable anesthetics.

- Do not immerse the PC-VetChek, or cables in water or other fluids. Avoid spilling any fluids on the PC-VetChek or accessories. Review Service and Maintenance Chapter for proper cleaning procedures.

- Do not gas sterilize or autoclave the PC-VetChek or sensors.

- Do not disassemble. The PC-VetChek contains no operator serviceable components and disassembly voids the warranty.

- **Electrical Interference:** Strong electromagnetic or radio frequency interference (RFI) may affect the performance of all ECG equipment including the PC-VetChek. RFI may result in distorted ECG signals. Do not operate near electro-cautery or diathermy equipment. Radio frequency cautery equipment does not interfere with the ECG signal. Dental scaling devices may interfere with the ECG signal in some cases. Use of esophageal probes might minimize scaler interference.

- **CAUTION:** Before using a defibrillator, disconnect any ECG accessory of the PC-VetChek from the patient.

- Conductive parts such as electrodes and associated connectors and clip leads, including the neutral electrode, should not contact other conductive parts including ground when using the PC-VetChek.

- Ensure that electrodes are connected only to the patient and do not touch any other conductive part or equipment to prevent possible shock to patient from leakage current.

- Avoid cable and connector damage by taking care when connecting and disconnecting sensors and leads from the PC-VetChek. Grasp plug, not the cable and pull straight out and push straight in.

- **WARNING:** Do not use electro-surgery or electrocautery devices near metal ECG electrodes, especially esophageal probes. Electric arcing may cause tissue burns.
Chapter 1 Monitor Description

Hardware

The PC-VetChek is a battery operated, Bluetooth enabled, wireless ECG, respiration and temperature monitor that provides Lead II ECG information for the detection of rhythm and conduction abnormalities of the animal heart. The respiration rate and waveform is calculated from the changes in chest impedance detected by the ECG electrodes. Temperature is detected with the temperature probe provided or by the optional esophageal probes available from Vmed. ECG signals are detected using four types of sensors. All ECG sensors plug into the adaptor cable provided with the PC-VetChek.

1. A chest probe with three built-in metallic electrodes placed so that when positioned over the heart, as described, accurate rate and rhythm information is derived.

2. A set of three clip electrodes that, when attached to the legs of the patient as described, provide Lead II information.

Note: Since it is not always possible to obtain an adequate signal using the chest probe, clip leads may be required when monitoring some patients. Clip leads can also be used to continuously monitor the ECG signal during surgery or for short term critical care monitoring.

3. A set of three optional internal esophageal probes are available. These probes offer a convenient and superior method of monitoring heart rate, heart rhythm and core temperature of the anesthetized patient. Use of an esophageal probe will reduce or eliminate noise generated by dental scaling devices. Three electrodes are affixed to a flexible plastic tube that is inserted into the esophagus and positioned over the heart with the distal electrode positioned...
behind the left ventricle and the second electrode behind the left atrium. The third electrode is the reference electrode.

4. An optional three lead yoke cable and set of 3 leads with disposable electrode clips. This sensor is used for long term monitoring.

The PC-VetChek is equipped with an integral wireless Bluetooth radio transmitter. Bluetooth enables the wireless transmission of information, including real-time ECG signals, between the PC-VetChek and a Bluetooth enabled Windows based computer. The PC-VetChek is designed to control most computer and ECG functions without leaving the patient. Commands, including the print command or the recording of patient episodes, can be activated from the PC-VetChek keypad, however data that must be entered with a keyboard such as clinic and patient information, cannot be entered from the keypad.

Commands can be activated from the PC-VetChek keypad or the PC-Display upper toolbar on the computer. The PC-Display toolbar icons and selector buttons on the PC-VetChek are active only if a wireless connection between the PC-VetChek and the computer is established.

Bluetooth operates at approximately 2.4 GHz and steps up and down frequency constantly making the PC-VetChek free of interference, including the radio frequency interference found in hospital and clinic settings. Bluetooth transmissions are Omni-directional, operate at low power and travel through walls and around corners to a radius of 50–100 ft. within the clinic. It is not necessary to aim the PC-VetChek at the computer or printer to initiate the print function. The computer and/or printer can be in another room if desired. *Any printer connected to your computer may be used, however the color ECG grid will print in black unless a color printer is used.*

Power is supplied by two AA alkaline batteries. Batteries will last for about 42 hours of continuous use. Battery life increases markedly by substituting long-life type AA batteries. Rechargeable AA batteries may also be used however a charger is not available through Vmed. Refer to the maintenance instructions at back of this manual for battery changing instructions.
**PC-VetChek Keypad Controls and Indicators**

The switches on the PC-VetChek overlay panel (keypad) control select icons on the upper tool bar of PC-Display and selections are displayed on the computer screen.

![PC-VetChek Keypad](image)

- **Power button:** Press and immediately release to turn ON; press and hold down to turn OFF. The PC-VetChek will shut off automatically if a computer wireless connection is not established within three minutes.

- **Reviewer/Interpreter select button:** Opens the default program to display and analyze the file just recorded. This button is functional only if the current patient being monitored is recorded and saved. Icon on upper tool bar of PC-Display will be colored yellow if a file is ready to open.

- **START/STOP RECORDing button:** Begins recording ECG waveform of patient being monitored. Pressing this switch again terminates recording and allows file to be immediately opened in Reviewer or Interpreter program.

- **Chart speed select button:** Changes ECG chart speed from the default setting. Each click advances chart speed to the next selection. Respiration chart speed cannot be changed with this button.

- **Select Gain button:** Sequentially selects ECG gain. Gain selected is displayed at beginning of waveform near 1mV reference scale. The default GAIN setting is 1.

- **STOP/START button:** Freezes and re-starts the ECG sweep on the display.

**PC-VetChek Accessory Ports**

The PC-VetChek has two connection ports for accessories. The first is the ECG/Smart Cable port. This port is primarily used for ECG accessories (leg clips, chest probes, esophageal probes, etc.) with the use of a special adapter for the ECG accessories. However, it also has a secondary function of being able to accept certain kinds of Vmed “Smart Cables” which provide other kinds of functionality with the PC-VetChek. (At this printing these Smart Cables are still in development)
The second port is the Temperature port. This port allows the rectal temperature probe to be used with the PC-VetChek, providing temperature even when an esophageal probe is not present.

Software

PC-Display Software
The Windows application program installed on your computer for the software processing and display of real-time ECG and temperature information. This software can be installed on multiple computers without limit and simultaneous instances of the program can be run on a single computer subject to computer capability and the type of display used. NOTE: A large, flat panel display can be plugged into your computer for greater visibility.

Reviewer Software
The Vmed Reviewer program is used to open and review patient files saved from PC-Display. The Reviewer program is compatible with PC-VetChek, BP-AccuGard and PC-VetGard+ patient monitors. Refer to the PC-Display User’s Manual for more information about this software.

Interpreter Software
The Vmed ECG Interpreter is an optional ECG interpretation program that performs all the functions of the Reviewer program in addition to computer analysis of ECG complexes.

Windows Display
NOTE: For best viewing, set the computer screen resolution to at least 1024 x 768. You can do this by selecting the CONTROL PANEL > DISPLAY > SETTINGS tab.
**Default Function Settings**

NOTE: File>Disconnect>Tools>Default Configuration. Refer to Chapter 1 to change default values for each function and for input of vet/clinic and patient information.

<table>
<thead>
<tr>
<th>SELECT</th>
<th>OPTIONS</th>
<th>DEFAULT</th>
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<tr>
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<tr>
<td>Species</td>
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<tr>
<td>Canine</td>
<td>Canine</td>
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<td>Feline</td>
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<td>Equine</td>
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<tr>
<td>Other</td>
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</tr>
<tr>
<td>Sweep Rate</td>
<td>HR mm/sec</td>
<td>RR mm/sec</td>
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<tr>
<td>25</td>
<td>6.25</td>
<td>25</td>
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<tr>
<td>50</td>
<td>12.5</td>
<td>100</td>
</tr>
<tr>
<td>Gain</td>
<td>0.5: 55 mm/mV</td>
<td>1.0: 10 mm/mV</td>
</tr>
<tr>
<td></td>
<td>2.0: 20 mm/mV</td>
<td>3.0: 30 mm/mV</td>
</tr>
<tr>
<td>R-Wave Marker</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>Grid</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>Beat Tone</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>
Chapter 2 Operating Instructions

Preparation

Proceed only after you have successfully installed the PC-Display software and have completed the Bluetooth discovery process. Refer to the PC-Display software instructions for computer connection.

1. Plug the sensors of choice into the appropriate PC-VetChek receptacles.
2. Double-click the PC-Display icon on your desktop to start the program. This will open the PC-Display application and present you with the Connection window.
3. Turn on the PC-VetChek by briefly depressing and releasing the red power key on the keypad (Do not hold the power key down). The “CONNECTION” light will turn red and then amber.
4. Select your PC-VetChek from the list in the Connection drop down menu and then click the “Connect” button.
5. Input patient information (Vmed recommends at least entering information into the Patient Name field) and then click the “OK” button.
6. Wait for the “CONNECTION” light to turn from amber to flashing green. The process may take as long as 30 seconds to complete the first time after initial discovery.
7. When the PC-VetChek status light begins blinking green, the notation in the STATUS box on the screen will change to “CONNECTED” and the notation at the lower right corner of the screen will change to: “PC-VetChek Remote Connected” on a green background.
NOTE: To preserve battery life, the PC-VetChek will shut off automatically if connection to your computer is not established within 3 minutes of powering on the remote.

When connection is complete, the sweep appears on the display as a flat magenta colored line moving left to right at the selected sweep speed. Upon acquisition of a satisfactory signal, the waveform will appear and the trace will change to a color corresponding to the sensor:

- **Green:** Good ECG signal
- **Magenta:** ECG Leads Off (poor conductive signal quality)
- **White:** (DIGITS ONLY): Temperature
- **Yellow:** Respiration from ECG

**NOTE:** A magenta ECG sweep represents a Leads Off condition and may occur even if a waveform is present, however the computer will not recognize a valid ECG and the digital heart rate display will not appear. You should, in this case, reposition the sensor or clip leads and possibly add more electrolyte solution until a green sweep appears.

**Taking the ECG**

**Important comments on ECG**

The PC-VetChek obtains two types of clinical ECG information (1) rate and rhythm and (2) PQRS and T characteristics. For surgical and long term monitoring, rate and rhythm only is needed to monitor patient status since changes in heart rate or significant variation of the periodic interval of the beating heart may be indications of patient compromise. Accurate rate and rhythm can be obtained by any of the available sensors provided with the PC-VetChek leg clips and the internal positioned esophageal probes are the most often used in surgery. For long term patient monitoring, leg clips or disposable chest electrodes may be used with the optional clip leads.

Accurate diagnostic lead II ECG, on the other hand, requires information on both the rate and rhythm of the heart and evaluation of the ECG complexes themselves. Conductive abnormalities, for example are manifested by higher than normal R and S amplitude. For routine ECG and pre-surgical screening, the chest sensor is most convenient and is

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recommended for this application, however the method may produce inaccuracies in amplitude if the chest probe is not positioned at the correct angle to the heart. For this reason, whenever a beat characteristic or signal amplitude seems abnormal when using the chest sensor, a follow up trace should be taken using the leg clips to confirm the reading.

**Recording ECG Waveforms**

The default setting for recording information through PC-Display is the “Continuous Recording” setting. This means that in addition to alarm events, printing events, marker events or the periodic vital signs events, the ECG waveform will be recorded as well. However, if it is currently not saving then you may click the “Toggle Continuous ECG” button from the PC-Display toolbar.

Clicking once on this button will enable this recording mode and will put a checkmark in the bottom right corner of the button itself to show that it is enabled. Clicking it again will disable this recording mode and close the episode file that was just recorded.

The Reviewer/Interpreter icon is activated after stopping the recorded episode and the saved file can be opened by clicking this icon on the device control panel or the PC-Display tool bar.

**Using Chest Probe**

1. Place the patient in the right lateral recumbent position and pull the front legs cranial.

2. Liberally apply alcohol or electrolyte solution to the left lateral chest wall where the electrodes will make contact. Position the chest probe over the heart, and press firmly enough that all three electrodes make good contact with the body wall.

**Figure 3  Toggle Continuous ECG Button (Disabled and Enabled)**

**Figure 4  Position of the ECG chest probe for rhythm strip**
3. Rotate the probe until the “R” amplitude is at its highest and a good tracing appears on the screen. If a good tracing is not obtained, re-saturate the chest wall with more electrolyte and reposition the chest probe. In some rare cases excess hair should be clipped. NOTE: To obtain a printable waveform, the trace must be green not magenta. Magenta signifies a Leads-Off situation even if a waveform is present.

4. Record the ECG until at least three good lines of tracing appear on the screen. NOTE: The three panels stacked vertically on the display represent a continuous trace with the earliest information being replaced by the current sweep. At the default chart speed of 50 mm/sec, the three panels represent 12 seconds of data.

5. Depress the Start/Stop button on the chest probe or on the PC-VetChek keypad to pause the trace. Depress the Print button on the keypad to print this display and to automatically save a 24 second segment of ECG up to that point. You may also print directly from the moving trace by pressing the PRINT switch on the keypad.

   NOTE: Any time the Print function is called within PC-Display there will be a 24 second recording of the ECG waveform automatically saved unless PC-Display is already continuously recording or the default mode is Events Only. The Start/Stop button is not required for printing and will make no difference for recording. It is there simply to freeze the real-time display in order for the user to have a better view of it.

Using Leg Clips

The three lead clips are color coded according to American Heart Association (AHA) standards. The following table provides the list of AHA color codes for Lead II connections modified to identify animal legs.

<table>
<thead>
<tr>
<th>LEAD</th>
<th>BIPOLAR</th>
<th>LEAD &amp; REFERENCE</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>RF—Right Front</td>
<td>Negative Electrode</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>RH—Right Hind</td>
<td>Reference Electrode</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>LH—Left Hind</td>
<td>Positive Electrode</td>
<td>Red</td>
</tr>
</tbody>
</table>

Note: For an accurate Lead II reading, each pair of legs should be parallel to one another but not touching. Use standing or right lateral recumbence.
1. Plug the connecting cable into the PC-VetChek receptacle.
2. Plug each clip lead wire into the appropriate receptacle of the matching color on the connecting cable yoke.
3. Place animal in the right lateral recumbent or standing position.
4. Saturate the area where clips attach with alcohol or electrolyte.
5. Connect leg clips according to the color coded designation stamped on the connecting cable. Connect two clips to the hind legs, Red to left hind and Green to right hind, on the posterior aspect of the leg just proximal to or distal to the point of the stifle. Connect the remaining clip, White, to the right front leg on the anterior aspect of the leg just proximal to or distal to the elbow.

**Using Esophageal Probe**

Vmed esophageal probes have sensors for monitoring ECG and temperature. Choose the correct probe for the appropriate size of animal. If the baseline tends to wander or deviate from a straight line, the electrode spacing is too large and a probe with a shorter spacing should be used. If the ECG signal is intermittent, usually with respiration, the electrode diameter is too small for the animal and a probe with larger diameter electrodes should be used. 

*NOTE: Do not try to evaluate ECG traces using the esophageal probe. The sweep is accurate for rate and rhythm information only. Use the ECG clips for a Lead II ECG.*

1. Lay the probe on the animal simulating its position in the esophagus.
2. Place the end of the probe one finger width from the last rib.
3. Note the distance marked on the probe in centimeters at the nose.
4. Slide the probe into the esophagus until the distance marked at the animal’s nose is at the mouth.
5. Move probe cranial and caudal until the best heart signal is obtained.

**Using Long Term Monitoring Electrodes**

The clip leads provided with this optional sensor connect to the metal tabs on disposable infant pre-gelled electrodes. Disposable chest electrodes are best for long term, critical care situations when the animal is under or recovering from anesthesia. It may be necessary to shave excess hair.

1. Plug the three clip leads into the corresponding colored receptacle on the yoke cable.
2. Connect a plastic clip from each lead to each of three electrodes.
3. Prepare the electrode site by clipping excess hair.
4. Wet area with alcohol and wipe dry.
5. Remove electrode from the liner and place on the leg indicated by the color code on the cable preferably above the hock and elbow. Electrodes may also be placed on the chest, over the heart and oriented to the Lead II axis: **White on right chest toward right front leg, Green in the middle and Red on left chest toward the left hind leg.** *NOTE: It is suggested that a protective bandage be applied*
over the electrodes to prevent the animal from dislodging or chewing off the electrode or lead. Accurate Lead II information is only available if electrodes or clips are attached to the patients’ legs.

6. Smooth down the electrodes with a circular motion. Avoid pressing on center of electrode.

**Rectal Temperature Probe**

Plug the rectal probe into the receptacle at the base of the PC-VetChek. Use a disposable thermometer sheath if available to minimize contamination. Insert the tip into the rectum at a safe depth. Wrap the Velcro strap around the base of the tail to stabilize and secure the rectal probe. **NOTE: The rectal probe is not needed if an esophageal probe is used since esophageal probes are fitted with a temperature sensor. If both are used at the same time then the temperature reading will default to the rectal probe.**

**Printing Records**

Once you have recorded a satisfactory ECG trace you may print the information directly from the PC-VetChek keypad or later from the Reviewer or Interpreter programs provided the file was saved first.

**TO PRINT REPORT**

1. From the PC-VetChek keypad: Press the Print key, or…
2. From the display upper tool bar: Click the print button, or…
3. From “File” choose print.
4. Select “Scale to fit” or “shrink to fit” on the printer setup dialog box.

**NOTE: Printing from the screen requires wireless connection between the PC-VetChek and your computer. In other words, you can only print from the screen when there is an active connection between the PC-VetChek and your computer. Printing from saved and recalled files does not require a wireless connection. A color printer is required to reproduce the colored grid.**

5. Save reports to a PDF file by selecting “Primo PDF” or Adobe PDF in the “Print to” drop down box in the print dialog window (this first requires the installation of the Primo PDF software).
Chapter 3  Service and Maintenance

Service and Support

If you purchased directly from Vmed:
Phone: 800-926-9622
FAX: 425-585-0231
Email: info@vmedtech.com
WEB: www.vmedtech.com/customers (current manuals and software updates)

If you purchased from DVM Solutions:
Phone: 866-373-9627
FAX: 830-438-7041
WEB: www.dvmsolutions.com

Cleaning

Clean the PC-VetChek, sensors and cables by wiping surfaces using a cloth moistened with any of the following solutions:
- Soap and water
- Alcohol or alcohol/disinfectant mixture
- Peroxide solution

Precautions
- Do not immerse or soak the PC-VetChek or cable plugs and sensors in any liquid (skin clips, temperature probe tip and esophageal probes may be immersed in approved liquid).
- Do not use petroleum based solvents

Figure 7  PC-VetChek Print Report [Note signal amplitude (1 mV) reference scale and time reference points on horizontal axis]. Temperature readout requires use of esophageal probe.
**Maintenance**

There are no field serviceable components inside the PC-VetChek. Opening the housing (excluding the battery compartment) voids the warranty. Store the PC-VetChek in the storage pouch when not in use.

**Changing Batteries**

To change the two AA batteries, press and slide open the battery compartment lid on the back of the PC-VetChek housing. Batteries are easiest removed by pinching the battery from the positive terminal end toward the negative terminal end while lifting. Note polarity when replacing batteries. Insure that each new battery makes proper spring contact and is pushed all the way into the bottom of the battery compartment.

**Cable Connectors**

Sensor plugs should be inserted into the end of the short adaptor cable provided with the PC-VetChek. Remove by grasping the plug, not the cable. **NOTE:** The cable plug and receptacle are keyed and can be inserted only one way.

**Troubleshooting**

<table>
<thead>
<tr>
<th>SITUATION</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
</table>
| Cannot make Bluetooth connection with computer. | • Weak batteries in wireless device  
• Improper Bluetooth discovery.  
• Bluetooth USB adapter not inserted into computer’s USB port. | • Replace with two new AA batteries.  
• Re-initiate discovery procedure.  
• Verify that USB Bluetooth adapter is plugged in to computer.  
• Determine if the Windows XP Service Pack 2 method of Bluetooth should be used over Bluetooth drivers that came with Bluetooth adapter. (See Chapter 1) |
| Bluetooth connection has range <500ft. | • Low Batteries.  
• Signal must pass through high attenuation barrier such as concrete floor/walls or heavy metal objects.  
• Using built-in Bluetooth adapter with only 10 meter range. | • Replace both batteries.  
• Clear signal path.  
• Disable computer’s built-in Bluetooth and use the Bluetooth device provided with wireless product. |
| Cannot acquire satisfactory ECG signal | • Not enough electrolyte fluid used.  
• Not making adequate skin contact.  
• Corroded electrodes.  
• Broken or corroded lead wire, cable or plug.  
• Bad cable connection. | • Re-apply electrolyte.  
• Re-position electrodes and clip excessive hair.  
• Replace electrodes.  
• Replace lead wire or cable.  
• Remove and re-insert all plugs. |
| Excessive noise in the ECG signal      | • Inappropriate filter selected.  
• Poor electrode–skin contact.  
• Excessive motion.  
• GAIN set too high.  
• RFI or electromagnetic interference. | • Change filter from “Low” to “High” in the “Tools” drop down menu.  
• Re-apply electrolyte and re-position electrodes. Reduce patient motion.  
• Set GAIN to 1.  
• Shut off electrical devices near PC-VetChek |
| Lost wireless connection with computer | • Wireless device out of range of computer or behind signal attenuator.  
• Wireless device lost power.  
• Bluetooth device loose in USB port.  
• Computer turned off or PC-Display closed. | • Move toward computer or clear attenuating obstacle.  
• Cycle wireless device power switch  
• Check /Replace Batteries  
• Check Bluetooth device/USB connection.  
• Restart PC-Display program. |
| Cannot turn wireless device unit back on. | • Batteries are totally discharged.  
• User is pressing and holding power button. | • Replace batteries.  
• Press and immediately release the power button to turn on. |
Appendix A

Appendix A Computer Requirements and Specifications

Computer Minimum Requirements
- >1 GHz. PC desktop, laptop or tablet computer
- Windows 7, Windows Vista or Windows XP operating system
- 1 GB RAM
- SVGA display, 256 colors, 800 x 600 resolution
- CD Rom Drive
- 60 MB available hard disk space for PC-VetChek program, plus approximately 100 Kbytes per patient stored
- Windows supported printer
- MAPI compliant E-Mail system such as Microsoft Outlook or Outlook Express (for direct email feature of ECG Reviewer software)
- .NET Framework 2.0.

Physical Specifications
- TYPE: Three lead ECG with integrated Bluetooth wireless module
- CONSTRUCTION: High impact ABS/Polycarbonate plastic
- DIMENSIONS OVERALL
  - LENGTH: 3.875"
  - WIDTH: 3.1875"
  - THICKNESS: 0.750"
- WEIGHT (WITH BATTERIES) 4.2 oz.
- CONTROLS: FLAT PANEL KEYPAD SWITCHES, TACTILE PUSH TYPE:
  - ON/OFF
  - STOP/START
  - PRINT
- INDICATORS:
  - CONNECTION LED
  - LOW BATTERY LED
  - RECORDING LED
- CABLE CONNECTION: 14 Pin push-pull
- BATTERIES:
  - TYPE: AA Alkaline, Long life or rechargeable
  - QUANTITY: 2
  - BATTERY LIFE: >42 hours continuous operation
- SYSTEM SPECIFICATIONS:
  - ECG GAIN/SENSITIVITY: 5, 10, 20, 30, 40 mm/mV
  - COMMON MODE REJECTION: -70dBV CMRL
  - SAFETY STANDARDS: IEC 601, AAMI EC-11
  - INPUT IMPEDANCE: 1 M Ohm
  - INPUT DYNAMIC RANGE: 15 mV
  - DC OFFSET CORRECTION: -0.5 Hz.
  - A/D SAMPLING RATE: 500 Hz.
  - SAMPLE RESOLUTION: 12 bit
  - ECG SWEEP SPEED, SELECTABLE: 25, 50, 100 and 200 mm/sec. (Default: 50 mm/sec.)
  - QRS DETECTION RANGE: >0.2 mV
  - FILTERS:
  - PERMANENT: Pass Band: High pass: 70 Hz
  - Low pass: 40 Hz
  - USER SELECTABLE: Notch (AC line noise rejection): 50/60 Hz
  - ALARMS:
    - HEART RATE: High/Low, selectable limits
    - TEMPERATURE: Low limit selectable with auto step-down
    - RESPIRATION RATE: High/Low, selectable limits
  - FEATURES:
    - ALARMS: ON/OFF
    - TONE: ON/OFF WITH 4 SELECTABLE TONE PROFILES.
    - GRID: ON/OFF
    - ALARMS: ON/OFF
    - R-WAVE INDICATOR: ON/OFF
    - EVENT MARK: USER ACTIVATED
  - WIRELESS: Bluetooth Class I radio (100 meters line of sight range)
    - RANGE: 50–100 ft. in practice (100 meters line of sight)
    - FREQUENCY: 2.4–2.4835 GHz
    - OUTPUT POWER: 4 to 20 dBm
  - PHYSICAL INTERFERANCE: USB UHCI/OHCI 1.1 compliant
  - MANUFACTURER: As selected by Vmed

PATIENT CABLE AND LEADS:
7” adaptor cable with push–pull connector to mini DIN connector
80” ECG cable with mini DIN connector and banana plug connectors to skin clips
Temperature cable with 2.25 mm micro phone plug and thermistor sensor
Three electrode chest probe with 36” cable and mini-DIN connector
Optional 3 receptacle yoke cable for patch-on electrodes with mini-DIN connector
Optional esophageal probes with 36” cable and mini-DIN connector
THE REMEDIES OF THE CUSTOMER SET FORTH IN THESE CONDITIONS OF SALE ARE EXCLUSIVE. VMED TECHNOLOGY SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES ARISING FROM BREACH OF WARRANTY, BREACH OF CONTRACT, TORT, PERSONAL INJURY, PRODUCT LIABILITY, NEGLIGENCE, STRICT LIABILITY, INDEMNITY, OR ANY OTHER LEGAL THEORY. EVEN IF VMED TECHNOLOGY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR THE REMEDY PROVIDED HEREUNDER FAILS OF ITS ESSENTIAL PURPOSE. SUCH EXCLUDED DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS OR REVENUES, LOST INCOME, CANCELLED PATIENT FEES OR PROCEDURES STEMMING FROM ANY PRODUCT ON BACKORDER, LOSS OF USE OF THE GOODS OR INSTRUMENTS, COSTS OF CAPITAL, COST OF SUBSTITUTE GOODS, FACILITIES OR SERVICES, OR CLAIMS OF CUSTOMERS OR PATIENTS/CLIENTS OF THE CUSTOMER FOR SUCH DAMAGES.

SOME STATES MAY NOT ALLOW EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES AND THEREFORE THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU IF SUCH STATE'S LAWS ARE FOUND TO BE APPLICABLE TO YOU.

WARRANTY RETURN POLICY

Return of Product for Breach of Warranty. In order to make a claim for breach of warranty or to return a product for warranty or non-warranty repair, Customer must obtain a Return Merchandise Authorization (RMA) number from VMED Technology customer service at (800)-926-9622. An itemized list of returned products must accompany all returns. The RMA number and explanation of why the product is being returned must be included. Returned goods MUST be packaged in a shipping container equivalent to that in which it was received. Returned goods MUST be shipped pre-paid at Customer’s expense by FedEx or UPS or other service that provides package tracking, and must be insured for the purchase price of the contents. Returned goods received by VMED Technology in any form less than that described above will be refused by VMED Technology and returned shipped to the Customer. VMED Technology will pay the return freight on products repaired or replaced under warranty.

LIMITED WARRANTY

All VMED Technology products carry the limited warranties described below. All warranty claims must be received by VMED Technology in written form within the warranty periods specified below or they will lapse.

Limited Warranty. VMED Technology warrants: (i) the PC-VetChek ECG monitor, VetGard+ monitor, and IRMA gas sensors to be free of defects in materials and workmanship for two years from date of purchase by the original end user customer; (ii) Vet-Dop Blood Pressure Monitor to be free of defects in materials and workmanship for one year from date of purchase by the original end user customer; (iii) Cables, lead wires and connectors, ECG sensors and clips, esophageal probes, temperature probes, blood pressure cuffs and blood pressure tubing sold with the VetGard+ Monitor, the PC-VetChek Monitor, the Vet-Dop Monitor, or purchased as an optional accessory for such monitors, will be free of defects in materials and workmanship for six months from date of purchase by the original end user customer; and (iv) all other supplies or disposable or single use instruments or products, are warranted to be free of defects in materials and workmanship for the period that ends upon the earlier of initial use for their intended purpose or their expiration date.

Customers who feel an instrument is defective must return it to VMED Technology for evaluation. Such return must be made in accordance with both the VMED Technology RMA procedures described below and prior to expiration of the warranty period. Products found by VMED Technology to be defective will either be repaired or replaced with the same or a comparable product, at the discretion of VMED Technology. As described below, repair or replacement, at no charge for parts or labor, is the Customer’s sole and exclusive remedy. The warranty on any VMED Technology product is voided if the product is repaired by anyone other than VMED Technology. Shipping charges are not covered by this warranty. Warranties do not cover general maintenance or cleaning needs that result from normal use. Damage to an instrument or product caused by accident, abuse, alteration, misuse, improper care, cleaning, chemicals, loss or theft are not covered by this warranty. OPENING THE PC-VETCHEK OR VETGARD+ HOUSING OR THE HOUSING OF ANY OTHER VMED TECHNOLOGY PRODUCT WILL VOID THE WARRANTY.

Disclaimer of all other Warranties. VMED TECHNOLOGY HEREBY DISCLAIMS ANY AND ALL OTHER WARRANTIES WHATSOEVER, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT OF THIRD PARTY RIGHTS. The agents and representatives of VMED Technology are not authorized to make modifications to these warranties, or to make additional warranties. Any additional statements, whether oral or written, do not constitute warranties and should not be relied upon by the Customer.

Exclusive Remedies of Customer; Limitation of Liability. VMED Technology’s liability and Customer’s remedy for damages incurred as a result of any breach of warranty or related to the goods and products provided to Customer or use of those products by Customer or others, is expressly limited to return of the non-conforming or defective goods to VMED Technology and, at VMED Technology’s option, either the repair of non-conforming or defective goods or the replacement of non-conforming or defective goods with conforming or comparable goods.