



## BASIC TROUBLESHOOTING FOR CARDIOLOGY EQUIPMENT

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### RECORDER ASSEMBLY

- I. *Paper Feed/Cueing/Not Advancing*
  1. If you just recently replaced the paper, it may have been installed incorrectly. Check the sensing hole or markers on the paper and make sure it is positioned as before.
  2. Make sure the paper pack is installed right side up. Some thermal paper will only print on one side.
  3. Check to see if you have the correct paper.
  4. The drive roller may be work out or dirty. Clean the roller with a damp cloth. If problem still exists, the roller may need to be replaced.
- II. *Not Printing/Printing Light/Prints Portions of Paper*
  1. The recorder may need to be serviced and may include:
    - a. adjustment of print head
    - b. voltage problems
    - c. roller replacement
    - d. cleaning or calibrating internal components

### STRESS SYSTEMS

- I. *Treadmill problems*
  1. Check power cord to treadmill. Make sure the wall outlet voltage output is present. Generally outlet must be 120 volts or 220 volts.
  2. Check interface cable (cable between treadmill and stress monitor)
  3. Check the emergency switch. If it is present, make sure it is NOT activated.
  4. Check to see if the treadmill is in stress mode. If the system states resting mode, switch to stress mode.
  5. In some stress systems, treadmills will not start unless rhythm is detected.
  6. Check the settings on the monitor, make sure the treadmill is selected no ergometer.
  7. Make sure Protocol is not set on Drug studies
  8. To reboot the system, Turn treadmill and monitor OFF. To reboot, turn treadmill on first and the monitor second.
  9. If the belt is frayed or misaligned, call for service.
  10. If the treadmill is making loud noises or unwanted sounds, call for service.
- II. *Monitor Problems*
  1. If the monitor is not powering up, check power cable and switches.
  2. If unable to select protocol, on GE Case systems this usually indicates communication with the treadmill is not present. If this occurs, check the interface cable (cable between treadmill and stress monitor) and check power to treadmill.
  3. Recorder problem (please see Recorder Assembly Troubleshooting).
  4. Screen is dim or too dark; adjust the brightness settings on the monitor.
  5. Unable to display a good rhythm (See ECG Tracings Troubleshooting)
  6. Screen Display is "crunched", call for service
  7. Screen Display is blank, call for service
  8. Error codes are present, call for service
  9. Monitor is not keeping time after resetting the clock, or if new internal battery is needed, call for service
  10. If a burning smell or odor occurs, turn unit off immediately and call for service.



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## ECG (EKG) MACHINE

- I. *ECG Tracings: Artifact/60Hz*
  1. Check the status of patient cable/lead wire set and replace if needed
  2. Check alligator clips, replace if needed
  3. Plug machine into a different electrical outlet
  4. Check expiration dates of electrodes
  5. Review the skin preparation procedures (see Skin Preparation in client resource section of the Davis Medical Electronics, Inc. web page)
  6. Check the paper (See Recorder Assembly Troubleshooting)
- II. *Unit shuts down after a few minutes while on battery power*
  1. Check if the battery charge light is ON. Investigate whether or not the unit was left to charge overnight.
  2. Replace battery (recommended every two years)
  3. If battery charge light is NOT ON, check the power cable. Also, make sure that all power switches are activated. There is usually a power cable in the front and in the back.
  4. If charge light is OFF and unit is plugged into a wall outlet, call for service.
- III. *Unable to upload using modem*
  1. Check modem setting
  2. Check phone line or cable

## DEFIBRILLATOR

1. Not powering up, check power cord and battery (recommend battery replacement every two years)
2. No display, call for service
3. Not discharging electrical current, call for service
4. Not printing, call for service or (see Recorder Troubleshooting)
5. Failed self test, call for service

## ULTRASOUND SYSTEMS

1. Not powering up, check power cord and electrical outlets
2. If there is poor image quality, check transducers and monitor settings
3. Printer recorder is not printing correctly (see Recorder Troubleshooting)
4. Video Cassette recorder problem, call for service
5. CRT problem, call for service
6. Hardware problem, call for service
7. Reboot and self tests not effective, call for service

## HOLTER SYSTEMS

- I. *Holter Recorder Problems*
  1. Recorder did not record full 24 hour data. Check or replace batteries.
  2. Recorder recorded for full 24 hours but no data is found. Check patient leadwire set, or send in for repair. (We recommend preventative maintenance check performed at least twice a year)
  3. Recorder is eating or causing malfunction to cassette tape. Send in for repair
  4. If recorder is not powering up or starting, after replacement of fresh batteries, send in for repair.
- II. *Holter Scanner Problems*
  1. If unable to download data, check computer settings and card reader
  2. If unable to open program or unable to scan, check presence of hard lock key
  3. If unable to print reports, check computer printer setting and scanner program setting.



## **VITAL SIGNS MONITOR**

1. Unable to take blood pressure readings, check and see if appropriate cuff size is being used, and check for cuff leaks
2. Unable to take temperature readings, try a different probe
3. Unable to take oximetry readings, is the finger sensor light ON? Try repositioning probe, check connection, try another probe
4. If you suspect any readings are inaccurate, call for service