Panorama™

Datascope®

innovation is the best medicine

Foreword

The Panorama Operating Instructions are intended to provide the information required to operate the Panorama Patient Monitoring Network. For additional information and technical assistance, please contact an area or regional Datascope Patient Monitoring Representative.

A general understanding of the features and functions of the Panorama Patient Monitoring Network and its components (shown in FIGURE 1-1) is a prerequisite for the proper use of this equipment. Therefore, do not operate this equipment before reading these instructions thoroughly, including all appropriate warnings and cautions.

CAUTION: *US Federal law restricts the sale of this device to, by or on the order of a physician.*

NOTE: *Figures in this manual are provided for reference purposes only. Screens will likely differ based on the monitoring device configuration, licenses available, parameters selected and patient configuration of the Panorama Patient Monitoring Network.*

Warnings, Precautions and Notes

Please read and adhere to all of the warnings and precautions listed throughout this manual.

A **WARNING** is provided to alert the user to potentially serious outcomes (death, injury or serious adverse events) to the patient or the user.

A **CAUTION** is provided to alert the user that special care should be taken for the safe and effective use of the device. They will include actions to be taken to avoid effects on patients or users that will not be potentially life threatening or result in serious injury, but about which the user should be aware.

A *NOTE* is provided when additional general information is available.

Warnings

WARNING: *Loading any unauthorized software on the Panorama Patient Monitoring Network render the application unsuitable for medical patient monitoring.*

WARNING: *Do not attempt to load any devices or device drivers onto the Panorama Central Station or Panorama Telemetry Server. If the user connects or attempts to connect any unauthorized equipment, the Panorama Patient Monitoring Network may not operate as intended.*

WARNING: *Only qualified and trained personnel or Datascope Service personnel should attempt to service Datascope equipment. Service is defined as any activity requiring the cover to be removed for internal adjustments, parts replacements, repairs or software upgrades of any kind to insure compatibility.*

WARNING: *To insure compatibility with the operating system and applications software, use only Datascope Corp. supplied and/or approved components to repair any part of the Panorama Patient Monitoring Network.*

WARNING: *Incorrect setting or silencing of patient alarms can jeopardize patient safety.*

WARNING: *Possible Explosion Hazard - Do not use in the presence of flammable gases. This instrument is not explosion proof in the presence of flammable anesthetics.*

WARNING: *Route cables neatly. Ensure cables are not in the way of patient or hospital personnel.*

WARNING: *Do not incinerate batteries, possible explosion may occur.*

WARNING: *The Panorama Central Station and the Panorama Telemetry Server must utilize the hospital emergency power system. Failure to do so will result in loss of monitoring during extended periods of power failure. The back-up power time period, for the Panorama Patient Monitoring Network, is limited.*

WARNING: *Cardiac arrhythmia and respiratory apnea conditions are not detected by the Panorama Central Station. They are alarm conditions that are detected by compatible physiological monitor(s) connected to the Panorama Central Station.*

WARNING: *The 18.1" flat panel may tip over, if the display head is inclined to an angle greater than 45° backward tilt. If the user elects to have the display head inclined to an angle greater than 45° backward tilt, the flat panel must be attached to a secure mounting surface via three screw locations on the bottom of the base.*

WARNING: Do not put MPSO (Multiple Portable Socket Outlets, i.e., multiple outlet extension cords) used with the Panorama Central Station System on the floor. Connect only Panorama Central Station accessories and components to the same MPSO as the Panorama Central Station. Do not overload MPSOs. Use only MPSOs that comply with the requirements of IEC 60601-1-1.

WARNING: The Panorama Central Station will not monitor any non-lethal arrhythmia, numeric or technical alarms for the selected patient tile when the Suspend All Non-lethal Alarms button is enabled.

WARNING: Use of accessories and cables other than those approved by Datascope may result in increased Emissions or decreased Immunity of the Telepack.

WARNING: The Telepack should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the Telepack should be observed to verify normal operation in the configuration in which it will be used.

WARNING: Ensure that the ECG lead wires are neatly secured in such a way to prevent the lead wires from encircling the patient's neck and causing possible strangulation.

WARNING: PACEMAKER PATIENTS - Indication of the heart-rate may be adversely affected by cardiac pacemaker pulses or by cardiac arrhythmias. Keep pacemaker patients under close surveillance. See ''ECG Performance Requirements'' on page 15-2 for disclosure of the pacer rejection capability.

Cautions

CAUTION: For proper operation do not obstruct the fan air holes.

CAUTION: For proper operation use only hospital grade power cords.

CAUTION: For proper operation do not use Panorama Patient
            Monitoring Network with a frayed or damaged power cord.

CAUTION: For proper operation use only Datascope accessories with
            this product.

CAUTION: For proper operation never place fluids on top of this
            equipment. In case of accidental spillage, wipe clean
            immediately and have the system serviced to ensure no
            hazard exists.

CAUTION: Dispose of single use items in accordance with hospital
            policy.

CAUTION: Do not connect or attempt to connect any equipment to the
            Panorama Patient Monitoring Network local area networks
            unless Datascope Corp. has explicitly approved the
            hardware in writing. This includes all commercially
            available networking hardware (i.e., hubs, switches,
            routers, etc.) or peripherals (i.e., printers) even if they are
            the same brand as recommended by the configuration of
            the system and supplied by Datascope Corp.

CAUTION: The Passport 2 should be disconnected from the Panorama
            Central Station when changing the CO_2 units of
            measurement.

CAUTION: For proper monitoring of patient information, do not block
            the operators' clear view of the Panorama Central Station
            data display(s).

CAUTION: If passwords are changed from the factory defaults, users
            MUST ensure that they document new passwords in the
            space provided in this manual. For additional information
            refer to ''Passwords Tab'' on page 9-19. Failure to recall
            user defined passwords will render the system UNUSABLE.

CAUTION: The Bedside Alarm Tracking feature of the Panorama can
            affect ST alarm processing between the Panorama and the
            bedside monitor.

            If Bedside Alarm Tracking is on, the Panorama and the
            bedside monitor will always have the same learned ST
            alarms and the same ST Alarm Limits.

            If Bedside Alarm Tracking is off, the Panorama and the
            bedside monitor may have different learned ST values and
            different ST Alarm Limits. Therefore the alarms may occur at
            different ST levels for the Panorama and the bedside
            monitor.

CAUTION: The Telepack is a wireless product and may be subject to
            intermittent signal dropout.

CAUTION: Operation of this equipment requires the prior coordination with a frequency coordinator designated by the FCC for the Wireless Medical Telemetry Service.

CAUTION: Changes or modifications not expressly approved by Datascope Corp. could void the user's warranty.

CAUTION: The Telepack should not be used when the Electro Surgical Unit (ESU) is active.

CAUTION: To avoid potential system issues, deactivate the touch screen before cleaning.

CAUTION: DO NOT spray glass cleaner directly on a display as it could possibly leak inside a non-sealed unit and cause damage.

CAUTION: Follow your hospital protocol for handling of blood and body fluids.

CAUTION: The use of the Telepack may affect the functioning of other medical electrical equipment operating in the same frequency band.

CAUTION: Conductive parts of electrodes and associated connectors for applied parts and neutral electrode should not contact other conductive parts and earth.

CAUTION: The Telepack may not function properly, if it was subjected to extreme mechanical forces.

CAUTION: The Telepack may not function if the batteries installed in the device are corroded.

CAUTION: The Telepack should not be attached to the patient when the device is being programmed into the system.

CAUTION: Ensure that the ECG lead cable is plugged into the port firmly, the end cap of the battery is firmly secured and the serial port is also secured with the protective plug to prevent fluids from entering into the Telepack.

CAUTION: When disconnecting ECG leads from the patient, do not pull on the leadsets. This will decrease the life of the leadsets. Grasp the connectors on the leadset and pull gently.

CAUTION: Ensure that the lead wires are not inadvertently caught in the bed rails. If this happens, the insulation may get cut or the leadset may break.

CAUTION: Using more than one type of electrode on the same patient should be avoided because of variations in electrical resistance.

CAUTION: The LEDs on the Telepack may not be clearly visible under brightly lit conditions. The lighting should be adjusted to ensure that all LED indicators are clearly visible.

CAUTION: The user should monitor the Panorama Central Station for messages from the Telepack that indicate a low battery condition.

CAUTION: Periodically press the Test/CHECK button on the Telepack to verify the battery condition.

CAUTION: *Thoracic respiration measurement may interfere with some pacemakers. Refer to the pacemaker's manual.*

CAUTION: *Prior to sterilization, Lead sets must be removed from the Telepack. The Telepack must not be sterilized.*

CAUTION: *Do not block the speakers. Set the volume levels so that alarms can be heard at all times, as described in this Operation Manual.*

CAUTION: *Visually inspect the battery compartment for any foreign object prior to use.*

CAUTION: *Ensure that the batteries are removed when the Telepack is being stored.*

Indications for Use

Panorama Patient Monitoring Network

The indications for use for the Panorama Patient Monitoring Network include:

- Viewing real time patient clinical and demographic data
- Graphical and numeric trending of clinical data
- Storing and printing of clinical and demographic data
- Setting independent alarm limits for data sent by the bedside monitor.

The clinical data displayed by the Panorama Patient Monitoring Network is obtained from one or more Datascope compatible monitoring devices and includes: ECG waveforms, Invasive and Non-Invasive Blood Pressure, Blood Oxygenation (SpO$_2$), Heart Rate, Respiration Rate, Temperature, CO$_2$ inspired and end tidal, Ventricular Arrhythmia analysis and ST Segment analysis.

The Panorama Central Station is intended for use in a fixed location, in the healthcare facility setting, as a central viewing station. The Panorama Patient Monitoring Network is not intended to be directly connected to the patient at any time or installed in a patient's vicinity.

Panorama Telemetry Server

The Panorama Telemetry Server is intended for use under the direct supervision of a licensed healthcare practitioner. The system is designed to acquire and monitor physiological data for ambulating patients within a defined coverage area. The system processes the physiological data to detect various ECG arrhythmia events and select physiological parameter limit violations.

The Panorama Telemetry Server is intended for installation in a hospital or clinical environment to provide clinicians with patient physiological data, while allowing for patient mobility.

The physiological parameters monitored include ECG, Heart Rate from ECG, Lethal and Non-Lethal Arrhythmia Detection and ST Segment Analysis. Data received is sent to the Panorama Telemetry Server for ECG processing. This information can be displayed, trended, stored and printed at the Panorama Central Station.

Unpacking Information

The Panorama Patient Monitoring Network must be installed by a certified Datascope
Service Technician or authorized distributor. Please contact your authorized Datascope
Service Representative for additional information.

Symbols and Descriptions

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
⚠	Attention, Consult Accompanying Documents / Refer to Manual	Touchscreen symbol	Touchscreen
∿	Alternating Current (AC)	Bell symbol	Alarm On
⎓	Direct Current (DC)	Defibrillator symbol	Defibrillator proof - type CF equipment
Keyboard symbol	Keyboard	Crossed box symbol	Alarm Off
Mouse symbol	Mouse	Crossed speaker symbol	Alarm Mute
Input/Output symbol	Input/Output	Earth ground symbol	Earth Ground
Speaker symbol	Speaker	Patient Network	Panorama Patient Network Ethernet
Monitor symbol	Monitor	Central Network	Panorama Central Network Ethernet
Crossed trash symbol	Dispose of the batteries in accordance with any local regulations. Do not dispose of the batteries in a fire.	CSA symbol	Canadian Standard Association
IPX 7	Protected against the effects of immersion	FCC ID	Federal Communication Commission Registration Identification Number
Radiation symbol	Non-Ionizing Electromagnetic Radiation		
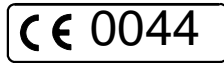
SYMBOL	DESCRIPTION
$C \in 0044$	A symbol designating compliance of the Panorama Central Station Monitoring system with the Medical Device Directive (MDD) 93/42/EEC, as a Class IIb device.
$C \in$	A symbol designating compliance of the Panorama Central Station tower and the Panorama Telemetry Server with the Electromagnetic Compatibility Directive and compliance of the Panorama Patient Monitoring Network accessories to the Medical Device Directive (MDD) as Class I devices.

Technical Support

For technical assistance please contact your area or regional Datascope Patient Monitoring Representative.

Additional information relating to the installation, servicing and repair of the Panorama Patient Monitoring Network is provided in the following documents:

Installation Guide, ViewPoint/Panorama Patient Monitoring Network (P/N 0070-00-0471).

Service Manual, ViewPoint/Panorama Patient Monitoring Network (P/N 0070-00-0457).

Printer Configuration Manual, ViewPoint/Panorama Patient Monitoring Network (P/N 0070-00-0561).

1.0 *System Overview*

This section provides a high level view of the authorized components of the Panorama Patient Monitoring Network.

- Components of the Panorama System
- Supported Devices

1.1 Components of the Panorama System

The Panorama Patient Monitoring Network is a Medical Electrical System comprised of both medical and non-medical devices (data processing equipment components). The system and its components are marked in accordance with MDD, Annex IX classification criteria.

The configuration of the Panorama system may consist of any of the following components:

DESCRIPTION	MDD CLASSIFICATION AND RULE	COMMENT
18″ Flat Panel Touchscreen Display*	Class 1, Rule 12	CE marked by the vendor for compliance with MDD and EMC Directives.
20″ Touchscreen Display*	Class 1, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
21″ Touchscreen Display*	Class 1, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
AP/Antennas	Class I, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
Hub*	Class 1, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
Passport 2® Patient Monitor	Class IIb, Rule 10, dash 3, "unless…" phrase	CE 0044 mark on the unit.
Spectrum™ Patient Monitor	Class IIb, Rule 10, dash 3, "unless…" phrase	CE 0044 mark on the unit and on individual package.
Printer(s)*	Class 1, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
Switch	Class 1, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
UPS*	Class 1, Rule 12	ITE equipment. CE marked by the vendor for compliance with LVD and EMC Directives.
Panorama Central Station Tower and Server*	Class 1, Rule 12	ITE equipment. CE mark on the unit and individual package.
Panorama Telepack-2.4	Class IIb, Rule 10, dash 3, "unless…" phrase	CE 0044 mark on the unit and on individual package.
Panorama Telepack-608	Class IIb, Rule 10, dash 3, "unless…" phrase	CE 0044 mark on the unit and on individual package.
Panorama Wireless Transceiver	N/A	N/A
Panorama Instrument Radio	Class 1, Rule 12; ITE equipment.	CE marked for compliance with LVD and EMC Directives.

*   *Required components (only one of the 3 displays listed is required)*

1.1.1 Licensing Key

The Panorama Central Station uses a licensing key to regulate the operation of the system.

The licensing key controls the following settings on the Panorama Central Station:

- Number of displays
- Number of channels
- Number of ST licenses
- Number of Arrhythmia licenses
- Full Disclosure data

For additional information regarding licensing keys, please have a System Administrator contact a Datascope representative.

1.2   Supported Devices

The Panorama Patient Monitoring Network is a networked configuration of devices, which collect patient data, and monitor user-defined parameters. The network consists of two local area networks (LAN); a Panorama Central Network, and a Panorama Patient Network. The Panorama Central Network manages stored patient data and controls data for other systems. The Panorama Patient Network manages real-time data by controlling the flow of data that is transmitted to/from the bedside monitors, and the Panorama Wireless Network.

The Panorama Patient Monitoring Network is networked together as depicted in FIGURE 1-1. The Network includes the following devices:

- Panorama Central Station
- Panorama Telemetry Server
- Panorama Wireless Transceiver
- Panorama Telepack
- Passport 2® and Spectrum™ Bedside Monitors
- Network Printer

The Panorama Central Station uses a single or dual display setup for monitoring and viewing patient parameters. A maximum of two displays can be used with one Panorama Central Station.   The Panorama Central Station manages the communication between the Panorama Central Network and Panorama Patient Network. The Panorama Patient Monitoring Network is comprised of one or more Panorama Central Stations.

The Panorama Telemetry Server is provided when the Panorama Wireless Network system is required. It acts as a bridge to connect remote monitoring devices, such as Telepacks or bedside monitors, to the Panorama Central Station. The Panorama Telemetry Server receives data from the remote monitoring devices and converts it into a protocol recognized by the Panorama Central Station. For wireless communication in the Wireless Medical Telemetry Service (WMTS) band, a Panorama Wireless Transceiver and radios are required, which transmit and/or receive data to/from remote devices using WMTS communication. For wireless communication in the Industrial Scientific Medical (ISM) band, off-the-shelf access points and radios are required, which transmit and/or receive data to/from remote devices using ISM communication.

The Panorama Telepack is a wireless device, which provides basic ECG monitoring of a patient. The Telepack sends data to the Panorama Central Station via the Panorama Telemetry Server, which monitors heart rate, ST, PVC, and Arrhythmia.

The Passport 2® and Spectrum™ bedside monitors are used to measure specified patient parameters.

The Network Printer provides a vehicle for printing collected data from the Panorama Patient Monitoring System. One Panorama Central Station is capable of supporting up to two printers.

The Panorama Central Station supports the following devices for use with the system:

- Panorama Central Station
- Panorama Telemetry Server
- Panorama Telepack-2.4 and Panorama Telepack-608
- Panorama Wireless Transceiver (Panorama Telepack-608 only)
- Network Printer
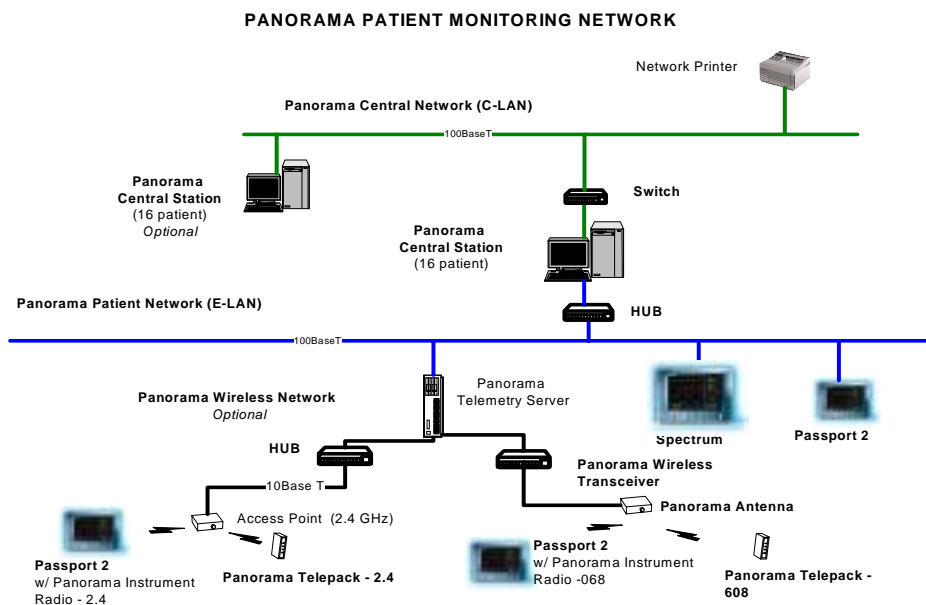
FIGURE 1-1 Panorama Patient Monitoring Network

1.2.1 Panorama Central Station

The Panorama Central Station is a device that monitors patients, collects data and performs alarm notification. Its settings may be customized to account for the special needs of patients.

The Panorama Central Station can be networked with other Panorama Central Stations using Ethernet via the Panorama Central Network.

1.2.2 Panorama Telemetry Server

The Panorama Telemetry Server bridges wireless communication between remote monitoring devices (such as Telepacks or bedside monitors) and the Panorama Central Station. The Panorama Telemetry Server receives data from a remote monitoring device and converts it into a protocol recognized by the Panorama Central Station. The Panorama Central Station and the Panorama Telemetry Server are networked together via the Panorama Patient Network.

The Panorama Telemetry Server communicates with the following remote devices:

- Panorama Telepack-2.4 and Panorama Telepack-608
- Panorama Wireless Transceiver (Panorama Telepack-608 only)
- Passport 2® (2.4 GHz) wireless bedside monitor

1.2.3   Panorama Telepack-2.4 and Panorama Telepack-608

The Panorama Telepack is a device that allows for the basic remote ECG monitoring of a patient. A Panorama Telepack monitors Heart Rate, ST, PVC and Arrhythmia. The Telepack sends data to the Panorama Central Station for analysis and storage via the Panorama Telemetry Server. The type of data that can be collected by a Telepack is dependent on the type of lead wire set and options configured for the connected patient.

NOTE: ***The Panorama Central Station is used to program, configure, monitor and collect data for Panorama Telepacks.***

Parameters/Waveforms

PARAMETERS	SETTINGS	PANORAMA ALARMS
ECG/Heart Rate	Waveform leads I, II, III are available with a 3-wire lead set (for Telepack-608 only).	Low Heart Rate High Heart Rate
	Waveform leads I, II, III, aVR, aVL, aVF, V are available with a 5-wire lead set.	
ST	ST analysis is enabled	ST Single ST Dual
PVC/min.	Arrhythmia analysis is enabled	High PVC V-Tach V-Fib Asystole Bigeminy Couplet Irregular HR Missed Beat Run Trigeminy Triplet

Additional Information

For additional information regarding Panorama Telepacks, refer to ''Telepack (Optional)'' on page 10-1.

For information regarding how to program and configure an Panorama Telepack, refer to the ''Wireless Tab'' on page 9-46.

For information regarding the care and maintenance of an Panorama Telepack, refer to the ''User Maintenance'' on page 11-1.

For information regarding the parameters monitored by an Panorama Telepack, refer to ''Parameter Specifications'' on page 13-1.

1.2.4 Panorama Wireless Transceiver (Panorama Telepack-608 only)

The Panorama Wireless Transceiver and its components serve as a bridge between the wired and the wireless infrastructures. This system co-exists so that a patient can be monitored using either path. A patient using instrument telemetry can transition from wired to wireless, and back, while being monitored from the same screen location at the central station. Communication for both wired and wireless monitoring is bi-directional and is capable of supporting coverage over large areas, or on different floors of the hospital.

The Panorama Wireless Transceiver and its components control the local wireless network, and are responsible for:

- Providing protocol conversion for telemetry equipped Datascope products.
- Receiving control information and patient data from telemetry equipped Datascope products.
- Sending control information to telemetry equipped Datascope products.
- Acting as a conduit for moving data between the wireless network and the wired network via Panorama Telemetry Server.

The Panorama Patient Monitoring Network diagram (FIGURE 1-1) indicates where the Panorama Wireless Transceiver and its components fit into the configuration of the overall system.

The Panorama Wireless Transceiver device contains four LED indicator lights. The indicator lights function as follows:

DEVICE LABEL	LED COLOR	DESCRIPTION
Power	Green	Power is applied.
Fault	Red	There is a fault in the device configuration.
Configured	Yellow	The device is configured for use.
Status	Blue	This is for future use.

CAUTION: **Operation of this equipment requires the prior coordination with a frequency coordinator designated by the FCC for the Wireless Medical Telemetry Service.**

1.2.5   Passport 2® Bedside Monitor

Passport 2 bedside monitors may be used to monitor patient data. The Passport 2 may use either a hardwired or a wireless (2.4 GHz) configuration. The Passport 2 sends data to the Panorama Central Station for analysis and storage via an Ethernet connection or remotely via the Panorama Server. The type of data that can be collected by a Passport 2 is dependent on the type of lead wire set and sensors used.

Parameters/Waveforms

PARAMETERS	SETTINGS	PANORAMA ALARMS
ECG/Heart Rate	Waveform leads I, II, III are available with a 3-wire lead set.	Low Heart Rate High Heart Rate
	Waveform leads I, II, III, aVR, aVL, aVF, V are available with a 5-wire lead set.	
	Waveform leads I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6 are available with a 12 lead card.	
ST	ST analysis is enabled	ST Single ST Dual
PVC/min.	Arrhythmia analysis is enabled	High PVC V-Tach V-Fib Asystole Bigeminy Couplet Irregular HR Missed Beat Run Trigeminy Triplet V-Rhythm (12-lead)
Respiration (Source: ECG, CO_2 and Gas Module)	Respiration is enabled and ECG is the source. CO_2 option is installed and CO_2 sensor is attached. Gas Module is installed and gas sensor is attached.	Low Respiration High Respiration Apnea
SpO_2	SpO_2 sensor is attached.	Low SpO_2 Rate High SpO_2 Rate
IBP1/IBP2 (Systolic, Diastolic, Mean)	IBPx option is installed and IBPx sensor is attached. IBP parameter labels include IBP, Art, UA, LV, PA, CVP, ICP, LA and RA. The label used is based on the label selected at the bedside monitor. *NOTE: x = 1, 2, 3 or 4*	Low IBPx Systolic High IBPx Systolic Low IBPx Diastolic High IBPx Diastolic Low IBPx Mean High IBPx Mean
INSP/ET CO_2	CO_2 option is installed and CO_2 sensor is attached. Gas Module is installed and gas sensor is attached.	High CO_2 Inspired Low CO_2 End Tidal High CO_2 End Tidal
INSP/ET O_2	Gas Module is installed and gas sensor is attached.	O_2 Inspired O_2 End Tidal
INSP/ET N_2O	Gas Module is installed and gas sensor is attached.	N_2O Inspired N_2O End Tidal
INSP/ET ISO	Gas Module is installed, gas sensor is attached and the Agent ID is ISO.	Agent ISO Inspired Agent ISO End Tidal

Parameters/Waveforms (Continued)

PARAMETERS	SETTINGS	PANORAMA ALARMS
INSP/ET ENF	Gas Module is installed, gas sensor is attached and the Agent ID is ENF.	Agent ENF Inspired Agent ENF End Tidal
INSP/ET DES	Gas Module is installed, gas sensor is attached and the Agent ID is DES.	Agent DES Inspired Agent DES End Tidal
INSP/ET SEV	Gas Module is installed, gas sensor is attached and the Agent ID is SEV.	Agent SEV Inspired Agent SEV End Tidal
INSP/ET HAL	Gas Module is installed, gas sensor is attached and the Agent ID is HAL.	Agent HAL Inspired Agent HAL End Tidal
NIBP (Systolic, Diastolic, Mean, Elapsed Time)	NIBP cable attached	Low NIBP Systolic High NIBP Systolic Low NIBP Diastolic High NIBP Diastolic Low NIBP Mean High NIBP Mean
Temp 1	Temperature sensor is attached.	Low Temperature 1 High Temperature 1

Additional Information

For additional information regarding Passport 2® bedside monitors, refer to the Passport 2 Operating Instructions.

For information regarding the parameters that can be monitored by the Passport 2, refer to ''Parameter Specifications'' on page 13-1.

1.2.6 Network Printer

The Panorama Central Station is capable of supporting two network printers at any given time.

The following network printers are approved for use with the Panorama Central Station:

- HP4050N
- HP4100N
- HP4200N

Additional Information

For information regarding the setup and configuration of a printer with the Panorama Central Station, refer to the Panorama Printer Configuration Manual (P/N 0070-00-0561).

Getting Started

This section provides an overview of the Panorama Central Station.

- The Panorama Central Station
- The Main Screen
- Common Controls and Elements
- Quick Reference Guide
- Troubleshooting

2.1 The Panorama Central Station

The Panorama system collects patient data from both wireless and hard-wired devices and monitors it based on its configured settings. Data is collected from bedside monitors (Passport 2/Spectrum) and Panorama telepacks (2.4 GHz). The type of data that is collected and viewed is determined by the device.

The Panorama system uses either a single or dual display setup to monitor the collected patient data. The display can show either 8 or 12 patient tiles. A maximum of two displays can be used with one Panorama Central Station. The system can use system default alarm limit settings or customized patient settings.

The full screen display (FIGURE 2-1) includes patient tiles for viewing patient data and a menu bar for navigating the system.
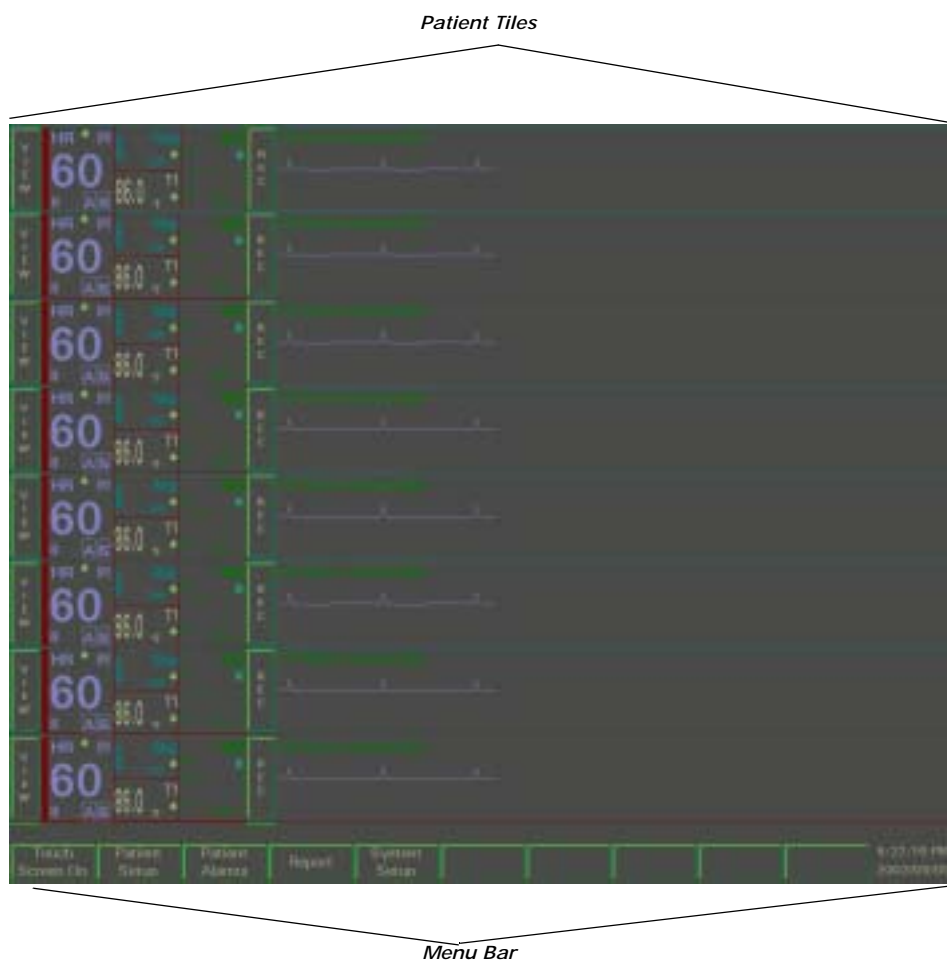
FIGURE 2-1 Full Screen Display

The Panorama system uses a split-screen display (FIGURE 2-2) to allow users to simultaneously enter patient information, and monitor patient data. The top half of the screen displays patient data, while the bottom half of the screen is converted to a work space for entering and modifying patient information.
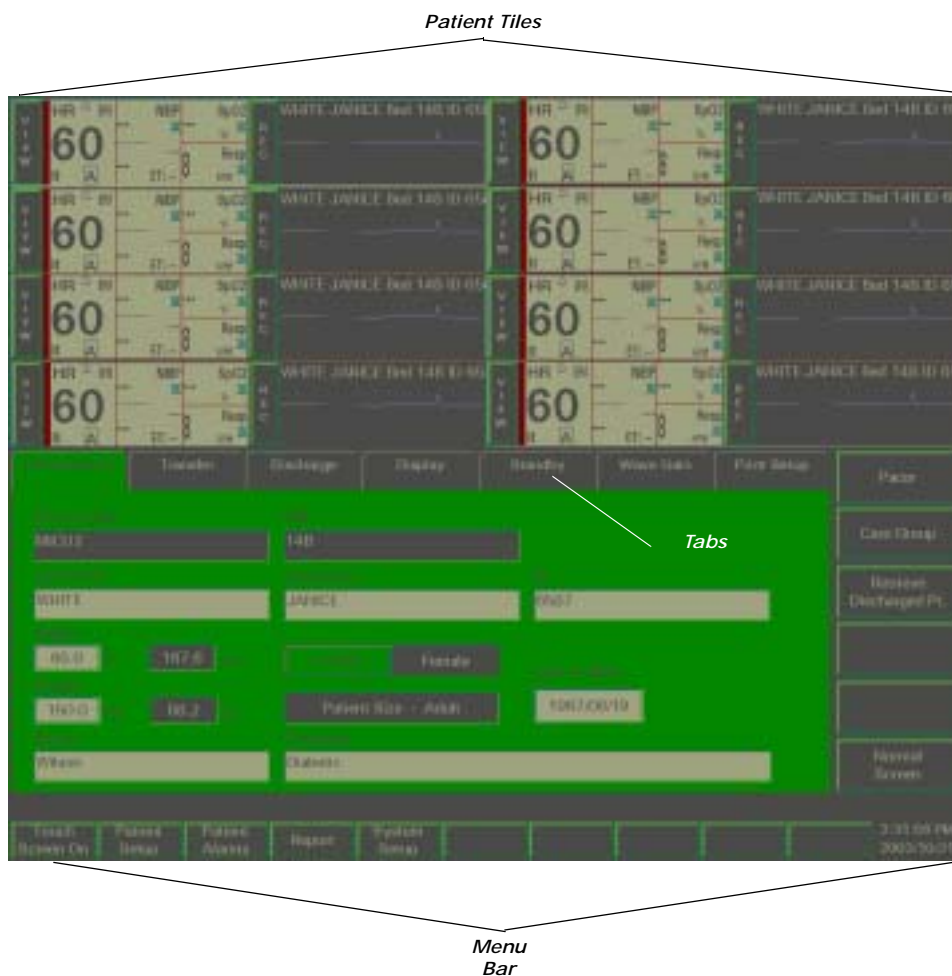
FIGURE 2-2 Split-Screen Display

2.2   The Main Screen

The Panorama Central Station's main screen is used to monitor patient data and to navigate the system.

The main screen includes the following elements:

- Patient Tiles (FIGURE 2-1/FIGURE 2-2)
- Menu Bar (FIGURE 2-1/FIGURE 2-2)
- Tabs (FIGURE 2-2)

2.2.1   Patient Tiles

Patient Tiles (FIGURE 2-3) are the core elements of the Panorama system. Patient tiles display patient information and data that is obtained from an external monitoring device. One patient and one monitoring device are assigned to each patient tile. The number of active patient tiles displayed at the Panorama Central Station is dependent on the number of patient tiles that were purchased with the system.

Each patient tile is divided into the following sections:

- VIEW/MUTE Button
- Care Group Indicator
- Digital Data Tile
- REC Button
- Patient Status Line
- Waveform Data Tile
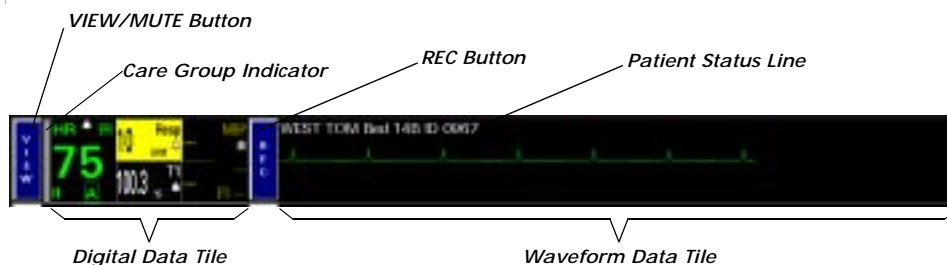
FIGURE 2-3 Patient Tile

For information regarding admitting a patient to the Panorama Central Station, see ''Auto-Admitting a Patient'' on page 2- 15. For information regarding the assignment of monitoring devices to a patient tile, refer to the ''Equipment Setup Tab'' on page 9- 21.

VIEW/MUTE Button

The **VIEW/MUTE** (FIGURE 2-3) buttons share the same location within the patient tile. The button that is displayed is dependant on the operating state of the patient tile. During normal operating conditions the **VIEW** button is displayed in the patient tile. During an alarm condition the **MUTE** button is displayed in the patient tile.

The **VIEW** button is available in a patient tile when no alarm conditions exist. The **VIEW** button changes the display to a split-screen and opens the **Bedside**, **Trends**, **Events**, **Disclosure** and **ST** tabs.

TAB	PURPOSE
Bedside	The **Bedside** tab provides an expanded view of a patient's digital and waveform data.
Trends	The **Trends** tab provides list and graphic views of a patient's historical digital data
Events	The **Events** tab provides a list of the events that have occurred for a patient tile. If waveform data is associated with an event it may also be viewed in the Events tab.
Disclosure	The **Disclosure** tab provides a patient's historical waveform data. Data may be viewed in a compressed view or magnified.
ST	The **ST** tab allows for the configuration and display of a patient's ST data.

The **MUTE** button is available in the patient tile when an alarm condition exists. The **MUTE** button silences the audio portion of a patient alarm for the configured time period.

Care Group Indicator

The Care Group indicator (FIGURE 2-3) is a rectangular bar that represents the care group to which a patient tile is assigned. Colors can be assigned to care group indicators. A black indicator is displayed if a patient tile is not assigned to a care group

For additional information regarding care groups, refer to the ''Care Group Tab'' on page 9- 2.

Digital Data Tile

The digital data tile (FIGURE 2-3) may include the following patient information:

- Digital data measurements

  Examples of digital data parameters include: Heart Rate, Respiration, SpO_2, Temperature, NIBP, PVC, and ST. The parameters available to a patient tile are dependent on the selected monitoring device.

  Digital data is shown in the color assigned to the parameter.

- Alarms on/Alarms off icon
- ST analysis icon
- Arrhythmia analysis icon
- Heart Rate parameter lead

For information regarding supported devices and the parameters measured by each, refer to ''Supported Devices'' on page 1- 4. For information regarding the parameters displayed in the digital data tile, refer to ''Parameter Specifications'' on page 13- 2.

The following table lists icons that may be shown in a digital data tile.

Digital Data Icons

ICON	MEANING
⌂	All of the alarms for the selected patient are enabled.
⊠	At least one alarm for the selected patient is disabled.
A	Arrhythmia Analysis is active for the selected patient. This icon is only applicable to the Heart Rate tile.
S	ST Analysis is active for the selected patient. This icon is only applicable to the Heart Rate tile.
aVR	Lead labels for the Heart Rate parameter include I, II, III, aVR, aVL, aVF, V, V1, V2, V3, V4, V5 and are dependent on the lead set used. This icon is only applicable to the Heart Rate tile. For additional information, refer to ''Parameter Specifications'' on page 13- 1. Lead labels are always shown in the Heart Rate tile when an ECG lead is used.

During an alarm condition, the parameter's digital data tile flashes in the color that is associated with its assigned alarm priority.

- The tile flashes red when a Priority 1 alarm occurs.
- The tile flashes yellow when a Priority 2 or a Priority 3 alarm occurs.

REC Button

The **REC** button (FIGURE 2-3) prints an All Strips Report for the selected patient tile. Selecting the **REC** button sends a print request to the **Print Status** tab and prints an All Strips Report. The All Strips Report provides real-time monitoring data for the selected patient. For additional information, refer to the ''All Strips Report'' on page 8- 2.

Patient Status Line

The Patient Status line (FIGURE 2-3) displays patient demographic information, physiological event messages and technical event messages. Demographic information (Last Name, First Name, Bed, ID) is only shown if it was entered in the **Demographics** tab. Demographic information is displayed as selected in the **Unit Choices** tab.

The following guidelines regulate the display of messages in the Patient Status line:

• The Patient Status line displays a patients demographic information, if available. Demographic information is shown in white text.

• The Patient Status line displays all Alarm Priority 1 physiological messages in red text.

• The Patient Status line displays Alarm Priority 2/3 physiological messages in yellow text.

• The Patient Status line displays the Mute Time message, if alarms have been silenced. The Mute Time message is shown in the color associated with the alarm priority.

• The Patient Status line displays technical event messages in white text.

Waveform Data Tile

The Waveform Data tile (FIGURE 2-3) displays the waveform data that was selected for the patient tile. The Waveform Data portion of a patient tile is capable of displaying two of the following waveform data parameters: HR (ECG), Respiration, CO_2, SpO_2, IBP, and ST. The available parameters are dependant on the selected monitoring device. For information regarding supported devices, and parameters measured, refer to ''Supported Devices'' on page 1-4.

Waveforms display in a patient tile using the following guidelines:

• Each waveform tile includes its own baseline.

• Waveforms are shown in a patient's configured color, wave gain, pacer enhancement and filter settings. If individual configurations are not set, the system default settings are used.

For information regarding the selection of patient waveform data, refer to the ''Display Tab'' on page 5-29. For information regarding the parameters that can be shown in the waveform tile, refer to ''Parameter Specifications'' on page 13-2.

2.2.2   Menu Bar

The Menu bar (FIGURE 2-4) is used to view system status, navigate the Panorama Central Station, and view the system time and date. The menu bar is fixed at the bottom of the screen.

The sections of the Menu Bar include:

• System Status Line

• Menu Buttons

• System Date/Time
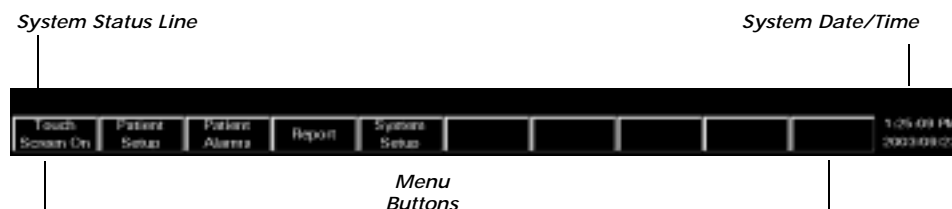
FIGURE 2-4 Panorama Menu Bar

System Status Line

The System Status line (FIGURE 2-4) displays messages regarding the status of the Panorama Central Station. The System Status line is located above the menu buttons, in the menu bar. System status messages refer to the operation of the system. For a listing of System Status messages, refer to ''System Events'' on page 14- 18.

Menu Buttons

Menu buttons (FIGURE 2-4) provide access to additional interactive screens. When a menu button (except Touch Screen On/Off) is selected, a series of corresponding tabs is opened.

Table 2-1 provides a list of the tabs that are associated with each menu button.

TABLE 2-1 Menu Bar Buttons

BUTTON	PURPOSE
Touch Screen On/Off	Used to enable/disable the Touch Screen for cleaning purposes.
Patient Setup	Provides access to the following tabs:
	• The **Demographics** tab is used to enter and modify patient demographic information (i.e: Last name, First name, ID, Bed, Height, Weight, etc.).
	• The **Transfer** tab is used to move patient information from tile to tile within a Panorama Central Station or between systems.
	• The **Discharge** tab is used to remove a patient from a patient tile.
	• The **Display** tab is used to select the parameter information displayed in a patient tile
	• The **Standby** tab is used to temporarily suspend monitoring while preserving patient settings and historical data.
	• The **Wave Gain** tab is used to adjust the wave gain used when displaying patient waveforms.
	• The **Print Setup** tab is used to select the parameters that are printed in a patient report.
Patient Alarms	Provides access to the following tabs:
	• The **Patient Alarm Setup** tab is an optional, password-protected tab used to restrict access to a patient alarm configuration.
	• The **Alarm Limits** tab is used to set a patient alarm limit thresholds.
	• The **Alarm Responses** tab is used to configure system behaviors during alarm conditions.
Report	Provides access to the following tabs:
	• The **Patient Reports** tab is used to request patient-specific reports.
	• The **System Reports** tab is used to request print request system-wide reports.
	• The **Print Status** tab is used to display a list of print requests that have been made and the status of each request.

TABLE 2-1 Menu Bar Buttons

BUTTON	PURPOSE
System Setup	Provides access to the following tabs:
	• The **Care Group** tab is used to create the system level care group assignment.
	• The **Parameter Color** tab is used to create the system default color and parameter assignment.
	• The **Installation Setup** tab is an optional password-protected tab used to restrict access to additional default settings.
	• The **Volume** tab is used to adjust system default volume levels for physiological alarms.
	• The **System Alarms** tab is used to create system default settings for alarms.
	• The **Passwords** tab is used to create passwords that control access to the system.
	• The **Equipment Setup** tab is used to enter information regarding external monitoring devices used with the Panorama Central Station.
	• The **Date/Time** tab is used to select the system default date and time formats.
	• The **Print Setup** tab is used to assign a system default printer for report printing.
	• The **Recalibrate Touch Screen** tab is used to recalibrate a touchscreen display.
	• The **Unit Priorities** tab is used to establish the system default order of parameters.
	• The **Unit Choices** tab is used to adjust the system default settings for Pacer Enhancement, Pacer Reject, Trend Interval, Demographic line information, Height, Weight, Temperature, and CO_2.
	• The **Wave Gain** tab is used to adjust the system default wave gain setting for displaying waveforms.
	• The **Wireless** tab is used to program external wireless monitoring devices.

System Date/Time

The **System Date/Time** (FIGURE 2-4) portion of the menu bar displays the system's date/time information. The system date/time is displayed in the format selected in the **Date/Time** tab. For additional information regarding the time and date formats available, refer to ''Date/Time Tab'' on page 9- 27.

2.2.3   Tabs

Tabs (FIGURE 2-5) are used to access different screens associated with the Panorama Central Station. Tabs are accessed using menu buttons, or the patient tile **VIEW** button. Each tab includes sidebar buttons for expanded functionality.

FIGURE 2-5 Tab Architecture

2.2.4   Sidebar Buttons

Sidebar buttons (FIGURE 2-5) are used to perform an action (such as print, enable
Arrhythmia or Normal Screen), add functionality to the tab (such as Skip to, Graphic and
Alarm Responses), or change the contents of the tab (such as Alarm Responses or Alarm
Limits).

2.3   Common Controls and Elements

This section provides information regarding several types of controls and elements that are used throughout the system.

Common controls and elements include:

- Buttons
- Message Dialog Boxes
- Keyboard Dialog Box
- Keypad Dialog Box

Buttons

Buttons provide options to expand the functionality of a tab. For example:

- To perform an action. This type of button temporarily changes its appearance to indicate that it has been selected.

  FIGURE 2-6 illustrates the change in appearance for an Action button before and after it is selected.

Unselected   *Selected*   *Unselected*   *Selected*

FIGURE 2-6 Action Buttons

- To enable/disable a function. This type of button changes its appearance to indicate if the function is enabled or disabled.

  FIGURE 2-7 illustrates the change in appearance for a Function button before and after it is selected.

Unselected   *Selected*   *Unselected*   *Selected*
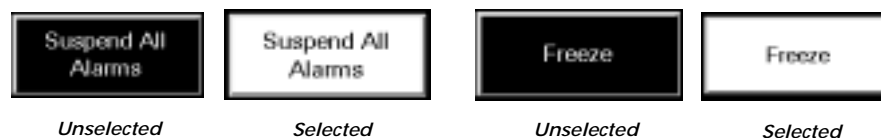
FIGURE 2-7 Function Buttons

Message Dialog Boxes

The Panorama Central Station uses message dialog boxes to verify an action (FIGURE 2-8) and to provide information (FIGURE 2-9).

A Question message dialog box contains *Yes* and *No* buttons.

- The *Yes* button confirms the action, closes the message box and enables all applicable sidebar buttons.

- The *No* button cancels the action, closes the dialog box and enables applicable controls and sidebar buttons.
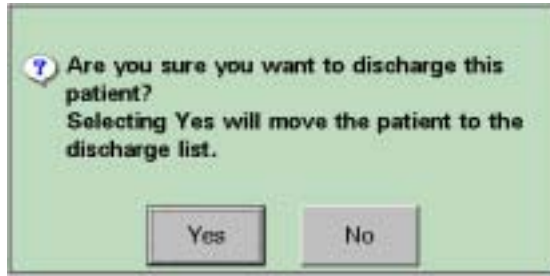
FIGURE 2-8 Message Dialog Box (Question)

An Informational message dialog box contains an *OK* button.

The *OK* button closes the message box and enables all applicable controls and sidebar buttons.
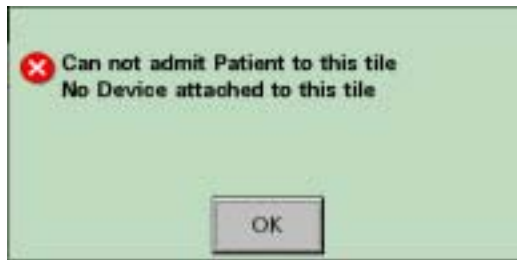
FIGURE 2-9 Message Dialog Box (Informational)

NOTE: **All controls are disabled when a Message dialog box is displayed.**

Keyboard Dialog Box

The Panorama Central Station uses a keyboard dialog box (FIGURE 2-10) to enter and edit alphanumeric information. The buttons on the keyboard dialog box are similar to a standard computer keyboard.

NOTE: **Tab controls are disabled when the keyboard dialog box is displayed.**

Caps Lock Indicator
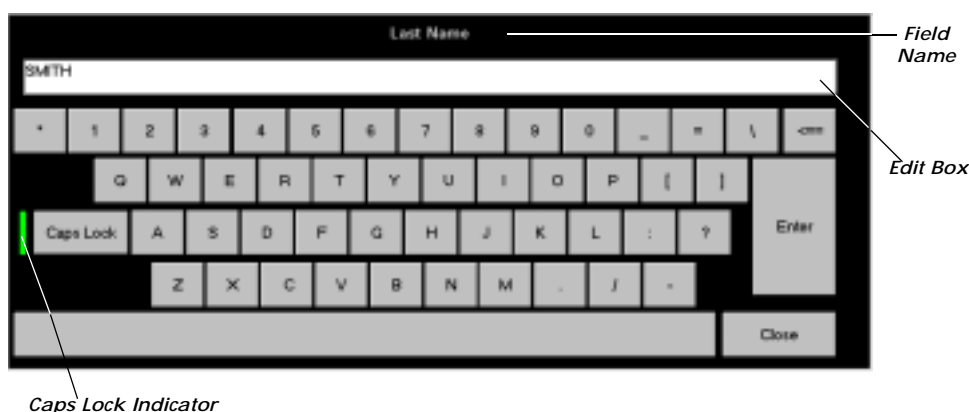
FIGURE 2-10 Keyboard Dialog Box

The keyboard dialog box includes:

- The name of the selected field
- An Edit box to show the entered value
- A *Close* button to discard changes
- An *Enter* button to accept changes
- A Backspace (*<==)* button to clear a single character in the edit box
- A *Caps Lock* button to enable or disable caps lock

  A Caps Lock indicator is shown when *Caps Lock* is enabled.

Keypad Dialog Box

The Panorama Central Station uses the keypad dialog box (FIGURE 2-11) to enter and edit numeric information. The buttons in the keypad dialog box are similar to a standard calculator.

NOTE: *Tab controls are disabled when the keypad dialog box is displayed.*
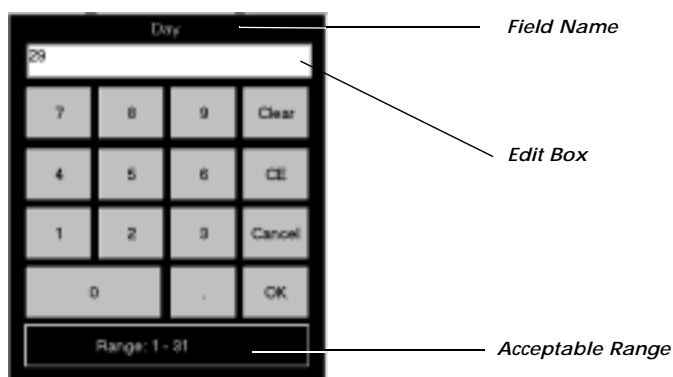
FIGURE 2-11 Keypad Dialog Box

The keypad dialog box includes:

- The name of the selected field

- An Edit box to show the entered value

- The acceptable range of values

- A *Clear* button to delete all of the numbers in the edit box

- A *CE* button to delete a single number from the edit box

- A *Cancel* button to discard changes

- An *OK* button to accept changes

2.4   Quick Reference Guide

The quick reference guide provides abbreviated procedural information for the operation of the Panorama Central Station.

Quick reference procedures include:

- Auto-Admitting a Patient
- Standby
- Discharge
- Display
- Patient Alarms (Limits and Responses)
- Viewing List Trends
- Viewing Events
- Viewing Disclosure

NOTE: ***Demographic information is bi-directionally shared between the bedside monitor and the Panorama Central Station.***

2.4.1   Auto-Admitting a Patient

Auto-admit allows for the immediate monitoring of a patient at the Panorama Central Station.

To auto-admit a patient:

1. Verify that the monitoring device is in the Equipment List. For information on how to access the Equipment List, refer to the "Equipment Setup Tab" on page 9-21.
2. Connect/attach the monitoring device to the patient.
3. Turn on the monitoring device. The monitoring device begins monitoring the patient. The parameters that are monitored are dependent on the monitoring device.

NOTE: ***Auto-admit uses the system default settings for monitoring the patient.***

2.4.2   Standby

Standby mode suspends the monitoring of a patient at the Panorama Central Station while retaining the patient's historical data and setup priorities. It is, therefore, important that a patient in Standby mode be alternatively monitored while in Standby.

To activate Standby mode at the Panorama Central Station:

1. Select the **Patient Setup** menu button.
2. Choose a patient tile by selecting its digital data or waveform area.
3. Select a **Standby** tab.
   - The **Panorama Standby Only** button places the patient in Standby at the Panorama Central Station.
   - The **Panorama and Bedside Standby** button places the patient in Standby at the Panorama Central Station and the bedside monitor.

     4. Select a patient's Standby location.

         a. Select a location from the patient location list

         b. Choose the ***Select*** button

To activate Standby mode at the bedside monitor:

- Select the ***STANDBY*** button on the front of the bedside monitor. This method places both the bedside monitor and the Panorama Central Station in ***Standby*** mode.

To remove patient from Standby mode at the Panorama Central Station:

1. Select the ***Patient Setup*** menu button.

2. Choose a patient tile by selecting its digital data or waveform area.

3. Select the ***Standby*** tab.

4. Select the ***Resume Monitoring*** button. Monitoring is resumed at the Panorama Central Station.

To remove patient from Standby mode at the Panorama Central Station and the bedside monitor:

- Select the ***STANDBY*** button on the front panel of the bedside monitor. Monitoring resumes at the Panorama Central Station and the bedside monitor.

For additional information on Standby, refer to "Standby Tab'' on page 5-34.

2.4.3   Discharge

The discharge function discharges a patient from a patient tile and resets the Panorama Central Station for the next patient.

> *NOTE:*   *Discharging a patient from the Panorama does not effect the information that is stored at the bedside monitor.*

To discharge a patient from the Panorama Central Station:

1. Select the ***Patient Setup*** menu button.

2. Choose a patient tile by selecting its digital data or waveform area.

3. Select the ***Discharge*** tab.

4. Select the ***Discharge Patient*** button.

5. A message dialog box is displayed.

    a. If at least two of the three required demographic fields (First Name, Last Name, Patient ID) are entered, the following message is displayed: ***Are you sure you want to discharge this patient? Selecting Yes will move the patient to the discharge list.*** The ***YES*** button discharges the patient. The ***NO*** button continues monitoring the patient.

    b. If at least two of the three required demographic fields are not completed, the following message is displayed: ***The patient's data and submitted print jobs will be deleted because at least two of the following fields, First Name, Last Name or ID have not been filled in. Do you still want to proceed with the discharge?*** The ***YES*** button discharges the patient. The ***NO*** button continues monitoring the patient.

To discharge a patient from a bedside monitor:

1. Select the ***DISCHARGE*** button on the front of the bedside monitor.

2. Select a discharge option.

- The ***Discharge From Monitor*** option erases all patient information at the bedside monitor.

- The ***Discharge From Central*** option erases all patient information at the Panorama Central Station. If two of the three demographic fields (First Name, Last Name, and ID) have been completed prior to the patient's discharge, the patient is moved to the Discharge list at the Panorama Central Station and may be retrieved.

- The ***Discharge From Both*** option erases all patient information at the Panorama Central Station and at the bedside monitor.

NOTE: *If a patient is discharged from the Central Station but not from the patient monitor, the Central Station tile will not be available for a new patient until a discharge has been performed at the patient monitor.*

3. Verify the selection. The ***Are you sure?*** confirmation dialog box is displayed.

- The ***Yes*** selection confirms the patient discharge.

- The ***No*** selection discard the patient discharge.

For additional information regarding discharging a patient, refer to "Discharging a Patient'' on page 5-27.

2.4.4   Display

The Display Tab controls the order of patient data tiles and the waveforms that are shown on the main screen.

To change order of the Display on main screen at Panorama Central Station:

1. Select the ***Patient Setup*** menu button.

2. Choose a patient tile by selecting its digital data or waveform area.

3. Select the ***Display*** tab.

4. Select a digital parameter tile to change a digital parameter. Select a waveform tile to change a waveform.

5. Select a parameter from the Parameter list.

6. Choose the *Select* button to confirm the choice.

For additional information regarding parameter display, refer to''Display Tab'' on page 5-29.

2.4.5   Patient Alarms

Patient alarms provide for customized alarm limits and responses based on patient need. For additional information on Patient Alarms, refer to ''Patient Alarm Setup Tab (Optional)'' on page 6- 2.

Alarm Limits

Alarm limits are the threshold settings at which a parameter alarm occurs. The ***Bedside Alarm Tracking*** option allows for the bi-directional communication of patient alarm limits between the bedside monitor and the Panorama Central Station.

To adjust alarm limits:

1. Select the *Patient Alarms* menu button.

2. Choose a patient tile by selecting its digital data or waveform area.

3. Select the *Alarm Limits* tab.

4. Select the parameter alarm limits to adjust. Use the slider bars to adjust the alarm limits. If *Bedside Alarm Tracking* is enabled, alarm limit adjustments are sent to the bedside monitor.

To adjust Alarm Limits at the bedside monitor with Alarm Tracking activated refer to bedside monitor's Operation Instructions. Passport 2® (P/N 0070-00-0440) and Spectrum™ (P/N 0070-00-0555-XX)

For additional information on Alarm Limits, refer to "Alarm Limits Tab (Patient)'' on page 6-4.

Alarm Responses

Alarm Responses determine the behavior of alarms when an alarm violation occurs at the Panorama Central Station.

To adjust alarm responses:

1. Select the *Patient Alarms* menu button.

2. Choose a patient tile by selecting its digital data or waveform area.

3. Select the *Alarm Responses* tab.

4. Select the parameter.

5. Adjust the alarm responses for the parameter.

For additional information on Alarm Responses, refer to "Alarm Responses Tab (Patient)'' on page 6-9.

Muting Alarms

To mute a non-latched alarm (for example, IBP):

* Select the *Mute* button in the alarming patient's tile to silence the alarm violation for the configured time period.

For additional information on muting an alarm, refer to "VIEW/MUTE Button'' on page 2-5.

To mute a latched alarm (for example, lethal arrhythmias):

* Select the digital data area or waveform area of the alarming patient tile to acknowledge the alarm *AFTER* the alarm condition is resolved.

NOTE: *The audio and visual indicators for a latched alarm will continue until the alarm is acknowledged, even if the alarm condition no longer exists.*

2.4.6   Viewing List Trends

The List Trends display presents all available digital data for a patient, in a list format.

To view List Trends at the Panorama Central Station:

1. Select the *VIEW* button in the desired patient tile.
2. Select the *Trends* tab.
   * Select the *Print More* button or the *Print Current* button to print the list trends.

To adjust the Trend Storage period:

1. Select the *Patient Setup* menu button.
2. Select the *Display* tab.
3. Select *Trend Storage* sidebar button.

For additional information on Viewing List Trends, refer to "List View of the Trends Tab'' on page 7-8.

2.4.7   Viewing Events

The *Events* tab displays all events and related waveform data (maximum of 1,000 events) for a patient.

To view Events at Panorama Central Station:

1. Select the *VIEW* button in the desired patient tile.
2. Select the *Events* tab.
   * Select the *Print More* button or the *Print Current* button to print the events list.
3. Select the *Event Filter* sidebar button to adjust the filter of the event list.

For additional information on events, refer to ''Events Tab'' on page 7-16.

4. To view the waveform data associated with an event, highlight the desired event and select the *View Waveform* sidebar button.

    The event waveform can be printed by selecting the *Print* sidebar button.

2.4.8   Viewing Disclosure

Disclosure data is all of a patient's historical waveform, and associated numeric information, for a selected time period.

To view Disclosure data:

1. Select the *VIEW* button in the desired patient tile.

2. Select the *Disclosure* tab.

3. Select *Display Choices* to change the waveforms being viewed.

    a. Select the *Print More* button or the *Print Hour* button to print the disclosure information.

4. Select the *Skip To* button to view a specific time in a patient monitoring history.

5. For a magnified view of the waveform, highlight a waveform and select the *Zoom In* button.

    a. Select the *Print* sidebar button to print the magnified disclosure information.

For additional information on Viewing Disclosure, refer to the ''Disclosure Tab'' on page 7-24.

2.5   Troubleshooting

This section lists some of the potential issues that may occur when admitting a patient to the Panorama Central Station.

MESSAGE/ISSUE *	REASON	SOLUTION
Cannot admit patient/patient data not displayed at central station.	Previous patient not discharged from system and/or monitoring device.	Discharge patient from system.
	Monitoring device not assigned to Equipment List.	Assign device to Equipment List.
	Serial Port setting on monitoring device incorrect.	Access Installation Menu on device. For more information, refer to Passport 2/Spectrum Operations Instructions.
	Panorama not installed in Options List in the Options Menu (for Passport 2®/ Spectrum™ only).	Access the Installation Menu, Options submenu. For more information, refer to Passport 2/Spectrum Operations Guide.
	Network setting on monitoring device is incorrect.	Access the Installation Menu, System Information submenu. For more information, refer to Passport 2/Spectrum Operations Instructions.
	Telepack batteries may need to be replaced.	Test batteries, and if necessary, replace batteries.
	Telepack batteries improperly installed.	Reinstall batteries.

   *   *Messages are shown in all bold text.*

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3.0 *Alarm Behavior*

This section outlines the alarm types available in the system and the conditions that would trigger an alarm condition.

- General Alarm Behavior
- Physiological Alarms
- Technical Alarms
- System Alarms

3.1   General Alarm Behavior

The Panorama Central Station uses alarms to send notification when a patient's physiological status changes, a patient has a specific technical issue, or when there is a system violation. When a patient is first admitted, the system alarm settings are in effect. Individual patient alarm settings can be modified by using the Patient Alarms button. By default, alarm settings send notification using the following methods:

- Visual indicators
- Audible indicators

The three alarm types used in this system include physiological, technical and system.

3.2   Physiological Alarms

Physiological alarms indicate a violation of a monitored patient's physiological alarm thresholds or arrhythmia analysis settings. For additional information regarding alarm thresholds and arrhythmia analysis settings, refer to ''Alarms and Events'' on page 14-1.

3.2.1   Alarm Behaviors

The visual and audio indicators associated with a physiological alarm are as follows:

Visual Indicators

Visual indicators provide visual notification when an alarm threshold is violated. When a physiological alarm condition is triggered, the digital data portion of the patient tile flashes, and a text message displays in the Patient Status line. The physiological alarm behavior varies depending on the parameter, and on the alarm priority associated with the parameter. This is discussed in further detail in the ''Physiological Alarm Responses'' on page 3-4.

Audio Indicators

Audio indicators provide audible notification when an alarm threshold is violated. Audio alarms are triggered by the following:

- The onset of an alarm condition, provided the alarm delay is not active.
- A configured alarm delay, if alarm delay is active.

Audio alarm options are configured in the **System Alarms** (Alarm Options) tab. By default, audio alarms are enabled.

Once the alarm condition is resolved and/or acknowledged, the audible alarm stops, unless the alarm is latched. For additional information regarding alarm limits, refer to ''Alarm Limit Settings'' on page 14-2. For additional information regarding alarm latching, refer to ''Latching'' on page 3-3.

3.2.2   Alarm Options

The alarm options associated with a parameter dictate how the system responds when an alarm occurs.

Bedside Alarm Tracking

Bedside Alarm Tracking enables an automatic, bi-directional flow of limit change and alarm delay information, between a patient bedside monitor and a Panorama Central Station. This option can be enabled/disabled in the **System Alarms** (Alarm Options) tab. By default, Bedside Alarm Tracking is enabled.

Latching

Alarm **latching** denotes that the audio and visual indicators, associated with an alarm condition, will not automatically stop even when the patient alarm condition is resolved.

By default, lethal alarm events and nurse call events are automatically latched and cannot be unlatched. Physiological alarm events can be configured to be latched or unlatched, and non-lethal alarms cannot be latched. When permitted, this option can be enabled/disabled in the **System Alarms** (Alarm Options) tab.

The patient tile **MUTE** button temporarily silences the alarm condition for the configured time period. However, if that latched alarm is not acknowledged during the configured time period, the alarm indicators resume. Once a patient alarm condition is resolved, it must be acknowledged at the central station. If it is not acknowledged, all audio and visual alarm indicators continue, even if the alarm condition is resolved.

To acknowledge a latched alarm condition, once the condition is resolved, perform one of the following:

• Select the digital data area of the affected patient tile
• Select the waveform area of the affected patient tile.

Acknowledging a latched alarm discontinues the alarm indicators until another alarm condition occurs.

Apnea Latching

The conditions for apnea latching follow standard latching procedures, however apnea latching is associated with an apnea alarm condition. This option can be enabled/disabled in the **System Alarms** (Alarm Options) tab. By default, Apnea Latching is enabled.

Alarm Delay

Alarm Delay is the configurable time period required before an alarm is triggered. Apnea alarms, ST alarms and Arrhythmia alarms are not affected by Alarm Delay. When permitted, this option can be enabled/disabled in the **System Alarms** (Alarm Options) tab. By default, an Alarm Delay time is not specified.

ST Alarm Delay

ST alarm delay postpones the trigger of the ST alarm for a configured time period. When permitted, this option can be enabled/disabled in the **System Alarms** (Alarm Options) tab. ST Alarm Delay defaults to a 30 second delay.

3.2.3 Physiological Alarm Responses

The alarm responses associated with a physiological alarm are as follows.

3.2.3.1 Alarm Priorities

The Panorama Central Station supports three **alarm priorities**. When alarm priority is turned on, the choices available are Alarm Priority of 1, 2 or 3. Alarm priority may be turned off by using the Priority Off setting. Alarm priorities associated with lethal alarm parameters cannot be changed from their default value of Priority 1. However, all other parameters can be modified. The alarm priority used to configure a parameter defines the alarm severity.

When a parameters is assigned a Priority Off, there are no visual or audio alarm indicators associated with the alarm event, however **Print on Alarm** and **Save to Event** options are still available.

Alarm priorities are configured in the patient **Alarm Responses** and the **System Alarms** (Alarm Responses) tabs.

For additional information about defining a parameters alarm priority, refer to ''Configuring Alarm Responses'' on page 6-9 and ''Setting the System Alarms Responses'' on page 9-16.

Priority 1 Alarms

Priority 1 alarms are the most severe alarm type. Arrhythmia alarms (Asystole, V-Tach and V-Fib) are automatically configured as Priority1alarms and cannot be modified. Priority 1 alarm conditions cause the parameter's digital to flash in red (for a physiological alarm), display a red text message in the Patient Status line and use a Priority 1 alarm sound (if alarm delay is not enabled). Parameters alarm priority is configured in the **System Alarms** (Alarm Responses) tab.

Priority 2 Alarms

Priority 2 alarms are less severe than Priority 1 alarms, and have different visual and audio indicators. Heart rate (HR), ST Single and ST Dual default to Priority 2 alarms. Priority 2 alarm conditions cause the applicable parameter sub-tile to flash in yellow (for a physiological alarm), display a yellow text message in the Patient Status line and use a Priority 2 alarm sound (if alarm delay is not enabled). Parameters alarm priority is configured in the **System Alarms** (Alarm Responses) tab.

Priority 3 Alarms

Priority 3 alarms are the least severe of the three alarm priorities. By default, temperature (T1/T2), respiration and SpO_2 are Priority 3 alarms. Priority 3 alarm conditions cause the parameter's digital sub-tile to flash in yellow (for a physiological alarm event), display a yellow text message in the Patient Status line and use a Priority 3 alarm sound (if alarm delay is not enabled). Parameters alarm priority is configured in the **System Alarms** (Alarm Responses) tab.

Priority Off

Alarm priority can be turned off for certain alarms. Parameters configured to use Priority Off do not have any visual or audio alarm indicators, however, the **Print on Alarm** and **Save to Event** alarm response options still function.

3.2.3.2 Save to Event

Save to Event enables the Panorama Central Station to save a 20 second snapshot of a specific alarm event so that it can later be retrieved and studied in more detail.

3.2.3.3 Print on Alarm

Print on Alarm automatically generates a patient All Strips report when a specified alarm is triggered. For additional information about the All Strips report, refer to the ''All Strips Report'' on page 8-2.

3.3 Technical Alarms

Technical alarms are patient specific and are related to technical issues that occur with cables, leads, sensors and calibration.

3.3.1 Alarm Behaviors

The visual and audio indicators associated with a technical alarm are as follows:

Visual Indicators

Technical visual indicators display as white text messages in the Patient Status line.

Audio Indicators

Technical alarm audio indicators are based on Technical Events Sound settings in the **System Alarms** (Alarm Options) tab, the event type and the **Volume** tab settings.

3.3.2 Alarm Options

There is one alarm option available for a technical alarm.

Technical Event Sound

The Technical Events Sound option enables/disables audio notification when a technical alarm is triggered. Some events, for example, a **Communication Lost** event, send an audio alarm notification even when the Technical Events Sound option is disabled. By default, the Technical Event Sound option is turned on.

3.3.3 Alarm Responses

Alarm responses are not available for technical alarms.

3.4 System Alarms

System alarm events are associated with system-wide issues at the Panorama Central Station.

3.4.1   Alarm Behaviors

The visual and audio indicators associated with a system alarm are as follows:

Visual Indicators

System alarm audio indicators display as white text messages in the System Status line.

Audio Indicators

System audio alarm indicators are based on the settings in the **Volume** tab.

4.0 *Lead Placement*

This section outlines the suggested lead placement procedures.

- Introduction
- Skin Preparation
- Electrode Patch Location
- Lead Placement
- Troubleshooting

4.1 Introduction

Various monitoring issues are directly linked to poor site preparation and improper ECG electrode placement. If artifact is present on the ECG waveform, then the arrhythmia processing, alarm processing, and quality of the monitoring function may be affected. The presence of artifact can prevent the monitor from establishing an accurate reference ECG waveform thereby increasing the degree of difficulty the monitor has assessing the ECG rhythm.

The quality of an ECG signal is directly affected by electrode site skin preparation, electrode patch quality and ECG lead placement. Optimizing the ECG signal is imperative for accurate monitoring.

4.2 Skin Preparation

Electrode sites should be clean and dry and should provide a smooth flat surface. Proper skin preparation is essential in obtaining an accurate ECG reading. Incidental electrical activity and inaccurate readings may arise from incorrect skin preparation.

The following skin preparation procedure is recommended for secure electrode patch application:

1. Shave the hair from the electrode sites in a circular area with a diameter of 2-4 inches.

2. Use a dry gauze pad to remove excess skin oils, skin cells and residue from the electrode sites. Never rub the skin until it is raw or bleeding.

NOTE: ***Prepare the electrode site with alcohol only if the skin is extremely greasy. If alcohol is used as a drying agent, always allow the skin to dry before placing the electrode patch on the skin.***

4.3 Electrode Patch Location

NOTE: ***Store electrode patches at room temperature and open just prior to use.***

NOTE: ***Avoid more than one type of electrode on a patient because of variations in electrical resistance.***

NOTE: ***Avoid placing electrode patches directly over bone prominences or over any high activity movement areas such as shoulders or arms because muscle motion produces electrical activity. If an electrode patch is placed over a large muscle such as the pectorals, the monitor may detect this additional muscle activity and could lead to false arrhythmia calls.***

1. Peel the backing off of the electrode patch only when it is ready for use to prevent evaporation of the contact gel medium. Visually inspect the contact gel medium for moistness. If the gel medium is not moist, do not use the electrode patch. Dry electrode patches are not conductive.

NOTE: ***If using the snap type electrode wires, attach the electrode patch to the lead wire before placing patch on the patient.***

2. Attach the electrode patch to the skin at the prepared site. Smooth the electrode patch down in a circular motion to ensure proper skin contact. If using soft gel electrodes, never push down directly over the contact gel medium as this may displace the gel and cause monitoring artifact. If using hard gel electrodes, it is recommended that during application, the center of the electrode should be slightly pressed onto the skin to ensure direct contact. Consult the electrode patch manufacturer's instructions for specific use.

3. Secure the lead wires to the patient according to hospital practice. For additional information see "Lead Placement" on page 4-4. If using a Panorama Telepack, always secure the device to the patient according to hospital standard.

WARNING: **Ensure that the ECG lead wires are neatly secured in such a way to prevent the lead wires from encircling the patient's neck and causing possible strangulation.**

NOTE: **It is recommended that electrode patches be changed at least every 24-36 hours to maintain proper contact with the skin. Some patients may require electrodes to be changed more often. Electrode patches are disposable and should be applied only once. Try to avoid reusing the exact same electrode site during reapplication. If an electrode becomes wet with fluid, change the electrode patch.**

4.4   Lead Placement

The computerized arrhythmia algorithm works best when the patient's R wave is significantly larger than the P wave or the T wave. If the R wave is not significantly larger than other lower voltage waves on the ECG tracing, the computer may have some difficulty in identifying the appropriate waves. On some patients, electrode patch placement and/or ECG lead viewed may need to be adjusted in order to obtain a significant R wave.

This section outlines lead placement according to guidelines for the American Heart Association (AHA) and the International Electro-Technical Commission (IEC).

4.4.1   American Heart Association (AHA) Lead Placement

The AHA lead placement is available for 3, 5 and 12-wire lead set configurations.

AHA Standard 3-wire Lead Set
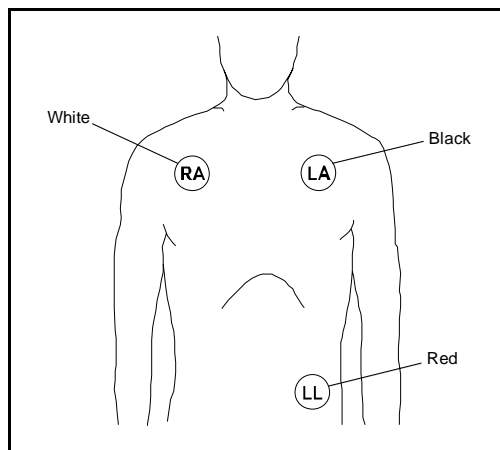
FIGURE 4-1 3-wire Lead Placement (AHA)

- Place RA (white) electrode under patient right clavicle, mid-clavicular line within the rib cage frame.
- Place LA (black) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.
- Place LL (red) electrode on the patient's lower left abdomen within the rib cage frame.

AHA Standard 5-wire Lead Set
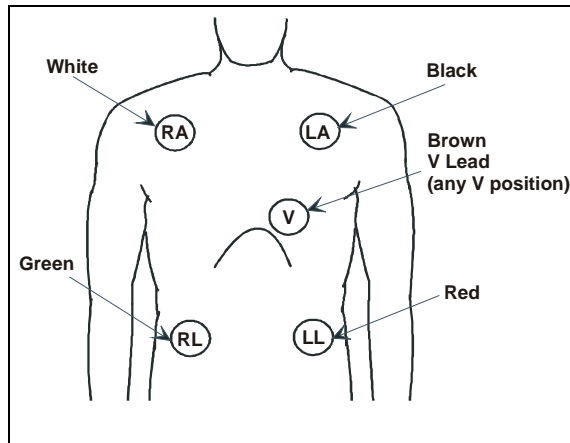
FIGURE 4-2 5-wire Lead Placement (AHA)

- Place RA (white) electrode under the patient's right clavicle, mid-clavicular line within the rib cage frame.
- Place LA (black) electrode under the patient's left clavicle, mid-clavicular line within the rib cage frame.
- Place LL (red) electrode on the patient's lower left abdomen within the rib cage frame.
- Place RL (green) electrode on patient's lower right abdomen within the rib cage frame.
- Place the V Chest lead (brown) electrode in the proper positioning for desired lead V1-V6.

AHA Standard 12-wire Lead Set
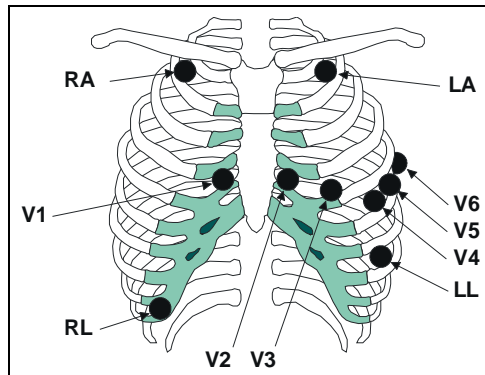
FIGURE 4-3 12-wire Lead Placement (AHA)

- Place RA (white) electrode under the patient's right clavicle, mid-clavicular line within the rib cage frame.
- Place LA (black) electrode under the patient's left clavicle, mid-clavicular line within the rib cage frame.
- Place LL (red) electrode on the patient's lower left abdomen within the rib cage frame.
- Place RL (green) electrode on patient's lower right abdomen within the rib cage frame.
- Place V1 (brown) chest lead in the fourth intercostal space, right sternal border.
- Place V2 (brown) chest lead in the fourth intercostal space, left sternal border.
- Place V3 (brown) chest lead midway between V2 and V4 on a straight line.
- Place V4 (brown) chest lead in the fifth left intercostal space, mid-clavicular line.
- Place V5 (brown) chest lead in the fifth left intercostal space, anterior axillary line.
- Place V6 (brown) chest lead in the fifth left intercostal space, mid-axillary line.

4.4.2   International Electro-Technical Commission (IEC) Lead Placement

The IEC lead placement is available for 3, 5 and 12-wire lead set configurations.

IEC Standard 3-wire Lead Set
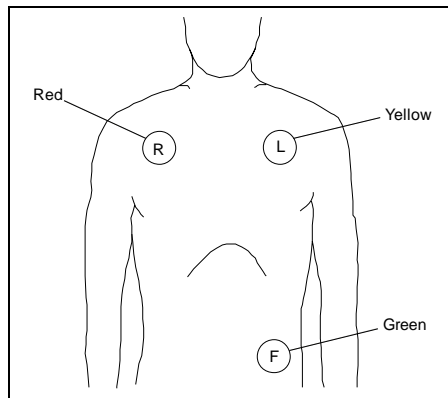
FIGURE 4-4 3-wire Lead Placement (IEC)

- Place R (red) electrode under patient right clavicle, mid-clavicular line within the rib cage frame.
- Place L (yellow) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.
- Place F (green) electrode on the patient's lower left abdomen within the rib cage frame.

IEC Standard 5-wire Lead Set
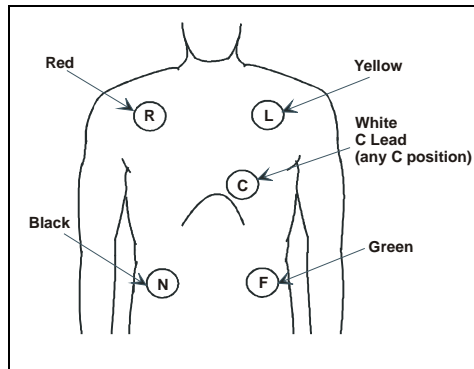
FIGURE 4-5 5-wire Lead Placement (IEC)

- Place R (red) electrode under the patient's right clavicle, mid-clavicular line within the rib cage frame.
- Place L (yellow) electrode under the patient's left clavicle, mid-clavicular line within the rib cage frame.
- Place F (green) electrode on the patient's lower left abdomen within the rib cage frame.
- Place N (black) electrode on patient's lower right abdomen within the rib cage frame.
- Place the C (white) electrode (Chest lead) in the proper positioning for the desired lead C1-C6.

IEC Standard 12-wire Lead Set
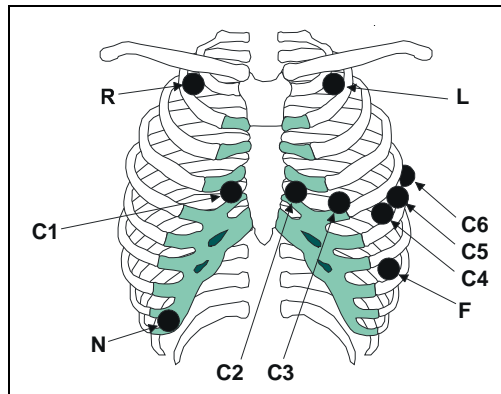
FIGURE 4-6 12-wire Lead Placement (IEC)

- Place R (red) electrode under the patient's right clavicle, mid-clavicular line within the rib cage frame.

- Place L (yellow) electrode under the patient's left clavicle, mid-clavicular line within the rib cage frame.

- Place F (green) electrode on the patient's lower left abdomen within the rib cage frame.

- Place N (black) electrode on patient's lower right abdomen within the rib cage frame.

- Place the C1 (white) electrode (Chest lead) in the fourth intercostal space, right sternal border.

- Place the C2 (white) electrode (Chest lead) in the fourth intercostal space, left sternal border.

- Place the C3 (white) electrode (Chest lead) midway between C2 and C4 on a straight line.

- Place the C4 (white) electrode (Chest lead) in the fifth left intercostal space, mid-clavicular line.

- Place the C5 (white) electrode (Chest lead) in the fifth left intercostal space, anterior axillary line.

- Place the C6 (white) electrode (Chest lead) in the fifth left intercostal space, mid-axillary line.

4.4.3   Special Considerations

Lead II Monitoring
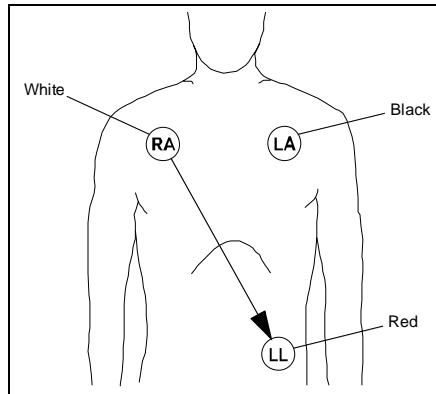
FIGURE 4-7 Lead II Monitoring (AHA)
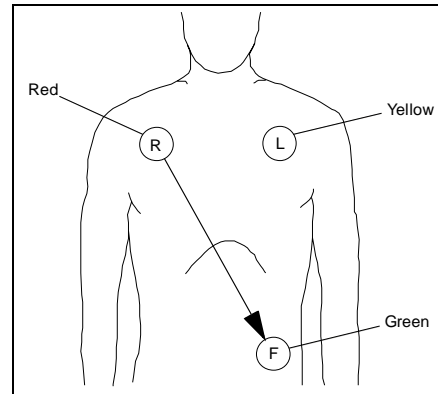
FIGURE 4-8 Lead II Monitoring (IEC)

- Place RA (white) electrode under patient right clavicle, mid-clavicular line within the rib cage frame.

- Place LA (black) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.

- Place LL (red) electrode on the patient's lower left abdomen within the rib cage frame.

- Select ECG Lead II on monitor. Lead II is the direct electrical line between the RA (white) electrode and the LL (red) electrode.

- Place R (red) electrode under patient right clavicle, mid-clavicular line within the rib cage frame.

- Place L (yellow) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.

- Place F (green) electrode on the patient's lower left abdomen within the rib cage frame.

- Select ECG Lead II on monitor. Lead II is the direct electrical line between the R (red) electrode and the F (green) electrode.

AHA Modified Chest Lead (MCL) Monitoring with a 3-wire Lead Set
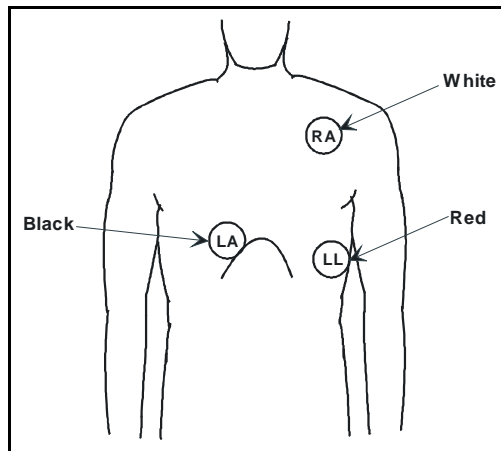
FIGURE 4-9 MCL Monitoring with a 3-wire Lead Set (AHA)

Some patients may require monitoring in a MCL configuration.

- Place RA (white) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.
- Place LA (black) electrode right sternal border, fourth intercostal space within the rib cage frame.
- Place LL (red) electrode on the patient's lower left abdomen within the rib cage frame.
- Select ECG Lead I for MCL_1 monitoring. Lead I is the direct electrical line between the RA (white) electrode and the LA (black) electrode.
- Select ECG Lead II for MCL_6 monitoring. Lead II is the direct electrical line between the RA (white) electrode and the LL (red) electrode.

IEC Modified Chest Lead (MCL) Monitoring with a 3-wire Lead Set
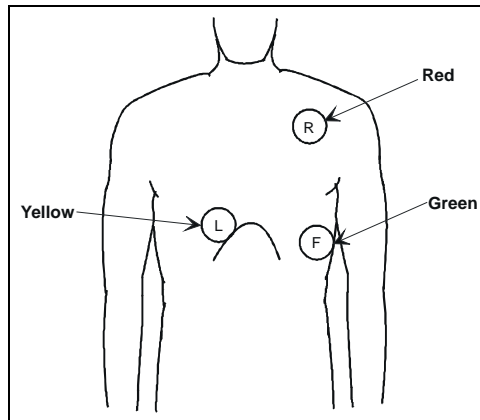
FIGURE 4-10 MCL Monitoring with a 3-wire Lead Set (IEC)

Some patients may require monitoring in a MCL configuration.

- Place R (red) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.
- Place L (yellow) electrode right sternal border, fourth intercostal space within the rib cage frame.
- Place F (green) electrode on the patient's lower left abdomen within the rib cage frame.
- Select ECG Lead I for MCL_1 monitoring. Lead I is the direct electrical line between the R (red) electrode and the L (yellow) electrode.
- Select ECG Lead II for MCL_6 monitoring. Lead II is the direct electrical line between the L (red) electrode and the F (green) electrode.

Neonatal Electrode Placement

Using a 3-wire lead set, ECG lead placement on a neonate is usually directed towards obtaining the best possible respiration data through the ECG thoracic impedance technique. Thoracic impedance is usually measured between the Right Arm and Left Arm electrode patches. These patches should be placed on the chest directly across from each other to optimize the measuring of the neonate's chest movement.
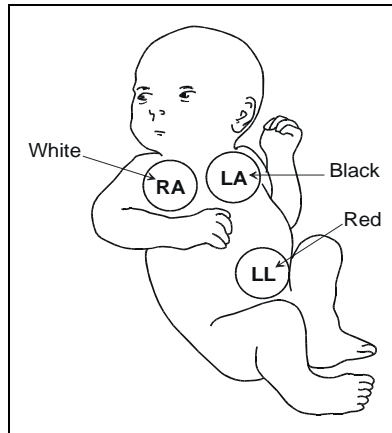
FIGURE 4-11 Neonatal 3-wire Lead Placement (AHA)
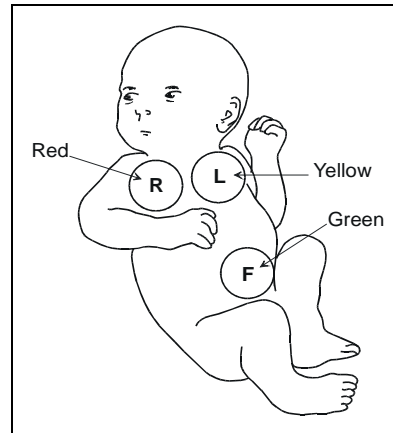
FIGURE 4-12 Neonatal 3-wire Lead Placement (IEC)

- Place RA (white) electrode under patient right clavicle, mid-clavicular line within the rib cage frame.

- Place LA (black) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.

- Place LL (red) electrode on the patient's lower left abdomen within the rib cage frame.

- Place R (red) electrode under patient right clavicle, mid-clavicular line within the rib cage frame.

- Place L (yellow) electrode under patient left clavicle, mid-clavicular line within the rib cage frame.

- Place F (green) electrode on the patient's lower left abdomen within the rib cage frame.

Using a Transcutaneous Electrical Nerve Stimulator (TENS)

Since a TENS unit transmits electrical impulses, avoid placing ECG electrode patches near the TENS electrodes. ECG electrode patches may need to be repositioned and the ECG lead viewed may need to be adjusted until the optimum ECG tracing is obtained.

Monitoring a Pacemaker Patient
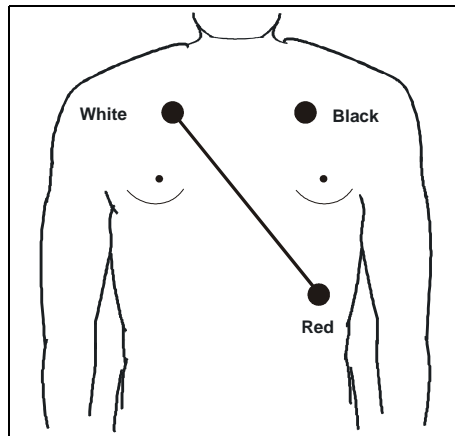
FIGURE 4-13 3-wire Lead Placement for a
Pacemaker Patient (AHA)
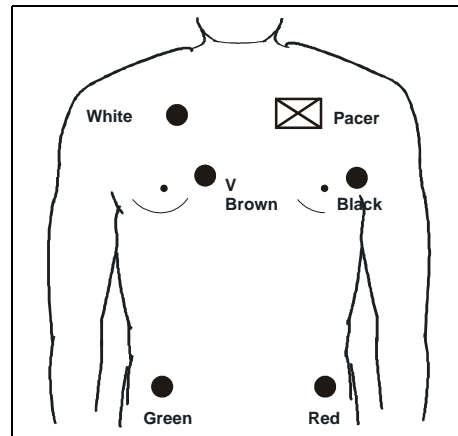
FIGURE 4-14 5-wire Lead Placement for a
Pacemaker Patient (AHA)

A Pacemaker patient usually requires a different electrode patch placement configuration than a non-pacemaker patient.

Do not place an ECG electrode directly over the pacemaker generator. Place the electrode patches 3-5 inches away from the pacemaker generator area. For example, if the pacemaker generator is located in the right subclavian area, relocate the Right Arm (white) electrode closer in towards the center of the chest.

4.5   Troubleshooting

This section lists some of the potential messages and issues that may occur.

MESSAGE/ISSUE *	REASON	SOLUTION
Noisy ECG traces	Loose or dry electrodes.	Apply fresh, moist electrodes.
	Defective electrode wires.	Replace wires as necessary.
	Patient cable or leads are routed too close to other electrical devices.	Eliminate 60 Hz interference.
		Use ECG cable with internal filter block.
Excessive Electro-surgical Interference	Inadequate skin preparation prior to application of electrode.	Repeat skin preparation and electrode location procedures.
		Apply fresh, moist electrodes.
Intermittent Signal	Connections not tight and/or properly secured.	Ensure proper connection. (cable to monitor, cable to lead, lead to electrode).
	Electrodes dry or loose.	Repeat skin preparation and apply fresh, moist electrodes.
	Cable or lead wires damaged.	Check with continuity tester.
Excessive alarms: heart rate, lead fault	Electrodes dry	Repeat skin preparation and apply fresh, moist electrodes.
	Alarm limits set too close to patient's normal heart rate.	Readjust
	R-wave wrong size	Must be twice the amplitude of the other part of the waveform.
	Excessive patient movement or muscle tremor.	Reposition electrodes and secure with tape, if necessary.
Low Amplitude ECG Signal	Gain set too low.	Readjust the ECG wave gain as required. Refer to the ''Wave Gain Tab (System)'' on page 9-44 for instructions on adjusting the wave gain setting.
	Electrodes dry/old	Apply fresh, moist electrodes.
	Skin improperly prepared	Abrade skin.
	Possibly not patient's normal complex.	Check with 12-lead electro-cardiogram.
	Electrode could be positioned over a bone or muscle mass.	Reposition electrodes.
No ECG Waveform	Gain set too low.	Readjust the ECG wave gain as required. Refer to the ''Wave Gain Tab (System)'' on page 9-44 for instructions on adjusting the wave gain setting.
	Lead wires and patient cable not fully inserted into proper receptacle.	Check insertion.
	Cable or lead wires damaged.	Check with lead continuity tester.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Base Line Wander	Patient moving excessively.	Secure lead wires and cable to patient.
	Patient respiration variance.	Reposition electrodes
	Electrodes dry or loose	Repeat skin preparation and apply fresh, moist electrodes.
Artifact	The 12-lead ECG is detecting muscle artifact, or electrical interference from auxiliary devices.	Check leads, follow skin preparation procedure.
		Check for electrical interferences, replace wires as necessary.

*   *Messages are shown in all bold text.*

5.0 *Patient Setup Functions*

This section describes patient setup at the Panorama Central Station.

- Demographics Tab
- Transfer Tab
- Discharge Tab
- Display Tab
- Standby Tab
- Wave Gain Tab (Patient)
- Print Setup Tab (Patient)

5.1 Demographics Tab

The ***Demographics*** tab (FIGURE 5-1/FIGURE 5-2) allows for the entry and modification of patient demographic information (such as name, age and weight) and patient settings (such as care group, pacer, arrhythmia and ST.) The ***Demographics*** tab is only accessible when the selected patient tile is assigned to a monitoring device.

This section includes the following:

- Accessing the Demographics Tab
- Entering Data in the Demographics Tab
- Sidebar Buttons
- Troubleshooting

5.1.1 Accessing the Demographics Tab

1. From the menu bar, select the ***Patient Setup*** menu button. The tabs associated with patient setup are displayed.

2. Select the ***Demographics*** tab. The ***Demographics*** tab is displayed.

FIGURE 5-1 Demographics Tab (Bedside Monitor)

FIGURE 5-2 Demographics Tab (Telepack)

NOTE: ***The layout and functionality of the Demographics tab
changes based on the type of monitoring device assigned to
the patient tile.***

5.1.2 Entering Data in the Demographics Tab

This section outlines entering and modifying data in the ***Demographics*** tab.

Select the Patient to be Set Up/Modified

Choose a patient tile by selecting its digital data or waveform area. The patient's last name and bed number are displayed in the Demographics field.

Device Label Field

The ***Device Label*** field displays the identification label for the device assigned to the selected patient tile.

The device label cannot be entered or modified in the ***Demographics*** tab. Device Label data is entered and modified via the ''Equipment Setup Tab'' as described on page 9-21.

Bed Field

The ***Bed*** field is used to display and enter the label data for bed assignment.

Entering a Value in the Bed Field (Bedside Monitor)

• The ***Bed*** field can only be entered, or modified, at the bedside monitor.

Entering a Value in the Bed Field (Telepack)

1. From the ***Demographics*** tab, select the ***Bed*** field. The keyboard dialog box is displayed.
2. Enter a bed value (maximum of 15 characters).
   • The Backspace (***<==)*** button clears a single character in the edit box.
   • The ***Caps Lock*** button enables/disables the caps lock function. A Caps Lock indicator displays when ***Caps Lock*** is enabled.
3. Accept or reject keyboard entry.
   • The ***Close*** button discards the changes.
   • The ***Enter*** button accepts the changes.

Last Name Field

The ***Last Name*** field is used to enter the last name of the patient. A patient's last name can be entered at the bedside monitor or the Panorama Central Station because the system enables an automatic bi-directional flow of information.

1. Select the ***Last Name*** field. The keyboard dialog box is displayed.
2. Enter the patient's last name (maximum of 15 characters).
   • The Backspace (***<==)*** button clears a single character in the edit box.
   • The ***Caps Lock*** button enables/disables the caps lock function. A Caps Lock indicator displays when ***Caps Lock*** is enabled.
3. Accept or reject the text entered in the keyboard dialog box.
   • The ***Close*** button discards the changes.
   • The ***Enter*** button accepts the changes.

First Name Field

The ***First Name*** field is used to enter the first name of a patient. A patient's first name can be entered at the bedside monitor, or the Panorama Central Station because the system enables an automatic bi-directional flow of information.

1. From the ***Demographics*** tab, select the ***First Name*** field. The keyboard dialog box is displayed.

2. Enter the patient's first name (maximum of 15 characters).

    • The Backspace (***<==)*** button clears a single character in the edit box.

    • The ***Caps Lock*** button enables/disables the caps lock function. A Caps Lock indicator displays when ***Caps Lock*** is enabled.

3. Accept or reject the text entered in the keyboard dialog box.

    • The ***Close*** button discards the changes.

    • The ***Enter*** button accepts the changes.

ID Field

The ***ID*** field is used to enter an identification value for a patient. A patient's ID can be entered at the bedside monitor or the Panorama Central Station because the system enables an automatic bi-directional flow of information.

1. From the ***Demographics*** tab, select the ***ID*** field. The keyboard dialog displays.

2. Enter the patient's ***ID*** (maximum of 15 characters).

    • The Backspace (***<==)*** button clears a single character in the edit box.

    • The ***Caps Lock*** button enables/disables the caps lock function. A Caps Lock indicator displays when ***Caps Lock*** is enabled.

3. Accept or reject the text entered in the keyboard dialog box.

    • The ***Close*** button discards the changes.

    • The ***Enter*** button accepts the changes.

Height Fields

The ***Height*** fields display the patient height in metric and standard units. The field on the left is used to enter the patient's height. The unit of measure for this field is dependent on the setting at the bedside monitor. The field on the right automatically displays the conversion of the measurement. A patient's height can be entered at the bedside monitor or the Panorama Central Station because the system enables an automatic bi-directional flow of information.

1. From the ***Demographics*** tab, select the ***Height*** field. The ***Height*** dialog box (FIGURE 5-3) displays.
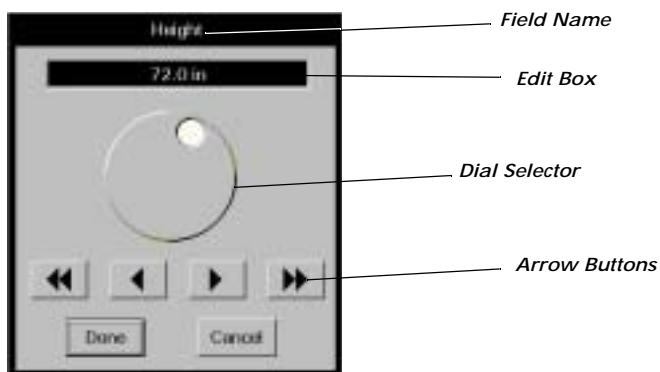
FIGURE 5-3 Height Dialog Box

2. Use the dial selector or the arrow buttons to select a value in the **Height** dialog.

UNITS OF MEASURE	INCHES (in)	CENTIMETERS (cm)
Range	8.0 to 120.0 in	20.0 to 305.0 cm
Single arrow Step Setting	0.5 (8.0 to 20.0 in) 1.0 (20.0 to 120.0 in)	1.0 cm
Double arrow Step Setting	1.0 (8.0 to 20.0 in) 10.0 (20.0 to 120.0 in)	10.0 cm

3. Accept or reject the value in the **Height** dialog box.

- The **Done** button accepts the selection.
- The **Cancel** button discards the selection, closes the dialog box and returns to the **Demographics** tab.

Weight Fields

The **Weight** fields display the patient weight in metric and standard units. The field on the left is used to enter the patient's weight. The unit of measure for this field is dependent on the setting at the bedside monitor. The field on the right automatically displays the conversion of the measurement. A patient's weight can be entered at the bedside monitor or the Panorama Central Station because the system enables an automatic bi-directional flow of information.

1. From the *Demographics* tab, select the *Weight* field. The *Weight* dialog box (FIGURE 5-4) displays.
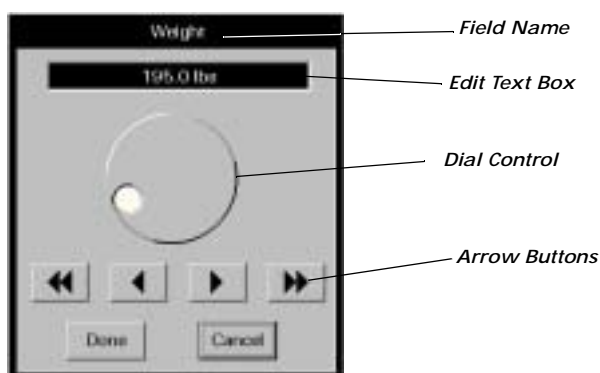
FIGURE 5-4 Weight Dialog Box

2. Use the dial control to select a value for the *Weight* dialog box.

UNITS OF MEASURE	POUNDS (lbs)	KILOGRAMS (kg)
Range	0.1 to 1100.0 lbs	0.1 to 500.0 kilograms
Single arrow Increment	0.1 (0.1 to 10.0 lbs) 0.5 (10.0 to 100.0 lbs) 1.0 (100.0 to 1100.0 lbs)	0.1 (0.1 to 5.0 kilograms) 0.5 (5.0 to 50.0 kilograms) 1.0 (50.0 to 100.0 kilograms)
Double arrow Increment	1.0 (0.1 to 10.0 lbs) 5.0 (10.0 to 100.0 lbs) 10.0 (100.0 to 1100.0 lbs)	1.0 (0.1 to 5.0 kilograms) 5.0 (5.0 to 50.0 kilograms) 10.0 (50.0 to 500.0 kilograms)

3. Accept or reject the selection made in the *Weight* dialog box.

- The *Done* button accepts the selection.
- The *Cancel* button discards the selection, closes the dialog box and returns to the *Demographics* tab.

Gender Field

The *Gender* field is used to select the gender of the patient. The options for gender include Unspecified, Male and Female. A patient's gender can be entered at the bedside monitor or the Panorama Central Station because the system enables an automatic bi-directional flow of information.

Select the *Gender* button until the desired gender selection is displayed.

Patient Size Field

The *Patient Size* field is used to identify the size of the patient in the selected patient tile. The options for patient size include Adult, Pediatric and Neonate. The default patient size setting is Adult.

The value for the *Patient Size* field must be selected at the bedside monitor.

Date Of Birth Field

The *Date Of Birth* field is used to enter and modify the date of birth for a patient. A patient's date of birth can be entered at either the bedside monitor or the Panorama Central Station. Data entered at the bedside monitor is automatically sent to the Panorama Central Station and data entered at the Panorama Central Station is automatically sent to the bedside monitor.

To enter a date of birth:

1. From the *Demographics* tab, select the *Date Of Birth* field. The *Date Of Birth* dialog box (FIGURE 5-5) is displayed.

Edit Box
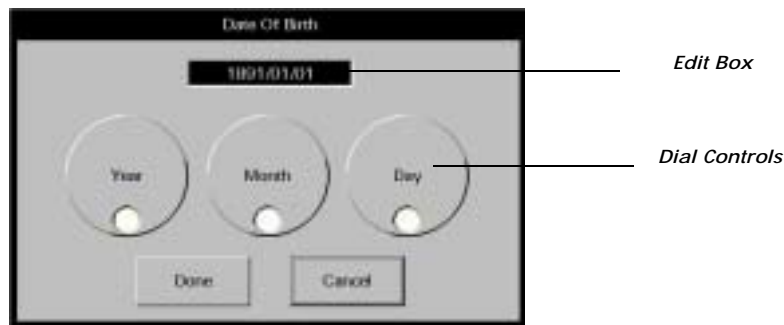
Dial Controls

FIGURE 5-5 Date Of Birth Dialog Box

2. Use the dial controls to select the month, day and year values. Refer to the following value ranges.

TIME FRAME	RANGE
Month	1 to 12
Day	Dependant on the month selected
Year	1891 to current year

3. Accept or reject the selection made in the *Date Of Birth* dialog box.

 • The *Done* button accepts the selections.

 • The *Cancel* button discards the selections, closes the dialog box and returns to the *Demographics* tab.

Doctor Field

The *Doctor* field is used to enter the name of the patient's doctor.

1. From the *Demographics* tab, select the *Doctor* field. The keyboard dialog box is displayed.

2. Enter the patient's doctor (maximum of 15 characters).

 • The Backspace (*<==)* button clears a single character in the edit box.

 • The *Caps Lock* button enables/disables the caps lock function. A Caps Lock indicator displays when *Caps Lock* is enabled.

3. Accept or reject the text entered in the keyboard dialog box.

 • The *Close* button discards the changes.

• The *Enter* button accepts the changes.

Comment Field

The Comment field is used to enter notes for the selected patient tile.

1. From the *Demographics* tab, select the *Comment* field. The keyboard dialog box is displayed.

2. Enter a note (maximum of 31 characters).

 • The Backspace (*<==)* button clears a single character in the edit box.

 • The *Caps Lock* button enables/disables the caps lock function. A Caps Lock indicator displays when *Caps Lock* is enabled.

3. Accept or reject the text entered in the keyboard dialog box.

 • The *Close* button discards the changes.

 • The *Enter* button accepts the changes.

5.1.3   Sidebar Buttons

Sidebar buttons enhance the functionality of a tab. The following sidebar buttons are displayed:

Pacer

Select the *Pacer* sidebar button to adjust a patient's *Pacer Enhancement* and *Pacer Filter* settings. The default settings for a Pacer are determined in the system setup *Unit Choices* tab. For more information about unit choices, refer to "Unit Choices Tab" on page 9-39.

• *Pacer Enhancement* visually marks pacemaker-induced ECG complexes with a colored vertical spike. It can be enabled or disabled in the *Pacer Setting* dialog box (FIGURE 5-6).

• *Pacer Filtering* adjusts the time period at which pacemaker-induced ECG complexes are filtered for ECG sampling. The preset options for the Pacer Filter are 0 to 80 ms (in increments of 5). The Pacer Filter is selected in the *Pacer Setting* dialog box (FIGURE 5-6).

FIGURE 5-6 Pacer Setting Dialog Box

To enter Pacer settings:

1. From the *Demographics* tab, select the *Pacer* sidebar button. The *Pacer Setting* dialog box displays.

2. Select the *Pacer Enhancement* button to enable or disable this setting.

- A checkmark indicates that Pacer Enhancement is enabled.

- An empty box indicates that Pacer Enhancement is disabled.

3. Select the *Pacer Filter* button to set the desired setting displays. The selections for *Pacer Filter* range from 0 to 80 ms (in increments of 5).

4. Accept or reject the selections made in the *Pacer Setting* dialog box.

- The *Done* button accepts the selections.

- The *Cancel* button discards the selections, closes the dialog box and returns to the *Demographics* tab.

Arrhythmia (Telepack)

Select the *Arrhythmia* sidebar button to enable or disable Arrhythmia Analysis for the selected patient. The default Arrhythmia setting is selected in the *Unit Choices* tab. Arrhythmia analysis can only be enabled if an arrhythmia license is available. When arrhythmia analysis is enabled, a license is automatically assigned to a patient.

Select the *Arrhythmia* sidebar button in the *Demographics* tab.

- A white button with blue text indicates arrhythmia analysis is enabled.

- A navy blue button with white text indicates arrhythmia analysis is disabled.

NOTE: ***Changing the Arrhythmia option affects all newly admitted patients and has no affect on patients currently being monitored.***

Care Group

Select the *Care Group* sidebar button to assign a specific care group to a patient tile. Care groups allow user-defined categorization of patient tiles. Care groups may represent a care-giver, hospital department or a special condition. Each *Care Group* button has a color indicator that, when assigned to a patient, appears next to the *VIEW* button in the patient tile. The system default settings for Care Groups are defined in the *Care Group* tab. For additional information, refer to the "Care Group Tab" on page 9-2.

To select a Care Group:

1. From the *Demographics* tab, select the *Care Group* sidebar button. The *Care Group* dialog box (FIGURE 5-7) is displayed.

FIGURE 5-7 Care Group Dialog Box

2. Select a *Care Group* button.

3. Accept or reject the *Care Group* selection.

   • The *Done* button accepts the Care Group selection.

   • The *Cancel* button discards the selection, closes the dialog box and returns to the *Demographics* tab.

For additional information regarding *Care Groups*, refer to the ''Care Group Tab'' on page 9-2.

Settings (Telepack)

Select the *Settings* sidebar button to establish the type of ECG monitoring performed by the Telepack.

• The *Monitor* mode establishes the frequency response range for non-ST ECG monitoring.

• The *ST* mode establishes the frequency response range for ST diagnostic monitoring.

To enter settings for a Telepack:

1. From the *Demographics* tab, select the *Settings* sidebar button. The *Settings* dialog box (FIGURE 5-8) is displayed.

FIGURE 5-8 Settings Dialog Box

2. Select the *ST* button to enable or disable ST analysis for the selected patient.

   • A checkmark in the ST box indicates that ST analysis is enabled.

   • An empty box indicates that ST analysis is disabled.

NOTE: *If ST licenses are available, an ST license is automatically assigned to the patient when ST is enabled*.

3. Select the ST lead to be monitored.

  A. If a 3-lead cable is used the ST lead is not selected.

  B. If a 3-lead cable is used the ST lead is not selected.

  • The *ST Lead 1* button selects the first ST monitoring lead.The selections available for ST Lead 1 include I, II, III, aVR, aVL, aVF and V.

  • The *ST Lead 2* button selects the second ST monitoring lead.The selections available for ST Lead 2 include I, II, III, aVR, aVL, aVF and V.

  • The *ST Lead 3* button selects the third ST monitoring lead.The selections available for ST Lead 3 include I, II, III, aVR, aVL, aVF and V.

  NOTE: *The lead choices for ST Lead 1, ST Lead 2 and ST Lead 3 are mutually exclusive.*

4. Select the *ST Filter* mode.

  • A checkmark in the Monitor Filter box indicates that the monitor filter is enabled.

  • A checkmark in the ST Filter box indicates that the ST filter is enabled.

NOTE: *Only 1 filter mode can be selected in the Settings dialog box.*

5. Accept or reject the selections.

  • The *Done* button accepts the selections.

  • The *Cancel* button discards the selections, closes the dialog box and returns to the *Demographics* tab.

Retrieve Discharged Pt.

Select the *Retrieve Discharged Pt.* sidebar button to retrieve a patient from the discharge list. A patient is only added to the discharge list if at least two of the three demographics fields (first name, last name, ID) were previously entered.

The *Retrieve Discharged Patient Setting* view (FIGURE 5-9) provides a list of the discharged patients that can be retrieved. The list has four columns labeled First Name, Last Name, ID and Discharge Time. Each row in the list contains at least two of the three demographic indicators and the discharge time for a patient. The list displays the 5 most recently discharged patients. When the next patient is added to the list, the oldest patient data on the list is removed and permanently deleted from the system.

• A discharged patient can be retrieved into a patient tile that is not actively monitoring a patient.

• A discharged patient can be retrieved into any empty tile.

• A discharged patient can be retrieved into a tile assigned a different monitoring device than was previously assigned to that patient.

Retrieving a discharged patient into a patient tile:

- Allows for active monitoring of the retrieved patient

- Restores Trend, Event and Disclosure records

- Restores Wave Gain and Trend Storage settings

- Restores Parameter Display, Print Setup, Alarm Responses and Alarm Limit settings, if Alarm Tracking is *Off*

- Changes patient's Alarm Limit settings to reflect the destination device, if Alarm Tracking is *On*

To retrieve a discharged patient do the following:

1. Select the *Retrieve Discharged Pt.* sidebar button in the *Demographics* tab. The *Retrieve Discharged Patient Setting* view (FIGURE 5-9) is displayed.

FIGURE 5-9 Retrieve Discharged Patient Setting View

2. Select the patient to be retrieved.

3. Accept or reject the patient retrieval in the *Retrieve Discharged Patient Setting* view.

- The *Done* button accepts the patient retrieval.

- The *Cancel* button discards the patient retrieval, closes the view and returns to the *Demographics* tab.

Normal Screen

Select the *Normal Screen* sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

5.1.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the ***Demographics*** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Can not admit Patient to this tile. No Device attached to this tile	There is no device assigned to the selected tile.	Select the **OK** button to close the dialog box. Select a patient tile that has a device attached to it or attach a device to the selected patient tile.
You have reached the maximum number of arrhythmia licenses available	There are no more Arrhythmia licenses available.	Select the **OK** button to close the dialog box. Arrhythmia Analysis cannot be selected for a patient until it is discontinued for another patient. The System Administrator can purchase additional Arrhythmia licenses.
The **Pacer**, **Care Group**, and the **Retrieve Discharged Pt.** sidebar buttons are disabled.	The selected patient tile is in **Standby** mode.	Remove the selected patient tile from **Standby** mode.
The filter mode cannot be Monitor when ST is on	Monitor mode cannot be selected while ST is enabled.	Select the **OK** button to close the dialog box. Turn off ST select the correct filter mode.
Turning on ST will change your ECG filtering to ST mode	ST mode was selected while in Monitor mode.	Select the **OK** button to close the dialog box. Select the correct filter mode.
You have reached the maximum number of ST licenses available	There are no more ST licenses available	Select the **OK** button to close the dialog box. ST Analysis cannot be selected until it is discontinued on another patient. The System Administrator can purchase additional ST licenses.
Retrieve Discharged Patient Failed: The destination tile is currently occupied	A patient cannot be retrieved into an occupied tile.	Select the **OK** button to close the dialog box. Select a vacant patient tile before attempting to retrieve a patient.

*   *Messages are shown in all bold text.*

5.2 Transfer Tab

The *Transfer* tab (FIGURE 5-10) enables the transfer of a patient's data from one device to another. Two types of transfers can be performed through the *Transfer* tab:

• Room To Room Transfer Without Device

• Central To Central Transfer Without Device

This section describes the following:

• Accessing the Transfer Tab

• Room To Room Transfer Without Device

• Central To Central Transfer Without Device

• Sidebar Buttons

• Troubleshooting

5.2.1 Accessing the Transfer Tab

1. From the menu bar, select the *Patient Setup* menu button. The tabs associated with patient setup are displayed

2. Select the *Transfer* tab (FIGURE 5-10). The *Transfer* tab is displayed.

FIGURE 5-10 Transfer Tab

5.2.2 Room To Room Transfer Without Device

A *Room To Room Transfer Without Device* is used to transfer patient data stored at the Panorama Central Station from one patient tile (the source) to another (the destination). Historical patient data is preserved upon successful completion of the transfer.

NOTE: *For information on changes that occur at the destination tile when the transfer is complete, refer to ''Effects of the Transfer'' on page 5-15.*

The *Room To Room Without Device* button is enabled under the following conditions:

• When a patient tile actively monitoring a patient is selected as the source

• When a patient tile actively monitoring a patient, but has been placed in *Standby* mode, is selected as the source

- When a patient tile actively monitoring a patient, but experiencing a *Communication Lost* event, is selected as the source

To perform a *Room To Room Transfer Without Device*:

1. Select the patient tile to be transferred. Choose a patient tile by selecting its digital data or waveform area.

2. Select the *Room To Room Without Device* button. The following prompt displays: *Please touch tile to which you wish to transfer the patient.*

3. Select a destination tile that has a device assigned. The message *All of the patient's data will be deleted in the destination tile. Do you still want to continue with the transfer?* is displayed.

  - The *Yes* button initiates the transfer. As the transfer proceeds, there is no indication in the *Transfer* tab.

    If the destination tile is in *Standby* mode when the transfer is complete, the digital data is displayed but the waveform is not displayed. Upon returning to normal monitoring mode, the waveform is displayed.

    If the destination tile is in a *Communication Lost* state when the transfer is complete, the tile is blank and all buttons on the *Transfer* tab are unavailable. The tile remains blank until communication has been re-established.

    When the transfer is complete, the source tile is blank and the destination tile remains blank until the patient is connected to the monitoring device.

  NOTE: *When the transfer is complete, a Room Transfer event and an Admit event are recorded in the Event database.*

  - The *No* button terminates the transfer and returns to the *Transfer* tab.

5.2.2.1   Effects of the Transfer

The following is a list of the changes that occur at the destination tile when a *Room To Room Transfer Without Device* is complete:

Display

- The transferred patient's parameter display changes only when the destination device does not support the source device parameters.

- The transferred patient's parameter display waveform 1 changes to ECG II when the destination device does not support the source device's waveform 1 parameter and has a 5 lead ECG cable.

- The transferred patient's parameter display waveform 1 changes to the active lead when the destination device does not support the source device's waveform 1 parameter and has a 3 lead ECG cable.

- The transferred patient's parameter display waveform 2 changes to OFF when the destination device does not support the source device's waveform 2 parameter.

- If the source device is a bedside monitor, the units for CO_2 and temperature will change to that of the destination device.

- The care group is set to the system default at the destination device.

Demographics

- For all transfers to a bedside monitor, the bed ID and patient size change to those of the destination device. The remaining demographic data only changes when the destination device has experienced a ***Communication Lost*** event. When communication is re-established, the remaining demographic data is taken from the destination device.

- For all transfers to a Panorama Telepack, the bed ID is cleared and the patient size changes to Adult (the Telepack default). The remaining demographic data is preserved.

Alarms

- The transferred patient's Alarm Limits, Alarm Delay and ST Alarm Delay change to those of the destination device when Alarm Tracking mode is ***ON***.

- All alarms for the transferred patient become enabled, discontinuing all Alarm Suspended settings.

5.2.3 Central To Central Transfer Without Device

A ***Central To Central Transfer Without Device*** is used to transfer patient data stored at one Panorama Central Station to a different Panorama Central Station. Historical patient data is preserved upon successful completion of the transfer.

The ***Central To Central Without Device*** button is enabled under the following conditions:

- When a patient tile actively monitoring a patient is selected as the source

- When a patient tile actively monitoring a patient, but has been placed in ***Standby*** mode, is selected as the source

- When a patient tile actively monitoring a patient, but experiencing a ***Communication Lost*** event, is selected as the source

NOTE: *For information on changes that occur at the destination tile when the transfer is complete, refer to ''Effects of the Transfer'' on page 5-19.*

5.2.3.1 Source Panorama

1. A prerequisite for the transfer is that certain patient demographic information must exist. In the patient tile to be transferred, ensure that the appropriate information has been entered into at least two of the three demographic fields (Last Name, First Name and ID) on the ***Demographics*** tab.

2. Ensure that the device name for the Source Panorama is properly entered into the equipment list at the Destination Panorama as described in the ''Equipment Setup Tab'' on page 9-21.

3. Ensure that the device name for the Destination Panorama is properly entered into the equipment list at the Source Panorama as described in the ''Equipment Setup Tab'' on page 9-21.

4. Select the patient tile to be transferred. Choose a patient tile by selecting its digital data or waveform area.

5. Select the ***Central To Central Without Device*** button. The ***Select Destination Panorama*** list box (FIGURE 5-11) is displayed.
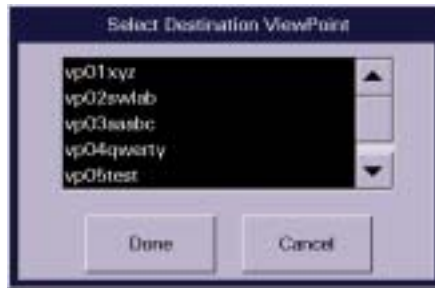
FIGURE 5-11 Select Destination Panorama List Box

6. Select the Destination Panorama device from the ***Select Destination Panorama*** list box.

•   Select the ***Done*** button. The message ***Are you sure you want to transfer the selected patient?*** is displayed with the following two choices:

    •   Select the ***Yes*** button to initiate the first part of the transfer process and return to the ***Transfer*** tab. In the ***Transfer*** tab, the message ***Central Transfer in progress*** displays next to the ***Central To Central Without Device*** button, which has been disabled.

    •   Select the ***No*** button to terminate the transfer and return to the ***Transfer*** tab.

•   Select the ***Cancel*** button to terminate the transfer and return to the ***Transfer*** tab.

If the transfer process is initiated, it will continue as described in "Destination Panorama". As the transfer process continues, the procedure will refer to messages and a progress bar that will display at the Source Panorama.

5.2.3.2   Destination Panorama

When a ***Central To Central Transfer Without Device*** has been requested from another Panorama, the message ***Transfer In Request from [the Source Panorama name]. Accept/Reject in Transfer Dialog*** displays in the system status line of the Destination Panorama.

1. At the Destination Panorama, select a tile that has a device attached.

2. From the menu bar, select the ***Patient Setup*** menu button. The tabs associated with patient setup display.

3. Select the *Transfer* tab (FIGURE 5-10). The *Transfer* tab displays.

4. Select the *Accept/Reject* button on the *Transfer* tab. The *Transferred In Patient* view (FIGURE 5-12) displays.
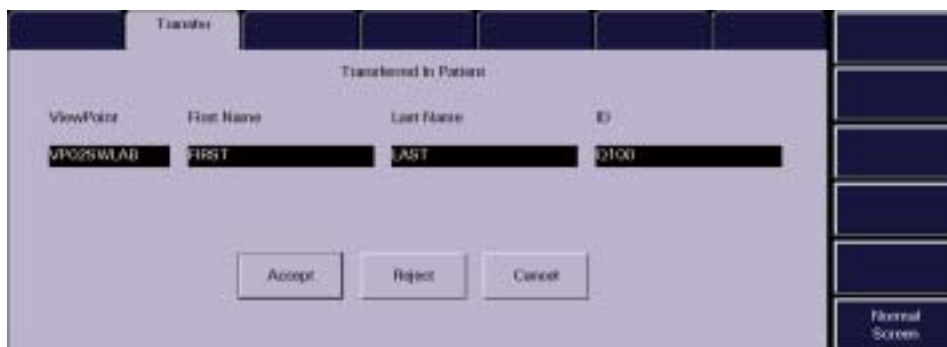
FIGURE 5-12 Transferred In Patient View

- Select the *Accept* button. The message *All of the patient's data will be deleted in the destination tile. Do you still want to continue with the transfer?* is displayed with the following two choices:

  - The *Yes* button begins the transfer and returns to the *Transfer* tab. While the transfer is in progress, the following conditions exist:

    In the *Transfer* tab of the Destination Panorama, the message *Incoming Transfer In Progress* displays next to the *Accept/Reject Patient* button, which has been disabled. A progress bar displays below the *Accept/Reject Patient* button.

    In the *Transfer* tab of the Source Panorama, a progress bar displays below the *Central To Central Without Device* button.

  If the destination tile is in *Standby* mode when the transfer is complete, the digital data displays but the waveform does not display. Upon returning to normal monitoring mode, the waveform is displayed.

  If the destination tile is in a *Communication Lost* state when the transfer is complete, the tile is blank and all buttons on the *Transfer* tab are unavailable. The tile remains blank until communication has been re-established.

  When the transfer is complete, the message *Transfer In Complete* displays on the system status line of the Destination Panorama and the message *Transfer Out Complete* displays on the system status line of the Source Panorama.

  When the transfer is complete, the source tile is blank and the destination tile remains blank until the patient is connected to the monitoring device.

NOTE: *When the transfer is complete, a Central Transfer event and an Admit event are recorded in the event database.*

  - The *No* button returns to the *Transfer* tab without terminating the transfer.

- The **Reject** button terminates the transfer and returns to the **Transfer** tab. The message **Transfer Out rejected by [the Destination Panorama name] Central.** is displayed in the system status line of the Source Panorama.

- The **Cancel** button returns to the **Transfer** tab without terminating the transfer.

NOTE: *A Central To Central Transfer Without Device can fail if the network connection is lost or if either Panorama loses power during the process. If a Central To Central Transfer Without Device fails while in progress, the patient information from the source tile is saved to a Failed Transfer List at the Source Panorama.*

                         The Failed Transfer List stores a maximum of five failed transfers. If the maximum is reached, the Central To Central Without Device button is disabled. A Central To Central Transfer Without Device cannot be initiated until at least one of the failed transfers is either recovered, deleted or transferred using one of the sidebar buttons in the Transfer tab. See "Sidebar Buttons" on page 5-20 for additional information.

5.2.3.3   Effects of the Transfer

The following is a list of the changes that occur at the destination tile when a **Central To Central Transfer Without Device** is complete:

Display

- The transferred patient's parameter display changes, but only when the destination device does not support the source device parameters.

- The transferred patient's parameter display waveform 1 changes to ECG II when the destination device does not support the source device's waveform 1 parameter and has a 5-lead ECG cable.

- The transferred patient's parameter display waveform 1 changes to the active lead when the destination device does not support the source device's waveform 1 parameter and has a 3-lead ECG cable.

- The transferred patient's parameter display waveform 2 changes to OFF when the destination device does not support the source device's waveform 2 parameter.

- If the source device is a bedside monitor, the units for CO_2 and temperature will change to that of the destination device.

- The care group is set to the system default at the destination device.

Demographics

- For all transfers to a bedside monitor, the bed ID and patient size change to those of the destination device. The remaining demographic data only changes when the destination device has experienced a **Communication Lost** event. When communication is re-established, the remaining demographic data is taken from the destination device.

- For all transfers to a Panorama Telepack, the bed ID is cleared and the patient size changes to Adult (the Telepack default). The remaining demographic data is preserved.

Alarms

- The transferred patient's Alarm Limits, Alarm Delay and ST Alarm Delay change to those of the destination device when Alarm Tracking mode is **ON** at the destination device.

5.2.4 Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Recover Patient

When a ***Central To Central Transfer Without Device*** has failed, the ***Recover Patient*** sidebar button is used to retrieve patient information that was collected in the Failed Transfer List.

The list box in the ***Recover Failed Transfer Patients*** view (FIGURE 5-13) has three columns labeled First Name, Last Name and ID. The list contains at least two of these three demographic indicators.

1. Select a destination tile on the Source Panorama to which the patient information is to be recovered. Ensure that the destination tile has a device assigned.

2. Select the ***Recover Patient*** sidebar button. The ***Recover Failed Transfer Patients*** view displays.

FIGURE 5-13 Recover Failed Transfer Patients View

3. Select the patient whose information is to be recovered from the list.

• Select the ***Recover*** button. The message ***All of the patient's data will be deleted in the destination tile. Do you still want to continue with the transfer?*** is displayed with the following two choices:

• The ***Yes*** button deletes all of the patient's data that may have been previously stored for the destination tile, returns to the ***Transfer*** tab and the recovery process commences. When the recovery is complete, the patient information is removed from the Failed Transfer List and the destination tile displays the recovered patient information except in the following situations:

If the destination tile is in ***Standby*** mode when the recovery is complete, the digital data displays but the waveform does not display. Upon returning to normal monitoring mode, the waveform is displayed.

If the destination tile is in a ***Communication Lost*** state when the recovery is complete, the tile is blank and all buttons on the ***Transfer*** tab are unavailable. The tile remains blank until communication has been re-established.

• The ***No*** button terminates the recovery process and returns to the ***Transfer*** tab.

• Select the ***Cancel*** button to return to the ***Transfer*** tab.

Delete Failed Patient

When the Failed Transfer List has reached its maximum of five failed transfers, the **Delete Failed Patient** sidebar button is used to delete patient information from the list.

The list box in the **Delete Failed Transfer Patients** view (FIGURE 5-14) has three columns labeled First Name, Last Name and ID. The list will contain at least two of these three demographic indicators.

1. Select the **Delete Failed Patient** sidebar button. The **Delete Failed Transfer Patients** view is displayed.

FIGURE 5-14 Delete Failed Transfer Patients View

2. Select the patient whose information is to be deleted from the list.

- Select the **Delete** button. The message **Are you sure that you want to delete this failed transfer?** is displayed with the following choices:

NOTE: If the Yes button is selected, all of the patient's data will be unrecoverable.

- The **Yes** button deletes all of the data for the patient that was selected from the Failed Transfer List and the returns to the **Transfer** tab. When the deletion is complete, the patient information is removed from the Failed Transfer List.

- The **No** button terminates the deletion process and returns to the **Transfer** tab.

- The **Cancel** button returns to the **Transfer** tab.

Transfer From Failed List

The ***Transfer From Failed List*** sidebar button is used to resume a transfer of patient information that was collected in the Failed Transfer List when a ***Central To Central Transfer Without Device*** failed. The patient data and settings collected in the Failed Transfer List at one Panorama Central Station are transferred to a room in an area monitored by a different Panorama Central Station. Historical patient data is preserved upon successful completion of the transfer.

The list box in the ***Transfer Failed Transfer Patients*** view (FIGURE 5-15) has three columns labeled First Name, Last Name and ID. The list contains at least two of these three demographic indicators.

1. Select the ***Transfer From Failed List*** sidebar button. The ***Transfer Failed Transfer Patients*** view is displayed.
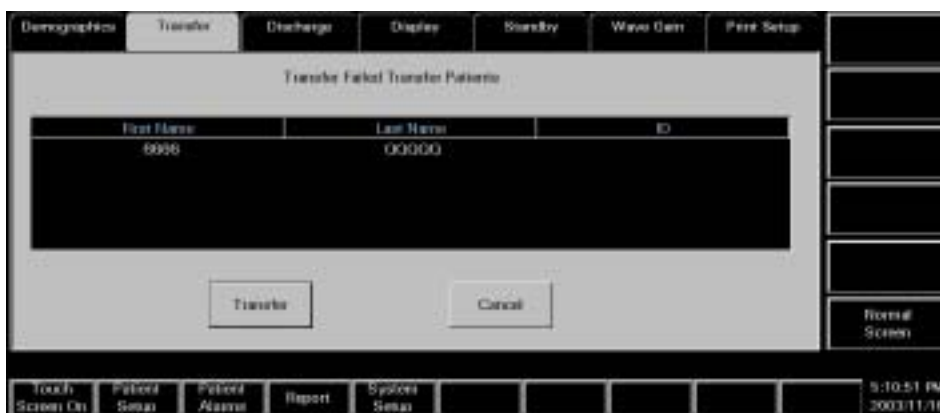
FIGURE 5-15 Transfer Failed Transfer Patients View

2. Select the patient whose information is to be transferred from the list.

- The ***Transfer*** button displays the Select Destination Panorama list box (FIGURE 5-11) displays. Go to step 6 on page 5-17 and continue the transfer process. When a Destination Panorama is selected, the patient information is removed from the Failed Transfer List.
- The ***Cancel*** button returns to the ***Transfer*** tab.

Normal Screen

Select the ***Normal Screen*** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

5.2.5 Troubleshooting

This section lists some of the potential messages and issues that may occur while using the *Transfer* tab.

Room To Room Transfer

MESSAGE/ISSUE *	REASON	SOLUTION
The **Room To Room Without Device** button is disabled.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before transferring.
	A patient tile is not selected on the main screen.	Select the patient tile that is intended to be transferred.
	The selected patient tile has a device assigned but is not monitoring a patient.	Select the patient tile that is intended to be transferred.
	The selected patient tile has no device assigned.	Select the patient tile that is intended to be transferred.
The Failed Patient List is full. Delete a patient from this list before transferring.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before transferring.
Unable to select a patient tile on the Panorama Display.	A message box is currently being displayed.	Close the message box or wait for it to time out and close automatically.
The destination and source tile cannot be the same. Please try again.	The original source tile was selected when the prompt "Please touch tile to which you wish to transfer the patient." was displayed.	Restart the transfer process and select an appropriate destination tile when prompted. Do not select the original source tile.
The destination tile must have a device assigned to perform the transfer.	The destination tile does not have a device assigned.	Restart the transfer process and select a destination tile that has a device assigned when prompted.
This Tab is in use by another display. Can not be updated from more than one display at the same time.	An attempt was made to open the **Transfer** tab on one display when it is already open on the other display.	Select the **OK** button and use the open **Transfer** tab.
At the destination tile, the digital data is displayed but the waveform is not displayed	The destination tile was in **Standby** mode when the transfer completed.	Return to normal monitoring mode.
The destination tile is blank and all buttons on the **Transfer** tab are unavailable.	The destination tile was in a **Communication Lost** state when the transfer completed.	Re-establish communication.

*   *Messages are shown in all bold text.*

Central To Central Transfer

MESSAGE/ISSUE *	REASON	SOLUTION
The **Central To Central Without Device** button is disabled.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before attempting to transfer.
	A patient tile is not selected on the main screen.	Select the patient tile that is intended to be transferred.
	The selected patient tile has a device assigned but is not monitoring a patient.	Select the patient tile that is intended to be transferred.
	The selected patient tile has no device assigned.	Select the patient tile that is intended to be transferred.
The Failed Patient List is full. Delete a patient from this list before transferring.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before transferring.
Available monitor list is empty. Please set a new monitor in the Equipment Setup screen.	There are no Destination Panorama devices defined in the equipment list.	Define the desired Destination Panorama device in the equipment list as described in the ''Equipment Setup Tab'' on page 9-21.
The patient cannot be transferred because at least two of the following fields: First Name, Last Name or ID has not been filled in.	The appropriate information has not been entered into at least two of the three demographic fields (Last Name, First Name and ID) on the **Demographics** tab.	Enter the appropriate information into at least two of the three demographic fields (Last Name, First Name and ID) on the **Demographics** tab.
Selecting the **Done** button on the Select Destination Panorama list box terminates the transfer and returns to the Transfer tab.	A Destination Panorama device was not selected from the list box before selecting the **Done** button.	Repeat the transfer procedure and ensure that a Destination Panorama device is selected from the Select Destination Panorama list box before selecting the **Done** button.
Transfer Out Rejected. Timeout at [the Destination Panorama name] Central.	The **Accept/Reject Patient** button on the **Transfer** tab at the Destination Panorama was not selected within 10 minutes of initiating the Central To Central Transfer Without Device.	Repeat the transfer procedure and ensure that the **Accept/Reject Patient** button on the **Transfer** tab at the Destination Panorama is selected within 10 minutes of initiating the transfer.
Transfer In Request from [the Source Panorama name] cancelled due to user timeout.	At the Destination Panorama, either the **Accept** or **Reject** button on the Transferred In Patient view of the **Transfer** tab was not selected within 10 minutes of initiating the Central To Central Transfer Without Device.	Repeat the transfer procedure and ensure that either the **Accept** or **Reject** button on the Transferred In Patient view of the **Transfer** tab is selected within 10 minutes of initiating the Central To Central Transfer Without Device.
The **Accept/Reject Patient** button is disabled.	A transfer request has not been received from any other Panorama Central station.	This does not require a solution.

*   *Messages are shown in all bold text.*

Central To Central Transfer (Continued)

MESSAGE/ISSUE *	REASON	SOLUTION
The destination tile must have a device assigned to perform the transfer.	The destination tile does not have a device assigned.	Select the **OK** button on the message box and then select a destination tile that has a device assigned.
Please touch tile to which you wish to transfer the patient.	A destination tile has not been selected at the Destination Panorama.	Select a destination tile that has a device assigned.
Failed Transfer Out: System Error. (Source Panorama)	The selected Destination Panorama device was not properly defined in the equipment list.	Repeat the transfer procedure and ensure that the desired Destination Panorama device is properly defined in the equipment list as described in the ''Equipment Setup Tab'' on page 9-21.
	There is an interruption in the network connection between the Source and Destination Panoramas.	Determine the cause of the interruption and correct.
Failed Transfer In: System Error. (Destination Panorama)	The selected Destination Panorama device was not properly defined in the equipment list.	Repeat the transfer procedure and ensure that the desired Destination Panorama device is properly defined in the equipment list as described in the ''Equipment Setup Tab'' on page 9-21.
	There is an interruption in the network connection between the Source and Destination Panoramas.	Determine the cause of the interruption and rectify.
This Tab is in use by another display. Can not be updated from more than one display at the same time.	An attempt was made to open the **Transfer** tab on one display when it is already open on the other display.	Select the **OK** button and use the open the **Transfer** tab.
At the destination tile, the digital data is displayed but the waveform is not displayed	The destination tile was in **Standby** mode when the transfer completed.	Return to normal monitoring mode.
The destination tile is blank and all buttons on the **Transfer** tab are unavailable.	The destination tile was in a **Communication Lost** state when the transfer completed.	Re-establish communication.

* Messages are shown in all bold text.

Recovering Failed Transfer Patient Data

MESSAGE/ISSUE *	REASON	SOLUTION
The **Recover Failed Transfer** sidebar button is disabled.	The Failed Transfer List is empty.	N/A
Selecting the **Recover** button has no effect.	A patient has not been selected from the Failed Transfer List.	Select the patient whose information is to be recovered from the list and then select the **Recover** button.
Select the tile to place the recovered patient in	A destination tile on the Source Panorama was not selected before pressing the **Recover** button.	Select a destination tile on the Source Panorama.
The destination tile must have a device assigned to perform the transfer	The destination tile does not have a device assigned.	Select the **OK** button to return to the Recover Failed Transfer Patients view. Select a destination tile that has a device assigned and continue the transfer procedure.

*   *Messages are shown in all bold text.*

Deleting Failed Transfer Patient Data

MESSAGE/ISSUE *	REASON	SOLUTION
The **Delete Failed Transfer** sidebar button is disabled.	The Failed Transfer List is empty.	N/A
Selecting the **Delete** button has no effect.	A patient has not been selected from the Failed Transfer List.	Select the patient whose information is to be deleted from the list and then select the **Delete** button.

*   *Messages are shown in all bold text.*

Transferring Failed Transfer Patient Data

MESSAGE/ISSUE *	REASON	SOLUTION
The **Transfer From Failed List** sidebar button is disabled.	The Failed Transfer List is empty.	N/A
Selecting the **Transfer** button has no effect.	A patient has not been selected from the Failed Transfer List.	Select the patient whose information is to be transferred from the list and then select the **Transfer** button.

*   *Messages are shown in all bold text.*

5.3   Discharge Tab

The ***Discharge*** tab is used to discharge a patient from a patient tile. If the required demographic information was previously entered for the patient to be discharged, the patient will be moved to the list of retrievable patients. For additional information on retrieving a patient see ''Retrieve Discharged Pt.'' on page 5-11.

This section includes the following:

- Accessing the Discharge Tab
- Discharging a Patient
- Sidebar Button
- Troubleshooting

5.3.1   Accessing the Discharge Tab

1. From the menu bar, select the ***Patient Setup*** menu button. The tabs associated with patient setup display.

2. Select the ***Discharge*** tab (FIGURE 5-16). The ***Discharge*** tab is displayed.

FIGURE 5-16 Discharge Tab

5.3.2   Discharging a Patient

1. Select the tile of the patient to be discharged. Choose a patient tile by selecting its digital data or waveform area.

2. Select the ***Discharge Patient*** button. The ***Are you sure you want to discharge this patient?*** dialog box displays.

- The ***Yes*** button discharges the selected patient.
- The ***No*** button cancels the discharge

NOTE: ***A patient can only be retrieved if two of the required demographic fields have been completed prior to the patient's discharge. These fields include First Name, Last Name and Patient ID.***

5.3.3   Sidebar Button

The following sidebar button is used to expand the functionality of this tab.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

5.3.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Discharge** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either no patient tile or an empty patient tile has been selected.	Select an active patient tile.
Patient's data and submitted print jobs will be deleted because at least two of the following fields: First Name, Last Name or ID has not been filled in. Do you still want to proceed with the discharge?	The selected patient does not have at least two of the three demographic fields completed. The demographic fields include first name, last name and ID.	• Select the **Yes** button to discharge the patient. • Select the **No** button to cancel the discharge and close the dialog box.

*   *Messages are shown in all bold text.*

5.4   Display Tab

The Display tab is used to select the digital and waveform parameters that will appear in the selected patient tile. The default settings for patient tiles are defined by the ''Unit Choices Tab'' on page 9-39. The layout and functionality of the **Display** tab changes based on the type of monitoring device assigned to the selected patient tile. The fields discussed in this section may not apply to all users.

This section includes the following:

- Accessing the Display Tab
- Entering Data in the Display Tab
- Components of the Display Tab
- Sidebar Buttons
- Troubleshooting

5.4.1   Accessing the Display Tab

1. From the menu bar, select the **Patient Setup** menu button. The tabs associated with patient setup are displayed.

2. Select the **Display** tab (FIGURE 5-17). The Display tab is shown.

FIGURE 5-17 Display Tab

NOTE: The Parameter list box is not shown on the Display tab until a parameter tile is selected.

5.4.2   Entering Data in the Display Tab

This section outlines entering and modifying data on the **Display** tab.

Selecting a Patient's Parameter Data

1. Choose a patient tile by selecting its digital data or waveform area.

2. Select the parameter tile to be modified. The Parameter list displays.

3. Select the parameter to be viewed in the selected tile or turn the tile OFF.

- Digital Parameters include Heart Rate, Respiration, IBP, NIBP, Temp, ST, PVC, SpO_2, CO_2, O_2 and Agents
- Waveform Parameters include I, II, III, aVR, aVL, aVF, V, V1, V2, V3, V4 and V5.

- If the *OFF* option is selected from the Parameter list, the **Are you sure you want to turn off the parameter** message box appears. Select the *YES* button to turn OFF the parameter or the *NO* button to leave the parameter tile On.

4. Choose the *SELECT* button to highlight the selected parameter. The parameter is shown in the selected patient tile.

NOTE: A data parameter can only be shown in one parameter tile at any given time.

5.4.3   Components of the Display Tab

Digital Parameter Data

The Panorama Central Station is capable of showing three to five digital data parameters in each patient tile.

FIGURE 5-18 shows an example of the *Display* tab (digital data).

FIGURE 5-18 Display Tab (Digital Data)

Digital data tiles display a minimum of three and a maximum of five parameters depending on the parameters selected. The digital data portion of a patient tile flashes when a numeric alarm condition occurs.

A digital data tile consists of three equidistant sections or six sub-tile areas. The Heart Rate parameter is always shown in first part of the digital data tile.

Parameters occupy 1 or 2 sub-tile areas. The number of digital data parameters that can display is dependent on the type of parameters selected. For example the NIBP parameter uses two data tiles while the Respiration parameter uses one data tile.

FIGURE 5-19 shows an example of the NIBP and Respiration Digital Data Tiles.

FIGURE 5-19 NIBP and Respiration Digital Data Tiles

Table 5-1 shows the number of sub-tiles that each parameter occupies. For a list of the parameters listed by monitoring device, refer to ''Supported Devices'' on page 1-4. For additional information regarding the setup of a patient tile, refer to the ''Display Tab'' on page 5-29.

TABLE 5-1 Number of Sub-tiles Occupied by a Parameter

PARAMETERS	# OF SUB-TILES OCCUPIED
Heart Rate	2
NIBP	2
Respiration	1
SPO2	1
IBP	2
Temperature	1
CO_2	2
O_2	2
N_2O	2
Agents	2
PVC	1
ST	1

NOTE: **Digital Data is shown in the color configured for the parameter. Refer to the ''Parameter Color Tab'' on page 9-4 for additional information.**

Heart Rate Tile

The Heart Rate tile shows the heart rate measurement, the lead through which the measurement is acquired and icons for Arrhythmia/ST analysis.

FIGURE 5-20 shows an example of the Heart Rate digital data tile.

FIGURE 5-20 Heart Rate Digital Data Tile

The Heart Rate tile follows additional digital data rules.

For example, the Heart Rate tile:

- Always occupies the first digital data tile

- Displays an ECG lead label for the lead acquiring the data

- Displays an **A** icon if Arrhythmia Analysis is enabled

- Displays an **S** icon if ST Analysis is enabled

- Displays the standby location for a patient in Standby mode

Waveform Parameter Data

The patient tile is capable of showing up to two waveforms for a patient.

FIGURE 5-21 shows an example of the **Display** tab (waveform data).

FIGURE 5-21 Display Tab (Waveform Data)

The first waveform is always an ECG waveform. The second waveform can be any other waveform parameter available for the connected device or it can be turned off. Each waveform has its own baseline.

NOTE: ***Waveforms display in the color that was selected for the parameter. Refer to the ''Parameter Color Tab'' on page 9-4 for additional information.***

The following table shows the available waveform parameters.

WAVEFORM PARAMETER	AVAILABLE WAVEFORMS
ECG LEAD	I, II, III, aVR, aVL, aVF, V, V1, V2, V3, V4, V5 (Dependent on the lead set used)
	• The ECG waveforms available are dependent on the lead set used.
	• ECG waveforms use the Pacer Enhancement and filter settings that were made in the **Demographic** tab for the selected patient.
Waveform 2	I, II, III, aVR, aVL, aVF, V, V1, V2, V3, V4, V5, Resp, SPO_2, IBP, CO_2, O_2, Agent, ISO, ENF, SEV, HAL, DES
	• The parameters available for the second waveform are dependent on the monitoring device associated with the patient tile.

5.4.4   Sidebar Buttons

The following sidebar button is used to expand the functionality of this tab.

Restore Previous Settings

Select the **Restore Previous Settings** sidebar button to return patient display settings to those in use when the tab was opened.

Trend Storage

The **Trend Storage** sidebar button is used to set the interval at which a patient's trend data is stored in the Panorama Central Station. The default setting for the Trend Storage interval period is determined by the "Unit Choices Tab" on page 9-39.

Selecting a Trend Storage Interval

1. Select the **Trend Storage** sidebar button in the **Display** tab. The Trend Storage dialog box (FIGURE 5-22) is displayed.

FIGURE 5-22 Trend Storage Dialog Box

2. Select the **Interval** button until the desired interval period displays. Interval periods include Off, 1 minute, 5 minutes, 10 minutes, 15 minutes, 30 minutes, 1 hour and 2 hours.

3. Select the **Done** or the **Cancel** button.

  • The **Done** button selects the trend storage period that displays.

  • The **Cancel** button discards the trend storage period that displays.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

5.4.5   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Display** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
The parameter tiles in the **Display** tab are disabled.	A valid patient tile is not selected.	Select an active patient tile.

  *   *Messages are shown in all bold text.*

5.5   Standby Tab

The Standby tab is used to place a patient in Standby mode at the Panorama Central Station
and/or the bedside monitor. Standby mode temporarily suspends all patient monitoring,
alarm processing, and trending activity.

NOTE: ***Patients placed in Standby mode should be closely
               monitored.***

This section includes the following:

- Accessing the Standby Tab
- Placing a Patient in Standby Mode
- Removing a Patient from Standby Mode
- Sidebar Button
- Troubleshooting

5.5.1   Accessing the Standby Tab

1. From the menu bar, select the ***Patient Setup*** menu button. The tabs associated with
        patient setup is displayed.

2. Select the ***Standby*** tab (FIGURE 5-23). The Standby tab is displayed.

FIGURE 5-23 Standby Tab

5.5.2   Placing a Patient in Standby Mode

This section outlines placing a patient in Standby mode from the Panorama Central Station.
For information on placing a patient in Standby mode from a monitoring device refer to the
Operating Instructions for that device.

1. Choose a patient tile by selecting its digital data or waveform area.

2. In the ***Standby*** tab, select the type of Standby mode to be used for the patient.

    a. Standby at the Panorama Central Station only
       In the ***Standby*** tab, select the ***Panorama Standby Only*** button. Patient
       monitoring will continue at the bedside monitor.

    b. Standby at the bedside monitor and the Panorama Central Station

       • In the ***Standby*** tab, select the ***Bedside and Panorama Standby*** button.

       • At the bedside monitor, select the ***Standby*** button. A patient placed in Standby
         at the bedside monitor will automatically be placed in Standby at the Panorama
         Central Station.

3. Select the patient's Standby location. When the button for Standby mode is selected the
Patient Location list box displays. The patient locations that can be selected include the
following:

• *Standby*	• *Therapy*	• *ER*
• *Cath Lab*	• *Bath*	• *In Transit*
• *X-ray*	• *OR*	

4. Choose the ***Select*** button to confirm the Standby location that was selected. The text for
the standby location is shown in the patient tile, and all monitoring, alarm processing
and trend storage is suspended.

5.5.3   Removing a Patient from Standby Mode

To remove a patient from Standby mode perform one of the following:

A. *Panorama Standby Only*

• Select the ***Resume Monitoring*** button in the ***Standby*** tab.

   The ***Are you sure you want to return the patient from Panorama
   standby*** message displays. Select the ***YES*** button to return the patient from standby
   mode and resume monitoring or the ***NO*** button to keep the patient in Standby mode.

B. *Bedside and Panorama Standby*

• Select the ***Standby*** button on the bedside monitor.

5.5.4   Sidebar Button

The following sidebar button is used to expand the functionality of this tab.

Normal Screen

Select the ***Normal Screen*** sidebar button to return the display to the full screen mode, close
all tabs, message boxes and dialog boxes.

5.5.5 Troubleshooting

This section lists some of the potential messages and issues that may occur while using the *Standby* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
A patient in bedside standby cannot be directly placed into Panorama only standby	This message appears when the selected patient is already in **Standby** mode at the bedside monitor or was just released from Standby mode at the bedside monitor.	Select the **OK** button to close the dialog box. Resume monitoring at the bedside monitor before trying to change standby locations. Wait a moment and try to put the patient in **Standby** mode again.
Patient in auto standby may only be released from bedside	This message occurs when the **Bedside and Panorama Standby** button is selected for a patient that is already in **Standby** mode at the Panorama Central Station and the Bedside monitor.	Select the **OK** button to close the dialog box. Release the patient from **Standby** mode at the bedside monitor before trying to change the patient's **Standby** mode.

*   *Messages are shown in all bold text.*

5.6   Wave Gain Tab (Patient)

The **Wave Gain** tab (FIGURE 5-24) is used to adjust the wave gain settings for the selected patient's available waveforms. The initial wave gain settings for a patient are the system default settings at the time the patient is admitted.

NOTE: ***The layout and functionality of the Wave Gain tab changes based on the type of monitoring device assigned to the selected patient tile. The fields discussed in this section may not apply to all users.***

This section includes:

- Accessing the Wave Gain Tab (Patient)
- Adjusting a Patient's Wave Gain Settings
- Sidebar Buttons
- Troubleshooting

5.6.1   Accessing the Wave Gain Tab (Patient)

1. From the menu bar, select the **Patient Setup** menu button. The tabs associated with patient setup display.

2. Select the **Wave Gain** tab. The **Wave Gain** tab is displayed.

FIGURE 5-24 Wave Gain Tab

5.6.2   Adjusting a Patient's Wave Gain Settings

This section outlines entering and modifying a patient's wave gain settings via the **Wave Gain** tab.

1. Choose a patient tile by selecting its digital data or waveform area.

2. In the **Wave Gain** tab, select the **ECG mm/mV** button until the desired wave gain displays. The settings available for the ECG wave gain include 2.5, 5.0, 10.0, 20.0 and 30.0 mm/mV.

3. Select the **IBP mmHg** button until the desired wave gain displays. The settings available for the IBP wave gain include 0 - 20, 0 - 40, 0 - 80, 60 - 140, 0 - 160, 0 - 320 and (-10) - 10 mmHg.

NOTE: ***If the IBP is labeled at the bedside monitor, the same label displays on the wave gain button.***

4. Select the ***Resp Gain*** button until the desired wave gain is displayed. The settings available for the resp gain wave gain include 1, 2, 3, 4 and 5.

5. Select the ***CO2 (%, kPa, mmHG)*** button until the desired wave gain is displayed.

- The settings available for the CO_2 % wave gain include 5.0, 7.5 and 10.0 %.

- The settings available for the CO_2 kPa wave gain include 5.0, 7.5 and 10.0 kPa.

- The settings available for the CO_2 mmHg wave gain include 40, 60 and 100 mmHg.

6. Select the ***O2 %*** button until the desired wave gain is displayed. The settings available for the O_2 wave gain include 18 - 30, 18 - 60 and 18 - 100 %.

7. Select the ***AGENT %*** button until the desired wave gain is displayed. The settings available for the agent wave gains include 0 - 1.0, 0 - 2.5, 0 - 5.0, 0 - 10.0, 0 - 15.0 and 0 - 20.0 %.

8. Select the ***Done*** button to accept the wave gain settings shown in the Wave Gain tab. A patient's wave gain settings will not be changed unless the ***Done*** button is selected.

5.6.3   Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Restore Previous Settings

Select the ***Restore Previous Settings*** sidebar button to return patient display settings to those in use when the tab was opened.

Normal Screen

Select the ***Normal Screen*** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

5.6.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the Patient ***Wave Gain*** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
The patient's wave gain settings did not change	The ***Done*** button was not selected after the patient's wave gain settings were changed.	Adjust the patient's wave gain settings and select the ***Done*** button when the settings are completed.

*   *Messages are shown in all bold text.*

5.7   Print Setup Tab (Patient)

The **Print Setup** tab (FIGURE 5-25) is used to select the waveforms printed on a patient's All Strip, Event Zoom-In and Full Disclosure Zoom-In reports. The default settings for this tab are determined by the System Settings. The layout and functionality of the **Print Setup** tab changes based on the type of monitoring device assigned to the selected patient tile. The fields discussed in this section may not apply to all users.

This section includes the following:

- Accessing the Print Setup Tab
- Adjusting a Patient's Print Setup
- Sidebar Buttons
- Troubleshooting

5.7.1   Accessing the Print Setup Tab

1. From the menu bar, select the **Patient Setup** menu button. The tabs associated with patient setup are displayed.

2. Select the **Print Setup** tab (FIGURE 5-25). The **Print Setup** tab is displayed.

FIGURE 5-25 Print Setup Tab

5.7.2   Adjusting a Patient's Print Setup

This section outlines entering and modifying a patient's print setup via the **Print Setup** tab.

Customizing a Patient's Print Setup

1. Choose a patient tile by selecting its digital data or waveform area.

2. In the **Print Setup** tab, select a **check box** button to enable/disable the printing of a parameter.The patient's print setup settings are instantly changed.

The Parameters available in the **Print Setup** tab are dependent on the lead set and monitoring device connected to the patient.

- A check mark in a parameter check box indicates that the parameter is selected and will print in the patient's All Strip report.

- An empty parameter check box indicates that the parameter is not selected and will not print in the patient's All Strip report.

5.7.3   Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Restore Previous Settings Sidebar Button

Select the **Restore Previous Settings** sidebar button to return patient display settings to those in use when the tab was opened.

Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

5.7.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the Patient **Print Setup** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
A waveform does not print	The waveform is not selected in the patient's **Print Setup** tab.	Select the waveform in the patient's **Print Setup** tab.

*   *Messages are shown in all bold text.*

6.0   *Patient Alarm Functions*

This section describes the configuration of patient alarms at the Panorama Central Station.

- Patient Alarm Setup Tab (Optional)
- Alarm Limits Tab (Patient)
- Alarm Responses Tab (Patient)
- Arrhythmias

6.1   Patient Alarm Setup Tab (Optional)

The ***Patient Alarm Setup*** tab (FIGURE 6-1) provides password protected access to the patient alarm configuration. When the correct password is entered, the ***Alarm Limits*** and the ***Alarm Responses*** tabs are opened.

The ***Patient Alarm Setup*** tab is only shown if the Password Protection option is set to ***ON*** in the ***System Alarms*** tab. If Password Protection is ***OFF,*** the ***Patient Alarms*** menu button provides direct access to the ***Alarm Limits*** and the ***Alarm Responses*** tabs. For additional information, refer to the ''System Alarms Tab'' on page 9-11.

This section includes the following:

- Accessing the Patient Alarm Setup Tab
- Entering a Password
- Sidebar Buttons
- Troubleshooting

6.1.1   Accessing the Patient Alarm Setup Tab

From the menu bar, select the ***Patient Alarms*** menu button. The ***Patient Alarm Setup*** tab is displayed.

FIGURE 6-1 Patient Alarm Setup Tab

6.1.2   Entering a Password

To enter a password perform the following steps:

1. Select the ***Password*** text box in the ***Patient Alarm Setup*** tab. The keyboard dialog box is displayed.

2. Use the keyboard dialog box to enter the ***Alarm*** password that was created in the ***Passwords*** tab (maximum 15 characters). For security purposes asterisks (*) are shown for each typed character. For additional information regarding passwords, refer to the ''Passwords Tab'' on page 9-19 or contact your System Administrator.

- The Backspace (***<==)*** button clears a single character in the edit box
- The ***Caps Lock*** button enables/disables the caps lock function. A Caps Lock indicator is shown when ***Caps Lock*** is enabled.
- The ***Close*** button discards the changes
- The ***Enter*** button accepts changes

3. The **Alarm Limits** (FIGURE 6-2) and the **Alarm Responses** (FIGURE 6-3) tabs are shown after the correct password is entered. For additional information about alarm limits and alarm responses, refer to "Alarm Limits Tab (Patient)" on page 6-4 and "Alarm Responses Tab (Patient)" on page 6-9.

6.1.3   Sidebar Buttons

The following sidebar button is used to expand the functionality of this tab.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

6.1.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Patient Alarm Setup** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Incorrect password. Please try again	The wrong password was entered in the Password text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
Incorrect password. This is your last chance. Please try again	The wrong password was entered in the Password text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
The **Patient Alarm Setup** tab closes and the Panorama Central Station is returned to a full screen monitoring display	The wrong password was entered in the Password text box.	Reopen the **Patient Alarm Setup** tab and enter the correct password in the text box.

*   Messages are shown in all bold text.

6.2   Alarm Limits Tab (Patient)

The Patient *Alarm Limits* tab (FIGURE 6-2) adjusts patient alarm limit settings.

NOTE: ***The layout of the Alarm Limits tab changes based on the
type of monitoring device assigned to the selected patient
tile. The fields discussed in this section may not apply to all
users.***

For additional information regarding alarm limit settings, refer to ''Alarms and Events'' on
page 14-1.

This section includes the following:

- Accessing the Alarm Limits Tab
- Setting the Patient Alarm Limits
- Sidebar Buttons
- Troubleshooting

6.2.1   Accessing the Alarm Limits Tab

From the menu bar, select the *Patient Alarms* button. If the *Patient Alarm Setup* tab
displays, enter the password in the *Password* text box. The *Alarm Limits* and *Alarm
Responses* tabs are displayed.
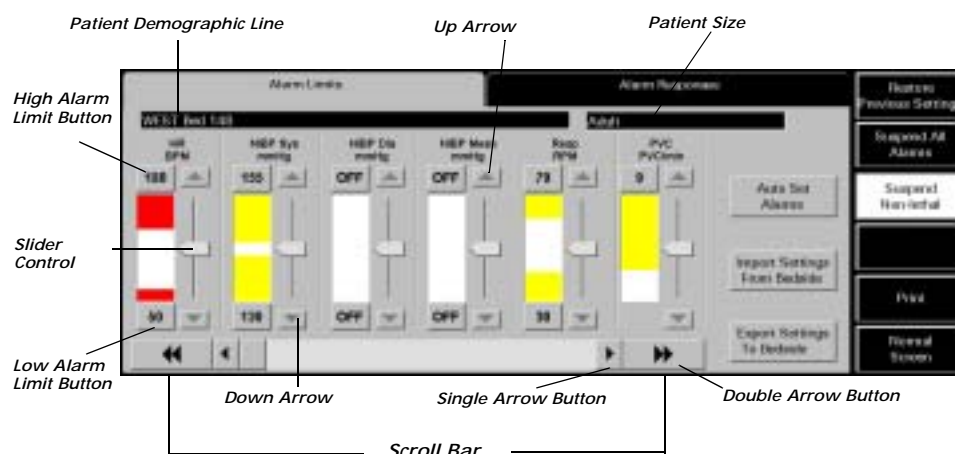
FIGURE 6-2 Alarm Limits Tab

6.2.2   Setting the Patient Alarm Limits

The following procedure is used for modifying patient alarm limits in the *Alarm Limits* tab.
The order in which the alarm slider controls are shown in the *Alarm Limits* tab is selected
in the ''Unit Priorities Tab'' on page 9-37.

1.   Choose a patient tile by selecting its digital data or waveform area.

- The patient's *Last Name* and *Bed* number are shown in the *Demographics* field
and their patient size is shown in the *Patient Size* field, if this information is shown in
the ''Demographics Tab'' on page 5-2.

2. Use the scroll bar to select the alarm to be modified.

- Double arrow buttons display the next/previous page of parameter slider controls (until the first/last page is reached).

- Single arrow buttons display the next/previous slider control (until the last control is shown).

3. Set the *high alarm limit* button for the selected parameter. This button is either labeled *OFF* or has an alarm limit value. A high alarm limit is set using the up/down arrow buttons on the parameter's vertical scroll bar or by moving the alarm's slider control.

4. Set the *low alarm limit* button for the selected parameter. This button is either labeled *OFF* or has an alarm limit value. A low alarm limit is set using the up/down arrow buttons on the parameter's vertical scroll bar or by moving the alarm's slider control.

All alarm limit adjustments at the Panorama Central Station are automatically sent to the bedside monitor if *Beside Alarm Tracking* is enabled as described in ''System Alarms Tab'' on page 9-11.

For information regarding the default alarm limit ranges, refer to ''Alarms and Events'' on page 14-1.

Import Settings from Bedside Button

The *Import Settings From Bedside* button causes the Panorama Central Station to import alarm limit settings from the bedside monitor. This button is only shown when the *Bedside Alarm Tracking* option is *OFF* in the ''System Alarms Tab'' on page 9-11.

To import alarm limit settings from a bedside monitor to the Panorama Central Station select the *Import Settings From Bedside* button.

Exporting Settings to Bedside Button

The *Export Settings To Bedside* button causes the Panorama Central Station to export its settings to the bedside monitor. This button is only shown when the *Bedside Alarm Tracking* option is *OFF* in the ''System Alarms Tab'' on page 9-11.

To export alarm limit settings from the Panorama Central Station to a bedside monitor select the *Export Settings To Bedside* button.

Auto Set Alarms Button

The *Auto Set* button automatically recalculates alarm limit settings based on current parameter values. The Panorama Central Station identifies the current parameter value and calculates the alarm limits based on percentages listed in Table 6-1.

Select the *Auto Set Alarms* button to automatically calculate and display alarm limit settings.

NOTE: *The Auto Set button does not affect the SPO_2, ST, PVC, Arrhythmia Run or Apnea Delay settings.*

TABLE 6-1 Auto Set Percent Change

ALARM	PERCENT CHANGE (APPROXIMATE)
Heart Rate	30%
Respiration	30%
IBP Systolic	20%
IBP Diastolic	20%
IBP Mean	20%
NIBP Systolic	20%
NIBP Diastolic	20%
NIBP Mean	20%
ET CO_2 (mmHg)	20%
INSP CO_2 (mmHg)	20%
ET CO_2 (%)	20%
INSP CO_2 (%)	20%
ET CO_2 (kPa)	20%
INSP CO_2 (kPa)	20%
Temp F°	3%
Temp C°	3%

6.2.3 Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Restore Previous Settings

Select the **Restore Previous Settings** sidebar button to return patient display settings to those in use when the tab was opened.

Suspend All Alarms (Optional)

Select the **Suspend All Alarms** sidebar button to suspend all numeric, lethal arrhythmia, non-lethal arrhythmia and technical alarms at the Panorama Central Station for the selected patient tile. The **Suspend All Alarms** sidebar button is only shown if the **Suspend Level 1** option is **ON** in the **System Alarms** tab.

WARNING: *The Panorama Central Station will not monitor any non-lethal arrhythmia, numeric or technical alarms for the selected patient tile when the Suspend All Non-lethal Alarms button is enabled.*

Select the **Suspend All Alarms** sidebar button to suspend a patient's alarms at the Panorama Central Station.

- When the **Suspend All Alarms** sidebar button is enabled, the button is white with black text.
- The **All Alarms Suspended** message displays in red text in the Patient Status line of the patient tile. For additional information regarding the Patient Status line, refer to the ''Patient Status Line'' on page 2-6.

To resume the monitoring of alarms, select the **Suspend All Alarms** sidebar button.

- When the **Suspend All Alarms** sidebar button is disabled, the button is blue with white text. Alarms are now re-enabled for the selected patient.

Suspend Non-lethal

Select the **Suspend Non-lethal** sidebar button to suspend all numeric, technical and non-lethal arrhythmia alarms for the selected patient tile. Lethal arrhythmia alarms continue to be monitored at the Panorama Central Station when non-lethal arrhythmia alarms are suspended.

> *WARNING: The Panorama Central Station will not monitor any non-lethal arrhythmia, numeric or technical alarms for the selected patient tile when the Suspend All Non-lethal Alarms button is enabled.*

To suspend all non-lethal alarms, select the **Suspend Non-lethal** sidebar button.

- When the **Suspend Non-Lethal** sidebar button is enabled, the button is white with black text.
- The **Non-Lethal Alarms Suspended** message displays in yellow text in the Patient Status line of the patient tile. For additional information regarding the Patient Status line, refer to the ''Patient Status Line'' on page 2-6.

To resume the monitoring of non-lethal alarms, select the **Suspend Non-Lethal** sidebar button.

- When the **Suspend Non-Lethal** sidebar button is disabled, the button is blue with white text. Non-lethal alarms are now re-enabled for the selected patient.

Relearn (Telepack Only)

Select the **Relearn** sidebar button to relearn/refresh ST and Arrhythmia data at the Panorama Central Station.

> *NOTE: The Relearn button is only available when ST and/or arrhythmia analysis is enabled.*

Print

Select the **Print** sidebar button to sends a print request for the printing of a Patient Alarm report. The Patient Alarm report contains a list of all of the patient alarm settings at the time of the print request.

For additional information on the Patient Alarm report, see ''Report Functions'' on page 8-1.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

6.2.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the Patient **Alarm Limits** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either no patient tile or an empty patient tile has been selected.	Select an active patient tile.
Communication Lost	Communication between the Panorama Central Station and the monitoring device for the selected patient tile has been interrupted.	Check the connection between the Panorama Central Station and the monitoring device. For example is the monitoring device out of range?
All of the sidebar buttons (except the **Normal Screen** button) are disabled.	An empty patient tile is selected.	Select a valid patient tile by touching the digital or waveform area of the patient tile.
All Alarms Suspended	The **Suspend All Alarms** function is enabled. All numeric, lethal arrhythmia, non-lethal arrhythmia and technical alarm processing for the selected tile has been suspended.	Resume alarm processing by pressing the **Suspend All Alarms** button and disabling the **Suspend All Alarms** function.
Non-Lethal Alarms Suspended	The **Suspend Non-lethal** function is enabled. Alarm processing for numeric, technical and non-lethal alarms has been suspended for the selected tile.	Resume alarm processing by pressing the **Suspend Non-lethal** button and disabling the **Suspend Non-lethal** function.

*   Messages are shown in all bold text.

6.3 Alarm Responses Tab (Patient)

The **Alarm Responses** tab (FIGURE 6-3) adjusts the responses of alarms at the Panorama Central Station during an alarm condition.

This section includes the following:

- Accessing the Alarm Responses Tab
- Configuring Alarm Responses
- Sidebar Buttons
- Troubleshooting

6.3.1 Accessing the Alarm Responses Tab

1. From the menu bar, select the **Patient Alarms** menu button. If the **Patient Alarm Setup** tab displays, enter the password in the **Password** text box. The **Alarm Limits** and **Alarm Responses** tabs display.

2. Select the **Alarm Responses** tab (FIGURE 6-3). The **Alarm Responses** tab is displayed.
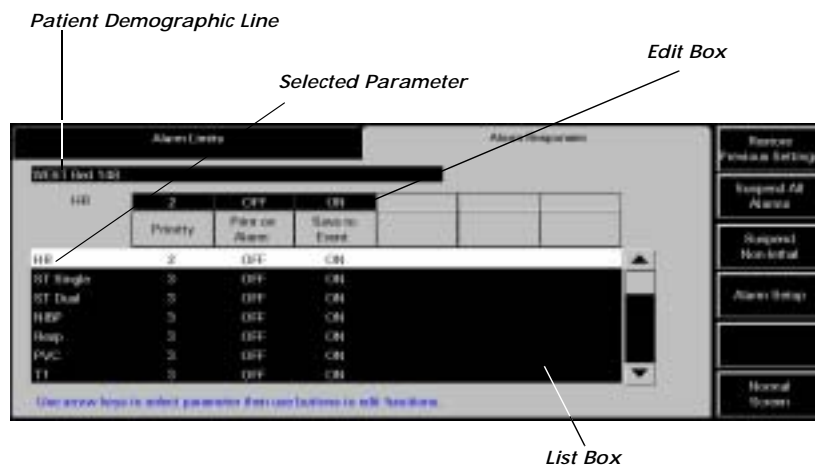
FIGURE 6-3 Alarm Responses Tab

6.3.2 Configuring Alarm Responses

To configure a patient's alarm responses complete the following procedure. The adjustment of alarm responses takes effect immediately after the tab is exited.

1. Choose a patient tile by selecting its digital data or waveform area.

   - The patient's **Last Name** and **Bed** number are shown in the **Demographics** field and their **Patient Size** is shown in the **Patient Size** field if this information was previously entered in the ''Demographics Tab'' on page 5-2.

2. Select the alarm to be modified.

   - The Alarm Responses list box shows the alarms that can be modified.

   - When a alarm is selected, it is shown in white with black text and is shown in the edit box.

3. Set the alarm priority for the alarm parameter. To set an alarm priority, select the **Priority** button until the alarm priority setting is shown. Alarm priority is associated with the severity of an alarm condition. It determines the audio and visual indicators that occur during an alarm condition.

    Alarm priority settings may include **Off**, **1**, **2** and **3**. Each alarm has predetermined alarm priority settings.

    - Priority **1** are the most severe alarms (lethal alarms).
    - Priority **2** are alarms of medium severity (most numeric alarms).
    - Priority **3** are the least severe alarms (technical alarms).
    - Priority **OFF** disables audio feedback for the selected alarm at the Panorama Central Station.

    For additional information on alarm behavior, refer to ''Alarm Behavior'' on page 3-1.

4. The **Print On Alarm** button sets the automatic printing of alarm data during an alarm condition.
    - The **ON** option automatically prints the alarm events when the alarm condition occurs.
    - The **OFF** option suspends the printing of alarm events during an alarm condition.

5. The **Save To Event** button sets the automatic saving of alarm data in the Event database when an alarm condition occurs.
    - The **ON** option automatically saves alarm data during an alarm condition.
    - The **OFF** option does not save alarm data during an alarm condition.

6.3.3　　Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Restore Previous Settings

Select the **Restore Previous Settings** sidebar button to return patient display settings to those in use when the tab was opened.

Suspend All Alarms (Optional)

Select the **Suspend All Alarms** sidebar button to suspend all numeric, lethal arrhythmia, non-lethal arrhythmia and technical alarms at the Panorama Central Station for the selected patient tile. The **Suspend All Alarms** sidebar button is only shown if the **Suspend Level 1** option is **ON** in the **System Alarms** tab.

WARNING: **The Panorama Central Station will not monitor any non-lethal arrhythmia, numeric or technical alarms for the selected patient tile when the Suspend All Non-lethal Alarms button is enabled.**

To suspend all alarms at the Panorama Central Station, select the **Suspend All Alarms** sidebar button.

- When the **Suspend All Alarms** sidebar button is enabled, the button is white with black text.
- The **All Alarms Suspended** message displays in red text in the Patient Status line of the patient tile.

To resume the monitoring of the alarms at the Panorama Central Station select the **Suspend All Alarms** sidebar button.

- When the **Suspend All Alarms** sidebar button is disabled, it is blue with white text. Alarms are now re-enabled for the patient.

Suspend Non-lethal

Select the **Suspend Non-lethal** sidebar button to suspend all numeric, technical and non-lethal arrhythmia alarms for the selected patient tile. Lethal arrhythmia alarms continue to be monitored at the Panorama Central Station when non-lethal arrhythmia alarms are suspended.

> *WARNING: The Panorama Central Station will not monitor any non-lethal arrhythmia, numeric or technical alarms for the selected patient tile when the Suspend All Non-lethal Alarms button is enabled.*

To suspend all non-lethal alarms select the **Suspend Non-lethal** sidebar button.

- When the **Suspend Non-lethal** sidebar button is enabled, the button is white with black text.
- The **Non-Lethal Alarms Suspended** message displays in yellow text in the Patient Status line of the patient tile.

To resume monitoring of non-lethal alarms, select the **Suspend Non-lethal** sidebar button.

- When the **Suspend Non-lethal** sidebar button is disabled, it is blue with white text. Alarms are now re-enabled for the patient.

Alarm Setup (Optional)

Select the **Alarm Setup** sidebar button to configure the **ST Alarm Delay** and the **Alarm Delay** for the selected patient tile. The Alarm Setup sidebar button only displays when the **Bedside Alarm Tracking** option is **OFF** in the **System Alarms** tab.

1. Select the **Alarm Setup** button. The **Alarm Setup** dialog box (FIGURE 6-4) is displayed.

FIGURE 6-4 Alarm Setup Dialog Box

2. Select the **ST Alarm Delay** time period for the selected patient's alarm. ST Alarm Delay is the period of time that the Panorama Central Station delays the notification of an ST alarm. ST Alarm Delay options include 30 seconds, 45 seconds, 1 minute, 90 seconds, 2 minutes and 3 minutes.

3. Select the **Alarm Delay** time period for the selected patient's alarm. Alarm Delay is the period of time that the Panorama Central Station delays the notification of an alarm. Alarm Delay options include None, 1 second, 2 seconds, 3 seconds, 4 seconds, 5 seconds, 6 seconds, 7 seconds and 8 seconds.

NOTE: *The Alarm Delay setting does not affect the alarm notification for ST, Apnea or Arrhythmia.*

4. Select the **Done** or the **Cancel** button.

- • The **Done** button accepts the configured alarm delay settings and returns to the **Alarm Responses** tab.

- • The **Cancel** button discards the configured alarm delay settings and returns to the **Alarm Responses** tab.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

6.3.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the Patient **Alarm Responses** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either no patient tile or an empty patient tile has been selected.	Select the **OK** button to close the dialog box. Select an active patient tile.
Communication Lost	Communication between the Panorama Central Station and the monitoring device for the selected patient tile has been interrupted.	Check the connection between the Panorama Central Station and the monitoring device. For example is the monitoring device out of range?
All of the sidebar buttons (except the **Normal Screen** button) are disabled.	An empty patient tile is selected.	Select a valid patient tile by touching the digital or waveform area of the patient tile.
All Alarms Suspended	The **Suspend All Alarms** function is enabled. All alarm processing for the selected tile has been suspended.	Resume alarm processing by pressing the **Suspend All Alarms** button and disabling the **Suspend All Alarms** function.
Non-Lethal Alarms Suspended	The **Suspend Non-lethal** function is enabled. Alarm processing for numeric, technical and non-lethal alarms has been suspended for the selected tile.	Resume alarm processing by pressing the **Suspend Non-lethal** button and disabling the **Suspend Non-lethal** function.

*   *Messages are shown in all bold text.*

6.4   Arrhythmias

Lethal and Non-lethal arrhythmia alarms and events may occur at the Panorama Central Station.

6.4.1   Lethal Arrhythmia Alarms

A lethal arrhythmia is an arrhythmia that can be life threatening to a patient if left untreated. Ventricular Tachycardia (V-Tach), Ventricular Fibrillation (V-Fib) and Asystole alarms are lethal arrhythmias.

Ventricular Tachycardia (V-Tach) Alarm

A ***V-Tach*** alarm is defined as follows:

- When using a 3-wire or 5-wire lead set, the V-Tach lethal arrhythmia alarm is activated when there are eight or more consecutive PVCs at a rate equal to or greater than the configured V-Tach threshold.
- When using a 12 lead card, the V-Tach lethal arrhythmia alarm is activated when the user configurable number of consecutive PVCs is reached at a rate equal to or greater than the V-Tach threshold.

NOTE: *A V-Tach alarm is a latched alarm that must be acknowledged after the condition resolves.*

NOTE: *The V-Tach alarm is not available for the Neonate patient size.*

A V-Tach alarm is a Priority 1 alarm event that behaves as follows:

- The V-Tach alarm produces the Alarm Priority 1 visual and audio alarm indicators once the condition is identified.
- The V-Tach alarm shows a ***V-Tach*** alarm message in red text in the Patient Status line.
- The V-Tach arrhythmia alarm is associated with Alarm Priority 1 audio sound.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Ventricular-Fibrillation (V-Fib) Alarm

A ***V-Fib*** alarm is activated when there is an absence of recognizable P, QRS and T waves for four consecutive seconds.

NOTE: *A V-Fib alarm is a latched alarm that must be acknowledged after the condition resolves.*

NOTE: *The V-Fib alarm is not available for the Neonate patient size.*

The V-Fib alarm is a Priority 1 alarm event that behaves as follows:

- The V-Fib alarm produces Alarm Priority 1 visual and audio alarm indicators once the condition is identified.
- The V-Fib alarm shows a ***V-Fib*** alarm message in red text in the Patient Status line.
- The V-Fib arrhythmia alarm is associated with Alarm Priority 1 audio sound.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Asystole Alarm

An ***Asystole*** alarm is activated when there is an absence of detectable QRS complexes for a user-defined period of time in the absence of V-Fib.

NOTE: ***An Asystole alarm is a latched alarm that must be acknowledged after the condition resolves.***

NOTE: ***The Asystole alarm is not available for the Neonate patient size.***

The Asystole alarm is a Priority 1 alarm event that behaves as follows:

- The Asystole produces the Alarm Priority 1 visual and audio alarm indicators once the condition is identified.
- The Asystole arrhythmia alarm shows an ***Asystole*** alarm message in red text in the Patient Status line.
- The Asystole arrhythmia alarm is associated with Alarm Priority 1 audio sound.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

6.4.2 Non-Lethal Arrhythmia Alarms

A Non-Lethal Arrhythmia is an arrhythmia that is not life threatening to a patient. Bigeminy, Couplet, Irregular Heart Rate, Missed Beat, Run, Trigeminy, Triplet, Ventricular Rhythm (V-Rhythm) and High PVC alarms are non-lethal arrhythmias.

Bigeminy Alarm

The ***Bigeminy*** alarm is activated when the Panorama system detects two or more cycles of a single PVC followed by a normal beat.

NOTE: ***A Bigeminy alarm is not a latched alarm and can be acknowledged at anytime.***

NOTE: ***The Bigeminy alarm is not available for the Neonate patient size.***

The Bigeminy alarm priority settings include ***2***, ***3*** and ***OFF*** and behaves as follows:

- If the Bigeminy alarm priority is ***OFF***, the Panorama Central Station does not produce any audio alarm indicators for the Bigeminy alarm condition.
- If the Bigeminy alarm priority is set to ***2***, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.
- If the Bigeminy alarm priority is set to ***3***, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.
- The Bigeminy alarm is associated with a yellow ***Bigeminy*** alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Couplet Alarm

The ***Couplet*** alarm is activated when the Panorama Central Station identifies two consecutive PVCs between normal beats.

NOTE: *A Couplet alarm is not a latched alarm and can be acknowledged at anytime.*

NOTE: *The Couplet alarm is not available for the Neonate patient size.*

The Couplet alarm priority settings include ***2***, ***3*** and ***OFF*** and behaves as follows:

• If the Couplet alarm priority is ***OFF***, the Panorama Central Station does not produce any audio alarm indicators for the Couplet alarm condition.

• If the Couplet alarm priority is set to ***2***, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

• If the Couplet alarm priority is set to ***3***, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

• The Couplet alarm is associated with a yellow ***Couplet*** alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Irregular Heart Rate Alarm

The ***Irregular Heart Rate*** alarm is activated when the Panorama Central Station identifies six R-R intervals that vary in regularity by 100 milliseconds or more.

NOTE: *An Irregular Heart Rate alarm is not a latched alarm and can be acknowledged at anytime.*

NOTE: *The Irregular Heart Rate alarm is not available for the Neonate patient size.*

The Irregular Heart Rate alarm priority settings include ***2***, ***3*** and ***OFF*** and behaves as follows:

• If the Irregular Heart Rate alarm priority is ***OFF***, the Panorama Central Station does not produce any audio alarm indicators for the Irregular Heart Rate alarm condition.

• If the Irregular Heart Rate alarm priority is set to ***2***, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

• If the Irregular Heart Rate alarm priority is set to ***3***, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

• The Irregular Heart Rate alarm is associated with a yellow ***Irregular Heart Rate*** alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Missed Beat Alarm

The ***Missed Beat*** alarm is activated when the Panorama Central Station identifies two normal beats separated by an R-R interval twice the current average interval.

NOTE: *A Missed Beat alarm is not a latched alarm and can be acknowledged at anytime.*

NOTE: *The Missed Beat alarm is not available for the Neonate patient size.*

The Missed Beat alarm priority settings include *2*, *3* and *OFF* and behaves as follows:

• If the Missed Beat alarm priority is *OFF*, the Panorama Central Station does not produce any audio alarm indicators for the Missed Beat alarm condition.

• If the Missed Beat alarm priority is set to *2*, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

• If the Missed Beat alarm priority is set to *3*, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

• The Missed Beat alarm is associated with a yellow *Missed Beat* alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Run Alarm

The *Run* alarm is activated when the Panorama system identifies a user-defined number of consecutive PVCs at a heart rate of between 100 to 150 bpm.

NOTE: *A Run alarm is not a latched alarm and can be acknowledged at anytime.*

NOTE: *The Run alarm is not available for the Neonate patient size.*

The Run alarm priority settings include *2*, *3* and *OFF* and behaves as follows:

• If the Run alarm priority is *OFF*, the Panorama Central Station does not produce any audio alarm indicators for the Run alarm condition.

• If the Run alarm priority is set to *2*, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

• If the Run alarm priority is set to *3*, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

• The Run alarm is associated with a yellow *Run* alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Trigeminy Alarm

The *Trigeminy* alarm is activated when the Panorama Central Station identifies two or more cycles of one PVC followed by two normal beats.

NOTE: *A Run alarm is not a latched alarm and can be acknowledged at anytime.*

NOTE: *The Run alarm is not available for the Neonate patient size.*

The Trigeminy alarm priority settings include **2**, **3** and **OFF** and behaves as follows:

• If the Trigeminy alarm priority is **OFF**, the Panorama Central Station does not produce any audio alarm indicators for the Trigeminy alarm condition.

• If the Trigeminy alarm priority is set to **2**, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

• If the Trigeminy alarm priority is set to **3**, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

• The Trigeminy alarm is associated with a yellow **Trigeminy** alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

Triplet Alarm

The **Triplet** alarm is activated when the Panorama Central Station identifies three consecutive PVCs between normal beats.

> *NOTE:* *A Triplet alarm is not a latched alarm and can be acknowledged at anytime.*

> *NOTE:* *The Triplet alarm is not available for the Neonate patient size.*

The Triplet alarm priority settings include **2**, **3** and **OFF** and behaves as follows:

• If the Triplet alarm priority is **OFF**, the Panorama Central Station does not produce any audio alarm indicators for the Triplet alarm condition.

• If the Triplet alarm priority is set to **2**, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

• If the Triplet alarm priority is set to **3**, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

• The Triplet alarm is associated with a yellow **Triplet** alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

V-Rhythm Alarm

The **V-Rhythm** alarm is activated when the Panorama Central Station a number of consecutive PVCs at a rate less than the V-Tach threshold.

> *NOTE:* *A V-Rhythm alarm is not a latched alarm and can be acknowledged at anytime.*

> *NOTE:* *The V-Rhythm alarm is not available for the Neonate patient size.*

The V-Rhythm alarm priority settings include *2*, *3* and *OFF* and behaves as follows:

- If the V-Rhythm alarm priority is *OFF*, the Panorama Central Station does not produce any audio alarm indicators for the V-Rhythm alarm condition.

- If the V-Rhythm alarm priority is set to *2*, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

- If the V-Rhythm alarm priority is set to *3*, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

- The V-Rhythm alarm is associated with a yellow *V-Rhythm* alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

High PVC Alarm

The **High PVC** alarm is activated when the Panorama Central Station a number of PVCs exceeds the threshold value that has been set.

NOTE: *A High PVC alarm is not a latched alarm and can be acknowledged at anytime.*

NOTE: *The High PVC alarm is not available for the Neonate patient size.*

The High PVC alarm priority settings include *2*, *3* and *OFF* and behaves as follows:

- If the High PVC alarm priority is *OFF*, the Panorama Central Station does not produce any audio alarm indicators for the High PVC alarm condition.

- If the High PVC alarm priority is set to *2*, the Panorama Central Station produces an Alarm Priority 2 sound once the condition is identified.

- If the High PVC alarm priority is set to *3*, the Panorama Central Station produces an Alarm Priority 3 sound once the condition is identified.

- The High PVC alarm is associated with a yellow **High PVC** alarm text message in the Patient Status line.

For additional information, refer to ''Alarm Behavior'' on page 3-1.

7.0 *Views*

This section describes the tabs that are available:

- Bedside Tab
- Trends Tab
- Events Tab
- Disclosure Tab
- ST Tab

7.1   Bedside Tab

The ***Bedside*** tab (FIGURE 7-1) provides an expanded view of the selected patient data. A maximum of four waveforms and eight digital parameters can be scrolled into the viewable area of the display.

The parameters and settings, selected for the monitoring device, determine the data that displays on the ***Bedside*** tab.

The order in which the parameters are presented is specified in the ***Unit Priorities*** tab.

This section includes the following:

- Accessing the Bedside Tab
- Components of the Bedside Tab
- Sidebar Buttons
- Troubleshooting

7.1.1   Accessing the Bedside Tab

To display the *Bedside* tab, select the *VIEW* button located on the desired patient tile. To view a different patient, select another patient tile by choosing its digital data or waveform area.
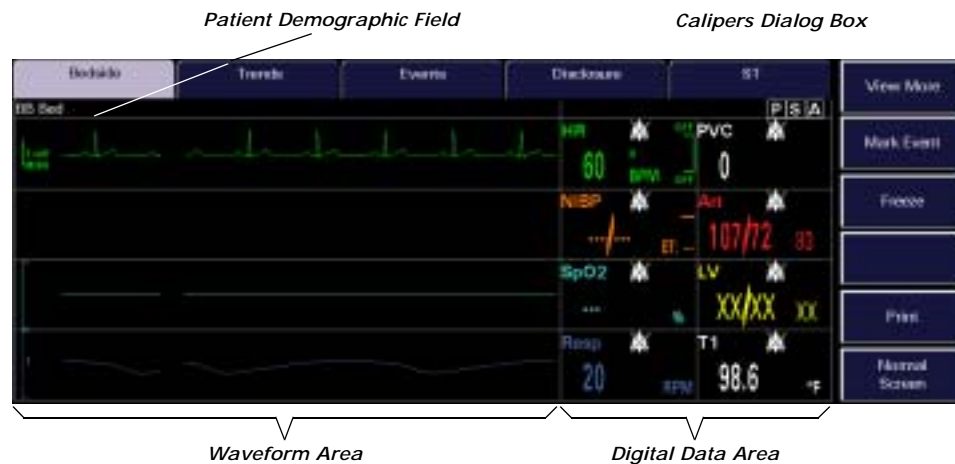
FIGURE 7-1 Bedside tab

7.1.2   Components of the Bedside Tab

Patient Demographic Field

The *Bedside* tab includes a demographic field that displays the last name and bed number for the selected patient.

If applicable, the following icons display on the right side of the Patient Demographic Field:

- A Indicates that Arrhythmia Detection is enabled.

- S Indicates that ST Analysis is enabled.

- P Indicates that Pacer Enhancement is enabled.

Waveform Area

The waveform area of the *Bedside* tab displays a maximum of four waveforms that correspond to the digital parameters which occupy the tiles directly to the right. Wave gain data for each waveform parameter is displayed on the left side of each waveform tile. If a digital parameter or a waveform is not fully visible on the display, use the *View More* sidebar button to scroll the parameter/waveform into a viewable tile position.

One lead of ECG will always occupy the top waveform position, and will not scroll. This ECG waveform is the same waveform shown on the main screen. If a view of a different ECG lead is desired, it must be selected from the **Display** tab. See ''Display Tab'' on page 5-29 for additional information. All other waveforms can be scrolled into viewable position. The scrolling feature provides access to a wrapping list that returns to the beginning, once the last item has been reached.

Digital Data Area

The digital data area of the **Bedside** tab displays a maximum of eight digital parameters. Parameters experiencing an alarm condition will display a different background color indicating the severity of the alarm. For additional information, see ''Alarm Behavior'' on page 3-1. If ST is enabled on the ECG waveform, the digital data section of the **Bedside** tab includes an ST lead label that specifies the lead from which the displayed data is acquired.

7.1.3   Sidebar Buttons

The sidebar buttons are used to expand the functionality of this tab.

7.1.3.1   View More

Select the **View More** sidebar button to scroll additional waveforms and/or digital data into the bottom position on the screen.

7.1.3.2   Mark Event

Select the **Mark Event** sidebar button to save the current data to the Event database as a Central User Marked Event. For example, the **Mark Event** sidebar button can be useful for noting such things as the time when a drug was administered.

7.1.3.3   Freeze

Select the **Freeze** sidebar button to freeze all of the waveforms and parameter data that are currently displayed on the **Bedside** tab. The **Bedside** tab remains frozen until the **Freeze** sidebar button is selected again, even if another patient is selected. Freezing the **Bedside** tab does not affect the waveform or any real time alarms in the upper half of the normal screen.

When the **Freeze** sidebar button is selected, the **Calipers** sidebar button is enabled. This replaces the **Mark Event** sidebar button.

7.1.3.4 Calipers

Calipers are reference and measurement lines that measure the time and amplitude of any ECG waveform. The *Calipers* sidebar button replaces the *Mark Event* sidebar button when the *Freeze* sidebar button is selected. Select the *Calipers* sidebar button to display the *Calipers* dialog box (FIGURE 7-2).

FIGURE 7-2 Calipers Dialog Box

7.1.3.5 Calipers Sidebar Button

The Calipers sidebar button activates the Calipers dialog box (FIGURE 7-2).

The Calipers are reference and measurement lines that indicate the readout time and amplitude of any ECG waveform. They are activated and controlled in the *Calipers* view screen.

Using the Calipers

Activate the *Calipers* view screen by selecting the *Calipers* sidebar button. In the *Calipers* view screen, the *Vert* button places vertical lines on the waveform to measure the readout time, and the *Horiz* button places horizontal lines on the waveform to measure its amplitude.

At any time during the process, selecting the *Clear* button will reset the Calipers and allowing the user to perform a new measurement. If a measurement of a different waveform in the current interactive screen is desired, that waveform must be selected while in a clear *Calipers* view screen.

A mouse can be used to reposition the reference and measurement lines. Clicking the right mouse button has the same effect as selecting the *Vert* or *Horiz* buttons in the Calipers view screen. Calipers operate to an accuracy of +/- 5%.

Vertical Calipers (Time)

1. Select the *Vert* button. A dashed vertical reference line is placed at the left of the waveform. The dashed reference line represents the 0 value starting point.

2. Adjust the location of the dashed, vertical reference line as follows:

    • For coarse adjustments, select the desired location. The reference line will move to that point.

    • For fine adjustments, use the left/right arrow keys to position the reference line at the desired point.

3. Once the dashed, vertical reference line appears in the desired location, select the ***Vert*** button again. A solid vertical measurement line now appears on the view screen.

4. Adjust the location of the solid vertical measurement line as necessary in the same manner described in step 2.

5. Once the solid vertical measurement line has been adjusted to the desired location, select the ***SET*** button. The solid vertical measurement line is locked at its current location. The value for Readout Time is calculated and displayed above the ***Vert*** button.

  • If desired, a horizontal measurement (described in the next section) can be performed while maintaining the vertical measurement information.

  • If another vertical measurement is desired, select the ***Clear*** button and repeat this procedure.

Horizontal Calipers (Amplitude)

1. Select the **Horiz** button. A dashed horizontal reference line is placed at the bottom of the waveform. The dashed reference line represents the 0 value starting point.

2. Adjust the location of the dashed horizontal reference line as follows:

    • For coarse adjustments, select a point in the general area of the desired location. The reference line will move to that point.

    • For fine adjustments, use the up/down arrow keys to position the reference line at the desired point.

3. Once the dashed horizontal reference line has been adjusted to the desired location, select the **Horiz** button again. The dashed horizontal reference line is locked at its current location. A solid horizontal measurement line is placed on the waveform above the dashed horizontal reference line.

4. Adjust the location of the solid horizontal measurement line, as necessary, in the same manner described in step 2.

5. Once the solid horizontal measurement line has been adjusted to the desired location, select the **SET** button. The solid horizontal measurement line is locked at its current location. The value for amplitude is calculated and displayed above the **Horiz** button.

    • If desired, a vertical measurement can be performed while maintaining the horizontal measurement information.

    • If another horizontal measurement is desired, select the **Clear** button and repeat this procedure.

7.1.3.6 Print Sidebar Button

Select the **Print** sidebar button to provides an All Strips Report for the selected patient tile.

7.1.3.7 Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.1.4 Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Bedside** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
A waveform parameter is not displayed.	If the waveform parameter exists, it has not been scrolled into view on the display.	Use the **View More** sidebar button to scroll to the desired parameter waveform.
	The waveform parameter is not being monitored at the bedside.	Connect the sensor(s) for the waveform parameter to the patient.
A digital parameter is not displayed.	If the digital parameter exists, it has not been scrolled into view on the display.	Use the **View More** sidebar button to scroll to the desired digital parameter.
	The digital parameter is not being monitored at the bedside.	Connect the sensor(s) for the digital parameter to the patient.

*   *Messages are shown in all bold text.*

7.2 Trends Tab

The trended digital data for a patient can be viewed in two formats, either as a list, (FIGURE 7-3) or graphically (FIGURE 7-5).

Trend data is recorded at user specified intervals, and when an NIBP measurement is performed. If the **Trends** tab is selected before the first interval is reached, or before the first NIBP measurement occurs, the list will be empty. All previously collected parameter data will be displayed, even if the parameter is not currently being monitored.

The monitoring device, utilized parameters, and configured settings determines the data that is displayed in the **Trends** tab. The order in which the parameters are presented is specified in the "Unit Priorities Tab" on page 9-37.

7.2.1 Accessing the Trends Tab

1. Select the **VIEW** button on the desired patient tile. The **Bedside** tab will be displayed.

2. Select the **Trends** tab. The **List** view of the **Trends** tab automatically appears.

7.2.2 Patient Demographic Field

The **List** and **Graphic** views of the **Trends** tab include a demographic field that displays the last name and bed number of the currently selected patient.

7.2.3 List View of the Trends Tab

The **List** view of the **Trends** tab provides a list of all of the trended digital data for the selected patient. Each trend record is displayed as a row in the list, in descending chronological order. The most recent trend record appears at the top.
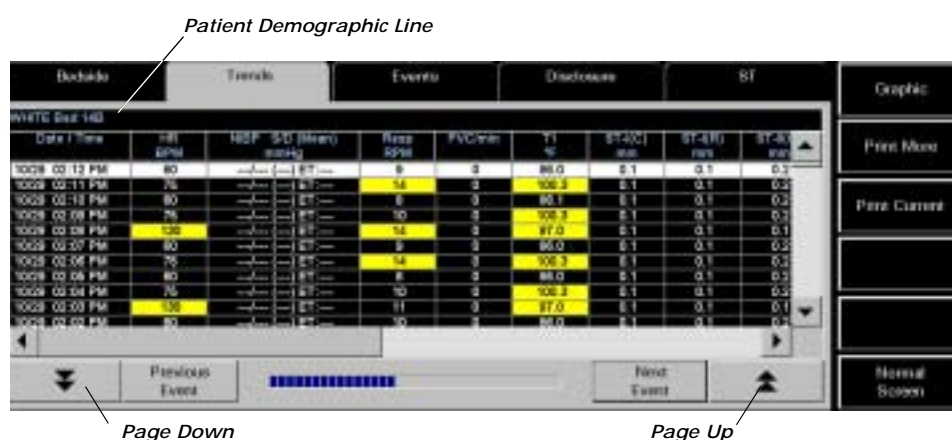
FIGURE 7-3 List view of the Trends tab

When the **List** view of the **Trends** tab is selected, the top row in the list is highlighted. As shown in FIGURE 7-3, the trend record's date and time display in the first column. All subsequent columns display parameter data in the order that was specified in the **Unit Priorities** tab. See ''System Setup Functions'' on page 9-1 for additional information.

If a priority 1 physiological or bedside alarm condition existed for a parameter during the time of trend record storage, that parameter's data will be highlighted in red.

If a priority 2 or 3 physiological or bedside alarm condition existed for a parameter during the time of trend record storage, that parameter's data will be highlighted in yellow.

7.2.3.1   Navigating in the List View of the Trends Tab

Scrolling through the List
If the Trend list exceeds the capacity of the viewable screen, there are two methods of scrolling through the list:

- A scroll bar located along the right side of the Trend list. The up and down arrows on the scroll bar are used for single row scrolling, or the bar can be dragged to move quickly through a large number of rows.
- The Page Down (double down-arrow) and Page Up (double up-arrow) buttons located along the bottom of the **Trends** tab. These buttons are used to scroll through one page of the list at a time.

Scrolling through the Parameters
A horizontal scroll bar, located along the bottom of the Trend list, is available if the number of parameters exceeds the capacity of the viewable screen. The left and right arrows on the scroll bar can be used for single parameter scrolling, or the bar can be dragged to move quickly through a large number of parameters.

7.2.3.2   Previous Event Button
The **Previous Event** button locates and highlights the previous event condition that occurred **before** the currently highlighted row.

7.2.3.3   Next Event Button
The **Next Event** button locates and highlights the next event condition that occurred **after** the currently highlighted row.

7.2.3.4   Graphic Sidebar Button
The **Graphic** sidebar button to open the **Graphic** view of the **Trends** tab. When the **Graphic** view opens, a cursor is placed at the same date/time as the row that was highlighted in the **List** view.

7.2.3.5   Print More Sidebar Button
The **Print More** sidebar button to provide a printout of a selected time interval from the list.

1. Select the **Print More** sidebar button. The **Print Selection** dialog box (FIGURE 7-4) is displayed.

FIGURE 7-4 Print Selection Dialog Box

   2.   Select the button for the desired time interval to be printed.

   3.   Select the **Print** button to send the print request to the default printer. The printout will span the selected number of hours of trend data starting from the time of the first viewable row at the top of the list.

Selecting the **Cancel** button at any time will close the **Print Selection** dialog box and return to the **List** view of the **Trends** tab.

7.2.3.6   Print Current Sidebar Button

Selecting the **Print Current** sidebar button sends a print request to the default printer. The printout is the ''Trend List Report'' which is discussed on page 8-15.

7.2.3.7   Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.2.4   Graphic View of the Trends Tab

The **Graphic** view of the **Trends** tab (FIGURE 7-5) provides a graphical representation of all of the trended digital data for a selected patient. All previously collected data is displayed, even if the parameter is not currently being monitored.

The **Graphic** view for each parameter includes a range bar, plot area and parameter area for the selected time. A maximum of three parameters can be scrolled into the viewable area of the display.

7.2.4.1   Accessing the Graphic View

The **List** view of the **Trends** tab is always displayed first. To open the **Graphic** view of the **Trends** tab, select the **Graphic** sidebar button on the **List** view.

When the **Graphic** view is displayed, a movable reference line that crosses the three available plot areas, is initially placed at the same date/time as the row (trend record) that was highlighted in the **List** view. The trend record data that is displayed in the parameter area is defined by the location of the reference line.

NOTE: *To redisplay the List view of the Trends tab from the Graphic*
          view, select the List sidebar button.
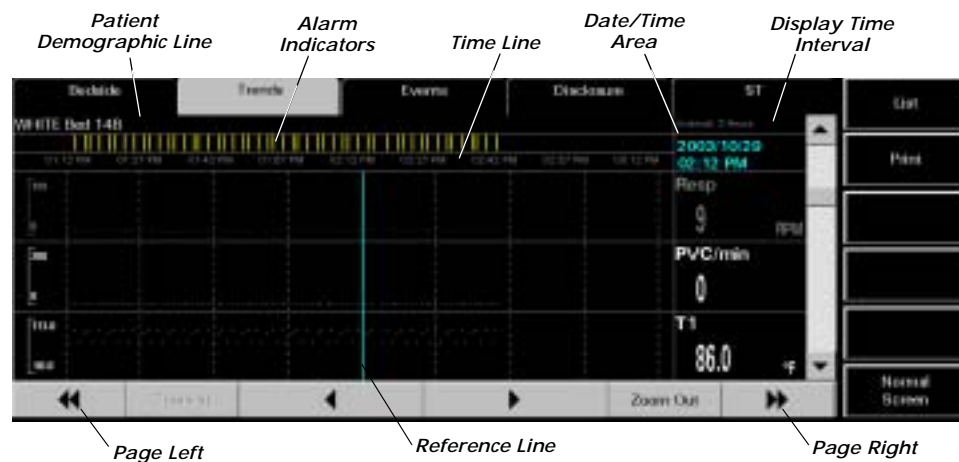
FIGURE 7-5 Graphic view of the Trends tab

7.2.4.2   Alarm Indicator Area

Vertical lines that are displayed in the alarm indicator area denote the time at which an alarm occurred. The color of each vertical line in the alarm indicator area denotes the priority of the alarm.

7.2.4.3   Date/Time Area

The date/time area indicates the date and time associated with the location of the reference line.

7.2.4.4   Display Time Interval

The display time interval is the current setting for the viewable snapshot and is one page of the **Graphic** view. When the **Graphic** view opens, the default display time interval is two hours.

7.2.4.5   Time Line

The time line displays nine equally spaced time values based on the display time interval.

7.2.4.6   Range Bars

The range bar for each parameter is displayed with the maximum and minimum values for that parameter. Each range bar is displayed in the color of the parameter as described in the Parameter Color Tab.

7.2.4.7   Plot Areas

The plotted trend records are displayed in the following format:

- One plotted point for single sensor parameters
- A line connecting the inspired value and end tidal value for dual sensor parameters
- A line connecting the systolic and diastolic values and a single dot for the mean value for multi-sensor parameters

Each plotted trend record is displayed in the color of the parameter as described in the Parameter Color Tab.

7.2.4.8   Parameter Areas

The trend record data that is displayed in the parameter area is defined by the location of the reference line. For parameters that have experienced an alarm event, the background color of the parameter area is based on the alarm priority at the time of trend record storage.

If there is no data at the location of the reference line, the parameter areas will display the parameter label and/or the unit of measurement.

7.2.4.9   Navigating in the Graphic View of the Trends Tab

Scrolling through the Parameters

A vertical scroll bar is located along the right side of the parameter area. The up and down arrows on the scroll bar can be used for single parameter scrolling or the bar can be dragged to move quickly through a large number of parameters.

Scrolling through the Time Line

There are two methods of scrolling through the time line:

- The left arrow button moves the reference line to the previous point on the time line and the right arrow button moves the reference line to the next point on the time line.
- The Page Left (double left-arrow) button scrolls to the previous page and the Page Right (double right-arrow) button scrolls to the next page. Increments are based on the display time interval.

Zoom In Button

The **Zoom In** button decreases the display time interval to a minimum of 2 hours, in two hour increments.

Zoom Out Button

The **Zoom Out** button increases the display time interval to a maximum of 8 hours, in two hour increments.

7.2.4.10   List Sidebar Button

The **List** sidebar button opens the **List** view of the **Trends** tab. If the reference line is placed at a time that is within the interval of the recorded trend data, when the **List** view opens, the corresponding row for that time will be highlighted. If the cursor is placed at a time that is outside of the interval of the recorded trend data, when the **List** view opens, the top row in the list will be highlighted.

7.2.4.11   Print Sidebar Button

Selecting the **Print** sidebar button sends a print request to the default printer. The printout is the ''Trend Graphic Report'' which is discussed on page 8-43.

7.2.4.12   Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.2.4.13   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the List View of the **Trends** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
There is no data in the **List** view of the **Trends** tab.	A patient has not been admitted to the selected tile.	Admit a patient to the selected tile or choose a tile that already has an admitted patient.
	The **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
A column of parameter data is not displayed.	If the column of parameter data exists, it has not been scrolled into view on the display.	Use the scroll bar located along the bottom of the Trend list to scroll to the desired parameter column.
	The parameter is not being monitored at the bedside.	Connect the sensor(s) for the parameter to the patient.

  *   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
No more data found (Page Down Button)	There is no data in the Trend database because the **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The last row in the list is already highlighted.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
No more data found (Page Up Button)	There is no data in the Trend database because the **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The first row in the list is already highlighted.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
No more events found (**Previous Event** Button)	There is no event data in the Trend database.	Wait until an event is recorded to the Trend database.
	None of the rows that are below the currently highlighted row contain a parameter with an event condition.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
	The last row in the list is already highlighted.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
No more events found (**Next Event** Button)	There is no event data in the Trend database.	Wait until an event is recorded to the Trend database.
	None of the rows that are above the currently highlighted row contain a parameter with an event condition.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
	The first row in the list is already highlighted.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
The **Graphic, Print More** and **Print Current** sidebar buttons are disabled.	There is no data in the Trend database because the **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	A patient has not been admitted to the selected tile.	Admit a patient to the selected tile or choose a tile that already has an admitted patient.
	The **Print Selection** dialog box is open.	Close the **Print Selection** dialog box.

*   *Messages are shown in all bold text.*

This section lists some of the potential messages and issues that may occur while using the Graphic View of the *Trends* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
There is no trend data in the display.	A patient has not been admitted to the selected tile.	Admit a patient to the selected tile or choose a tile that already has an admitted patient.
	The *Trends* tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
The parameter areas only display the parameter label and/or the unit of measurement.	There is no data at the location of the cursor line.	Move the cursor line to a point on the time line where data is known to exist.
No more data found (Page Left Button)	There is no data in the Trend database because the *Trends* tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The first recorded data has been reached. No further data exists before this time.	Select the *OK* button to close the message box and return to the *Graphic* view of the *Trends* tab.
No more data found (Page Right Button)	There is no data in the Trend database because the *Trends* tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The most recent recorded data has been reached. No further data exists after this time.	Select the *OK* button to close the message box and return to the *Graphic* view of the *Trends* tab.
Time out of range (*Zoom In* Button)	The minimum display time interval has been reached.	Select the *OK* button to close the message box and return to the *Graphic* view of the *Trends* tab.
Time out of range (*Zoom Out* Button)	The maximum display time interval has been reached.	Select the *OK* button to close the message box and return to the *Graphic* view of the *Trends* tab.
Time out of range (Left Arrow Button)	The minimum display time interval has been reached.	Select the *OK* button to close the message box and return to the *Graphic* view of the *Trends* tab.
Time out of range (Right Arrow Button)	The maximum display time interval has been reached.	Select the *OK* button to close the message box and return to the *Graphic* view of the *Trends* tab.
The *List* and *Print* sidebar buttons are disabled.	A message box is being displayed.	Close the message box.

* *Messages are shown in all bold text.*

7.3 Events Tab

The **Events** tab lists all the events for a selected patient tile.

In addition to the **Events** list, limited demographic information is also displayed in this tab. The patient's last name, patient bed number and number of events is displayed in the demographic text box, located above the **Events** list. If no patient tile is selected when the **Events** tab is selected, a message **No patient in tile** is displayed in the demographic field.

The monitoring device, utilized parameters, and configured settings determine the events that are saved in the **Events** list. The order in which the parameters display in the list are specified in the **Unit Priorities** tab. Refer to ''Unit Priorities Tab'' on page 9-37.

The **Events** tab displays events in two formats. The first is called the Event List view and the second is the Event Waveforms view. Both views are discussed in the following sections.

7.3.1 Accessing the Events Tab

1. Select the **VIEW** button on the desired patient tile. The default **Bedside** tab is displayed.

2. Select the **Events** tab. The **List** view of the **Events** tab (FIGURE 7-6) is displayed first.

To view a different patient, select another patient tile by selecting its digital data or waveform area.

7.3.2 List View of the Events Tab

The **List** view of the **Events** tab lists all the events for the selected tile in a column format. Each event record is displayed as a row in the list, in descending chronological order.

FIGURE 7-6 List view of the Events tab

When the **List** view of the **Events** tab is first selected, the top row in the list will be highlighted. The event record's date and time displayed in the first column, the event description displayed in the second column, and the heart rate (HR) is displayed in the third column (FIGURE 7-6). All subsequent columns display parameter data in the order specified in the **Unit Priorities** tab.

All previously collected parameter data is displayed, even if the parameter is not currently being monitored.

7.3.3 Refreshing the Events List

The **Events** list is not dynamic, and therefore, will not regenerate until it is refreshed. To refresh the **Events** list, select anywhere outside of the **Events** tab, then reselect the **Events** tab. It may take several moments for new events to be displayed on the list.

7.3.4 Events List Alarm Indicators

If a Priority 1 physiological or bedside alarm condition existed for a parameter at the time of event record storage, that parameter's data is highlighted in red.

If a Priority 2 or 3 physiological or bedside alarm condition existed for a parameter at the time of event record storage, that parameter's data is highlighted in yellow.

7.3.5 Navigating in the List View of the Events Tab

Navigating in the **Events** list is accomplished by using scroll bars and buttons.

Scrolling through the List

If the **Events** list exceeds the capacity of the viewable screen, there are two methods of scrolling through the data:

- A vertical scroll bar located along the right side of the **Events** list. Use the up and down arrows of the scroll bar for single row scrolling, or drag the bar to move quickly through the rows.
- The Page Down (double down-arrow) and Page Up (double up-arrow) buttons located below the horizontal scroll bar.The Page Down and Page Up buttons are used to scroll through one page of the list at a time.

Scrolling through the Parameters

A horizontal scroll bar, located along the bottom of the **Events** list, is available if the number of parameters listed exceeds the capacity of the viewable screen. Use the left and right arrows of the scroll bar for single parameter scrolling or drag the scroll box to move quickly through the parameters.

7.3.6 Events List Tab Buttons

Remove event records from the **Events** list by selecting the **Delete Single Event** button and/or the **Delete Events** button.

Delete Single Event Button

The **Delete Single Event** button removes a single event record from the **Events** list.

To delete a single event record, follow these steps:

1. From the **Events** list, select the event record to be deleted.

2. Select the ***Delete Single Event*** button. A confirmation dialog box is displayed.

3. Select ***Yes*** or ***No***.

- The ***Yes*** button deletes the event record. The event record is removed from the ***Events*** list.

- The ***No*** button does not delete the event.

NOTE: ***Not all event records can be deleted. Refer to the Alarms and Events chapter for more information about which events cannot be deleted.***

Delete Events Button

Select the ***Delete Events*** button to remove multiple events from the ***Events*** list. Events are deleted from the first selected event downward, towards the older events. For example, to delete the five most recent events in the list, select the first event in the list, then select the ***Delete Events*** button. Verify the number of events to delete is correct, then select the ***Delete*** button.

1. From the ***Events*** list, select the first event to be deleted.

2. Select the ***Delete Events*** button. The ***Delete Events*** dialog box (FIGURE 7-7) is displayed.

FIGURE 7-7 Delete Events dialog box

3. Select the ***0*** in the ***Number Of Events*** text box. The keypad dialog box is displayed.

4. Use the numeric keypad to enter the number of events to delete (between 1-50), then select the ***OK*** button. The numeric keypad closes and the Delete Events dialog box is displayed.

5. When the confirmation box displays, select ***Delete*** or ***Cancel***.

- Select the ***Delete*** button to delete events. Provided the selected events can be deleted, they are removed from the list and the list is updated.

- Select the ***Cancel*** button to close the confirmation box and leave the ***Events*** list unmodified.

If some of the events could not be deleted, a "Some items cannot be deleted" message displays. Not all event records can be deleted. Refer to the Alarms and Events chapter for more information about which events cannot be deleted.

View Waveforms Sidebar Button

For more information regarding this sidebar button, refer to ''Accessing the Waveforms View'' on page 7-21.

Events List Filter Sidebar Button

Selecting the *Events List Filter* sidebar button to open the *Patient View - Event Filter* dialog box.

Print More Sidebar Button

Select the *Print More* sidebar button to print the Event List report at a specified time interval.

FIGURE 7-8 Print Selection dialog box

To indicate the time interval for printing the Event List report, follow these steps:

1. Select the *Print More* sidebar button. The Print Selection dialog box (FIGURE 7-8) is displayed.

2. Select one of the time interval buttons. The choices available are: 1 hour, 2 hours, 4 hours, 8 hours, 12 hours, and 24 hours.

3. Select the *Print* button. A print request is generated based on the selected time interval.

Select the *Cancel* button to close the Print Select dialog box.

Print Current

Select the *Print Current* sidebar button to print the report for the current event, to the selected printer.

Normal Screen

Select the *Normal Screen* sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.3.6.1   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the List View of the *Events* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Sidebar buttons disabled when *Events* tab selected.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.

*   Messages are shown in all bold text.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient in the tile	There is no patient admitted to the selected tile.	Admit a patient to the tile.
	Patient tile not selected.	Select a patient tile.
Events list displays no data.	Patient tile not selected.	Select a patient tile.
	None of the existing event data meets the criteria of the current event filter.	Change the event filter.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
Events list column headers not displayed.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
This item cannot be deleted.	Specific types of events cannot be removed from the Event list.	Refer to ''Alarms and Events'' on page 14-1.
Please select a print interval	A print interval was not selected in the Print Selection dialog box.	Select a print interval, then select the **Print** button.

*   *Messages are shown in all bold text.*

7.3.7 Waveform View of the Events Tab

The **Waveforms** view of the **Events** tab displays 20 seconds of waveform data for the selected patient. In order for the event to display in the **Waveforms** view, there must be waveform data associated with the event. Physiological alarm events are stored as waveform data. All previously collected data is displayed, even if the parameter is not being monitored. For additional information refer to ''Alarms and Events'' on page 14-1.

7.3.8 Accessing the Waveforms View

As noted in ''List View of the Events Tab'' on page 7-16, the **List** view of the **Events** tab displays first when the tab is selected. To display the **Waveforms** view of the **Events** tab (FIGURE 7-9), select a physiological alarm event (for example, Low Heart Rate Alarm) for the selected patient, then select the **View Waveforms** sidebar button from the **List** view. If the selected event does not have stored waveform data, a **No Waveform data is collected for this event** message is displayed.

If data is available, the **Waveform** view displays 20 seconds of waveform data. The initial **Waveform** view displays the first six seconds of waveform data before the alarm triggered. Use the navigation tools to view the next six seconds of data. In addition, the reference line location determines what numeric data is displayed.
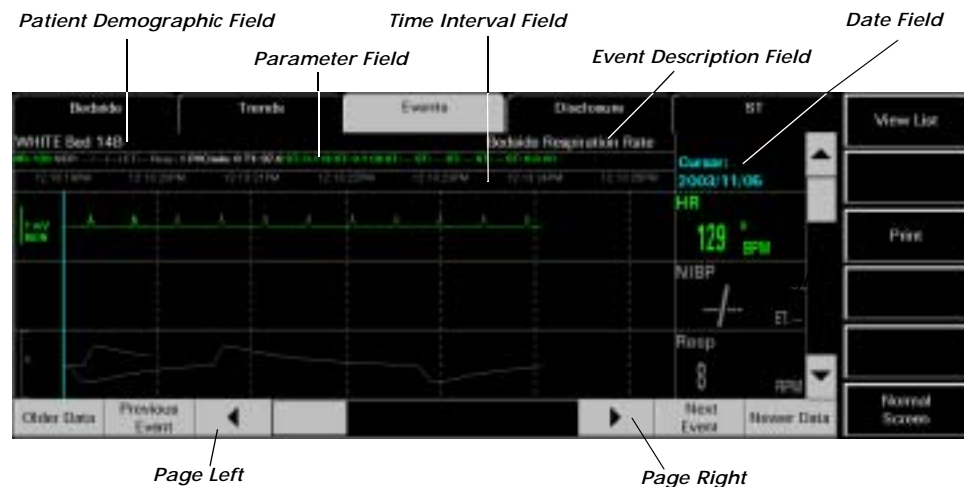
FIGURE 7-9 Waveforms view of the Events tab

7.3.8.1 Patient Demographic Field

The patient demographic field displays the patient's last name and bed number, if available.

7.3.8.2 Parameters Field

The parameters field displays the parameters currently being monitored.

7.3.8.3 Time Interval Field

The time interval field is displayed in one second intervals. A total of six seconds can be displayed on a screen.

7.3.8.4   Event Description Field

The event description field displays the event that was selected in the ***Event List*** view. For example, a Low Heart Rate Alarm.

7.3.8.5   Date Field

The date field indicates the date the event occurred.

7.3.9   Navigating in the Waveforms View of the Events Tab

Navigating in the ***Waveforms*** view is accomplished by using buttons and scroll bars.

7.3.9.1   Older Data Button

Select the ***Older Data*** button to display the previous six seconds of data, provided this data was collected.

7.3.9.2   Previous Event Button

Select the ***Previous Event*** button to locate and display stored waveform data for the waveform event condition that occurred ***before*** the currently highlighted row.

7.3.10   Scrolling through the Waveforms View

If the ***Waveforms*** view exceeds the capacity of the viewable screen, there are two methods of scrolling through the available data.

- Use the vertical scroll bar located along the left side of the sidebar buttons
- Use the left and right arrows of the scroll bar for single row scrolling or drag the bar itself to move quickly through the rows

7.3.10.1   Next Event Button

Select the ***Next Event*** button to locate and display stored waveform data for the event condition that occurred ***after*** the currently highlighted row.

7.3.10.2   Newer Data Button

Select the ***Newer Data*** button to display the next six seconds of data, provided this data was collected.

7.3.10.3   Waveforms View Sidebar Buttons

The ***Waveforms*** view contains three sidebar buttons.

View List Sidebar Button

Select the ***View List*** sidebar button to return to the ***Events*** list.

Print More Sidebar Button

Select the ***Print More*** sidebar button to print what currently displayed in the ***Waveforms*** view to the selected printer.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.3.10.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the List View of the **Events** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Sidebar buttons disabled when **Events** tab selected.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
No patient in the tile	There is no patient admitted to the selected tile.	Admit a patient to the tile.
	Patient tile not selected.	Select a patient tile.
Events list displays no data.	Patient tile not selected.	Select a patient tile.
	None of the existing event data meets the criteria of the current event filter.	Change the event filter.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
Events list column headers not displayed.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
This item cannot be deleted.	Specific types of events cannot be removed from the Event list.	Refer to ''Alarms and Events'' on page 14-1.
Please select a print interval	A print interval was not selected in the Print Selection dialog box.	Select a print interval, then select the **Print** button.

*   Messages are shown in all bold text.

This section lists some of the potential messages and issues that may occur while using the Waveform view of the **Events** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Sidebar buttons disabled when **Events** tab selected.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
No patient in the tile	There is no patient admitted to the selected tile.	Admit a patient to the tile.
	Patient tile not selected.	Select a patient tile.
No Waveform data is collected for this event.	The selected event is not a physiological alarm event.	Refer to ''Alarms and Events'' on page 14-1.

*   Messages are shown in all bold text.

7.4   Disclosure Tab

The Panorama Central Station creates a full disclosure database for each patient. This is a collection of continuous, running, available waveforms. The **Disclosure** tab provides two views of a patient's full disclosure database: **Zoomed Out** (compressed) and **Zoomed In** (magnified). On initial entry to the **Disclosure** tab, the **Zoomed Out** view is displayed. The **Zoom In** button can be used to access the **Zoomed In** view.

The database can store between 1 and 72 hours of disclosure data, depending on the type of license key that is issued for the system. License keys are issued for 1-hour, 24-hour, 48-hour and 72-hour periods. Additional license keys for the disclosure database may be purchased by the system administrator.

Each record in the database includes the time of the record, digital data, patient alarm events and all of the waveforms that were available for the patient at the time of the record storage. When a patient's disclosure database reaches the maximum number of records allowed, the next new record replaces the oldest record.

7.4.1   Accessing the Disclosure Tab

To access the Zoomed Out view of the Disclosure tab, follow these steps:

1. Select the **VIEW** button on the desired patient tile. The **Bedside** tab will be displayed.
2. Select the **Disclosure** tab. The Zoomed Out view of the **Disclosure** tab (FIGURE 7-10) is displayed.

To view a different patient, select another patient tile.
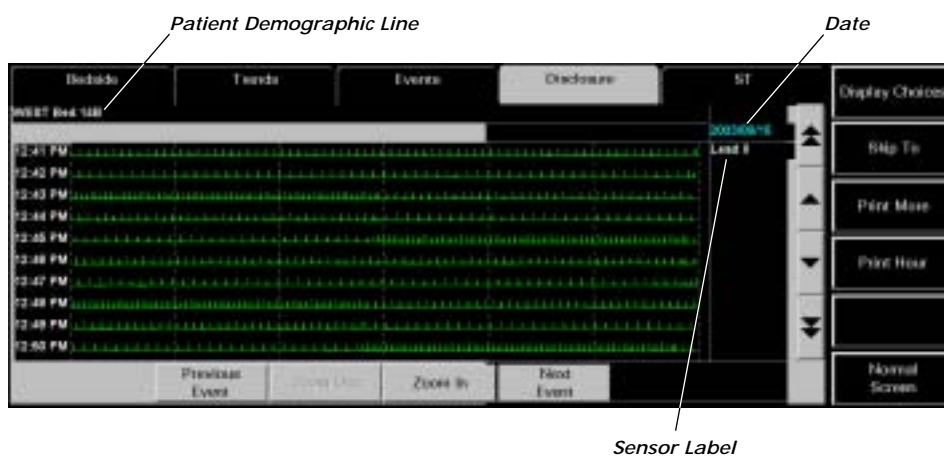
FIGURE 7-10 Zoomed Out View of the Disclosure Tab

7.4.2   Patient Demographic Line

The **Zoomed Out** and **Zoomed In** views of the **Disclosure** tab include a patient demographic field. This field will display the last name and bed number of the selected patient if this data has been entered from the **Demographics** tab.

7.4.3   Waveform Area

The **Zoomed Out** waveform area of the **Disclosure** tab provides a compressed view of the selected patient's historical waveform data. A maximum of 10 minutes of waveform data can be scrolled into the viewable area of the display. Each row of historical disclosure data in the waveform area is displayed in one minute intervals. Each waveform is displayed in the color of the parameter.

On initial entry to the **Zoomed Out** view of the **Disclosure** tab, the displayed waveform is the ECG waveform lead that is selected for display on the main screen.

The waveforms that are displayed in the **Disclosure** tab are based on the waveforms that were selected as described in the "Display Tab" on page 5-29. Any previously collected data is displayed, even if the parameter is not currently being monitored. Newly stored waveform data does not immediately update the disclosure waveform area. Selecting another control in the **Disclosure** tab causes the waveform area to refresh and updates the newly stored waveform data.

Blank sections of a disclosure waveform occur during the storage of a row of data when:

• The system time has been altered
• The device has been placed into **Standby** mode
• The device is in a **Communication Lost** state
• The Panorama Central Station has been restarted

The entire waveform area will be blank if the selected patient tile does not have a monitoring device attached or if there is no historical disclosure data in the patient's database

7.4.4   Time, Date and Sensor Label

The actual time at which the data was stored is displayed on the left side of the waveform. The format of the time display follows the System Time Format as defined in the "Date/Time Tab" on page 9-27.

The date on which the selected waveform data was recorded is displayed in the upper right corner of the waveform area (FIGURE 7-10.)

A sensor label for the selected waveform data is also displayed in the upper right corner of the waveform area, just below the date (FIGURE 7-10.)

7.4.5   Event Markers

The **Disclosure** tab uses event markers to indicate that an event (such as an alarm condition) has occurred. Event markers are small, color coded, horizontal lines that are drawn above the disclosure waveform at the onset of the event. The color codes for the event markers are defined as follows:

- Red event markers indicate that a Level 1 alarm occurred

- Yellow event markers indicate that either a Level 2 or a Level 3 alarm occurred

- Blue event markers indicate that a user marked event occurred at either the Panorama Central Station or the bedside monitor

- Orange event markers indicate that a **Communication Lost** event or a clock adjustment occurred

7.4.6   Navigating in the Waveform Area

7.4.6.1   Scrolling through the Waveforms

If the disclosure database exceeds the capacity of the viewable screen (10 minutes), there are two methods of scrolling through the waveforms. Arrow buttons located along the right side of the view (next to the sidebar) function as follows:

- The single up-arrow and single down-arrow buttons are used for single row scrolling.
- The Page Up (double up-arrow) and Page Down (double down-arrow) buttons are used to scroll through one page of disclosure waveforms at a time.

7.4.6.2   Previous Event Button

The **Previous Event** button locates the next event in the patient's disclosure database that occurred **before** the time at the upper left corner of the compressed view.

7.4.6.3   Next Event Button

The **Next Event** button locates the next event in the patient's disclosure database that occurred **after** the time at the lower right corner of the compressed view.

7.4.6.4   Zoom In Button

The **Zoom In** button magnifies a section of the compressed view of the patient's disclosure waveform.

7.4.6.5   Zoom Out Button

The **Zoom Out** button returns the magnified view of the patient's disclosure waveform to the compressed view of the waveform. The **Zoom Out** button is only enabled when the magnified view of the waveform is displayed.

7.4.6.6   Zoom In Button

The **Zoom In** button magnifies a section of the compressed view of the patient's disclosure waveform (FIGURE 7-11.) The section that is magnified is defined in one of the following two ways:

•   Selecting the **Zoom In** button without highlighting the waveform displays the magnified view beginning with the time at the upper left corner of the waveform area.

•   A section of the waveform can be highlighted by selecting a starting point and dragging to an end point. Selecting the **Zoom In** button then displays the magnified view beginning with the time at the upper left of the highlighted section.

FIGURE 7-11 Zoomed In View of the Disclosure Tab

The **Zoomed In** view includes scale bars, a waveform area and a parameter area for the selected time. A maximum of three parameters can be scrolled into the viewable area of the display.

The **Zoom In** button is only enabled when the compressed view of the waveform is displayed.

Zoomed In Waveform Area

Each row of historical disclosure data in the Zoomed In waveform area is displayed in 6-second intervals. A maximum of 3 horizontal rows of Zoomed In waveform data can be scrolled into the viewable area of the display. Each waveform is displayed in the color of the parameter as described in the "Parameter Color Tab" on page 9-4.

Zoomed In Parameter Area

The Zoomed In disclosure data that is displayed in the parameter area is defined by the time at the extreme left of the waveform area. For parameters that have experienced an alarm event, the background color of the parameter area is based on the alarm priority at the time of the disclosure data storage.

If there is no waveform data at the extreme left of the waveform area, the parameter area will only display the parameter label and/or the unit of measurement (depending on the parameter type).

Navigating in the Zoomed In View

Scrolling through the Waveforms

A horizontal scroll bar for scrolling the waveform time line is located along the bottom of the **Zoomed In** view. The left and right arrows of the scroll bar can be used for scrolling data into the current view in 1-second increments, or the bar can be dragged to move quickly through the time line.

Scrolling through the Parameters

When the **Zoomed In** view is displayed, a vertical scroll bar is located along the right side of the parameter area. The up and down arrows of the scroll bar can be used for single parameter scrolling, or the bar can be dragged to move quickly through a large number of parameters.

Older Data Button

The **Older Data** button scrolls older data into the current view in 6-second increments.

Newer Data Button

The **Newer Data** button scrolls newer data into the current view in 6-second increments.

Calipers Sidebar Button

The Calipers are reference and measurement lines that are used to evaluate the timing and amplitude of any waveform in the **Zoomed In** view. Refer to the ''Calipers'' on page 7-5 for a detailed description and usage instructions.

7.4.7   Print Sidebar Button

Selecting the **Print** sidebar button initiates a print request to the default printer. The printout is the "Full Disclosure Zoom In Report" that is described on page 8-7.

7.4.8 Display Choices Sidebar Button

The **Display Choices** sidebar button is used to select the waveform that will be displayed in the **Zoomed Out** view of the **Disclosure** tab. The **Display Choices** dialog box (FIGURE 7-12) displays the choices that are available based on the monitoring device, ECG lead set and utilized sensors. Any previously used monitoring device, ECG lead set or sensors are displayed, even if they are not currently in use.

1. Select the **Display Choices** sidebar button. The **Display Choices** dialog box is displayed.

FIGURE 7-12 Display Choices Dialog Box

2. Select the desired waveform to be displayed from the **Display Choices** dialog box.
   - Select the **Cancel** to return to the **Disclosure** tab.
   - Select the **Done** button return to the **Disclosure** tab and view the selected waveform.

7.4.9 Skip To Sidebar Button

The **Skip To** sidebar button is used to choose a different time period for the waveform area from the selected patient's disclosure database. The date and time are displayed in the system Date/Time formats described in the ''Date/Time Tab'' on page 9-27.

1. Select the **Skip To** sidebar button. The **Skip To** dialog box (FIGURE 7-13) will be displayed.

FIGURE 7-13 Skip To Dialog Box

2. Use the dial controls to select the time and date to be displayed. Ensure that the selected time and date are within the timeframe of the database.

- Select the *Cancel* button to return to the *Disclosure* tab.

- Select the *Done* button to return to the *Disclosure* tab with the selected date displayed in the date area, and the selected time displayed in the upper left corner of the waveform area.

7.4.10   Print More Sidebar Button

The *Print More* sidebar button provides a printout of a specified time interval from the Full Disclosure Report. When a print request for a Full Disclosure Report has a specified time interval that is greater than the current amount of data in the database, the extra time on the report is filled with blank space.

1. Select the *Print More* sidebar button. The *Print Selection* dialog box (FIGURE 7-14) is displayed.
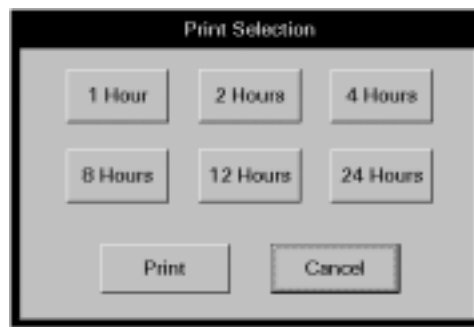
FIGURE 7-14 Print Selection Dialog Box

2. Select the button for the desired time interval to be printed.

3. Select the *Print* button to initiate the print request to the default printer. The printout will span the selected number of hours of disclosure data starting from the time of the next to last row of data that is currently displaying in the waveform area.

Select the *Cancel* button at any time to close the *Print Selection* dialog box and return to the *Disclosure* tab.

7.4.11   Print Hour Sidebar Button

The *Print Hour* sidebar button sends a print request for a 1-hour Full Disclosure Report to the default printer. The first row of waveforms on the report starts 10 minutes prior to the time of the next to last row of disclosure data that is currently displaying in the waveform area. The printout is the "Full Disclosure Report" that is described on page 8-7.

7.4.12   Normal Screen Sidebar Button

Select the *Normal Screen* sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.4.12.1   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the *Disclosure* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient in the tile	The selected tile is not actively monitoring a patient.	Choose a tile that is actively monitoring a patient.
All displays are blank and all buttons (except **Normal Screen**) are disabled.	The selected patient tile does not have any stored historical data.	The selected patient tile has not been monitoring long enough to have stored any data. Wait for new data to accumulate.
	The selected patient tile does not have a device attached.	Choose a tile that is actively monitoring a patient.
All buttons (except **Normal Screen**) are disabled.	The Display Choices dialog box is displayed.	Close the Display Choices dialog box.
A section of the waveform is blank.	The system time was altered during the storage of the row of data.	Wait for new data to accumulate.
	The device was placed into **Standby** mode during the storage of the row of data.	Restore the system to normal operating mode to resume data collection.
	The device experienced a **Communication Lost** event during the storage of the row of data.	Determine the cause of the **Communication Lost** condition and rectify to resume data collection.
	The Panorama was restarted during the storage of the row of data.	Wait for new data to accumulate.
No more events found (**Previous Event** Button)	There is no event data in the disclosure database.	Wait until an event is recorded to the disclosure database.
	There are no more events in the patient's disclosure database that occurred **before** the time at the upper left corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
	The oldest data is at the upper left corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
No more events found (**Next Event** Button)	There is no event data in the disclosure database.	Wait until an event is recorded to the disclosure database.
	There are no more events in the patient's disclosure database that occurred **after** the time at the lower right corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
	The most recent data is at the lower right corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Time out of range (Page Up button)	There are less than 10 rows of data that are newer than the top row.	Select the *OK* button to close the message box and return to the *Disclosure* tab. Wait for new data to accumulate.
Time out of range (Page Down button)	There are less than 10 rows of data that are older than the top row.	Select the *OK* button to close the message box and return to the *Disclosure* tab. Data is not available.
Time out of range (single up-arrow button)	There is no newer data to be displayed.	Select the *OK* button to close the message box and return to the *Disclosure* tab. Wait for new data to accumulate.
Time out of range (single down-arrow button)	There is no older data to be displayed.	Select the *OK* button to close the message box and return to the *Disclosure* tab. Data is not available.
Time out of range (*Done* button in the Skip To dialog box)	A time and date that is older than the oldest data or newer than the most recent data was entered in the Skip To dialog box.	Select the *OK* button to close the message box. Select the *Skip To* sidebar button and enter a time and date that is within the time frame of the database.
The *Print More* sidebar button is disabled.	More than 1 hour of data is not available.	Purchase more than a 1 hour licensing key. Wait for more data to populate the screen.
Please select a print interval	A print interval button was not selected in the Print Selection dialog box before selecting the *Print* button.	Select the *OK* button and then select a print interval button in the Print Selection dialog box before selecting the *Print* button.

*   *Messages are shown in all bold text.*

7.5   ST Tab

The ST tab is used to view the ST templates and data for the selected patient tile. The number
of ST templates that display in the ST tab depend on the type of ECG lead set attached to the
patient.

7.5.1   Accessing the ST Tab

1. Select the **VIEW** button in the selected patient's tile. The tabs associated with the **VIEW**
    button are displayed.

2. Select the **ST** tab. The **ST** tab (FIGURE 7-15) is displayed.

FIGURE 7-15 ST Tab (5-wire Lead Set)

7.5.2   Patient Demographic Line

The **ST** tab includes a demographic field which displays the last name and bed number of
the selected patient.

7.5.3   ST Status Field

The **ST** tab includes an **ST Status** field which displays the status of ST analysis at the
Panorama Central Station. The **ST Status** field only displays one message at any given time.
The available status messages include the following:

• The **No License** status message indicates that an ST license is not available for the
  selected patient tile.

• The **Disabled** status message indicates that the ST algorithm on the monitoring device is
  currently disabled.

• The **Learning** status message indicates that the ST algorithm is enabled and is in the
  learning phase of ST analysis.

• The **Real Time** status message indicates that the ST algorithm is enabled, a successful
  learn phase has been completed, and the most current data is being displayed.

ST Template Areas

The ST template areas will display ST templates and digital data for each ECG lead that is
utilized. ECG lead labels are shown at the top of the ST template areas for the ST data that
they are displaying.

- When utilizing a 3-wire lead set, the ST tab may contain an ST template for the lead that is currently being monitored.
- When utilizing a 5-wire lead set and a bedside monitor, the ST tab may contain up to three ST templates. The ST templates that are displayed will be based on the three ST ECG waveforms that are being sent from the bedside monitor.
- When utilizing a 12 lead cable, the ST tab may contain up to twelve ST templates.

7.5.3.1   Reference ST

- The reference ST template displays in white
- The digital data for the reference ST displays at the bottom of the ST template area
- The reference ST template displays dashes (--) when ST is relearning, when there is no data available, or when the data is invalid

7.5.3.2   Current ST

- The current ST template will be shown in yellow
- The digital data for the current ST will be shown at the bottom of the ST template area
- The current ST template will show dashes (--) when ST is relearning, when there is no data available, and when the data is invalid

NOTE: ***ST templates and digital data will not be shown in the ST
               template areas during an ST learn phase.***

7.5.4   Config ST Sidebar Button

The ***Config ST*** sidebar button is used to configure the ST templates in the ***ST*** tab.

- If ***Bedside Alarm Tracking*** is enabled, the ***Config ST*** adjustments made at the Panorama Central Station will automatically update the bedside monitor ST settings.
- If ***Bedside Alarm Tracking*** is enabled, the Config ST adjustments made at the bedside monitor will automatically update the Panorama Central Station ST settings.

Selecting the ***Config ST*** sidebar button will display the controls (FIGURE 7-16) that are used for configuring the ST templates.

FIGURE 7-16   Configuring ST in the ST tab (5-wire Lead Set)

7.5.4.1   Configuring ST

1. Select the **Config ST** sidebar button in the **ST** tab. The ISO, J/ST and ST Point controls are displayed in the ST tab.

2. Select the directional arrows to configure the ISO reference line. The ISO reference line displays in white.

    • Select the left arrow to move the ISO reference line to the left one step setting.

    • Select the right arrow to move the ISO reference line to the right one step setting.

3. Select the directional arrows to configure the J/ST reference line. The J reference line displays in yellow. The ST reference line displays in green.

    • Select the left arrow to move the J/ST reference line to the left one step setting.

    • Select the right arrow to move the J/ST reference line to the right one step setting.

4. Select the **ST Point** button to select the desired ST Point. Changing the ST point will move the ST reference line to the right of the J reference line for the selected number of milliseconds. The options that are available for ST Point include 40, 60, 80 and 60/80 milliseconds.

5. Select the **Done** button. The **Done** button is used to confirm the selected ST configuration.

7.5.5   Done Sidebar Button

Select the **Done** sidebar button to confirm an action or selection at the Panorama Central Station.

7.5.6   Print Sidebar Button

Select the **Print** sidebar button to print an ST report for the selected patient tile based on the current ST data. For information regarding the ST report, refer to the ''ST Report'' on page 8-11.

7.5.7   Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

7.5.8   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **ST** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when an empty patient tile has been selected.	Select an active patient tile.

*   *Messages are shown in all bold text.*

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Report Functions

This section outlines the types of reports generated by the Panorama Central Station.

- Patient Reports Tab
- System Reports Tab
- Print Status Tab
- Additional Reports

8.1 Patient Reports Tab

The ***Patient Reports*** tab (FIGURE 8-1) is used to print patient-specific reports.

The following reports can be printed from the ***Patient Reports*** tab:

- All Strips Report
- Full Disclosure Report
- ST Report
- Trend List Report
- Event List Report
- Patient Alarm Report

8.1.1 Accessing the Patient Reports Tab

1. From the menu bar, select the ***Report*** button.

2. Select the ***Patient Reports*** tab.

3. Choose a patient tile by selecting its digital data or waveform area. If available, the patient's last name and bed number display in the ***Patient Demographics line***.
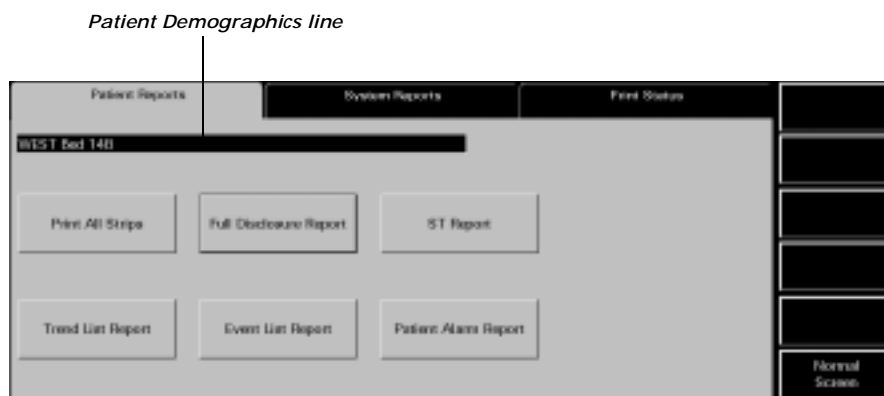
FIGURE 8-1 Patient Reports Tab

8.1.2 All Strips Report

The All Strips Report contains real-time monitoring data, all current digital numeric values and all current configured waveforms for the selected patient tile. The report includes a header, digital data, waveform data and a footer section.

FIGURE 8-2 shows an example of the All Strips Report (Page 1).
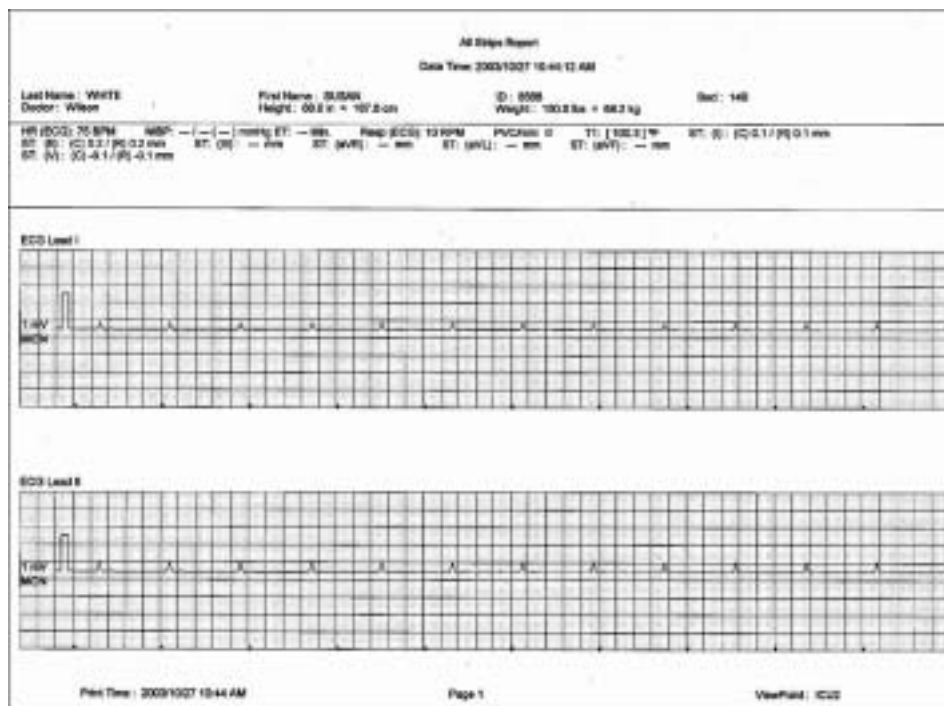
FIGURE 8-2 All Strips Report (Page 1)

FIGURE 8-3 shows an example of the Print All Strips Report (Page 2).
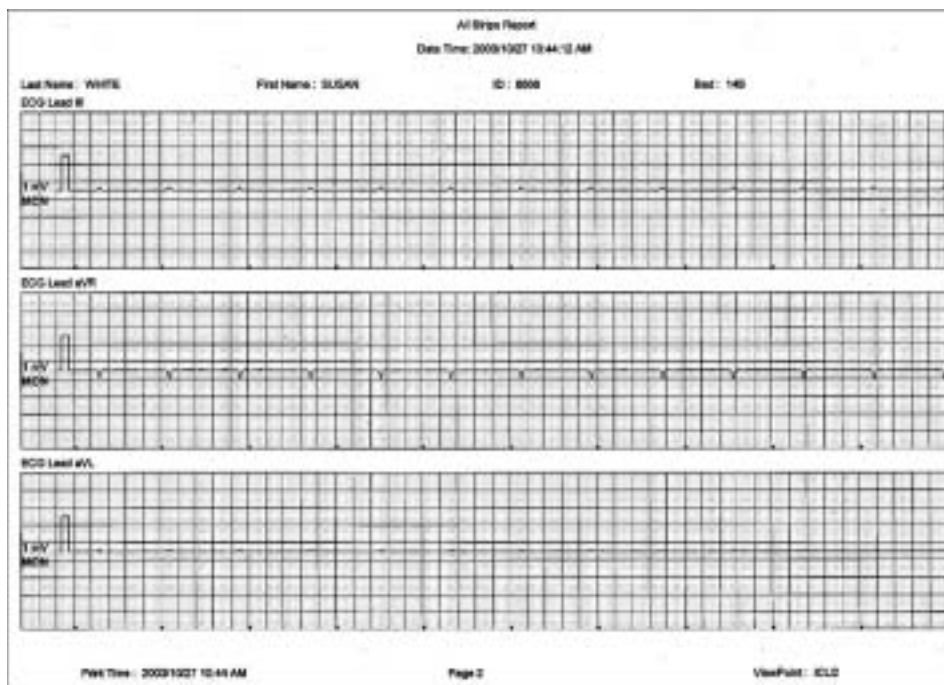
FIGURE 8-3 All Strips Report (Page 2)

8.1.2.1   Header

The All Strips Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.1.2.2   Digital Data

The All Strips Report's digital data section displays measurements for the digital data parameters currently available for the selected patient tile. The displayed parameter order is determined by the system **Unit Priorities** tab. The digital data section contains the following:

- A parameter label
- A numeric measurement
- A unit of measure label
- A heart rate (HR) value
- Dashes (--) to indicate missing or invalid digital data.
- Square brackets [XX] to indicate alarming parameter values

NOTE: Digital Data is only shown on the first page of the report.

8.1.2.3   Waveform Data

The waveforms that print in the All Strips Report's waveform data section depend on which leads are currently in use and on the waveforms selected in the Print Setup function.

The first page of this report contains up to two waveforms while subsequent pages contain up to three waveforms. Each waveform in this report represents approximately 10 seconds of data; five seconds prior to the time of the print request and 5 seconds after the print request. A waveform label (i.e., ECG Lead II) is shown above each strip to identify the data source and the unit of measurement (i.e.,%, RPM, BPM, mmHg, kPa). Pleth, ECG and Respiration do not display a unit of measurement. The waveforms displayed in the report are shown on a calibrated grid and contain a scale bar.

For pacemaker patients that have Pacer Enhancement enabled, the report displays a vertical bar to indicate the firing of the pacemaker impulse.

For information on selecting the waveforms that can be printed in this report, refer to the "Print Setup Tab (Patient)" on page 5-39.

8.1.2.4   ECG Waveforms

The ECG waveforms shown in the All Strips Report are based on the ECG lead wire set currently in use and on the waveforms selected in the **Print Setup** tab. The ECG waveform report displays the following:

- An ECG lead label
- A wave gain scale bar and a calibration pulse for wave gains less than 30 mm/mV
- A calibrated grid
- Current ECG monitoring label
- A continuous straight line for active ECG leads that are not connected

Non-ECG Waveforms

The non-ECG waveforms shown in the All Strips Report only include the non-ECG parameters in use at the time of the print request.

All non-ECG waveforms in the report contain a parameter label and a unit of measure label. Non-ECG waveforms in the report contain a wave gain scale bar if the waveform is available at the time of the print request. If the waveform is not available, the report prints blank data for the specified time period. Also:

- If the IBP waveform was labeled at the bedside monitor, the report contains that IBP label.
- If the Anesthetic Agent was identified at the bedside monitor, the report contains that Agent label.

Footer

The All Strips Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.
- A centered page number.
- The name of the Panorama Central Station from which the report was generated.

Printing an All Strips Report

The All Strips Report is printed in landscape orientation, using any of the following methods:

- Select the ***Print All Strips*** button in the ***Patient Reports*** tab. Selecting the ***Print All Strips*** button will post an Alarm Report print request for the selected patient.

- Select the ***REC*** button in a patient tile.

- Select the ***Print*** button in the ***Bedside*** tab.

- Enable the Print on Alarm option in the ***Alarm Responses*** tab when there is an alarm condition.

- Select the ***Strip*** button on a Passport 2®.

- Select the ***Strip*** button on a Spectrum™.

- Select the ***Print*** button on a Telepack (refer to "Button Indicators" on page 10-3)

NOTE: ***To print this report for all active patients, use the System Reports tab Print All Strips/All Patients report. Requesting this report posts a print job in the system Print Status tab.***

For report troubleshooting messages and issues, refer to "Troubleshooting" on page 8-25.

8.1.3   Full Disclosure Report

The Full Disclosure Report provides a compressed view of a patient's historical ECG and non-ECG waveform data. This report includes a header, waveform data and a footer.
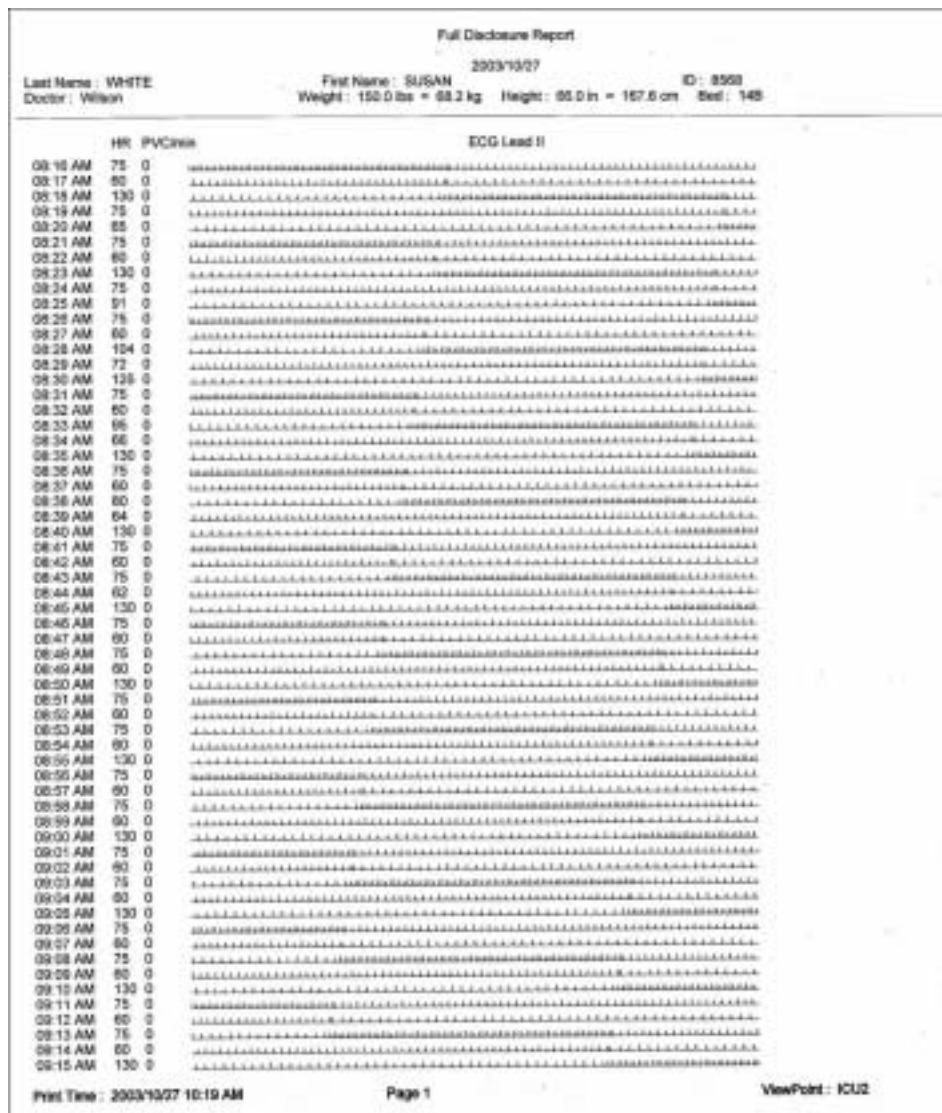
FIGURE 8-4 Full Disclosure Report (ECG waveform layout)

FIGURE 8-5 shows an example of the Full Disclosure Report (non-ECG waveform layout).
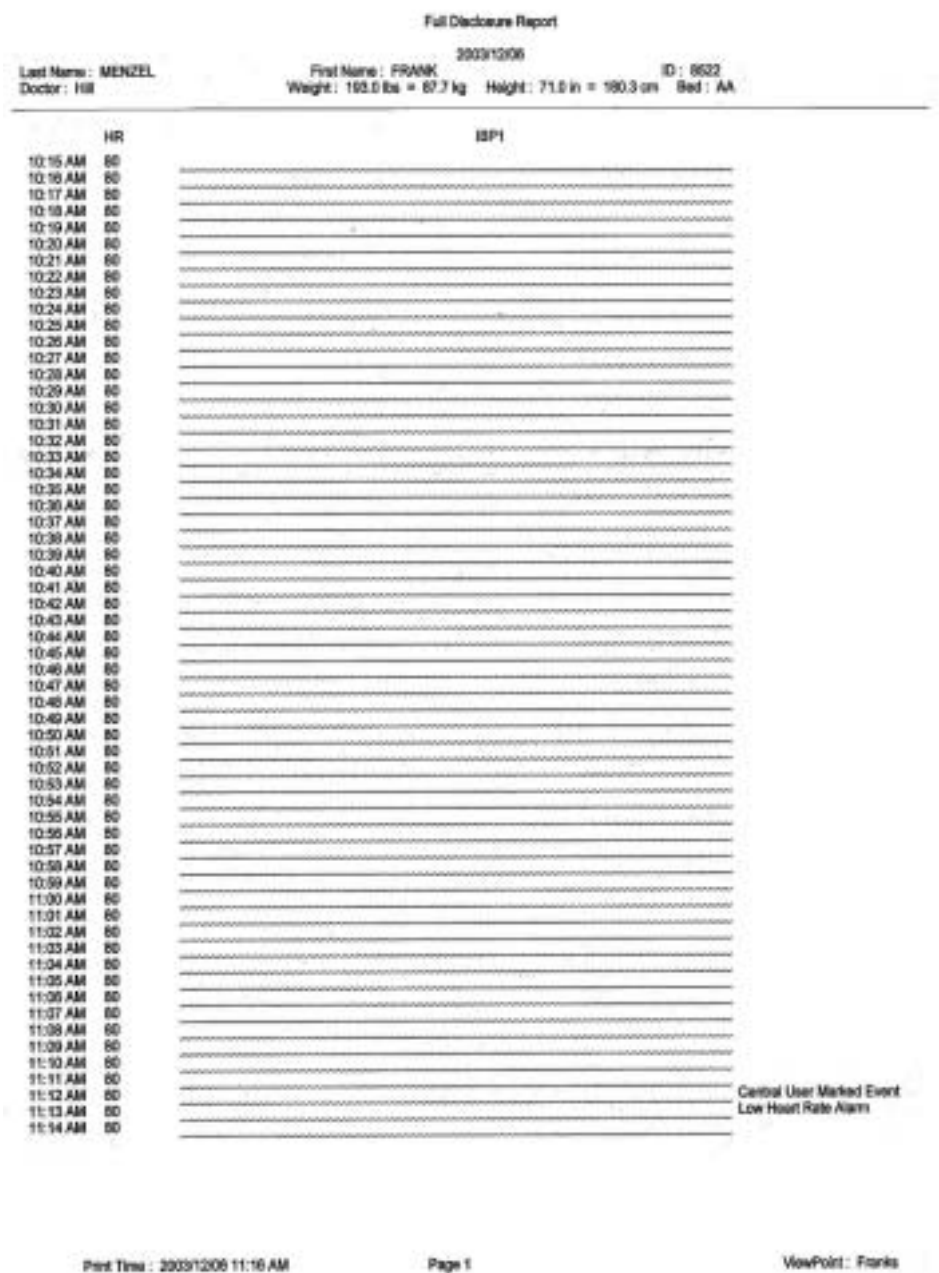
FIGURE 8-5 Full Disclosure Report (non-ECG waveform layout)

8.1.3.1   Header

The Full Disclosure Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.1.3.2   Waveform Data

The ECG waveforms shown in the Full Disclosure Report are based on the ECG lead wire set currently in use and on the waveforms selected in the **Print Setup** tab.

The first page of this report contains up to two waveforms while subsequent pages contain up to three waveforms. Each waveform in this report represents approximately 10 seconds of data; five seconds prior to the time of the print request and 5 seconds after the print request. A waveform label (i.e., ECG Lead II) is shown above each strip to identify the data source and the unit of measurement (i.e.,%, RPM, BPM, mmHg, kPa). Pleth, ECG and Respiration do not display a unit of measurement. The waveforms displayed in the report are shown on a calibrated grid and contain a scale bar.

For pacemaker patients that have Pacer Enhancement enabled, the report displays a vertical bar to indicate the firing of the pacemaker impulse.

ECG Waveform Format

The ECG waveform format for the Full Disclosure Report includes five columns. This format is used for reports that show ECG parameter waveforms.

- The first column contains the time (hour and minute) of the disclosure record. The time format follows the system format specified in the **Date/Time** tab.

- The second column contains a heart rate (HR) value. The heart rate value shown is from the last second of data that was collected during the disclosure record. If disclosure data is not available for the time period specified, dashes (---)are shown in the place of a heart rate value.

- The third column contains a PVC/min. value. The PVC value shown is the value that was obtained during the disclosure record. If disclosure data is not available for the time period specified, dashes are shown in the place of a PVC value.

- The fourth column contains a label for the waveform data being displayed in the report. The waveform label shown is the source of data for the disclosure record.

- The fifth column contains the events that occurred during the period of the disclosure record. If multiple events occur during the time period specified, the event with the highest priority is shown. If no events occur during the time period specified, this column remains empty.

  For information regarding the type of events that occur in the Full Disclosure Report, "Physiological Alarms and Events" on page 14-2.

Non-ECG Waveform Format

The non-ECG waveform format for the Full Disclosure Report includes four columns. This format is used for reports that show Non-ECG parameter waveforms.

- The first column contains the time (hour and minute) of the disclosure record. The time format follows the system format specified in the *Date/Time* tab.

- The second column contains a heart rate (HR) value. The heart rate value shown is from the last second of data that was collected during the disclosure record. If disclosure data is not available for the time period specified, dashes are shown in the place of a heart rate value.

- The third column contains a label for the waveform data being displayed in the report. The waveform label shown is the source of data for the disclosure record.

- The fourth column contains the events that have occurred during the period of the disclosure record. If multiple events occurred during the time period specified then the event with the highest priority is displayed. If no events occurred during the time period specified, this column remains empty.

8.1.3.3   Footer

The Full Disclosure Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the *System Date/Time* tab. For more information regarding date/time formats, refer to the "Date/Time Tab" on page 9-27.

- A centered page number.

- The name of the Panorama Central Station from which the report was generated.

8.1.3.4   Printing a Full Disclosure Report

This Full Disclosure Report is printed in portrait orientation, using any of the following methods:

To print one hour of full disclosure data:

- Select the *Full Disclosure Report* button in the *Patient Reports* tab, select the *1 Hour* button, then select the *Print* button in the Print Selection dialog box.

- Select the *Print Hour* button in the *Disclosure* tab.

To print multiple hours of full disclosure data, follow either of these methods:

- Select the *Full Disclosure Report* button in the *Patient Reports* tab and the time interval button (2 Hours, 4 Hours, 8 Hours, 12 Hours, 24 Hours) followed by the *Print* button in the Print Selection dialog box.

- Select the *Print Hour* button in the *Disclosure* tab, select a time interval button (2 Hours, 4 Hours, 8 Hours, 12 Hours, 24 Hours), then select the *Print* button in the Print Selection dialog box.

NOTE: Requesting this report posts a print job in the system Print Status tab.

The Print Selection Dialog Box

Use the **Print Selection** dialog box (FIGURE 8-6) to determine a print interval. The report can be generated for 1, 2, 4, 8, 12 and 24 hour intervals.

NOTE: *If a new patient is selected while a dialog box is open, the dialog box closes.*

FIGURE 8-6 Print Selection Dialog Box

Printing a Full Disclosure Report from the Print Selection Dialog Box

1. Select a time interval button.

NOTE: *If the number of hours selected exceeds the amount of data in system, the report shows only of the available data.*

2. Select the **Print** or **Cancel** button.

- Select the **Print** button to generate the report and close the report dialog box.
- Select the **Cancel** button to close the dialog box without generating the print request.

8.1.4   ST Report

The ST Report includes current and reference digital values with the associated ST templates, for a selected patient tile. This report includes a header, ST data and a footer section.

FIGURE 8-7 shows an example of the ST Report (Page 1).
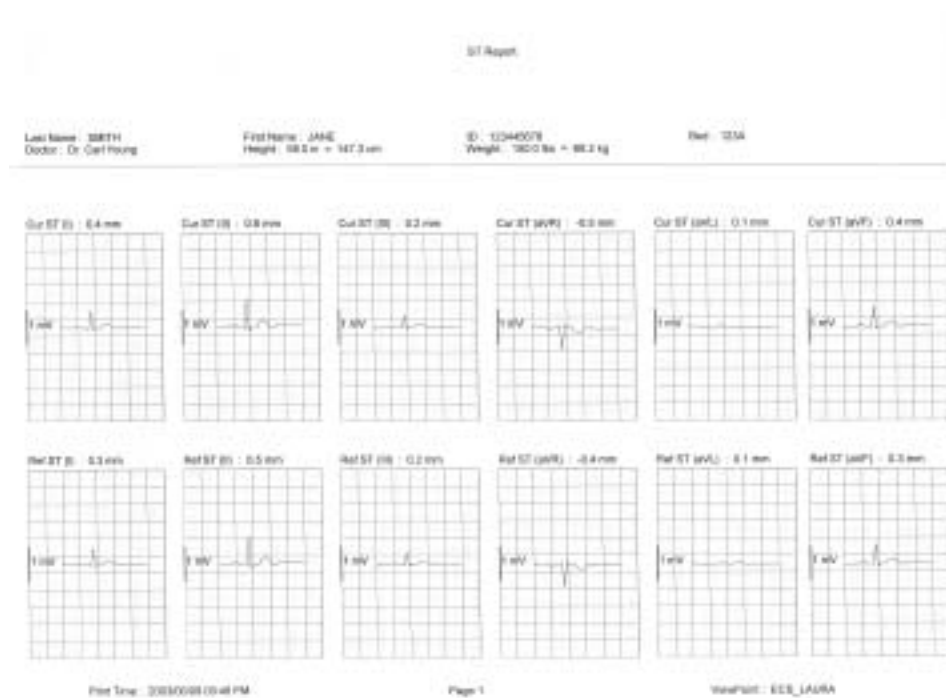
FIGURE 8-7 ST Report (Page 1)

FIGURE 8-8 shows an example of the ST Report (Page 2).
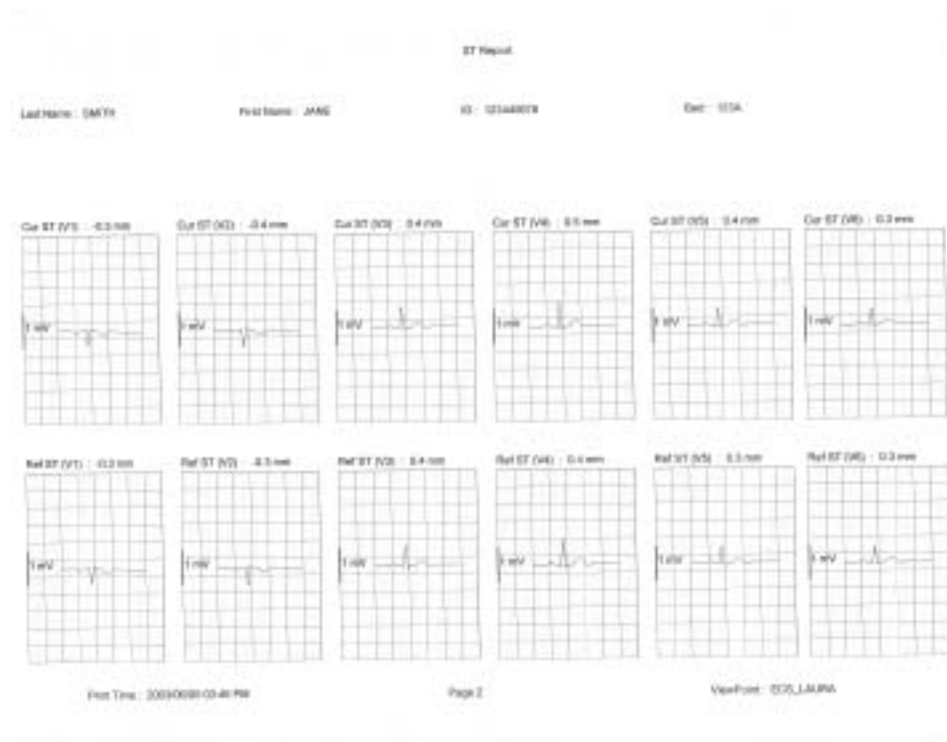
FIGURE 8-8 ST Report (Page 2)

8.1.4.1   Header

The ST Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.1.4.2   ST Data

The ST Report's data section includes current and reference templates for the ST data. ST data is shown in millimeter (mm) measurements. The ST templates shown in the report are limited to the ECG lead connections currently in use and selected in the **Print Setup** tab.

- One current and one reference template for the lead being monitored in a 3-lead cable connection.
- Three current and three reference templates for the leads being monitored in a 5-lead cable connection.
- Twelve current and twelve reference templates for all of the leads in a 12-lead cable connection.

Current Templates

The current templates shown in the ST Report are limited to the ECG lead connections currently in use and the waveforms the patient has selected in the **Print Setup** tab.

- Current templates in the report contain a label section above the ST data that includes CUR, the ST lead and the ST measurement.
- Current ST values display in brackets ([ ]), if the data represents an alarm condition.
- Current ST values in the report print on a calibrated grid with a scale bar, which corresponds to the ECG wave gain measurement.

Reference Templates

The reference templates shown in the ST Report are limited to the ECG lead wire set currently in use and the waveforms selected.

- Reference templates in the report contain a label section above the ST data that includes REF, the ST lead and the ST measurement.
- Reference ST values display in brackets ([ ]), if the data is in an alarm condition.
- Reference ST values in the report print on a calibrated grid with a scale bar, which corresponds to the ECG wave gain measurement.

8.1.4.3   Footer

The ST Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.
- A centered page number.
- The name of the Panorama Central Station from which the report was generated.

8.1.4.4   Printing an ST Report

The ST Report is printed in landscape orientation, using any of the following methods:

- Select the **ST Report** button in the **Patient Reports** tab.
- Select the **Print** sidebar button in the **ST** tab.

NOTE: ***Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.***

8.1.5   Trend List Report

The Trend List Report shows a patient's historical trended digital data for a 1, 2, 4, 8, 12 or 24 hour time period. This report includes a header, trend records and a footer.

FIGURE 8-9 shows an example of the Trend List Report (Page 1).

FIGURE 8-9 Trend List Report (Page 1)

FIGURE 8-10 shows an example of the Trend List Report (Page 2).

FIGURE 8-10 Trend List Report (Page 2)

8.1.5.1 Header

The Trend List Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.1.5.2 Trend Records

The Trend List Report's digital data section includes the digital data that occurred for the selected patient during the specified time period. The data printed in the report is determined by the device connected to the selected patient tile and the sensors in use.

The report displays digital data records for each minute of the selected time period. Digital data records are separated by a solid horizontal line. If data is not available for the selected time period, the report will not print. Each digital record in the report contains the following:

- The time format follows the system format specified in the ***Date/Time*** tab.
- Digital data values for the parameters specific to the device connected to the patient tile and the sensors used during the specified time period.
- A heart rate (HR) value. The source of the heart rate data is shown in parentheses next to the HR label. If data is not available for the specified time period, dashes are shown in the place of a heart rate value.
- Digital Data records in the report use brackets ([ ]) to distinguish data in the alarm condition.

8.1.5.3   Footer

The Trend List Report contains a footer at the bottom of every page. The footer includes the following:

*   The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.

*   A centered page number.

*   The name of the Panorama Central Station where the report was generated.

8.1.5.4   Printing a Trend List Report

This Trend List Report is printed in portrait orientation, using any of the following methods:

Print one hour of trend data by using any of the following methods:

*   Select the **Trend List Report** button in the **Patient Reports** tab, select the **1 Hour** button, then select the **Print** button in the Print Selection dialog box.

*   Select the **Print Current** button in the **Trends** tab.

Print multiple hours of trend data by using any of the following methods:

*   Select the **Trend List Report** button in the **Patient Reports** tab, select a time interval button (2 Hours, 4 Hours, 8 Hours, 12 Hours, 24 Hours), then select the **Print** button in the Print Selection dialog box.

*   Select the **Print More** button in the **Trends** tab, select a time interval button (2 Hours, 4 Hours, 8 Hours, 12 Hours, 24 Hours), then select the **Print** button in the Print Selection dialog box.

NOTE: *Requesting this report posts a print job in the system Print Status tab.*

The Print Selection Dialog Box

Use the **Print Selection** dialog box (FIGURE 8-11) to select a print time interval. The report can be generated for 1, 2, 4, 8, 12 and 24 hour intervals.

NOTE: *If a new patient is selected while a dialog box is open, the dialog box closes.*
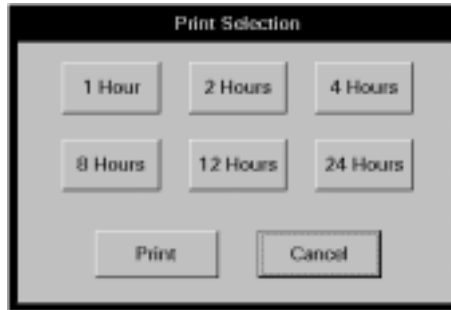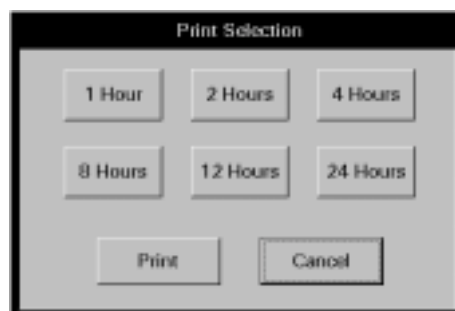

FIGURE 8-11 Print Selection Dialog Box

Printing a Trend List Report from the Print Selection Dialog Box

1. Select a time interval button.

NOTE: *If the number of hours selected exceeds the amount of data*
              in system, the report shows only the available data.

2. Select the *Print* or *Cancel* button.

- Select the *Print* button to generate the report and close the report dialog box.
- Select the *Cancel* button to close the dialog box without generating the print request.

8.1.6   Event List Report

The Event List Report shows a patient's historical physiological, system and technical alarm events for a 1, 2, 4, 8, 12 and 24 hour time period. This report includes a header, event records and a footer.

FIGURE 8-12 shows an example of the Event List Report (Page 1).

FIGURE 8-12 Event List Report (Page 1)

FIGURE 8-13 shows an example of the Event List Report (Page 2).

FIGURE 8-13 Event List Report (Page 2)

8.1.6.1   Header

The Event List Report's page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.1.6.2   Event Record

The Event List Report's event record section includes the digital data that occurred during the specified time period. The data in this report is determined by the events that occurred during the specified time period.

Event data records are separated by a solid horizontal line. If data is not available for the selected time period, the report will not print.

- The first page of event records include numbers for the Total Events (the total number of events in the selected patient's event database), the Displayed Events (the number of events shown in the report) and the Event Filter (based on the event filter setting).

- Each event record in the report contains the time (hour and minute) when the event occurred. The time format follows the system format specified in the **Date/Time** tab.

- Each Event record in the report contains the name of the event that has occurred for the selected patient.

- Each physiological event record in the report contains the digital data values for the specified time period.

- Each Event Data record in the report contains a digital heart rate (HR) value. The source of the heart rate data is shown in parentheses next to the HR label. If data is not available for the time period specified, dashes are shown in the place of a heart rate value.

  For information regarding the digital data supported by each device, refer to ''Supported Devices'' on page 1-4. The column order in which the digital parameter data is printed in a record is based on the order selected in the **Unit Priorities** tab.

- Event records in the report use brackets ([ ]) to distinguish data in the alarm condition and dashes (- - -) to distinguish incomplete or missing data.

- System and technical event records in the report do not contain digital data values.

8.1.6.3   Footer

The Event List Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.

- A centered page number.

- The name of the Panorama Central Station where the report was generated.

8.1.6.4   Printing an Event List Report

This Event List Report is printed in portrait orientation, using any of the following methods:

Print one hour of event data by using any of the following methods:

- Select the **Event List Report** button from the **Patient Reports** tab, select **1 Hour** button, then select the **Print** button in the Print Selection dialog box.

- Select the **Print Current** button from the **Events** tab.

Print multiple hours of event data by using any of the following methods:

- Select the *Event List Report* button from the *Patient Reports* tab, select a time interval button (2 Hours, 4 Hours, 8 Hours, 12 Hours, 24 Hours), then select the *Print* button in the Print Selection dialog box.

- Select the *Print More* button in the *Events* tab, select a time interval button (2 Hours, 4 Hours, 8 Hours, 12 Hours, 24 Hours), then select the *Print* button in the Print Selection dialog box.

NOTE: **Requesting this report posts a print job in the system Print Status tab.**

The Print Selection Dialog Box

Use the Print Selection dialog box (FIGURE 8-14) to select a print time interval. The report can be generated for 1, 2, 4, 8, 12 and 24 hour intervals.

NOTE: **If a new patient is selected while a dialog box is open, the dialog box closes.**
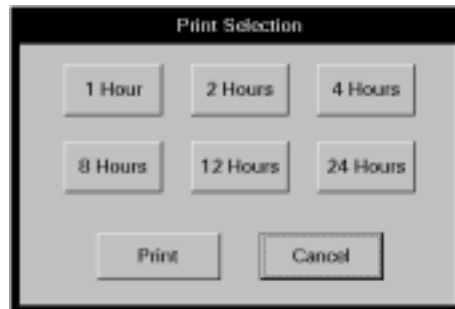
FIGURE 8-14 Print Selection Dialog Box

Printing an Event List Report from the Print Selection Dialog Box

1. Select a time interval button.

NOTE: **If the number of hours selected exceeds the amount of data in system, the report shows only the available data.**

2. Select the *Print* or *Cancel* button.

- Select the *Print* button to generate the report and close the report dialog box.

- Select the *Cancel* button to close the dialog box without generating the print request.

8.1.7   Patient Alarm Report

The Patient Alarm Report is a single page report containing a patient's alarm settings information (unit of measure, alarm limits, priority and alarm responses). This report includes a header, patient alarm data and a footer.

FIGURE 8-15 shows an example of the Patient Alarm Report.

FIGURE 8-15 Patient Alarm Report

8.1.7.1   Header

The Patient Alarm Report's page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.1.7.2   Patient Alarm Data

The Patient Alarm Report's data section includes alarm information for all of the alarms. The parameters in a Patient Alarm report are dependent on the device connected to the selected patient tile.

- The first column of this report displays the parameters for which the specified patient has an alarm.
- The second column of this report displays the unit of measure in use for the parameter specified.

- The third column of this report displays the High alarm limit for the parameter specified.
- The fourth column of this report displays the Low alarm limit for the parameter specified.
- The fifth column of this report displays the alarm priority assigned to the parameter specified.
- The sixth column of this report displays the Print on Alarm response assigned to the parameter specified.
- The seventh column of this report displays the Save to Event alarm response that has been assigned to the parameter specified.

8.1.7.3   Footer

The Patient Alarm Report's contains a footer at the bottom of the page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.
- A centered page number.
- The name of the Panorama Central Station where the report was generated.

8.1.7.4   Printing a Patient Alarm Report

This Patient Alarm Report is printed in portrait orientation, using any of the following methods:

- Select the **Patient Alarm Report** button in the **Patient Reports** tab.
- Select the **Print** sidebar button in the patient's **Alarm Limits** tab.

NOTE: Requesting this report posts a print job in the system Print Status tab.

8.1.8   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Patient Reports** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
All report buttons are disabled.	A patient is not currently selected.	Select a patient before trying to print a report.
The **ST REPORT** button is disabled.	The selected patient does not have ST enabled.	Enable ST for the selected patient before trying to print an ST report.

*   Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Please select a Print Interval	This message appears in the ***Patient Reports*** tab when the ***Print*** button is pressed before a time interval is selected in the Full Disclosure, Event or Trend reports.	Select the ***OK*** button to close the dialog box. Select a print interval in the available dialog box.
The report will not print	There are several reasons that would cause a report not to print. It could be a problem with the communication between the printer and the Panorama Central Station or simply a problem with the printer.	If there is an error that appears such as ***Printer out of Paper*** you will need to remedy that situation. If the ***No Printer connected or Printer not Available*** error is displayed check that the printer was properly configured with the Panorama Central Station. See the Printer Configuration manual (P/N 0070-00-0561).

*   *Messages are shown in all bold text.*

8.2   System Reports Tab

The **System Reports** tab is used to generate reports on a system level. A patient tile does not have to be selected to generate a system report.

The following reports can be printed from the **System Reports** tab:

- All Strips (All Patients) Report
- Equipment Report

8.2.1   All Strips (All Patients) Report

The All Strips (All Patients) Report contains real-time monitoring data for all the active patients monitored by the Panorama Central Station. This report contains all current numeric values and waveforms. It is similar to the All Strips Report, except that it prints for all active patients. The report includes a header, digital data, waveform data and a footer.

FIGURE 8-16 shows an example of the All Strips (All Patients) Report (Page 1).
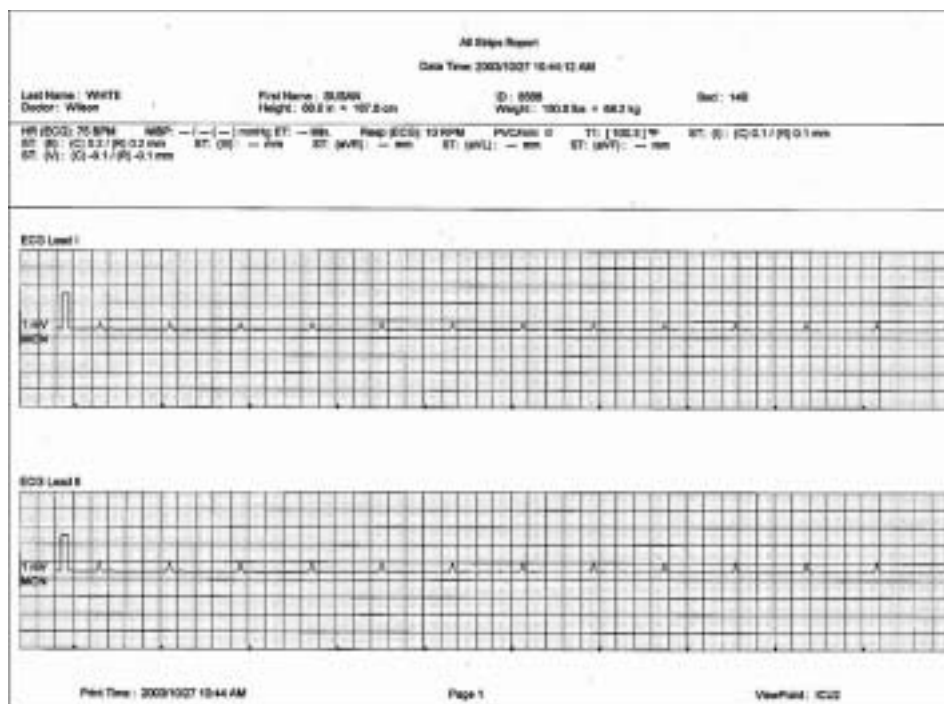
FIGURE 8-16 All Strips (All Patients) Report (Page 1)

FIGURE 8-17 shows an example of the All Strips (All Patients) Report (Page 2).
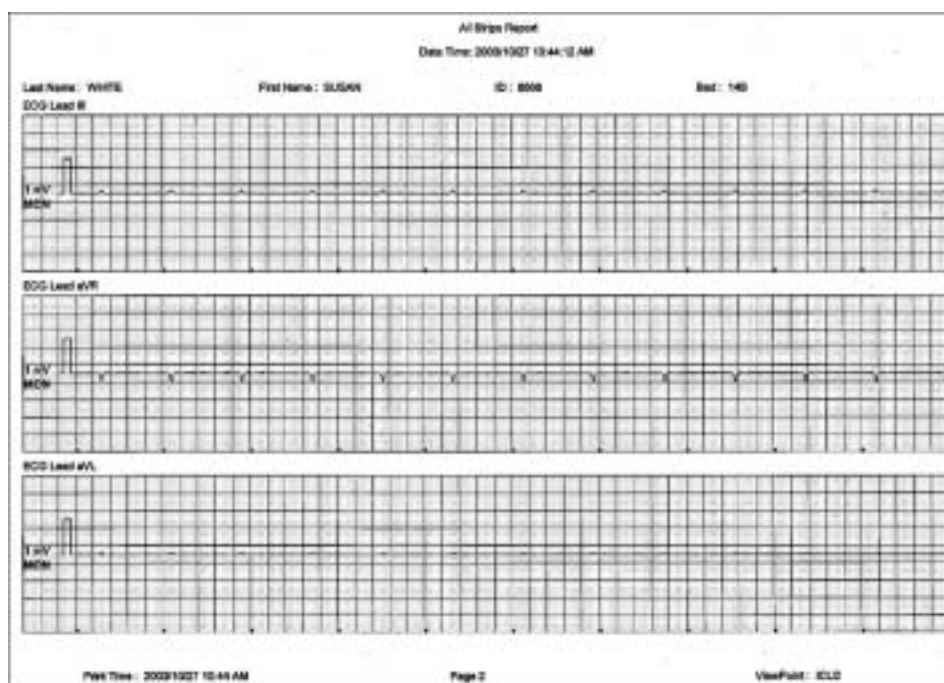
FIGURE 8-17 All Strips (All Patients) Report (Page 2)

8.2.1.1   Header

The All Strips (All Patients) Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.2.1.2   Digital Data

The All Strips (All Patients) Report's digital data section displays measurements for the digital data parameters currently available for the selected patient tile. The displayed parameter order is determined by the system **Unit Priorities** tab. The digital data section contains the following:

- A parameter label
- A numeric measurement
- A unit of measure label
- A heart rate (HR) value
- Dashes (--) to indicate missing or invalid digital data.
- Square brackets [XX] to indicate alarming parameter values

*NOTE: **Digital Data is only shown on the first page of the report.***

8.2.1.3   Waveform Data

The waveforms that print in the All Strips (All Patients) Report's waveform data section are limited to which leads are currently in use, and on the waveforms selected in the Print Setup function.

The first page of this report contains up to two waveforms while subsequent pages contain up to three waveforms. Each waveform in this report represents approximately 10 seconds of data; five seconds prior to the time of the print request and 5 seconds after the print request. A waveform label (i.e., ECG Lead II) is shown above each strip to identify the data source and the unit of measurement (i.e.,%, RPM, BPM, mmHg, kPa). Pleth, ECG and Respiration do not display a unit of measurement. The waveforms displayed in the report are shown on a calibrated grid and contain a scale bar.

For pacemaker patients that have Pacer Enhancement enabled, the report displays a vertical bar to indicate the firing of the pacemaker impulse.

ECG Waveforms

The ECG waveforms shown in the All Strips (All Patients) Report are based on the ECG lead wire set currently in use and on the waveforms selected in the **Print Setup** tab. The ECG waveform report displays with the following:

- An ECG lead label
- A wave gain scale bar and a calibration pulse for wave gains less than 30 mm/mV
- A calibrated grid
- Current ECG monitoring label
- A continuous straight line for active ECG leads that are not connected

Non-ECG Waveforms

The non-ECG waveforms shown in the All Strips (All Patients) Report are based on the non-ECG waveforms that are in use and the non-ECG waveforms that are selected to be printed. The report only includes non-ECG parameters if they are in use at the time of the print request.

All non-ECG waveforms in the report contain a parameter label and a unit of measure label. Non-ECG waveforms in the report may contain a wave gain scale bar. If a non-ECG waveform is unavailable at the time of the print request, the report prints blank data for the specified time period.

- If the IBP waveform was labeled at the bedside monitor, the report contains that IBP label.
- If the Anesthetic Agent was identified at the bedside monitor, the report contains that Agent label.

8.2.1.4   Footer

The report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.
- A centered page number.
- The name of the Panorama Central Station where the report was generated.

8.2.1.5   Printing an All Strips (All Patients) Report

The All Strips (All Patients) Report prints in portrait orientation, using the following method:

- Select the **Print All Strips/All Patients** button in the **System Reports** tab. Selecting this button sends a print request, for each patient, to the printer.

NOTE: Requesting this report posts a print job in the system Print Status tab.

8.2.2   Equipment Report

The Equipment Report contains a list of devices currently assigned to the Panorama Central Station. This report displays a maximum of 32 devices per page and includes a header, six columns and a footer.

FIGURE 8-18 shows an example of the Equipment Report.

FIGURE 8-18 Equipment Report

8.2.2.1   Header

The header of the Equipment Report displays a centered report title.

8.2.2.2   Report Columns

This Equipment Report contains six columns.

Label column

The Label column contains the equipment device label. For additional information regarding Device ID's, refer to the ''Equipment Setup Tab'' on page 9-21.

Type column

The Type column contains the type of device that is attached to the Panorama Central Station. For example, a Telepack or a Passport 2®.

Tile column

The Tile column indicates which tile the device is attached to. Six dashes (- - - - - -) display in this column if the tile number associated with the device in the Equipment Setup dialog is **None**.

Device ID column

The Device ID column indicates the ID of the device or unit. Six dashes display in this column if the device is a Panorama Central Station.

Patient Name column

The Patient Name column contains the first name and last name of the patient attached to the device. If a patient is not attached to the device, the report displays six dashes in this column. Dashes also display if the device attached to the patient does not have the patient's first and last name entered.

Patient ID column

The Patient ID column contains the identification number of the patient attached to the device. Six dashes display in this column if the device attached to the patient does not have the Patient ID entered.

8.2.2.3   Footer

The Equipment Report contains a footer at the bottom of every page. The footer includes the following:

• The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.

• A centered page number.

• The name of the Panorama Central Station where the report was generated.

8.2.2.4   Printing the Equipment Report

The Equipment Report is printed in portrait orientation, using any of the following methods:

• Select the **Equipment Report** button in the **System Report** tab.

• Select the **Print** sidebar button in the **Equipment Setup** tab.

NOTE: *Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.*

8.3   Print Status Tab

The **Print Status** tab contains a list of current print requests. Once the status of a print request changes or the report prints, the list updates automatically without having to refresh the list.

FIGURE 8-19 shows an example of the Print Status tab.

FIGURE 8-19 Print Status tab

8.3.1   Print Status Tab Multi-Column List Box

Once a new print request is submitted, specific information displays in the **Print Status** tab. The multi-column list box contains the following information:

Time column

The **Time** column displays the time the print request was submitted. The print time format follows the system format specified in the **Date/Time** tab.

Job column

The **Job** column displays the name of the requested report. For example, if the Full Disclosure Report was requested, the **Job** column displays **Full Disclosure Report**.

Tile ID column

The **Tile ID** column displays the **Tile ID** associated with the print request. For example, if the All Strips Report is requested and tile six is selected, the **Tile ID** column displays **6**.

Status column

The **Status** column displays the current status of the print request. There are four possible status options available:

In Job Queue   Indicates that a print request was generated

Printing   Indicates that the print request is currently printing

Deleting   Indicates that the print request is currently being deleted

Spooling   Indicates the elapsed time between when the print request is made, and the actual printing of the request

The information available in this column is real-time. For example, once the status of a print request changes or the report prints, the list updates accordingly.

Printer column

The Printer column displays the name of the printer associated with the print request.

8.3.2   Print Status Tab Buttons

The **Print Status** tab contains three buttons.

Cancel Selected Print Job Button

Select the **Cancel Selected Print job** button to delete the selected print request from the job queue. When this button is selected, the multi-column list box Status column displays **Deleting**, and the request is removed from the multi-column list box.

Delete All Print Jobs Button

Select the **Delete All Print Jobs** button to cancel all print requests in the job queue. When this button is selected, the multi-column list box Status column displays **Deleting** for each print request and the requests are removed from the multi-column list box.

Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

8.3.3   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the
Print Status tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Report is not printing	Printer not selected in the Panorama Central Station.	Refer to the Panorama Printer Configuration document (P/N 0070-00-0561).
	Printer is not turned on.	Turn the printer on.
	Printer is offline.	Verify that the printer is online.
	Printer is out of paper.	Verify that the printer paper tray contains paper.
		Verify that the printer is connected to the Panorama Central Station.
		Print a test page. Refer to the the Panorama Printer Configuration document (P/N 0070-00-0561).
		Verify that the printer configuration settings are correct.

*   *Messages are shown in all bold text.*

8.4   Additional Reports

The Panorama Central Station is capable of generating additional reports from areas other than the **Reports** menu button.

Reports generated by the Panorama Central Station, but cannot be generated from the **Reports** menu button include the following:

- Event Zoom In Report

- Full Disclosure Zoom In Report

- Trend Graphic Report

- 12-lead Report

- Telepack Error Log Report

- System Alarm Report

8.4.1   Event Zoom In Report

The Event Zoom In Report shows all of a patient's historical digital and waveform data for a selected event. This report includes a header, digital data, waveform data and a footer.

FIGURE 8-20 shows an example of the Event Zoom In Report (Page 1).
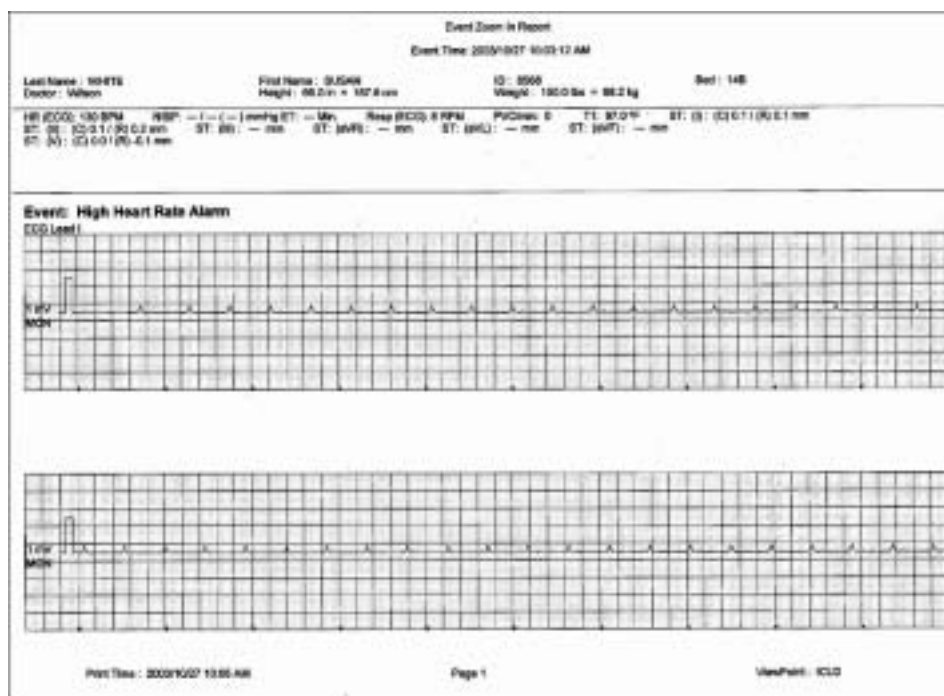
FIGURE 8-20 Event Zoom In Report (Page 1)

FIGURE 8-21 shows an example of the Event Zoom In Report (Page 2).
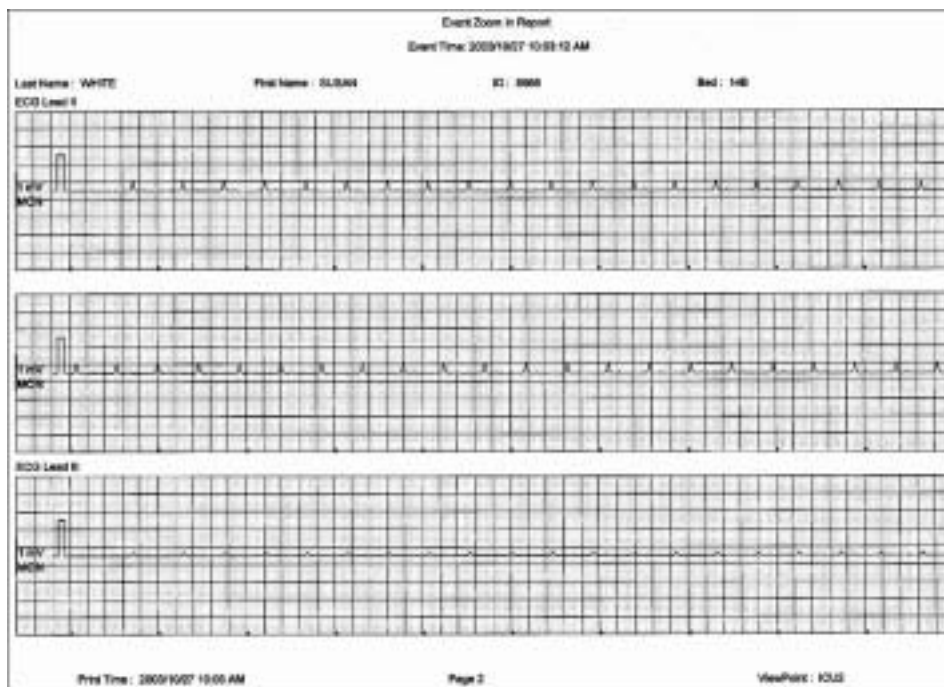
FIGURE 8-21 Event Zoom In Report (Page 2)

8.4.1.1 Header

The Event Zoom In Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.4.1.2 Digital Data

The Event Zoom In Report's digital data section displays measurements for the digital data parameters currently available for the selected patient tile. The displayed parameter order is determined by the system ***Unit Priorities*** tab. The digital data section contains the following:

- A parameter label

- A numeric measurement

- A unit of measure label

- A heart rate (HR) value

- Dashes (--) to indicate missing or invalid digital data.

- Square brackets [XX] to indicate alarming parameter values

NOTE: ***Digital Data is only shown on the first page of the report.***

NOTE: ***ST digital data includes Current (C) and Reference (R) values.***

8.4.1.3   Waveform Data

The waveforms that print in the Event Zoom In Report's waveform data section depend on which leads are currently in use and on the waveforms selected in the Print Setup function.

The first page of this report contains up to two waveforms while subsequent pages contain up to three waveforms. Each waveform in this report represents approximately 10 seconds of data; five seconds prior to the time of the print request and 5 seconds after the print request. A waveform label (i.e., ECG Lead II) is shown above each strip to identify the data source and the unit of measurement (i.e.,%, RPM, BPM, mmHg, kPa). Pleth, ECG and Respiration do not display a unit of measurement. The waveforms displayed in the report are shown on a calibrated grid and contain a scale bar.

For pacemaker patients that have Pacer Enhancement enabled, the report displays a vertical bar to indicate the firing of the pacemaker impulse.

8.4.1.4   ECG Waveforms

The ECG waveforms shown in the Event Zoom In Report are limited to the ECG lead wire set currently in use, and on the waveforms selected in the ***Print Setup*** tab. The ECG waveform report is displayed with the following:

- An ECG lead label
- A wave gain scale bar and a calibration pulse for wave gains less than 30 mm/mV
- A calibrated grid
- Current ECG monitoring label
- A continuous straight line for active ECG leads that are not connected

8.4.1.5   Non-ECG Waveforms

The non-ECG waveforms shown in the Event Zoom In Report are limited to the non-ECG waveforms that are in use, and the non-ECG waveforms that are selected to be printed.

All non-ECG waveforms in the report contain a parameter label and a unit of measure label. Non-ECG waveforms in the report may contain a wave gain scale bar. If a non-ECG waveform is unavailable at the time of the print request, the report prints blank data for the specified time period.

- If the IBP waveform was labeled at the bedside monitor, the report contains that IBP label.

- If the Anesthetic Agent was identified at the bedside monitor, the report contains that Agent label.

8.4.1.6   Footer

The Event Zoom In Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the ***System Date/Time*** tab.

- A centered page number.

- The name of the Panorama Central Station where the report was generated.

8.4.1.7   Printing an Event Zoom In Report

The Event Zoom In Report prints in landscape orientation, using the following method:

- Select the ***Print*** sidebar button from the Waveforms View of the ***Events*** tab.

NOTE: ***Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.***

8.4.2   Full Disclosure Zoom In Report

The Full Disclosure Zoom In Report provides historical digital and waveform data available for the selected patient tile. The amount of disclosure data available for a patient is dependent on the amount of disclosure data allowed by the Panorama Central Station license. This report includes a header, digital data, waveform data and a footer.

FIGURE 8-22 shows an example of the Full Disclosure Zoom In Report (Page 1).
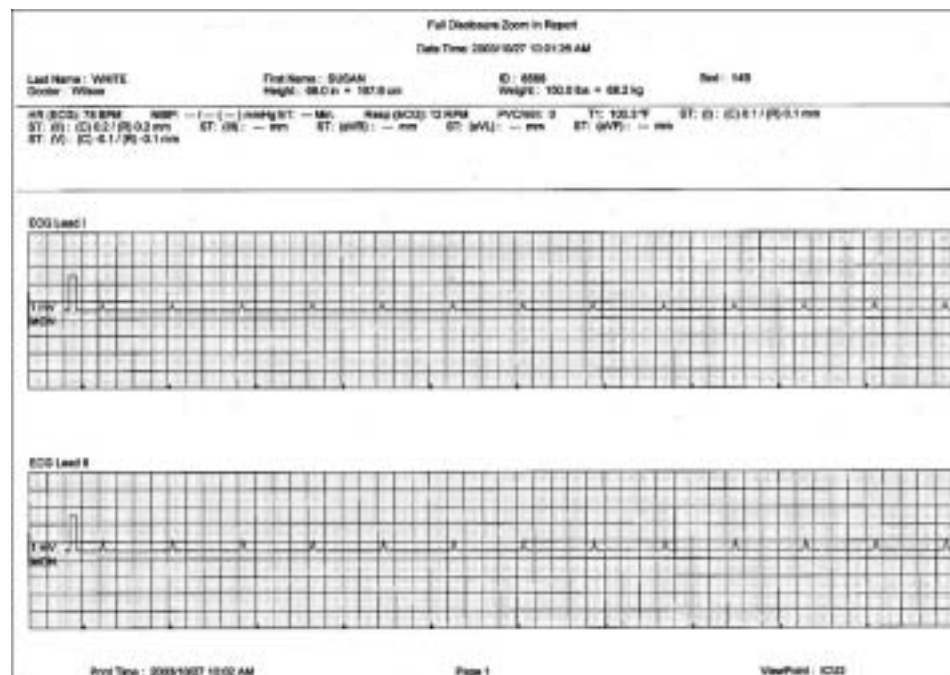
FIGURE 8-22 Full Disclosure Zoom In Report (Page 1)

FIGURE 8-23 shows an example of the Full Disclosure Zoom In Report (Page 2).
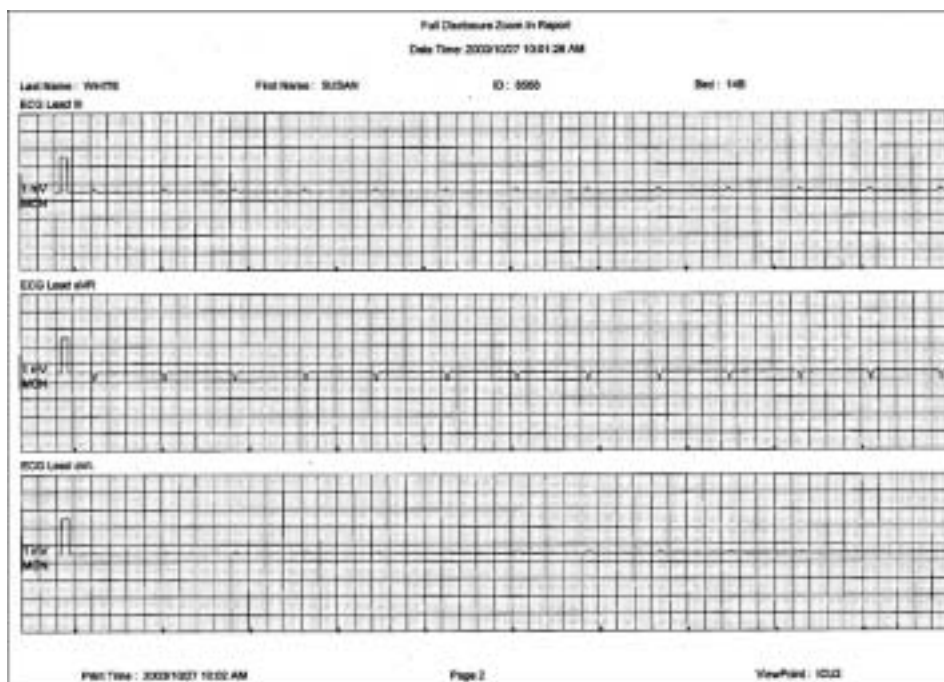
FIGURE 8-23 Full Disclosure Zoom In Report (Page 2)

8.4.2.1   Header

The Full Disclosure Zoom In Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.4.2.2   Digital Data

The Full Disclosure Zoom In Report's digital data section displays measurements for the digital data parameters currently available for the selected patient tile. The displayed parameter order is determined by the system **Unit Priorities** tab. The digital data section contains the following:

- A parameter label
- A numeric measurement
- A unit of measure label
- A heart rate (HR) value
- Dashes (--) to indicate missing or invalid digital data.
- Square brackets [XX] to indicate alarming parameter values

NOTE: Digital Data is only shown on the first page of the report.

NOTE: ST digital data includes both Current (C) and Reference (R) values.

8.4.2.3   Waveform Data

The waveforms that print in this Full Disclosure Zoom In Report's waveform data section are limited to which leads are currently in use, and on the waveforms selected in the Print Setup function.

The first page of this report contains up to two waveforms while subsequent pages contain up to three waveforms. Each waveform in this report represents approximately 10 seconds of data, five seconds prior to the time of the print request and 5 seconds after the print request. A waveform label (i.e., ECG Lead II) is shown above each strip to identify the data source and the unit of measurement (i.e.,%, RPM, BPM, mmHg, kPa). Pleth, ECG and Respiration do not display a unit of measurement. The waveforms displayed in the report are shown on a calibrated grid and contain a scale bar.

For pacemaker patients that have Pacer Enhancement enabled, the report displays a vertical bar to indicate the firing of the pacemaker impulse.

ECG Waveforms

The ECG waveforms shown in the Full Disclosure Zoom In Report are limited to the ECG lead wire set currently in use and on the waveforms selected in the **Print Setup** tab. The ECG waveform report displays with the following:

- An ECG lead label
- A wave gain scale bar and a calibration pulse for wave gains less than 30 mm/mV
- A calibrated grid
- Current ECG monitoring label
- A continuous straight line for active ECG leads that are not connected

Non-ECG Waveforms

The non-ECG waveforms shown in the Full Disclosure Zoom In Report are based on the non-ECG waveforms that are in use and the non-ECG waveforms that are selected to be printed.

All non-ECG waveforms in the report contain a parameter label and a unit of measure label. Non-ECG waveforms in the report may contain a wave gain scale bar. If a non-ECG waveform is unavailable at the time of the print request, the report prints blank data for the specified time period.

- If the IBP waveform was labeled at the bedside monitor, the report contains that IBP label.
- If the Anesthetic Agent was identified at the bedside monitor, the report contains that Agent label.

8.4.2.4   Footer

The Full Disclosure Zoom In Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.
- A centered page number.
- The name of the Panorama Central Station where the report was generated.

8.4.3   Printing a Full Disclosure Zoom In Report

The Full Disclosure Zoom In Report is printed in landscape orientation. Follow these steps to print this report:

1. From the **Disclosure** tab, use the **Zoom In** button to magnify a portion of the compressed waveform view.

2. Select the **Print** button.

NOTE: *Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.*

8.4.4   Trend Graphic Report

The Trend Graphic Report displays the trends for the selected patient tile in a graphical format. Graphic Trends are viewed by selecting the **Graphic** button in the **Trends** tab. This report includes a header, Digital data, Graphic data and a footer section.

FIGURE 8-24 shows an example of the Trend Graphic Report (Page 1).
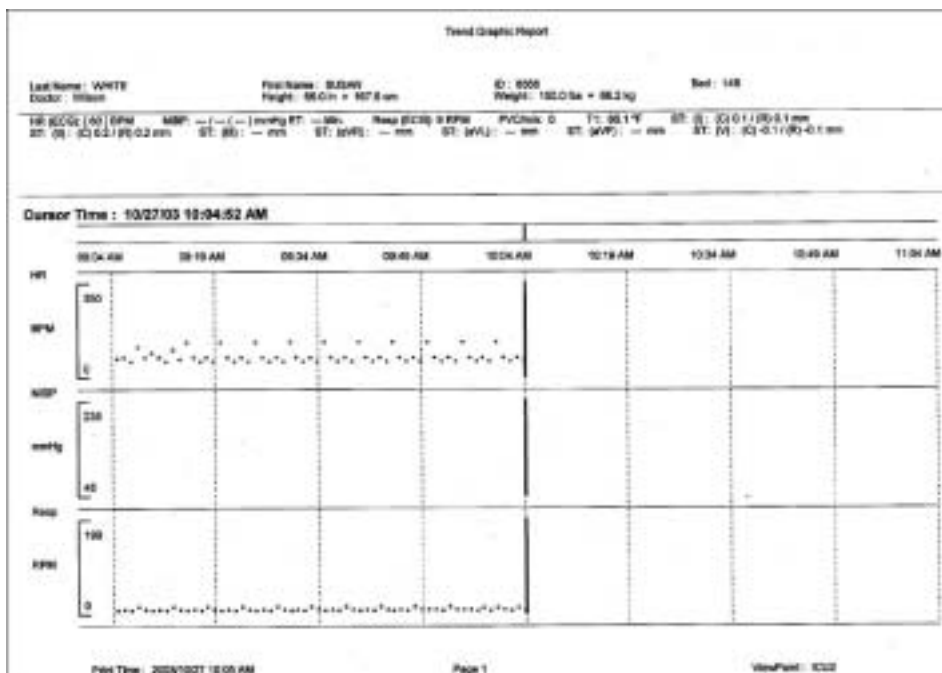
FIGURE 8-24 Trend Graphic Report (Page 1)

FIGURE 8-25 shows an example of the Trend Graphic Report (Page 2).
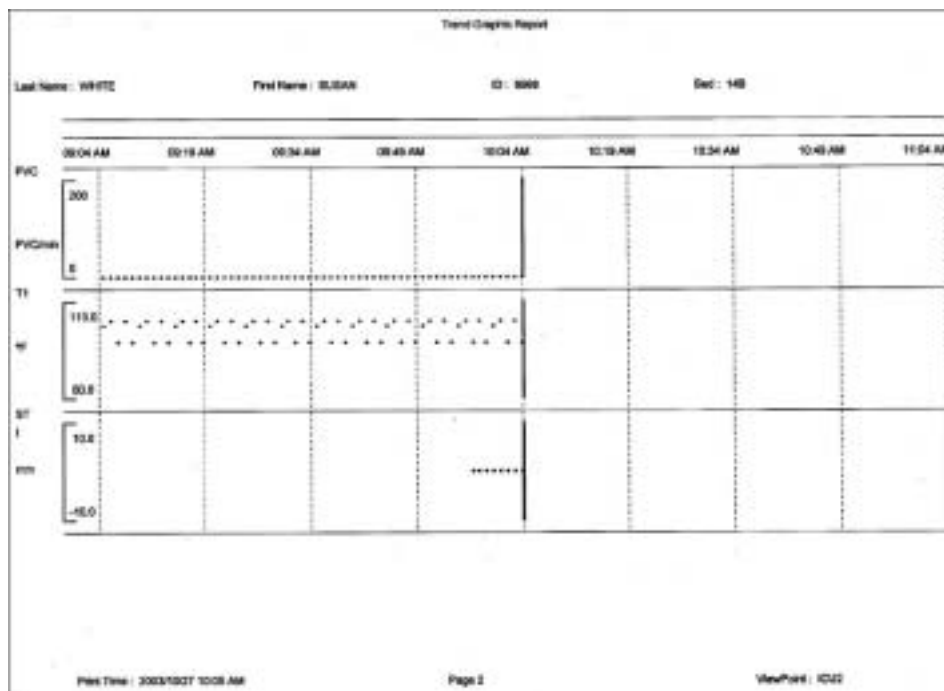
FIGURE 8-25 Trend Graphic Report (Page 2)

8.4.4.1   Header

The Trend Graphic Report's first page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

Page headers on subsequent pages of the report provide the report title, the date and time the data was collected, and limited demographic information about the patient (first and last name, identification number and bed number), if it is available.

If the demographic data was not previously entered in the system, only the demographic label is shown.

8.4.4.2   Digital Data

The Trend Graphic Report's digital data section displays measurements for the digital data parameters currently available for the selected patient tile. The displayed parameter order is determined by the system **Unit Priorities** tab. The digital data section contains the following:

- A parameter label
- A numeric measurement
- A unit of measure label
- A heart rate (HR) value
- Dashes (--) to indicate missing or invalid digital data.
- Square brackets [XX] to indicate alarming parameter values

NOTE: *Digital Data is only shown on the first page of the report.*

8.4.4.3   Graphic Data

The graphic data section of the Trend Graphic Report displays a cursor time, parameter list and a graphical representation of the parameter measurements that occurred during the selected time period.

- The cursor time represents the time that was selected in the Trends (Graphic) tab. The cursor time in the report follows the system Date/Time format.
- The parameters shown in this report display on the left side of the report. Each parameter has its own graphical layout which includes a parameter label, a unit of measure label, a scale bar and the scale bar range of values.
- For historical purposes, the Graphic Data section of the report shows all the selected parameters, even if the parameters are currently turned off.
- The report shows a vertical line on the graph to represent the occurrence of a physiological alarm.
- The report shows nine time periods across the top of the graph for a more representative look at the parameter data. The time periods will be shown in the system default time/ date format.
- The time periods shown in the report are equal sections of the total time interval selected in the graphic report. For example, if a 4 hour interval is selected, graphical data is plotted in 30 minute increments and if an 8 hour interval is selected, data is plotted in 60 minute increments. This report is capable of plotting graphical data in 2, 4, 6 and 8 hour time intervals. The report is printed in the time interval specified in the **Trends** (Graphic) tab.

  Time intervals are changed in the **Trends** (Graphic) tab by selecting the **Zoom In** and **Zoom Out** buttons.

- This report shows a cursor line in the graph for the Cursor Time posted on the report.
- The data plotted in the Trend Graphic Report reflects the trend data records that were collected based on the Trend Storage Interval settings in the Panorama Central Station.
- The report shows one plotted point for each parameter sensor.
- Dual sensor parameters (such as INSP/ET CO2) are plotted individually then connected with a line (for example, inspired and end tidal values).
- Multiple sensor parameters (such as NIBP) are plotted individually then the systolic and diastolic points are connected and a single point is shown for the Mean measurement.

8.4.4.4   Footer

The Trend Graphic Report contains a footer at the bottom of every page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab.
- A centered page number.
- The name of the Panorama Central Station from which the report was generated.

8.4.4.5   Printing a Trend Graphic Report

The Trend Graphic Report is printed in landscape orientation, using any of the following methods:

- Select the **Print** sidebar button from the **Trends** (Graphic) tab.
- From the bedside monitor, verify that **Select Printer** option is configured to print remotely, and that the trends graphic option is active, then press the **PRINT TREND** button.

NOTE: Requesting this report posts a print job in the system Print Status tab.

8.4.5   12-lead Report

The 12-lead Report provides analysis of 12-leads of ECG data for the selected patient tile. This report includes a header and waveform data.

FIGURE 8-26 shows an example of the 12-lead Report.
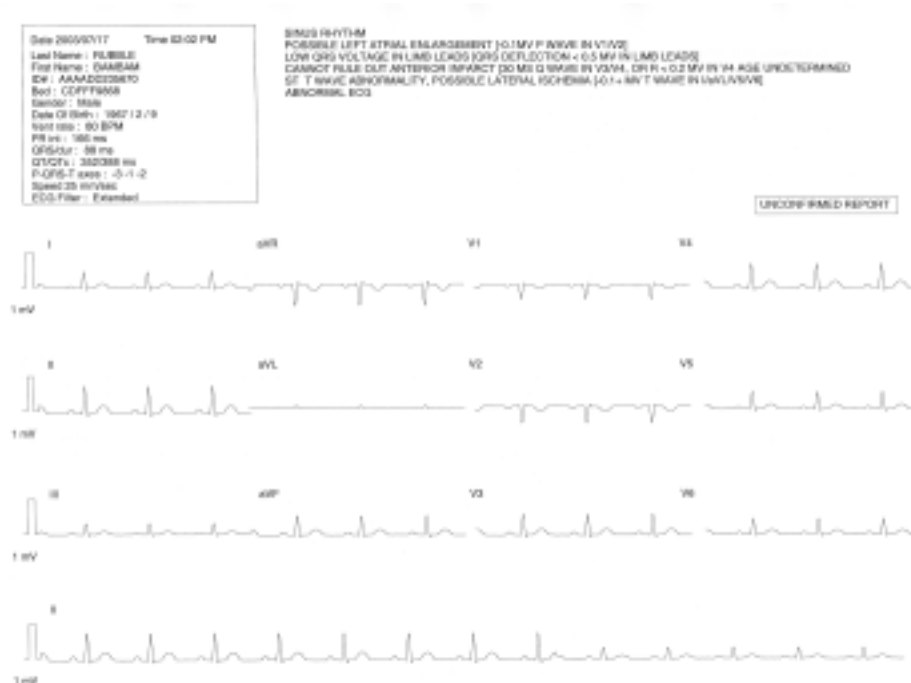
FIGURE 8-26 12-lead Report

8.4.5.1 Header

The 12-lead Report's page header provides the title of the report and basic demographic information, if it is available. The demographic information includes the patient's first and last name, identification number, bed number, weight, height and doctor.

If the demographic data was not previously entered in the system, only the demographic label is shown.

- Interpretation Area: The Interpretation area of the 12-lead report shows an analysis of the collected data.

   If data is missing from the report the ***Unable to Obtain Interpretation. Enter Patient Date of Birth and Gender*** message is displayed.

   If the patient's Patient Size is not set to Adult, the ***Unable to Obtain Interpretation. Patient not an adult*** message is displayed.

   If the patient is less than 18 years old, the ***Unable to Obtain Interpretation. Patient Must Be At Least 18 Years Old*** message is displayed.

   For additional information regarding the specific messages that appear in this area refer to the Physician's Guide to Computerized ECG Analysis P/N 0070-00-0534-01).

- Unconfirmed Report: The 12-lead Report is marked as an Unconfirmed Report when interpretation strings are printed on the report.

8.4.5.2   Waveform Data

The 12-lead Report section displays 2.5 seconds of waveform data for each of the 12 leads monitored at the bedside monitor, a 10-second ECG rhythm strip for Lead II, a calibration pulse and a wave gain setting of 1 millivolt.

8.4.5.3   Printing a 12-lead Report

The 12-lead Report prints when a print request is received from a connected bedside monitor. This report prints in landscape orientation.

Before this report is requested, the following must be configured at the bedside monitor:

- 12-lead card must be in use
- The monitor must be in the View All ECG Mode
- Remote printing must be enabled

To print the report, select the **STRIP** button from the bedside monitor. A print request is sent from the bedside monitor to the Panorama Central Station's selected printer.

NOTE: ***Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.***

8.4.6   Telepack Error Log Report

The Telepack Error Log Report is a one page report that shows all logged errors for any wireless device connected to the Panorama Central Station in service mode. This report includes a header, error log data and a footer.

FIGURE 8-27 shows an example of the Telepack Error Log Report.

FIGURE 8-27 Telepack Error Log Report

8.4.6.1   Header

The Telepack Error Log Report header provides the title of the report and the connected Device ID for the connected wireless device.

8.4.6.2   Error Log Data

The Telepack Error Log Report's error log data section displays all of the logged error messages for any connected Telepack device.

There are five columns in this report.

- Filename (maximum of 8 alphanumeric characters 3 alphanumeric characters)
- Line Number (maximum of 5 numeric characters)
- Error Message (maximum of 26 alphanumeric characters)
- Arg1 (maximum of 8 alphanumeric characters)
- Arg2 (maximum of 8 alphanumeric characters)

Telepack error messages are used to diagnose a problem with the connected wireless device.

8.4.6.3   Footer

The Telepack Error Log Report contains a footer at the bottom the page. The footer includes the following:

- The date and time of the print request. The format displayed is taken from the **System Date/Time** tab. For more information regarding date/time formats, refer to the "Date/Time Tab" on page 9-27.

- A centered page number.

- The name of the Panorama Central Station from which the report was generated.

8.4.6.4   Printing a Telepack Error Log Report

This Telepack Error Log Report prints in a landscape orientation. Follow these steps to print this report:

1. From the **Wireless** tab, select the **Error Log** sidebar button.

2. Select the **Print** button.

NOTE: **Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.**

8.4.7 System Alarm Report

The System Alarm Report shows all of the system default settings for the parameter alarms available in the Panorama Central Station. The report includes header, System Alarm data and a footer section.

FIGURE 8-28 shows an example of the System Alarm Report.

FIGURE 8-28 System Alarm Report

8.4.7.1 Header

The System Alarm Report's header provides the title of the report and the connected Device ID for the connected wireless device.

8.4.7.2 System Alarm Information

The System Alarm section of the report will display all of the system alarm default settings, as configured at the Panorama Central Station. Alarm limits are listed for the Adult, Pediatric and Neonate patient sizes.

The following alarm information is shown in the report:

*   ***Parameter:*** This is the name of the parameter for which the alarm is set.

*   ***Units:*** This is the default unit of measure in which the parameter is shown. If the unit of measure is not applicable to the parameter, dashes (---) display instead of a unit of measure.

*   ***High Limit:*** This is the high limit for the alarm setting. Measurements that exceed this setting will trigger an alarm condition. If a high limit is not applicable to the parameter, dashes (---) display instead of the high limit.

*   ***Low Limit:*** This is the low limit for the alarm setting. Measurements below this setting trigger an alarm condition. If a low limit is not applicable to the parameter, dashes (---) display instead of the low limit.

*   ***Priority:*** This is the importance rating for the alarm. The alarm priorities available to each parameter may differ.

*   ***Print On Alarm:*** This setting defines whether or not the parameter data should be printed during an alarm condition. Print On Alarm settings include ON and OFF.

*   ***Save To Event:*** This setting defines whether or not the parameter data should be saved as an event during an alarm condition. Save To Event settings include ON and OFF.

Alarm settings can be customized to a patient using the patient Alarms tabs.

8.4.7.3   Footer

The System Alarm Report contains a footer at the bottom of the report page. The footer includes the following:

*   The date and time of the print request. The format displayed is taken from the ***System Date/Time*** tab.

*   A centered page number.

*   The name of the Panorama Central Station where the report was generated.

8.4.7.4   Printing a System Alarm Report

This System Alarm Report is printed in portrait orientation. Follow these steps to print this report:

1.   From the ***System Alarms*** tab, select the ***System Alarm Limits*** sidebar button.

2.   Select the ***Print*** sidebar button.

NOTE: ***Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.***

8.4.8   Troubleshooting

This section lists some of the potential messages and issues that may occur while trying to print an additional report.

MESSAGE/ISSUE *	REASON	SOLUTION
The **Print** sidebar button is disabled.	A patient is not currently selected.	Select a patient before trying to print a report.
The **Please select a Print Interval** error message is displayed.	This message appears in the **Patient Reports** tab when the **Print** button is pressed before a time interval is selected in the Full Disclosure, Event, or Trend reports.	Select the **OK** button to close the dialog box. Select a print interval in the available dialog box.
The report will not print	There are several reasons that would cause a report not to print. It could be a problem with the communication between the printer and the Panorama Central Station or simply a problem with the printer.	If there is an error that appears such as **Printer out of Paper** you will need to remedy that situation. If the **No Printer connected or Printer not Available** error is displayed check that the printer was properly configured with the Panorama Central Station. See the Printer Configuration manual (P/N 0070-00-0561).

*   *Messages are shown in all bold text.*

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9.0 *System Setup Functions*

This section outlines the system default configuration of the Panorama Central Station.

- Care Group Tab
- Parameter Color Tab
- Installation Setup Tab
- Volume Tab
- System Alarms Tab
- Passwords Tab
- Equipment Setup Tab
- Date/Time Tab
- More Tab
- Previous Tab
- Print Setup Tab (System)
- Recalibrate Touch Screen Tab
- Unit Priorities Tab
- Unit Choices Tab
- Wave Gain Tab (System)
- Wireless Tab

9.1 Care Group Tab

The Panorama Central Station has twelve Care Groups that can be used to categorize the patient tiles in the system. Each care group is associated with a unique color indicator and a unique reference label.

Care Groups may be used to indicate a special meaning with regard to a patient tile. For example, Care Groups may be used to represent a care-giver, hospital department or a special monitoring condition for the patient. Contact your System Administrator for information regarding system Care Groups.

The system **Care Group** tab (FIGURE 9-1) allows for the default setting of patient tiles to specific care groups in the system. A patient tile can automatically be assigned to a specific care group upon admission to the Panorama Central Station.

This section includes the following:

- Accessing the Care Group Tab
- Editing Care Group Labels
- Assigning a Patient Tile to a Care Group
- Sidebar Button - Normal Screen
- Troubleshooting

9.1.1 Accessing the Care Group Tab

1. From the menu bar, select the **System Setup** button. The tabs associated with the **System Setup** button are displayed.

2. Select the **Care Group** tab.
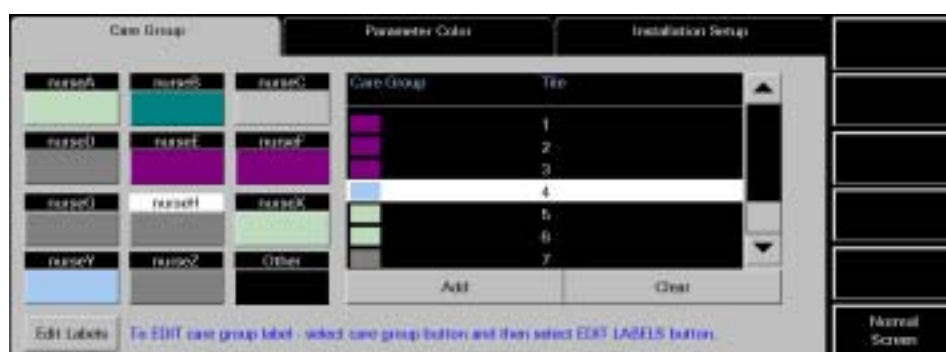
FIGURE 9-1 Care Group Tab

9.1.2 Editing Care Group Labels

This section outlines editing the system Care Group reference label.

Selecting a Patient's Care Group

1. Select a care group by selecting the colored tile below the care group label. When a care group is selected the reference label changes from a black background with white text to a white background with black text.

2. Select the ***Edit Labels*** button. The keyboard dialog box is displayed.

3. Enter the name for the selected care group. (maximum 6 characters). The name is displayed in the white text box.

4. Accept or reject the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12.

9.1.3 Assigning a Patient Tile to a Care Group

When a patient tile is assigned to a care group, the color associated with the care group will be shown in vertical bar next to the tile's ***VIEW*** button.

This section outlines assigning system default care group settings to specific patient tiles.

Selecting/Editing a Patient's Care Group

1. Select a care group tile by selecting the colored tile below the care group label. When a tile is selected the associated label changes from a black background with white text to a white background with black text.

2. Select the tile number to be assigned to the selected care group. When a tile is selected it changes from a black background with white text to a white background with black text.

3. Accept or reject the care group assignment.

- Select the ***Add*** button to assign the selected patient to the care group. The care group icon is displayed next to the selected patient tile in the care group list box.

- Select the ***Clear*** button to delete the care group currently assigned to the selected patient.

NOTE: *The assignment of a system care group occurs when a patient is admitted to a tile in the Panorama Central Station. To adjust the care group assignment of an active patient tile, refer to the ''Demographics Tab'' on page 5-2.*

9.1.4 Sidebar Button - Normal Screen

Select the ***Normal Screen*** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.1.5 Troubleshooting

This section lists some of the potential messages and issues that may occur while using the System ***Care Group*** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The ***System Setup*** menu button is disabled.	The ***System Setup*** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the ***System Setup*** function on the Panorama display on which it is opened.

   *   Messages are shown in all bold text.

9.2 Parameter Color Tab

The **_Parameter Color_** tab (FIGURE 9-2) selects the system default colors for parameters displayed at the Panorama Central Station.

This section includes the following:

- Accessing the Parameter Color Tab
- Selecting a Color for Parameter Data
- Sidebar Button - Normal Screen
- Troubleshooting

9.2.1 Accessing the Parameter Color Tab

_1._ From the menu bar, select the **_System Setup_** button. The tabs associated with the **_System Setup_** button are displayed.

_2._ Select the **_Parameter Color_** tab.
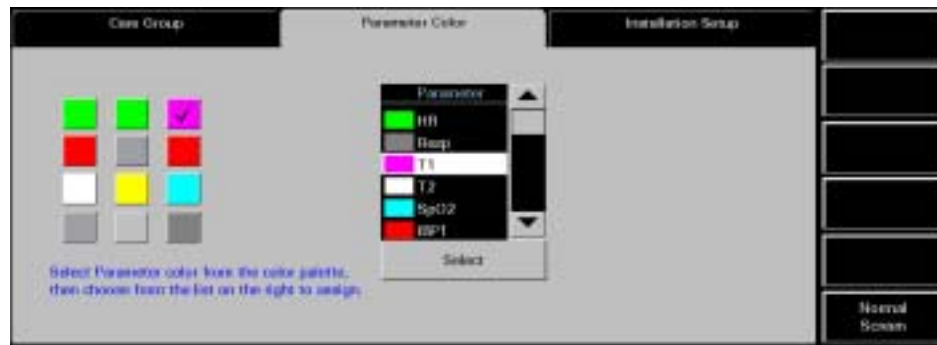
FIGURE 9-2 Parameter Color Tab

9.2.2 Selecting a Color for Parameter Data

This section outlines assigning a color to a parameter in the **_Parameter Color_** tab.

_1._ Select a color tile button by selecting the tile.

- A checkmark indicates that the colored tile is selected.
- An empty tile indicates that a colored tile is not selected.

_2._ Select a parameter in the Parameter list box (use the scroll bars to view all of the parameters). When a parameter is selected the associated label changes from a black background with white text to a white background with black text.

_3._ Choose the **_Select_** button to accept the parameter selection. The color is assigned to the selected parameter and the color icon is shown in the list box to the left of the parameter name.

9.2.3 Sidebar Button - Normal Screen

Select the **_Normal Screen_** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.2.4 Troubleshooting

This section lists some of the potential messages and issues that may occur *Parameter Color* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

    *   *Messages are shown in all bold text.*

9.3 Installation Setup Tab

The system ***Installation Setup*** tab (FIGURE 9-3) controls access to restricted Panorama Central Station functions. The ***Installation Setup*** tab is a password protected tab.

This section includes the following:

- Accessing the Installation Setup Tab
- Entering a Password
- Sidebar Button - Normal Screen
- Troubleshooting

9.3.1 Accessing the Installation Setup Tab

1. From the menu bar, select the ***System Setup*** button. The first set of System Setup tabs is displayed.

2. Select the ***Installation Setup*** tab.

FIGURE 9-3 Installation Setup Tab

9.3.2 Entering a Password

To gain access to the protected Panorama system functions, the correct password must be entered in the ***Installation Setup*** tab's password box. The password required for the ***Installation Setup*** tab is defined in the system ***Password*** tab.

1. Select the ***Password*** field in the ***System Setup*** tab. The keyboard dialog box is displayed.

2. Using the keyboard dialog box, enter the System password that was established in the ***Passwords*** tab (maximum 15 characters). For security purposes asterisks (*) are shown for each typed character.

3. Accept or reject the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12.

The following tabs can be accessed after the correct password has been entered in the ***Installation Setup*** tab: ***Volume***, ***System Alarms***, ***Passwords***, ***Equipment Setup***, ***Date/Time***, ***More/Previous***, ***Print Setup***, ***Recalibrate Touch Screen***, ***Unit Priorities***, ***Unit Choices***, ***Wave Gain*** and ***Wireless*** tabs.

9.3.3   Sidebar Button - Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.3.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Installation Setup** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Incorrect password. Please try again	The wrong password was entered in the **Password** text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
Incorrect password. This is your last chance. Please try again.	The wrong password was entered in the **Password** text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
The **Installation Setup** tab closes and the Panorama Central Station is returned to a full screen monitoring display	The wrong password was entered in the **Password** text box.	Reopen the **Installation Setup** tab and enter the correct password in the text box.
The **System Setup** menu button is disabled.	The System Setup function is already open on a Panorama display and cannot be opened on multiple displays.	Close the System Setup function on the Panorama display on which it is opened.

  *   Messages are shown in all bold text.*

9.4   Volume Tab

The system **Volume** tab (FIGURE 9-4) adjusts the volume levels at the Panorama Central Station. Volume levels can be adjusted for Touch Click, System alarms and Physiological alarms.

This section includes the following:

•   Accessing the Volume Tab

•   Setting Volume Levels

•   Sidebar Button - Normal Screen

•   Troubleshooting

9.4.1   Accessing the Volume Tab

1.   From the menu bar, select the **System Setup** button. The first set of System Setup tabs are displayed.

2.   Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3.   Enter the correct System password. The next set of System Setup tabs is displayed.

4.   Select the **Volume** tab.
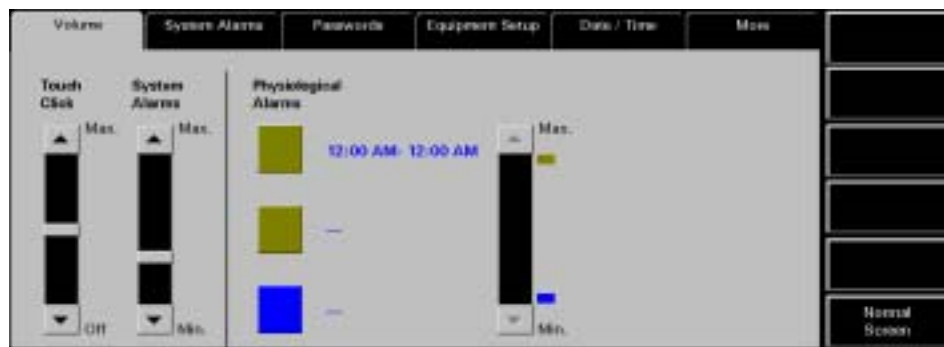
FIGURE 9-4 Volume Tab

CAUTION: *Do not block the speakers. Set the volume levels so that alarms can be heard at all times, as described in this Operation Manual.*

9.4.2   Setting Volume Levels

Setting a Touch Click Volume Level

The Touch Click volume setting determines the volume of the sound associated with each touch of the Panorama display.

Characteristics of the Touch Click volume setting include the following:

*   A volume level range of "0 - 10 Maximum"
*   A factory default setting of 5
*   Can be turned OFF

NOTE: ***Adjustments to the Touch click volume setting will take effect immediately.***

*   Use the volume control scroll bar to select the desired Touch Click volume level.

    Touch the arrows on the screen or use the mouse to move the box within the scroll bar to the desired Touch Click volume level.

Setting a System Alarms Volume Level

The System Alarms volume setting determines the volume of the sound associated with the Panorama Central Station alarm settings.

Characteristics of the System Alarms volume setting include the following:

*   A volume level range of "Minimum - 10 Maximum"
*   A factory default setting of 3
*   Cannot be turned OFF

NOTE: ***Adjustments to the System Alarms volume setting will take effect immediately.***

*   Use the volume control scroll bar to select the desired System Alarms volume level.

    Select the arrows on the screen or use the mouse to move the box within the scroll bar to the desired System Alarms volume level.

Setting a Physiological Alarms Volume Level

The Physiological Alarm volume setting is a system setting that applies to enabled numeric and arrhythmia alarm violations. The Panorama Central Station allows for up to three time specified volume settings for physiological alarms. This feature allows for the varying of volume settings for physiological alarms based on the time of day.

Characteristics of the Physiological Alarm volume setting include the following:

- The time period format for Physiological Alarms will follow the system's time format

- A volume level range of "Minimum - 10 Maximum"

- A factory default setting of 10

- Cannot be turned OFF

CAUTION: ***Do not block the speakers. Set the volume levels so that alarms can be heard at all times, as described in this Operation Manual.***

1.   Select the colored tile that corresponds to the time period for which the volume level is being adjusted.

  - A checkmark in the colored tile indicates that the tile has been selected and the ***From/To*** fields are displayed.

  - A colored tile without a checkmark indicates that the tile has not been selected.

2.   Select the ***From/To*** fields to enter a time period for the selected physiological alarm. The keypad dialog box displays.

  - Delete existing hour and minute data by using the ***CLEAR*** or ***CE*** buttons on the keypad.

  - When using the 12-hour time format, the ***AM/PM*** toggle button switches between the AM and PM settings.

NOTE: ***Time periods are mutually exclusive. When a new time period is entered, the time periods for the other physiological alarms are automatically adjusted to prevent overlapping of time periods.***

3.   Set the desired volume level for the selected physiological alarm.

To adjust the volume level, either touch the arrows on the screen or use the mouse to drag and drop the scroll bar to the desired level. The colored icon to the right of the scroll bar is automatically moved when the volume level is adjusted.

4.   Select the ***Done*** button to save the physiological alarm volume adjustments.

The Physiological Alarm volume adjustments will take effect upon pressing the ***Done*** button.

9.4.3   Sidebar Button - Normal Screen

Select the ***Normal Screen*** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.4.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the ***Volume*** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

9.5　System Alarms Tab

The **System Alarms** tab (FIGURE 9-5) sets the system defaults for the alarm options, alarm limits and alarm response functions.

This section includes the following:

- System Alarms (Options) Tab
- Setting the System Alarms Options
- Sidebar Buttons
- Troubleshooting

9.5.1　System Alarms (Options) Tab

The **System Alarms** (Options) tab controls the system default settings for system alarms.

9.5.1.1　Accessing the System Alarm (Options) tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.
2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.
3. Enter the correct System password. The next set of System Setup tabs is displayed.
4. Select the **System Alarms** tab.
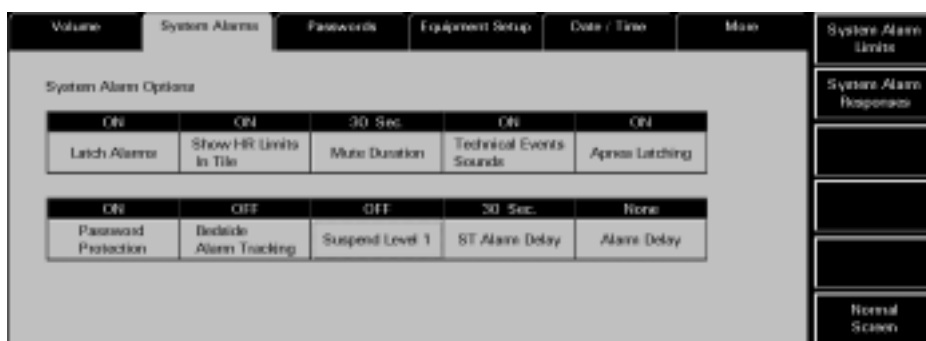
FIGURE 9-5 System Alarms (Options) Tab

9.5.1.2　Setting the System Alarms Options

This section outlines selecting system defaults for alarm options.

1. Select the **Latch Alarms** toggle button to either enable or disable the latch alarms function. Latch Alarm options include **ON** and **OFF**. The factory default setting is **ON**. Alarm latching allows physiological alarms to continue their alarm behaviors until the alarm is acknowledged by the user.

   - The **ON** option indicates that alarm latching is enabled.
   - The **OFF** option indicates that alarm latching is disabled.

   NOTE:　*The Latch Alarms option will not affect Apnea alarms, Arrhythmia alarms or ST alarms.*

NOTE: *Changes to the Latch Alarms option will only affect new alarm violations.*

2. Select the **Show HR Limits in Tile** toggle button to either enable or disable the display of heart rate alarm limits in the **Bedside** tab. Show HR Limits in Tile options include **ON** and **OFF**. The factory default setting is **ON**. The Heart Rate alarm limits define the range in which heart rate values are measured.

    • The **ON** option indicates that HR limits will be displayed in the **Bedside** tab.

    • The **OFF** options indicates that HR limits will not be displayed in the **Bedside** tab.

NOTE: *Changes to the Show HR Limits in Tile option will affect all patients.*

3. Select the **Mute Duration** button to select the mute duration period for alarms in the Panorama Central Station. The mute duration period is the amount of time for which alarming parameters are silenced. Mute Duration periods include 10, 15, 30, 45, 60 and 120 seconds. The factory default setting is 30 seconds.

NOTE: *Changes to the Mute Duration period will take effect within ten seconds of the change.*

4. Select the **Technical Event Sounds** toggle button to enable or disable sound during a technical event. **Technical Events Sounds** options include **ON** and **OFF**. The factory default setting is **ON**.

    • The **ON** option indicates that **Technical Events Sounds** will be heard during a technical event.

    • The **OFF** options indicates that **Technical Events Sounds** will not be heard during a technical event.

NOTE: *Changes to the Technical Events Sounds option will affect all patients within 10 seconds of the change.*

5. Select the **Apnea Latching** toggle button to either enable or disable the apnea latching function. Apnea latching is the ability to set Apnea alarms to continue the alarm behaviors until the alarm is acknowledged by the user. Apnea latching options include **ON** and **OFF**. The factory default setting is **ON**.

    • The **ON** option indicates that **Apnea Latching** will be enabled.

    • The **OFF** options indicates that **Apnea Latching** will not be enabled.

NOTE: *Changes to the Apnea option will affect all new Apnea alarms.*

6. Select the **Password Protection** toggle button to either enable or disable the password protection for the **Patient Alarms** tab in the Panorama Central Station. **Password Protection** options include **ON** and **OFF**. The factory default setting is **ON**.

    • The **ON** option indicates that **Password Protection** will be enabled in the **Patient Alarms** tab.

    • The **OFF** options indicates that **Password Protection** will not be enabled in the **Patient Alarms** tab.

NOTE: *Changes to the Password Protection option will affect all patients upon entering the Patient Alarms tab.*

7. Select the **Bedside Alarm Tracking** toggle button to either enable or disable the ability to track alarms at the bedside monitor. **Bedside Alarm Tracking** options include **ON** and **OFF**. The factory default setting is **ON**. Bedside Alarm tracking will automatically track alarm limit settings from the bedside monitor to the Panorama Central Station and from the Panorama Central Station to the bedside monitor when it is enabled.

   • The **ON** option indicates that **Bedside Alarm Tracking** will be enabled.

   • The **OFF** options indicates that **Bedside Alarm Tracking** will not be enabled.

NOTE: Changes to the Bedside Alarm Tracking option will affect all patients within 10 seconds.

8. Select the **Suspend Level 1** toggle button to either enable or disable the ability to suspend level 1 alarms. Suspend Level 1 options include **ON** and **OFF**. The factory default setting is **ON**.

   • The **ON** option indicates that the **Suspend All Alarms** function will be accessible in the **Patient Alarms** tabs.

   • The **OFF** option indicates that the **Suspend All Alarms** function will not be accessible in a **Patient Alarms** tab.

NOTE: Changes to the Suspend Level 1 option will affect all patients upon entering the Patient Alarms tab.

9. Select the **ST Alarm Delay** button to set an alarm delay for ST alarms. **ST alarm delay** is the period of time that the Panorama Central Station will wait before ST alarm notification. **ST Alarm Delay** options include 30 seconds, 45 seconds, 1 minute, 90 seconds, 2 minutes and 3 minutes. The factory default setting is 30 seconds.

NOTE: Changing the ST Alarm Delay option will affect all new ST alarms.

10. Select the **Alarm Delay** button to set an alarm delay for the Panorama Central Station. The alarm delay is the period of time that the Panorama Central Station will wait before alarm notification. Alarm Delay options include None, 1 second, 2 seconds, 3 seconds, 4 seconds, 5 seconds, 6 seconds, 7 seconds and 8 seconds. The factory default setting is None.

NOTE: Changing the Alarm Delay option will only affect new alarms.

9.5.1.3   Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

System Alarm Limits

Select the **System Alarm Limits** sidebar button to display the **System Alarm Limits** tab. For information regarding system Alarm Limits, refer to ''System Alarms (Alarm Limits) Tab'' on page 9-14.

System Alarm Responses

Select the **System Alarm Responses** sidebar button to display the **System Alarm Responses** tab. For information regarding System Alarm Responses, refer to ''Accessing the System Alarms (Alarm Responses) Tab'' on page 9-16.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.5.1.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the System **Alarm Options** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

    *   Messages are shown in all bold text.*

9.5.2   System Alarms (Alarm Limits) Tab

The **System Alarms** (Alarm Limits) tab (FIGURE 9-6) controls the system default settings for alarm limits and is based on patient size.

9.5.2.1   Accessing the System Alarms (Alarm Limits) Tab

1. From the menu bar, select the **System Setup** button. The first set of **System Setup** tabs displays.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **System Alarms** tab. The **System Alarms** (Options) tab is displayed.

5. Select the **System Alarm Limits** sidebar button. The **System Alarms** (Alarm Limits) tab is displayed.
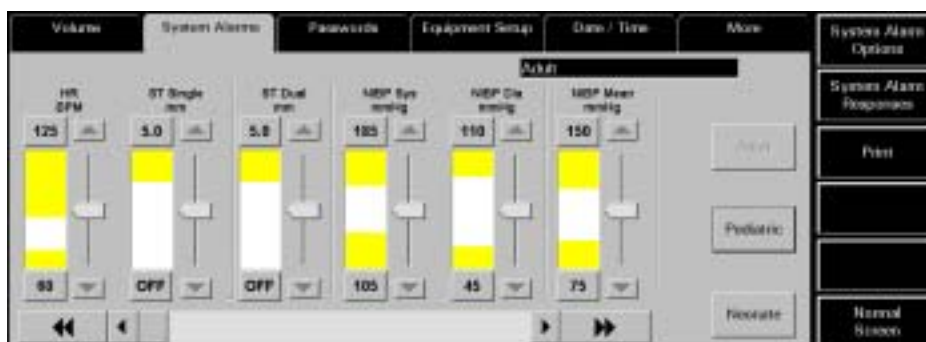
FIGURE 9-6 System Alarms (Alarm Limits) Tab

9.5.2.2   Setting the System Alarms Limits

This section outlines setting system defaults for alarm limits, according to patient size.

1. Select the **Patient Size** button to set the system alarm limit defaults for a specific patient size. Patient Size options include Adult, Pediatric and Neonate. The factory default setting is Adult. When a **Patient Size** is selected the button will change from black text on a grey background to grey text on a grey background.

NOTE:　　　**Changes to the system Alarm Limit settings will only apply to newly admitted patients when the Bedside Alarm Tracking option is set to OFF.**

2.　Use the scroll bars in the **System Alarms** (Alarm Limits) tab to select the slider control for the alarm limit to be set or modified. Each page can show a maximum of six and a minimum of one slider controls on each screen.

- Double arrow scroll bar buttons will display the next/previous page of parameter slider controls each time the button is pressed (until the first/last page is reached).

- Single arrow scroll bar buttons will display the next/previous slider control each time the button is pressed (until the last control is shown).

3.　Manually set the alarm limits for the selected parameter.

To set a high alarm limit:

- Select the upper alarm limit button to the left of the parameters slider bar. This button is either labeled with the word **OFF** or with the high alarm limit setting.

- To set an upper alarm limit you can either Select the up/down arrow buttons on the parameter's vertical scroll bar or you can drag and drop the scroll box in the scroll bar.

To set a low alarm limit:

- Select the lower alarm limit button to the left of the parameters slider bar. This button is either labeled with the word **OFF** or with the low alarm limit setting.

- To set a lower alarm limit you can either select the up/down arrow buttons on the parameter's vertical scroll bar or you can drag and drop the scroll box in the scroll bar.

For information on the preset alarm limit ranges, refer to the ''System Alarms Tab'' on page 9-11.

9.5.2.3　　　Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

System Alarm Options

Select the **System Alarm Options** sidebar button to display the **System Alarm Options** tab. For additional information regarding System Alarm Options, refer to the ''System Alarms Tab'' on page 9-11.

System Alarm Responses

Select the **System Alarm Responses** sidebar button to display the **System Alarm Responses** tab. For additional information regarding System Alarm Responses, refer to the ''System Alarms Tab'' on page 9-11.

Print

Select the **Print** sidebar button to print the System Alarm Report. The System Alarm Report will produce a printout of the default system alarm settings.

To print the system's default alarm limit settings, select the **Print** button.

For additional information on the System Alarm Report, see ''Additional Reports'' on page 8-36.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.5.2.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the System **Alarm Limits** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

   *   *Messages are shown in all bold text.*

9.5.3   Accessing the System Alarms (Alarm Responses) Tab

The **System Alarms** (Alarm Responses) tab (FIGURE 9-7) controls the system default settings for alarm responses.

1. From the menu bar, select the **System Setup** button. The first set of **System Setup** tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **System Alarms** tab. The **System Alarms** (Options) tab is displayed.

5. Select the **System Alarm Responses** sidebar button. The **System Alarms** (Alarm Responses) tab is displayed.
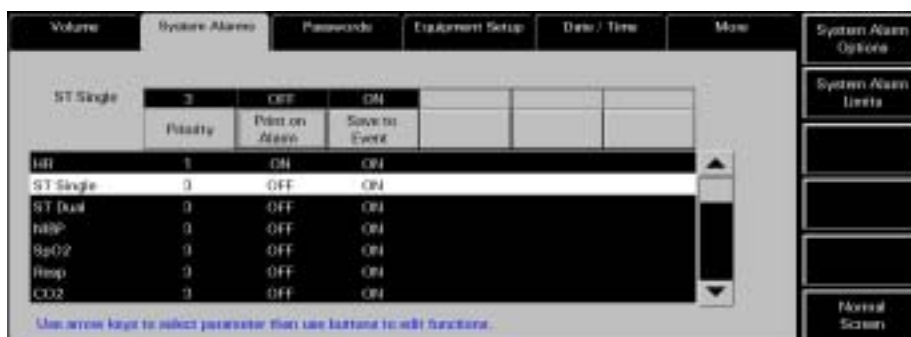
FIGURE 9-7 System Alarms (Alarm Responses) Tab

9.5.3.1   Setting the System Alarms Responses

This section outlines setting system defaults for alarm responses.

1. Select a parameter in the **System Alarm Limits** (Alarm Responses) tab to make adjustments.

   • The alarm responses list box shows a list of the available alarm conditions.

   • When an alarm is selected it will be highlighted in white with black text and will be shown below the demographic field.

2. Select the alarm *Priority* button to select the alarm priority for the selected alarm. The Alarm Priority setting determines the audio sound that the Panorama Central Station will make when the alarm condition occurs. Alarm Priority is based on the severity of the alarm condition. Every alarm condition will have predetermined alarm priority choices. The Alarm Priorities available include Off, 1, 2 and 3.

- Priority 1 alarms are the most severe alarms (lethal alarms). Priority 1 alarms are shown in red.

- Priority 2 alarms include alarms of medium severity (most numeric alarms). Priority 2 alarms are shown in yellow.

- Priority 3 alarms are the least severe alarms (technical alarms). Priority 3 alarms are shown in yellow.

- When Alarm Priorities are turned *OFF* there will be no audio feedback for alarms at the Panorama Central Station.

3. Select the *Print on Alarm* button to determine if the data for the alarm should be printed when the alarm is violated.

- Select the *ON* option to automatically print the alarmed event when the alarm condition occurs.

- Select the *OFF* option to suspend print the alarmed event when the alarm condition occurs.

4. Select the *Save to Event* button to determine if the data for the alarm is saved in the event database when the alarm is violated.

- Select the *ON* option to automatically save the alarmed event when the alarm condition occurs.

- Select the *OFF* option to not automatically save the alarmed event when the alarm condition occurs

9.5.3.2 Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

System Alarm Options

Select the *System Alarm Options* sidebar button to display the *System Alarm Options* tab. For additional information regarding System Alarm Options, refer to the ''System Alarms Tab'' on page 9-11.

System Alarm Limits

Select the *System Alarm Limits* sidebar button to display the *System Alarm Limits* tab. For additional information regarding System Alarm Limits, refer to the ''System Alarms Tab'' on page 9-11.

Normal Screen

Select the *Normal Screen* sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.5.3.3   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the System **Alarm Responses** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

* Messages are shown in all bold text.

9.6   Passwords Tab

The system **Passwords** tab (FIGURE 9-8) establishes and modifies the passwords used to access the **System Setup** and **Patient Alarm Setup** areas of the Panorama Central Station.

This section includes the following:

• Accessing the Installation Setup Tab

• Modifying an Alarm Password

• Sidebar Button - Normal Screen

• Troubleshooting

9.6.1   Accessing the Installation Setup Tab

1. From the menu bar, select the **System Setup** button. The first set of **System Setup** tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **Passwords** tab.

FIGURE 9-8 Passwords Tab

9.6.2   Modifying an Alarm Password

The **Passwords** tab changes the password that gains access to the Patient Alarms section of the Panorama Central Station.

1. Select either the **Alarm** or the **System** button. The **Old Password** text box is displayed.

2. Select the **Old Password** text box. The keyboard dialog box is displayed.

3. Using the keyboard dialog box, enter the alarm password that was previously established in ''Recording Password Changes'' on page 9-20. The Alarm/System password is case sensitive and has a maximum 15 characters.

4. Accept or reject the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12.

NOTE: *The factory default Alarm password is 'alarm'. The factory default System password is 'system'.*

NOTE: *Passwords are case sensitive.*

5. Select the **New Password** text box. The keyboard dialog box displays.

6. Using the keyboard dialog box, enter the new alarm password. The Alarm password is case sensitive and has a maximum 15 characters.

7. Accept the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12.

8. Select the **Confirm** text box. The keyboard dialog box displays.

9. Using the keyboard dialog box, reenter the new alarm password. Accept or reject the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12.

The password is changed and the **Passwords** tab is returned to its original state.

Recording Password Changes

CAUTION: *If passwords are changed from the factory defaults, users MUST ensure that they document new passwords in the space provided in this manual. For additional information refer to ''Passwords Tab'' on page 9-19. Failure to recall user defined passwords will render the system UNUSABLE.*

NOTE: *Restrict access among hospital staff to the System password.*

Record password changes in the following table:

PROVIDES ACCESS TO	DEFAULT PASSWORD	USER PASSWORD
Patient Alarms	alarm	
* System Menus & System Shut Down	system	

9.6.3   Sidebar Button - Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.6.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Passwords** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Incorrect password. Please try again	The wrong password was entered in the text box.	Select the **OK** button to close the dialog box. Enter the correct password in the dialog box.
The **System Setup** menu button is disabled.	The System Setup function is already open on a Panorama display and cannot be opened on multiple displays.	Close the System Setup function on the Panorama display on which it is opened.

*   Messages are shown in all bold text.

9.7   Equipment Setup Tab

The **Equipment Setup** tab (FIGURE 9-9) adds, deletes and modifies the equipment used with the Panorama Central Station. The **Equipment Setup** tab includes an equipment list that shows the types of equipment that may communicate with the Panorama Central Station.

This section includes the following:

- Accessing the Equipment Setup Tab
- Entering New Equipment
- Modifying Equipment included in the Equipment List
- Deleting Equipment in the Equipment List
- Sidebar Buttons
- Troubleshooting

9.7.1   Accessing the Equipment Setup Tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.

2. Select the **Installation Setup** tab.The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **Equipment Setup** tab.
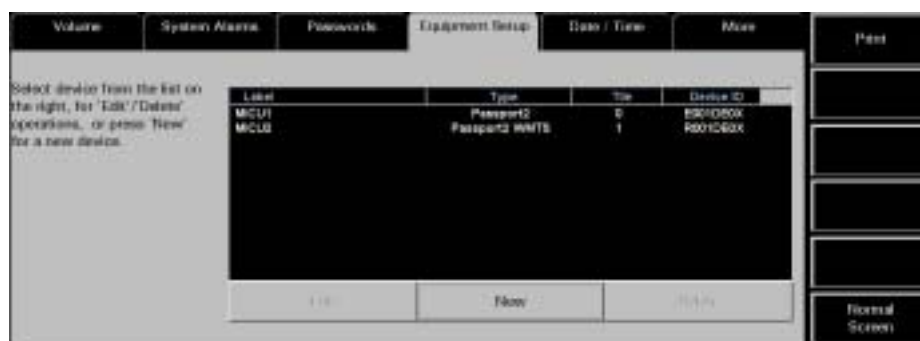
FIGURE 9-9 Equipment Setup Tab

- The first column of the equipment list box displays the device **Label** for the equipment listed.

- The second column of the equipment list box displays the **Type** of device listed.

- The third column of the equipment list box displays the **Tile** number associated with the equipment.

- The fourth column of the equipment list box displays the **Device ID** number for the equipment listed.

Device ID Format

DEVICE	STARTING CHARACTER	# OF CHARACTERS	ENDING CHARACTER
Telepack; Telepack WMTS	T or t	6	X or x
Passport 2® PNET; Passport 2; Passport 2 WMTS	E or e	6	X or x
Spectrum™ PNET; Spectrum; Spectrum WMTS	S or s	6	X or x
Panorama Server	W or w	6	X or x

9.7.2   Entering New Equipment

This section outlines adding new equipment to the Panorama Central Station Equipment List.

1. Select the **New** button under the Equipment List box. The Device Setup Area displays.

2. Select the **Tile** button. In the **Tile Number** dialog box, select the tile number for the new monitoring device.

- The tile numbers available for a single 8 tile display include **NONE** (when no tile number is assigned to the equipment) and 0 to 7.

- The tile numbers available for a single 12 tile display include **NONE** (when no tile number is assigned to the equipment) and 0 to 11.

- The tile numbers available for a dual 16 tile display include **NONE** (when no tile number is assigned to the equipment) and 0 to 15.

- The tile numbers available for a dual 24 tile display include **NONE** (when no tile number is assigned to the equipment) and 0 to 23.

Select the **Done** button to accept the selection.

Select the **Cancel** button to discard the selection.

The tile number is displayed in the **Tile** field.

NOTE: *The Tile button will be disabled and display a dash (-) if the type of equipment being entered is a Panorama Server or a Panorama.*

3. Select the **Type** button. In the **Device Type** dialog box, select the device type of the new monitoring device.

The equipment list supports the following types of equipment: Telepack, Telepack WMTS, Passport 2 PNET, Spectrum PNET, Passport 2, Passport 2 WMTS, Spectrum, Spectrum WMTS, Panorama Server and Panorama.

Select the **Done** button to accept the selection or the **Cancel** button to discard the selection.

The device type is displayed in the **Type** field.

4. Select the **Label** text box to enter a label for the new equipment.

5. Use the keyboard dialog box to enter the device label for the new equipment. A device label must be entered in the equipment list and can only use alphanumeric characters and underscores (_). There is a maximum of 14 characters.

6. Accept or reject the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12.

NOTE: *All Device Labels in the Equipment List must be unique and cannot be duplicated.*

7. Select the **Device ID** text box.

8. Use the keyboard dialog box to enter the device identification number for the new equipment. A Device ID must be entered in the equipment list for Passport 2, Telepack, Spectrum™ and Panorama Server devices (maximum of 8 characters). For information on the Device ID format, refer to ''Device ID Format'' on page 9-22.

NOTE: *All Device IDs in the Equipment List must be unique and cannot be duplicated.*

NOTE: *The Device ID field will display a dash (-) and be disabled if the type of equipment being entered is a Panorama Central Station.*

9. Accept or reject the text entered in the keyboard dialog box. For additional information about using the keyboard dialog box, refer to ''Keyboard Dialog Box'' on page 2-12. Select the **Done** button.

The equipment is added to the Equipment List.

9.7.3 Modifying Equipment included in the Equipment List

This section outlines modifying equipment added to the Panorama Central Station Equipment List.

1. Select the monitoring device to be modified in the equipment list box. A monitoring device has been selected when it changes from white text on a black background to black text on a white background.

2. Select the **Edit** button under the Equipment list box. The Device Setup Area is displayed.

3. Select the area in the Device Setup to be modified. For information on modifying the areas of the Device Setup area, refer to ''Entering New Equipment'' on page 9-22.

NOTE: *The Label text field is the only field that can be modified for a monitoring device currently monitoring a patient.*

4. Select the **Done** button. The equipment is added to the Equipment List.

9.7.4 Deleting Equipment in the Equipment List

This section outlines deleting equipment from the Panorama Central Station Equipment List.

1. Select the monitoring device to be deleted from the equipment list box. A monitoring device has been selected when it changes from white text on a black background to black text on a white background.

2. Select the *Delete* button under the equipment list box.

NOTE: **Only equipment not actively monitoring a patient can be deleted.**

3. The *Are you sure you want to delete this device* message dialog box is displayed.

- Select the *Yes* button to delete the selected device and close the dialog box.

- Select the *No* button to keep the selected device and close the dialog box.

9.7.5 Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Print

Select the *Print* sidebar button to print the system Equipment List report.

To print the system's Equipment List report, select the *Print* button. For information regarding the specifications of the Equipment List report see the ''Equipment Report'' on page 8-31.

Normal Screen

Select the *Normal Screen* sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.7.6 Troubleshooting

This section lists some of the potential messages and issues that may occur while using the *Equipment* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Equipment list is full	This message appears when the **New** button is pressed and the equipment list contains the maximum number of equipment list entries.	Select the **OK** button to close the dialog box. Delete a piece of equipment from the Equipment list.
Illegal Device Tile. Device Tile must be defined. Please try again.	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a tile number is selected.	Select the **OK** button to close the dialog box. Select a tile number in the Tile Number dialog box.
The **Tile** button is disabled and a dash (-) is shown in the Tile field.	The type of equipment being entered in the Equipment List is either a Panorama Server or a Panorama	You cannot enter a tile number for the Panorama Server or the Panorama equipment types.
Invalid Device Type	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a device type is selected.	Select the **OK** button to close the dialog box. Select a device type in the Device Type dialog box.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Illegal Device Label. Device Label must be defined. Please try again.	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a device label is selected.	Select the **OK** button to close the dialog box. Select a device label in the Device Label dialog box.
Device Label already exists! Please enter a new one	This message appears when a duplicate device label is entered in the Device Label field.	Select the **OK** button to close the dialog box. Enter a new device label in the Device Label field.
Invalid characters entered. Please enter a new label.	This message appears when invalid characters have been entered in the Device Label. The device label can only contain alphanumeric characters and underscores (_).	Select the **OK** button to close the dialog box. Enter a valid Device label.
Illegal Device ID. Please enter a new one.	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a device ID is selected.	Select the **OK** button to close the dialog box. Enter a Device ID in the Device ID dialog box.
Device ID must be 8 characters in length.	This message appears when the Device ID that was entered is less than 8 characters in length. Please refer to the Device ID setup rules in the Setting up New Equipment section.	Select the **OK** button to close the dialog box. Enter a Device ID in the Device ID dialog box.
Device ID must start with the proper device prefix	This message appears when the incorrect device prefix is entered in the Device ID box.	Select the **OK** button to close the dialog box. Enter the correct Device ID prefix.
Suffix of Device ID last character must be 'x' or 'X'.	This message appears when the incorrect device suffix is entered in the Device ID box.	Select the **OK** button to close the dialog box. Enter the correct Device ID suffix.
This Device ID already exists!	This message appears when a duplicate Device ID is entered in the Device ID field.	Select the **OK** button to close the dialog box. Enter a new Device ID in the Device ID field.
You have reached the maximum number of channel licenses available.	This message appears when all available channels on the Panorama Central Station are occupied.	Select the **OK** button to close the dialog box. Delete a piece of equipment from an existing channel if it is no longer in use. The system administrator can also purchase additional channel licenses.
This version of software does not support more than 16 monitored patients.	This message appears when the maximum number of patients is being monitored on the Panorama Central Station.	Select the **OK** button to close the dialog box. Discharge a patient if the patient is no longer being monitored.
System Setup menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Cannot delete a device connected to a patient	The device that you are trying to delete is currently connected to a patient.	Select the **OK** button to close the dialog box. Disconnect the patient from the selected device before it can be deleted.
The **Tile** button, **Type** button and **Device ID** field are disabled.	The equipment that was selected to be edited is currently monitoring a patient.	This equipment cannot be edited until a patient discharge is performed.

*   *Messages are shown in all bold text.*

9.8 Date/Time Tab

The **Date/Time** tab (FIGURE 9-10) configures the default date and time formats used throughout the Panorama Central Station, and is used to set the system time and date.

This section includes the following:

- Accessing the Date/Time Tab
- Set Date/Time
- Sidebar Button - Normal Screen
- Troubleshooting

9.8.1 Accessing the Date/Time Tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **Date/Time** tab.

FIGURE 9-10 Date/Time Tab

9.8.2 Set Date/Time

The settings configured in the **Date/Time** tab are the settings that will be used for all date/time related functions in the Panorama Central Station.

Setting a Date in the Date/Time Tab

1. Select the **Day** field in the **Date/Time** tab.The keyboard dialog box displays. The range available is shown on the bottom of the dialog box.

2. Using the keyboard dialog box, enter the number that represents the current day of the month.

- Select the **Enter** button on the keyboard dialog box to accept the day that was entered. The number is entered in the Day field.

- Select the backspace button (**<==**) to clear a character that was entered in the dialog box.

- Select the **Close** button to discard the entry in the dialog box and return to the **Date/Time** tab. The Day field will remain unchanged until the **Done** button is pressed.

3. Select the ***Month*** field in the ***Date/Time*** tab. The keyboard dialog box is displayed. The range available is 1 to 12.

4. Using the keyboard dialog box, enter the number that represents the current month.

   • Select the ***Enter*** button on the keyboard dialog box to accept the day that was entered. The number is entered in the Month field.

   • Select the backspace button (***<==***) to clear a character that was entered in the dialog box.

   • Select the ***Close*** button to discard the entry in the dialog box and return to the ***Date/Time*** tab. The Month field will remain unchanged until the ***Done*** button is pressed.

5. Select the ***Year*** field in the ***Date/Time*** tab. The keyboard dialog box is displayed. The range available is 1970 to 2037.

6. Using the keyboard dialog box, enter the number that represents the current year.

   • Select the ***Enter*** button on the keyboard dialog box to accept the day that was entered. The number is entered in the Year field.

   • Select the backspace button (***<==***) to clear a character that was entered in the dialog box.

   • Select the ***Close*** button to discard the entry in the dialog box and return to the ***Date/Time*** tab. The Year field will remain unchanged until the ***Done*** button is pressed.

7. Select the ***Date*** button to select the desired date format.

   The date formats available include DD-MM-YYYY, MM-DD-YYYY and YYYY-MM-DD (default).

8. Select the ***Done*** button to change the format of the system date.

   The "Are you sure you want to change the date/time settings" dialog box appears.

9. Select the ***Yes*** or ***No*** button in the dialog box.

   • Select the ***Yes*** button to change the system date format.

   • Select the ***No*** button to discard the changes that were made to the system date format.

Setting a Time in the Date/Time Tab

1. Select the ***Hour*** field in the ***Date/Time*** tab. The keyboard dialog box displays. The range available is 1 to 12.

2. Using the keyboard dialog box, enter the number for the current hour.

   • Select the ***Enter*** button on the keyboard dialog box to accept the hour that was entered. The number is entered in the Hour field.

   • Select the backspace button (***<==***) to clear a character that was entered in the dialog box.

   • Select the ***Close*** button to discard the entry in the dialog box and return to the ***Date/Time*** tab. The Hour field will remain unchanged until the ***Done*** button is selected.

3. Select the ***Min.*** field in the ***Date/Time*** tab. The keyboard dialog box is displayed. The range available is 0 to 59.

4. Using the keyboard dialog box, enter the number that represents the current minute.

   • Select the ***Enter*** button on the keyboard dialog box to accept the minute that was entered. The number is entered in the Min. field.

   • Select the backspace button (***<==***) to clear a character that was entered in the dialog box.

- Select the *Close* button to discard the entry in the dialog box and return to the *Date/ Time* tab. The Min. field will remain unchanged until the *Done* button is pressed.

5. Select the AM/PM toggle button to select either AM or PM.

NOTE: *The AM/PM button is only available if the current time format is in 12 hour mode.*

6. Select the *Time* button to select the desired time format.

The time formats available include HH:MM (12H), HH:MM:SS (12H) (default), HH:MM (24H) and HH:MM:SS (24H).

NOTE: *Whenever the Panorama Central Station is set to a language other than English the Panorama Central Station will be in the 24-hour time format.*

7. Select the *DONE* button to change the format of the system time.

The *Are you sure you want to change the date/time settings* dialog box appears.

8. Select the *Yes* or *No* button in the dialog box.

- Select the *Yes* button to change the system time format.
- Select the *No* button to discard the changes that were made to the system time format.

9.8.3   Sidebar Button - Normal Screen

Select the *Normal Screen* sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.8.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the *Date Time* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The *System Setup* menu button is disabled.	The *System Setup* function is already open on a Panorama display and cannot be opened on multiple displays.	Close the *System Setup* function on the Panorama display on which it is opened.

   *   *Messages are shown in all bold text.*

9.9   More Tab

The ***More*** tab displays additional System Setup tabs.

This section includes the following:

- Accessing Additional (More) Tabs
- Tabs Accessed Via the More Tab

9.9.1   Accessing Additional (More) Tabs

1.   From the menu bar, select the ***System Setup*** button. The first set of ***System Setup*** tabs is displayed.

2.   Select the ***Installation Setup*** tab.The ***Installation Setup*** tab is displayed.

3.   Enter the correct System password.The next set of ***System Setup*** tabs is displayed.

4.   Select the ***More*** tab. The next set of ***System Setup*** tabs is displayed.

FIGURE 9-11 Tabs accessed via the More Tab

The ***More*** tab accesses the next set of System Setup tabs.

Tabs Accessed Via the More Tab

TAB	DESCRIPTION
Print Setup	The ***Print Setup*** tab selects the system printer functions in the Panorama Central Station.
Recalibrate Touch Screen	The ***Recalibrate Touch Screen*** tab calibrates the Touch Screen display.
Unit Priorities	The ***Unit Priorities*** tab adjusts the default order of parameters in the Panorama Central Station.
Unit Choices	The ***Unit Choices*** tab sets the default settings for Pacers, the order and appearance of Patient Demographic information, Trend Intervals and Units of Measure.
Wave Gain	The ***Wave Gain*** tab adjusts the default wave gain used by the Panorama Central Station.
Wireless	The ***Wireless*** tab services the wireless devices used to communicate with the Panorama Central Station.

9.10 Previous Tab

The **Previous** tab displays additional **System Setup** tabs.

This section includes the following:

- Accessing Previous Tabs
- Tabs Accessed Via the Previous Tab

9.10.1 Accessing Previous Tabs

1. From the menu bar, select the **System Setup** button. The first set of **System Setup** tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of System Setup tabs is displayed. This is the set of tabs accessed when the **Previous** tab is selected.

FIGURE 9-12 Tabs accessed via the Previous Tab

The **Previous** tab accesses an additional set of **System Setup** tabs.

Tabs Accessed Via the Previous Tab

TAB	DESCRIPTION
Volume	The **Volume** tab configures the volume of the Panorama Central Station and the system's alarms.
System Alarms	The **System Alarms** tab configures the default settings for alarms in the Panorama Central Station.
Passwords	The **Passwords** tab creates/modifies the Passwords used in the Panorama Central Station.
Equipment Setup	The **Equipment Setup** tab configures equipment for use with the Panorama Central Station.
Date/Time	The **Date/Time** tab sets the system's time and date and to configure the format used throughout the system for time/date related functions.
More	The **More** tab accesses an additional set of System Setup tabs in the Panorama Central Station.

9.11 Print Setup Tab (System)

The **Print Setup** tab (FIGURE 9-13) defines the printers to be used by the Panorama Central Station. The system is capable of communicating with two network printers simultaneously.

The **Print Setup** tab selects the default waveforms printed in the All Strip, Event Zoom-In and Full Disclosure Zoom-In reports.

NOTE: **The network printer(s) must be properly configured to communicate with the Panorama Central Station.**

This section includes the following:

- Accessing the Print Setup Tab
- Setting the System Default Print Setup
- Sidebar Button - Normal Screen
- Troubleshooting

For additional information on printer configuration see the Panorama Printer Configuration guide (P/N 0070-00-0561).

9.11.1 Accessing the Print Setup Tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup tab** is displayed.

3. Enter the correct System password. The next set of System Setup tabs is displayed.

4. Select the **More** tab. The next set of System Setup tabs is displayed.

5. Select the **Print Setup** tab.

FIGURE 9-13 Print Setup Tab (System)

9.11.2 Setting the System Default Print Setup

This section outlines setting defaults for the **Print Setup** tab. To set system default settings, follow these steps:

1. Select the printer's check box button to enable/disable the printing of reports. The options available include Laser jet 1 and Laser jet 2. Print setup settings are changed instantaneously.

- A check mark in a printer's check box button indicates that if the printer has been properly configured with the Panorama Central Station it will be capable of printing Panorama reports.

- An empty check box button indicates the printer is not selected and will not print reports.

2. Select the printer's check box button to enable/disable the printing of strips. The print setup settings are changed instantly.

- A check mark in a printer's check box button indicates that if the printer has been properly configured with the Panorama Central Station it will be capable of printing waveform strips.

- An empty check box button indicates the printer is not selected and will not print waveform strips.

9.11.3   Strip Setup Sidebar Button

Select the **Strip Setup** sidebar button to select the default parameters that will be printed in the All Strips Report.

1. Select the **Strip Setup** sidebar button in the **Print Setup** tab. The contents of the **Print Setup** tab (FIGURE 9-14) display the waveform strips that can be printed in the All Strips, the Event Zoom In and the Full Disclosure Zoom In reports.

FIGURE 9-14 Print Setup tab

2. Select the waveform check box button to enable/disable the printing of waveforms in reports. The print setup settings are changed instantaneously.

- A check mark in a waveform's check box button indicates the waveform is selected to print in reports when that parameter is in use.

- An empty check box button indicates the waveform is not selected and will not print in reports.

For information on customizing the waveform strips printed for a particular patient, refer to the ''Print Setup Tab (Patient)'' on page 5-39.

View Print Setup Sidebar Button

Select the **View Print Setup** sidebar button to return the **Print Setup** tab to display the printer selections.

9.11.4   Sidebar Button - Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.11.5   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the System **Print Setup** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

    *   Messages are shown in all bold text.

9.12   Recalibrate Touch Screen Tab

The **Recalibrate Touch Screen** tab recalibrates the Panorama Central Station touch screen.

This section includes the following:

*   Accessing the Recalibrate Touch Screen Tab
*   Recalibrating the Touch Screen
*   Sidebar Button - Normal Screen
*   Troubleshooting

9.12.1   Accessing the Recalibrate Touch Screen Tab

1. From the menu bar, select the **System Setup** button. The first set of **System Setup** tabs is displayed.

2. Select the **Installation Setup** tab.The **Installation Setup** tab is displayed.

3. Enter the correct System password.The next set of **System Setup** tabs is displayed.

4. Select the **More** tab. The next set of **System Setup** tabs is displayed.

5. Select the **Recalibrate Touch Screen** tab. The process of recalibrating the touch screen is initiated.

FIGURE 9-15 Recalibrate Touch Screen Tab

The Touch Screen should be recalibrated whenever the touch interface becomes difficult to maneuver.

9.12.2   Recalibrating the Touch Screen

1.   Select the ***Recalibrate Touch Screen*** tab. The process for recalibration of the touch screen is initiated.

2.   Touch the red targets on the screen as instructed.Three calibration targets are displayed.

3.   The ***Touch different areas on the screen. Does the cursor jump to your fingertip. Select the ESC key to cancel now*** message displays. The message box will time out in thirty seconds and the recalibration of the touch screen will automatically be accepted.

Select either the ***Yes*** or ***No*** button in the dialog box.

- Select the ***Yes*** button if the targets moved as they were selected. The screen is recalibrated.

- Select the ***No*** button if the targets did not move as they were selected. The screen is not recalibrated.

NOTE: **When the Panorama Central Station uses a dual display configuration touch screen re-calibration will affect both Panorama Central Station touch screen displays. The first touch screen display will be calibrated and then the second.**

NOTE: **The text in the Re-calibrate Touch Screen display always displays in the English language.**

9.12.3   Sidebar Button - Normal Screen

Select the ***Normal Screen*** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.12.4   Troubleshooting

Contact your local Datascope service representative if recalibration of the touch screen does not improve the performance of the touch screen display.

9.13　Unit Priorities Tab

The **Unit Priorities** tab (FIGURE 9-16) selects the default order for parameters in the Panorama Central Station. The settings in the **Unit Priorities** tab will determine the initial order in which parameters in the Main Screen, Bedside tab, Trends tab and Event (List) tab areas are shown.

This section includes the following:

- Accessing the Unit Priorities Tab
- Setting a Default Order in the Unit Priorities Tab
- Sidebar Button - Normal Screen
- Troubleshooting

9.13.1　Accessing the Unit Priorities Tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of System Setup tabs is displayed.

4. Select the **More** tab. The next set of System Setup tabs is displayed.

5. Select the **Unit Priorities** tab.

FIGURE 9-16 Unit Priorities Tab

9.13.2　Setting a Default Order in the Unit Priorities Tab

This section outlines how to select a parameter order in the **Unit Priorities** tab.

Selecting the Unit Priority Order

1. Select a **Unit Priority** number button.
The parameter with the number 1 priority will always be Heart Rate.

2. Select a parameter tile from the Parameter list.
A parameter has been selected when it changes from white text with a black background to black text with a white background.

NOTE:　Parameters show their current unit priority position in parentheses next to their name in the Parameter list.

3. Select the **Select** button. The selected parameter is assigned its new unit priority position and will be shown in the box on the right of the selected unit priority.

4. Select the **Done** button. All priority changes in the **Unit Priorities** tab have now been confirmed. The changes that were made will only be applied to newly admitted patients and will not affect patients currently being monitored.

9.13.3   Sidebar Button - Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.13.4   Troubleshooting

This section lists some of the potential messages and issues that may occur **Unit Priorities** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Please select a parameter button before selecting from the list	This message appears when **Select** button is pressed before a Unit Priority button is selected.	Select the **OK** button to close the dialog box. Select a Unit Priority button.
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

9.14   Unit Choices Tab

The **Unit Choices** tab (FIGURE 9-17) configures pacemaker settings, the order of demographic data and to select units of measure for the Panorama Central Station.

This section includes the following:

- Accessing the Unit Choices Tab
- Setting the Unit Choices
- Sidebar Buttons
- Troubleshooting

9.14.1   Accessing the Unit Choices Tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **More** tab. The next set of **System Setup** tabs is displayed.

5. Select the **Unit Choices** tab.
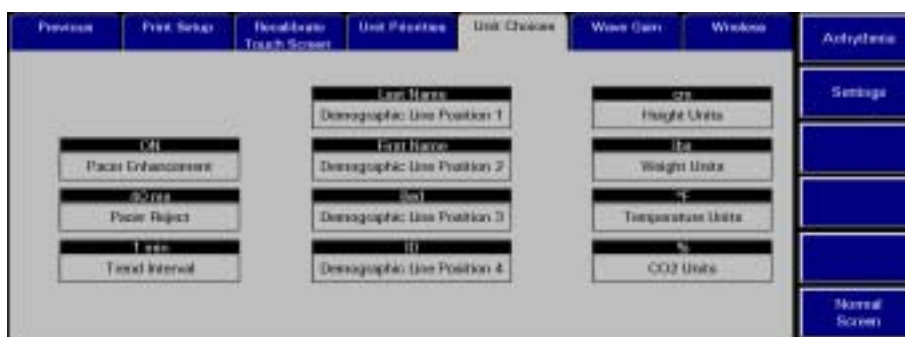
FIGURE 9-17 Unit Choices Tab

9.14.2   Setting the Unit Choices

This section outlines selecting system defaults for pacemaker settings, order of demographic data and units of measurement.

1. Select the **Pacer Enhancement** button to set the system default setting for pacer enhancement. Pacer Enhancement will visually mark pacemaker-induced ECG complexes with a colored vertical spike.

   The Pacer Enhancement settings for a specific patient can be changed in the Pacer Settings dialog box in the **Demographics** tab. Pacer Enhancement options include **ON** and **OFF**. The factory default setting is **ON**.

   - The **ON** option indicates that Pacer Enhancement is enabled.
   - The **OFF** option indicates that Pacer Enhancement is disabled.

NOTE: *Changing the Pacer Enhancement option will affect all newly admitted patients and will have no affect on patients currently being monitored.*

2. Select the ***Pacer Reject*** button to select the system default pacer reject period. Pacer Reject adjusts the time period at which pacemaker-induced ECG complexes are filtered for ECG sampling processes.

Pacer Reject options include 0 to 80 milliseconds (ms) in five-second increments. The factory default setting is 40 ms.

NOTE: *Changing the Pacer Reject option will affect all newly admitted patients and will have no affect on patients currently being monitored.*

3. Select the ***Trend Interval*** button to select the system default interval period for trend storage. The trend interval period is the amount of time that has elapsed between trend collections at the Panorama Central Station.

Trend Interval periods include Off, 1 minute, 5 minutes, 10 minutes, 15 minutes, 30 minutes, 1 hour and 2 hours. The factory default setting is 1 minute.

4. Select the ***Demographic Line Position 1*** button to select the system default demographic data to be shown in the first demographic line position of the Patient Status line in the main screen of the Panorama Central Station.

Demographic Line Position 1 options include Last Name, First Name, Bed, ID and Demo Off. The factory default setting is Last Name.

NOTE: *Changing the Demographic Line Position 1 option will affect all patients with the next update of the Patient Status line in the patient tile.*

5. Select the ***Demographic Line Position 2*** button to select the system default demographic data to be shown in the second demographic line position of the Patient Status line in the main screen of the Panorama Central Station.

Demographic Line Position 2 options include First Name, Bed, ID, Demo Off and Last Name. The factory default setting is First Name.

NOTE: *Changing the Demographic Line Position 2 option will affect all patients with the next update of the Patient Status line in the patient tile.*

6. Select the ***Demographic Line Position 3*** button to select the system default demographic data to be shown in the third demographic line position of the Patient Status line in the main screen of the Panorama Central Station.

Demographic Line Position 3 options include Bed, ID, Demo Off, Last Name and First Name. The factory default setting is Bed.

NOTE: *Changing the Demographic Line Position 3 option will affect all patients with the next update of the Patient Status line in the patient tile.*

7. Select the ***Demographic Line Position 4*** button to select the system default demographic data to be shown in the fourth demographic line position of the Patient Status line in the main screen of the Panorama Central Station.

Demographic Line Position 4 options include ID, Demo Off, Last Name, First Name and Bed. The factory default setting is ID.

NOTE: ***Changing the Demographic Line Position 4 option will affect all patients with the next update of the Patient Status line in the patient tile.***

8. Select the ***Height Units*** button to select the system default unit of measurement to be used for the height variable in the Panorama Central Station. ***Height Unit*** options include cm (centimeters) and in (inches). The factory default setting is cm.

NOTE: ***Changing the Height Units option will affect new Telepack patients upon entering the Demographics tab.***

9. Select the ***Weight Units*** button to select the system default unit of measurement to be used for measuring weight at the Panorama Central Station. Weight Unit options include lbs (pounds) and kg (kilograms). The factory default setting is lbs.

NOTE: ***Changing the Weight Units option will affect new Telepack patients upon entering the Demographics tab.***

10. Select the ***Temperature Units*** button to select the system default temperature unit to be used for measuring temperature at the Panorama Central Station. Temperature unit options include F (Fahrenheit) and C (Celsius). The factory default setting is F.

NOTE: ***Changing the Temperature Units option will affect all new patients upon entering the System Alarm Limits tab.***

11. Select the ***CO2*** button to select the system default CO_2 unit to be used for measuring CO_2 at the Panorama Central Station. CO_2 unit options include %, kPa and mmHg. The factory default setting is %.

NOTE: ***Changing the CO2 Units option will affect all new patients upon entering either the System Alarm Limits or System Wave Gain tabs.***

9.14.3   Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

Arrhythmia (Telepack)

The Arrhythmia sidebar button enables and disables Arrhythmia Analysis as a system default for patient tiles that have a Telepack as the assigned device. The availability of the Arrhythmia function is based on the availability of Arrhythmia licenses. Contact your System Administrator for additional information on Arrhythmia licenses. To enable Arrhythmia for a Telepack device, follow this step:

• Select the ***Arrhythmia*** sidebar button in the ***Unit Choices*** tab.

A highlighted white button with blue text indicates that Arrhythmia Analysis is enabled.

An unhighlighted navy blue button with white text indicates that Arrhythmia Analysis is disabled.

NOTE: **Changing the Arrhythmia option will affect all newly
             admitted patients and will have no affect on patients
             currently being monitored.**

Settings (Telepack)

Select the **Settings** sidebar button to establish the default ECG monitoring filter to be performed for the Telepack and to select the ECG leads for ST monitoring is specific to a Telepack device.

- The Monitor mode for ECG filtering establishes the frequency response range for non-ST ECG monitoring.

- The ST mode for ECG filtering establishes the frequency response range for ST diagnostic monitoring.

NOTE: **The Telepack can only have one type of ECG filtering
             enabled at any given time (ST mode or Monitor mode).**

To configure the default ECG monitoring filter, follow these steps:

1. Select the **Settings** sidebar button in the **Unit Choices** tab. The **Settings** dialog box (FIGURE 9-18) is displayed.

FIGURE 9-18 Settings Dialog Box

2. Select the ST check box button to enable or disable ST analysis for the selected patient.

- A checkmark in the ST box indicates that ST analysis is enabled.

- An empty box indicates that ST analysis is disabled.

3. If a 5 lead cable is being utilized select the ST leads to be analyzed.

- Select the ST Lead 1 button to select the first ST monitoring lead.The selections available for ST Lead 1 include I, II, III, aVR, aVL, aVF and V.

- Select the ST Lead 2 button to select the second ST monitoring lead.The selections available for ST Lead 2 include I, II, III, aVR, aVL, aVF and V.

- Select the ST Lead 3 button to select the third ST monitoring lead.The selections available for ST Lead 3 include I, II, III, aVR, aVL, aVF and V.

NOTE: **The lead choices made for ST Lead 1, ST Lead 2 and ST Lead
             3 will be mutually exclusive.**

4. Enable or disable either the Monitor Filter or the ST Filter.

- A checkmark in the Monitor Filter box indicates that the monitor filter is enabled.

- An empty Monitor Filter box indicates that the monitor filter is disabled.

- A checkmark in the ST Filter box indicates that the ST filter is enabled.

- An empty ST Filter box indicates that the ST filter is disabled.

5. Accept or reject the selections made in the dialog box.

- Select the **Done** button to accept the selections.

- Select the **Cancel** button to discard the selections, close the dialog box and return to the **Unit Choices** tab.

Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.14.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Unit Choices** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

9.15 Wave Gain Tab (System)

The **Wave Gain** tab (FIGURE 9-19) sets the system default wave gain settings for the Panorama Central Station.

For information on the setting of patient wave gains, refer to the ''Wave Gain Tab (Patient)'' on page 5-37.

NOTE: **The changes made in the Wave Gain tab (System) will apply to newly admitted patients.**

This section includes the following:

- Accessing the Wave Gain Tab
- Adjusting the System Default Wave Gain Settings
- Sidebar Button - Normal Screen
- Troubleshooting

9.15.1 Accessing the Wave Gain Tab

1. From the menu bar, select the **System Setup** button. The first set of System Setup tabs is displayed.

2. Select the **Installation Setup** tab. The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **More** tab. The next set of **System Setup** tabs is displayed.

5. Select the **Wave Gain** tab.

FIGURE 9-19 Wave Gain Tab (System)

9.15.2 Adjusting the System Default Wave Gain Settings

This section outlines entering and modifying the system default wave gain settings.

1. Select the **ECG mm/mV** button until the desired ECG wave gain is displayed.

The settings available for the ECG wave gain include 2.5, 5.0, 10.0, 20.0 and 30.0 mm/mV. The factory default setting is 10.0 mm/mV.

2.   Select the **IBPX mmHg** buttons until the desired IBPx wave gains is displayed. There
       are four IBP buttons.

       The settings available for the IBP wave gains include 0 - 20, 0 - 40, 0 - 80, 60 - 140, 0 -
       160, 0 - 320 and (-10) - 10 mmHg. The factory default setting is 0 - 320 mmHg.

NOTE: *If the IBP has been labeled at the bedside monitor it will*
                 have the same label on its wave gain button.

3.   Select the **Resp Gain** button until the desired Resp Gain wave gain is displayed.

       The settings available for the Resp Gain wave gain include 1, 2, 3, 4 and 5. The factory
       default setting is 1.

4.   Select the **CO2 (%, kPa, mmHG)** button until the desired CO_2 wave gain is
       displayed.

       • The settings available for the CO_2 % wave gain include 5.0, 7.5 and 10.0 %. The
         factory default setting is 10.0 %.

       • The settings available for the CO_2 kPa wave gain include 5.0, 7.5 and 10.0 kPa. The
         factory default setting is 10.0 kPa.

       • The settings available for the CO_2 mmHg wave gain include 40, 60 and 100 mmHg.
         The factory default setting is 100 mmHg.

5.   Select the **O2 %** button until the desired O_2 wave gain is displayed.

       The settings available for the O_2 wave gain include 18 - 30, 18 - 60 and 18 - 100 %.
       The factory default setting is 18 - 100%.

6.   Select the **AGENT %** button until the desired Agent wave gain is displayed.

       The settings available for the agent wave gains include 0 - 1.0, 0 - 2.5, 0 - 5.0, 0 - 10.0,
       0 - 15.0 and 0 - 20.0 %. The factory default setting is 0 - 20.0%.

9.15.3   Sidebar Button - Normal Screen

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close
all tabs, message boxes and dialog boxes.

9.15.4   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the
System **Wave Gain** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

  *   *Messages are shown in all bold text.*

9.16 Wireless Tab

The **Wireless** tab manages the devices on the Panorama wireless network. It can be used to retrieve information from a wireless device as well as to program it. The **Wireless** tab should only be used when a wireless monitoring device is assigned to the selected patient tile.

NOTE: *The layout and functionality of the Wireless tab changes, based on the type of monitoring equipment assigned to the selected patient tile. The fields discussed in this section may not be shown for all users.*

NOTE: *The changes made in the Wireless tab will take effect immediately and will only apply to newly admitted patients.*

This section includes the following:

- Accessing the Wireless Tab
- Entering Wireless Settings
- Sidebar Buttons
- Troubleshooting

9.16.1 Accessing the Wireless Tab

1. From the menu bar, select the **System Setup** button. The first set of **System Setup** tabs is displayed.

2. Select the **Installation Setup** tab.The **Installation Setup** tab is displayed.

3. Enter the correct System password. The next set of **System Setup** tabs is displayed.

4. Select the **More** tab.The next set of **System Setup** tabs is displayed.

5. Select the **Wireless** tab. The **Wireless** tab is displayed.
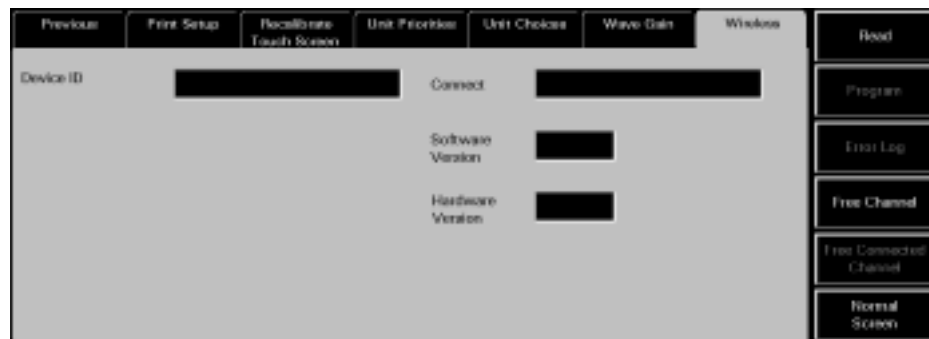
FIGURE 9-20 Wireless Tab

9.16.2 Entering Wireless Settings

This section outlines the settings available in the **Wireless** tab. The settings in the Wireless tab are shown by selecting the **Read** button and configured by selecting the **Program** button.

Device ID

The **Device ID** field displays the identification number that was assigned to the connected wireless device. A Device ID has a maximum of 8 alphanumeric characters. Data is shown in the Device ID field when the Wireless tab's **Read** sidebar button is selected. If the read was not successful the Device ID field will remain blank. To view the connection status of the wireless device check the message in the Connect field. The Device ID field cannot be edited and has a factory default setting of blank.

The Device ID for a monitoring device is set up in the **Equipment List** tab. For additional information on setting up a Device ID, refer to the ''Equipment Setup Tab'' on page 9-21.

Connect Field

The **Connect** field displays the status of the connection between the Panorama Central Station and the wireless device. A connection status is shown in the Connect field when the Wireless tab's **Read** sidebar button is selected. The status in the Connect field cannot be edited and has a factory default setting of blank.

The messages shown in the **Connect** field include:

MESSAGE	REASON
"Connected to 2.4 Telemetry"	The connection with the Telepack 2.4 was successful.
"Connected to 2.4 Instrument Telemetry"	The connection with the 2.4 bedside monitor was successful.
"Connected"	The connection with the wireless device was not successful.
"Error: Could not receive data"	The connection with the wireless device was not successful. Either there was no response from the device or the device is not connected.

Software Version

The **Software Version** field displays the version of software currently in use by the wireless device. Data is shown in the Software Version field when the Wireless tab's **Read** sidebar button is selected. The factory default setting is blank. If the read was not successful the Software Version field will remain blank. To view the connection status of the wireless device check the message in the Connect field.

Hardware Version

The **Hardware Version** field displays the version of hardware in use by the connected device. Data is shown in the Hardware Version field when the Wireless tab's **Read** sidebar button is selected and has a factory default setting of blank. If the read was not successful the Hardware Version field will remain blank. To view the connection status of the wireless device check the message in the Connect field.

Telepack IP Address

The **Telepack IP Address** field displays the IP address for the connected wireless device. It sets the IP address for the connected wireless device.

- Data is shown in the Telepack IP Address field when the Wireless tab's **Read** sidebar button is pressed and has a factory default setting of blank. If the read was not successful the Telepack IP Address field will remain blank. To view the connection status for the wireless device check the message in the Connect field.

- A Telepack IP Address can be programmed in a connected device by selecting the **Program** sidebar button.

NOTE: The Telepack IP Address field will not be shown when the device cannot be recognized or there is a Read error.

Subnet Mask IP Address

The **Subnet Mask IP Address** field displays the Subnet Mask IP address for the assigned wireless device. It sets the subnet mask of the attached device.

- Data is shown in the Subnet Mask IP Address field when the Wireless tab's **Read** sidebar button is pressed and has a factory default setting of blank. If the read was not successful the Subnet Mask IP Address field will remain blank. To view the connection status of the wireless device check the message in the Connect field.

- A Subnet Mask IP Address can be programmed in a connected device by selecting the **Program** sidebar button.

NOTE: The Subnet Mask IP Address field will not be shown when the device cannot be recognized or there is a Read error.

Network Name

The **Network Name** field displays the name of the network on which the assigned device resides. It sets the Network Name of the attached device.

- Data is shown in the Network Name field when the Wireless tab's **Read** sidebar button is pressed and has a factory default setting of blank. If the read was not successful the Network Name field will remain blank. To view the connection status check the message in the Connect field.

- A Network Name can be assigned to a connected device by selecting the **Program** sidebar button.

NOTE: The Network Name field will not be shown when the device cannot be recognized or there is a Read error.

Lead Selection

The **Lead Selection** button displays the ECG Lead to be monitored by the assigned device. It sets the lead to be monitored by the attached device. ECG lead selection options include Lead I, Lead II and Lead III.

- Data is shown in the Lead Selection field when the Wireless tab's **Read** sidebar button is selected. Lead Selection has a factory default setting of blank. If the read was not successful the Lead Selection field will remain blank. To view the connection status check the message in the Connect field.

- The Lead to be monitored by a connected device can be assigned by selecting the **Program** sidebar button.

NOTE: The Lead Selection button will not be shown when the device cannot be recognized or there is a Read error.

Protocol Selection

The **Protocol Selection** button displays the protocol selection for the assigned device. It sets the protocol of the attached device. Protocol selection options include Visa™ and OpenNet.

- Data is shown in the Protocol Selection field when the Wireless tab's **Read** sidebar button is pressed and has a factory default setting of blank. If the read was not successful the Protocol Selection field will remain blank. To view the connection status check the message in the Connect field.

- A Protocol Selection data can be programmed in a connected device by selecting the **Program** sidebar button.

NOTE: **The Protocol Selection button will not be shown when the device cannot be recognized or there is a Read error.**

Channel Type

The **Channel Type** button displays the selected channel for the assigned device. It selects the channel type of the attached device. **Channel type** options include Medium and High.

- Data is shown in the Channel Type field when the Wireless tab's **Read** sidebar button is pressed and has a factory default setting of blank. If the read was not successful the Channel Type field will remain blank. To view the connection status check the message in the Connect field.

- A Channel type can be programmed in a connected device by selecting the **Program** sidebar button.

NOTE: **The Channel Type button will not be shown when the device cannot be recognized or there is a Read error.**

9.16.3 Sidebar Buttons

The following sidebar buttons are used to expand the functionality of this tab.

9.16.3.1 Read

Select the **Read** sidebar button to retrieve status parameters from the connected wireless device when it is connected to the Panorama Central Station in Service mode. A device is in Service mode when it is connected to the Panorama Central Station serial port 2 via the device's programming cable.

Selecting the **Read** button will attempt to read from the connected wireless device.

- A successful read from a known device will display the fields and sidebar buttons appropriate to the attached device.

- An unsuccessful read will only display a connect status in the **Connect** field. The **Device ID**, **Software Version** and **Hardware Version** fields will be blank.

9.16.3.2 Program

Select the **Program** sidebar button to program information in a wireless device when it is connected to the Panorama Central Station in Service mode. A device is in Service mode when it is connected to the Panorama Central Station serial port 2 via the device's programming cable.

Selecting the *Program* sidebar button will display the *Are you sure you want to program the wireless device?* message.

- Select the *Yes* button to program the wireless device. The *Wireless device programmed successfully.* message displays.
- Select the *No* button to cancel the programming of the connected device.

NOTE: *The Program sidebar button will be disabled until a valid device has been detected by the Panorama Central Station.*

9.16.4   Error Log Sidebar Button

Select the *Error Log* sidebar button to display the log of error messages for the connected wireless device. Selecting the *Error Log* sidebar button will bring up the Error log for the connected wireless device. When the *Error Log* sidebar button is selected the button is changed to the *Telepack* sidebar button. FIGURE 9-21 shows the *Error Log* for the *Wireless* tab.

FIGURE 9-21 Error Log for the Wireless tab

NOTE: *The Error Log sidebar button will be disabled until a valid device has been detected by the Panorama Central Station.*

9.16.5   Device ID

The *Device ID* field displays the identification number that was assigned to the connected wireless device. A Device ID has a maximum of 8 alphanumeric characters. Data is shown in the Device ID field when the Wireless tab's *Read* sidebar button is selected. If the read was not successful the Device ID field will remain blank. To view the connection status of the wireless device check the message in the Connect field. The Device ID field cannot be edited and has a factory default setting of blank.

Device ID is set up in the *Equipment List* tab. For additional information on setting up a Device ID and the requirements of a Device ID, refer to the ''Equipment Setup Tab'' on page 9-21.

9.16.6   Connect Field

The **Connect** field displays the status of the connection between the Panorama Central Station and the wireless device. A connection status is shown in the Connect field when the Wireless tab's **Read** sidebar button is selected. The status in the Connect field cannot be edited and has a factory default setting of blank.

The messages shown in the **Connect** field include:

MESSAGE	REASON
"Connected to 2.4 Telemetry"	The connection with the Telepack 2.4 was successful.
"Connected to 2.4 Instrument Telemetry"	The connection with the 2.4 bedside monitor was successful.
"Connected"	The connection with the wireless device was not successful.
"Error: Could not receive data"	The connection with the wireless device was not successful. Either there was no response from the device or the device is not connected.

List Box

The Error Log list box contains the error messages that occurred at the connected wireless device. The following information is collected in an Error log:

- Filename column

   The Filename column shows the names of the files in the error list.

- Line Number column
- The Line Number column shows the line numbers for the items in the error list.
- Message column

   The Message column shows the messages that were sent to the Panorama system by the Telepack device.

- Arg1 column

   The Arg 1 column is populated by the text fields sent to the Panorama system by the Telepack device.

- Arg2 column

   The Arg 1 column is populated by the text fields sent to the Panorama system by the Telepack device.

Error Log Read Sidebar Button

Select the **Read** sidebar button to retrieve error log messages from the connected wireless device when it is connected to the Panorama Central Station in Service mode. A device is in Service mode when it is connected to the Panorama Central Station's serial port 2 via the device's programming cable.

Selecting the **Read** button will attempt to read the Error log from the connected wireless device.

- A successful read from a known device will display the fields and sidebar buttons appropriate to the attached device.

- An unsuccessful read will only display a connect status in the **Connect** field.

Telepack Sidebar Button

The Error Log contains a **Telepack** sidebar button. Select the **Telepack** button to return the tab to the **Wireless** tab display.

Clear Sidebar Button

The Error Log contains a **Clear** sidebar button. Select the **Clear** sidebar button to delete the contents of the Telepack Error log. Selecting the **Clear** sidebar button produces a pop-up confirmation dialog on the screen that states **Are you sure you want to clear the error log? Selecting Yes will Delete all Data.**

- The choices for the Error Log confirmation dialog are NO and YES.

- Selecting the **No** button in the Error Log confirmation dialog does not clear the error log.

- Selecting the **Yes** button in the Error Log confirmation dialog deletes the contents of the Error log.

Print Sidebar Button

Select the **Print** sidebar button to print the Telepack Error Log for the connected wireless device. When the **Print** sidebar button is selected a print request for the Telepack Error Log report is sent to the designated network printer.

> *NOTE:*   *Requesting this report posts a print job in the system Print Status tab. For more information, refer to the "Print Status Tab" on page 8-33.*

For additional information on printer setup, refer to the Printer Configuration manual (P/N 0070-00-0575-50).

For additional information on the Telepack Error Log report, see ''Additional Reports'' on page 8-36.

Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.16.6.1   Free Channel Sidebar Button

Select the **Free Channel** sidebar button to free an allocated channel for a wireless device. Selecting the **Free Channel** sidebar button will request a list of the wireless devices on the wireless network.

> *NOTE:*   *The Free Channel sidebar button will be disabled until a valid device has been detected by the Panorama Central Station.*

> *NOTE:*   *The Free Channel sidebar button is reserved for future use with WMTS wireless devices.*

9.16.6.2   Free Connected Channel Sidebar Button

Select the **Free Connected Channel** sidebar button to free a channel from a connected device that supports channels.

> *NOTE:*   **The Free Connected Channel sidebar button will be disabled until a valid device has been detected by the Panorama Central Station.**

> *NOTE:*   **The Free Connected Channel sidebar button is reserved for future use with WMTS wireless devices.**

9.16.6.3   Normal Screen Sidebar Button

Select the **Normal Screen** sidebar button to return the display to the full screen mode, close all tabs, message boxes and dialog boxes.

9.16.7   Troubleshooting

This section lists some of the potential messages and issues that may occur while using the **Wireless** tab.

MESSAGE/ISSUE *	*REASON*	*SOLUTION*
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.
You must enter all fields to program the wireless device	All of the fields in the **Wireless** tab were not completed before the **Program** button was pressed.	Select the **OK** button to close the error message dialog box. Complete all of the fields in the **Wireless** tab before selecting the **Program** button.
Program Failure: Unable to obtain a channel	A channel was not obtained from the wireless network.	Select the **OK** button to close the error message dialog box. Obtain a channel from the wireless network.
Program Failure: Invalid Data	The wireless device was not successfully programed.	Select the **OK** button to close the error message dialog box. Recheck the accuracy of the data to be entered in the wireless device.
Warning: Attached device is already programmed with a channel. Allocated channel will be lost if not freed first. Do you want to continue	The connected device has already been programmed and allocated with a channel.	Select the **OK** button to close the error message dialog box. • Select the **YES** button to discard the previously allocated channel and try to obtain a new channel. • Select the **NO** button to keep the previously obtained channel.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Program Failure: Unable to obtain a channel.	The system tried to obtain a channel from the Panorama Central Station but was unsuccessful.	Select the **OK** button to close the error message dialog box. Free up any unused channels. Try again to obtain a channel from the system. The system administrator can also purchase additional channels.
Network Error: Unable to obtain device list.	The system requested a device list from the wireless network but did not receive one within the allocated request time.	Select the **OK** button to close the error message dialog box. Request a device list from the wireless network again.
There are no devices available	An empty device list was received from the wireless network.	Select the **OK** button to close the error message dialog box. Enter the device in the Panorama Equipment list.
Free Error: Device not found	The device channel was not successfully freed.	Select the **OK** button to close the error message dialog box. Try to free a different channel from the system. The system administrator can also purchase additional channels.
Program Failure: The channel was successfully freed but an error was encountered when programming the device.	The channel was successfully freed but there was a problem with the programming of the device.	Select the **OK** button to close the error message dialog box. Program the device over its existing channel.

*   Messages are shown in all bold text.

10.0 *Telepack (Optional)*

This section outlines the Panorama Telepack:

- Introduction
- Button Indicators
- Indicator Lights
- Operating Instructions
- Approved Accessories
- Troubleshooting

10.1   Introduction

The Panorama Telepack (2.4 and 608) is a battery powered ambulatory device that acquires ECG information from an adult patient and transmits it to the Panorama Telemetry Server for analysis. The Panorama Telemetry Server is capable of performing data analysis functions such as Heart Rate determination, R-wave detection, and ECG filtering.

CAUTION: ***The Telepack is a wireless product and may be subject to intermittent signal dropout.***

The Telepack is controlled through the use of buttons which are located on the front and side of the device. The status of the unit is shown by the LED indicator lights. The Telepack will not turn off unless the batteries are removed from the unit or the batteries need to be replaced. The following are the key features of the Telepack:

- Bi-directional data transmission (between ambulatory patient and Panorama Central Station) using wireless communication technology in the ISM band (Telepack-2.4 only)
- Uni-directional data transmission (between ambulatory patient and Panorama Central Station) using wireless communication technology in the WMTS band (Telepack-608 only)
- Functions such as Nurse Call, Attendant Present, Lead Select (Telepack-608 only), Remote Print and Lead/Battery/Link tests are easily performed using buttons
- LED lights are used to indicate link status, battery status and ECG lead connection status
- 3-wire (Telepack-608 only) and 5-wire Lead ECG support

CAUTION: ***Changes or modifications not expressly approved by Datascope Corp. could void the user's warranty.***

10.2   Button Indicators

The following buttons are found on the Telepack device:

TELEPACK-2.4

- One *Nurse Call* button

- Two *Attendant Present* buttons

- One *Test* button

- One *Record* button

TELEPACK-608

- One *Nurse Call* button

- Two *Attendant Present* buttons

- One *LEAD SELECT* button (functionality not available at this time)
- One *CHECK* button

- One *RECORD* button

10.2.1   Nurse Call Button

Press the *Nurse Call* button to request the presence of a clinician. When this button is pressed, the following occurs:

- A message displays on the Panorama Central Station indicating that the *Nurse Call* button was pressed.

- If configured, an event is recorded and posted to the *Events* tab Event list. For additional information about configuring this option, refer to "Alarm Responses Tab (Patient)" on page 6-9.

10.2.2   Attendant Present Buttons

Press the *Attendant Present* buttons simultaneously to indicate the presence of a clinician at the patient's bedside. When these buttons are pressed, the following occurs:

- A message posts to the Events list indicating that the *Attendant Present* buttons were pressed.

- The Nurse Call alarm is acknowledged, if the *Nurse Call* button was pressed.

10.2.3   LEAD SELECT Button (Telepack-608 only)

Currently, the functionality for the ECG **LEAD SELECT** is unavailable. When functioning, pressing the ECG **LEAD SELECT** button will cause the following to occur:

- The active Lead for a 3-Lead ECG Lead select will change
- The ECG LED that is active will turn on for 2 seconds

10.2.4   Test/CHECK Button

Press the **Test/CHECK** button to verify LED indicator lights are functioning, ECG Lead connection, link status and battery status.

For information on interpreting the status of the ECG Lead, Link Status and Battery Status LED indicator lights, refer to the following sections: "ECG Lead Diagram LED Indicator Lights" on page 10-5, "Link Status LED Indicator Light" on page 10-7, and "Battery Status LED Indicator Light" on page 10-7.

10.2.5   RECORD Button

Press the **RECORD** button to remotely print the "All Strips Report" at the Panorama Central Station.

10.3 Indicator Lights

The Telepack uses LED indicator lights to verify the functionality of the device. The indicator lights on the device include the following:

- 3-wire (for Telepack-608 only) and 5-wire ECG lead indicator lights
- 1 Link Status indicator light
- 1 Battery Status indicator light

10.3.1 ECG Lead Diagram LED Indicator Lights

The Telepack ECG Lead diagram's LED indicator lights show the status of the lead connections with the patient. The Telepack's ECG Lead LED indicator lights (FIGURE 10-1 and FIGURE 10-2), include five green LED indicators that correspond to the following lead connections:
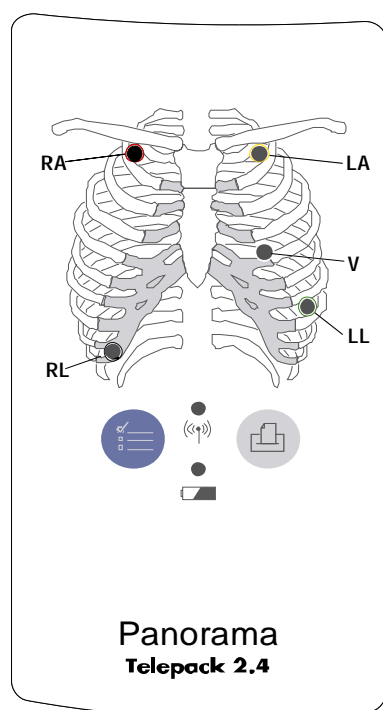
FIGURE 10-1 Front View of Telepack-2.4 (AHA)

FIGURE 10-2 Front View of Telepack-2.4 (IEC)

- White RA (right arm)
- Black LA (left arm)
- Brown V (chest)
- Green RL (right leg)
- Red LL (left leg)

- Red R (right arm)
- Yellow L (left arm)
- White C (chest)
- Black N (right leg)
- Green F (left leg)
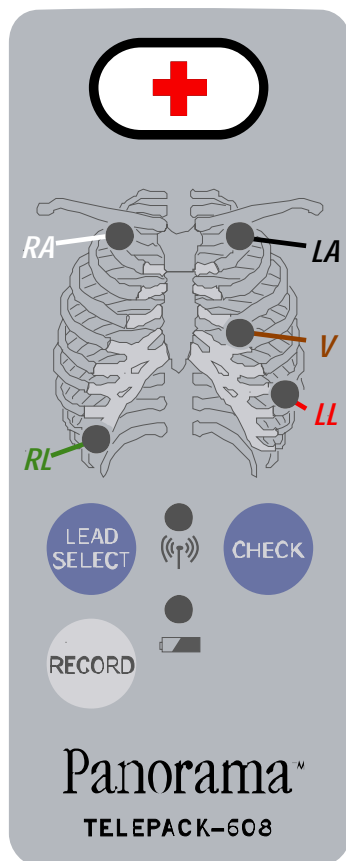
FIGURE 10-3 Front View of
Telepack-608 (AHA)
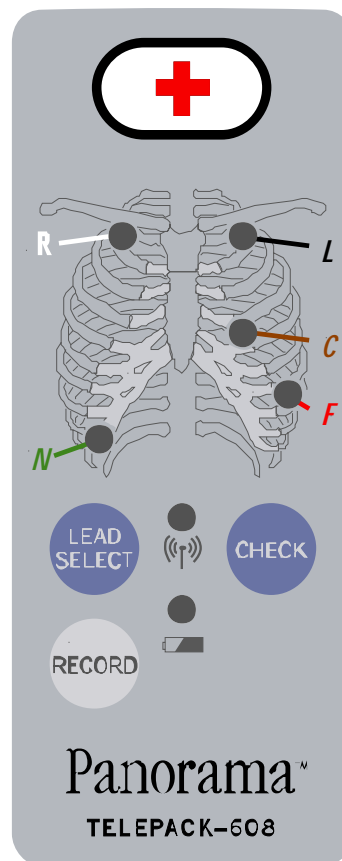
FIGURE 10-4 Front View of
Telepack-608 (IEC)

- White RA (right arm)

- Red R (right arm)

- Black LA (left arm)

- Yellow L (left arm)

- Brown V (chest)

- White C (chest)

- Green RL (right leg)

- Black N (right leg)

- Red LL (left leg)

- Green F (left leg)

The ECG Lead LED indicator lights remain off except during the initial power up phase and during a lead test sequence. For additional information, refer to "Lead Placement" on page 4-4.

Press the *Test/CHECK* button to verify the Telepack's ECG lead connections.

NOTE: **When the Test/CHECK button is pressed, all of the device LED indicator lights are tested simultaneously.**

This test determines if the patches are connected based on thoracic impedance. If a patch adhesive is not sticking, a patch is dry, or the skin gel is dry, the test fails.

The Telepack's ECG Lead LED indicator lights remains on for approximately 10 seconds during the test sequence, indicating that the Telepack has good lead connectivity. An unlit ECG Lead LED light indicates that the Telepack has no lead connectivity.

NOTE: *If a 3-wire Lead set is used (for Telepack-608 only), three lights will illuminate. If a 5-wire Lead set is used, all five indicator lights are illuminated.*

10.3.2   Link Status LED Indicator Light

The Telepack Link Status LED indicator light verifies the Telepack's connection to the Panorama Monitoring Network.

The Link Status LED indicator light remains on for approximately 10 seconds during the initial power up and during the test sequence.

Press the *Test/CHECK* button to verify the Telepack's link status with the wireless network.

The Telepack's Link Status LED indicator light shows the results of the link status test.

NOTE: *When the Test/CHECK button is pressed, all of the device LED indicator lights are tested simultaneously.*

For the Telepack-2.4, the results can be interpreted as follows:

A steadily lit Link Status LED indicates that the Telepack is successfully communicating with a Panorama Central Station. A flashing Link Status LED indicates that the Telepack's radio signal is in range of the wireless network, but is not communicating with the Panorama Central Station. An unlit Link Status LED light indicates that the Telepack's radio signal is out of range of the wireless network, or the battery needs to be replaced.

For the Telepack-608, the results can be interpreted as follows:

A steadily lit Link Status LED indicates the Panorama Instrument Radio is working. An unlit Link Status LED light indicates that the Telepack's radio signal is out of range of the wireless network, or the battery needs to be replaced.

10.3.3   Battery Status LED Indicator Light

The Telepack Battery Status LED indicator light verifies the status of the Telepack's batteries.

Press the *Test/CHECK* button to verify the Telepack's battery status.

NOTE: *When the Test/CHECK button is pressed, all of the device LED indicator lights are tested simultaneously.*

During this test sequence, the Battery Status LED indicator light will remain on for approximately 10 seconds if the Telepack batteries have more than 2 hours of battery life remaining. A flashing Battery Status LED light indicates the Telepack batteries have less than 2 hours of battery life remaining. An unlit Battery Status LED light indicates the Telepack batteries should be replaced immediately, or that they have been incorrectly inserted.

NOTE: *The batteries used may be subject to local regulations regarding disposal. At the end of the battery life, never dispose of the batteries in a fire but dispose of the batteries in accordance with any local regulations.*

10.4   Operating Instructions

This section of the manual provides instructions for programming the Telepack device for use with the Panorama Central Station.

10.4.1   Initial Setup of Telepack

The Panorama Central Station should be installed and running before you begin to set up the Telepack device. For additional information, refer to the Panorama Service Manual (P/N 0070-00-0457).

The following items are required to initially install and program the Telepack:

- Telepack device
- 2 AA size alkaline or lithium (for Telepack-608 only) batteries
- Telepack Service Mode Cable

10.4.1.1   Inserting batteries

To activate the Telepack device, insert the 2 AA size alkaline or lithium (for Telepack-608 only) batteries in the Telepack battery compartment. For the Telepack-2.4, the positive (+) end of each battery should be facing downward. For the Telepack-608, the positive (+) end of each battery should be facing upward. (Use the label on the back of the Telepack as a guide.) Secure the end cap of the battery compartment by twisting firmly in the clockwise direction.

The Telepack automatically performs an initial system check if the batteries are installed properly.
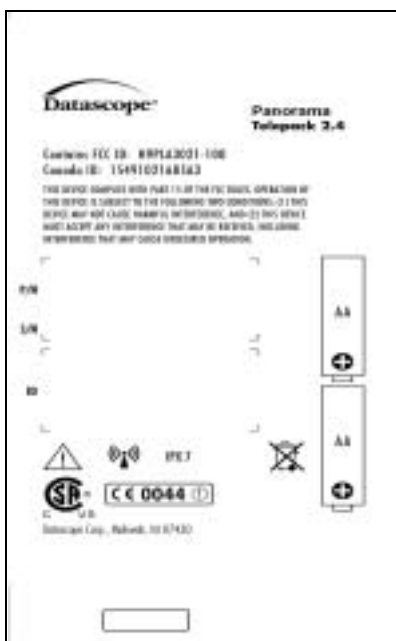
FIGURE 10-5 Rear panel
Telepack-2.4
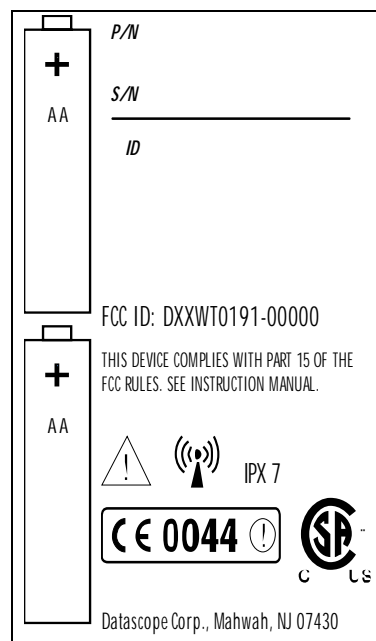
FIGURE 10-6 Rear panel
Telepack-608

> *CAUTION:*   *Visually inspect the battery compartment for any foreign*
>   *object prior to use.*

> *CAUTION:*   *The Telepack may not function if the batteries installed in the*
>   *device are corroded.*

The Telepack will not transmit data to the Panorama Central Station once the batteries have become depleted. To test the batteries, press the Lead/Link/Battery *Test/CHECK* button and confirm that both the Link LED and the Battery LED is lit.

When not in use, the Telepack device should be stored without batteries.

10.4.1.2   Programming the Telepack

This section describes how to program the Telepack. For additional information, refer to the "Wireless Tab" on page 9-46.

> *NOTE:*   *Programming and assigning of the Telepack must be*
>   *performed by authorized service personnel only.*

> *CAUTION:*   *The Telepack should not be attached to the patient when the*
>   *device is being programmed into the system.*

To program the Telepack, follow these steps:

1. Connect the Telepack service mode cable from the Panorama Central Station (COMM port 1 in the right rear of the Panorama Central Station) to the serial port provided on the base of the Telepack device.

2. Insert the batteries into the device. For additional information, refer to "Inserting batteries" on page 10-9.

3. From the Panorama Central Station main screen, select the *System Setup* menu button.

4. Select the *Installation Setup* tab, and enter the System password. For additional information, refer to "Entering a Password" on page 6-2.

5. Select the *More* tab, then select the *Wireless* tab.

6. Select the *Read* sidebar button. The information from the Telepack device is displayed in the appropriate fields.

7. For a Telepack-2.4, if necessary, modify the information in the following fields: Telepack IP, Subnet Mask and Network Name.

8. Select the *Program* sidebar button. A dialog box appears.

9. Select the *Yes* button to confirm. The message "Wireless device programmed successfully" appears confirming that the Telepack was programmed correctly.

> *NOTE:*   *If the Telepack device is not connected properly or if the*
>   *Panorama Central Station is unable to detect the device, the*
>   *error message, "Error: Could not receive data" appears at*
>   *the Panorama Central Station.*

10.4.1.3   Entering the Telepack to the Equipment List

The Telepack device should be entered to the Panorama Central Station Equipment List using the *Equipment Setup* tab. For additional information about entering a Telepack device to the Panorama Central Station, refer to "Entering New Equipment" on page 9-22.

The Device ID is found on the back of the Telepack device. After assigning the device to the Panorama Central Station, the Telepack is ready for patient use.

10.4.1.4 Telepack Power Up Sequence

The Telepack goes through a power up sequence each time the batteries are inserted in the device. The power up sequence includes an ECG Lead connection status test, a link status test and a battery status test. A successful power up sequence is indicated when the LED indicator lights illuminate for approximately 10 seconds.

For additional information on the status tests performed by the Telepack during the start up sequence, refer to the "LEAD SELECT Button (Telepack-608 only)" on page 10-4.

After the Telepack device powers up, it is ready to be programmed and assigned to a patient.

10.4.1.5 Telepack Communication Range

Telepack-2.4

The range for the Telepack-2.4 device to communicate and transfer data is generally within 100 feet of a network access point. This distance is subject to site survey, and is affected by building materials. The device is for indoor use only.

Telepack-608

The range for the Telepack-608 device to communicate and transfer data is generally within 30 feet of a Panorama Antenna. This distance is subject to site survey, and is affected by building materials. The device is for indoor use only.

10.4.2 Securing the Telepack Device

Secure the Telepack to the patient after the ECG leads are connected to the device. The device should be secured in a telemetry pouch or in the pocket of a patient gown.

10.5 Approved Accessories

DESCRIPTION	PART NUMBER
Electrodes	0681-00-0100-01 0681-00-0100-02
ECG Lead Set for Telepack-2.4	0012-00-1448-02 (5-Lead wire set)
ECG Lead Set for Telepack-608	0012-00-1503-XX (3-Lead wire set) 0012-00-1448-02 (5-Lead wire set)
Service Mode Cable	0012-00-1504--01
Batteries	0146-00-0077-XX

WARNING: **Use of accessories and cables other than those approved by Datascope may result in increased Emissions or decreased Immunity of the Telepack.**

10.6   Troubleshooting

This section lists some of the potential messages and issues that may occur while using a Telepack device.

MESSAGE/ISSUE *	REASON	SOLUTION
Telepack/LED's not turning on	Batteries are not installed correctly, batteries are depleted, or batteries corroded.	Visually inspect the battery compartment for any foreign object. Replace the batteries.
Telepack not transmitting data to the Panorama Central Station.	Batteries are discharged	Press the **Test/CHECK** button to verify that the batteries are depleted. Replace as necessary.
Flashing Battery Status LED indicator light	Batteries in the Telepack are weakening	Replace batteries
Error: Could not receive data message, while attempting to program the Telepack	Telepack is not connected properly, or the Panorama Central Station is unable to detect the Telepack.	Verify that the service mode cable is properly connected to the device. Retry programming. Check batteries.
Unlit ECG Lead LED indicator light	Telepack has no lead connectivity.	Connect the electrode. Check batteries.
Communication Lost	Telepack's radio signal is out of range with the wireless network	Verify the Telepack is within 100 feet of a network access point. Check batteries.
Flashing Link Status LED indicator light	Telepack is not communicating with the Panorama Central Station	Verify that Device ID is registered on the Panorama Central Station. Verify that Panorama Central Station is functioning.

*   *Messages are shown in all bold text.*

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11.0 *User Maintenance*

This section of the manual outlines proper maintenance of the Panorama Central Station touch screen and Telepack device.

- Touch Screen User Maintenance
- Telepack User Maintenance

11.1 Touch Screen User Maintenance

The Panorama display uses a touch screen overlay for more simple navigation of the system. (A mouse can also be used for point-and-click navigation of the system.)

There is one button for turning the Touch Screen on or off.

- When the ***Touch Screen On*** button displays, the Touch Screen is active.
- When the ***Touch Screen Off*** button displays, the Touch Screen is deactivated.

11.1.1 Care and Cleaning of the Touch Screen

For the best performance, it is recommended that the Panorama Central Station touch screen be kept clean. Observe the following precautions when cleaning the touch screen:

CAUTION: ***To avoid potential system issues, deactivate the touch screen before cleaning.***

CAUTION: ***DO NOT spray glass cleaner directly on a display as it could possibly leak inside a non-sealed unit and cause damage.***

CAUTION: ***Follow your hospital protocol for handling of blood and body fluids.***

- Always remember to use a cloth or towel to apply glass cleaner to the touch screen.
- Any standard glass cleaner can be used to clean the touch screen. DO NOT use abrasive cleaning materials to clean a touch screen. DO NOT use alcohol or solvents containing chlorinated hydrocarbons.
- Remove fingerprints and stains by using a liquid lens cleaner and a soft cloth.
- Use a fine soft-hair brush to carefully brush away dust and dirt particles.

11.2 Telepack User Maintenance

The following sections provide information about storing and cleaning the Telepack device.

11.2.1 Storing the Telepack

When not in use, carefully store the Telepack by wrapping the lead set loosely around the casing of the Telepack device, or with the lead set attached and hanging freely. Do not wrap the lead set tightly around the casing of the Telepack as it may damage the wires.

CAUTION: *Ensure that the batteries are removed when the Telepack is being stored.*

To remove the batteries, twist the endcap of the battery compartment in a counter-clockwise direction. Removing the batteries helps preserve battery life and could prevent potential damage to the Telepack due to battery leakage.

The Telepack has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

The Telepack generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If the Telepack does cause harmful interference to radio or television reception, which can be determined by turning the Telepack off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the device causing the interference.
- Increase the separation distance between the Telepack and the device causing the interference.

11.2.2 Cleaning and Disinfecting the Telepack Device

The information in this section pertains to cleaning and disinfecting the Telepack and its accessories. The three components that need to be cleaned and disinfected are:

- Telepack device
- Battery compartment
- ECG Lead sets

NOTE: *The Telepack should be cleaned and disinfected before and after each patient's use.*

The solutions used to clean the Telepack should be compatible with the cleaning solutions used to clean the ECG lead sets, if they are going to remain attached while the Telepack is cleaned. If the cleaning solution is not compatible, ensure that the ECG leads do not come in contact with the cleaning solution used to clean the Telepack. Only hospital-approved disinfecting procedures like those recommended by AAMI or AORN should be used to disinfect the Telepack unit.

The cleaning solutions that can be used are:

- Soap and water

- Glutaraldehyde 2% (for example, Cidex)

- Dilute chlorine bleach (sodium hypochlorite), 10% solution, freshly prepared in past 24 hours

- Isopropyl alcohol 70%

- Ethyl alcohol

Guidelines for Cleaning the Telepack

- Remove the batteries, and reattach the end cap of the battery compartment firmly. Clean the empty Telepack using a cloth moistened with cleaning solution, by gently wiping the outside of the Telepack.

- Remove the ECG lead wire from the device to clean around the ECG connector.

NOTE: **Do not immerse the Telepack in the cleaning solution.**

- Any excess cleaning solution should be wiped away with a cloth moistened with distilled water.

- A lint free cloth should be used to dry the Telepack unit thoroughly.

11.2.2.1 Cleaning the Battery Compartment

To clean the battery compartment, follow these guidelines:

- Remove the batteries from the battery compartment by twisting the endcap in a counter-clockwise direction. Visually inspect for fluids or foreign matter.

- Use a gauze pad or long handle swab moistened with soap, water or alcohol to clean the battery compartment.

- Excess cleaning solution should be wiped away with a cloth moistened with distilled water.

- A lint free cloth should be used to wipe the inside of the battery compartment. Air dry the battery compartment prior to re-inserting the batteries.

NOTE: **Ensure that the battery contact leads and the battery compartment are dry prior to re-inserting the batteries for use.**

11.2.2.2 Cleaning the ECG Lead Sets

To clean the ECG lead sets, use any one of the following cleaning solutions:

- Soap and water

- Glutaraldehyde 2% (for example, Cidex)

- Dilute chlorine bleach (sodium hypochlorite), 10% solution, freshly made in past 24 hours

- Ethyl Alcohol 30% (for example, green soap tincture)

To clean the ECG lead sets, remove them from the Telepack, and follow these guidelines:

- Use the cleaning solution to wipe and rinse the lead set.

- The cleaning solution should be wiped away with a cloth moistened with distilled water.

- A lint free cloth should be used to dry the lead set thoroughly.

CAUTION: *Use of accessories and cables other than those approved by Datascope may result in increased Emissions or decreased Immunity of the Telepack.*

NOTE: *Lead sets may be immersed in the cleaning solution if they are detached from the Telepack*

Sterilization of the Lead Sets

CAUTION: *Prior to sterilization, Lead sets must be removed from the Telepack. The Telepack must not be sterilized.*

Use EtO to sterilize the leadsets. The sterilization should be performed by following the hospital-approved procedure for EtO sterilization, such as those recommended by AAMI. The leadsets remain effective up to 10 exposures to EtO sterilization cycles.

NOTE: *Damage to the lead sets will result if steam or gamma radiation is used for the sterilization process.*

11.2.3 Disposal of the Telepack Device

Adhere to the following guidelines when disposing of any Telepack device.

- The Telepack should be disposed of in a manner adhering to the state laws and federal regulations regarding disposal of electronic and computer accessories. For example, the State of Minnesota (US) prohibits disposing of electronic and computer accessories in the trash. Follow appropriate state/federal laws.

- If your state/country laws recommend recycling, you can dispose of the device by following the recycling program offered by state/federal run agencies.

11.2.4 Disposing of Batteries

Adhere to the following note when disposing the batteries.

NOTE: *The alkaline batteries used in the Telepack may be subject to local regulations regarding disposal. At the end of the battery life, never dispose of the batteries in a fire but dispose of the batteries in accordance with any local regulations.*

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Troubleshooting

This section outlines the messages and issues that may occur while using the Panorama Central Station, provides reasons why the issue may have occurred and then offers solutions to resolve the issue. Each section of this manual contains a troubleshooting section but for ease-of-use, all of the same troubleshooting issues have been compiled and listed alphabetically, by tab or task, in this section of the manual.

• Messages and Issues
• General Troubleshooting Issues

12.1   Messages and Issues

Error messages generally occur when the user has done something incorrectly/improperly while using the Panorama Central Station (for example, a patient tile is not selected). Issues generally occur when there is a system hardware issue that needs to be addressed.

12.1.1   Additional Reports

This section lists some of the potential messages and issues that may occur while trying to print an additional report.

MESSAGE/ISSUE *	REASON	SOLUTION
The **Print** sidebar button is disabled.	A patient is not currently selected.	Select a patient before trying to print a report.
The **Please select a Print Interval** error message is displayed.	This message appears in the **Patient Reports** tab when the **Print** button is pressed before a time interval is selected in the Full Disclosure, Event, or Trend reports.	Select the **OK** button to close the dialog box. Select a print interval in the available dialog box.
The report will not print	There are several reasons that would cause a report not to print. It could be a problem with the communication between the printer and the Panorama Central Station or simply a problem with the printer.	If there is an error that appears such as **Printer out of Paper** you will need to remedy that situation. If the **No Printer connected or Printer not Available** error is displayed check that the printer was properly configured with the Panorama Central Station. See the Printer Configuration manual (P/N 0070-00-0561).

   *   Messages are shown in all bold text.*

12.1.2   Admitting a Patient

This section lists some of the potential issues that may occur when admitting a patient to the Panorama Central Station.

MESSAGE/ISSUE *	REASON	SOLUTION
Cannot admit patient/patient data not displayed at central station.	Previous patient not discharged from system and/or monitoring device.	Discharge patient from system.
	Monitoring device not assigned to Equipment List.	Assign device to Equipment List.
	Serial Port setting on monitoring device incorrect.	Access Installation Menu on device. For more information, refer to Passport 2/Spectrum Operations Instructions.
	Panorama not installed in Options List in the Options Menu (for Passport 2®/ Spectrum™ only).	Access the Installation Menu, Options submenu. For more information, refer to Passport 2/Spectrum Operations Guide.

   *   Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
	Network setting on monitoring device is incorrect.	Access the Installation Menu, System Information submenu. For more information, refer to Passport 2/Spectrum Operations Instructions.
	Telepack batteries may need to be replaced.	Test batteries, and if necessary, replace batteries.
	Telepack batteries improperly installed.	Reinstall batteries.

*   *Messages are shown in all bold text.*

12.1.3   Alarm Limits Tab (Patient)

This section lists some of the potential messages and issues that may occur while using the Patient **Alarm Limits** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either no patient tile or an empty patient tile has been selected.	Select an active patient tile.
Communication Lost	Communication between the Panorama Central Station and the monitoring device for the selected patient tile has been interrupted.	Check the connection between the Panorama Central Station and the monitoring device. For example is the monitoring device out of range?
All of the sidebar buttons (except the **Normal Screen** button) are disabled.	An empty patient tile is selected.	Select a valid patient tile by touching the digital or waveform area of the patient tile.
All Alarms Suspended	The **Suspend All Alarms** function is enabled. All numeric, lethal arrhythmia, non-lethal arrhythmia and technical alarm processing for the selected tile has been suspended.	Resume alarm processing by pressing the **Suspend All Alarms** button and disabling the **Suspend All Alarms** function.
Non-Lethal Alarms Suspended	The **Suspend Non-lethal** function is enabled. Alarm processing for numeric, technical and non-lethal alarms has been suspended for the selected tile.	Resume alarm processing by pressing the **Suspend Non-lethal** button and disabling the **Suspend Non-lethal** function.

*   *Messages are shown in all bold text.*

12.1.4 Alarm Responses Tab (Patient)

This section lists some of the potential messages and issues that may occur while using the Patient **Alarm Responses** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either no patient tile or an empty patient tile has been selected.	Select the **OK** button to close the dialog box. Select an active patient tile.
Communication Lost	Communication between the Panorama Central Station and the monitoring device for the selected patient tile has been interrupted.	Check the connection between the Panorama Central Station and the monitoring device. For example is the monitoring device out of range?
All of the sidebar buttons (except the **Normal Screen** button) are disabled.	An empty patient tile is selected.	Select a valid patient tile by touching the digital or waveform area of the patient tile.
All Alarms Suspended	The **Suspend All Alarms** function is enabled. All alarm processing for the selected tile has been suspended.	Resume alarm processing by pressing the **Suspend All Alarms** button and disabling the **Suspend All Alarms** function.
Non-Lethal Alarms Suspended	The **Suspend Non-lethal** function is enabled. Alarm processing for numeric, technical and non-lethal alarms has been suspended for the selected tile.	Resume alarm processing by pressing the **Suspend Non-lethal** button and disabling the **Suspend Non-lethal** function.

* *Messages are shown in all bold text.*

12.1.5 Bedside Tab

This section lists some of the potential messages and issues that may occur while using the **Bedside** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
A waveform parameter is not displayed.	If the waveform parameter exists, it has not been scrolled into view on the display.	Use the **View More** sidebar button to scroll to the desired parameter waveform.
	The waveform parameter is not being monitored at the bedside.	Connect the sensor(s) for the waveform parameter to the patient.
A digital parameter is not displayed.	If the digital parameter exists, it has not been scrolled into view on the display.	Use the **View More** sidebar button to scroll to the desired digital parameter.
	The digital parameter is not being monitored at the bedside.	Connect the sensor(s) for the digital parameter to the patient.

* *Messages are shown in all bold text.*

12.1.6   Care Group Tab (System)

This section lists some of the potential messages and issues that may occur while using the System **Care Group** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   Messages are shown in all bold text.

12.1.7   Date/Time Tab

This section lists some of the potential messages and issues that may occur while using the **Date Time** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   Messages are shown in all bold text.

12.1.8   Demographics Tab

This section lists some of the potential messages and issues that may occur while using the **Demographics** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Can not admit Patient to this tile. No Device attached to this tile	There is no device assigned to the selected tile.	Select the **OK** button to close the dialog box. Select a patient tile that has a device attached to it or attach a device to the selected patient tile.
You have reached the maximum number of arrhythmia licenses available	There are no more Arrhythmia licenses available.	Select the **OK** button to close the dialog box. Arrhythmia Analysis cannot be selected for a patient until it is discontinued for another patient. The System Administrator can purchase additional Arrhythmia licenses.
The **Pacer**, **Care Group**, and the **Retrieve Discharged Pt.** sidebar buttons are disabled.	The selected patient tile is in **Standby** mode.	Remove the selected patient tile from **Standby** mode.
The filter mode cannot be Monitor when ST is on	Monitor mode cannot be selected while ST is enabled.	Select the **OK** button to close the dialog box. Turn off ST select the correct filter mode.
Turning on ST will change your ECG filtering to ST mode	ST mode was selected while in Monitor mode.	Select the **OK** button to close the dialog box. Select the correct filter mode.

*   Messages are shown in all bold text.

MESSAGE/ISSUE *	REASON	SOLUTION
You have reached the maximum number of ST licenses available	There are no more ST licenses available	Select the **OK** button to close the dialog box. ST Analysis cannot be selected until it is discontinued on another patient. The System Administrator can purchase additional ST licenses.
Retrieve Discharged Patient Failed: The destination tile is currently occupied	A patient cannot be retrieved into an occupied tile.	Select the **OK** button to close the dialog box. Select a vacant patient tile before attempting to retrieve a patient.

*   *Messages are shown in all bold text.*

12.1.9   Discharge Tab

This section lists some of the potential messages and issues that may occur while using the **Discharge** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either no patient tile or an empty patient tile has been selected.	Select an active patient tile.
Patient's data and submitted print jobs will be deleted because at least two of the following fields: First Name, Last Name or ID has not been filled in. Do you still want to proceed with the discharge?	The selected patient does not have at least two of the three demographic fields completed. The demographic fields include first name, last name and ID.	• Select the **Yes** button to discharge the patient. • Select the **No** button to cancel the discharge and close the dialog box.

*   *Messages are shown in all bold text.*

12.1.10   Disclosure Tab

This section lists some of the potential messages and issues that may occur while using the **Disclosure** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient in the tile	The selected tile is not actively monitoring a patient.	Choose a tile that is actively monitoring a patient.
All displays are blank and all buttons (except **Normal Screen**) are disabled.	The selected patient tile does not have any stored historical data.	The selected patient tile has not been monitoring long enough to have stored any data. Wait for new data to accumulate.
	The selected patient tile does not have a device attached.	Choose a tile that is actively monitoring a patient.
All buttons (except **Normal Screen**) are disabled.	The Display Choices dialog box is displayed.	Close the Display Choices dialog box.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
A section of the waveform is blank.	The system time was altered during the storage of the row of data.	Wait for new data to accumulate.
	The device was placed into **Standby** mode during the storage of the row of data.	Restore the system to normal operating mode to resume data collection.
	The device experienced a **Communication Lost** event during the storage of the row of data.	Determine the cause of the **Communication Lost** condition and rectify to resume data collection.
	The Panorama was restarted during the storage of the row of data.	Wait for new data to accumulate.
No more events found (**Previous Event** Button)	There is no event data in the disclosure database.	Wait until an event is recorded to the disclosure database.
	There are no more events in the patient's disclosure database that occurred **before** the time at the upper left corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
	The oldest data is at the upper left corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
No more events found (**Next Event** Button)	There is no event data in the disclosure database.	Wait until an event is recorded to the disclosure database.
	There are no more events in the patient's disclosure database that occurred **after** the time at the lower right corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
	The most recent data is at the lower right corner of the compressed view.	Select the **OK** button to close the message box and return to the **Disclosure** tab.
Time out of range (Page Up button)	There are less than 10 rows of data that are newer than the top row.	Select the **OK** button to close the message box and return to the **Disclosure** tab. Wait for new data to accumulate.
Time out of range (Page Down button)	There are less than 10 rows of data that are older than the top row.	Select the **OK** button to close the message box and return to the **Disclosure** tab. Data is not available.
Time out of range (single up-arrow button)	There is no newer data to be displayed.	Select the **OK** button to close the message box and return to the **Disclosure** tab. Wait for new data to accumulate.
Time out of range (single down-arrow button)	There is no older data to be displayed.	Select the **OK** button to close the message box and return to the **Disclosure** tab. Data is not available.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Time out of range (**Done** button in the Skip To dialog box)	A time and date that is older than the oldest data or newer than the most recent data was entered in the Skip To dialog box.	Select the **OK** button to close the message box. Select the **Skip To** sidebar button and enter a time and date that is within the time frame of the database.
The **Print More** sidebar button is disabled.	More than 1 hour of data is not available.	Purchase more than a 1 hour licensing key. Wait for more data to populate the screen.
Please select a print interval	A print interval button was not selected in the Print Selection dialog box before selecting the **Print** button.	Select the **OK** button and then select a print interval button in the Print Selection dialog box before selecting the **Print** button.

*   *Messages are shown in all bold text.*

12.1.11   Display Tab

This section lists some of the potential messages and issues that may occur while using the **Display** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
The parameter tiles in the **Display** tab are disabled.	A valid patient tile is not selected.	Select an active patient tile.

*   *Messages are shown in all bold text.*

12.1.12   Equipment Setup Tab

This section lists some of the potential messages and issues that may occur while using the **Equipment** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Equipment list is full	This message appears when the **New** button is pressed and the equipment list contains the maximum number of equipment list entries.	Select the **OK** button to close the dialog box. Delete a piece of equipment from the Equipment list.
Illegal Device Tile. Device Tile must be defined. Please try again.	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a tile number is selected.	Select the **OK** button to close the dialog box. Select a tile number in the Tile Number dialog box.
The **Tile** button is disabled and a dash (-) is shown in the Tile field.	The type of equipment being entered in the Equipment List is either a Panorama Server or a Panorama	You cannot enter a tile number for the Panorama Server or the Panorama equipment types.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Invalid Device Type	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a device type is selected.	Select the **OK** button to close the dialog box. Select a device type in the Device Type dialog box.
Illegal Device Label. Device Label must be defined. Please try again.	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a device label is selected.	Select the **OK** button to close the dialog box. Select a device label in the Device Label dialog box.
Device Label already exists! Please enter a new one	This message appears when a duplicate device label is entered in the Device Label field.	Select the **OK** button to close the dialog box. Enter a new device label in the Device Label field.
Invalid characters entered. Please enter a new label.	This message appears when invalid characters have been entered in the Device Label. The device label can only contain alphanumeric characters and underscores (_).	Select the **OK** button to close the dialog box. Enter a valid Device label.
Illegal Device ID. Please enter a new one.	This message appears when the **Done** button is pressed in the **Equipment Setup** tab before a device ID is selected.	Select the **OK** button to close the dialog box. Enter a Device ID in the Device ID dialog box.
Device ID must be 8 characters in length.	This message appears when the Device ID that was entered is less than 8 characters in length. Please refer to the Device ID setup rules in the Setting up New Equipment section.	Select the **OK** button to close the dialog box. Enter a Device ID in the Device ID dialog box.
Device ID must start with the proper device prefix	This message appears when the incorrect device prefix is entered in the Device ID box.	Select the **OK** button to close the dialog box. Enter the correct Device ID prefix.
Suffix of Device ID last character must be 'x' or 'X'.	This message appears when the incorrect device suffix is entered in the Device ID box.	Select the **OK** button to close the dialog box. Enter the correct Device ID suffix.
This Device ID already exists!	This message appears when a duplicate Device ID is entered in the Device ID field.	Select the **OK** button to close the dialog box. Enter a new Device ID in the Device ID field.
You have reached the maximum number of channel licenses available.	This message appears when all available channels on the Panorama Central Station are occupied.	Select the **OK** button to close the dialog box. Delete a piece of equipment from an existing channel if it is no longer in use. The system administrator can also purchase additional channel licenses.
This version of software does not support more than 16 monitored patients.	This message appears when the maximum number of patients is being monitored on the Panorama Central Station.	Select the **OK** button to close the dialog box. Discharge a patient if the patient is no longer being monitored.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
System Setup menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.
Cannot delete a device connected to a patient	The device that you are trying to delete is currently connected to a patient.	Select the **OK** button to close the dialog box. Disconnect the patient from the selected device before it can be deleted.
The **Tile** button, **Type** button and **Device ID** field are disabled.	The equipment that was selected to be edited is currently monitoring a patient.	This equipment cannot be edited until a patient discharge is performed.

*   *Messages are shown in all bold text.*

12.1.13   Events Tab

This section lists some of the potential messages and issues that may occur while using the List View of the **Events** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Sidebar buttons disabled when **Events** tab selected.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
No patient in the tile	There is no patient admitted to the selected tile.	Admit a patient to the tile.
	Patient tile not selected.	Select a patient tile.
Events list displays no data.	Patient tile not selected.	Select a patient tile.
	None of the existing event data meets the criteria of the current event filter.	Change the event filter.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
Events list column headers not displayed.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
This item cannot be deleted.	Specific types of events cannot be removed from the Event list.	Refer to ''Alarms and Events'' on page 14-1.
Please select a print interval	A print interval was not selected in the Print Selection dialog box.	Select a print interval, then select the **Print** button.

*   *Messages are shown in all bold text.*

This section lists some of the potential messages and issues that may occur while using the Waveform view of the *Events* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Sidebar buttons disabled when *Events* tab selected.	Patient tile not selected.	Select a patient tile.
	There is no patient admitted to the selected tile.	Admit a patient to the tile.
No patient in the tile	There is no patient admitted to the selected tile.	Admit a patient to the tile.
	Patient tile not selected.	Select a patient tile.
No Waveform data is collected for this event.	The selected event is not a physiological alarm event.	Refer to ''Alarms and Events'' on page 14-1.

* *Messages are shown in all bold text.*

12.1.14   Lead Placement

This section lists some of the potential messages and issues that may occur.

MESSAGE/ISSUE *	REASON	SOLUTION
Noisy ECG traces	Loose or dry electrodes.	Apply fresh, moist electrodes.
	Defective electrode wires.	Replace wires as necessary.
	Patient cable or leads are routed too close to other electrical devices.	Eliminate 60 Hz interference.
		Use ECG cable with internal filter block.
Excessive Electro-surgical Interference	Inadequate skin preparation prior to application of electrode.	Repeat skin preparation and electrode location procedures.
		Apply fresh, moist electrodes.
Intermittent Signal	Connections not tight and/or properly secured.	Ensure proper connection. (cable to monitor, cable to lead, lead to electrode).
	Electrodes dry or loose.	Repeat skin preparation and apply fresh, moist electrodes.
	Cable or lead wires damaged.	Check with continuity tester.
Excessive alarms: heart rate, lead fault	Electrodes dry	Repeat skin preparation and apply fresh, moist electrodes.
	Alarm limits set too close to patient's normal heart rate.	Readjust
	R-wave wrong size	Must be twice the amplitude of the other part of the waveform.
	Excessive patient movement or muscle tremor.	Reposition electrodes and secure with tape, if necessary.

* *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Low Amplitude ECG Signal	Gain set too low.	Readjust the ECG wave gain as required. Refer to the ''Wave Gain Tab (System)'' on page 9-44 for instructions on adjusting the wave gain setting.
	Electrodes dry/old	Apply fresh, moist electrodes.
	Skin improperly prepared	Abrade skin.
	Possibly not patient's normal complex.	Check with 12-lead electro-cardiogram.
	Electrode could be positioned over a bone or muscle mass.	Reposition electrodes.
No ECG Waveform	Gain set too low.	Readjust the ECG wave gain as required. Refer to the ''Wave Gain Tab (System)'' on page 9-44 for instructions on adjusting the wave gain setting.
	Lead wires and patient cable not fully inserted into proper receptacle.	Check insertion.
	Cable or lead wires damaged.	Check with lead continuity tester.
Base Line Wander	Patient moving excessively.	Secure lead wires and cable to patient.
	Patient respiration variance.	Reposition electrodes
	Electrodes dry or loose	Repeat skin preparation and apply fresh, moist electrodes.
Artifact	The 12-lead ECG is detecting muscle artifact, or electrical interference from auxiliary devices.	Check leads, follow skin preparation procedure.
		Check for electrical interferences, replace wires as necessary.

*   *Messages are shown in all bold text.*

12.1.15   Parameter Color Tab

This section lists some of the potential messages and issues that may occur **Parameter Color** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.16   Passwords Tab

This section lists some of the potential messages and issues that may occur while using the **Passwords** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Incorrect password. Please try again	The wrong password was entered in the text box.	Select the **OK** button to close the dialog box. Enter the correct password in the dialog box.
The **System Setup** menu button is disabled.	The System Setup function is already open on a Panorama display and cannot be opened on multiple displays.	Close the System Setup function on the Panorama display on which it is opened.

   *   Messages are shown in all bold text.*

12.1.17   Patient Alarm Setup Tab

This section lists some of the potential messages and issues that may occur while using the **Patient Alarm Setup** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Incorrect password. Please try again	The wrong password was entered in the Password text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
Incorrect password. This is your last chance. Please try again	The wrong password was entered in the Password text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
The **Patient Alarm Setup** tab closes and the Panorama Central Station is returned to a full screen monitoring display	The wrong password was entered in the Password text box.	Reopen the **Patient Alarm Setup** tab and enter the correct password in the text box.

   *   Messages are shown in all bold text.*

12.1.18   Patient Reports Tab

This section lists some of the potential messages and issues that may occur while using the **Patient Reports** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
All report buttons are disabled.	A patient is not currently selected.	Select a patient before trying to print a report.
The **ST REPORT** button is disabled.	The selected patient does not have ST enabled.	Enable ST for the selected patient before trying to print an ST report.

   *   Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Please select a Print Interval	This message appears in the *Patient Reports* tab when the *Print* button is pressed before a time interval is selected in the Full Disclosure, Event or Trend reports.	Select the *OK* button to close the dialog box. Select a print interval in the available dialog box.
The report will not print	There are several reasons that would cause a report not to print. It could be a problem with the communication between the printer and the Panorama Central Station or simply a problem with the printer.	If there is an error that appears such as *Printer out of Paper* you will need to remedy that situation. If the *No Printer connected or Printer not Available* error is displayed check that the printer was properly configured with the Panorama Central Station. See the Printer Configuration manual (P/N 0070-00-0561).

*   *Messages are shown in all bold text.*

12.1.19   Print Setup (Patient) Tab

This section lists some of the potential messages and issues that may occur while using the Patient *Print Setup* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
A waveform does not print	The waveform is not selected in the patient's *Print Setup* tab.	Select the waveform in the patient's *Print Setup* tab.

*   *Messages are shown in all bold text.*

12.1.20   Print Setup (System) Tab

This section lists some of the potential messages and issues that may occur while using the System *Print Setup* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The *System Setup* menu button is disabled.	The *System Setup* function is already open on a Panorama display and cannot be opened on multiple displays.	Close the *System Setup* function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.21   Print Status Tab

This section lists some of the potential messages and issues that may occur while using the **Print Status** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Report is not printing	Printer not selected in the Panorama Central Station.	Refer to the Panorama Printer Configuration document (P/N 0070-00-0561).
	Printer is not turned on.	Turn the printer on.
	Printer is offline.	Verify that the printer is online.
	Printer is out of paper.	Verify that the printer paper tray contains paper.
		Verify that the printer is connected to the Panorama Central Station.
		Print a test page. Refer to the the Panorama Printer Configuration document (P/N 0070-00-0561).
		Verify that the printer configuration settings are correct.

*   *Messages are shown in all bold text.*

12.1.22   ST Tab

This section lists some of the potential messages and issues that may occur while using the **ST** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when an empty patient tile has been selected.	Select an active patient tile.

*   *Messages are shown in all bold text.*

12.1.23   Standby Tab

This section lists some of the potential messages and issues that may occur while using the
Standby tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
A patient in bedside standby cannot be directly placed into Panorama only standby	This message appears when the selected patient is already in *Standby* mode at the bedside monitor or was just released from Standby mode at the bedside monitor.	Select the *OK* button to close the dialog box. Resume monitoring at the bedside monitor before trying to change standby locations. Wait a moment and try to put the patient in *Standby* mode again.
Patient in auto standby may only be released from bedside	This message occurs when the **Bedside and Panorama Standby** button is selected for a patient that is already in **Standby** mode at the Panorama Central Station and the Bedside monitor.	Select the *OK* button to close the dialog box. Release the patient from *Standby* mode at the bedside monitor before trying to change the patient's *Standby* mode.

*   Messages are shown in all bold text.*

12.1.24   System Alarm (Alarm Limits) Tab

This section lists some of the potential messages and issues that may occur while using the
System *Alarm Limits* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   Messages are shown in all bold text.*

12.1.25   System Alarm (Alarm Options) Tab

This section lists some of the potential messages and issues that may occur while using the
System *Alarm Options* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   Messages are shown in all bold text.*

12.1.26   System Alarm (Alarm Responses) Tab

This section lists some of the potential messages and issues that may occur while using the System **Alarm Responses** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

* Messages are shown in all bold text.

12.1.27   System Reports Tab

This section lists some of the potential messages and issues that may occur while using the System **Reports** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Report is not printing	Printer not selected in the Panorama Central Station.	Refer to ''Selecting the Printer in the ViewPoint Central Station'' on page 3-8 in the Panorama Printer Configuration document (P/N 0070-00-0561).
	Printer is not turned on.	Turn the printer on.
	Printer is offline.	Verify that the printer is online.
	Printer is out of paper.	Verify that the printer paper tray contains paper.
		Verify that the printer is connected to the Panorama Central Station.
		Print a test page. Refer to "Generating a Test Page (optional)" on page 3-8 in the Panorama Printer Configuration document (P/N 0070-00-0561).
		Verify that the printer configuration settings are correct.

*   Messages are shown in all bold text.

12.1.28   System Setup Tab

This section lists some of the potential messages and issues that may occur while using the **System Setup** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Incorrect password. Please try again	The wrong password was entered in the **Password** text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
Incorrect password. This is your last chance. Please try again.	The wrong password was entered in the **Password** text box.	Select the **OK** button to close the dialog box. Enter the correct password in the text box.
The **Patient Alarm Setup** tab closes and the Panorama Central Station is returned to a full screen monitoring display	The wrong password was entered in the **Password** text box.	Reopen the **Patient Alarm Setup** tab and enter the correct password in the text box.
The **System Setup** menu button is disabled.	The System Setup function is already open on a Panorama display and cannot be opened on multiple displays.	Close the System Setup function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.29   Telepack Device

This section lists some of the potential messages and issues that may occur while using a Telepack device.

MESSAGE/ISSUE *	REASON	SOLUTION
Telepack/LED's not turning on	Batteries are not installed correctly, batteries are depleted, or batteries corroded.	Visually inspect the battery compartment for any foreign object. Replace the batteries.
Telepack not transmitting data to the Panorama Central Station.	Batteries are discharged	Press the **Test/CHECK** button to verify that the batteries are depleted. Replace as necessary.
Flashing Battery Status LED indicator light	Batteries in the Telepack are weakening	Replace batteries
Error: Could not receive data message, while attempting to program the Telepack	Telepack is not connected properly, or the Panorama Central Station is unable to detect the Telepack.	Verify that the service mode cable is properly connected to the device. Retry programming. Check batteries.
Unlit ECG Lead LED indicator light	Telepack has no lead connectivity.	Connect the electrode. Check batteries.
Communication Lost	Telepack's radio signal is out of range with the wireless network	Verify the Telepack is within 100 feet of a network access point. Check batteries.

MESSAGE/ISSUE *	REASON	SOLUTION
Flashing Link Status LED indicator light	Telepack is not communicating with the Panorama Central Station	Verify that Device ID is registered on the Panorama Central Station. Verify that Panorama Central Station is functioning.

*   Messages are shown in all bold text.

12.1.30   Transfer Tab

This section lists some of the potential messages and issues that may occur while using the **Transfer** tab.

Room To Room Transfer

MESSAGE/ISSUE *	REASON	SOLUTION
The **Room To Room Without Device** button is disabled.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before transferring.
	A patient tile is not selected on the main screen.	Select the patient tile that is intended to be transferred.
	The selected patient tile has a device assigned but is not monitoring a patient.	Select the patient tile that is intended to be transferred.
	The selected patient tile has no device assigned.	Select the patient tile that is intended to be transferred.
The Failed Patient List is full. Delete a patient from this list before transferring.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before transferring.
Unable to select a patient tile on the Panorama Display.	A message box is currently being displayed.	Close the message box or wait for it to time out and close automatically.
The destination and source tile cannot be the same. Please try again.	The original source tile was selected when the prompt "Please touch tile to which you wish to transfer the patient." was displayed.	Restart the transfer process and select an appropriate destination tile when prompted. Do not select the original source tile.
The destination tile must have a device assigned to perform the transfer.	The destination tile does not have a device assigned.	Restart the transfer process and select a destination tile that has a device assigned when prompted.
This Tab is in use by another display. Can not be updated from more than one display at the same time.	An attempt was made to open the **Transfer** tab on one display when it is already open on the other display.	Select the **OK** button and use the open **Transfer** tab.

*   Messages are shown in all bold text.

Room To Room Transfer (Continued)

MESSAGE/ISSUE *	REASON	SOLUTION
At the destination tile, the digital data is displayed but the waveform is not displayed	The destination tile was in **Standby** mode when the transfer completed.	Return to normal monitoring mode.
The destination tile is blank and all buttons on the **Transfer** tab are unavailable.	The destination tile was in a **Communication Lost** state when the transfer completed.	Re-establish communication.

*   Messages are shown in all bold text.

Central To Central Transfer

MESSAGE/ISSUE *	REASON	SOLUTION
The **Central To Central Without Device** button is disabled.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before attempting to transfer.
	A patient tile is not selected on the main screen.	Select the patient tile that is intended to be transferred.
	The selected patient tile has a device assigned but is not monitoring a patient.	Select the patient tile that is intended to be transferred.
	The selected patient tile has no device assigned.	Select the patient tile that is intended to be transferred.
The Failed Patient List is full. Delete a patient from this list before transferring.	The Transfer Failed list is full. The list stores a maximum of 5 failed transfers.	Delete a patient from this list before transferring.
Available monitor list is empty. Please set a new monitor in the Equipment Setup screen.	There are no Destination Panorama devices defined in the equipment list.	Define the desired Destination Panorama device in the equipment list as described in the ''Equipment Setup Tab'' on page 9-21.
The patient cannot be transferred because at least two of the following fields: First Name, Last Name or ID has not been filled in.	The appropriate information has not been entered into at least two of the three demographic fields (Last Name, First Name and ID) on the **Demographics** tab.	Enter the appropriate information into at least two of the three demographic fields (Last Name, First Name and ID) on the **Demographics** tab.
Selecting the **Done** button on the Select Destination Panorama list box terminates the transfer and returns to the Transfer tab.	A Destination Panorama device was not selected from the list box before selecting the **Done** button.	Repeat the transfer procedure and ensure that a Destination Panorama device is selected from the Select Destination Panorama list box before selecting the **Done** button.
Transfer Out Rejected. Timeout at [the Destination Panorama name] Central.	The **Accept/Reject Patient** button on the **Transfer** tab at the Destination Panorama was not selected within 10 minutes of initiating the Central To Central Transfer Without Device.	Repeat the transfer procedure and ensure that the **Accept/Reject Patient** button on the **Transfer** tab at the Destination Panorama is selected within 10 minutes of initiating the transfer.

*   Messages are shown in all bold text.

Central To Central Transfer (Continued)

MESSAGE/ISSUE *	REASON	SOLUTION
Transfer In Request from [the Source Panorama name] cancelled due to user timeout.	At the Destination Panorama, either the **Accept** or **Reject** button on the Transferred In Patient view of the **Transfer** tab was not selected within 10 minutes of initiating the Central To Central Transfer Without Device.	Repeat the transfer procedure and ensure that either the **Accept** or **Reject** button on the Transferred In Patient view of the **Transfer** tab is selected within 10 minutes of initiating the Central To Central Transfer Without Device.
The **Accept/Reject Patient** button is disabled.	A transfer request has not been received from any other Panorama Central station.	This does not require a solution.
The destination tile must have a device assigned to perform the transfer.	The destination tile does not have a device assigned.	Select the **OK** button on the message box and then select a destination tile that has a device assigned.
Please touch tile to which you wish to transfer the patient.	A destination tile has not been selected at the Destination Panorama.	Select a destination tile that has a device assigned.
Failed Transfer Out: System Error. (Source Panorama)	The selected Destination Panorama device was not properly defined in the equipment list.	Repeat the transfer procedure and ensure that the desired Destination Panorama device is properly defined in the equipment list as described in the ''Equipment Setup Tab'' on page 9-21.
	There is an interruption in the network connection between the Source and Destination Panoramas.	Determine the cause of the interruption and correct.
Failed Transfer In: System Error. (Destination Panorama)	The selected Destination Panorama device was not properly defined in the equipment list.	Repeat the transfer procedure and ensure that the desired Destination Panorama device is properly defined in the equipment list as described in the ''Equipment Setup Tab'' on page 9-21.
	There is an interruption in the network connection between the Source and Destination Panoramas.	Determine the cause of the interruption and rectify.
This Tab is in use by another display. Can not be updated from more than one display at the same time.	An attempt was made to open the **Transfer** tab on one display when it is already open on the other display.	Select the **OK** button and use the open the **Transfer** tab.
At the destination tile, the digital data is displayed but the waveform is not displayed	The destination tile was in **Standby** mode when the transfer completed.	Return to normal monitoring mode.
The destination tile is blank and all buttons on the **Transfer** tab are unavailable.	The destination tile was in a **Communication Lost** state when the transfer completed.	Re-establish communication.

*   *Messages are shown in all bold text.*

Recovering Failed Transfer Patient Data

MESSAGE/ISSUE *	REASON	SOLUTION
The **Recover Failed Transfer** sidebar button is disabled.	The Failed Transfer List is empty.	N/A
Selecting the **Recover** button has no effect.	A patient has not been selected from the Failed Transfer List.	Select the patient whose information is to be recovered from the list and then select the **Recover** button.
Select the tile to place the recovered patient in	A destination tile on the Source Panorama was not selected before pressing the **Recover** button.	Select a destination tile on the Source Panorama.
The destination tile must have a device assigned to perform the transfer	The destination tile does not have a device assigned.	Select the **OK** button to return to the Recover Failed Transfer Patients view. Select a destination tile that has a device assigned and continue the transfer procedure.

*   *Messages are shown in all bold text.*

Deleting Failed Transfer Patient Data

MESSAGE/ISSUE *	REASON	SOLUTION
The **Delete Failed Transfer** sidebar button is disabled.	The Failed Transfer List is empty.	N/A
Selecting the **Delete** button has no effect.	A patient has not been selected from the Failed Transfer List.	Select the patient whose information is to be deleted from the list and then select the **Delete** button.

*   *Messages are shown in all bold text.*

Transferring Failed Transfer Patient Data

MESSAGE/ISSUE *	REASON	SOLUTION
The **Transfer From Failed List** sidebar button is disabled.	The Failed Transfer List is empty.	N/A
Selecting the **Transfer** button has no effect.	A patient has not been selected from the Failed Transfer List.	Select the patient whose information is to be transferred from the list and then select the **Transfer** button.

*   *Messages are shown in all bold text.*

12.1.31   Trends Tab

This section lists some of the potential messages and issues that may occur while using the List View of the *Trends* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
There is no data in the *List* view of the *Trends* tab.	A patient has not been admitted to the selected tile.	Admit a patient to the selected tile or choose a tile that already has an admitted patient.
	The *Trends* tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
A column of parameter data is not displayed.	If the column of parameter data exists, it has not been scrolled into view on the display.	Use the scroll bar located along the bottom of the Trend list to scroll to the desired parameter column.
	The parameter is not being monitored at the bedside.	Connect the sensor(s) for the parameter to the patient.
No more data found (Page Down Button)	There is no data in the Trend database because the *Trends* tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The last row in the list is already highlighted.	Select the *OK* button to close the message box and return to the *List* view of the *Trends* tab.
No more data found (Page Up Button)	There is no data in the Trend database because the *Trends* tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The first row in the list is already highlighted.	Select the *OK* button to close the message box and return to the *List* view of the *Trends* tab.
No more events found (*Previous Event* Button)	There is no event data in the Trend database.	Wait until an event is recorded to the Trend database.
	None of the rows that are below the currently highlighted row contain a parameter with an event condition.	Select the *OK* button to close the message box and return to the *List* view of the *Trends* tab.
	The last row in the list is already highlighted.	Select the *OK* button to close the message box and return to the *List* view of the *Trends* tab.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
No more events found (**Next Event** Button)	There is no event data in the Trend database.	Wait until an event is recorded to the Trend database.
	None of the rows that are above the currently highlighted row contain a parameter with an event condition.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
	The first row in the list is already highlighted.	Select the **OK** button to close the message box and return to the **List** view of the **Trends** tab.
The **Graphic, Print More** and **Print Current** sidebar buttons are disabled.	There is no data in the Trend database because the **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	A patient has not been admitted to the selected tile.	Admit a patient to the selected tile or choose a tile that already has an admitted patient.
	The **Print Selection** dialog box is open.	Close the **Print Selection** dialog box.

*   *Messages are shown in all bold text.*

This section lists some of the potential messages and issues that may occur while using the Graphic View of the **Trends** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
There is no trend data in the display.	A patient has not been admitted to the selected tile.	Admit a patient to the selected tile or choose a tile that already has an admitted patient.
	The **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
The parameter areas only display the parameter label and/or the unit of measurement.	There is no data at the location of the cursor line.	Move the cursor line to a point on the time line where data is known to exist.
No more data found (Page Left Button)	There is no data in the Trend database because the **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The first recorded data has been reached. No further data exists before this time.	Select the **OK** button to close the message box and return to the **Graphic** view of the **Trends** tab.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
No more data found (Page Right Button)	There is no data in the Trend database because the **Trends** tab was selected before the first interval was reached or before the first NIBP measurement occurred.	Wait until the first interval is reached or until the first NIBP measurement occurs.
	The most recent recorded data has been reached. No further data exists after this time.	Select the **OK** button to close the message box and return to the **Graphic** view of the **Trends** tab.
Time out of range (**Zoom In** Button)	The minimum display time interval has been reached.	Select the **OK** button to close the message box and return to the **Graphic** view of the **Trends** tab.
Time out of range (**Zoom Out** Button)	The maximum display time interval has been reached.	Select the **OK** button to close the message box and return to the **Graphic** view of the **Trends** tab.
Time out of range (Left Arrow Button)	The minimum display time interval has been reached.	Select the **OK** button to close the message box and return to the **Graphic** view of the **Trends** tab.
Time out of range (Right Arrow Button)	The maximum display time interval has been reached.	Select the **OK** button to close the message box and return to the **Graphic** view of the **Trends** tab.
The **List** and **Print** sidebar buttons are disabled.	A message box is being displayed.	Close the message box.

*   *Messages are shown in all bold text.*

12.1.32   Unit Choices Tab

This section lists some of the potential messages and issues that may occur while using the **Unit Choices** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.33   Unit Priorities Tab

This section lists some of the potential messages and issues that may occur **Unit Priorities** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
Please select a parameter button before selecting from the list	This message appears when **Select** button is pressed before a Unit Priority button is selected.	Select the **OK** button to close the dialog box. Select a Unit Priority button.
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.34   Volume Tab

This section lists some of the potential messages and issues that may occur while using the *Volume* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.35   Wave Gain Tab (Patient)

This section lists some of the potential messages and issues that may occur while using the Patient *Wave Gain* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
No patient Selected!	This message appears in the demographic field when either a patient tile has not been selected or an empty tile was selected.	Select an active patient tile.
The patient's wave gain settings did not change	The **Done** button was not selected after the patient's wave gain settings were changed.	Adjust the patient's wave gain settings and select the **Done** button when the settings are completed.

*   *Messages are shown in all bold text.*

12.1.36   Wave Gain Tab (System)

This section lists some of the potential messages and issues that may occur while using the System *Wave Gain* tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.

*   *Messages are shown in all bold text.*

12.1.37 Wireless Tab

This section lists some of the potential messages and issues that may occur while using the **Wireless** tab.

MESSAGE/ISSUE *	REASON	SOLUTION
The **System Setup** menu button is disabled.	The **System Setup** function is already open on a Panorama display and cannot be opened on multiple displays.	Close the **System Setup** function on the Panorama display on which it is opened.
You must enter all fields to program the wireless device	All of the fields in the **Wireless** tab were not completed before the **Program** button was pressed.	Select the **OK** button to close the error message dialog box. Complete all of the fields in the **Wireless** tab before selecting the **Program** button.
Program Failure: Unable to obtain a channel	A channel was not obtained from the wireless network.	Select the **OK** button to close the error message dialog box. Obtain a channel from the wireless network.
Program Failure: Invalid Data	The wireless device was not successfully programed.	Select the **OK** button to close the error message dialog box. Recheck the accuracy of the data to be entered in the wireless device.
Warning: Attached device is already programmed with a channel. Allocated channel will be lost if not freed first. Do you want to continue	The connected device has already been programmed and allocated with a channel.	Select the **OK** button to close the error message dialog box. • Select the **YES** button to discard the previously allocated channel and try to obtain a new channel. • Select the **NO** button to keep the previously obtained channel.
Program Failure: Unable to obtain a channel.	The system tried to obtain a channel from the Panorama Central Station but was unsuccessful.	Select the **OK** button to close the error message dialog box. Free up any unused channels. Try again to obtain a channel from the system. The system administrator can also purchase additional channels.
Network Error: Unable to obtain device list.	The system requested a device list from the wireless network but did not receive one within the allocated request time.	Select the **OK** button to close the error message dialog box. Request a device list from the wireless network again.
There are no devices available	An empty device list was received from the wireless network.	Select the **OK** button to close the error message dialog box. Enter the device in the Panorama Equipment list.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUE *	REASON	SOLUTION
Free Error: Device not found	The device channel was not successfully freed.	Select the ***OK*** button to close the error message dialog box. Try to free a different channel from the system. The system administrator can also purchase additional channels.
Program Failure: The channel was successfully freed but an error was encountered when programming the device.	The channel was successfully freed but there was a problem with the programming of the device.	Select the ***OK*** button to close the error message dialog box. Program the device over its existing channel.

*   *Messages are shown in all bold text.*

12.2   General Troubleshooting Issues

12.2.1   Monitor Issues

This section lists some of the potential issues that may occur with the monitor.

MESSAGE/ISSUES *	REASON	SOLUTION
No trace for a desired parameter	Improper attachment of transducer to monitor.	Check transducer connection.
	Faulty transducer.	Try a different transducer.
Wandering ECG	Respiration artifact.	Try a different base line lead configuration.
Noisy ECG traces	Loose or dry electrodes.	Apply new electrodes.
	Defective electrode wires.	Replace wires as necessary.
	Patient cable or leads are routed too close to other electrical devices.	Eliminate 60Hz interference. Use ECG cable with built-in filter block.
Low Amplitude ECG	Electrode could be positioned over a bone or muscle mass.	Reposition electrodes. Select ECG SIZE button.
Excessive Electrosurgical Interference	Inadequate skin prep prior to application of electrode.	Repeat skin prep and electrode placement procedures. Add additional gel to electrodes.
Intermittent Signal	Connections not tight and properly secured.	Ensure proper connection. (Electrode to lead, lead to cable, cable to monitor.)
	Electrodes dry.	Reprep skin and apply fresh moist electrodes.
	Cable or lead wires damaged.	Check with continuity tester.
Excessive alarms: heart rate, lead fault	Electrodes dry.	Reprep skin and apply fresh, moist electrodes.
	Alarm limits set too close to patient's normal heart rate.	Readjust.
	Rwave wrong size.	Must be twice the amplitude of other part of wave form.
	Excessive patient movement or muscle tremor.	Reposition electrodes and secure with tape if necessary.
Low Amplitude ECG Signal	Gain set too low. (Set through SIZE button.)	Readjust as required.
	Skin improperly prepared.	Abrade skin.
	Possibly not patient's normal complex.	Check with 12 lead electrocardiogram.
	Electrode could be positioned over a bone or muscle mass.	Reposition electrodes.
Trace Not Moving	FREEZE button may have been pressed.	Select the FREEZE button to unfreeze the trace.
Temperature Probes not Working	Poor contact from probes to body.	Check the body surface contact at the probe tip. Reposition or apply thermoconductive gel.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUES *	REASON	SOLUTION
Display Appears to be Off	Mains power switch may not be on.	Check main power switch on side panel.
	Unit may not be plugged into an AC outlet.	Check power cord (Is it plugged in?).
	If used as a portable, battery pack may be drained.	If battery pack is drained, plug into an AC outlet to recharge the battery. A period of 16 hours is required for a full charge.
Disabled Alarm Tone, QRS Tone or Other Function	MUTE button pressed.	Check for alarm mute symbol and message.
	Beep volume low.	Increase beep volume.
ECG Base Line With No Wave form	The Gain control is not set high enough. Set through SIZE button.	Readjust as required.
	Lead wires and patient cable not fully inserted into proper receptacle.	Check insertion.
	Cable or lead wires damaged.	Check with lead continuity tester.
Base Line Wander	Patient moving excessively.	Secure lead wires and cable to patient.
	Patient's respiration.	Reposition electrodes
	Electrodes dry.	Reprep skin and apply fresh moist electrodes.
	Static build up around patient.	Check with hospital engineer.
Damped Invasive Wave form	Air bubbles in tubing.	Eliminate air from tubing.
	Kinked catheter.	Slightly alter position of catheter.
	Catheter against wall of blood vessel.	Check for leaks at connector.
	Blood in tubing.	Pump pressure bag up to 300 mmHg.
Recorder Report Appears Totally Blank	Thermal paper may be installed incorrectly. (upside down)	Remove paper and reinstall with paper feeding off of the spool from the bottom.
Resp. Wave form Too Large	Scales set inappropriately.	Change lead selection.
Resp. Wave form Too Small	Patient breathing shallow or turned on side. Scale set inappropriately.	Change lead selection
False Apnea Alarm	Apnea delay may be improperly set. Patient may be having frequent episodes of CVA.	Choose another apnea delay.
	Scale size may be too low.	Reposition electrodes to better detect respirations.

*   *Messages are shown in all bold text.*

MESSAGE/ISSUES *	REASON	SOLUTION
"CHK Lead" Message	Due to increased impedance. Chest hair under electrodes.	Prep chest.
	Dried electrode gel.	Change electrodes.
	Electrode off.	Replace electrode.
	Lead off.	Replace lead.
	Cracked lead wires.	Replace lead wires.
	Poor skin prep.	Clean and abrade skin before applying electrodes.
"CVA" Message	Can be caused by shallow breathing or an apnea event.	Check the patient Adjust scales or leads if necessary.
No Resp. Wave form or Rate Displayed	Patient not connected to a patient safety cable.	Turn respiration on ("OFF" will be displayed in Resp. window). Check that proper patient cable is used.
	Patient connected using Patient ESIS Choke/Cable.	Use 3-lead Patient Cable - non ESIS. (See Accessories, Section 5.1.)
"BAD CARD" Message	The option card is not the correct version or the card data has become corrupt.	Obtain replacement card.
"Artifact" Message	The 12lead ECG is detecting muscle artifact or electrical interference from auxiliary devices.	Check leads, follow skin preparation procedure. Check for electrical interferences, replace wires as necessary.

*   *Messages are shown in all bold text.*

12.2.2   Recalibrate Touch Screen

Contact your local Datascope service representative if recalibration of the touch screen does not improve the performance of the touch screen display.

13.0 *Parameter Specifications*

This section is for reference only. The Parameter Specifications section lists the allowable range specifications for all of the parameters measured by the Panorama Central Station and the invalidation of parameter data. It includes the following items:

- Parameter Specifications
- Invalid Data Display

13.1   Parameter Specifications

The parameters displayed on the Panorama Central Station are dependent on the type of equipment connected to the Panorama system.

13.1.1   Heart Rate: HR

The Heart Rate parameter obtains data from ECG, SPO_2, IBP or NIBP sources.

Unit of Measure:	Beats Per Minute (bpm)
Resolution:	1 bpm

Heart Rate Source: ECG

PATIENT SIZE	MINIMUM VALUE (bpm)	MAXIMUM VALUE (bpm)
Neonate	30	350
Pediatric	30	300
Adult	30	300

The Panorama Central Station displays ECG waveforms when using 3, 5 and 12 lead cables. The ECG leads available at the Panorama Central Station are dependent on the lead cable connected to the patient.

LEAD	WAVEFORM LEADS AVAILABLE
3 lead wire set	I, II, III
5 lead wire set	I, II, III, aVR, aVL, aVF, V
12 lead card	I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6
Unit of Measure:	mV

Heart Rate Source: SPO$_2$ (Masimo SET®)

PATIENT SIZE	MINIMUM VALUE (bpm)	MAXIMUM VALUE (bpm)
Neonate	30	235
Pediatric	30	235
Adult	30	235

Heart Rate Source: SPO$_2$ (Nellcor®)

PATIENT SIZE	MINIMUM VALUE (bpm)	MAXIMUM VALUE (bpm)
Neonate	20	249
Pediatric	20	249
Adult	20	249

Heart Rate Source: IBP

PATIENT SIZE	MINIMUM VALUE (bpm)	MAXIMUM VALUE (bpm)
Neonate	30	350
Pediatric	30	300
Adult	30	300

Heart Rate Source: NIBP

PATIENT SIZE	MINIMUM VALUE (bpm)	MAXIMUM VALUE (bpm)
Neonate	70	245
Pediatric	35	245
Adult	35	245

13.1.2   Respiration: Resp

The Respiration parameter obtains data from ECG, CO_2 or Gas Module sources.

Unit of Measure: Respirations Per Minute (rpm)

Resolution: 1 rpm

Respiration Source: ECG Thoracic Impedance

PATIENT SIZE	MINIMUM VALUE (rpm)	MAXIMUM VALUE (rpm)
Neonate	4	199
Pediatric	4	199
Adult	4	199

Respiration Source: CO_2

PATIENT SIZE	MINIMUM VALUE (rpm)	MAXIMUM VALUE (rpm)
Neonate	0	150
Pediatric	0	150
Adult	0	150

Respiration Source: Gas Module

PATIENT SIZE	MINIMUM VALUE (rpm)	MAXIMUM VALUE (rpm)
Neonate	4	60
Pediatric	4	60
Adult	4	60

The Panorama Central Station supports respiration waveforms.

13.1.3   NIBP

The NIBP parameter includes measurements for the Systolic (Sys), Diastolic (Dia), Mean and Elapsed Time (ET).

Unit of Measure:	mmHg
Resolution:	1 mmHg

ET

Unit of Measure:	minute
Resolution:	1 minute

NIBP (Sys)

PATIENT SIZE	MINIMUM VALUE (mmHg)	MAXIMUM VALUE (mmHg)
Neonate	45	120
Pediatric	55	160
Adult	55	235

NIBP (Dia)

PATIENT SIZE	MINIMUM VALUE (mmHg)	MAXIMUM VALUE (mmHg)
Neonate	20	100
Pediatric	30	150
Adult	30	200

NIBP Mean

PATIENT SIZE	MINIMUM VALUE	MAXIMUM VALUE
Neonate	mmHg greater than the NIBP (Dia) value	mmHg less than the NIBP (Sys) value
Pediatric	mmHg greater than the NIBP (Dia) value	mmHg less than the NIBP (Sys) value
Adult	mmHg greater than the NIBP (Dia) value	mmHg less than the NIBP (Sys) value

NIBP (ET)

PATIENT SIZE	MINIMUM VALUE (MIN.)	MAXIMUM VALUE (MINUTES)
Neonate	0	999
Pediatric	0	999
Adult	0	999

13.1.4 SPO_2

The SPO_2 parameter includes measurements from Masimo SET® and Nellcor® SPO_2 sensors.

Unit of Measure: %

Resolution: 1%

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	70	100
Pediatric	70	100
Adult	70	100

The Panorama Central Station supports SPO_2 waveforms.

13.1.5   IBP: mmHg

The Panorama Central Station supports up to four invasive blood pressure parameters. The measurements shown for each pressure include Systolic (Sys), Diastolic (Dia) and Mean.

NOTE:　　　*IBP parameter labels include IBP, Art, UA, LV, PA, CVP, ICP, LA and RA. The label used is based on the label selected at the bedside monitor.*

Resolution:　　　　　1 mmHg

IBP (Sys)

PATIENT SIZE	MINIMUM VALUE (mmHg)	MAXIMUM VALUE (mmHg)
Neonate	-30	300
Pediatric	-30	300
Adult	-30	300

IBP (Dia)

PATIENT SIZE	MINIMUM VALUE (mmHg)	MAXIMUM VALUE (mmHg)
Neonate	-30	300
Pediatric	-30	300
Adult	-30	300

IBP Mean

PATIENT SIZE	MINIMUM VALUE (mmHg)	MAXIMUM VALUE (mmHg)
Neonate	-30	300
Pediatric	-30	300
Adult	-30	300

The Panorama Central Station supports IBP waveforms. The Panorama Central Station will not display an IBP waveform if the IBP cable is not connected to the system.

13.1.6　CO_2

The Panorama Central Station supports the mmHg, kPa and % measurements for CO_2.

NOTE:　　　*The unit of measure shown for CO_2 is based on the selection made at the bedside monitor.*

Units of Measure:　　　　　mmHg, %, kPa

Resolution:　　　　　1 mmHg, 1 %, 1 kPa

INSP/ET CO$_2$

PATIENT SIZE	MINIMUM VALUE (mmHg)	MAXIMUM VALUE (mmHg)
Neonate	0	113
Pediatric	0	113
Adult	0	113

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	0	15
Pediatric	0	15
Adult	0	15

PATIENT SIZE	MINIMUM VALUE (KPA)	MAXIMUM VALUE (KPA)
Neonate	0	15
Pediatric	0	15
Adult	0	15

The Panorama Central Station supports a CO$_2$ waveform.

13.1.7 O$_2$

The Panorama Central Station supports INSP/ET O$_2$.

Unit of Measure:	%
Resolution:	1%

13.1.8 INSP/ET O$_2$

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	0	100
Pediatric	0	100
Adult	0	100

The Panorama Central Station supports an O$_2$ waveform.

13.1.9 N$_2$O

The Panorama Central Station supports INSP/ET N$_2$O.

Unit of Measure:	%
Resolution:	1%

INSP/ET N$_2$O

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	0	100
Pediatric	0	100
Adult	0	100

13.1.10   Anesthetic Agents: ISO, ENF, DES, SEV, HAL, Agent

The Panorama Central Station supports the INSP and ET measurements of the Isofluorane (ISO), Enflurane (ENF), Desflurane (DES), Sevoflurane (SEV) and Halothane (HAL) anesthetic agents.

NOTE: *The Panorama Central Station will display general Agent values when the Gas Module cannot identify the agent.*

The Anesthetic Agent label used is based on the labeling provided by the bedside monitor.

Unit of Measure: %

Resolution: 1%

ISO, ENF and HAL INSP/ET Ranges

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	0	6
Pediatric	0	6
Adult	0	6

DES INSP/ET Ranges

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	0	20
Pediatric	0	20
Adult	0	20

SEV INSP/ET Ranges

PATIENT SIZE	MINIMUM VALUE (%)	MAXIMUM VALUE (%)
Neonate	0	8
Pediatric	0	8
Adult	0	8

• The Panorama Central Station supports ISO, ENF, SEV, HAL and DES waveforms.

• The Panorama Central Station displays a Generic Agent waveform when the Gas Module cannot identify a specific agent.

13.1.11 Premature Ventricular Contraction (PVC)

The Panorama Central Station supports PVC data.

Unit of Measure: PVC/min

Resolution: 1 PVC/min

PATIENT SIZE	LEADS	MINIMUM VALUE	MAXIMUM VALUE
Neonate	3 lead or 5 lead	Not Available	Not Available
	12 lead	Not Available	Not Available
Pediatric	3 lead or 5 lead	0 PVC/min	200 PVCs/min
	12 lead	0 PVC/min	Less than the Current HR value (PVCs/min)
Adult	3 lead or 5 lead	0 PVC/min	200 PVCs/min
	12 lead	0 PVC/min	Less than the Current HR value (PVCs/min)

NOTE: The PVC parameter displays a 0 if Arrhythmia is not in use.

13.1.12 Temp: T1 and T2

The Panorama Central Station supports two temperature measurements.

Units of Measure: F° and C°

Resolution: 0.1 F° and 0.1 C°

PATIENT SIZE	MINIMUM VALUE (F°)	MAXIMUM VALUE (F°)
Neonate	59	113
Pediatric	59	113
Adult	59	113

PATIENT SIZE	MINIMUM VALUE (C°)	MAXIMUM VALUE (C°)
Neonate	15	45
Pediatric	15	45
Adult	15	45

13.1.13 ST

The ST parameter provides an ST measurement using ECG leads to acquire data.

PARAMETER LABELS	
3 lead wire set	ST - I, ST - II, ST - III
5 lead wire set	ST - I, ST - II, ST - III, ST - aVR, ST - aVL, ST - aVF, ST - V
12 lead card	ST - I, ST - II, ST - III, ST - aVR, ST - aVL, ST - aVF, ST - V1, ST - V2, ST - V3, ST - V4, ST - V5, ST - V6
Unit of Measure:	mm
Resolution:	0.1 mm

PATIENT SIZE	MINIMUM VALUE (MM)	MAXIMUM VALUE (MM)
Neonate	Not Applicable	Not Applicable
Pediatric	-10.0	10.0
Adult	-10.0	10.0

NOTE: *A (C) next to an ST measurement indicates that the value represents a Current measurement.*

NOTE: *An (R) next to an ST measurement indicates that the value represents a Reference measurement.*

13.2   Invalid Data Display

The Panorama Central Station uses dashes (---), Xs (XX) or a straight line (waveform) to show invalid data.

Dashes (---) Digital Data

Digital data is replaced with dashes (---) for the following reasons:

- Data is above the maximum value
- Data is below the minimum value
- Parameter is not available
- Lead or a sensor is off
- Sensor is not zeroed
- Parameter is zeroing
- Measurement has not been taken
- Measurement is being taken
- Measurement has timed out
- Measurement is being retried
- Parameter is turned off
- 12 lead card is being used/initializing
- Gas module or the source agent is occluded
- Gas module or the source agent is purging
- ST license is not available
- Learning ST Values

Xs (XX) Digital Data

Digital data is replaced with Xs (XX) for the following reasons:

- IBP parameter is not zeroed
- NIBP parameter is not zeroed
- Temp parameter is not in use

Straight Line (Waveforms)

Waveform data is replaced with a continuous straight line for the following reasons:

- ECG leads are disconnected
- ECG cable is not connected to the system
- SPO_2 cable is not connected to the system
- Respiration parameter is disabled at the bedside monitor and the source is ECG
- Respiration parameter is using a 12-lead card at the bedside monitor and the source is ECG
- SPO_2 cable is connected and not in use
- IBP cable is connected but not zeroed, or IBP is zeroing
- CO_2 filter line is not in use, or CO_2 is zeroing
- O_2 parameter is not in use
- Gas module is connected but the agent is not in use
- Gas module is connected but the agent is not detected

14.0   *Alarms and Events*

The alarms available at the Panorama Central Station are dependent on the monitoring devices used and the options that are available at the Panorama Central Station.

This section outlines the alarms and events that occur at the Panorama Central Station.

- Physiological Alarms and Events
- Physiological Alarms and Events: Arrhythmias
- Technical Alarms and Events
- System Events

14.1 Physiological Alarms and Events

The Panorama Central Station alarms to indicate that a monitored patient's physiological alarm thresholds have been violated.

14.1.1 Alarm Limit Settings

This section identifies high and low alarm limit settings, and available alarm priorities for the Physiological Alarms, by patient size.

ALARM	ALARM PRIORITY	ALARM LIMIT	NEONATE	PEDIATRIC	ADULT	DEVICES
Heart Rate Units: bpm	1 or 2 Factory Default: 2	High Limit	Off, 100-350 Factory Default: 200	Off, 100-300 Factory Default:180	Off, 60-250 Factory Default:150	Passport2 Spectrum VPCS
		Low Limit	Off, 30-200 Factory Default: 100	Off, 30-150 Factory Default: 80	Off, 30-120 Factory Default: 50	
Respiration Units: rpm	2 or 3 Factory Default: 3	High Limit	Off, 30-200 Factory Default: Off	Off, 15-150 Factory Default: Off	Off, 10-100 Factory Default: Off	
		Low Limit	Off, 5-50 Factory Default: 5	Off, 5-40 Factory Default: Off	Off, 5-30 Factory Default: Off	
SPO_2 Units: %	2 or 3 Factory Default: 3	High Limit	Off, 80-100% Factory Default: Off	Off, 80-100% Factory Default: Off	Off, 80-100% Factory Default: Off	
		Low Limit	50-99% Factory Default: 92%	50-99% Factory Default: 90%	50-99% Factory Default: 85%	
IBPx Sys. Units: mmHg*	2 or 3 Factory Default: 3	High Limit	Off, 5-180 Factory Default: Off	Off, 5-240 Factory Default: Off	Off, 5-300 Factory Default: Off	
		Low Limit	Off, 0-130 Factory Default: Off	Off, 0-130 Factory Default: Off	Off, 0-150 Factory Default: Off	
IBPx Dia. Units: mmHg*	2 or 3 Factory Default: 3	High Limit	Off, 0-70 Factory Default: Off	Off, 0-100 Factory Default: Off	Off, 0-140 Factory Default: Off	
		Low Limit	Off, 0-50 Factory Default: Off	Off, 0-100 Factory Default: Off	Off, 0-120 Factory Default: Off	
IBPx Mean Units: mmHg*	2 or 3 Factory Default: 3	High Limit	Off, 5-100 Factory Default: Off	Off, 5-100 Factory Default: Off	Off, 5-150 Factory Default: Off	
		Low Limit	Off, 2-50 Factory Default: Off	Off, 2-50 Factory Default: Off	Off, 2-100 Factory Default: Off	

All IBPx alarm limits apply to IBP1, IBP2, IBP3, IBP4, ART, UA, LV, PA, CVP, ICP, LA and RA.
The Panorama Central Station is capable of monitoring up to four IBP measurements.
Note: x = 1, 2, 3 or 4 when used with IBP

ALARM	ALARM PRIORITY	ALARM LIMIT	NEONATE	PEDIATRIC	ADULT	DEVICES
NIBP Sys. Units: mmHg	2 or 3 Factory Default: 3	High Limit	Off, 40-180 Factory Default: Off	Off, 40-180 Factory Default: Off	Off, 70-240 Factory Default: Off	
		Low Limit	Off, 15-130 Factory Default: Off	Off, 15-130 Factory Default: Off	Off, 15-150 Factory Default: Off	

N/A - Not Applicable

ALARM	ALARM PRIORITY	ALARM LIMIT	NEONATE	PEDIATRIC	ADULT	DEVICES
NIBP Dia. Units: mmHg	2 or 3 Factory Default: 3	High Limit	Off, 50-100 Factory Default: Off	Off, 50-100 Factory Default: Off	Off, 40-130 Factory Default: Off	
		Low Limit	Off, 10-50 Factory Default: Off	Off, 10-50 Factory Default: Off	Off, 30-120 Factory Default: Off	
NIBP Mean Units: mmHg	2 or 3 Factory Default: 3	High Limit	Off, 40-160 Factory Default: Off	Off, 50-180 Factory Default: Off	Off, 60-200 Factory Default: Off	
		Low Limit	Off, 10-70 Factory Default: Off	Off, 10-100 Factory Default: Off	Off, 40-140 Factory Default: Off	
INSP CO_2 (mmHg)	2 or 3 Factory Default: 3	High Limit	Off, 5-30 Factory Default: Off	Off, 5-30 Factory Default: Off	Off, 5-30 Factory Default: Off	
		Low Limit	N/A	N/A	N/A	
INSP CO_2 (%)	2 or 3 Factory Default: 3	High Limit	Off, 1-4 Factory Default: Off	Off, 1-4 Factory Default: Off	Off, 1-4 Factory Default: Off	
		Low Limit	N/A	N/A	N/A	
INSP CO_2 (kPa)	2 or 3 Factory Default: 3	High Limit	Off, 1-4 Factory Default: Off	Off, 1-4 Factory Default: Off	Off, 1-4 Factory Default: Off	
		Low Limit	N/A	N/A	N/A	
ET CO_2 (mmHg)	2 or 3 Factory Default: 3	High Limit	Off, 20-80 Factory Default: 60	Off, 20-80 Factory Default: 60	Off, 20-80 Factory Default: 60	
		Low Limit	Off, 5-50 Factory Default: Off	Off, 5- 0 Factory Default: Off	Off, 5-50 Factory Default: Off	
ET CO_2 (%)	2 or 3 Factory Default: 3	High Limit	Off, 2-10 Factory Default: 5	Off, 2-10 Factory Default: 5	Off, 2-10 Factory Default: 5	
		Low Limit	Off, 1-6 Factory Default: Off	Off, 1-6 Factory Default: Off	Off, 1-6 Factory Default: Off	
ET CO_2 (kPa)	2 or 3 Factory Default: 3	High Limit	Off, 2-10 Factory Default: 10	Off, 2-10 Factory Default: 10	Off, 2-10 Factory Default: 10	
		Low Limit	Off, 1-6 Factory Default: Off	Off, 1-6 Factory Default: Off	Off, 1-6 Factory Default: Off	
T1/T2 Units: F°	2 or 3 Factory Default: 3	High Limit	Off, 95-110° Factory Default: Off	Off, 95-110° Factory Default: Off	Off, 95-110° Factory Default: Off	
		Low Limit	Off, 80-100° Factory Default: Off	Off, 80-100° Factory Default: Off	Off, 80-100° Factory Default: Off	

N/A - Not Applicable

ALARM	ALARM PRIORITY	ALARM LIMIT	NEONATE	PEDIATRIC	ADULT	DEVICES
T1/T2 Units: C°	2 or 3 Factory Default: 3	High Limit	Off, 35-43° Factory Default: Off	Off, 35-43° Factory Default: Off	Off, 35-43° Factory Default: Off	
		Low Limit	Off, 26-38° Factory Default: Off	Off, 26-38° Factory Default: Off	Off, 26-38° Factory Default: Off	
ST Single Units: mm	1, 2 or 3 Factory Default: 2	High Limit	N/A	Off, 0.50 to10.0 Factory Default: Off	Off, 0.50 to 10.0 Factory Default: Off	
		Low Limit	N/A	Off, (-0.5) to (-10.0) Factory Default: Off	Off, (-0.5) to (-10.0) Factory Default: Off	
ST Dual Units: mm	1, 2 or 3 Factory Default: 2	High Limit	N/A	Off, 0.50-10.0 Factory Default: Off	Off, 0.50-10.0 Factory Default: Off	
		Low Limit	N/A	Off, (-0.5) - (-10.0) Factory Default: Off	Off, (-0.5) - (-10.0) Factory Default: Off	
PVC Units: PVCs/min	2 or 3 Factory Default: 3	High Limit	N/A	Off, 1-30 Factory Default: Off	Off, 1-30 Factory Default: Off	
		Low Limit	N/A	N/A	N/A	
Arrhythmia Run	2 or 3 Factory Default: 3	High Limit	N/A	Off, 4-8 Factory Default: 4	Off, 4-8 Factory Default: 4	
		Low Limit	N/A	N/A	N/A	
Apnea Delay Units: Seconds	2 or 3 Factory Default: 3	High Limit Low Limit	10-20 Factory Default: 15	10-20 Factory Default: 15	10-60 Factory Default: 60	

N/A - Not Applicable

14.1.2   Bedside Alarms

Alarms that are set at the bedside may be displayed and tracked at the Panorama Central Station. Bedside alarm limit adjustments must be entered at the bedside monitor.

The Panorama Central Station only displays Bedside alarms if the ***Bedside Alarm Tracking*** option has been disabled at the Panorama Central Station. For additional information regarding Bedside Alarm Tracking, refer to ''System Alarms (Alarm Limits) Tab'' on page 9-14.

- End Tidal O_2 (ET O_2)
- Inspired O_2 (INSP O_2)
- End Tidal N_2O (ET N_2O)
- Inspired N_2O (INSP N_2O)
- End Tidal ISO (ET ISO)
- Inspired ISO (INSP ISO)
- End Tidal ENF (ET ENF)
- Inspired ENF (INSP ENF)
- End Tidal DES (ET DES)
- Inspired DES (INSP DES)
- End Tidal SEV (ET SEV)
- Inspired SEV (INSP SEV)
- End Tidal HAL (ET HAL)
- Inspired HAL (INSP HAL)

NOTE: ***The bedside alarms listed above can be set to an Alarm Priority of 2 or 3. The factory default value is 3.***

14.1.3   Physiological Alarm Event Messages

This section lists alarm messages that may appear at the Panorama Central Station.

PARAMETER	PANORAMA CENTRAL STATION MESSAGES	REASON
Heart Rate (HR)	High Heart Rate Alarm Low Heart Rate Alarm Bedside Heart Rate Alarm	The Panorama Central Station activates a Heart Rate alarm when the current value is either equal to or higher/lower than the set alarm limits.
Respiration (ECG Thoracic Impedance, CO_2 and Gas Module)	High Respiration Rate Alarm Low Respiration Rate Alarm Bedside Respiration Rate Alarm	The Panorama Central Station activates a Respiration alarm when the current value is either equal to or higher/lower than the set alarm limits.
SPO_2 (Masimo SET® and Nellcor®)	High SPO_2 Alarm Low SPO_2 Alarm Bedside SPO_2 Alarm	The Panorama Central Station activates an SPO_2 alarm when the current value is either equal to or higher/lower than the set alarm limits.
IBPx (Sys) Labels include: IBP1, IBP2, IBP3, IBP4, ART, UA, LV, PA, CVP, ICP, LA, RA	High IBPx Systolic Alarm Low IBPx Systolic Alarm Bedside IBPx Systolic Alarm	The Panorama Central Station activates an IBPx Systolic alarm when the current value is either equal to or higher/lower than the set alarm limits.

PARAMETER	PANORAMA CENTRAL STATION MESSAGES	REASON
Note: x = 1, 2, 3 or 4 when used with IBP		
IBPx (Dia) Labels include: IBP1, IBP2, IBP3, IBP4, ART, UA, LV, PA, CVP, ICP, LA, RA	High IBPx Diastolic Alarm Low IBPx Diastolic Alarm Bedside IBPx Diastolic Alarm	The Panorama Central Station activates an IBPx Diastolic alarm when the current value is either equal to or higher/lower than the set alarm limits.*
Note: x = 1, 2, 3 or 4 when used with IBP		
IBPx (Mean) Labels include: IBP1, IBP2, IBP3, IBP4, ART, UA, LV, PA, CVP, ICP, LA, RA	High IBPx Mean Alarm Low IBPx Mean Alarm Bedside IBPx Mean Alarm	The Panorama Central Station activates an IBPx Mean alarm when the current value is either equal to or higher/lower than the set alarm limits.*
Note: x = 1, 2, 3 or 4 when used with IBP		
INSP CO_2 (mmHg, %, kPa)	High CO2 Inspired Alarm Bedside CO2 Inspired Alarm	The Panorama Central Station activates a CO_2 Inspired alarm when the current value is either equal to or higher/lower than the set alarm limits.
ET CO_2 (mmHg, %, kPa)	High CO_2 ET Alarm Low CO_2 ET Alarm Bedside CO_2 ET Alarm	The Panorama Central Station activates a CO_2 ET alarm when the current value is either equal to or higher/lower than the set alarm limits.
INSP O_2	O_2 Inspired Alarm	There has been a violation of the O_2 Inspired alarm.
ET O_2	O_2 ET Alarm	There has been a violation of the O_2 ET alarm.
INSP N_2O	N_2O Inspired Alarm	There has been a violation of the N_2O Inspired alarm.
ET N_2O	N_2O ET Alarm	There has been a violation of the N_2O ET alarm.
INSP ISO	Agent ISO Inspired Alarm	There has been a violation of the ISO Inspired alarm.
ET ISO	Agent ISO ET Alarm	There has been a violation of the ISO ET alarm.
INSP ENF	Agent ENF Inspired Alarm	There has been a violation of the ENF Inspired alarm.
ET ENF	Agent ENF ET Alarm	There has been a violation of the ENF ET alarm.
INSP DES	Agent DES Inspired Alarm	There has been a violation of the DES Inspired alarm.
ET DES	Agent DES ET Alarm	There has been a violation of the DES ET alarm.
INSP SEV	Agent SEV Inspired Alarm	There has been a violation of the SEV Inspired alarm.
ET SEV	Agent SEV ET Alarm	There has been a violation of the SEV ET alarm.
INSP HAL	Agent HAL Inspired Alarm	There has been a violation of the HAL Inspired alarm.
ET HAL	Agent HAL ET Alarm	There has been a violation of the HAL ET alarm.
NIBP (Sys)	High NIBP Sys Alarm Low NIBP Sys Alarm Bedside NIBP Sys Alarm	The Panorama Central Station activates an NIBP Sys alarm when the current value is either equal to or higher/lower than the set alarm limits.
NIBP (Dia)	High NIBP Dia Alarm Low NIBP Dia Alarm Bedside NIBP Dia Alarm	The Panorama Central Station activates an NIBP Dia alarm when the current value is either equal to or higher/lower than the set alarm limits.

PARAMETER	PANORAMA CENTRAL STATION MESSAGES	REASON
NIBP (Mean)	High NIBP Mean Alarm Low NIBP Mean Alarm Bedside NIBP Mean Alarm	The Panorama Central Station activates an NIBP Mean alarm when the current value is either equal to or higher/lower than the set alarm limits.
T1 (F/C)	High Temperature 1 Alarm Low Temperature 1 Alarm Bedside Temperature 1 Alarm	The Panorama Central Station activates a Temperature 1 alarm when the current value is either equal to or higher/lower than the set alarm limits.
T2 (F/C)	High Temperature 2 Alarm Low Temperature 2 Alarm Bedside Temperature 2 Alarm	The Panorama Central Station activates a Temperature 2 alarm when the current value is either equal to or higher/lower than the set alarm limits.
ST Single	ST Single Alarm Bedside ST Single Alarm	The Panorama Central Station activates an ST Single alarm when the current value of one ST lead is either equal to or higher/lower than the set alarm limits. A separate ST Single alarm will be shown for each lead of ST that independently violates the alarm.
ST Dual	ST Dual Alarm Bedside ST Dual Alarm	The Panorama Central Station activates an ST Dual alarm when the current value for two or more ST leads are either equal to or higher/lower than the set alarm limits. A separate ST Dual alarm will be shown for every two leads of ST that independently violate the alarm.
Apnea Delay	Apnea Alarm	The Panorama Central Station activates an Apnea alarm when the Apneic episode is either equal to or longer than the set alarm limit.

14.2 Physiological Alarms and Events: Arrhythmias

This section lists alarms and events and alarm messages that may appear for Arrhythmias at the Panorama Central Station

Arrhythmia Alarms

PARAMETER	ALARM PRIORITY	PANORAMA CENTRAL STATION MESSAGES	REASON
V-Tach	1	V-Tach	The Panorama Central Station activates a V-Tach alarm when there are eight or more consecutive PVCs at a rate equal or greater than the V-Tach threshold.
V-Fib	1	V-Fib	The Panorama Central Station activates a V-Fib alarm when there is an absence of recognizable P, QRS and T waves for four consecutive seconds.
Asystole	1	Asystole	The Panorama Central Station activates an Asystole alarm when there are no detectable QRS complexes for the defined period of time in the absence of V-Fib.
Bigeminy	2,3 or Off Factory Default: 3	Bigeminy	The Panorama Central Station activates an Bigeminy alarm when two or more cycles of one PVC followed by a normal beat are detected.
Couplet	2,3 or Off Factory Default: 3	Couplet	The Panorama Central Station activates a Couplet alarm when two consecutive PVCs are detected between normal beats.
Irregular HR	2,3 or Off Factory Default: 3	Irregular HR	The Panorama Central Station activates an Irregular HR alarm when six consecutive R-R intervals are detected that vary by 100 milliseconds or more.
Missed Beat	2,3 or Off Factory Default: 3	Missed Beat	The Panorama Central Station activates a Missed Beat alarm when two normal beats separated by an R-R interval that is twice the current average interval is detected.
Arrhythmia Run	2,3 or Off Factory Default: 3	Arrhythmia Run	The Panorama Central Station activates a Run alarm when a user-defined number of consecutive PVCs are detected at a heart rate between 100 to 150 bpm.
Trigeminy	2,3 or Off Factory Default: 3	Trigeminy	The Panorama Central Station activates a Trigeminy alarm when two or more cycles of one PVC followed by two normal beats are detected.
Triplet	2,3 or Off Factory Default: 3	Triplet	The Panorama Central Station activates a Triplet alarm when three consecutive PVCs between normal beats are detected.

PARAMETER	ALARM PRIORITY	PANORAMA CENTRAL STATION MESSAGES	REASON
V-Rhythm	2,3 or Off Factory Default: 3	V-Rhythm	The Panorama Central Station activates a V-Rhythm alarm when a number of consecutive PVCs (at a rate less than the V-Tach threshold) is detected.
PVC	2,3 or Off Factory Default: 3	High PVC Bedside PVC	The Panorama Central Station activates a PVC alarm when the number of PVCs a minute is above the set alarm limit.

14.3   Technical Alarms and Events

The Panorama Central Station uses Technical alarms to indicate that an issue relating to a monitored patient's monitoring functions has occurred.

This section provides the event messages that may be shown in the Patient Status line at the Panorama Central Station.

Technical Events

MESSAGE	REASON
All Alarms Suspended	The **All Alarms Suspended** event will be posted in the Events database when the **Suspend All Alarms** sidebar button is selected in the Patient Alarms tabs. The All Alarms Suspended event cannot be deleted from the Event database. The All Alarms Suspended message will be shown in the Patient Status line in red text.
Resume All Alarms	The **Resume All Alarms** event will be posted in the Events database when a patient's alarms are to resume. The Resume All Alarms event cannot be deleted from the Event database.
Non-Lethal Alarms Suspended	The **Non-Lethal Alarms Suspended** event will be posted in the Events database when the **Suspend Non-lethal** sidebar button is selected in the Patient Alarms tabs. The Non-Lethal Alarms Suspended event cannot be deleted from the Event database. The Non-Lethal Alarms Suspended message will be shown in the Patient Status line in yellow text.
Resume Non-Lethal Alarms	The **Resume Non-Lethal Alarms** event will be posted in the Events database if a patient's non-lethal alarms are set to resume. The Non-Lethal Alarms Suspended event cannot be deleted from the Event database.
Communication Lost	The **Communication Lost** event will be posted in the Events database if the connection between the Panorama Central Station and the attached monitoring equipment is interrupted. The **Communication Lost** message will be shown in the Patient Status line in white text.
Standby	The **Standby** event will be posted in the Events database if a patient is placed into Standby mode. When a patient is put into Standby mode, all of the patient's monitoring activity is suspended. The Standby event cannot be deleted from the Event database. When a patient is placed into Standby mode, the "Standby" message and/or Standby location will be shown in the patient's digital data tile in pink text.
Resume Monitoring	The **Resume Monitoring** event will be posted in the Events database when a patient is removed from Standby mode.
Battery	The **Battery** event will be posted in the Events database and the Patient Status line, if the battery is low on a patient's monitoring equipment.
Cooling Fan Failure	The **Cooling Fan Failure** event will be posted in the Events database and the Patient Status line, if the cooling fan on the bedside monitor is not operational and the monitor is running on AC power.
Admit	The **Admit** event will be posted in the Events database if a patient is admitted to the Panorama Central Station.
Arrhythmia On	The **Arrhythmia On** event will be posted in the Events database if the Arrhythmia option is enabled on a patient's monitoring equipment. The Arrhythmia On event cannot be deleted from the Event database.

Technical Events (Continued)

MESSAGE	REASON
Arrhythmia Off	The ***Arrhythmia Off*** event will be posted in the Events database if the Arrhythmia option is disabled on a patient's monitoring equipment. The Arrhythmia Off event cannot be deleted from the Event database.
ST On	The ***ST On*** event will be posted in the Events database if the ST option is enabled on a patient's monitoring equipment. The ST On event cannot be deleted from the Event database.
ST Off	The ***ST Off*** event will be posted in the Events database if the ST option is disabled on a patient's monitoring equipment. The ST Off event cannot be deleted from the Event database.
Learning	The ***Learning*** event will be posted in the Events database and the Patient Status line, when the Arrhythmia/ST algorithm begins a learning phase.
Central User Marked Event	The ***Central User Marked Event*** event will be posted in the Events database if the user has marked an event at the Panorama Central Station.
Bedside User Marked Event	The ***Bedside User Marked Event*** event will be posted in the Events database if the user has marked an event at the bedside monitor.
Central Transfer	The ***Central Transfer*** event will be posted in the Events database if a central-to-central transfer has been successfully completed at the Panorama Central Station.
Room Transfer	The ***Room Transfer*** event will be posted in the Events database if a room-to-room transfer has been successfully completed at the Panorama Central Station.
HEART RATE TECHNICAL EVENTS	
RA Lead Off	The ***RA Lead Off*** event will be posted in the Events database if the RA lead is not connected to the patient, ECG lead I is selected and a 3-wire lead set, 5-wire lead set or a 12 lead card is in use. The RA Lead Off message will be shown in the Patient Status line in white text.
LA Lead Off	The ***LA Lead Off*** event will be posted in the Events database if the LA lead is not connected to the patient, ECG lead I is selected and a 3-wire lead set, 5-wire lead set or a 12 lead card is in use. The LA Lead Off message will be shown in the Patient Status line in white text.
LL Lead Off	The ***LL Lead Off*** event will be posted in the Events database if the LL lead is not connected to the patient, ECG lead I is selected and a 3-wire lead set, 5-wire lead set or a 12 lead card is in use. The LL Lead Off message will be shown in the Patient Status line in white text.
Lead Off	The ***Lead Off*** event will be posted in the Events database if 2 or more of the ECG leads are not connected to the patient and a 3-wire lead set, 5-wire lead set or a 12 lead card is in use. The Lead Off message will be shown in the Patient Status line in white text.
V Lead Off	The ***V Lead Off*** event will be posted in the Events database if a V lead is not connected to the patient and a 5-wire lead set is in use. The V Lead Off message will be shown in the Patient Status line in white text.

Technical Events (Continued)

MESSAGE	REASON
V1-V6 Lead Off	The **V1-6 Lead Off** event will be posted in the Events database if a V1-6 lead is not connected to the patient and a 12 lead card is in use. The V1-V6 Lead Off message will be shown in the Patient Status line in white text.

RESPIRATION (ECG THORACIC IMPEDANCE) TECHNICAL EVENTS	
Respiration CVA Present	The **Respiration CVA Present** event will be posted in the Events database if a CVA condition is detected for the monitored patient. The Respiration CVA Present message will be shown in the Patient Status line in white text.

SPO_2 (MASIMO SET® AND NELLCOR®) TECHNICAL EVENTS	
SPO_2 System Check	The **SPO_2 System Check** event will be posted in the Events database if there is an SPO_2 system check. The SPO_2 System Check message will be shown in the Patient Status line in white text.
SPO_2 Communication Error	The **SPO_2 Communication Error** event will be posted in the Events database if there is an interference in the communication between the SPO_2 and the bedside monitor. The SPO_2 Communication Error message will be shown in the Patient Status line in white text.
SPO_2 Failure	The **SPO_2 Failure** event will be posted in the Events database if a bad 5V power supply, a bad positive 15V power supply or a bad negative 15V power supply is detected on the SPO_2 board. The SPO_2 Failure message will be shown in the Patient Status line in white text.
SPO_2 Board Fault	The **SPO_2 Board Fault** event will be posted in the Events database if the SPO_2 board fails. The SPO_2 Board Fault message will be shown in the Patient Status line in white text.
SPO_2 Unrecognized Cable	The **SPO_2 Unrecognized Cable** event will be posted in the Events database if the system detects an unrecognized SPO_2 cable. The SPO_2 Unrecognized Cable message will be shown in the Patient Status line in white text.
SPO_2 Pulse Search	The **SPO_2 Pulse Search** event will be posted in the Events database if the SPO_2 sensor is trying to detect a pulse. The SPO_2 Pulse Search message will be shown in the Patient Status line in white text.
SPO_2 Weak Pulse	The **SPO_2 Weak Pulse** event will be posted in the Events database if the SPO_2 sensor detects a weak pulse. The SPO_2 Weak Pulse message will be shown in the Patient Status line in white text.

SPO_2 (MASIMO) TECHNICAL EVENTS	
SPO_2 Low Perfusion	The **SPO_2 Low Perfusion** event will be posted in the Events database if the SPO_2 Masimo sensor detects low perfusion. The SPO_2 Low Perfusion message will be shown in the Patient Status line in white text.
SPO_2 Too Much Light	The **SPO_2 Too Much Light** event will be posted in the Events database if the SPO_2 Masimo sensor detects too much light. The SPO_2 Too Much Light message will be shown in the Patient Status line in white text.

Technical Events (Continued)

MESSAGE	REASON
SPO$_2$ Unrecognized Sensor	The **SPO$_2$ Unrecognized Sensor** event will be posted in the Events database if an unrecognized SPO$_2$ Masimo sensor is detected by the system. The SPO$_2$ Unrecognized Sensor message will be shown in the Patient Status line in white text.
SPO$_2$ Sensor Off	The **SPO$_2$ Sensor Off** event will be posted in the Events database if the SPO$_2$ Masimo sensor is off. The SPO$_2$ Sensor Off message will be shown in the Patient Status line in white text.
SPO$_2$ No Sensor	The **SPO$_2$ No Sensor** event will be posted in the Events database if the SPO$_2$ Masimo sensor is not plugged in. The SPO$_2$ No Sensor message will be shown in the Patient Status line in white text.
SPO$_2$ Sensor Failed	The **SPO$_2$ Sensor Failed** event will be posted in the Events database if communication with the SPO$_2$ Masimo sensor failed. The SPO$_2$ Sensor Failed message will be shown in the Patient Status line in white text.
SPO$_2$ Interference	The **SPO$_2$ Interference** event will be posted in the Events database if there is interference in the communication with the SPO$_2$ Masimo sensor. The SPO$_2$ Interference message will be shown in the Patient Status line in white text.

SPO$_2$ (NELLCOR) TECHNICAL EVENTS

MESSAGE	REASON
SPO$_2$ Motion	The **SPO$_2$ Motion** event will be posted in the Events database if the SPO$_2$ Nellcor sensor detects motion. The SPO$_2$ Motion message will be shown in the Patient Status line in white text.
SPO$_2$ Check Sensor	The **SPO$_2$ Check Sensor** event will be posted in the Events database if a problem is detected with the SPO$_2$ Nellcor sensor. The SPO$_2$ Check Sensor will be shown in the Patient Status line in white text.
SPO$_2$ No Pulse	The **SPO$_2$ No Pulse** event will be posted in the Events database if a a pulse is not detected by the SPO$_2$ Nellcor sensor. The SPO$_2$ Check Sensor message will be shown in the Patient Status line in white text.

IBPX TECHNICAL EVENTS*

MESSAGE	REASON
IBPx (Labels include: Art, UI, LV, PA, CVP, ICP, LA,RA) Not Calibration/Zeroed	The **IBPx Not Calibration/Zeroed** event will be posted in the Events database if the IBP device is not zeroed. There can be up to four IBP measurements. The IBPx Not Calibration/Zeroed message(s) will be shown in the Patient Status line in white text.

Note: x = 1, 2, 3 or 4 when used with IBP

CO$_2$ TECHNICAL EVENTS

MESSAGE	REASON
CO$_2$ Sensor Failed	The **CO$_2$ Sensor Failed** event will be posted in the Events database if the CO$_2$ sensor fails and is inoperable. The CO$_2$ Sensor Failed message will be shown in the Patient Status line in white text.
CO$_2$ Not Calibration/ Zeroed	The **CO$_2$ Not Calibration/Zeroed** event will be posted in the Events database if the CO$_2$ device is not calibrated. The CO$_2$ Not Calibration/Zeroed message will be shown in the Patient Status line in white text.

Technical Events (Continued)

MESSAGE	REASON
CO_2 **Calibrating**	The CO_2 **Calibrating** event will be posted in the Events database if the CO_2 device is calibrating. The CO_2 Calibrating message will be shown in the Patient Status line in white text.
CO_2 **Zeroing**	The CO_2 **Zeroing** event will be posted in the Events database if the CO_2 device is zeroing. The CO_2 Zeroing message will be shown in the Patient Status line in white text.
CO_2 **Purging**	The CO_2 **Purging** event will be posted in the Events database if the CO_2 device detects an obstruction. The CO_2 Purging message will be shown in the Patient Status line in white text.
CO_2 **Occlusion**	The CO_2 **Occlusion** event will be posted in the Events database if the CO_2 device detects a blockage in the filter line. The CO_2 Occlusion message will be shown in the Patient Status line in white text.

O_2 TECHNICAL EVENTS

MESSAGE	REASON
O_2 **Sensor Failed**	The O_2 **Sensor Failed** event will be posted in the Events database if the O_2 sensor fails and is inoperable. The O_2 Sensor Failed message will be shown in the Patient Status line in white text.
O_2 **Not Calibration/ Zeroed**	The O_2 **Not Calibration/Zeroed** event will be posted in the Events database if the O_2 device is not calibrated. The O_2 Not Calibration/Zeroed message will be shown in the Patient Status line in white text.
O_2 **Calibrating**	The O_2 **Calibrating** event will be posted in the Events database if the O_2 device is calibrating. The O_2 Calibrating message will be shown in the Patient Status line in white text.
O_2 **Zeroing**	The O_2 **Zeroing** event will be posted in the Events database if the O_2 device is zeroing. The O_2 Zeroing message will be shown in the Patient Status line in white text.
O_2 **Purging**	The O_2 **Purging** event will be posted in the Events database if the O_2 device detects an obstruction. The O_2 Purging message will be shown in the Patient Status line in white text.
O_2 **Occlusion**	The O_2 **Occlusion** event will be posted in the Events database if the O_2 device detects a blockage in the filter line. The O_2 Occlusion message will be shown in the Patient Status line in white text.

N_2O TECHNICAL EVENTS

MESSAGE	REASON
N_2O **Sensor Failed**	The N_2O **Sensor Failed** event will be posted in the Events database if the N_2O sensor fails and is inoperable. The N_2O Sensor Failed message will be shown in the Patient Status line in white text.
N_2O **Not Calibration/ Zeroed**	The N_2O **Not Calibration/Zeroed** event will be posted in the Events database if the N_2O device is not calibrated. The N_2O Not Calibration/Zeroed message will be shown in the Patient Status line in white text.

Technical Events (Continued)

MESSAGE	REASON
N$_2$O Calibrating	The **N$_2$O Calibrating** event will be posted in the Events database if the N$_2$O device is calibrating. The N$_2$O Calibrating message will be shown in the Patient Status line in white text.
N$_2$O Zeroing	The **N$_2$O Zeroing** event will be posted in the Events database if the N$_2$O device is zeroing. The N$_2$O Zeroing message will be shown in the Patient Status line in white text.
N$_2$O Purging	The **N$_2$O Purging** event will be posted in the Events database if the N$_2$O device detects an obstruction. The N$_2$O Purging message will be shown in the Patient Status line in white text.
N$_2$O Occlusion	The **N$_2$O Occlusion** event will be posted in the Events database if the N$_2$O device detects a blockage in the filter line. The N$_2$O Occlusion message will be shown in the Patient Status line in white text.

AGENT TECHNICAL EVENTS

MESSAGE	REASON
Agent Sensor Failed	The **Agent Sensor Failed** event will be posted in the Events database if the Agent sensor fails and is inoperable. The Agent Sensor Failed message will be shown in the Patient Status line in white text.
Agent Not Calibration/ Zeroed	The **Agent Not Calibration/Zeroed** event will be posted in the Events database if the Agent device is not calibrated. The Agent Not Calibration/Zeroed message will be shown in the Patient Status line in white text.
Agent Calibrating	The **Agent Calibrating** event will be posted in the Events database if the Agent device is calibrating. The Agent Calibrating message will be shown in the Patient Status line in white text.
Agent Zeroing	The **Agent Zeroing** event will be posted in the Events database if the Agent device is zeroing. The Agent Zeroing message will be shown in the Patient Status line in white text.
Agent Purging	The **Agent Purging** event will be posted in the Events database if the Agent device detects an obstruction. The Agent Purging message will be shown in the Patient Status line in white text.
Agent Occlusion	The **Agent Occlusion** event will be posted in the Events database if the Agent device detects a blockage in the filter line. The Agent Occlusion message will be shown in the Patient Status line in white text.

NIBP TECHNICAL EVENTS

MESSAGE	REASON
NIBP Cuff Overpressure	The **NIBP Cuff Overpressure** event will be posted in the Events database if the patient's NIBP cuff has an overpressure episode. The NIBP Cuff Overpressure message will be shown in the Patient Status line in white text.
NIBP Unable to Measure	The **NIBP Unable to Measure** event will be posted in the Events database if the patient's NIBP cuff is unable to take a valid measurement. The NIBP Unable to Measure message will be shown in the Patient Status line in white text.

Technical Events (Continued)

MESSAGE	REASON
NIBP Retry	The **NIBP Retry** event will be posted in the Events database during an NIBP measurement retry. The NIBP Retry message will be shown in the Patient Status line in white text.
NIBP Pump Higher	The **NIBP Pump Higher** event will be posted in the Events database if the patient's NIBP cuff needs additional pressure in order to take a measurement. The NIBP Pump Higher message will be shown in the Patient Status line in white text.

NURSE CALL TECHNICAL EVENTS

Nurse Call	The **Nurse Call** event will be posted in the Events database if the **Nurse Call** button on the Panorama Telepack has been selected. The Nurse Call message will be shown in the Patient Status line in white text.

ATTENDANT PRESENT TECHNICAL EVENTS

Attendant Present	The **Attendant Present** event will be posted in the Events database if the **Attendant Present** buttons on the Panorama Telepack have been selected.

PRINTER TECHNICAL EVENTS

Printer Out of Paper	The **Printer Out of Paper** event will be posted in the Events database if the bedside monitor's local printer is out of paper. The Printer Out of Paper message will be shown in the Patient Status line in white text.
Printer Door is Open	The **Printer Door is Open** event will be posted in the Events database if the bedside monitor's local printer has an open door condition. The Printer Door is Open message will be shown in the Patient Status line in white text.

14.4   System Events

The Panorama Central Station uses System events to indicate system-wide issues at the Panorama Central Station. System events are listed based on the system violation. System events are resolved when the system-wide condition no longer exists.

This section provides the system event messages that may be shown in the system status line of the Panorama Central Station menu bar.

System Event Messages

MESSAGE	REASON
No Printer Selected or Available	The **No Printer Selected or Available** will be displayed if the Panorama Central Station does not have a printer selected, properly configured with the system or the selected printer is unavailable and a print request has been made. The **No Printer Selected or Available** message will be shown in the System Status line in white text.
Printer Off Line	The **Printer Off Line** event will be displayed if there is a printer jam. This message will not be displayed when printer sharing is in use. The Printer Off Line message will be shown in the System Status line in white text.
Printer Out of Paper	The **Printer Out of Paper** event displays if the printer configured with the Panorama Central Station is out of paper. This message will not display when printer sharing is in use. The Printer Out of Paper message displays in the System Status line in white text.
Printer Toner Low	The **Printer Toner Low** event will be displayed if the toner level for the selected printer is low. This message will not be displayed when printer sharing is in use. The Printer Toner Low message will be shown in the System Status line in white text.
Clock Adjusted	The **Clock Adjusted** event will be posted in the Events database and the System Status Line, for all actively monitored patient tiles if the system time and/or date has been adjusted. The **Clock Adjusted** event cannot be deleted from the Event database.

Specifications

This section outlines performance specifications for the Panorama Monitoring Network and the Panorama Telepack.

- ECG Performance Requirements
- ECG Derived Heart Rate Meter Performance Requirements
- Panorama Central Station
- Keyboard
- Mouse
- Displays
- Network Printer
- Access Points/Antennas (ISM)
- Panorama Wireless Transceiver/Splitters/Antennas
- Telepack Specifications
- Panorama Instrument Radio-608

15.1 ECG Performance Requirements

Three Lead Displayable Leads:	I, II, III (one vector at a time)
Five Lead Displayable Leads:	I, II, III, aVR, aVL, aVF, V1
Twelve Lead Displayable Leads:	I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5 and V6
Standardizing Voltage:	The ECG size is indicated by a scale bar displayed on the left of the waveform window with a scale indicating the height of the bar in mV. Printed output to have standardizing pulse printed at beginning of strip ANSI/AAMI EC13-2002, 4.9.9
Time base selection (Non-permanent display)	25 mm/s ANSI/AAMI EC13-2002, 4.9.6 (b)
Time base error (Non-permanent display)	±10% ANSI/AAMI EC13-2002, 4.9.6 (b)
Impulse Response	0.1 mV max 0.3 mV/sec max slope ANSI/AAMI EC13-2002, 4.2.9.8 (c)
Aspect Ratio	0.4 ± 0.08 sec/mV (met by 25 mm/s) ANSI/AAMI EC13-2002, 4.2.9.7 (f)
Overall System Error	Greater of 5% or 4 cuv ANSI/AAMI EC13-2002-4.2.9.8 a
ECG Input dynamic range	+/- 5mV max ANSI/AAMI EC13-2002-4.2.9.1
Channel Width	30 mm. min ANSI/AAMI EC13-2002-4.2.9.7 a

Waveform Displays

Each waveform in the All Strips, Event List Zoom-In, Full Disclosure Zoom-In and ST reports will be displayed on a calibrated grid (5mm x 5mm) that conforms to ANSI/AAMI EC13: 2002.4.2.9.7d.

Each second of the waveforms in the All Strips, Event List Zoom-In, Full Disclosure Zoom-In and ST reports will be marked with a time annotation marker that conforms to ANSI/AAMI EC13: 2002.4.2.9.7e.

Heart Rate Meter Accuracy and Response to Irregular Rhythm

Per ANSI/AAMI EC13-2002 Section 4.1.2.1e. paragraph 3a, Ventricular Bigeminy, the Heart Rate meter response is in the range of 39 bpm to 80 bpm.

Per ANSI/AAMI EC13-2002 Section 4.1.2.1e. paragraph 3b, Slow alternating Ventricular Bigeminy, the Heart Rate meter response is in the range of 45 bpm to 62 bpm.

Per ANSI/AAMI EC13-2002 Section 4.1.2.1e. paragraph 3c, Rapid alternating Ventricular Bigeminy, the Heart Rate meter response is constant at 60 bpm.

Per ANSI/AAMI EC13-2002 Section 4.1.2.1e. paragraph 3d, Bidirectional systoles, the Heart Rate meter response is constant at 90 bpm.

Time to Alarm for Tachycardia

The alarm response time for tachycardia is less than 5 seconds in accordance with ANSI/AAMI EC13-2002 Section 4.1.2.1g.

Pacer Rejection

The heart rate meter rejects pulses of amplitude signals from ±2mV to ±700mV and duration 0.1ms to 2ms with no tail according to ANSI/AAMI EC13-2002 Section 4.1.4.1 (No tails).

Pacemaker Pulse Rejection Capability

The pacer detector's slew rate is 6.024V/s

NOTE: **The heart rate meter does not reject Pacemaker pulses with tails.**

NOTE: **The heart rate meter does not reject Pacemaker with fast ECG signals.**

NOTE: **There is no Pacemaker pulse auxiliary output.**

15.2 ECG Derived Heart Rate Meter Performance Requirements

Range: 30 to 300 bpm Adult/Pediatric ANSI/AAMI
EC13–2002, 4.2.7

30 to 350 bpm Neonatal ANSI/AAMI
EC13–2002, 4.2.7

Resolution: 1 bpm

15.2.1 Alarm Response

High HR alarm Range 60-250 bpm Adult
100-300 bpm Pediatric
100-350 bpm Neonatal
(ANSI/AAMI EC13-2002, 4.2.8.1)

Low HR alarm Range 30-120 bpm Adult
30-150 bpm Pediatric
30-200 bpm Neonatal
(ANSI/AAMI EC13-2002, 4.2.8.1)

Resolution 5 bpm max.
(ANSI/AAMI EC13-2002, 4.2.8.2)

Accuracy ± 5 bpm or ± 10%
(ANSI/AAMI EC13-2002, 4.2.8.3)

Time to alarm
Step Change Response Time
Less than 10 seconds for 60 bpm low limit alarm to
sound when stepping from heart rate of 80 to 0 bpm
and 80 to 40 bpm
(ANSI/AAMI EC13-2002, 4.2.8.4 and 4.2.8.5).
Less than 10 seconds for 100 bpm high limit alarm to
sound when stepping from a heart rate of 80 to 120
bpm (ANSI/AAMI EC13-2002, 4.2.8.6)

15.2.2 ST Segment Analysis

Enabling: Enabled in Adult and Pediatric modes only

Default ST Measurement Point: 80 ms after J point for heart rates <120 bpm
60 ms after the J point for heart rates >120 bpm

User Selectable ST

Measurement Points:	40, 60 and 80 ms after J point (heart rate independent)
	Or 60/80 Heart Rate Dependent

15.2.3 Arrhythmia Analysis

Arrhythmia analysis is disabled in neonatal mode. Arrhythmia analysis will identify ventricular arrhythmia.

The following arrhythmia calls will be displayed:

Asystole	Triplets	PVCs per minute
Missed Beat	Runs	Ventricular Tachycardia
Irregular Heart Rate	Bigeminy	Ventricular Fibrillation
Couplets	Trigeminy	

15.2.4 NIBP Performance Characteristics

Systolic Pressure Measurement

Range:	55 to 235 mmHg in Adult mode
	55 to 160 mmHg in Pediatric mode
	45 to 120 mmHg in Neonatal mode
Resolution:	1 mmHg

15.2.4.1 Diastolic Pressure Measurement

Range:	30 to 200 mmHg in Adult mode
	30 to 150 mmHg in Pediatric mode
	20 to 100 mmHg in Neonatal mode
Resolution:	1 mmHg

15.2.4.2 Pulse Rate

Range:	35-245 bpm, for Adults/Pediatric
	70– 245 bpm, for Neonate
Resolution:	1 bpm

15.2.5 IBP Pressure Range

Range:	30 to 300 mmHg after zeroing at the Passport 2®

15.2.6   IBP Heart Rate Meter

Range:	30 to 300 bpm Adult/Pediatric
	30 to 333 bpm Neonatal
Resolution:	1 bpm

15.2.7   Temperature Performance Requirements

Scale:	Selectable Celsius or Fahrenheit
Range:	15 °C to 45 °C
	59 °F to 113 °F
Resolution:	0.1 °C
	0.1 °F

15.2.8   ECG Respiration Performance Requirements

Range:	4 to 199 breaths per minute
Resp. Scale:	1, 2, 3, 4 or 5 with standard ECG cable

15.2.9 SpO_2

SpO_2 Range:	70% to 100%
Pulse Rate Range:	30 to 235

15.2.10 CO_2 Performance Requirements

Range:	0 - 13%s
Respiration Rate Range:	0 - 150 breaths/minute

15.2.11 CO_2 Alarm

ET CO_2 High Alarm Range:	2 - 10%
ET CO_2 Low Alarm Range:	1 - 6%
Insp. CO_2 High Alarm Range:	1 - 4%

15.3   Panorama Central Station

Panorama Central Station hardware consists of a computer, hard drives, Ethernet, display controllers, case and a power supply.

There is one basic hardware platform for the Panorama Central Station computer system. It contains the following:

- 512 MB of RAM
- 1280 x 1024 dpi 65535 color display controller
- 20.5 GB system hard drive
- Two 45 GB fixed full disclosure hard drive
- Four channel serial interface for touch screen input
- 100 Mbit/sec Ethernet board
- CD-R/W

15.3.1   Real Time Clock

This is used for various time-related functions in Panorama Central Station. This function is Y2K compliant.

15.3.2   Power Supply

Voltage

- 100-240 VAC (±10%)

Frequency

- 60/50 Hz (±3Hz)

Panorama Central Station Power Consumption Maximum

- 115 VAC @ 1.4 A + 20%
- 230 VAC @ 0.6 A + 20%

15.3.3   Operating Temperature

- +5 to +40 ° C

15.3.4   Operating Humidity

- 20% to 80% Relative Humidity Maximum, non-condensing, maximum wet bulb 29 ° C

15.3.5   Operating Altitude

- 1060 to 700 hPa (-1250 to 9889 feet ASL) (-380 - 3014 m) (795 to 525 mm Hg)

15.3.6   Shipping

- Meet ISTA Test procedure 1A

15.3.7   Storage Temperature

- -20 to +60 º C

15.3.8   Storage Humidity

- 5% to 80% Relative Humidity Maximum, non-condensing, maximum wet bulb 35 º C

15.3.9   Storage Altitude

- 1060 to 700 hPa (-1250 to 9889 feet ASL) (-380 - 3014 m) (795 to 525 mm Hg)

15.3.10   Surface Temperature

Temperature does not exceed the values shown in table 16, parts 1 and 2 of EN 60950: 1992.

15.3.11   Tip Over

EN 60950:1992, section 4.1.1: Unit does not overbalance when tilted to an angle of 10° from normal upright position.

15.3.12   Rigidity and Strength of Enclosure

External enclosures to meet steady force of 250 N ± 10 N for a period of 5 s. Parts of enclosure located in operator access area to meet steady force of 30 N ± 3 N for a period of 5 s.

15.3.13   External Connector Compatibility

Clause 4.3.17 of the CAN/CSA standard C22 no 950-95, third edition and UL 1950 third edition.

15.3.14   Alarms: Audio and Visual

- EN 475:1995

15.3.15   Electromagnetic Compatibility

The electromagnetic compatibility (EMC) EN 60601-1-2:1993 requirements are summarized as follows:

Radiated Emissions

- EN55022:1998 Class A Radiated

(RF) Conducted Emissions

- EN55022:1998 Class A Conducted

Radiated Susceptibility

- EN 61000-4-3:1998: 3 V/M: 26 MHz – 1 GHz 80% AM

Conducted Susceptibility

- EN 61000-4-6:1996
  0.15-80 MHz
  3V, 80% AM

Electro-Static Discharge (ESD)

- EN 55024:1998

- EN 61000-4-2; 2 and 4 contact and 2,4,6 and 8 kV air

Electrical Fast Transient (EFT/B)

- EN 55024:1998

- EN 61000-4-4:1995 2kV supply and control 1kV data and signal

Surge Immunity

- EN55024:1998

- EN 61000-4-5:1995 2kV common mode; 1kV differential to AC line

Magnetic Emissions

- MIL-STD-461D

- RES101 30 Hz to 100KHz @ 7cm

Magnetic Immunity

- EN55024:1998

- EN 61000-4-8: 1994 50 HZ, 1 A/m

Voltage Dips, Short Interruptions and Voltage Variations

- EN 55024:1998
- EN 61000-4-11:1994

Harmonics

- EN 61000-3-2: 1995, Amendment A1: 1998 and A2: 1998

Voltage Fluctuations and Flicker

- EN 61000-3-3:1995

Steady State Voltage

- FDA Reviewer Guidance 1993. App A (m) 7 (c) (1)

AC Dropout

- Draft IEC 601-1-2: 1996
- FDA Reviewer Guidance 1993 App A (m) 7 (c) (2)

AC Slow Sags and Surges

- FDA Reviewer Guidance 1993 App A (m) 7 (c) (3)

Quasi-Static

- FDA Reviewer Guidance 1993 App A (m) 7 (f)

15.3.16   Safety

Enclosure Risk Current

- 3.5 mA max. per EN 60950

Dielectric Withstand

Central Monitoring System does withstand and operate as specified after application of 1500 V RMS at 50 or 60 Hz for 1 minute from AC mains hot or neutral to chassis.

Ground Resistance

For items that have a connection to AC mains power.

Panorama Central Station does have a ground resistance of ≤0.1 ohm from the AC mains power inlet module's ground contact pin to any exposed metal part, which will become energized when, measured per IEC 950. A ground resistance of up to 0.2 ohm is allowed when measured from the U blade of the supplied AC line cord to any exposed metal part which will become energized.

15.3.17   Physical Characteristics

Maximum Size

- Depth: 18.87" (479 mm)
- Height: 17.18" (436 mm)
- Width: 7.44" (189 mm)

Maximum Weight

- 36.5 lbs (16.56 kg)

15.4   Panorama Telemetry Server

Panorama Telemetry Server hardware consists of a computer, hard drives, Ethernet, display controllers, case and a power supply.

There is one basic hardware platform for the Panorama Telemetry Server computer system. It contains the following:

- 512 MB of RAM
- 1280 x 1024 dpi 65535 color display controller
- 20.5 GB system hard drive
- Two 45 GB fixed full disclosure hard drive
- Four channel serial interface for touch screen input
- 100 Mbit/sec Ethernet board
- CD-R/W

15.4.1   Real Time Clock

This is used for various time-related functions in Panorama Central Station. This function is Y2K compliant.

15.4.2   Power Supply

Voltage

- 100-240 VAC (±10%)

Frequency

- 60/50 Hz (±3Hz)

Panorama Central Station Power Consumption Maximum

- 115 VAC @ 1.4 A + 20%
- 230 VAC @ 0.6 A + 20%

15.4.3   Operating Temperature

- +5 to +40 ° C

15.4.4   Operating Humidity

- 20% to 80% Relative Humidity Maximum, non-condensing, maximum wet bulb 29 ° C

15.4.5   Operating Altitude

- 1060 to 700 hPa (-1250 to 9889 feet ASL) (-380 - 3014 m) (795 to 525 mm Hg)

15.4.6   Shipping

- Meet ISTA Test procedure 1A

15.4.7 Storage Temperature

- -20 to +60 º C

15.4.8 Storage Humidity

- 5% to 80% Relative Humidity Maximum, non-condensing, maximum wet bulb 35 º C

15.4.9 Storage Altitude

- 1060 to 700 hPa (-1250 to 9889 feet ASL) (-380 - 3014 m) (795 to 525 mm Hg)

15.4.10 Surface Temperature

Temperature does not exceed the values shown in table 16, parts 1 and 2 of EN 60950: 1992.

15.4.11 Tip Over

EN 60950:1992, section 4.1.1: Unit does not overbalance when tilted to an angle of 10° from normal upright position.

15.4.12 Rigidity and Strength of Enclosure

External enclosures to meet steady force of 250 N ± 10 N for a period of 5 s. Parts of enclosure located in operator access area to meet steady force of 30 N ± 3 N for a period of 5 s.

15.4.13 External Connector Compatibility

Clause 4.3.17 of the CAN/CSA standard C22 no 950-95, third edition and UL 1950 third edition.

15.4.14 Alarms: Audio and Visual

- EN 475:1995

15.4.15 Electromagnetic Compatibility

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- EN55022:1998 Class A Conducted

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- EN 61000-4-6:1996
  0.15-80 MHz
  3V, 80% AM

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- EN 55024:1998

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- EN 61000-4-5:1995 2kV common mode; 1kV differential to AC line

Magnetic Emissions

- MIL-STD-461D

- RES101 30 Hz to 100KHz @ 7cm

Magnetic Immunity

- EN55024:1998

- EN 61000-4-8: 1994 50 HZ, 1 A/m

Voltage Dips, Short Interruptions and Voltage Variations

- EN 55024:1998
- EN 61000-4-11:1994

Harmonics

- EN 61000-3-2: 1995, Amendment A1: 1998 and A2: 1998

Voltage Fluctuations and Flicker

- EN 61000-3-3:1995

Steady State Voltage

- FDA Reviewer Guidance 1993. App A (m) 7 (c) (1)

AC Dropout

- Draft IEC 601-1-2: 1996
- FDA Reviewer Guidance 1993 App A (m) 7 (c) (2)

AC Slow Sags and Surges

- FDA Reviewer Guidance 1993 App A (m) 7 (c) (3)

Quasi-Static

- FDA Reviewer Guidance 1993 App A (m) 7 (f)

15.4.16   Safety

Enclosure Risk Current

- 3.5 mA max. per EN 60950

Dielectric Withstand

Central Monitoring System does withstand and operate as specified after application of 1500 V RMS at 50 or 60 Hz for 1 minute from AC mains hot or neutral to chassis.

Ground Resistance

For items that have a connection to AC mains power.

Panorama Central Station does have a ground resistance of ≤0.1 ohm from the AC mains power inlet module's ground contact pin to any exposed metal part, which will become energized when, measured per IEC 950. A ground resistance of up to 0.2 ohm is allowed when measured from the U blade of the supplied AC line cord to any exposed metal part which will become energized.

15.4.17   Physical Characteristics

Maximum Size

- Depth: 18.87" (479 mm)
- Height: 17.18" (436 mm)
- Width: 7.44" (189 mm)

Maximum Weight

- 36.5 lbs (16.56 kg)

15.5   Keyboard

- Keyboard is supported for system diagnostics only.

- This keyboard is offered in English language only and is not required for normal operation, but will be required for non-application system maintenance.

- The System will not require a keyboard to boot up and enter Panorama Central Station application software.

15.6   Mouse

- The mouse is supported for system diagnostics and user interface.

- Supported as an interface control device.

- The mouse operates independent of a touch screen interface.

- The mouse/touch screen is used together with the display to make selections from various menus and screens.

15.7   Displays

15.7.1   21" CRT Display

This is an integrated monitor that includes an internal touch screen controller and has the following features:

- SXGA
- 1280 x 1024 dpi capability
- 0.27mm dot pitch
- 19" viewable image measured diagonally

15.7.2   20" CRT Display

This is an integrated monitor that includes an internal touch screen controller and has the following features:

- SXGA
- 1280 x 1024 dpi capability
- 0.27mm dot pitch
- 18.9" viewable image measured diagonally

15.7.3   18.1" Flat Panel

This is an integrated monitor that includes an internal touch screen controller and has the following features:

- SXGA
- 1280 x 1024 dpi capability
- 0.28mm dot pitch
- 18.1" viewable image measured diagonally

WARNING: *The 18.1" flat panel may tip over, if the display head is inclined to an angle greater than 45° backward tilt. If the user elects to have the display head inclined to an angle greater than 45° backward tilt, the flat panel must be attached to a secure mounting surface via three screw locations on the bottom of the base.*

15.7.4   Touch Screen

- A Surface Acoustical Wave (SAW) touch screen is supported as the standard input device on 18" flat panel and 20" or 21" display.
- The touch screen operates independent of a mouse interface.
- The actual touch screen and its controller are integrated into the display.
- The touch screen communication is accepted by Panorama Central Station via a serial port.
- Use of the touch screen does not preclude the use of a mouse.

15.8   Network Printer

- The network printer is the standard hard copy output device for the output of Panorama Central Station waveform strip-charts and reports.
- There is no provision to support a printer mounted within Panorama Central Station CPU enclosure.
- The printer connects to the system via the Panorama Central Network.
- Two network laser printers are supported per Panorama Central Station.

For additional information see the Printer Configuration Manual (P/N 0070-00-0561).

15.8.1   Requirements

Communications connection:	10/100 Base-TX Ethernet with internal print server
Speed:	17 pages per minute printing at full resolution
Resolution:	1200-dpi output
Media:	Plain paper sheets
Media sizes:	8.5 in. by 11 in. and A4

NOTE: **Please refer to the manufacturer's printer manual for specific instructions regarding the printer.**

15.9   Access Points/Antennas (ISM)

The Panorama Telemetry Server will require Symbol® Technologies Access Points with antennas as described in the Installation Guide (P/N 0070-00-0471), when ISM communication is required.

15.10   Panorama Wireless Transceiver/Splitters/Antennas

15.10.1   Panorama Wireless Transceiver

15.10.1.1   Power Supply

Voltage

- 100-130 VAC (± 10%)

Frequency

- 60 Hz (± 3 Hz)

Power Consumption

- 1.25 Amps (maximum)

15.10.1.2   Physical Characteristics

Maximum Size

- Depth: 16.2" (411.48 mm)
- Height: 5.2" (132.08 mm)
- Width: 17" (431.8 mm)

Maximum Weight

- 12.35 lbs (5.6 kg)

15.10.1.3   Frequency Range

Receiver Range

- 608-614 MHz

Transmit Range

- 1395-1400 MHz and 1427-1429.5 MHz (not available at this time)

15.10.2   Panorama Antenna

Physical Characteristics

Maximum Size

- Depth: 7.6" diameter (193.04 mm)
- Height: 5.5" (139.7 mm)

Maximum Weight

- 0.88 lbs (0.4 kg)

Frequency Range

- Receiver Range: 608-614 MHz
- Transmit Range:1395-1400 MHz and 1427-1429.5 MHz (not available at this time)

15.10.3   Splitter

Physical Characteristics

Maximum Size

- Depth: 2" (50.8 mm)
- Height: 2" (50.8 mm)
- Width: 1.25″ (31.75 mm)

Maximum Weight

- 0.22 lbs. (0.1 kg)

15.10.4   Environmental Characteristics for the Panorama Wireless Transceiver/Splitters/Antennas

15.10.4.1   Operating Temperature

- +5 to +40 º C

15.10.4.2   Operating Humidity

- 20 % to 80 % Relative Humidity Maximum, non-condensing, maximum wet bulb 29 º C

15.10.4.3   Operating Altitude

- 1060 to 700 hPa (-1250 to 9889 feet ASL) (795 to 525 mmHg)

NOTE: *Meets IEC601-1 temperature requirements withing the operating altitude.*

15.10.4.4   Shipping

- Meet ISTA Test procedure 1A

15.10.4.5   Storage Temperature

- -20 to +60 º C

15.10.4.6   Storage Humidity

- 5% to 80% Relative Humidity Maximum, non-condensing, maximum wet bulb 35 º C

15.10.4.7   Storage Altitude

- 1060 to 700 hPa (-1250 to 9889 feet ASL) (795 to 525 mmHg)

NOTE: *Shall meet IEC601-1 temperature requirements within the storage altitude and meets section 6.5 Storage Temperature*

15.10.4.8   Shock and Vibration

- Meet ISTA Test procedure 1A

- CAN/CSA Standard C22.2 No. 950-95, Third Edition, and UL 1950, which does not require the shock and vibration testing.

15.10.4.9 Fluid Spill Resistance

- UL 1950, which does not require fluid spill resistance testing.

15.10.4.10 Surface Temperature

- Temperature does not exceed the values shown in table 16, parts 1 and 2 of UL 1950: 1995.

15.10.4.11 Tip Over

- UL 1950: 1995, section 4.1.1: Unit does not overbalance when tilted to an angle of 10° from normal upright position.

15.10.4.12 Rigidity and Strength of Enclosure

- UL 1950: 1995 4.1.2, 4.2.2, 4.2.3, 4.2.4, and 4.2.5

15.10.4.13 External Connector Compatibility

- Clause 4.3.17 of the CAN/CSA Standard C22 no 950-95, third edition and UL 1950 third edition, standard: "Safety of Information Technology Equipment."

15.10.4.14 Electromagnetic Compatibility

- The electromagnetic compatibility (EMC) requirements are summarized as follows:

Radiated Emissions

- EN55022:1998 Class A Radiated

(RF) Conducted Emissions

- EN55022:1998 Class A Conducted

Radiated Susceptibility

- EN 61000-4-3:1998: 3 V/M: 26 MHz – 1 GHz 80% AM

Conducted Susceptibility

- EN 61000-4-6:1996
  0.15-80 MHz
  $3V_{RMS}$, 80% AM

Electro-Static Discharge (ESD)

- EN 61000-4-2; 2, 4, and 6 contact and 2,4,6 and 8 kV air

Electrical Fast Transient (EFT/B)

• EN 61000-4-4:1995 2kV supply and control 1kV data and signal

Surge Immunity

• EN 61000-4-5:1995 2kV common mode; 1kV differential to AC line

Magnetic Emissions

• MIL-STD-461D

• RES101 30 Hz to 100KHz @ 7cm

Magnetic Immunity

• EN 61000-4-8: 1994 50 HZ, 3 A/m

Voltage Dips, Short Interruptions and Voltage Variations

• EN 61000-4-11:1994

Steady State Voltage

• FDA Reviewer Guidance 1993. App A (m) 7 (c) (1)

AC Dropout

• EN61000-4-11: 1994 tested at 90 VAC

AC Slow Sags and Surges

• FDA Reviewer Guidance 1993 App A (m) 7 (c) (3)

Quasi-Static

• FDA Reviewer Guidance 1993 App A (m) 7 (f)

15.10.4.15 Safety

Enclosure Risk Current

- 3.5 mA max. per EN 60950

Dielectric Withstand

- The Panorama Wireless Transceiver and its components shall withstand and operate as specified after application of 1500 V RMS at 50 or 60 Hz for 1 minute from AC mains hot or neutral to chassis.

Ground Resistance

- For items that have a connection to AC mains power:

The Panorama Wireless Transceiver and its components shall have a ground resistance of 0.1 ohm from the AC mains power inlet module's ground contact pin to any exposed metal part, which may become energized when, measured per IEC 950. A ground resistance of up to 0.2 ohm is allowed when measured from the U blade of the supplied AC line cord to any exposed metal part, which may become energized.

15.10.4.16 Radio Certification

Panorama Wireless Transceiver

- FCC ID: DXXVT0190-00000

15.11 Telepack Specifications

The following are the specifications for the Telepack:

TABLE 15-1

SPECIFICATION	DESCRIPTION
Pacer Detection	Provides pacer detection capability
Acquired Leads	ECG 3-Lead: I, II, III (one vector at a time) ECG 5-Lead: Three vectors (I, II, III, aVR, aVF, V(n))
Battery Type and Runtime (Telepack-2.4)	24 hrs minimum using (2) AA alkaline Cells with ECG at a HR of 60 bpm common to the Panorama Central Station
Battery Type and Runtime (Telepack-608)	40 hrs minimum using (2) AA alkaline Cells with ECG at a HR of 60 bpm common to the Panorama Central Station 46 hrs minimum using (2) AA Lithium Cells with ECG at a HR of 60 bpm common to the Panorama Central Station
Battery Shelf Life	The battery shelf life is indicated on the battery casing.
Lead Current	Max lead current: 25nA

15.11.1 Safety Designations

Safety designations as per IEC 601-1 Standard:

TABLE 15-2

DESIGNATION	DESCRIPTION
Degree of protection against electric shock	ECG-Type CF defibrillation protected.
Supply Connection	3 VDC Internal Battery
Mode of Operation	Continuous
Protection Against Hazards of Explosion	Not Protected (Ordinary)
Protection Against Ingress of Liquids	IPx7
Degree of Electrical Connection between Equipment and Patient	Equipment designed for direct electrical connection to the patient
Degree of Mobility	Transportable, Intra Hospital

15.11.2 Panorama Server Analysis

The Telepack device collects ECG information and transfers it to the Panorama Telemetry Server for analysis. In contrast, the Passport 2® collects and analyses patient information and then transfers its analysis to the Panorama Central Station; therefore, no calculations are performed by the Panorama Server for the Passport 2. The specifications of the Panorama Telemetry Server relative to the Telepack are described in the following table.

TABLE 15-3

SPECIFICATION	DESCRIPTION
Performance with Telepack	Supports a maximum of 16 devices, 8 of which can be Telepack
Displayable Leads	3-Lead - 1, II, III (one vector at a time) (for Telepack-608 only) 5-Lead - I, II, III, aVR, aVL, aVF, V1
Notch Filter	Set to 60 Hz

TABLE 15-3 (Continued)

SPECIFICATION	DESCRIPTION
Pacer Rejection	Pacer signals from ±2mV to ±700mV (RTI) amplitude and 0.1ms to 2ms in duration and a maximum of 100μs rise time are rejected.
ECG	Frequency response is 0.05Hz to 40.00Hz
ECG Derived Heart Rate Meter	
• Range	30 to 300 bpm for Adult
• Resolution	1 bpm
• Accuracy	± 3 bpm or ± 3% at 30 to 250 bpm, whichever is greater. ± 5% 251 to 350 bpm
Heart Rate Averaging	6 bpm using multi- vector beat analysis
Time to Alarm - Step Change Response Time (Low to High)	Time to alarm will not inhibit the Panorama Central Station less than 10 seconds for 60 bpm low limit alarm to sound when stepping from heart rate 80 to 0 bpm and 80 to 40 bpm (ANSI/AAMI EC13-2002, 4.2.8.4 and 4.2.8.5)
Time to Alarm - Step Change Response Time (High to Low)	Time to alarm will not inhibit the Panorama Central Station less than 10 seconds for 100 bpm high limit alarm to sound when stepping from a heart rate of 80 to 120 bpm (ANSI/AAMI EC13-2002, 4.2.8.6)
Tall T-wave Rejection	Rejects all T-waves less than 80% of 1 mV QRS and Q-T interval of 350 ms as per ANSI/AAMI EC13-2002, 4.1.2.1(c)
ST Segment Analysis Performance	Data computed on the Panorama Server is displayed on the Panorama Central Station. I, II, V leads are used Low pass filtering set at 0.05 Hz A lead-off condition initiates an ST relearn
ST Deviation Range	–9.9 mm to + 9.9mm (-990μV to + 990μV RTI)
Resolution	0.1 mm (10 μV)
Default ST	80 ms after J point for heart rates <120 bpm
Measurement Point	60 ms after the J point for heart rates >120 bpm
User Selectable ST Measurement Points	Default ISO Point - is located between the P and Q waves. Adjustable from J-30 ms to J-300 ms in step settings of 12 ms. Default J Point - is the end of the QRS complex. Adjustable from J-30 ms to J+100 ms in step settings of 12 ms.
Numerical ST Measurement Display	Transmitted to the Central Station every two seconds Data updated every 10 valid templates
Invalid ST	ST data is invalidated when the measured ST value exceeds range and/or paced rhythm persists for more than 45 seconds.
Arrhythmia Analysis	Arrhythmia analysis identifies ventricular arrhythmia only. Asystole, Missed Beat, Irregular Heart Rate, Couplets, Triplets, Runs, Bigeminy, Trigeminy, Ventricular Tachycardia, Ventricular Fibrillation, PVCs per minute in step settings of 2 ms.
Defibrillator Overload Protection and Recovery	Recovers from a 360 Joule discharge. ANSI/AAMI EC13-2002, 4.2.2.2 Recovers from defibrillator overload or lead fault to within 1mV, referred to input, in <8 seconds automatically. Recovers from a 1V p-p 60 Hz overload within 3 seconds.
Input Bias Current	<100 - per lead, excluding driven lead (ANSI/AAMI EC13-2002, 4.2.5.
Input Signal Range	±5.0 mV, minimum
DC Offset	±300 mV minimum (ANSI/AAMI EC13-2002, 4.2.9.1)

TABLE 15-3 (Continued)

SPECIFICATION	DESCRIPTION
Input Impedance	2.5M Ω single ended at 10Hz per ANSI/AAMI EC13-2002, 4.2.9.2
Noise	Less than 30 µV p-p, referred to input, through shielded 51K Ω resistors in parallel with 47nF capacitors (ANSI/AAMI EC13-2002, 4.2.9.3).
Overall System Error	5% or 40µV, whichever is greater (ANSI/AAMI EC13-2002, 4.2.9.8, complying with the more stringent requirements of EC11-1992.)
Gain Stability	Per ANSI/AAMI EC13-2002, 4.2.9.5 (d) complying with the more stringent requirements of EC11-1992.
Multichannel Crosstalk	Maximum of 2%, per ANSI/AAMI EC13-2002, 4.2.9.4 complying with the more stringent requirements of EC11-1992.
Drift Rate	10 µV/s maximum, referred to input, with all leads shorted through 25K Ω resistors. Total drift is less than 500 µV over a 1 hour period.
Frequency and Impulse Response	0.05 to 40 Hz (-3dB). Meets Extended bandwidth and impulse response requirements of ANSI/AAMI EC13-2002, 4.2.9.8 (c).
Frequency and Impulse Response (5 lead configuration)	Meets the frequency response and impulse response requirements of ANSI/AAMI EC13-2002, 4.2.7.2, A and D (0.67 to 40 Hz sinusoidal and -10% for 20 ms triangle).
Notch Filter Selections	60 Hz
CMRR	90 dB min., Maximum, output of 1mV p-p (RTI) over a 60 second period at 50/60 Hz, with a parallel combination 51K Ω and 0.047uF imbalance and ±300 mV DC offset per AAMI EC13-2002 4.2.9.10.
Lead Fault	Lead resistance ≤ 51K Ω in parallel with 0.047µF does not cause a lead fault condition. Also, a ±300mV offset does not cause a lead fault condition.
Pacer Enhancement	Pacer signals with amplitudes within the range ± 2mV and ± 700mV (RTI) with a maximum rise time of 100usec and with duration in the .01 ms to 2.0 ms range are enhanced when the Pacer Mode is turned ON.

15.11.3   Environmental Characteristics

The environmental characteristics of the Telepack device are as follows:

TABLE 15-4

SPECIFICATION	DESCRIPTION
Maximum Size (Telepack-2.4)	Height: 6.5" (162.56 mm) Width: 3.7" (93.98 mm) Depth: 1.5" (38.1 mm)
Maximum Size (Telepack-608)	Height: 5.10″ (129.54 mm) Width: 2.95″ (74.93 mm) Depth: 1.23″ (31.24 mm)
Maximum Weight (Telepack-2.4)	11.0 oz. (311.84 g) without batteries
Maximum Weight (Telepack-608)	6.4 oz. (199.06 g) without batteries
Operating Environment	Temperature: +5 °C to +40 °C (+41 °F to +104 °F) Altitude: 1060 hPa to 700 hPa -1250 feet to 9889 feet ASL -380 m to 3014 m 795 mmHg to 525 mmHg
Operating and Storage Humidity	Storage: 10% to 90% maximum, non-condensing Operating: 15% to 90% maximum, non-condensing
Storage Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Storage Altitude	1,060 hPa to 700 hPa -1250 feet to 9,889 feet ASL -380 m to 3,014 m 795 mmHg to 525 mmHg

15.11.4   Electromagnetic Compatibility

The Telepack meets the requirements of IEC 60601-1-2:2001.

NOTE: *The Telepack needs special precautions regarding Electro Magnetic Compatibility (EMC) and needs to be installed and put into service according to the EMC information provided in this section.*

NOTE: *Portable and mobile RF communications equipment can affect the Telepack. See Table 15-5 on page 15-29, Table 15-6 on page 15-29, Table 15-7 on page 15-31 and Table 15-8 on page 15-32.*

TABLE 15-5

GUIDANCE AND DATASCOPE CORP. DECLARATION - ELECTROMAGNETIC EMISSIONS

It is important that the Telepack is used in the electromagnetic environment specified in the following table.

EMISSIONS TEST	COMPLIANCE	ELECTROMAGNETIC ENVIRONMENT - GUIDANCE
RF emissions CISPR 11	Group 1	The Telepack uses RF energy only for its internal function and external data transmission. However, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The Telepack is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes
Harmonic emissions IEC 61000-3-2	N/A	
IEC 61000-3-3 Voltage fluctuations/ Flicker emissions	N/A	

TABLE 15-6

GUIDANCE AND DATASCOPE CORP. DECLARATION - ELECTROMAGNETIC IMMUNITY

It is important that the Telepack is used in the electromagnetic environment specified in the following table.

IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT - GUIDANCE
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/ output lines	Not applicable *	Mains power quality should be typical of a commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	Not applicable *	Mains power quality should be typical of a commercial or hospital environment.

U_T is the a.c. mains voltage prior to application of the test level.
* Telepack operates only from the internal bat

TABLE 15-6 (Continued)

GUIDANCE AND DATASCOPE CORP. DECLARATION - ELECTROMAGNETIC IMMUNITY

It is important that the Telepack is used in the electromagnetic environment specified in the following table.

IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT - GUIDANCE
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0,5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (>95% dip in U_T) for 5 sec	Not applicable *	Mains power quality should be typical of a commercial or hospital environment. If the user requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

U_T is the a.c. mains voltage prior to application of the test level.
* Telepack operates only from the internal bat

TABLE 15-7

GUIDANCE AND DATASCOPE CORP. DECLARATION - ELECTROMAGNETIC IMMUNITY

It is important that the Telepack is used in the electromagnetic environment specified in the following table.

IMMUNITY TEST	*IEC 60601 TEST LEVEL*	*COMPLIANCE LEVEL*	*ELECTROMAGNETIC ENVIRONMENT - GUIDANCE*
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	Not applicable	Portable and mobile RF communications equipment should be used no closer to any part of the Telepack, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d = 1.2 \times \sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2 \times \sqrt{P}$ 80 MHz to 800 MHz $d = 2.3 \times \sqrt{P}$ 80 MHz to 800 MHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).[b] Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a] should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE: **At 80 MHz and 800 MHz, the higher frequency range applies.**

NOTE: **The EMC guidelines in Table 15-7 on page 15-31 may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.**

a   *field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment, due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength where the Telepack is used exceeds the applicable RF compliance level, the Telepack should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Telepack.*

b *Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.*

TABLE 15-8

RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND THE TELEPACK

The Telepack is intended for use in an electromagnetic environment where radiated RF disturbances are controlled. Prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Telepack as recommended in the following table, according to the maximum output power of the communications equipment.

RATED MAXIMUM OUTPUT POWER OF TRANSMITTER W (WATTS)	SEPARATION DISTANCE ACCORDING TO FREQUENCY OF TRANSMITTER M (METERS)		
	150 KHZ TO 80 MHZ $D = 1.2 \times \sqrt{P}$	**80 MHZ TO 800 MHZ** $D = 1.2 \times \sqrt{P}$	**800 MHZ TO 2.5 GHZ** $D = 2.3 \times \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE: **At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.**

NOTE: **The separation distances guidelines in Table 15-8 on page 15-32 may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.**

15.11.5   FDA 11/93 Guidelines

The Telepack meets the following "FDA 11/93" Guidelines:

- MIL-STD-461/2D, RE101 30 Hz to 100 kHz @ 7cm

Quasi-Static Field Susceptibility

- 500-2000 V/m sweep @ 0.5 Hz sine

15.11.6   FCC Label

- Radio Transceiver - The Telepack-2.4 utilizes the 'Symbol' LA-302T-100 radio (FCC ID H9PLA3021-100). Frequency Range is 2400 MHz to 2500 MHz typical. Modulation is Binary GFSK.
- Radio Transceiver - The Telepack-608 (FCC ID:DXXWT0191-00000) utilizes the frequency range 608 MHz - 614 MHz. Modulation is 2-level FSK.

15.11.7   Compliance

The Telepack complies with the following standards:

AGENCY AND INDUSTRY STANDARDS

EN 60601-1:1990/IEC 60601-1:1988 and A1:1991 and A2:1995
EN 60601-2-27:1994/IEC 60601-2-27:1994
IEC 60601-1-2:2001
UL2601-1:1997
CSA Standard C22.2 No. 601.1 M90
ANSI/AAMI EC 13:2002
IEEE 802.11 Std 802.11-1999 - Part 11
ISTA: 1994 Procedure 1A
FDA Reviewer Guidance for Pre-Market Notification Submissions (1993 Draft) (m)(7)(ii)(f)
FCC:47CFR, Part 15, Sub Part C-Computing Devices, Part 95, Sub Part H - Wireless Medical Telemetry Service (WMTS)

15.12   Panorama Instrument Radio-608

15.12.1   Approved Accessory

Kit, Instrument Radio-608, Passport 2®/Spectrum™ (P/N 0040-00-0361-01)

15.12.2   FCC Label

- Radio Transceiver - The Panorama Instrument Radio-608 (FCC ID:DXXRA0743-00000) utilizes the frequency range 608 MHz - 614 MHz. Modulation is 4-level FSK.

15.12.2.1   Label

(P/N 0334-00-1605-01)

Datascope maintains a policy of continual product improvement and reserves the right to change materials and specifications without notice.

16.0 *Glossary*

This section provides a glossary of terminology used throughout the Panorama Operating Instructions.

• Terms, Acronyms and Abbreviations

16.1   Terms, Acronyms and Abbreviations

TERMS	DEFINITIONS
Agent	The gas used to anesthetize a patient during surgery
Arrhythmia	Abnormal ECG rhythms
Bedside Monitor	A monitoring device that has its own user interface and does not require the Panorama Central Station to be its primary monitoring source
Heart Rate	Number of heartbeats detected during a one minute time period
Internet Protocol (IP)	The TCP/IP is the standard protocol that defines the IP datagram as the unit of information passed across an Internet. IP provides the basis for connectionless, best effort packet delivery of services.
Invasive Blood Pressure (IBP)	Method of obtaining blood pressure using an internal pressure sensor
Monitoring Device	This is the instrumentation connected to the patient. The monitoring device acquires the patient data and then transmits it onto the network.
Non-Invasive Blood Pressure (NIBP)	Method of obtaining blood pressure using an external cuff
Panorama Central Network	Supports hardwired communication between Panorama Central Stations and laser printers
Panorama Patient Network	Supports hardwired communication of the real-time patient data collected by monitoring devices attached to the patient
Panorama Wireless Network	Supports wireless communications between the monitoring devices and the Panorama Server.
Persistent	Data or settings maintained and remain available until purposely edited or deleted
Respiration	Number of breaths during a one minute time period
SpO$_2$	Level of Oxygen Saturation in the blood
ST	The ST portion of the ECG waveform

ACRONYMS/ ABBREVIATIONS	DEFINITIONS
AHA	American Heart Association
	American Hospital Association
ART	Arterial Line
bpm	Beats per minute
C	Current ST
	Chest Lead (IEC)
cm	Centimeters
CO$_2$	Carbon Dioxide
CVA	Cardiovascular Artifact
CVP	Central Venous Pressure
DES	Desoflurane
ECG	Electrocardiogram
EMC	Electromagnetic Compatibility
ENF	Enflurane
ET	End-Tidal when referencing $CO_2/O_2/N_2O$/Agent parameters
	Elapsed Time when referencing NIBP
F	Left Leg when referring to ECG Leads (IEC)
HAL	Haloflurane
HR	Heart Rate
IBP	Invasive Blood Pressure
ICP	Intracranial Pressure
IEC	International Electro-Technical Commission
in	Inches
INSP	Inspired
IP	Internet Protocol
ISO	Isoflurane when referencing Agent
	Isoelectric when referencing ST monitoring
kg	Kilograms
kPa	Kilopascals per atmosphere
L	Left Arm when referring to ECG Leads (IEC)
LA	Left Arm when referring to ECG Leads (AHA)
lbs	Pounds
LL	Left Leg when referring to ECG Leads (AHA)
LV	Left Ventricle

ACRONYMS/ ABBREVIATIONS	DEFINITIONS
MAP	Mean Arterial Pressure
MDD	Medical Device Directive
mmHg	Millimeters of Mercury
N	Right Leg when referring to ECG Leads (IEC)
N_2O	Nitrous Oxide
NIBP	Non-Invasive Blood Pressure
NSR	Normal Sinus Rhythm
O_2	Oxygen
PA	Pulmonary Artery
Pleth	Plethysmograph
PVC	Premature Ventricular Contraction
R	Right Arm when referring to ECG Leads (IEC)
	Referenced ST
RA	Right Atrium when referring to IBP
	Right Arm when referring to ECG Leads (AHA)
RESP	Respiration Rate
RL	Right Leg when referring to ECG Leads (AHA)
rpm	Respirations per minute
SEV	Sevoflurane
SpO_2	Oxygen Saturation
TEMP	Temperature
UA	Umbilical Artery
V	Chest Lead (AHA)

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