EXHIBIT EE – Revised User Manual

FCC ID# NMEAVTS1010

Data Critical Corp.

AlarmView™
{Replace with AlarmView color logo}

Wireless Data Network System
User's Guide

The AlarmView™ System is intended for use with Nellcor™ NPB-290, NPB-295, N-395, and N-3000 Pulse Oximetry Monitoring Systems

Draft

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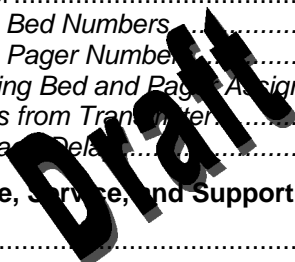All other trademarks and registered trademarks are the property of their respective owners.

AlarmView™ Wireless Data Network System User's Guide

Table of Contents

Using this Guide

Procedures

As you work through this guide, steps to perform are numbered in sequence. For example:

1. Turn monitor off or disconnect cable from transmitter.

2. Press **On/Off** button on transmitter.

Cautions

Cautions alert you to actions or conditions necessary for the safe use of the equipment to prevent damage or malfunction.

> ❗ Cautions are identified by this symbol.

Notes

Notes provide additional tips or hints to make it easier for you to work with the FlexView System.

> ✏️ Notes are identified by this symbol.

For More Information

This guide contains instructions for the daily use of the AlarmView System only.

For information on system specifications, installation, programming, testing and maintenance, refer to the *AlarmView™ Wireless Data Networking System Administrator's Manual.*

Safety Information

System Warnings

Warnings alert you to potential serious outcomes (including death, injury, or adverse events) to the patient or user.

Patient Monitoring – The most reliable method of patient monitoring combines close personal surveillance with correct operation of monitoring equipment.

Secondary Patient Monitoring System – The bedside monitor and central station make up the patient monitoring system. Patient alarm conditions and notifications are primary functions of the patient monitoring system. **It is imperative that patient alarm conditions be monitored at the primary monitor or central station. The AlarmView System is not intended for use as the primary source for patient alarm notification.**

Explosion Hazard – Do not use AlarmView System in the presence of flammable anesthetics, skin cleaning agents, disinfectants or gases. Care must be taken when the device is used in oxygen-enriched environments (where room air contains 25% or more oxygen or nitrous oxide).

Electrical Shock – To reduce the risk of electrical shock, do not remove the cover of the AlarmView transmitter. Refer servicing to qualified personnel.

Pacemaker Interference – The programmer may cause interference with some pacemakers when used in close proximity. For patients with pacemakers, do not use the AlarmView programmer near a patient's chest area or place the programmer on a patient's chest.

Radio Frequency (RF) Radiation Safety – The transmitter is designed for use as a mobile device as defined by the Federal Communications Commission (FCC). Do not place the transmitter on a patient's or user's body. Ensure that the transmitter is located at least 20 cm from a patient or user's body. Location of the transmitter

closer than 20 cm to a person's body or head will void the user's FCC authority to operate the equipment.

Transmitter Placement – Do not place transmitter in any position where it might fall on and potentially harm a patient. Do not lift transmitter or connected monitor by interface cable or power cord, as they may become disconnected and cause transmitter and/or monitor to fall on and potentially harm patient.

Use During Defibrillation – The AlarmView transmitter is not electrical shock-proof. When attached to a monitor that is attached to a patient during defibrillation or while an electrosurgical unit is in use, the transmitter may temporarily lose communication with the monitor and/or pages may be delayed.

Transmitter Range – Users are not notified when pagers are out of range of the transmitter. A range test must be performed (as indicated in the *Administrator's Manual*) to determine system boundaries.

System Redundancy – To provide redundancy, the AlarmView System should consist of at least two pagers. If one pager is not receiving pages for any reason, and the alarm is not silenced at the monitor, the second pager will be notified by a reminder page. If redundancy is not possible, caregivers should use extra vigilance in monitoring the patient and use the primary monitoring alarm.

Site Surveys – Each institution is responsible for surveying existing equipment and ensuring no interference risk exists when introducing additional devices.

Transmission Bands – Each institution is responsible for continued surveillance of transmission bands in the facility to prevent co-occupation of bands and cross-band interference.

Environment – Data Critical Corp does not assume responsibility for damage caused to the equipment by improper use or installation.

Home Use – The AlarmView System is not intended for home use.

IEC Standards – Verify proper operation and compliance with IEC standards of all instruments before clinical use. Connecting additional equipment to the signal port of the monitor constitutes configuring a medical system. Anyone who performs this task is responsible for ensuring that the system, the combinations of equipment, and accessories connected to the monitor's data interface comply with IEC Standard 60601-1 for electromedical equipment and IEC Standard 60601-1-2 electromagnetic compatibility, and are certified according to IEC Standard 950 for data processing equipment.

Section 1: AlarmView™ System Overview

Introduction

The AlarmView System is a complete secondary patient monitoring system. AlarmView notifies caregivers of patient events using a wireless network that supplements the primary notification system.

AlarmView is intended for use in hospitals and hospital-type facilities, and is installed in care units where pulse oximetry monitors are used.

AlarmView consists of the following three basic components.

> Transmitter
> Pager
> Handheld Programmer

AlarmView™ Transmitter

At each bedside, a transmitter connects to the data port on the patient monitor. The transmitter detects alarms identified by the monitor, and sends the information to one or more text pagers worn by caregivers within seconds.

{Insert photo of transmitter from data sheet}

AlarmView™ Pager

The pager is worn by the caregiver responsible for the patient. It receives Alarm Pages in the form of text messages from the transmitter, and displays immediate information about the patient and type of alarm. If an alarm continues unattended, a Reminder Page is sent to all pagers in the unit.

{Insert photo of generic pager (from DAP users manual)}

AlarmView™ Handheld Programmer

The programmer is a handheld computing device used to define or change bed and caregiver assignments, and to configure the transmitter.

*{Insert photo of generic palm
(or Compac Aero 1500 Pocket PC)}*

An AlarmView System includes up to 24 transmitters (one for each bedside oximetry monitor), up to 12 pagers, and one programmer. All transmitters and pagers within one system operate on the same radio frequency and same baud rate.

! Pager coverage is limited and designed to cover a care unit. Operating range from transmitter to pager is approximately 150 feet with no intervening structures (walls, columns, doors, floors, etc.). Coverage is not long range. Exact coverage area will be determined during initial installation, and you can re-examine the coverage area at any time by performing a Transmitter Range Test as described in Section 5: Testing and Periodic Maintenance.

The system communicates as indicated in the diagram below.

*{Insert System Block Diagram
(Figure 10-1 Nellcor Manual)}*

AlarmView™ System Communication Flow Chart

Section 2: AlarmView™ Transmitter Overview

The AlarmView Transmitter interfaces with a pulse oximetry monitor. Alarm settings and parameters are entered in the monitor – the transmitter itself does not screen or select alarms.

When the pulse oximeter goes into alarm, the transmitter detects the alarm from the monitor, then transmits that alarm to an assigned pager or pagers. The alarm is transmitted as a text message to the pager(s). Data relayed includes patient bed number, alarm type, and parameter values.

Transmitter Product Description

Top Panel

{Insert graphic of top panel
(Figure 4 in Nellcor Operator's Manual)}

Transmitter Top View

Antenna Connector

Connector for the transmitter antenna.

On/Off Button

Turns the transmitter on and off. Also used to initiate Test Pages, and to select **All Pagers** from the transmitter.

Front Panel

{Insert graphic of front panel
(Figure 4 in Nellcor Operator's Manual)}

Transmitter Front View

AC Indicator

Off   Transmitter is not connected to AC power.

Green   Transmitter connected to AC power and the battery is charging.

Transmitting Indicator

Off   Transmitter is not attempting to transmit.

Amber Transmitter is attempting to transmit, but cannot due to interference (for example another transmitter is transmitting at the same frequency and in the same vicinity).

Green   Transmitter is transmitting a page.

! If Transmitting Indicator remains green for more than two seconds when sending a transmission, transmitter is malfunctioning and should be taken out of service. Contact Data Critical Corp. for repair or replacement.

Communications Indicator

Off   Transmitter is turned off.

Amber Transmitter is turned on, but is either not connected to monitor, *or* is unable to communicate with monitor.

Infrared Port

Allows communication between the transmitter and the programmer.

❗ A green AC indicator does not mean that the transmitter is turned on, only that it is connected to power. The Communications Indicator must also be Green or Amber to show that the transmitter is turned on.

Rear Panel

{Insert graphic of rear panel
(Figure 4 in Nellcor Operator's Manual)}

Transmitter Rear View

Monitor Input Port

Data port for interface cable that connects transmitter to monitor.

Power Input Port

Input connector for DC power supply.

Using the Transmitter

To install, setup, and test the transmitter, refer to the *AlarmView System Administrator's Manual*.

Turning Transmitter On

Check oximetry monitor to ensure it is on and functioning properly, and that alarm settings are appropriate.

Check all transmitter connections:

a. Antenna is connected to transmitter,

b. Transmitter is plugged in and connected to power (**AC Indicator**

should be Green),

c. Interface cable is connected to transmitter and to monitor.

> ❗ The antenna must be connected to the transmitter before the transmitter is turned on. Turning the transmitter on without the antenna connected may damage the transmitter. Do not disconnect the antenna while the transmitter is turned on.

Press **On/Off** button on top of transmitter.

Indicators will flash on and off while the transmitter performs a Power-On Self Test (POST) to check its function.

The **Communications Indicator** will turn green when the transmitter has established communication with the monitor.

The **Transmitting Indicator** will flash green, and the transmitter will send a Communication Page to assigned pager(s) to confirm communication between transmitter and monitor. The message will display:

> Bed: 1234
>
> Comm OK
>
> All Pagers*

*Last line All Pagers with be replaced with "Pager 1234" if one pager is assigned to transmitter, and "Pager 1234 5678." The 4 digits correspond to the last 4 digits of the assigned pager(s)' cap code (Refer to *Section 3: AlarmView Pager Overview* for an explanation of cap codes).

Verify that page is sent to assigned pager(s) and that bed number is correct.

The transmitter will now send pages to the assigned pager(s) whenever it detects alarms identified by the monitor.

Turning Transmitter Off

The transmitter can be turned off only when it is not
communicating with the monitor. To turn the transmitter off:

1. Turn monitor off, disconnect interface cable from
    transmitter or monitor. The Communications Indicator will
    turn Amber.

2. Press **On/Off** button. The Communications Indicator will turn
    Off.

> If you disable communications between the transmitter and
> monitor and do not turn off the transmitter, the transmitter will
> send Communication Failure pages to assigned pagers at
> periodic intervals for up to one hour.

Operating Transmitter On Battery Power

The transmitter has an internal, rechargeable battery. It can operate on
battery power for approximately 45 minutes if it becomes disconnected
from AC power.

The battery will automatically recharge when connected to AC power.
When the **AC Indicator** is Green, it indicates that the transmitter is
connected to power, and that the internal battery is recharging. A
completely discharged battery takes approximately 17 hours to return to
full charge. The transmitter can be used while it is recharging.

> A monitor that is not connected to AC power will not communicate
> with the transmitter, so the AlarmView System will not operate in
> case of a monitor power failure. The only exception is the Nellcor N-
> 395 monitor, which will continue to communicate with the transmitter
> while operating on battery power.

Testing System Setup

You should test the AlarmView System se... ~~conducting~~ a Test Page when any changes effecting the system have occurred. The following are examples of when a Test Page should be performed.

A transmitter is setup for initial use
A transmitter has been moved to a different monitor
You are concerned the system is not operating properly
Any of the transmitter or pager components appear to be or could be damaged
Any of the transmitter or pager components have been splashed with liquids (and component has been allowed to dry for 24 hours and checked before returning to service)

Send Test Page

With transmitter turned on and communicating with monitor, press and release **On/Off** button again.

All pagers assigned to the transmitter will display the following page (if a patient is not connected to the sensor, dashes will be displayed for SpO_2 and pulse rate):

> Bed: 1234
>
> Test Page
>
> SPO2: 83%
>
> PR: 70 bpm*

* For the Nellcor N-3000 monitor, the last line of the test page will display heart rate (HR).

Section 3: AlarmView™ Pager Overview

The AlarmView Pager is worn by caregivers assigned to monitor patients. It is intended as an additional means of receiving patient alarm information.

Within seconds of detecting an alarm identified by the oximetry monitor, the transmitter sends an Initial Alarm Page to its assigned pager(s) only. Each transmitter can be programmed to send the Initial Alarm Page to one pager, two pagers, or all pagers.

Information communicated includes bed number, alarm type, and parameter values, such as pulse rate, heart rate, or respiration parameter that is outside alarm limits.

If the Initial Alarm Page is left unread at the assigned pager(s), and not acknowledged at the monitor, the transmitter will follow up with a Reminder Page sent *once* to all pagers in the system.

Pager Product Description

Below is a picture of a typical pager. Your pager may differ slightly from the one shown here.

{Insert graphic of generic pager
(from cover of DAP User's Manual)}

AlarmView™ Pager

Because pager operations may vary in different models, the basic functions of your pager are described in *Appendix A: Basic Pager Functions* of this guide. Refer to Appendix A for instructions on the following functions.

    Turning Pager On/Off
    Selecting Tone or Vibrate
    Setting Date/Time

Adjusting Contrast
Viewing, Locking and Deleting Pages
Replacing Pager Battery

! Replace pager batteries often. If pager batteries are low or depleted, the pager's range may be reduced or the pager may not correctly receive pages.

Alarm Pages

! The pager must be turned on to receive pages. Do not turn the pager off at any time when being used for alarm notification. Doing so may result in failure to receive notice of a patient alarm.

Alarm Page Event Levels

Alarm pages are prioritized for four (4) event levels (4=immediate, 3=high, 2=medium, 1=low).

Initial Alarm Messages with a 4 priority are sent to all pagers in the system. Messages with priority 1, 2, or 3 are sent to assigned pager(s) only. Reminder Pages are sent to all pagers in the system regardless of priority level.
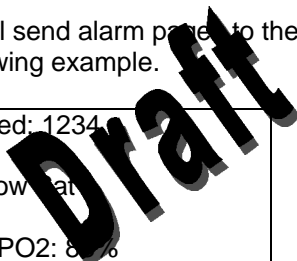
When the transmitter generates a page, it is placed in a queue that holds up to four pages while they are being processed. Pages in the queue that have the same priority will be sent in the order they were received. If a higher priority alarm occurs while a lower priority page is being processed by the transmitter, the higher priority alarm will be sent first.

If a new page is generated and the queue has four pages with a higher priority, the new page will be discarded. If a new page is generated with a higher priority, it will replace the oldest page with the lowest priority.

Alarm Page Format

The transmitter will send alarm pages to the pager in a format similar to the following example.

```
Bed: 1234

Low at

SPO2: 8 %

PR: 70 bpm*
```

The first line displays the bed number of the patient being monitored. The second line of the message will display the type of alarm. The majority of alarm types are listed in the table below. The third and fourth lines display the SpO_2 percentage and pulse rate readings at the time of the alarm.

If the page is sent from a transmitter attached to a Nellcor N-3000 monitor with ECG and/or respiration capabilities, the last line of the message will display the pulse rate, heart rate, or respiration parameter that is outside alarm limits.

Alarm Page Types

Alarm Pages

Message	Description	Priority
No Motion No RDG	Monitor is not detecting patient motion or patient pulse	3
Asystole	Monitor is detecting no heartrate	3

High Sat	SpO_2% has exceeded monitor's upper alarm limit	2
Low Sat	SpO_2% has fallen below the monitor's lower alarm limit	2
High PR	Pulse rate has exceeded monitor's upper alarm limit	2
Low PR	Pulse rate has fallen below monitor's lower alarm limit	2
High HR	ECG measured heart rate has exceeded monitor's upper alarm limit	2
Low HR	ECG measured heart rate has fallen below monitor's lower alarm limit	2
High Resp Rate	Respiration rate has exceeded monitor's upper alarm limit	2
Low Resp Rate	Respiration rate has fallen below monitor's lower alarm limit	2
No Pulse No RDG	Monitor is not detecting a pulse, but is detecting motion	1

System Error Pages

Message	Description	Priority
Tx Battery Low/Shutting Down	Transmitter operating on battery power has depleted battery charge and will shut down immediately.	4
Comm Failure/Shutting Down	Transmitter has not been able to communicate with the monitor for about an hour and is shutting down.	4
Sensor Disconn	Sensor has become disconnected from monitor during monitoring	1
ECG/RSP Cable Dis	ECG cable has become disconnected from monitor or	1

	ECG leads during monitoring	
ECG/RSP Lead Off	ECG leads have become disconnected from patient during monitoring	1
ECG/RSP Noise	Monitor has detected unwanted noise in the ECG or respiration signal	1
ECG/RSP Op Fail	Monitor's ECG/Respiration function is non-operational	1
Sensor Off	Sensor has become disconnected from the patient during monitoring	1
Low Mon Battery	Monitor's battery is running low	1
Low Tx Battery	Transmitter's battery is running low (connect transmitter to AC power as soon as possible)	1
Comm Failure Retrying	Communication has been lost between transmitter and monitor, the transmitter is attempting to reestablish communication	1

Alarm descriptions in tables above are not a complete list. Types of alarms depend on the functions of the monitor. Refer to the monitor's Operator's Manual for a more complete listing of alarm types.

Section 4: AlarmView™ Programmer Overview

The AlarmView Programmer is a handheld computing device (PDA) that is used to setup and change the configuration of the AlarmView transmitter. Use the programmer to perform the following tasks.

View or Edit the List of Bed Numbers
View or Edit the List of Pager Numbers and Cap Codes
View or Change Bed Number and Pager Assignments
Set the Reminder Page Time Delay

Changes and additions to bed numbers, pager numbers, and transmitter assignments are entered in the programmer. Entered or changed data is then sent to the transmitter via Infrared (IrDA) ports on both the programmer and transmitter.

Information about the transmitter and monitor configuration can also be retrieved from the transmitter to the programmer using the infrared ports.

! This programmer is to be used for the AlarmView System only. Do not attempt to load or use other software with the programmer, as it may corrupt or damage system software.

Programmer Product Description

Below is a picture of a typical programmer. Your programmer may differ slightly from the one shown here. The function buttons are not used with the AlarmView System.

*{Insert graphic of generic programmer
(from cover Microsoft Palm PC User's Guide)}*

AlarmView™ Programmer

Because programmer operations may vary in different models, the basic functions of your programmer are described in *Appendix B: Basic Programmer Functions* of this guide. Refer to Appendix B for instructions on the following functions.

Turning Programmer On/Off
Adjusting Contrast
Turning on Backlight
Recharging or Replacing Programmer Main Battery
Replacing Programmer Backup Battery
Setting Date/Time

! Recharge the main battery pack often. Ensure that the programmer has at least charged main batteries or a charged backup battery installed at all times, or programming and data in the programmer will be lost.

! Use the stylus that came with the programmer or other stylus designed specifically for use with a handheld computer. Use of other pointed items such as pens and pencils may damage the programmer screen.

When programmer is not in use, store in the recharge cradle.

Using the Programmer

The AlarmView System Manager (SysMgr) software will be installed and running when you receive the programmer. When you turn the programmer on, you will see the SysMgr Main Screen, with three buttons for **Assignments**, **Admin**, and **Service**.

For all programming functions, use the stylus to tap the appropriate spot on the screen to perform the desired action.

{Insert SysMgr startup screenshot}

SysMgr 3-Button Main Screen

You will also see a **Start** button *{insert start button}* in the upper left corner of the screen. The **Start** button is used for installing and configuring the AlarmView System only; you should not need it for daily use of the programmer.

A **Keyboard** button *{insert keyboard button}* in the lower right corner of the screen. The keyboard should be visible automatically when it is needed for programming. However, if it is not visible, tap the **Keyboard** button to turn it on and off.

Some help screens are available in submenus. Tap **Help** button *{insert help button}* (? in upper left corner) to view help screen. Tap the X in the upper right corner of the screen to close help screen.

Viewing and Editing Bed Numbers

Turn the programmer on and use the following procedure to view, add, delete, or edit bed numbers stored in the programmer.

1. From SysMgr Main Screen, tap **Admin** button *{insert admin button}*.

2. A warning screen appears, asking if you're sure you wish to continue. Tap **YES** to *view* bed numbers.

   {insert warning screenshot}

3. The current list of beds 1-24 is displayed. To display beds 25-48, tap **Beds 25-48** tab.

   {insert admin screen screenshot}

4. a. To *edit* bed number, double-tap or drag stylus across bed number to highlight it, and tap on keyboard characters to enter desired bed number (maximum of 6 characters).

   b. To *delete* a bed number, highlight bed number and tap **Backspace** key until bed number field is empty.

c. To *add* a bed number (up to a total of 48), tap in an empty bed number field and use keyboard to enter new number.

{insert admin screenshot with bed number highlighted}

5. If you make an error, tap the **Backspace** key on keyboard to delete single character, or tap **RESTORE** to restore all values to what they were before you began editing.

6. Tap **SAVE** to save your changes.

🖉
After tapping **SAVE**, values cannot be restored. Repeat the edit procedure to re-enter previous bed number.

---

7. Tap **Exit** button *{insert exit button}* (< in upper-right hand corner of the screen) to return to SysMgr Main Screen. If you have made changes, and tap Exit before tapping Save, the programmer will prompt you to "Save changes?" Tap **Yes** to save changes and exit.

🖉
IMPORTANT: When you save edits, entries are automatically resorted numerically and alphabetically. The bed numbers you changed or entered will move in the display to appear in their new place in the sort, not necessarily in the field where you made the changes. To view an edit you've made, look for the bed number in its correct place in the alphanumeric sort.

Viewing and Editing Pager Numbers

Pagers are identified in the system using a Cap Code. Cap codes are 7-digit numbers unique to each pager. The 7 digits correspond to the last six digits of the pager's serial number (located on the back of the pager), plus a zero in front.

For example, if a pager's serial number is 14045678, its cap code is 0045678.

Turn the programmer on and use the following procedure to view, add, delete, or edit pager cap codes stored in the programmer.

1. From SysMgr Main Screen, tap **Admin** *{insert admin button)* button.

2. A warning screen appears asking if you're sure you wish to continue. Tap **YES** and current list of bed numbers 1-24 will display.

    {insert warning screenshot}

3. To view pager cap codes, tap **Pager** tab. A list of up to 12 pagers and their cap codes is displayed.

    {insert pager tab screenshot}

4. a. To *edit* pager cap code, double-tap or drag stylus across cap code to highlight it, and tap on keyboard characters to enter desired cap code (maximum of 6 characters).

    b. To *delete* a cap code, highlight cap code and tap **Backspace** key until cap code field is empty.

    c. To *add* a cap code (up to a total of 12), tap in an empty cap code field and use keyboard to enter new code.

    {insert admin screenshot with cap code highlighted}

5. If you make an error, tap the **Backspace** key on keyboard to delete single characters, or tap **RESTORE** to restore all values to what they were before you began editing.

6. Tap **SAVE** to save your changes.

7. Tap **Exit** button (< in upper right corner) to return to SysMgr Main Screen.

✏️   Like bed numbers, when you save edits to cap codes, entries are automatically resorted in numeric order. The cap codes you changed or entered will move in the display to appear in their new place in the sort, not necessarily in the field where you made the changes. To view an edit you've made, look for the cap code in its correct place in the numeric sort.

Viewing and Changing Bed and Pager Assignments

One bed is assigned to each transmitter. You must change the bed number assignment if you move the transmitter to a different bed or room.

One, two, or all pagers may be assigned to each transmitter. You can change pager cap code assignments if caregivers or pagers change.

❗ Do not exchange transmitters or pagers from different systems. Because transmitters and pagers within a system operate on a single, defined frequency, interchanged transmitters or pagers will not correctly transmit or receive.

Viewing Current Transmitter Assignments

To view and change the bed number and pager cap codes assigned to a transmitter, first retrieve the current assignments from the transmitter. Use the following procedure to get current transmitter assignments.

1. Turn transmitter on.

2. Turn programmer on.

{Insert SysMgr screenshot}

3. From SysMgr Main Screen, tap **Assignments** button.

    The programmer will display the assignment screen. The Info Line near the top of the screen will indicate that the programmer is ready to "Assign Bed and Pagers."

> ✎   Pager numbers on the screen show the last four digits of the cap code only (which will also match the last four digits of the pager serial number).

{Insert Assignment screenshot with "Assign Bed and Pagers" status message}

4. Aim infrared port on the programmer directly at infrared port on the front of transmitter and tap **CHECK** button.

    {Insert graphic of transmitter/programmer IR alignment}

    Aligning the Infrared Ports

> ✎   The programmer must be within four feet (4' or 1.2 meters) of the transmitter and the infrared ports must be aimed directly at each other.

5. If the following error message is displayed, tap **OK**. Check to ensure transmitter is turned on, reorient programmer to transmitter and try again.

{Insert programmer error screenshot, "Please be sure the transmitter is turned on…"}

6. When retrieval of information from transmitter is successful, the Info Line will change to read "Current Unit Assignment."

    The currently assigned bed number will be displayed in the bed number field, and the currently assigned pager cap codes will be checked.

In the example shown below, bed number 601a and pagers 9691 and 9697 are assigned to this transmitter. Only pagers 9691 and 9697 will receive alarm pages from this transmitter.

{Insert assignment screenshot with "Current Unit Assignment"}

Changing Transmitter Assignments

After you have retrieved the current transmitter assignments into the programmer, use the following procedure to change the bed number and cap code(s) assigned to the transmitter.

1. To change bed number, tap **Down Arrow** in bed number field. A current list of all bed numbers will be displayed. Continue to tap **Down Arrow** until bed number you want is displayed.

   {Insert pull-down menu of bed numbers with down arrow}

2. Tap a new bed number from list to assign it to this transmitter.

3. To change pager numbers, tap buttons to the left of cap codes to select or de-select pager(s) to assign to this transmitter.

   You can select one pager, two pagers, or tap **All Pagers** to assign all pagers in system to this transmitter.

   {Insert assignments screen with pager buttons selected}

4. The Info Line will read "Now Press SEND Button" after you have made your bed number and pager selections. Now you need to program your new assignments into the transmitter.

5. Ensure that transmitter is on and pagers assigned to this transmitter are on.

6. Aim infrared port on programmer directly at infrared port on the front of transmitter and tap **SEND** button.

   If you attempt to send, but have not selected either a bed number or pager numbers, the following error message will be displayed on the programmer. Tap **OK**, perform steps 2-4 above, and try again.

{Insert programmer error message "you must select or get a bed number and one or more pagers"}

7. The Info Line will display "Programming Successful" when transmission is complete.

   The transmitter will send a Confirmation Page to the assigned pager(s) similar to the following example.

   > Bed: 1234
   >
   > Programming OK

! If Confirmation Page is not sent to assigned pager(s), the programming was not completed successfully. Repeat procedure and check for confirmation.

If the following error message is displayed on the programmer, the programmer's port could not be accessed. Use the stylus to tap the reset button on the back of the programmer. This will return you to the SysMgr Main Screen. Try the procedure again.

{Insert programmer error message "Unable to access port probably in use"}

{Insert picture of back of programmer with reset button indicated}

Assigning All Pagers from Transmitter

The All Pagers option can also be selected from the transmitter without using the programmer. Transmitter should be on, but not communicating with a monitor.

1. Turn transmitter on, but turn monitor off or disconnect interface cables. **Communications Indicator** should be Amber.

2. Turn on at least two pagers in system.

3. Press and hold the transmitter **On/Off** button until an All Pagers confirmation message is received at pagers (approximately 5 seconds).

> Bed: 1234
>
> All Pagers OK

Setting Reminder Page Delay

If an Initial Alarm Page sent by a transmitter is left unread at the assigned pager(s), and not acknowledged at the monitor, the transmitter will follow up with a Reminder Page sent *once* to all pagers in the system.

The format will be the same as the initial page, except that word "Rem" will be added to the first line. Current monitor values at the time Reminder Page was transmitted are displayed.

> Bed: 1234 Rem
>
> Test Page
>
> SPO2: 83%
>
> PR: 70 bpm*

The Reminder Page will be sent only once. The time delay of the reminder can be set using the programmer. Follow the procedure below to view and change the time delay.

The time delay interval is intended to be the same for the entire system. When changing the value, you should program the change into every transmitter in the system.

1. Turn transmitter and programmer on.

2. From SysMgr Main Screen, tap **Service** button.

   {Insert service screenshot with "Press CHECK Button"}

3. The Info Line will read "Press CHECK Button." Aim programmer infrared port directly at infrared port on the front of transmitter and tap **CHECK** to retrieve the current Reminder Page setting from the transmitter.

   When retrieval of transmitter information is successful, Info Line will read "Current Transmitter Setup" and the current value will appear in the Reminder Page field. In the example below, the time delay is set at one minute (1 min).

   {Insert service screenshot with "Current Transmitter Setup" and interval at 1 min}

4. Tap **Down Arrow** in Reminder Page field. A list of delay intervals will display with 30 sec, 45 sec, 1 min, 2 min, and 3 min intervals. Tap time delay value you want to store in transmitter.

   {Insert screenshot with delay interval list popup menu}

5. Now you need to program changed value into transmitter. Aim infrared port on programmer directly at infrared port on the front of transmitter and tap **SEND** button.

Transmission is complete when Info Line reads "Programming Successful" and pager receives a "Programming OK" page.

6.   Repeat step 5 for all transmitters in system.

7.   Tap **Exit** button to return to the sMgr Main Screen.

Section 5: Maintenance, Service, and Support

Cleaning Procedures

When necessary, clean only the outer casing of the transmitter with a soft cloth, damp with a non-abrasive, commercial cleaner or 70% alcohol solution in water. Lightly wipe surfaces of transmitter.

Use a clean cloth designed for lenses to clean the pager and programmer screens. Use a damp cloth to dust their casings, and wipe dry immediately.

> **!** Do not spray, pour, or spill liquids on any part of AlarmView System components. Do not submerge any of the components in liquids.
>
> If fluids are spilled in the equipment, take the equipment out of service for at least 24 hours. Have appropriate service personnel check operation of equipment before returning to service.

Inspection and Testing

At least every two years, inspect the transmitter, pagers, and programmer for mechanical and functional damage. Inspect safety labels to ensure they are legible.

If any system components appear to be damaged, or subjected to potential damage (such as being dropped or exposed to liquids), qualified personnel should test the system using the procedures in the *AlarmView™ System Administrator's Manual.*

Service

Do not remove transmitter cover – there are no serviceable items inside. The transmitter, programmer, and pagers require no routine calibration or service other than changing batteries as needed.

If any item or component of AlarmView System requires repair or service, contact Data Critical Corp.

Technical Support

For technical advice, service, or information concerning any equipment in your AlarmView™ System, call Data Critical Corp. Technical Support toll free at 1-877-DCC-STAT (1-877-322-7828).

Appendix A: Basic Pager Functions

The following instructions are for the Duretech DAP-040 model pager only. If you have a different pager, contact your administrative personnel or Data Critical for instructions.

Not all pager functions will be described here, only the basics needed for AlarmView™ System operations.

{Insert picture of Duretech pager}

Pager On/Off

On

1. Press and hold ▬ key for approximately 2 seconds. Display will read "ALPHANUMERIC DURETECH" or "DAP-040 ALPHANUMERIC."

2. Press any key to go to Standby Mode (pager is on and ready to receive messages).

{Insert Standby mode screenshot}

Off

1. Press and hold ▬ for approximately 2 seconds. Display will read "POWER OFF?"

2. Press   or   to highlight **OFF**.

3. Press ▬ to confirm. Pager will turn off.

⚠ The pager must be turned on to receive pages. Do not turn the pager off at any time when being used for alarm notification. Doing so may result in failure to receive notice of a patient alarm.

Function Mode

In function mode, you use the   and   keys to move between options, and the ▬ key to select options.

Setting Tone/Vibrate

1. Press   for approximately 2 seconds to enter Function Mode. Display will read "MODE SET."

2. Press   or   to highlight **Alert/Vibration/Sleep Mode** button. *{Insert alert button},* and press ▬ to select.

3. Press   or   to highlight **Alert** or **Vibration** (no vibration or alarm, but receiving pages), and press ▬ to select. *{Insert Alert and Vibration buttons}*

❗ Do not use Sleep Mode when using pager for Alarm notification. Doing so will result in failure to receive notice of a patient alarm.

Setting Date/Time

1. Press   for approximately 2 seconds to enter Function Mode. Display will read "MODE SET."

2. Press   or   to highlight **Time Set** button. *{Insert time button},* and press ▬ to select .

3. Press   or   to move around options and ▬ to change values.

{Insert Set Time screenshot}

4. Highlight **Time Set** button and press ━ to confirm settings and return to Standby Mode.

Adjusting Screen Contrast

1. Press   for approximately 2 seconds to enter Function Mode. Display will read "MODE SET."

2. Press   or   to highlight **LCD Contrast** button. *{Insert LCD button},* and press ━ to select .

3. Press   to lighten display or   to darken display, and press ━ to confirm settings and return to Standby Mode.

{Insert LCD screenshot}

Standby Mode

Viewing Messages

Press ━ to display a received page. If message continues for more than one screen, press ━ again to read the next screen.

✎   If you do not acknowledge a page by reading it, and the alarm is not acknowledged at the monitor, the transmitter will send a reminder page to all pagers in the system.

In Standby Mode, press ━ to view the main message screen. The most recently received message will be highlighted. Icons for messages received (up to the 10 most recent) will be displayed in the top right corner of the screen.

Indicates that message has been read

Indicates an unread message

Press   or   to move between the messages. For the
highlighted message, the date and time the message was
received will be displayed in the lower right corner of the screen.

The number of the message (for example 1 of 10, 1/10) will be
displayed in the upper left corner of the screen.

Press ▬ to read the highlighted message.

When reading messages, press   to return to the previous
screen.

Deleting and Locking Messages

After reading a message, press and hold ▬ for approximately 2
seconds. The following message will be displayed: "ONE
DELETE." With the Delete One, Message Lock, and Delete All
icons underneath.

{insert "One Delete" screenshot from Duretech manual}

Press   or   to highlight the One Delete icon *{insert Delete One
icon}*, and press ▬ to confirm. The current message will be
deleted and the screen will read "–deleted–".

Press   or   to highlight the Message Lock icon *{insert Lock
Message icon}*, and press ▬ to confirm. The current message
will be locked. Repeat to unlock the message.

You can only lock 10 messages at a time. If you try to lock more
messages, the pager will display a "LOCK FULL" message.

Press ☐ or ☐ to highlight the Delete All icon *{insert Delete All icon}*, and press ▬ to confirm. All unread, unlocked messages will be deleted and the screen will read "–deleted–".

<div style="border:1px solid">

🖉   Only unread messages are deleted.

</div>

Replacing Battery

Typical pager battery life under normal usage is two weeks. Pager uses one AA Alkaline battery to function. Remove battery cover on back of pager.

{Insert diagram of how to remove battery cover}

Replacing Pager Battery

Remove old battery and insert new battery according to polarity diagram (+ -).

{Insert diagram of which way the battery goes (negative and positive sides which direction}

Dispose of old battery according to facility policy.

<div style="border:1px solid">

❗   Replace pager batteries often. If pager batteries are low or depleted, the pager's range may be reduced or the pager may not correctly receive pages.

</div>

Accessories

Pagers in the AlarmView System come equipped with a rubber Protective Boot cover and a Belt Holster/Cradle.

{Insert photos of boot and holster}

❗ Do not remove protective boot except to replace battery.

Appendix B: Basic Programmer Functions

Safety Information

{Copy and insert two pages of safety information from Compaq Important Safety Information}

Programmer Functions

The following instructions are for the Compaq® Aero® programmer model only. If you have a different programmer, contact your administrative personnel or Data Critical for instructions.

Not all programmer functions will be described here, only the basics needed for AlarmView™ System operations. The four function buttons at the bottom of the programmer are not used for the AlarmView System.

{Insert front picture of Compaq Aero programmer}

The stylus is stored in the top right corner of the programmer. The infrared port (for retrieving and sending programming from/to the AlarmView transmitter) is located on the top right corner of the programmer next to the stylus.

{Insert top view of programmer with stylus and infrared port identified}

Programmer On/Off

Press and release **On/Off** button at bottom center of programmer to turn on and off.

{Insert photo close-up of on/off button}

Turn on Backlight

When programmer is on, press and hold the **On/Off** button to turn on or off screen backlight.

Adjusting Screen Contrast

1. Press the **QLaunch** button on the left side of programmer. QLaunch menu will appear on screen.

{Insert side view of programmer with QLaunch button identified}

2. Tap **Contrast**, then **Set Contrast**.

3. Tap to increase or decrease contrast and tap **OK** in upper right corner to return to main screen.

Setting Date/Time

1. Tap **Start** button.

2. Tap **Settings**.

3. Tap **System**.

4. a. To change the time, tap **Clock**.

   b. To change the date, tap **Date**.

5. Enter the new time or date, then tap **OK** to return to main screen.

Batteries

Typical battery life is one week, programming up to 24 transmitters, 3 times per day. The programmer uses a rechargeable battery pack as its main power supply.

To check current battery power:

1. Press the **QLaunch** button.

2. Tap **Power**.

3. Tap **OK** to return to main screen.

The programmer also has a coin cell backup battery used to preserve data and programming when main batteries have been drained or removed from programmer.

! Store the programmer in a cradle connected to external power when not in use to ensure that the main battery pack stays charged. Ensure that the programmer has charged main batteries and a charged backup battery installed at all times, or programming and data in the programmer will be lost.

Recharging Main Programmer Battery

1. Plug the AC adapter into the back of the programmer cradle.

    {Insert photo of cradle}

2. Plug AC power cord into a properly grounded AC outlet.

    {Insert photo of AC power cord}

3. Dock the programmer in the cradle. It will start charging automatically. The amber battery charge light flashes.

    Charge battery pack for at least 3 hours.

{Insert photo of docking programmer in cradle (Picture 5 in Aero Quick Start Guide)}

{Insert top view with amber battery charge light identified}

Replacing Programmer Backup Battery

> **!** To prevent the loss of data or programming, ensure that a fully-charged main battery pack is in programmer before removing the backup battery.

1. Turn off the programmer.

2. Press the recessed button on the back lower left corner of the programmer with the stylus. Cover will pop open.

    {Insert picture of backup battery location}

3. Take out old battery. Insert new battery according to diagram on the inside of battery compartment.

4. Close compartment door.