USER INSTRUCTION

Rondish BTX-02/02(M) v.01

Bed and Chair Monitoring System
Featuring
"AudioPager" and "Staff Assistance"

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1.0   INTRODUCTION

Congratulations on purchasing your new BTX-02/02(M) wireless Bed and ChairWatcher with local voice paging and staff emergency/assistance call features.

The addition of the local "AudioPager" function using our PAG-02 voice pager (11 selectable languages) adds a highly convenient, new voice announcement means of alerting and informing caregivers of the identity of the bed/chair and patient that requires assistance. Our new voice pager, PAG-03DV, has the same functions plus an LCD display and vibration, and works similarly with the BTX-02/02M.

The BTX-02/02(M) may be set up to provide a separate "emergency/staff assistance" call button on the front panel of the unit, while a patient extension cord call remains a "normal" nurse call.   These two states of call are identified at the central monitor (CMU-02), or other display devices, or indicators (if included).

This equipment may be employed as a fully featured wireless nurse call system.

2.0 EQUIPMENT DESCRIPTION

2.1 General:

This Rondish wireless nurse call and/or bed and chair monitoring unit features a loud buzzer for the various selectable tone alert sounds together with LED "alarm" light.

The bed monitoring function is designed to detect a change in a pressure pad associated with the patient rising from the bed, or chair. An alarm is then transmitted to be received and decoded by various devices having a remote wireless receiver.

A call/alarm "RESET" button is also provided on the front panel of the BTX-02/02(M).

A ¼" jack socket is provided in the side of the transmitter unit for connection of the patient extension nurse call handset with nurse call button (if included).

The BTX-02/02(M) unit can be mounted in a convenient position and can be powered from a single 9V battery.   Additionally, it may be powered from a suitable 9Vdc ac mains adaptor and in the event of ac mains failure the battery will continue to provide power to the unit.   An "ac lost" alert signal can be transmitted to be indicated and displayed at our central monitor unit, or e.g. via our display paging controller/interface. Note that in the case of low battery condition, or no battery fitted the unit will transmit a "Low Battery" alert.

Several Rondish wireless remote field devices are available.   For example:

(a) ILB-03 light and sound indicator unit with storage and forwarding of receive alarm and alert signals.   This unit can function as a "range extender for BTX-02/02(M) transmitters.

(b) HPCON-01 universal interface can forward signals to display pagers, LED display, printer ext.   It can act as a central system controller.   A further repeater (HPRPT-01) is available to extend the range of this "Low Power Device", if required.

2.2 Transmitted Alarm and Alert signals and indications:

When using our central monitor and/or HPCON-01 interface, the BTX-02/02(M) can be set up to transmit the following alarm and alert status signals for display and indication at our central monitor and other display and indication devices.

2.2.1 Indicated on Central Monitor and devices

NOTE: four digit (**"USER ID: ****"**) could be used to indicate e.g. two digit Room/Area and two digit Bed numbers.   Typically:

**"BEDPAD ALARM
USER ID: ****"**
(Patient rises from the bed).

**"BEDPAD RETURN
USER ID: ****"**
(Patient returns to bed)
The "CALL" button on the front panel of the BTX-02/02(M) can be set to provide one of the following indications (see **4.0 SETTING UP AND TESTING PROCEDURE** (below):

**(a) "BEDHEAD ALARM
USER ID: ****"**
(Patient has operated front panel nurse call button)

**(b) "BEDHEAD EMERGENCY
USER ID: ****"**
(When set for "Staff emergency call", front panel button has been operated)

 **"BEDHEAD ALARM
USER ID: ****"**
(Patient has operated the nurse call button on the extension handset)

**"BEDPAD AC FAIL
USER ID: ****"**
(AC mains adaptor (9Vdc), or ac mains supply is disconnected)

**"BEDPAD BAT.LOW
USER ID: ****"**
(9V battery is low and must be replaced)

**"BEDHEAD REMOVE
USER ID: ****"**
(The patient extension handset has been removed, or is faulty)

2.2.2 Indicated only at our Central Monitor

The following Alert and Status signals will be transmitted from the BTX-02/02(M) and this function can only be indicated at our central monitor:

"BEDHEAD FAULT
USER ID: **"**

If using our central monitor with "OORC" switched on, this indicates the particular BTX-02/02(M) is faulty, or out of range.   Please refer to the User Instructions for our Central Monitor (CMU-02) unit.
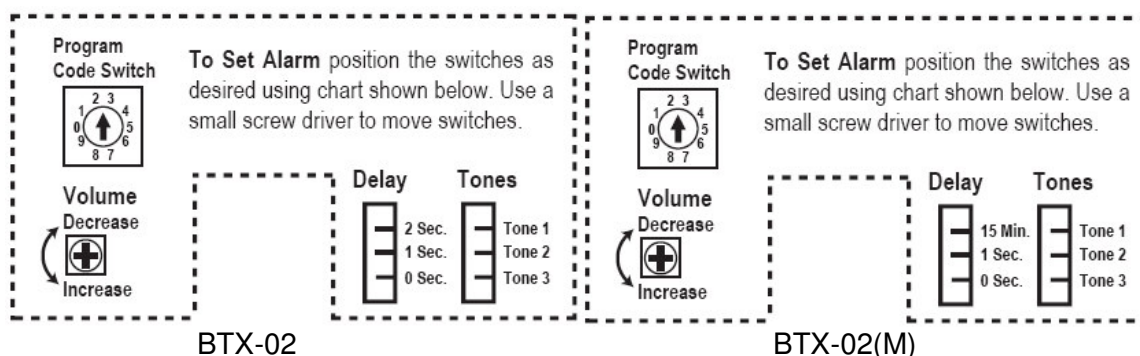
The BTX-02/02(M) automatically transmits a coded signal at 6 hourly intervals. Should the central monitor not detect this signal within a 24 hour period (4 transmissions), it will report **"BEDHEAD FAULT USER ID: ****"**

2.3 Equipment battery life

If no 9Vdc regulated ac mains adaptor is used, the average lifetime of the 9V battery fitted inside the BTX-02/02(M) is dependent upon the number of times the unit transmits alarms, or alerts.   Therefore, operation using a suitable ac mains adaptor is recommended with battery fitted as "standby" in the event of loss of ac supply.

This 9V battery is housed inside the BTX-02/02(M) and under the battery cover that can be found in the rear of the unit.   Removal of the small retaining screw will enable a user to slide down and open the cover, also revealing a number of switches.

2.4 BTX-02/02(M) Setting up switches and controls

BTX-02   BTX-02(M)

(a) "DELAY"

For BTX-02, the settings for bed pad alarm trigger are provided with 3 delay modes, '0 Sec' , '1 Sec' , and '2 Sec', while the BTX-02(M) has '1 Sec', '15 Min' or '0 Sec' for instant alarm.   "1 Sec" is normally selected for patients who tend to be more active in bed.

(b) "TONES"

 Three settings are provided using this switch:

1. Single beep sound: -beep---------beep----------

2. Two continuous beep sound: -beep-beep--------beep-beep----------

3. Three continuous beep sound: -beep-beep-beep---------beep-beep-beep----------

(c) "VOLUME"

BTX-02/02(M) uses a trimmer for adjustment of the volume of alert sounds emitted by the monitor; the minimum volume can be set to silent. Note that this volume switch would only be set to silent, e.g. if wireless remote indications are used at a central monitor with display, remote indicator light, or pagers.

(d) "Rotary "programming" switch.

Please refer to section **4.0 SETTING UP AND TESTING PROCEDURE** (below).

2.5 Staff emergency call function

If programmed, the "CALL" button on the front panel of the BTX-02/02(M) is used to send an "emergency/assistance call" to a central monitor, or other display device. Typically, a central monitor will display **"Bedhead Emergency User ID: ****"** and provide a "steady" sound and LED alarm light indication ("normal" nurse call will be a "pulsing" sound and light.

2.6 BTX-02/02(M) Automatic low battery detection

If the 9V (PP3) battery is becoming "low", the BTX-02/02(M) unit will "beep" intermittently and the LED for "Low Battery" will "blink".   This "low battery" alert signal will be transmitted to be received e.g. by a central monitor, or other remote display devices.   This indicates to staff that the battery should be replaced immediately.

If a replacement battery is not immediately available, the user may press the "RESET" button and this "low battery" alert will be stopped/delayed for approximately 24 hours. After this time, the alert will resume.

2.7 Alarm/Alert reset function.

A caregiver can reset/cancel an alarm by pressing the "RESET" button on the front panel of the BTX-02/02(M) unit.

2.8 Automatic missing ac supply detection

The BTX-02/02(M) has automatic "ac supply fail" detection. When the ac power unit is removed, the "CALL" button light will flash and the unit will beep 3 times intermittently.   This sound can be stopped by either restoring the power, or by pressing the BTX-02/02(M) front panel "RESET" button.   Note that this "lost ac supply" alert will then **not return** until ac power has first been restored and then lost once again.

2.9 Patient extension call button cord remove alert.

Note: The ¼" jack socket provided in the side of this particular model (BTX-02/02(M)) is designed for connecting the patient nurse call handset, thereby creating a wireless nurse call system.   This socket is an **input** and is not for use for connecting the bed monitor e.g. to any bed head panel of an existing nurse call system.

If a patient extension call button cord is used with the BTX-02/02(M) and it is subsequently unplugged accidentally perhaps by the patient, or other unauthorised person the BTX-02/02(M) LED and sounder will pulse rapidly to indicate an alarm and will transmit a "BEDHEAD REMOVE" alert to our central monitor, or other display device.

This alert can reset/cancelled by pressing the BTX-02/02(M) "RESET" button. Note that this alert will not re-occur, unless the extension cord has first been plugged in and then removed again.

2.10 Automatic PAD/MAT lost detection

The BTX-02/02(M) has automatic "PAD/MAT lost" detection. When the PAD/MAT unit is removed, the unit will beep and flash the "Pad Lost" light intermittently. This alert can be stopped by either restoring the PAD/MAT, or by pressing the BTX-02/02(M) front panel "RESET" button. Note that this "PAD/MAT lost" alert will **not** send out an RF message.

3.0 EQUIPMENT INSTALLATION

3.1 Mounting

The BTX-02/02(M) bedside transmitter unit could be fixed to the wall typically using e.g. Velcro fastener or using the screw holes provided at the back of the unit. Alternatively, a metal bracket is available for mounting the unit on a wall, or perhaps on the bed head.

For wheelchairs, or fixed chairs, we recommend that the BTX-02/02(M) is used with our flexible plastic, wrap-around housing (optional extra).   This can provide protection and should the unit be placed e.g. on a smooth table top this case is "slip resistant".

3.2 Other connections

A four (4) pin socket is provided for connection of the bed/chair sensor pad. The same socket can also be used to connect our floor mat sensor that could be placed e.g. beside a bed, or in a doorway to detect a patient having left the bed, or leaving a room.   Combinations of these sensing devices can be used dependent upon user requirements.

4.0 SETTING UP AND TESTING PROCEDURE

4.1 Programming BTX-02/02(M) for required operation

4.1.1 General

When using a central monitor, or display paging interface, the unit must be programmed to indicate the assigned two-digit room/area and bed numbers.

The single digit address code must be set to communicate with any particular central

monitor, or paging interface.

Please refer to the User Instructions for our ILB-03 wireless remote indicator light. This unit features an automatic "read-in" function for easy setting up.   No additional programming is required at the BTX-02/02(M). Please refer to the particular User Instructions for these items.

4.1.2 Programming sequence

The rotary code programming switch inside the BTX-02/02(M) has 10 positions. This programming procedure is divided into sequential operations.

1. Set two (2) digit Room/Area Number

2. Set two (2) digit Monitor/Bed individual ID number

3. Set single digit address, or location code for particular Central Monitor (refer to Central Monitor User

4. Set any required system enhanced functionality

4.1.3 Programming the BTX-02/02(M)

Step 1. Power off/disconnect monitor unit battery.

Step 2. Simultaneously hold down "RESET" and "CALL" button and re-connect power.

Step 3. Wait for two beeps indicating "programming mode".   Release the "RESET" and "CALL" buttons. The call light will be illuminated.

Step 4. Turn the rotary switch to the first of the two digit room number. Press the call button once to hear the single acknowledgement beep.

Step 5. Turn rotary switch to second digit of the room number. Press the call button once to hear the single acknowledge beep.

Step 6. Turn rotary switch to first Bed number digit. Press the call button once to hear the double acknowledge beep.

Step 7. Turn rotary switch to second Bed number digit. Press the call button once to hear the double acknowledge beep.

Step 8. Turn rotary switch to the single digit central monitor address. Press the call button to hear the triple acknowledge beep.   This number is normally set to "0", if no central monitor, or display paging interface is used.

Step 9. Set any required system enhanced functionality.

The following enhanced system functionality options are available.   Select required (one only) rotary programming switch position:

    0. Basic setting (no enhanced system functions)

1. Staff emergency call (front panel "CALL" button)

2. Direct voice pager signaling

3. Staff emergency call, plus direct voice paging

4. Activate 6 hourly "tracking code" (for central monitor OORC function)

5. Activate tracking code, plus staff emergency call

6. Activate tracking code, plus direct voice pager

7. Activate tracking code, plus staff emergency call, plus direct voice paging

Positions 8 and 9 are not and should not be used.

Press the "CALL" button to hear the three beeps, followed by two beeps to indicate that the unit has automatically returned to "normal" operation.

NOTES:

1. A setting of "0" at **Step 8.** will be received as a common address by all of any number of central monitors, or display paging interfaces within wireless range.

2. During programming, if no more activity is detected for approximately 1 minute, the unit will automatically return to normal operating mode and any incomplete programme must be adjusted again from the start.

3. If a central monitor is included, it should be programmed to match/receive the single address code set for it's designated group of BTX-02/02(M) monitors.

4.1.4 Some BTX-02/02(M) programming examples:

Example 1:

Programme Room/Area Number "03"
Programme Bed Number "05"
Programme central monitor address (Step 8) to "0" (any central monitor can receive all calls programmed "0").
Programme enhanced function for voice paging, only (Step 9) "2".

Example 2:

Programme Room "12"
Programme Bed "02"
Programme single digit address (Step 8) to floor number "1". If the particular central monitor is programmed to"1" (to match), it will only receive calls from the bedside units on it's own floor.
Programme enhanced function for "staff emergency call" and 6 hourly "tracking" (Step 9) to "5".

Example 3:

Programme wheel chair unit to "00" (Any room)
Programme "13" for wheelchair number.
The central monitor code (step 8) can be set to match one (e.g. "1"), or all
("0") central monitors

5.0 TECHNICAL SPECIFICATION

1) 9 Volt dc operation using either a PP3 battery or 9V regulated ac power adaptor.

2) Dimensions 120 x 77 x 25 mm ABS plastic case.

3) Blue (call button) alert indicator light.

4) Three (3) user selectable alert tones

5) User adjustable volume level; minimum can be silent.

6) ¼" jack socket for patient extension nurse call button

7) 4 pin telephone type socket for bed pad, or floor mat sensor with cable strain relief

8) Low battery detection, red light indicator and transmitted alert

9) Missing ac/dc supply detection and transmitted alert

10) User Reset button with transmitted indication

11) User programmable Room/area, bed and location coding

12) 315, or 433.92MHz approved digital wireless transmitter

13) Patient extension call button cord removal/fault indication.

14) PAD/MAT removal detection, and light and sound alert

15) Recommended cleaning for Rondish bed sensor pads:

To clean pad, use disinfectant wipes, or anti-bacterial cleaners. Do not fold, or
immerse pad in any solution. Note that the bed monitor (BTX-02/02(M)) is not in
contact with the patient.

6.0 SOME BASIC USER OPTIONS

6.1 Patient call for assistance

If the BTX-02/02(M) is set up for "normal" nurse call only, the patient can press either
the extension cord button, or the "CALL" button on the front panel of the unit. This
will transmit a nurse call for assistance that will activate any programmed room/area
indicator light and can be indicated and displayed at our wireless central monitor.

If the BTX-02/02(M) has been set up for "staff emergency/assistance" call from the

front panel button, the extension cord button only will send the "normal" patient nurse call.

6.2 Sound volume adjustment

The sound level of selected tones can be adjusted at the "VOLUME" trimmer found inside the battery housing.   Alternatively, the sounds can be turned off completely by adjusting the "VOLUME" trimmer to its extreme clockwise position.

7.0 SOME AVAILABLE (OPTIONAL) ACCESSORIES

1) Bed pressure sensor pad (various sizes)

2) Floor pressure sensor mat/s (step on, have alarm)

3) 9V dc regulated ac mains supply adaptor (alternative, or addition to battery)

5) Soft plastic wrap-around case (protective mounting and non-slip if table top)
6) Metal monitor wall fixing bracket (optional mounting accessory)

7) Patient extension nurse call button cord with ¼" jack plug

8) Wireless Central Monitor with LCD display

9) Wireless remote room/area indicator light

10) Wireless remote room/area indicator light with signal storage and forwarding