Rondish

Rondish Company Limited

Nexus Call System

User Instructions

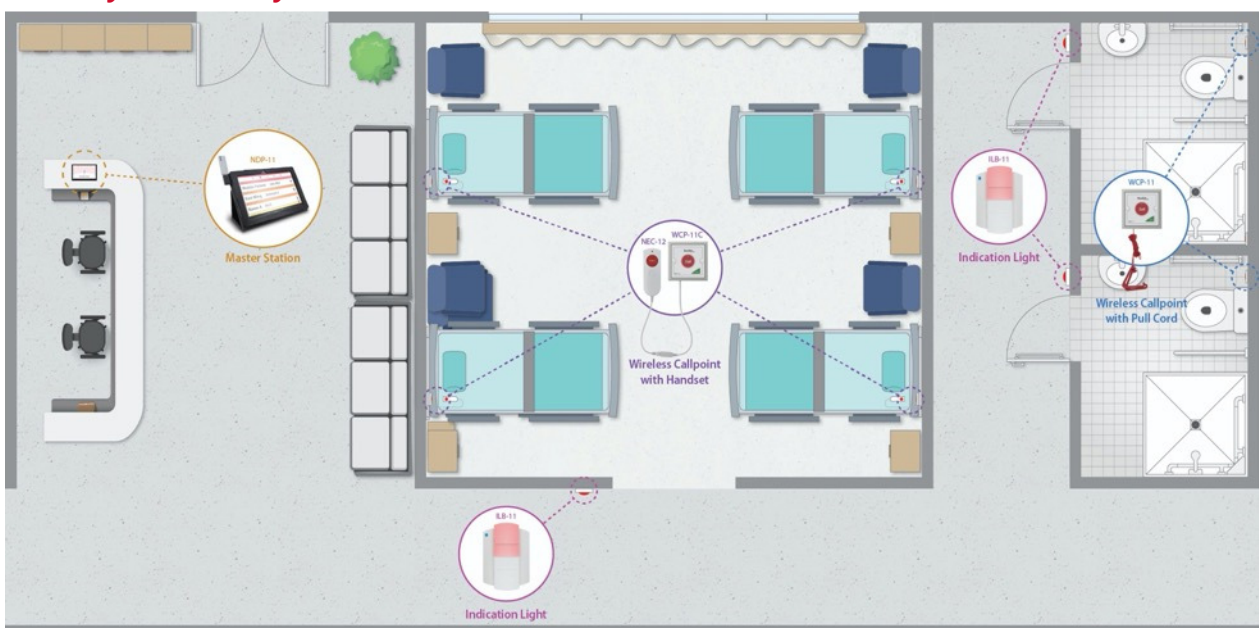V1.7 (2nd March 2021)

Contents

1. PRODUCT OVERVIEW

Nexus is a wireless nurse call system designed for ease of programming, installation and use. This allows rapid deployment of a low-cost call system during influenza season when hospital resources are stretched, or permanent installation for a long-term care facility or hospital ward looking for a reliable call solution.

Nexus works using a 10" Android tablet for the display – the tablet comes with a protective folio for placement on a desk, or can be wall-mounted with the use of an optional bracket. Alternately, a TV Box running Nexus can be connected to a larger computer monitor for a more visible display.

Up to three calls can be displayed on the screen, with higher priority calls automatically moved to the top of the alarm display. Alarm priority levels are Emergency, Bath, and standard Call. If more than three calls happen to be active at the same time, Nexus will display the three highest priority events, and additional calls will display as the higher priority events are reset. All events are logged with a record of event location, call type, time of trigger and duration before reset.

Indication lights placed throughout the ward or building show if there is an active call in the area. Each light has an internal buzzer with adjustable volume, and can repeat the signal to the display panel to greatly extend range and improve the reliability of wireless coverage.

1.1 System Layout

1.2 Compatible Equipment

Model	Description	Image
NDP-11	10" Android Tablet with dongle (shown) • Touch screen user interface • Call, Bath, and Emergency priority levels • Customizable displays • Event log with location, call type and response time • Includes folio for use on desktop • US, EU, and UK power plugs included	DON-30 NDP-11
DON-20	Receiver dongle for smaller areas (433MHz)	
DON-30	Receiver dongle for large areas (LoRa)	
MBKT-01	Wall-mount bracket for NDP-11 • Durable acrylic design • Includes mounting screws • Available in black or white	
TVB-11	TV Box for corridor displays • Allows Nexus software to run on a standard computer monitor • Connect with paging receiver for a large corridor display	
GP2009TR	Paging transmitter • Signals to remote displays • Signals to data pagers • Allows wards to transfer or escalate calls to different areas	
		WCP-11C
WCP-11C	Bedhead call/reset point (shown) • Call and reset buttons • Double press sends Emergency call • RJ10 input for NEC-12 handset (shown) • Handset remove alert • Includes mounting screws • Replaceable CR2477 lithium batteries • Low battery indication	NEC-12

NEC-12	Patient handset • Call button for patient access from the bed • RJ10 plug connects with WCP-11C • USB break connection • Includes wall-mount bracket and screws	
WCP-11	Waterproof call/reset point • Call and reset buttons • Pull cord with dual triangles • Includes mounting screws • Replaceable CR2477 lithium batteries • Low battery alert • Rated IP65	
NEC-05	Wireless patient handset • Call and reset buttons • Includes wall-mount bracket and screws • Uses 2 x AAA alkaline batteries • Low battery alert	
TXP-11	Patient lanyard with man-down alert • Mobile call button for active residents • Anti-ligature point • Man-down alert in case of falls • Uses CR2477 lithium battery • Low battery alert • Rated IP65	
ILB-21	Indication light with Signal Bumper • Dual-color LED light – shows RED for normal call devices or WHITE for bath units • Call forward function to extend range • Includes wall-mount bracket and screws • Uses 6 x C-type alkaline batteries • Low battery alert	
DMS-02	Door Sensor • Triggers audible and visual alert when an at-risk patient approaches a protected doorway • Configurable with door lock to restrict access • Allows caregivers to escort patients	

NGM-21	Bed monitor • Room controller for integrated falls management system • Pause & Reset alarms • Works with bed/chair/floor sensormats • Uses 3 x AA alkaline batteries • Low battery alert	
WMBP-20 CCP-01 CMAT-02	Sensorpads • Triggers alarm from patient bed or chair exit. Floor mats trigger when stepped upon • Paired with NGM-21 monitor • Durable and long-lasting	
CCP-01		
CMAT-02		

1.3 General Operation

Nexus follows generally accepted principles of a nurse call system as described in the UL and HTM-08 standards. Patient calls should be reset at location by the nurse or caregiver as soon as can reasonably be achieved.

- Pressing a Call button on the bedhead unit triggers a Call
- Double pressing a wall-mount bedhead triggers an Emergency call
- Pressing Call on a bathroom unit triggers a Bath alarm
- Pressing Reset will cancel the alarm
- The RED segment of the indication light indicates a Call is active
- The WHITE segment of the indication light indicates a Bath alert is active

1.3.1 Nexus Behavior Table

The table below summarizes how Nexus interprets and displays signals from various devices:

Device	Alarm Trigger	Alarm Type	Display/Sound	Cancel by…
WCP-11C	Single press	Call	Yellow, 10s beep intervals	Reset on WCP-11C
WCP-11C	Double press	Emergency	Red, Rapid beeping	Reset on WCP-11C
NEC-12	Press button	Call	Yellow, 10s beep intervals	Reset on WCP-11C
WCP-11	Press button	Bath	Amber, 4s beep intervals	Reset on WCP-11
WCP-11	Pull cord	Bath	Amber, 4s beep intervals	Reset on WCP-11
TXP-11	Press button	Call	Yellow, 10s beep intervals	Magnetic fob on TXP-11
TXP-11	Patient fall	Emergency	Red, Rapid beeping	Magnetic fob on TXP-11
NEC-05	Press button	Call	Yellow, 10s beep intervals	"C" button on NEC-05
DMS-02	Door exit	Door	Amber, 4s beep intervals	Magnetic fob on DMS-02 Press TXR-02 button Press TTEST-01 button
NGM-21	Bed/Chair exit	Bed exit/ Chair exit	Amber, 4s beep intervals	Reset on NGM-21 or Pad return

2. USER INTERFACE

Nexus was designed with a streamlined user interface for ease of use. The app is navigated similar to how you use a smartphone, using taps and swipes for general option. A virtual keyboard will pop up when entering text or an access PIN is required.

A company name can be configured to display on the home screen, and alarm displays are fully customizable according to user preferences. Nexus prioritizes alarms in three levels of importance, and there is a built-in record of events to aid management if there is an adverse event or response times are tracked over time.

2.1 Home Screen

This is the default view of the application, and Nexus will return to this screen after alarms have been reset.

Icons at show the Nexus screens

The organization name can be configured in Settings (Section 2.5)

Date and time will automatically match your device

Software Version

Troubleshooting - Tapping the icon brings up a QR Code

Scan using a smartphone camera to download a FAQ document
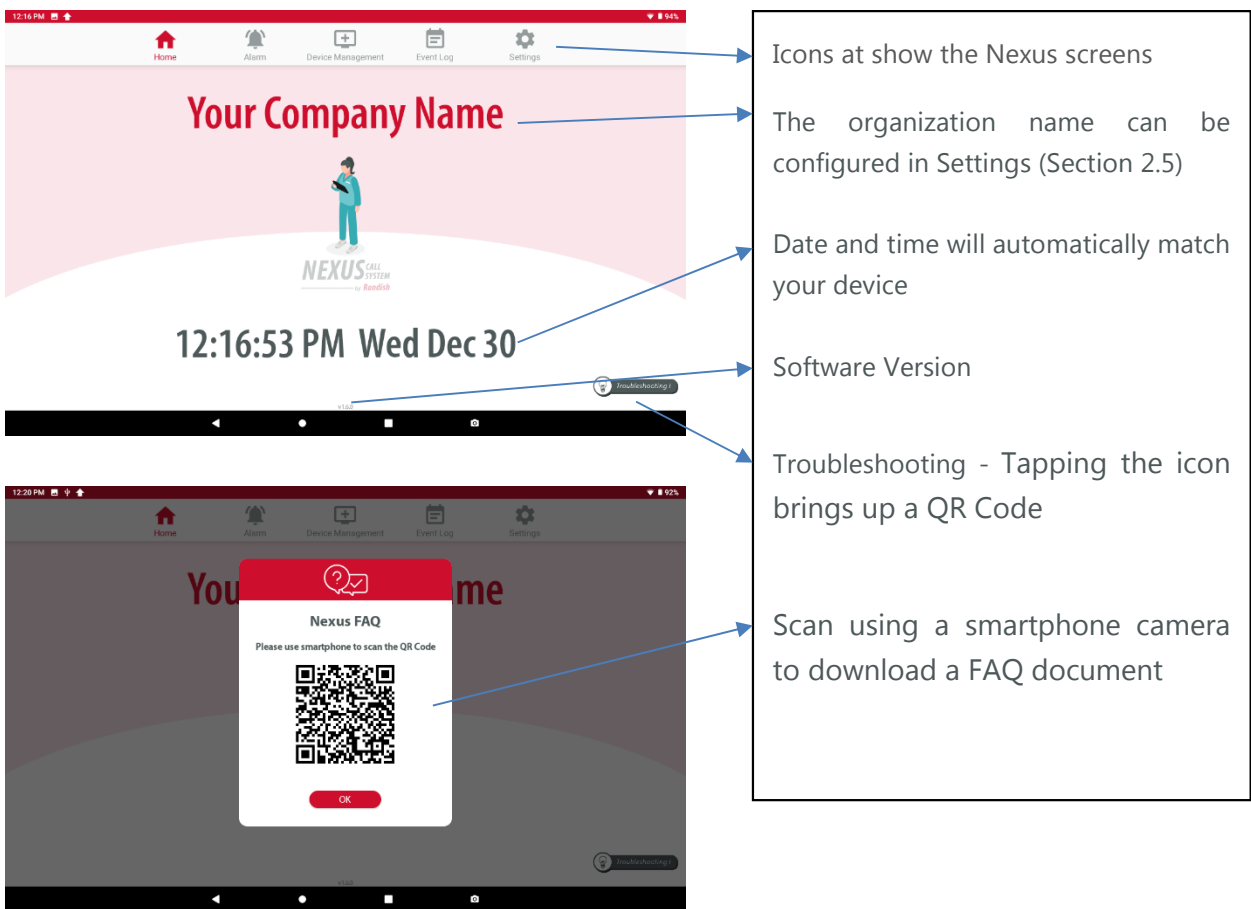
2.2 Alarm Screen

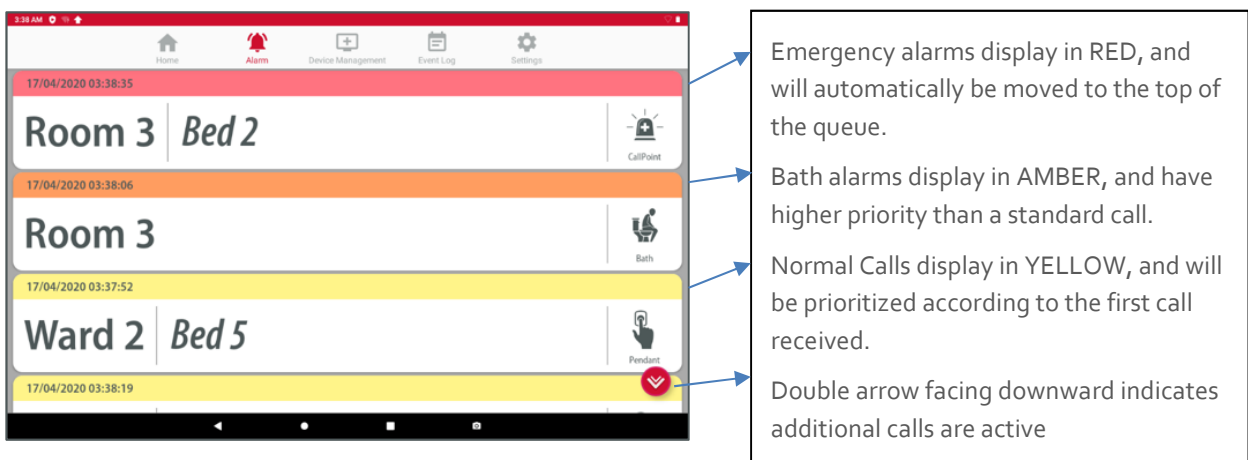The alarm screen will pop up when any event requires a response. If you tap on this icon when no alarms are present, the screen will be greyed out, and automatically return to the Home tab after several seconds. Up to three alarms can be displayed on the screen at once, however additional active alarms are indicated by the red arrow below and can be viewed by scrolling down the screen.

Alarms are ordered top to bottom by priority, with older alarms listed first.

Emergency alarms display in RED, and will automatically be moved to the top of the queue.

Bath alarms display in AMBER, and have higher priority than a standard call.

Normal Calls display in YELLOW, and will be prioritized according to the first call received.

Double arrow facing downward indicates additional calls are active

2.2.1 Display Details

Includes time of the event with priority level, location, and type of alarm. When all alarms have been reset, Nexus will automatically revert to the Home Screen after several seconds.

Color band – this indicates the alarm priority, with a time stamp shown on the left side
- Emergency – RED band, rapid beeping
- Bathroom – AMBER band, 4s beep interval
- Standard Call – YELLOW band, 10s beep interval

Location 1 – this is typically a room or ward number, though is fully customizable

Location 2 – this is typically a bed or bathroom number, though it can be left blank

Call Types & Priority

Emergency		Priority 1

Man-down		Priority 1
Bath		Priority 2
Monitor*		Priority 2
Bed		Priority 2
Chair		Priority 2
Sensor		Priority 2
Door		Priority 2
Pendant		Priority 3
Call point		Priority 3
Cord removed		Priority 3
AC lost		Priority 3
Low battery		Priority 4

* A bed monitor displays when pairing the device to Nexus. During an alarm Nexus will display either a bed, chair, or floor type alarm (refer to Section 2.3.1 for details)

2.2.2 Admin Reset

There may be times when an event needs to be cleared from the central display panel. This can be achieved by a long-press on the event and entering the Admin PIN that has been assigned for the system.

2.2.3 Dongle Error

An error message will display if the receiver dongle is removed or loses connection while Nexus is active. Your system cannot function without this receiver connected, so Nexus will prompt you to resolve this before any further action can be taken.
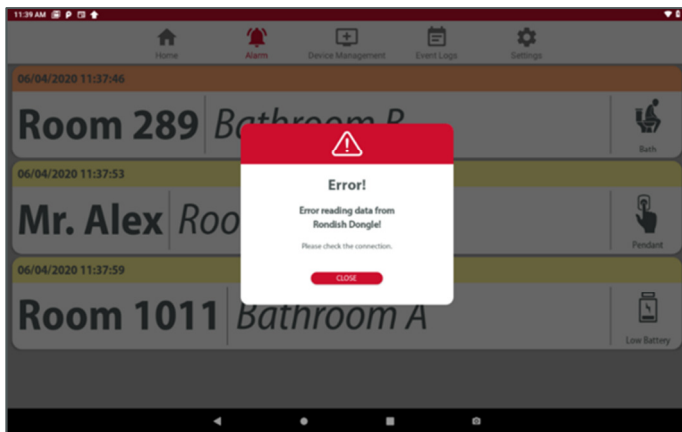
2.3 Device Management

This tab is where you add/delete devices from Nexus, and define how each should display when an alarm is triggered. Entering this tab requires inputting a 6-digit Admin PIN to access. If you have not set a PIN the default is 123456.
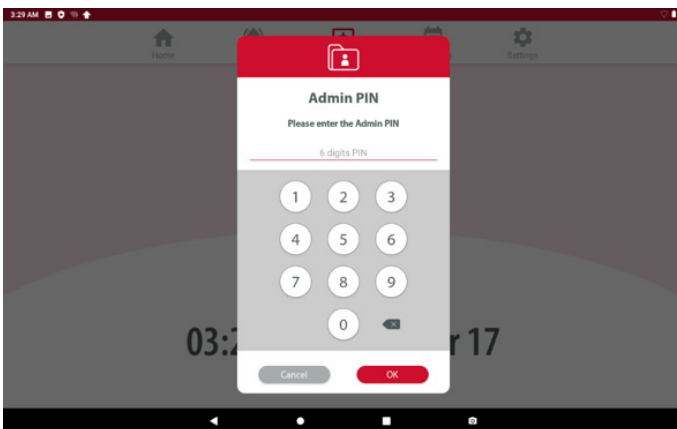
2.3.1 Add New Device

From this screen, triggering a device can have two effects:

If Nexus does not already have this device in memory it will create a new entry with the 6-digit device ID, device type and notification that new hardware has been detected.
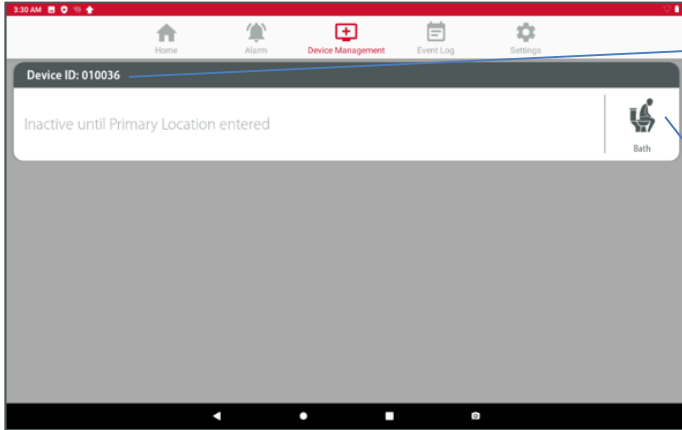
The device ID will show on the grey color band at the top. This will typically match the serial label on the back of a call point.

The device type icon will display on the right

If Nexus already recognizes a device that is triggered while in Device Management, it will exit to the Alarm Screen as if a patient has normally triggered an alarm. This ensures the call system continues to function if a patient needs help.

Bed Alarms

To add a monitor for a bed or chair sensorpad, first configure a CordFree bed monitor (NGM-21) to work with Nexus. It should be set to T1 and F1 for most convenient operation (refer to Section 3.3 for more details). From the Device Management tab, press Reset on the monitor to pair it with Nexus, and then assign display details. It should appear similar to below:
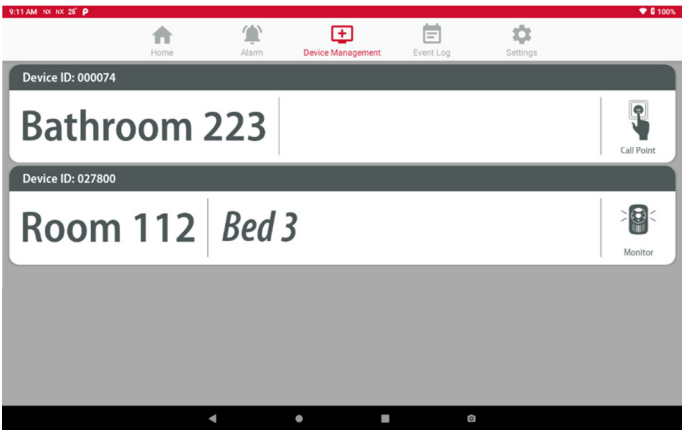
Once the monitor has been paired, you can then synch either a bed or chair sensorpad with the monitor, and Nexus will display the selected location with either a Bed or Chair type alarm when the patient exits.

Door Alarms

From the Device Management tab, trigger a reset signal on the door sensor to add the device into Nexus memory. This can be done by applying a magnet over the blue dot on the side of the door sensor. (refer to Section 3.4 for additional details)

2.3.2 Device Location

Tapping on the Device you have just added will bring up the screen below, prompting you to enter a Primary and Secondary location. The text you enter here will display when this device is in alarm state.
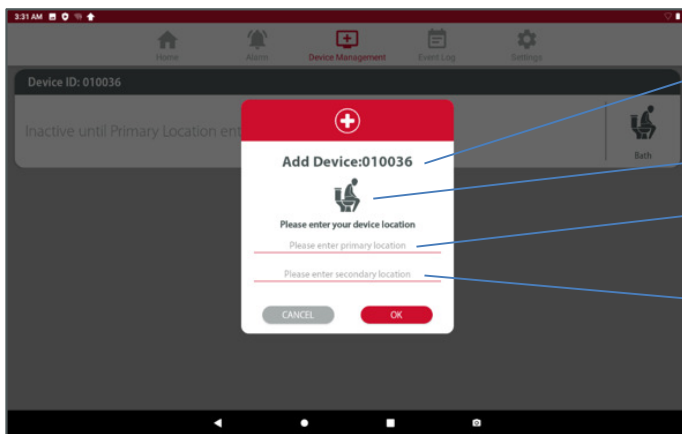
Device ID – usually matches the serial label on back of call point.

Device Type icon

Location 1 – to be configured by user (must be defined)

Location 2 – to be configured by user (optional)

Click OK to confirm the location details, and these will now display on the Device Management screen.
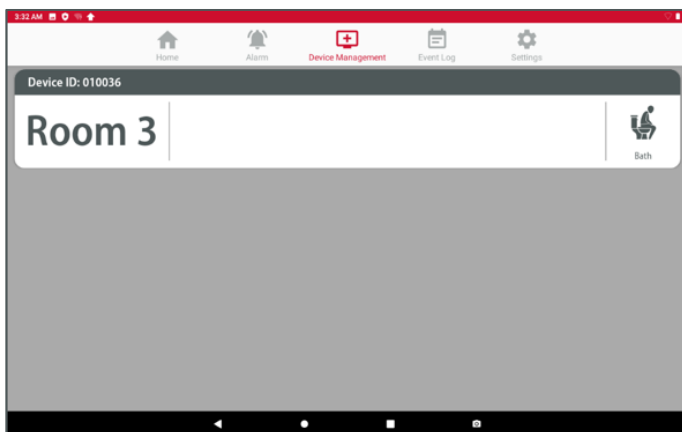
If you want to change how the alarm is displayed you can just tap on the entry again to make amendments.

2.3.3 Delete Device

If you need to remove something from memory, swipe left over the device.
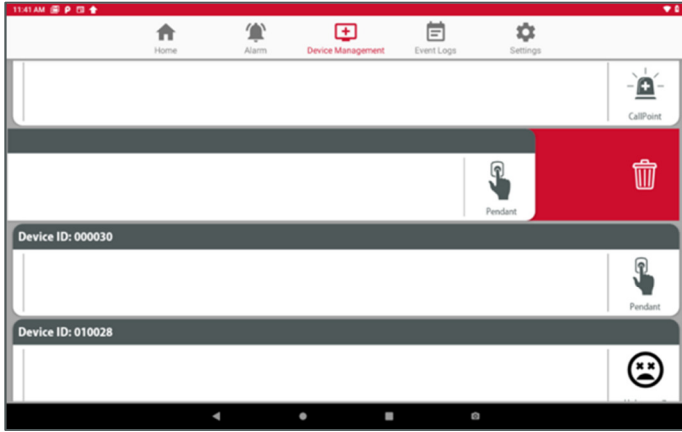
Nexus will prompt you to confirm or cancel the device removal

2.4 Event Log

The Event Log will show the location, event type, time of initiation and duration of all events from the previous 24 hours. Alarms prior to the previous 24 hours will be stored in a data file that can be accessed by exporting and opening using Excel, or the complete log can be accessed by tapping the screen seven times.

Your response time is logged as the duration between an alarm triggering and being reset. Refer to Section 2.5.2 for instruction on how to export the data log.

Event Types
- Call
- Emergency
- Presence
- Visit
- Low battery
- Signal lost
- Acknowledge

2.5 Settings

The Settings tab is where you will set the default name to display on the Home screen, change the Admin PIN, or export the data log. Pressing this tab requires inputting a 6-digit Admin PIN to access. If using Nexus for the first time the default code is 123456
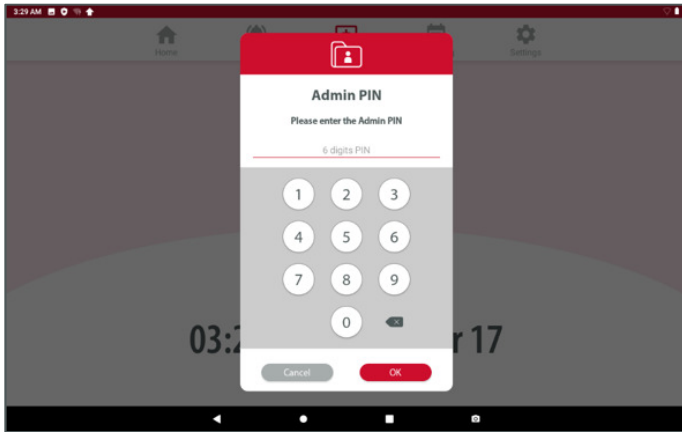
2.5.1 Change Settings

This will allow you to add a company name to display on the Home Screen or update the Admin PIN. Press the Update button to make any changes take effect.

Company Name – displays on Home Screen

Admin PIN – used to access Device Management and Settings

Network Settings – used if system repeaters are connected (Section 2.5.4)

- Network ID
- Channel
- Gateway ID

Update – makes changes take effect

2.5.2 Backup/Restore

After programming your system, the settings and Event log can be saved on a USB drive. This allows the programming to be restored on a second panel if the primary unit goes down. Nexus will remind you periodically to back-up the system.
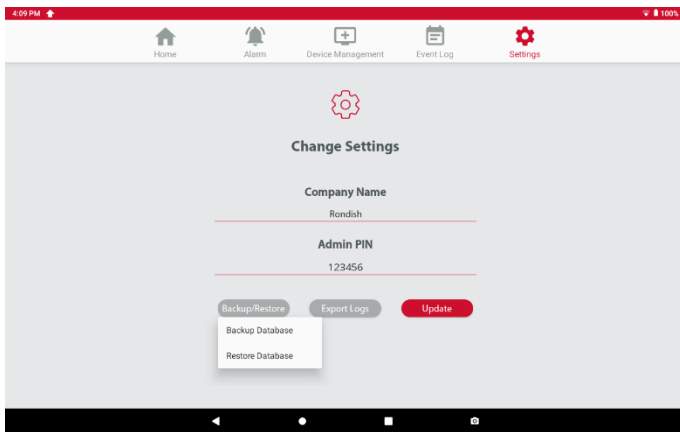
2.5.3 Export Log

This will allow you to transfer the Event Log to a CSV file that is openable using MS Excel. Insert a USB storage device and tap the Export Log button.
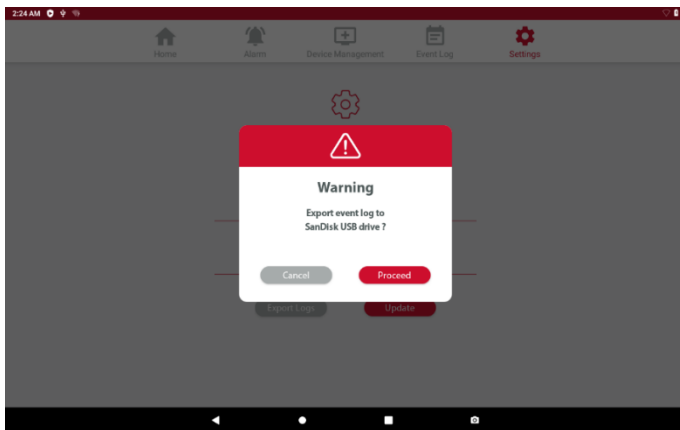
Nexus will prompt you to confirm the data export. After inserting the USB drive into a PC, the file will be stored in Android/data/Nexus/events_date.

3. INSTALLING NEXUS

Nexus has been designed for a straightforward installation process that minimizes the time your technician will spend on site. Following these steps will have your system up and running in just a few hours:

1. Switch on the tablet or control box and connect the receiver dongle – the application will automatically open to a splash screen displaying the version of Nexus installed on this device
2. Change PIN and enter name of organization (optional) in the Settings
3. Pair devices with Nexus and define how each should display during a call – refer to Section 2.3 for details of adding and renaming devices.
4. Pair devices with indication lights to extend wireless coverage (optional)
5. Mount indication lights (if used), call buttons and brackets for patient handsets
6. Mount display panel on a wall (wall mount bracket is optional)
7. Test all of the call points three times (call & reset) to ensure that signals are reliably received by the panel. Refer to the Event Log to confirm that each signal was received.

Dongle Status
- No LED – not connected properly
- Red LED – successfully connected
- Green LED – when receiving data

3.1 Call Points

Nexus call points have minimal programming and installation required for a functional call system. Follow the steps below to configure call points:

Step 0: Insert Batteries – Nexus call points come with batteries pre-installed. You will need to change these periodically based on usage. The exception is the NEC-05 handset, which uses 2 x AAA alkaline cells.
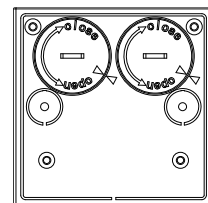
Step 1: Add to Nexus – Refer to Section 2.3 for how to pair and rename a call point

Step 2:   Mounting – Use the call point to mark the position of the screw holes on the wall. Drill guide holes before screwing the call point into place

Step 3:   Connect Handsets – A similar process can be followed for the handset mounting brackets
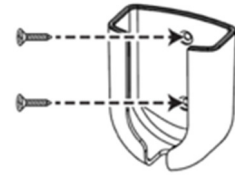
3.2 Indication Lights

Corridor lights provide a visual indication when a call is active in the area, have a buzzer with adjustable volume for audible indication, and will expand the wireless range of Nexus. Follow the below steps to configure lights with your Nexus system.

Step 1: Power the light – Insert 6 x C-type alkaline batteries into the ILB-21. A lead is also provided to connect with a 12V power source if the alarm will be frequently used as a call light with multiple calls a day. In this case batteries may only last weeks or months, so connecting to a DC supply is recommended.
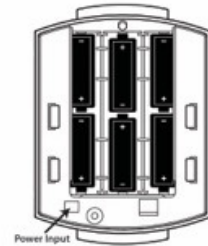
When used as a bathroom light with infrequent calls (e.g. 1 minute per day) the batteries can last up to 1 year. Note: Standby battery life (no alarms) is more than 2 years.

Step 2:   Select settings – Remove front lens using a 2mm flat-head screwdriver and select light settings. The dip switches control whether the ILB-11 will forward alarms to a central mo nitor unit or as a night light. The buzzer has maximum volume pf 108dB, and can be silenced
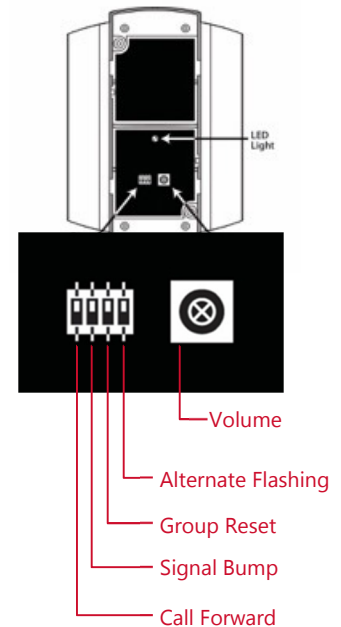
Switch 1 – far left: Call Forward (On/Off)
   • Controls whether alarms from paired devices are forwarded

Switch 2 – left center: Signal Bump (On/Off)
   • Controls whether signals from devices that are not paired with this light are forwarded. This setting allows use of mobile devices such as bed monitors or patient pendants that move between rooms

Switch 3 – right center: Group Reset (On/Off)

- When ON, a reset button paired with this light will reset all active alarms associated with this light. If multiple calls are active the light will reset all alarms.
- When OFF, a reset button paired with this light will reset only the call from this button. If multiple calls are active the light will continue to alarm.

Switch 4 – far right: Alternate Flashing (On/Off)
- When ON the two segments will alternately flash during alarm
- When OFF, the Red segment indicates a Call, and White indicates a Bath

Volume Dial – adjustable to a maximum 108dB

Step 3:   Enter pairing – Press the Program button on the back of the indication light. The red and white sections will both stay ON to indicate the light is ready for pairing.

Step 4:   Read-in wireless devices – Trigger the device you want to add into memory. If the device code is accepted into memory the ILB-11 will beep three times and flash either the red or white section. The WCP-11 call/reset button will flash the white LED to confirm they are paired; other wireless devices will flash the red LED to confirm.

The ILB-11 has memory capacity for 15 devices. In the event the light memory is already full, an attempt to read in another device will result in a long beep to indicate is has not been accepted.

Step 5: Secure mounting plate – Screw the plastic mounting plate to the wall where you will want to locate the indication light. Make sure the plate is secured before mounting the light.
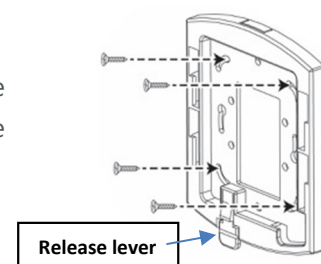
Release lever

Step 6:   Mount the light – Snap the indication light onto the mounting plate. You will hear a "click" when the light is securely in place.
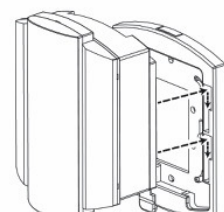
Note: To remove light to change batteries, press the release level at the bottom of the mounting bracket and lift.

Light Displays:

White – bath, bed/chair/floor, motion sensor

Red – bedhead, pendent

Flashing – emergency

3.3 Bed Monitors

Nexus supports Rondish CordFree (NGM-21) monitors for a wireless fall management solution. These are delivered pre-set for single patient use (F1/t1).

Step 1: Power the Device – NGM-21 monitors operate on 3 x AA alkaline batteries

Step 2: Select Settings – If the setting needs to be adjusted, hold Program + Pause on the NGM-21 to enter monitor settings. Use the Pause button to highlight the t-setting and use Reset to select t1, then highlight the F-setting and select either F1 or F9. F1 is suitable for single patient use where the monitor may be moved around the facility, and F9 is for multi-patient use where a single monitor will control several beds.

Step 3: Synch devices

	Procedure for F1 Setting	Procedure for F9 Setting
Synch with Nexus	1. Enter Nexus Device Management Tab 2. Press Reset button on NGM-21 to transmit monitor device ID for pairing 3. Rename monitor as desired to display during alarm 4. End	1. Enter Nexus Device Management Tab 2. Activate Device #1 to transmit device ID into Nexus memory 3. Rename device as desired to display during alarm 4. Activate Devices #2-9 and rename each as required 5. End
Synch Devices to Monitor	1. Enter programming on NGM-21 2. Trigger bed/chair/sensor device to synch with monitor 3. End	1. Enter programming on NGM-21 2. Select display ID (this is the bed#) 3. Trigger bed/chair/sensor device to synch with monitor 4. End
Moving the Monitor	1. Enter Nexus Device Management Tab 2. Rename monitor as desired to display during alarm 3. End	Moving the monitor is not recommended in F9 setting. If you must, delete all records in Nexus and re-program from the beginning

Step 4: Mount Monitor – Use the double-sided tape or screw the wall-mount bracket into the wall where you would like the NGM-21 to be located. The monitor can be located next to the patient bed or by the entrance to allow a caregiver to deactivate alarms while tending the patient.

3.4 Door Monitors

DoorWatcher strips can be installed to provide alerts if an at-risk patient attempts to leave the protected area.

Step 1: Connect DMS-02 to power supply. A 12VDC power adapter with changeable country plug is available from Rondish on request.

Step 2: Select Settings – Open the end cap of the DMS-02 to access the user interface. Hold the "Mode" button for ~3s until the door sensor beeps and then release the button. You will use a screwdriver to adjust a rotary dial to the desired digit, and press "Mode" again to input each digit.

- Set Door ID = select 1-15
- Set Area Number – select 0-7
- Set Door Extension – select 1-2 (only used for two strips on a double door)
- Set Lock Time – each number represents a multiple of 5s

Step 3: Add to Nexus – Enter Device Management tab on Nexus. Touch a magnet to the blue dot on the DMS-02 to send a pairing signal. Select a display ID for the door.

Step 4: Mount Monitor by Door – Mount DMS-02 door sensor next to the door that is to be monitored. Double-sided tape is provided with the sensors.

Step 5: Adjust Detection Distance – a open the end cap of the DMS-02 and pull out the circuit board to expose a dial showing 0-E. To increase the detection distance… , To decrease the detection distance…

3.5 Wall-mounting the Panel

Nexus panels can be wall-mounted through use of an optional bracket (MBKT-01). This allows placement in an easily visible location like above a nurse desk or end of a corridor. The panel will need access to a power outlet, so make sure there is access to AC nearby.
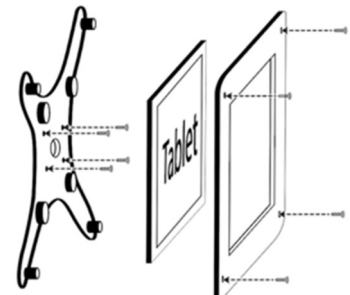
3.6 Maintaining Nexus

Rondish recommends changing batteries on a regular schedule to ensure that Nexus operates at an optimum level. The expected battery life of each component will depend on actual usage – the below table is given below for reference only, assuming each call lasts 1min before reset.

Component	1 Call/Day	5 Calls/Day	10 Calls/Day
NEC-05	3+ years	18 months	10 months
WCP-11C	3+ years	18 months	10 months
WCP-11	3+ years	18 months	10 months
ILB-21*	18 months	10 months	5 months

*Battery life assumes volume set to silent, alarm duration is 1min each, and signal bump function turned ON.

3.7 Updating Nexus

There may be updates to the Nexus app since your purchase – the version number is displayed at the bottom of the Home screen. If you would like to update the software, visit www.rondish.com/nexus-upgrade and follow the instructions to access the latest version. You will be prompted to enter the email address to which your software license was issued to access this page.

4. TROUBLESHOOTING

The below table addresses a number of possible issues with possible solutions for resolving them.

Symptom	Possible Solutions
No power	Check AC input to Nexus. If the NDP-11 tablet has a drained battery, it may need to charge for 1-2 hours before being turned back on again
Wireless signals not receiving / signal lost notifications	• Check that each device is properly powered • Check that each device has been synched with Nexus and defined how to display – refer to section 2.3 – Device Management • Move the device closer to the display panel – if this fixes the problem you may need to install a signal repeater to improve wireless coverage • Check for possible sources of interference • Consider moving the Nexus tablet to a different location
Dongle not receiving - LEDs flash but nothing happens on the screen	• Disconnect and reconnect the dongle • Re-start the tablet
Audible alarm not loud enough	• Increase volume setting – this can be done on indication lights and/or the Nexus tablet • Use Bluetooth to connect a wireless sounder for active alarms
Alarms not displaying properly	Make sure you have entered a primary location in the Device Management section
Unrecognized device in Management tab	Nexus may have received a signal from a 3rd party device while the system was being programmed. Just remove this device from memory
Forgotten PIN	Contact your distributor for assistance
Other	• Visit YouTube/Rondish to view a product tutorial • Contact your local distributor for assistance

5. FCC & CE statements

Any changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Note: The equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The individual device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) The device may not cause harmful interference, and (2) the device must accept any interference received, including interference that may cause undesired operation.

RF exposure statements

1. The Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2. The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body or nearby persons.

Hereby, Rondish Company Ltd declares that the above radio equipment types are in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.rondish.com .