ZKR

Nurse Call Systems

ZKR Infinity Series

Technical Manual

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A.Glossary

A. Devices

a. Duty Station & Room Control Unit (RCU)

RCU - Room control unit refers to:

Infinity Room Control Unit: ZKRUNCIPCNFRMC002

b. NCP - Nurse Control Panel

NCP - Nurse control panel refers to:

Infinity Nurse Panel: LUXINFST35TC0001

c. Auxilary Unit

Auxilary unit refers to:

Infinity Light Indicator: LUXINFCRRGBL0001
Infinity Pull Cord Unit: LUXINFCDWCCN0001
Infinity Call Unit: LUXINFCDMGCN0001
Infinity Corridor Light: LUXINFCRRGBL0001

d. Control Unit

Control unit refers to:

Light Controller: LUXUNCIPRMLK100
Function Control Module: ZKRUNCIPRMLK100
Smart Bed Connector: ZKRUNCIPHRSMB10
Infinity Beacon: LUXINFNBBCNZV10

B. Commisioning Requirements

B1. Requirements to be Met Before Nurse Call System Commissioning

1. The following cabling connections must be made:

a) Room Control Units & Duty Stations to PoE+ Network Switch (Minimum 15Watts/port)
b) VoIP Call Units to PoE+ Network Switch (Minimum 15Watts/port)
c) Nurse Panel (Nurse Station) PoE+ Network Switch (Minimum 15Watts/port)
d) Light Controller and BeaconZ to PoE+ Network Switch (Minimum 15Watts/port)
e) Infinity Light Indicators to Room Control Units
f) Smart Bed Connector and Function Control Module to Room Control Units
g) Infinity Corridor Lights to Light Controllers
h) The Server must be connected to Network Switch and 110 - 240V power
i) All PoE+ Network Switches and the Server should be connected to Uninterrupted Power Supply (UPS)

2. All the Cables from part 1 should be at least Cat6 twisted pair cables.

3. All Cable ends should be terminated with RJ45, all cables must be tested as per local structured cable certification standards.

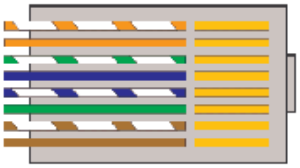
4. Each device and connection must be working properly.

5. A list must be prepared with the IP address of every IP device to be used in the system and sent to ZKR technicians before the commissioning can begin:

- Server
- Nurse Control Panels
- Room Control Units
- VoIP call units (if they are used)
- Text Panels (if they are used)

Cable type

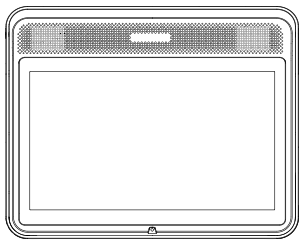
Cables must be Cat 6 UTP minimum, with B-class endings. If any device is shown as non-PoE in design they require power cabling: 110 - 240 V 2x1.5 power cable.



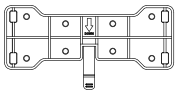
C. Device Installation

Room Control Unit

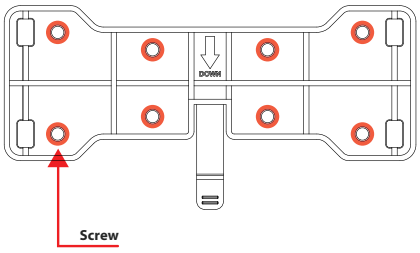
A **Duty Station**
LUXINFRCUVE30001
LUXINFDUTYST0001



B **Wall Hanger**

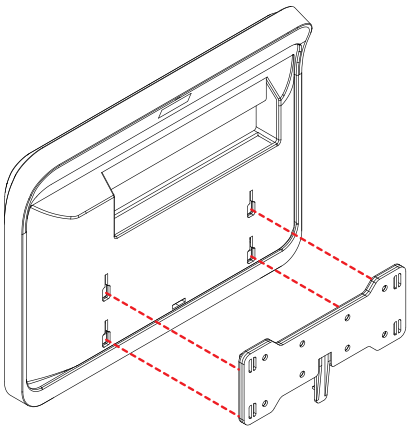


! **Wall Hanger Assembly Details**



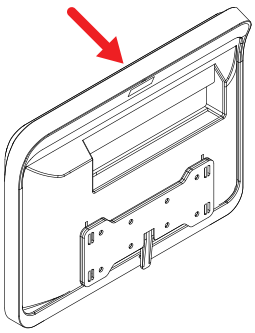
Step 1

Align the slots (4x) with the main unit to the mounting rails (4x) on the wall hanger.

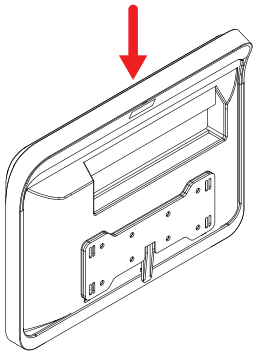


Step 2

a Place on the main unit in the wall hanger.



b Slide the main unit down until the lock tab is fully inserted.

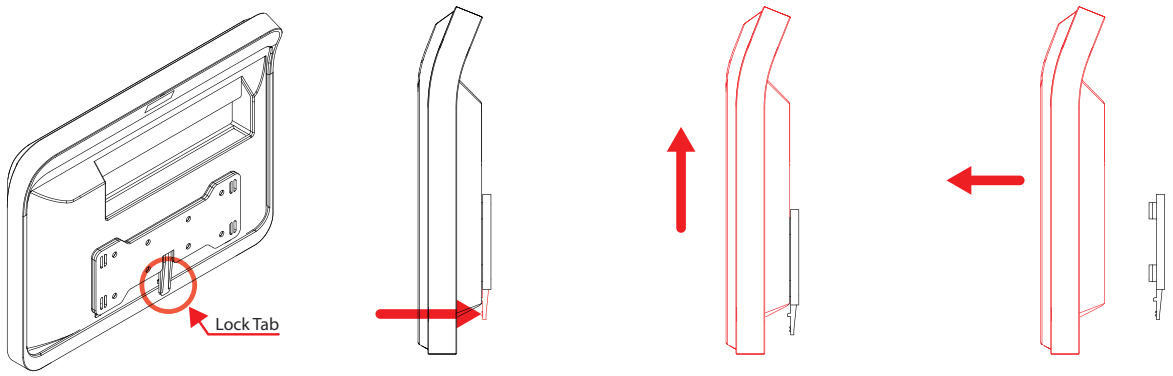


Disassembly

a Push the lock tab towards the wall to open the lock mechanism.

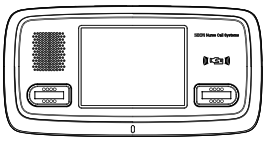
b Slide the main unit up after pushing the Lock Tab.

c The main unit will be released when it is at the top. Now you can get the product by pulling it to yourself.

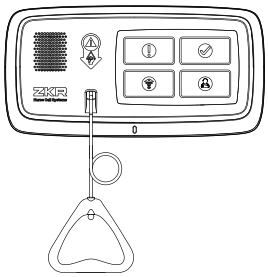


Bedside Console (IWall unit)

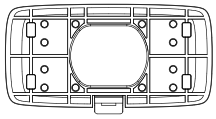
A Bedside Console
LUXINFST35TC0001



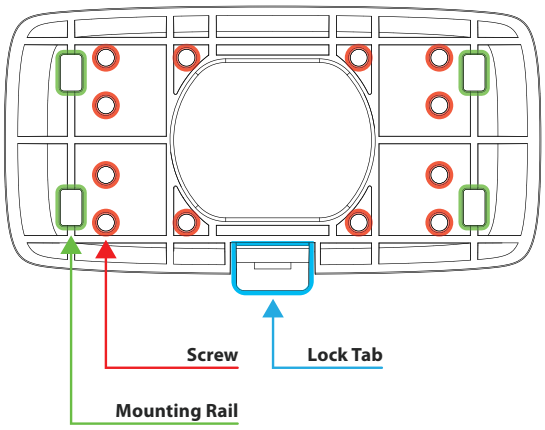
B VoIP WC Call Unit
LUXINFVOIPWC0001



C Wall Hanger

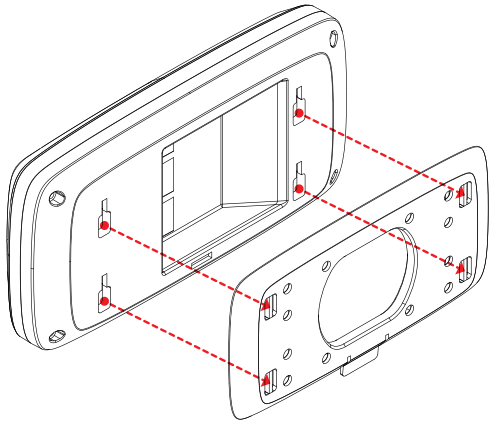


! Wall Hanger Assembly Details



Step 1

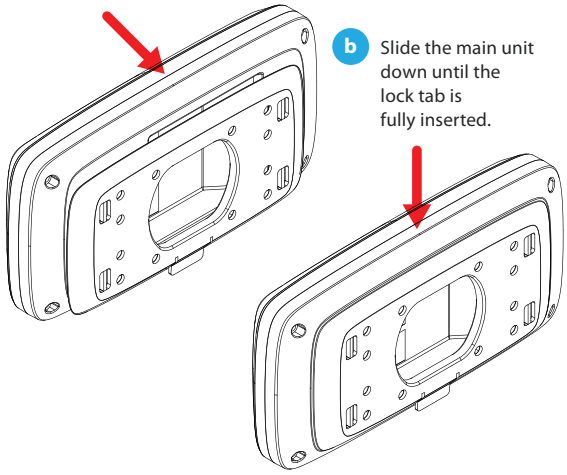
Align the slots (4x) with the main unit to the mounting rails (4x) on the wall hanger.



Step 2

a Place on the main unit in the wall hanger.

b Slide the main unit down until the lock tab is fully inserted.

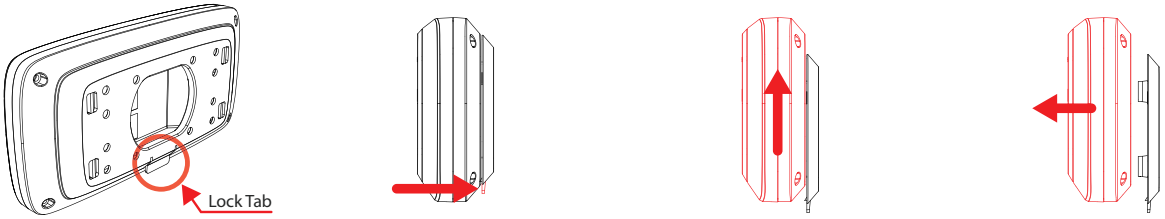


Disassembly

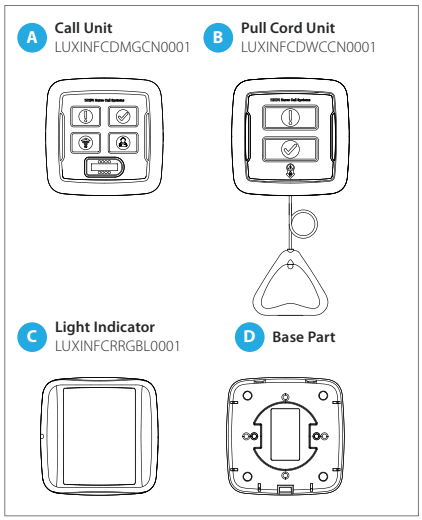
a Push the lock tab towards the wall to open the lock mechanism.

b Slide the main unit up after pushing the Lock Tab.

c The main unit will be released when it is at the top. Now you can get the product by pulling it to yourself.

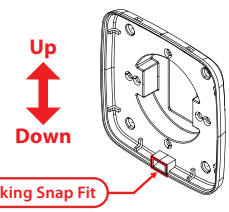


Call Unit / PullCord / Light Indicator



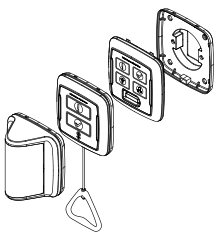
! CAUTION !

During the base part assembly, make sure that the locking snap fit on the part is at the bottom.

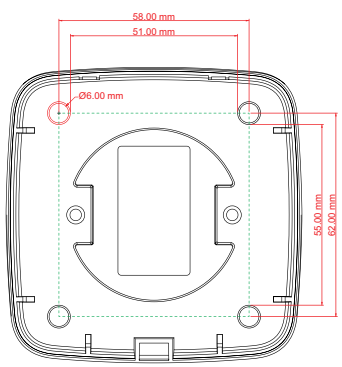


! CAUTION !

The call units (A,B,C) are built on he same basis (D).

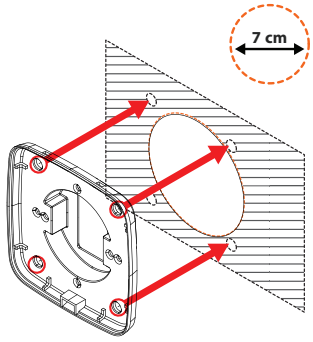


! Hole Dimensions

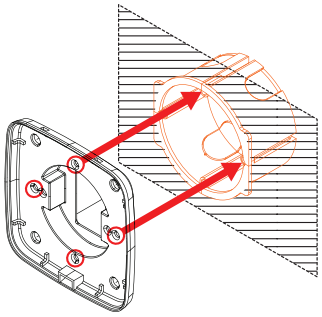


Step 1

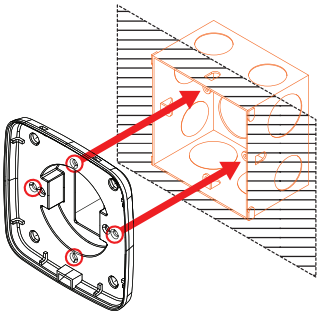
a **Flat Surface Mounting**
Drill a hole with a diameter of 7 cm on the surface you want to mount with the drill saw. Fix with screws from the corners



b **Circular Flush Mounting Box**
Fix it with the screw on the right and left sides

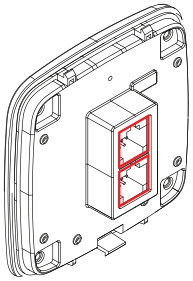


c **Square Flush Mount Box**
Fix it with the screw on the right and left sides



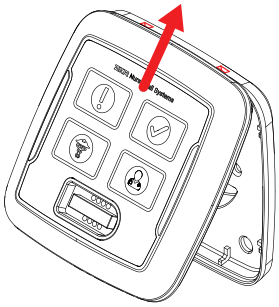
Step 2

Plug RJ45 socket to socket behind the unit

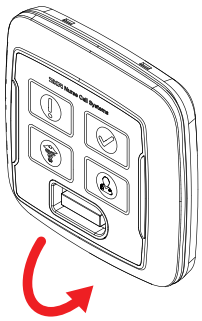


Step 3

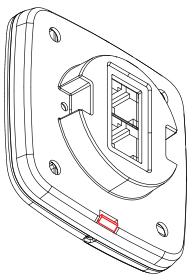
a Insert the two upper tabs into the slots on the base piece



b Close the product downwards after the top two tabs are in place.



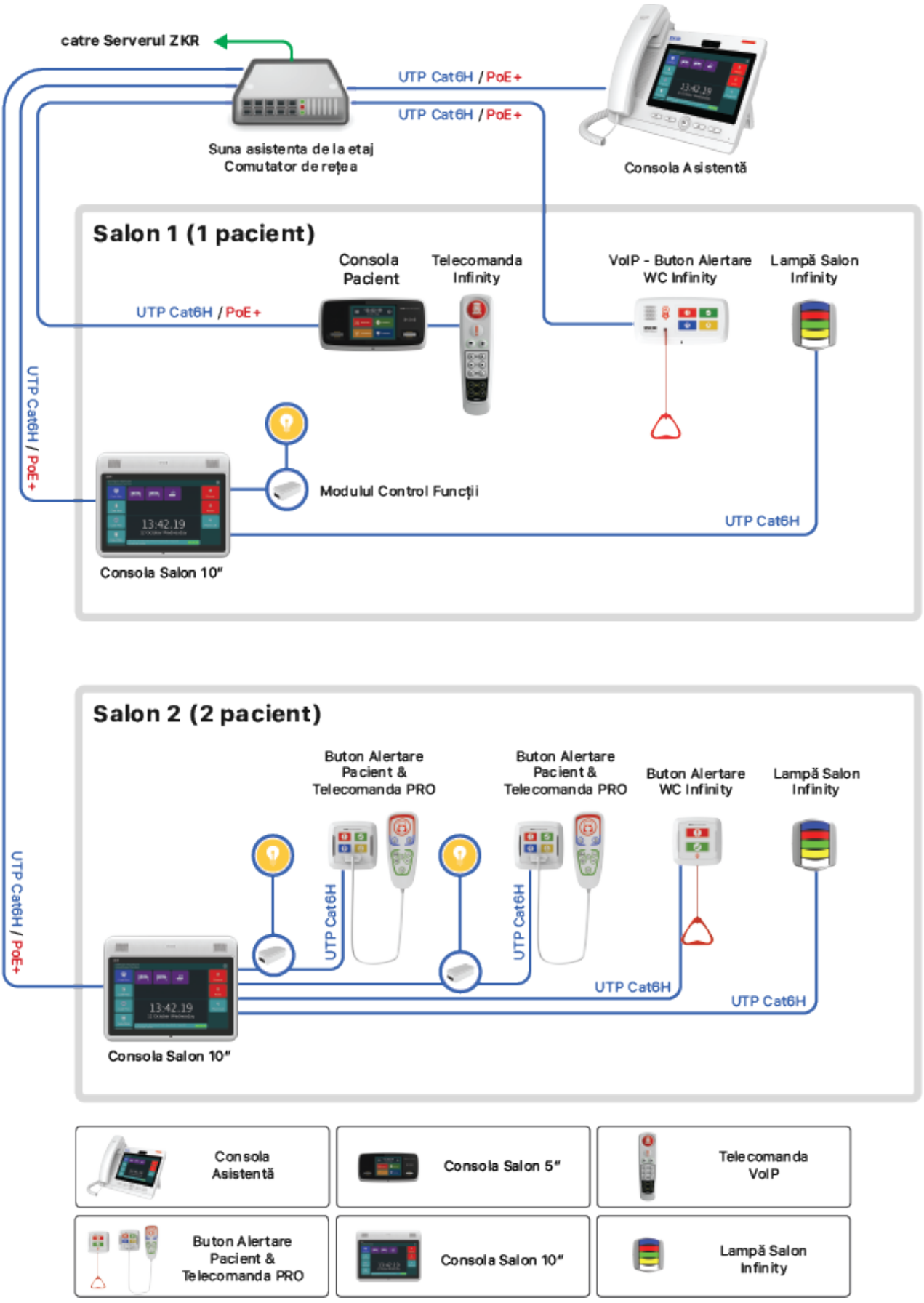
c The product will be closed when the tab on the bottom is located.



Block Diagram

The below diagram shows how to connect the Infinity devices in a single bed and a multiple bed scenario.

Infinity Block Diagram



D. Call Terminal Addressing

D1. Bedside Call Unit

To assign button addresses for the Bedside Call Units:

Step 1: Hold down both the red call and green reset buttons on the Call Unit for a few seconds to enter address configuration mode

Step 2: You will hear a trilling triple beep and the red backlight will be lit. You will see the light flash once indicating that the current address of the button is one.

Step 3: Press the red call button to change the defined button address

Step 4: Each time the call button is pressed; the green backlight will flash the number of times indicating the currently selected address (1-8). When you wish to go back to address one, simply quit the address configuration mode by confirming the correct address (seen in Step 5) and re-enter configuration mode by repeating
(Step 1).

Step 5: When the correct address is selected, press the green reset button to confirm the address. You will hear a double beep.

D2. Pull-cord Call Unit

To assign button addresses for the WC Call Units:

Step 1: Pull the cord and press the green reset button at the same time to enter address configuration mode

Step 2: You will hear a trilling triple beep and the red backlight will be lit

Step 3: Pull the cord to change the defined button address

Step 4: Each time the cord is pulled, the green backlight will flash the number of times indicating the currently selected address (1-8). When you wish to go back to address one, simply quit the address configuration mode by confirming the correct address (seen in Step 5) and re-enter configuration mode by repeating (Step 1).

Step 5: When the correct address is selected, press the green reset button to confirm the address. You will hear a double beep

D3. Light Indicator With Buzzer

If there are double port I/O Lamps, they must be paired to the beds to which they correspond.

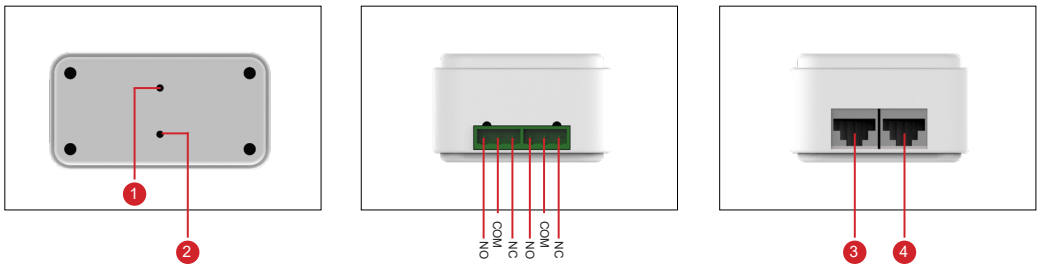
Step 1: Each lamp has a configuration button. Press this button once to enter pairing mode.

Step 2: Press the red call button of the Bedside Call Units(or pull the call cords of the WC Call Units) one at a time to pair with the lamp. One or more call units can be paired to each lamp.

Step 3: Press the configuration button once again to exit pairing mode. If the paired units needs to be changed, hold the button for 5 seconds to reset and start from Step 1.

D4. Function Control Module

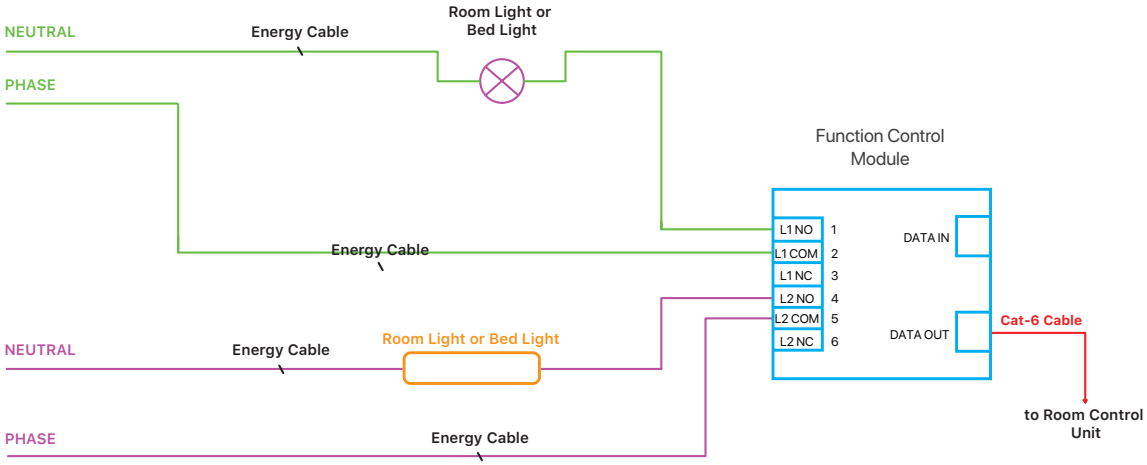
The Function Control Module is connected between the Room Control Unit and the Bedside Call Unit via its RJ45 dry-contact in/out ports. The other end of the module has two ports which can be connected to the lights, window blind automation, or whatever similar function that needs to be controlled via handset buttons. By default, there are two function buttons on the handset which will each control one of the automation systems connected with this module.



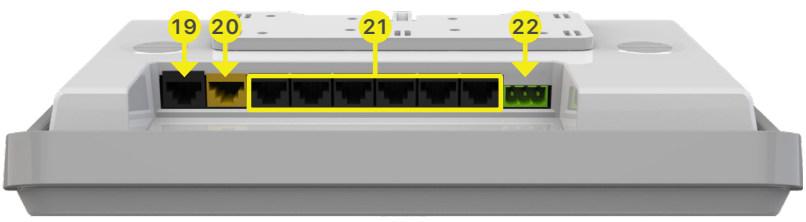
1. Config Button
2. Status LED
3. Out
4. In

The following process should b performed after the Call Units are given addresses from the Room Control Unit.

Once the Call Units are given addresses (1-8), on the Function Control Module press and hold the button a 1 (according to the label in the picture). The LED at 2 will flash rapidly for a few seconds then begin to flash more slowly. This indicates that the module is now in addressing mode. When it is in this mode, press a light function button on the patient handset. The LED will indicate recognition of the handset. You can test whether both buttons are recognized by pressing them on the handset. The LED should flash and you should be able to hear a click from the Function Control Module for both of them.



E. RCU – Room Control Unit Configuration

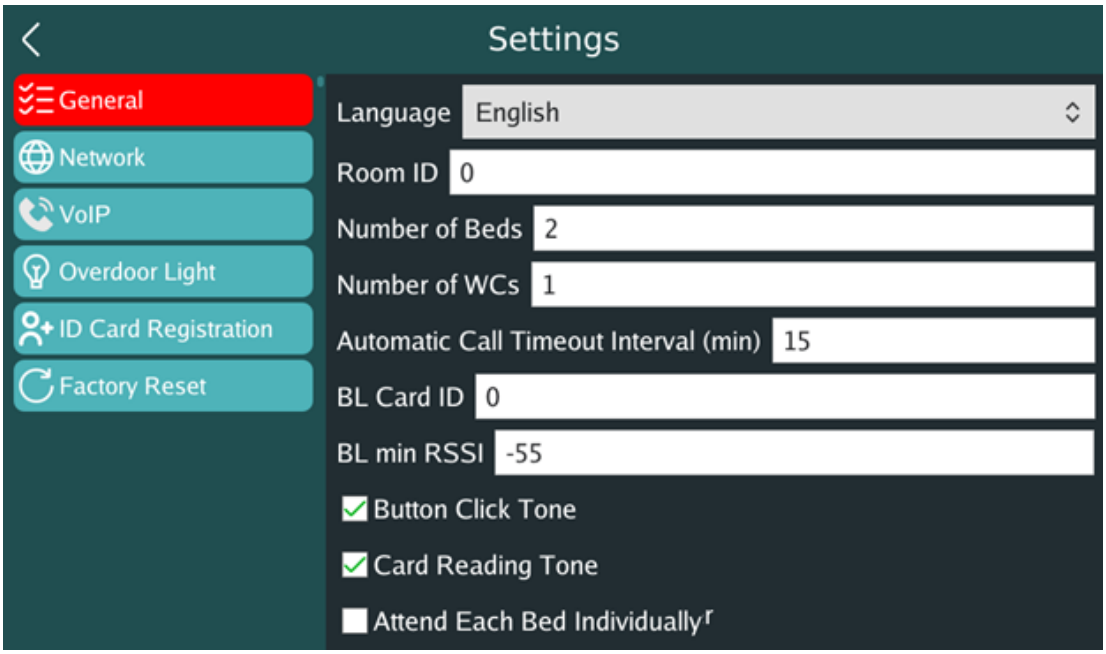


1. Enter Settings Menu
2. Bed and WC Call Unit Icons
3. Link Status (LINK)
4. TCP Server Status (TCP)
5. HTTP Server Status (HTTP)
6. Bluetooth Connection (BL)
7. Speaker
8. Microphone
9. Emergency Code Menu
10. Present
11. Assist
12. MIFARE Card Reader
13. Call
14. Device IP Address
15. Device Mac Address
16. Terminal ID
17. Firmware Version
18. SIP Status Message
19. Network Connection (PoE)
20. Over Door Light Port (24v port)
21. Call Unit Ports
22. 220 V Input

Settings

Tap the Gear Icon on the top right side of the home screen. Hold your Mifare card to the card reader when you see “Please get your card read”. If you have the required authorization, the settings window will open.

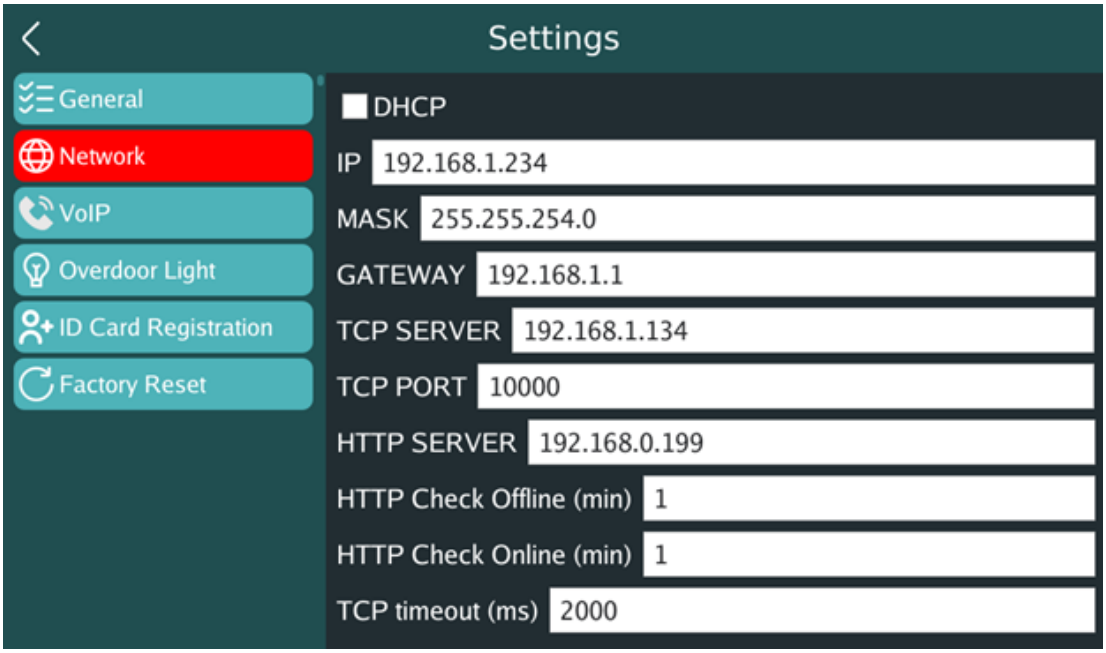
E1. General



Language: Change the system language here.
Room ID: Assign an ID number to this RCU. This number identifies the room and will be used by the server for addressing purposes. Each RCU must be assigned a different ID number between 1000-9999.
Number of Beds: Set the number of Bedside Call Units to be connected to this RCU (the total number of bedside call units and WC call units cannot exceed 8)
Number of WCs: Set the number of WCs (toilets) and bathroom Call Units to be connected to this RCU (the total number of bedside call units and WC call units cannot exceed 8)
Automatic call timeout (min): Bed, WC, or Emergency Code calls are automatically terminated by the system at the end of the specified time. Automatically terminated calls are marked as ‘auto-off’ by the system server. Set this time in minutes.
BL Card ID: Field to enter the Nurse Badge ID which will be connected to the system.
BL min RSSI: This value shows the activation distance of the Nurse Badge. Proximity of the badge can be adjusted by adjusting this value.

Button Click Tone: Toggle the click tone heard when touching the screen.
Card Reading Tone: Toggle the sound heard when a Mifare Card is read by the RCU.
Attend Each Bed Individually: If this option is enabled, the calls made from other beds in a room need to be addressed separately. Marking presence with one bed will not affect the call from the other bed.
Card Confirmation: Toggle unregistered Mifare card usage on the unit.
Query Cards on HTTP Server: This option enables Mifare card privileges to be taken directly from the HTTP server.

E2. Network



DHCP: Toggle the network settings to be static or dynamic (collect from network).
IP: The IP address to be defined on the device.
Mask: The Mask value to be defined on the device.
Gateway: The gateway address to be defined on the device.
TCP Server: The nurse panel IP address where the calls on the device will be monitored must be entered in this field. If the TCP server connection is successful, the T mark of the LTH indicator on the home screen will turn green. If the connection fails the status mark will turn red.
TCP Port: The port number to be used for the TCP connection between the nurse panel and the room control device. 10000 is used as default.

HTTP Server: The IP address of the ZKR system server must be entered. If the connection is successful, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.

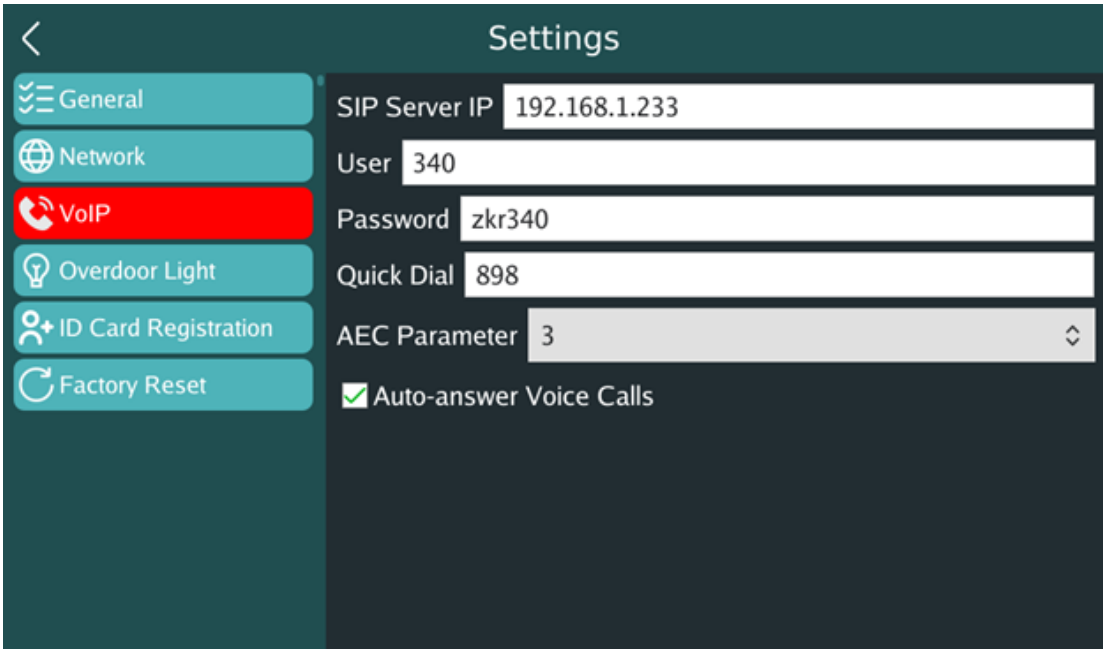
HTTP Check offline (min): If the device is offline, this value refers to the interval which the device retries to establish connection. Keep this value as minimum as possible.

HTTP Check online (min): The room control device continuously checks the http connection to the server. If it cannot reach the server, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent. This value refers to the retry interval.

Time out for Software Update Check: The room control device can automatically update its firmware. This field checks whether there is a new software on the server in the value range to be written.

TCP Timeout (ms): It is the necessary timeout duration for the package to arrive during the TCP communication between the room control device and the nurse panel. If the TCP packet does not reach the end of this period, the TCP connection is considered interrupted the T mark of the LTH indicator on the home screen will turn red.

E2. Network



SIP Server IP: The SIP Registrar Server Address must be entered. If a different server will not be used, this will be the same as HTTP server.

User: Enter the username to use for the SIP register.

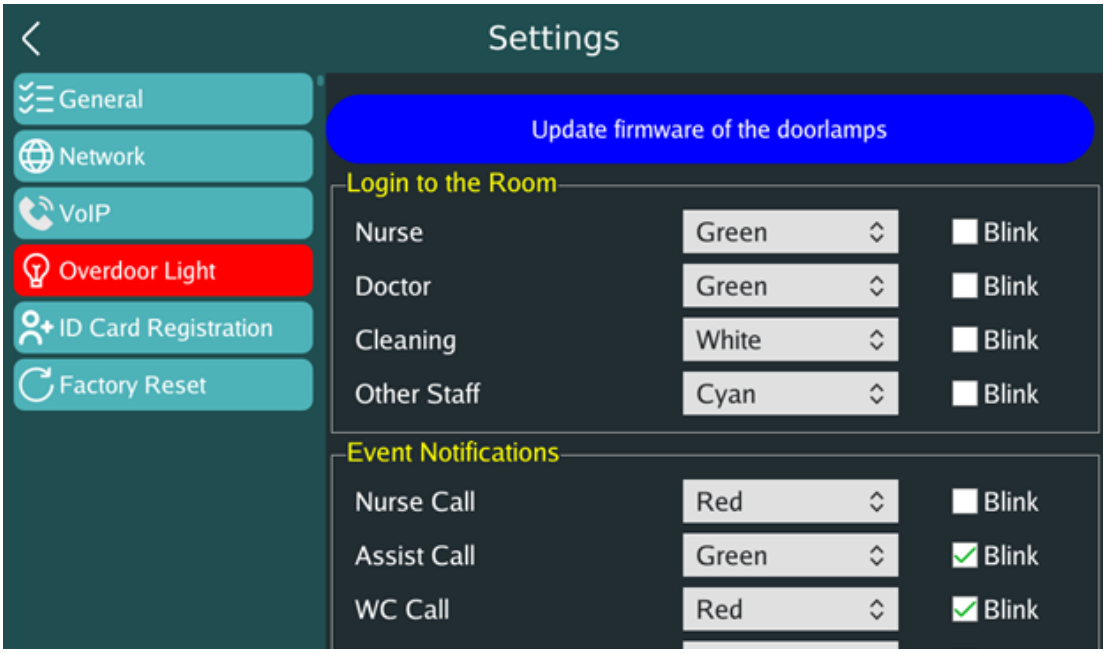
Password: Enter the password for the SIP register.

Quick Dial: Define the number to be dialled from the Speed Dial key in the call menu.

AEC Parameter: This field refers to the echo cancellation strength during voice call. Adjust as per the requirement.
Auto-Answer Voice Calls: Toggle to enable the Auto Answer feature for Voice calls made to the RCU. The call gets picked up even if no one answers.

E2. Network

In this tab, the behaviour of the Over Door Light connected to the RCU depending on different situations may be configured.



Update firmware of the Door Lamps: The firmware of the Light Indicator can be updated with this button.
Login to the Room: Upon a user entering the room and marking their card, the Over Door Light can change it's colour to indicate their presence. You have the flexibility to modify the colour settings of the Over Door Light from this interface for all type of users who might visit the room.
Blink: This feature allows you to enable or disable the blinking of the Over Door Light for each event or user individually.
Event Notifications: Here we can modify the colour settings of the Over Door Light for various events.

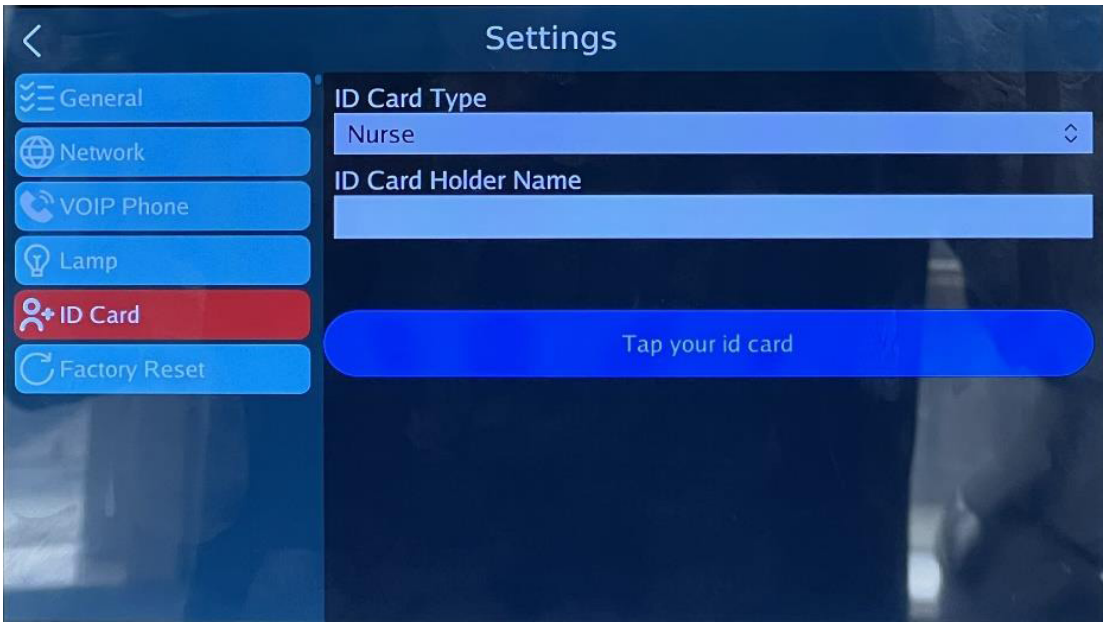
E5. ID Card Registration

The area designed to be able to quickly register to the server the personnel Mifare Cards which are used in the system.

Card Holder: Enter the Card Holder name or registration number.

Card Type: Enter the authorization level to be given to the card holder.

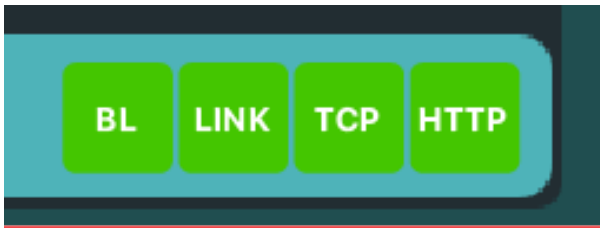
Tap your Card: Press here and have your card read by the device. If the process is successful, the added cards will be visible in the Gray area below. Performing this operation with a card already defined in the system will update the current information.



E6. Factory Reset

This area allows you to restore the device to factory settings. The factory IP address of the device is 192.168.1.251.

E7. LTH indicators



On the top right corner of the home screen you can find indicator circles labelled L T H.

Bluetooth (BL): This indicates if a Smart Badge has been detected or not

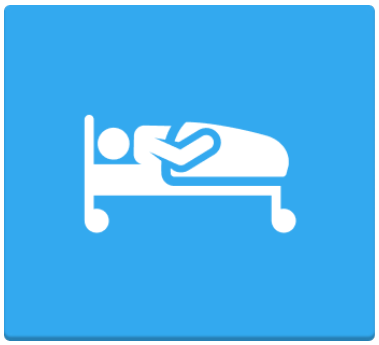
Link Status (LINK): This will indicate whether the RCU is connected to the network line and the switch connection is successful. If this circle is red, cable connections and switch should be checked.

TCP Server Status (TCP): This will indicate the Nurse Control Unit connection status. If this circle is red, check that the Nurse Control Unit is turned on and your network settings are correct.

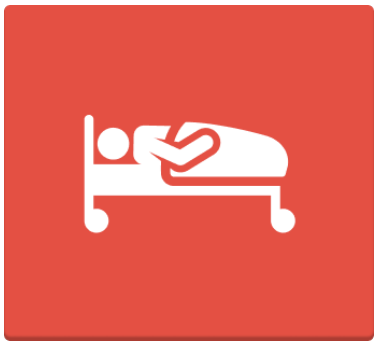
HTTP Server Status (HTTP): This circle will indicate the ZKR main server connection status. If this circle is red, check that server is turned on and your network settings are correct.

E8. Bed/WC Icons

These icons indicate the status of the call buttons connected to the RCU. Grey indicates lack of connection with the call unit. Red indicates there is an active call corresponding to that address. If there is a connection but no active call, the colour of the icon will be blue.



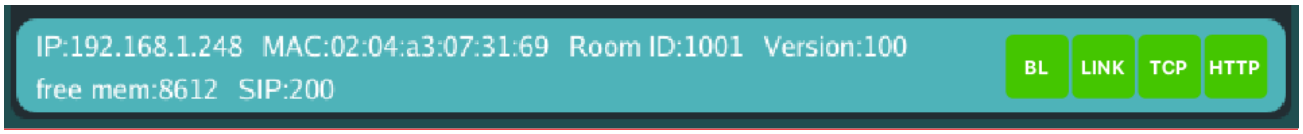
Online



Call

Offline

E9. SIP Status

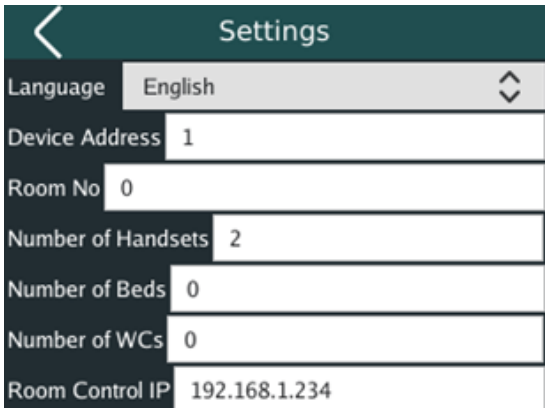


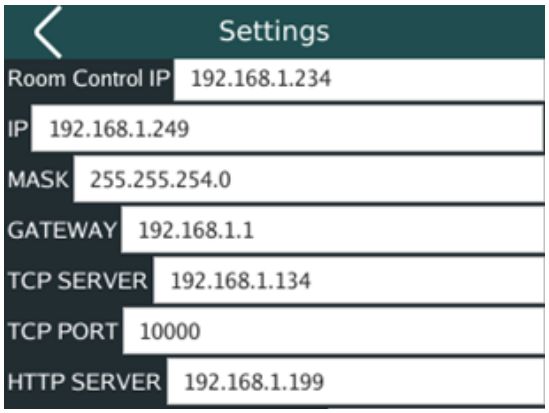
On the home screen, this field is used to monitor the SIP status of the account on this RCU. This will read SIPXXX. The meanings of the codes are as follows.

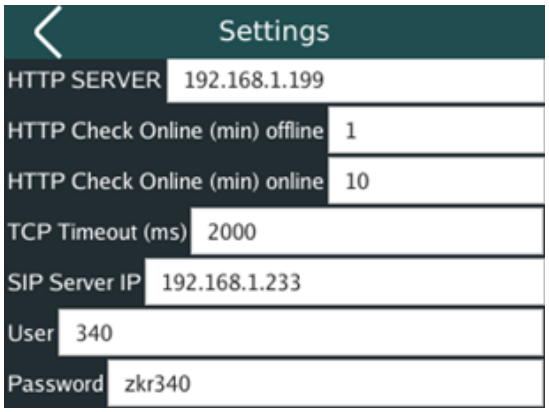
SIP200 Registration is OK
SIP400 Bad Request
SIP401 Unauthorized: Used only by registrars. Proxies should use proxy authorization SIP407
SIP402 Payment Required (Reserved for future use)
SIP403 Forbidden
SIP404 Not Found: User not found
SIP405 Method Not Allowed
SIP406 Not Acceptable
SIP407 Proxy Authentication Required
SIP408 Request Timeout: Couldn't find the user in time
SIP409 Conflict
SIP410 Gone The user existed once, but is not available here anymore.
SIP413 Request Entity Too Large
SIP414 Request URI Too Long
SIP415 Unsupported Media Type
SIP416 Unsupported URI Scheme
SIP420 Bad Extension: Bad SIP protocol extension used, not understood by the server
SIP421 Extension Required
SIP422 Session Interval Too Small
SIP423 Interval Too Brief
SIP480 Temporarily Unavailable
SIP481 Call/Transaction Does Not Exist
SIP482 Loop Detected
SIP483 Too Many Hops
SIP484 Address Incomplete
SIP485 Ambiguous
SIP486 Busy Here
SIP487 Request Terminated
SIP488 Not Acceptable Here
SIP491 Request Pending

F. Bedside Console Configuration

Language: Change the system language here.
Device Address: Address of the device.
Room No: Room identification (when using without RCU).
Number of Handsets: Number of handsets that are connected to the device (0-2).
Number of Beds: No of beds connected to the device (1-2).
Number of WCs: No. of washrooms connected to the device (2 if light not connected, 1 if light connected)
Room Control IP: IP address of the RCU (if connected).
IP: IP Address of the device.
Mask: Subnet Mask for the network.
Gateway: Network gateway address.
TCP Server: The nurse panel IP address where the calls on the device will be monitored must be entered in this field. If the TCP server connection is successful, the T mark of the LTH indicator on the home screen will turn green. If the connection fails the status mark will turn red.
TCP Port: The port number to be used for the TCP connection between the nurse panel and the room control device. 10000 is used as default.
HTTP Server: The IP address of the ZKR system server must be entered. If the connection is successful, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.
HTTP Check Online (min): The room control device continuously checks the http connection. If no access is reached at the end of the value typed in this field, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent. This value refers to the retry interval.







HTTP Check offline (min): If the device is offline, this value refers to the interval which the device retries to establish connection. Keep this value as minimum as possible.

TCP Timeout (ms): It is the necessary timeout duration for the package to arrive during the TCP communication between the room control device and the nurse panel. If the TCP packet does not reach the end of this period, the TCP connection is considered interrupted the T mark of the LTH indicator on the home screen will turn red.

SIP Server IP: The SIP Registrar Server Address must be entered. If a different server will not be used, this will be the same as HTTP server.

User: Enter the username to use for the SIP register.

Password: Enter the password for the SIP register.

Quick Dial: Define the number to be dialled from the Speed Dial key in the call menu.

AEC Parameter: This field refers to the echo cancellation strength during voice call. Adjust as per the requirement.

DHCP: Toggle the network settings to be static or dynamic (collect from network).

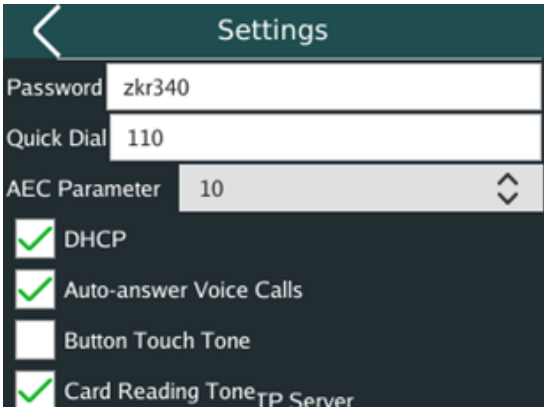
Auto-Answer Voice Calls: Toggle to enable the Auto Answer feature for Voice calls made to the RCU. The call gets picked up even if no one answers.

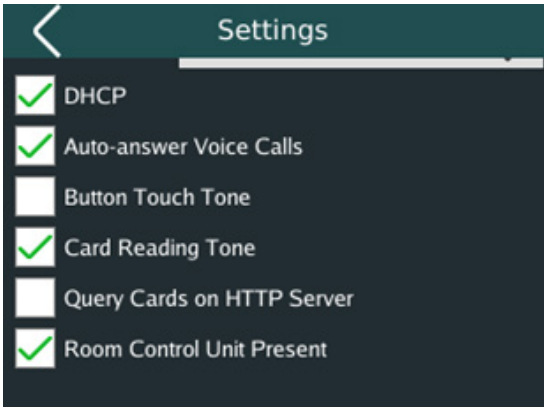
Button Touch Tone: Toggle the click tone heard when touching the screen.

Card Reading Tone: Toggle the sound heard when a Mifare Card is read by the unit.

Query Cards on HTTP Server: This option enables Mifare card privileges to be taken directly from the HTTP server.

Room Control Unit Present: Enable if the room has an RCU. If not, the device acts as an RCU and adds two more buttons to the UI for marking the presence.





G. NCP – Nurse Control Panel Configuration

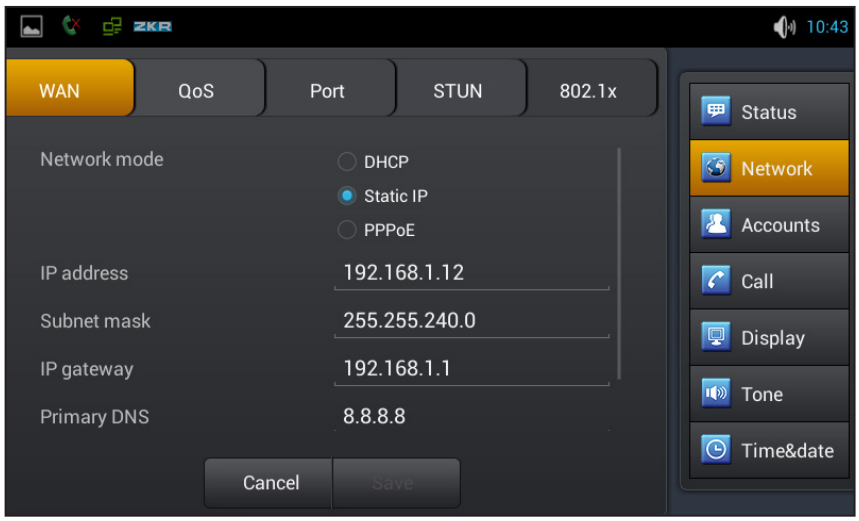
G1. VoIP 7”Nurse Control Panel

a. Panel IP Settings

Press Home button to reach this screen, go to the settings menu on bottom right

Go to Network

Define this panels IP address and settings

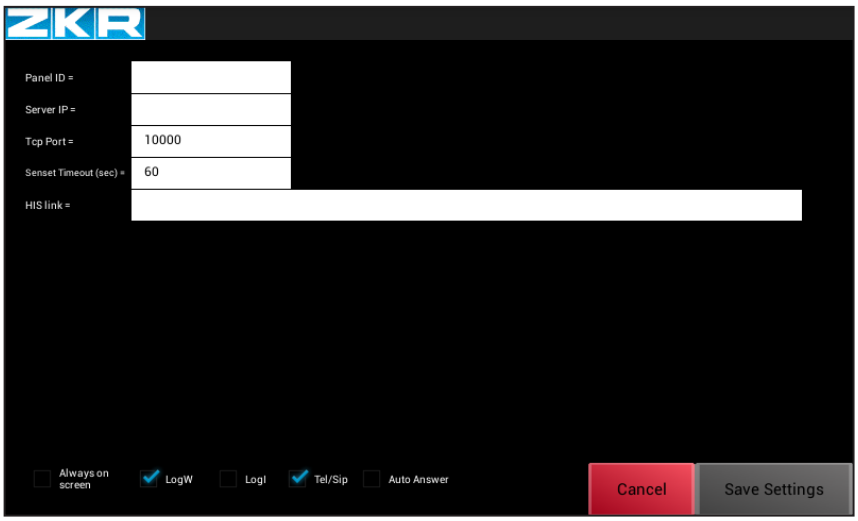


b. In-App Configuration

Launch the ZKR Nurse Call App.

Panel ID:
Enter the Terminal ID for this unit (must be same as determined in the Server settings in G1).

Server IP:
Enter the server IP
The remaining settings can stay default.



c. Options

Always on screen: This will bring the ZKR Nurse Calling App back to the screen whenever someone tries to go back to the home screen or menu of the Panel.

LogW (warning): This should always be toggled on, it logs any errors the device might have and allows our technical support to sort out issues.

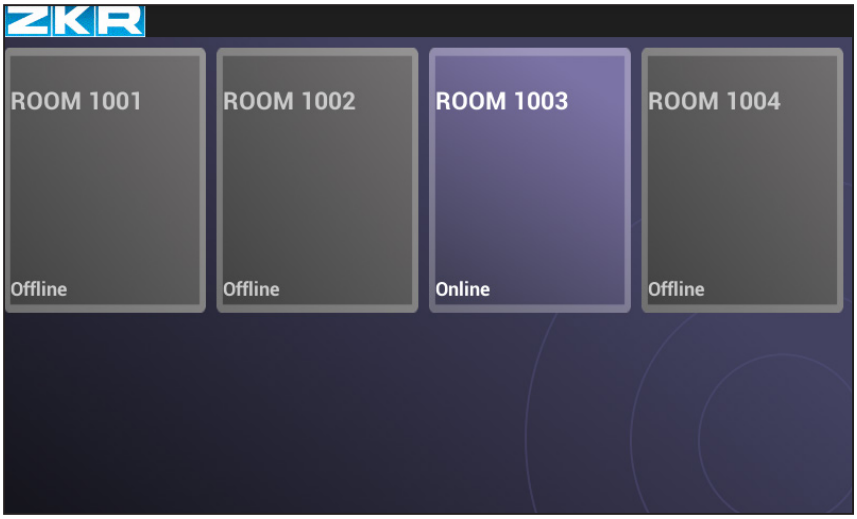
LogI(Information): This provides more detailed logging, and can remain off. Technical support might choose to turn it on for debugging.

Tel/SIP: This option differentiates the 10” and 7” Nurse Control Panels. It must be toggled ON for 7”.

Auto Answer: This option will make the Room Control Units connected to this Nurse Control Panel give full permissions to all Mifare cards. It is used during the installation process if necessary to access settings and functions before everything is configured.

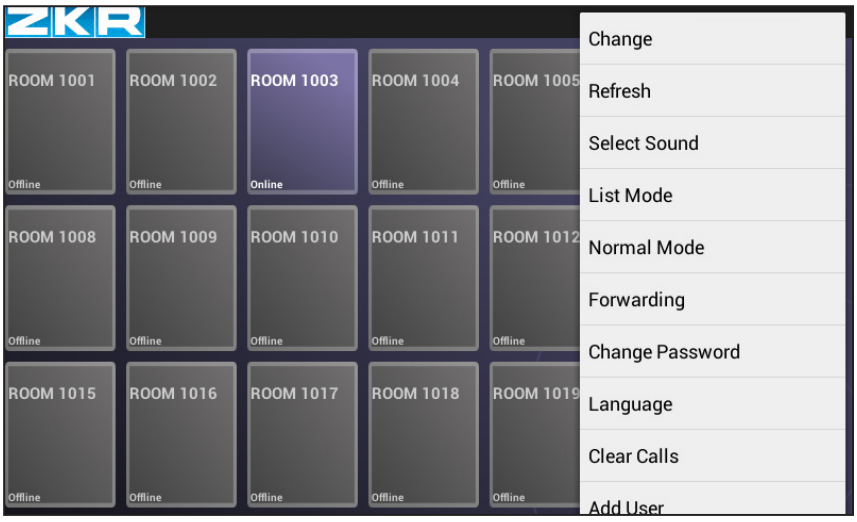
d. Main Nurse Call Screen

The buttons will appear according to the ones assigned to this Nurse Control Panel in G1.



e. Call Forwarding

Use the panel's menu button to open menu to go to Forwarding, and select the panels you wish to forward calls to.



F2. VoIP 10"Nurse Control Panel

The configuration of the 10" panel is nearly the same as the 7" one, the only differences are:

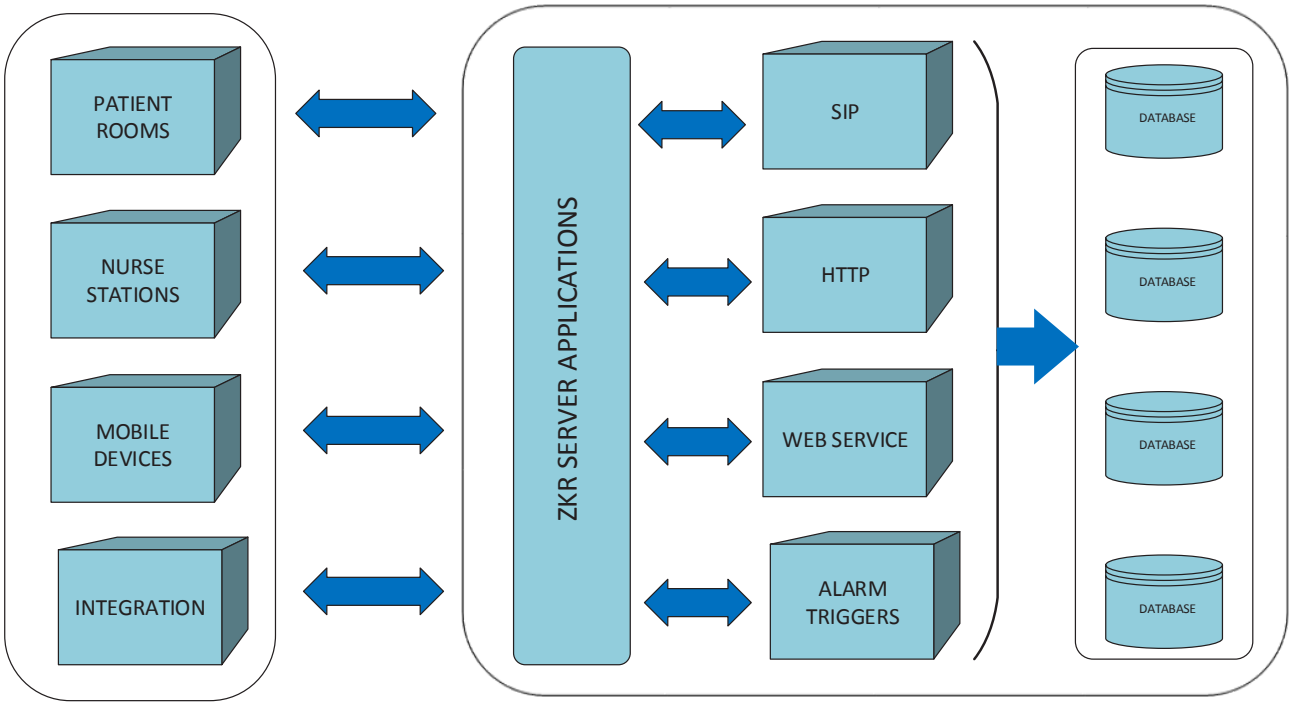
- The home screen layout is different for the panel IP configuration
- During the in app login at the bottom of the screen the checkbox for Tel/SIP must be ticked off for the 10" panel

H. Server – How does it work

The ZKR Server application is the platform that facilitates communication among all the equipment used within the Hospital, stores all event logs and voice recordings of calls made on the system, allows these logs and records to be accessed by the user through a web-based interface, and allows integration with other systems used throughout the hospital.

For the system to function correctly, the most important step is proper configuration of the Point Definitions and the Call Type Notifications (Point Operations) these points can make.

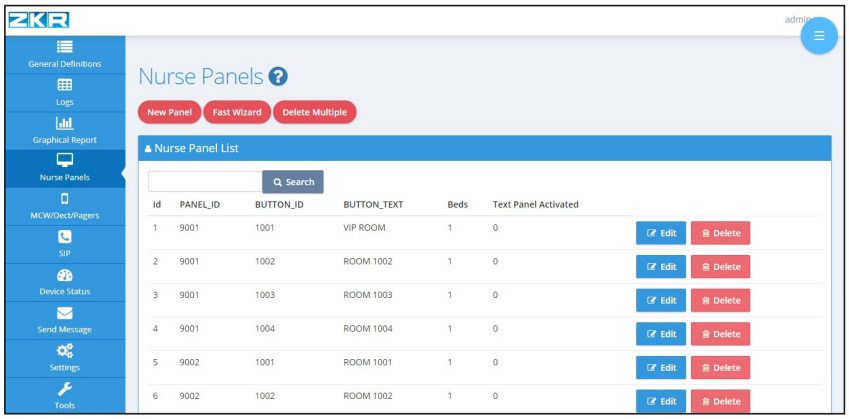
The fundamental architecture of the system is as below.



H1. Nurse Panels

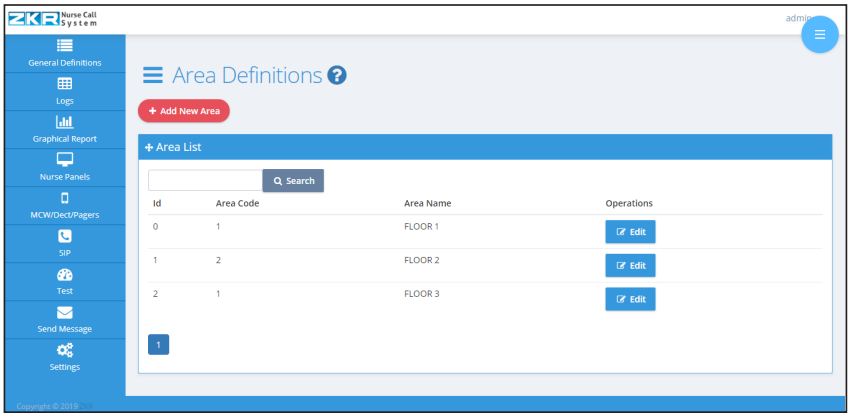
Go to **Nurse Panel/Panel Settings.**

Here you can add Nurse Panel IDs and their connected Rooms. Each entry shows the Panel IDs and their connected Room IDs as well as the dialing number that will call these Rooms and the Room Names as that will appear on the Nurse Panel. Using the fast wizard multiple RCU can be added to the Nurse Panel at once.



H2. Area Definitions

In the server interface, navigate to **General Definitions/Area Definitions.**

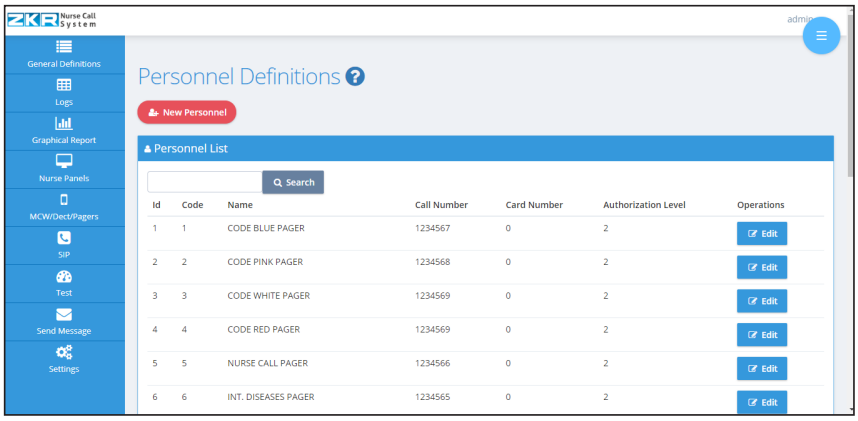


Add the areas to be used in the hospital; can be floors/ departments etc.

Area Code is an optional field to be used at the hospital's discretion.

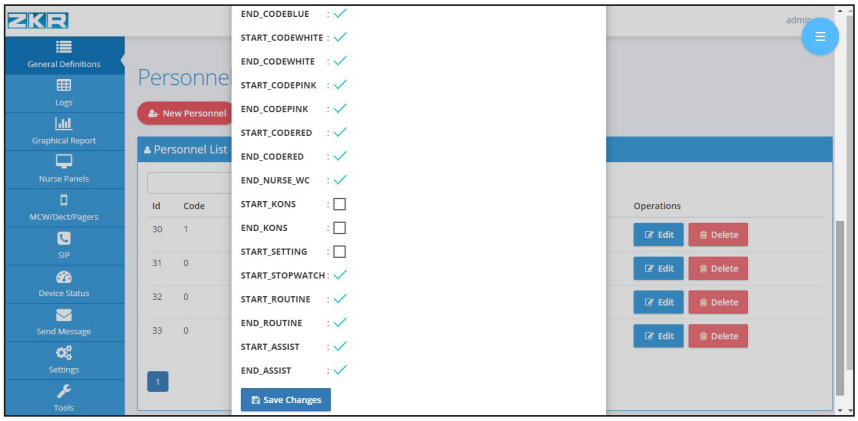
H3. Personnel Definitions

The RCU entries of Mifare Cards (see E8) will appear here, and you can add call numbers (pager numbers or DECT) to those personnel and change authorization levels of those cards as well as the operations that the card owner is allowed to perform.

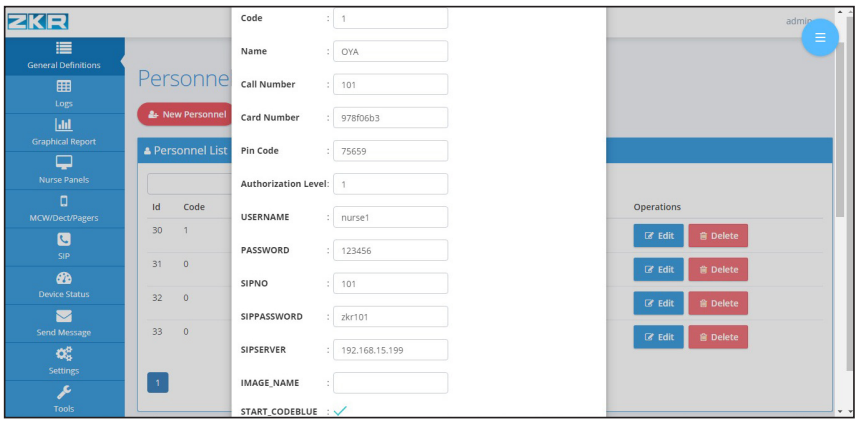


Authorization le vels are as follows:

1- Nurse
2- Doctor
3- Cleaning Staff
4- Other

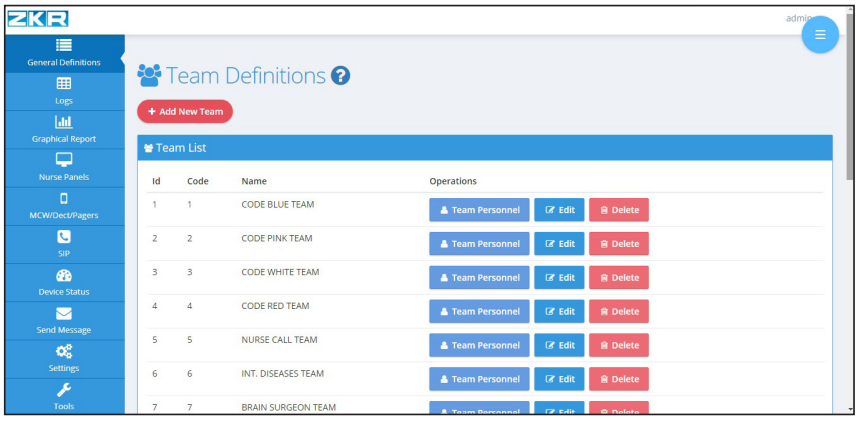


If the system has MCW application, the **username, password, SIP extention, SIP password, SIP server address** should be entered here.

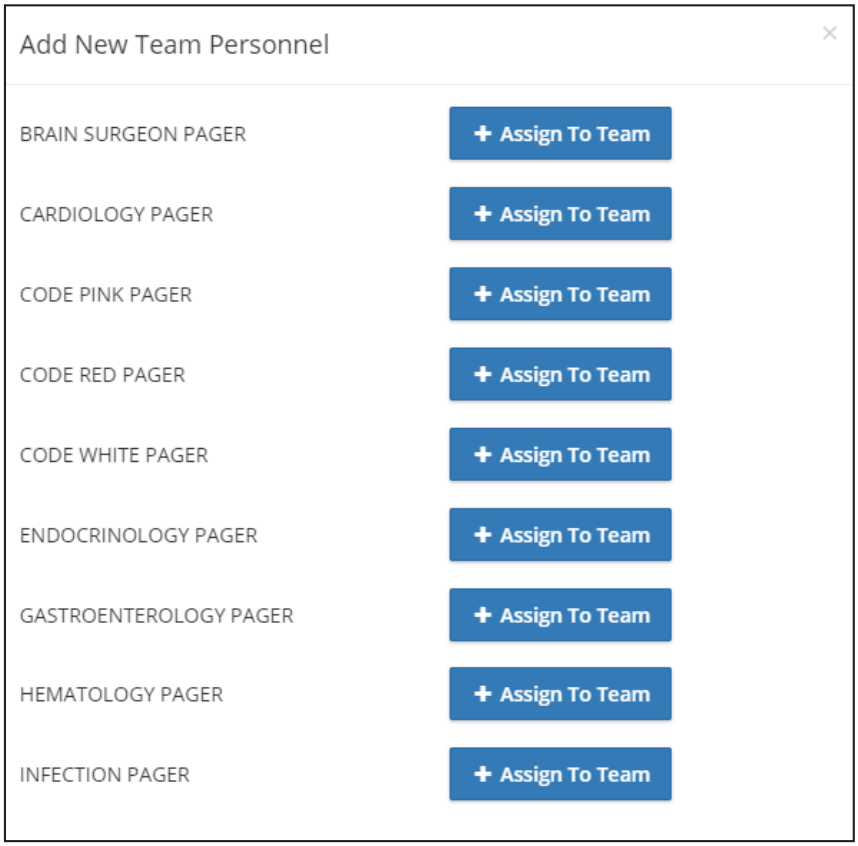


H4. Team Definitions

On this page you can add new teams for personnel, and edit the names of existing teams.



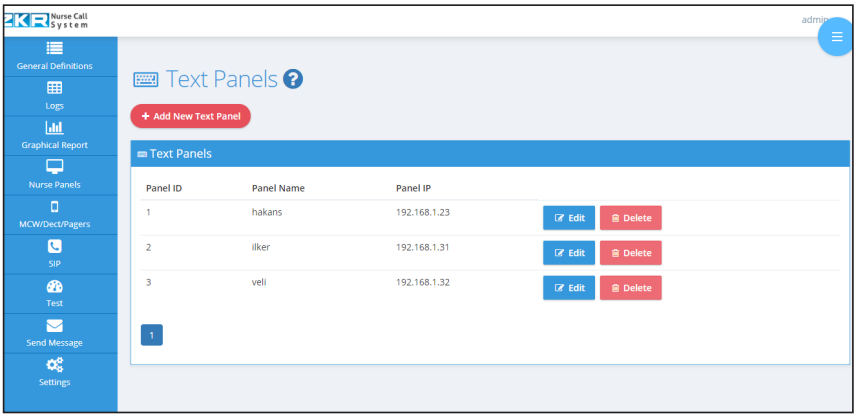
By clicking the **Team Personnel** button next to a team, you can assign personnel to that team or remove them. You can create as many teams as desired for different call types or areas.



H5.Text Panels

Go to General Definitions/Text Panels

On this page you can add new text panels by defining a Panel Name and a Panel IP or edit existing text panels.



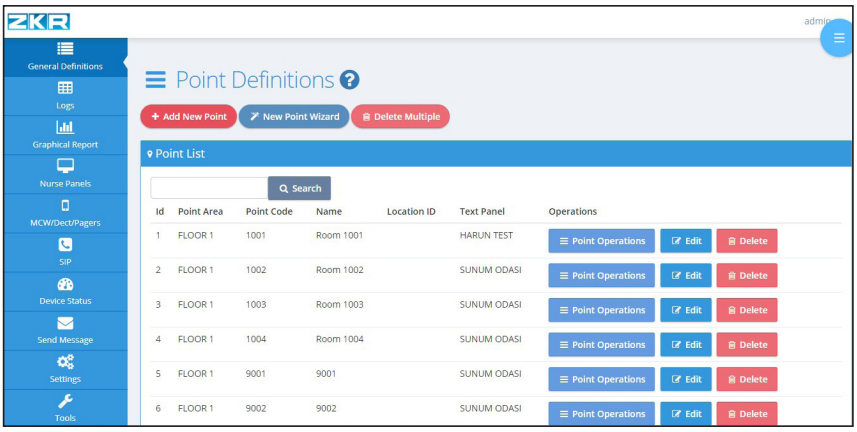
H6. Point Definitions

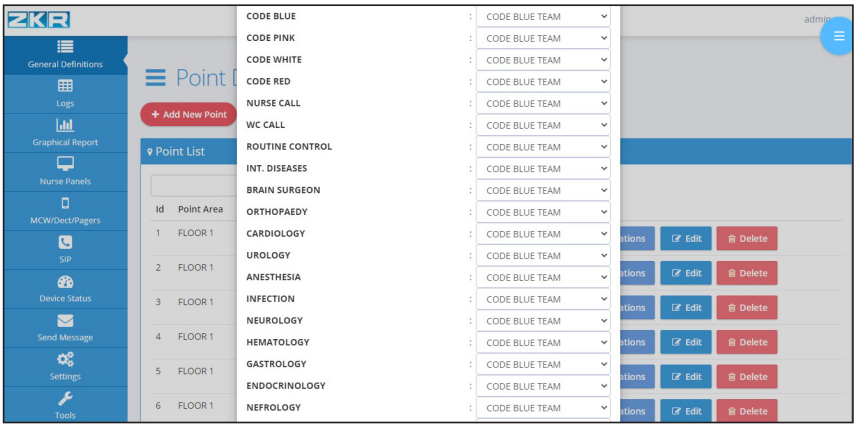
Use **Add New Point** for single point definition or **New Point Wizard** for mass point definition. Each point here should be defined with **Create SIP** option selected. This will automatically assign the SIP No *POINTCODE* and **password** *zkrPOINTCODE* for each point. (i.e.password:zkr2001 for SIP No:2001) Nurse Panels should also be defined here the same way to get an automatic SIP No and password. Additionally text panel for the calls to be sent from each point is chosen.

Point Code: Refers to the unique Terminal ID of the Room Control Unit

Location ID: Optional way to identify Rooms by architectural codes

Point Operations: For each point, define which calls will be logged, which teams will receive those calls from that point, and the message that will be sent to those teams when a call of that type is made. It is recommeded to use New Point Wizard to define point operations unless needed otherwise.

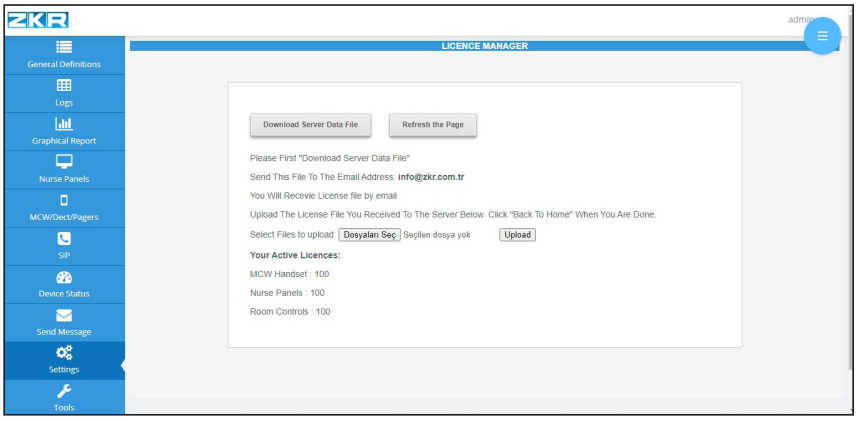




H7. License Settings

The system is shipped with licenses preconfigured.

If there is a need to change the number of licensed devices, follow the instruction on the screen.



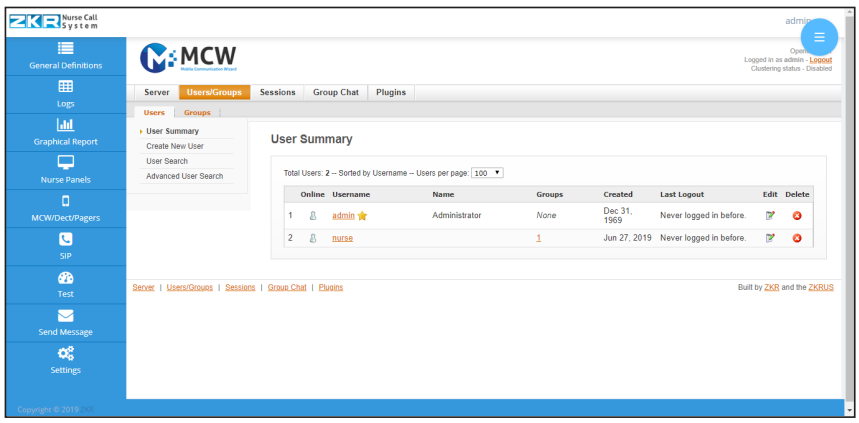
H8. MCW Settings

MCW settings are automatically configured during G3 Personnel Definitions.
In a case manual configuration is needed, instructions below should be followed.

The default login information is

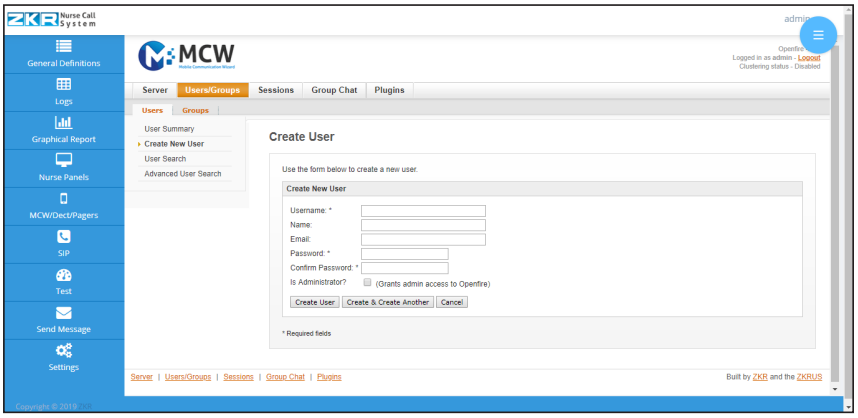
Username: admin
Password: 11531153

Navigate to Users/Groups on the top menu.



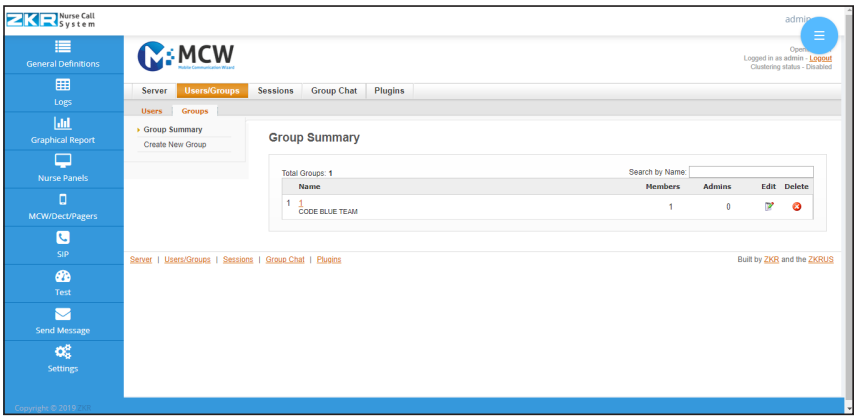
In the Users tab you can click Create New User to add a new MCW One User.

Enter new user information. Only fields marked with * are required.



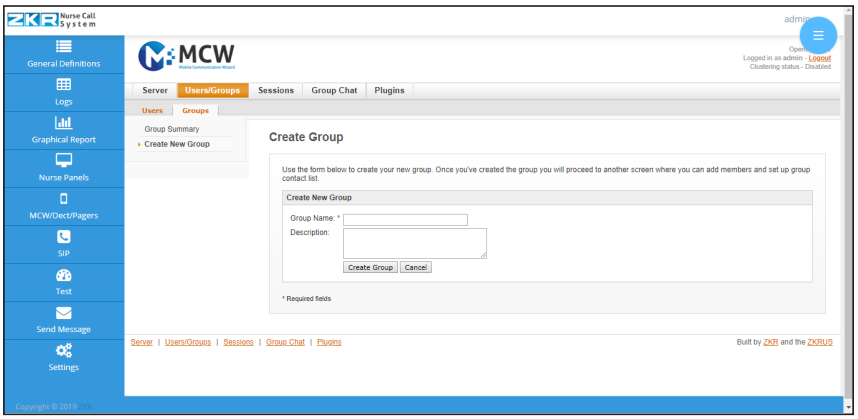
To edit groups, go to the groups tab.

You can add a new group from **Create New Group**.



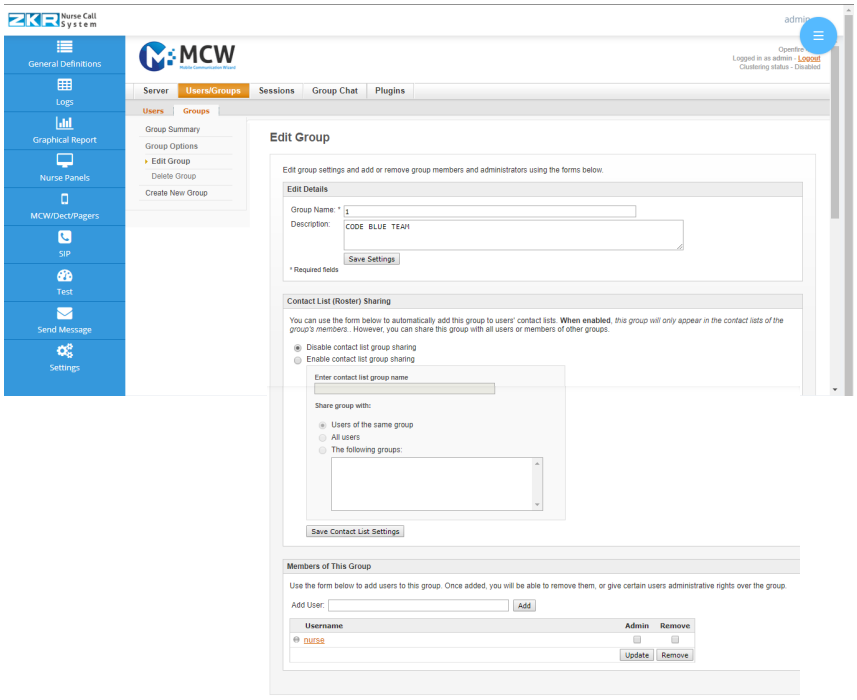
Enter the group information here. For the system to function in sync with the Teams as defined in section G4 of this guide, please follow these instructions:

Group Name: Set this as the same as the ID (list order) for the Teams in Team Definitions



Description: Name the group here

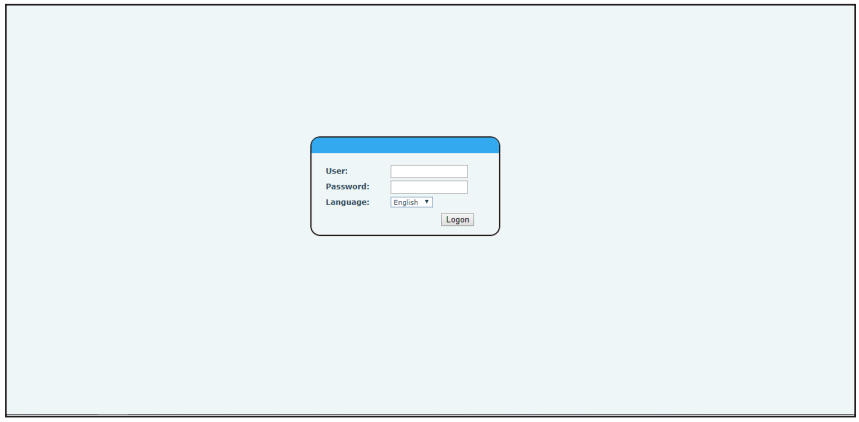
You can add users to that group through the edit group screen.



For Android based Nurse Control Panels there is an additional step to follow after point operations. Enter the Nurse Control Panel's IP in a web browser URL.

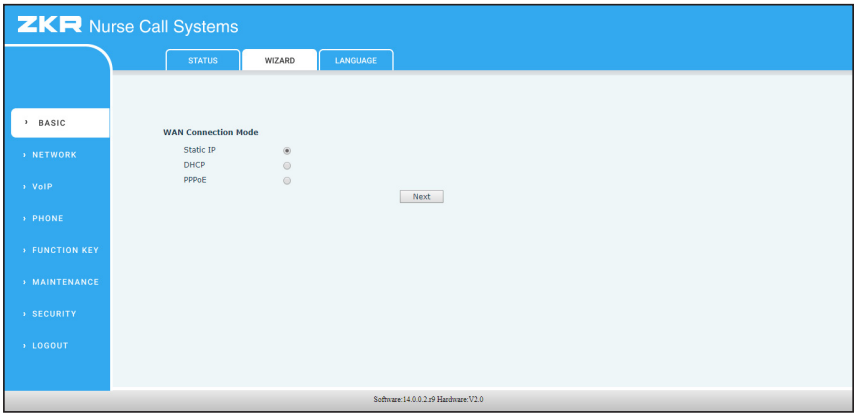
The default login information is

Username: admin
Password: admin



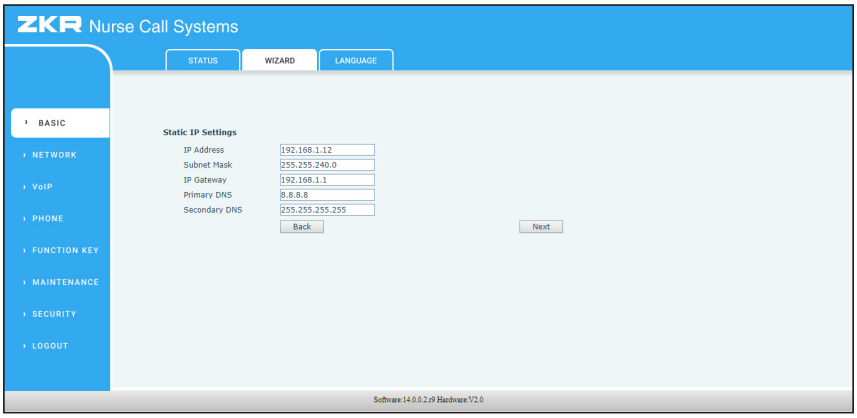
Navigate to **Basic** in the Side Menu and **Wizard** in the top menu

Select **StaticIP** and click **Next**

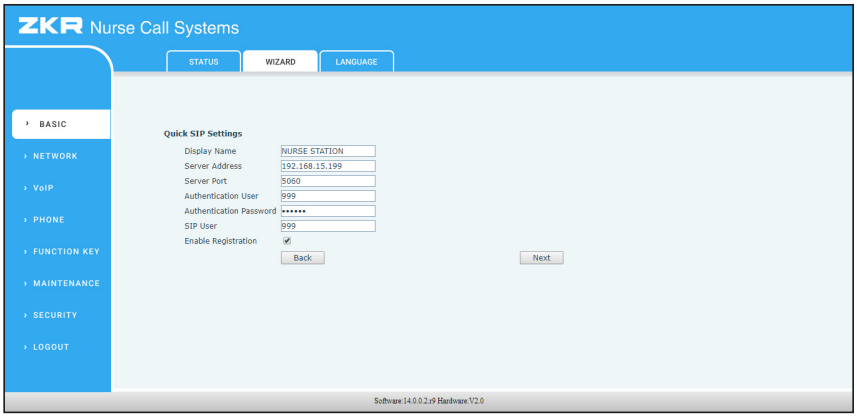


You will see the current IP settings of the device, and they can also be changed from here.

Click **Next.**

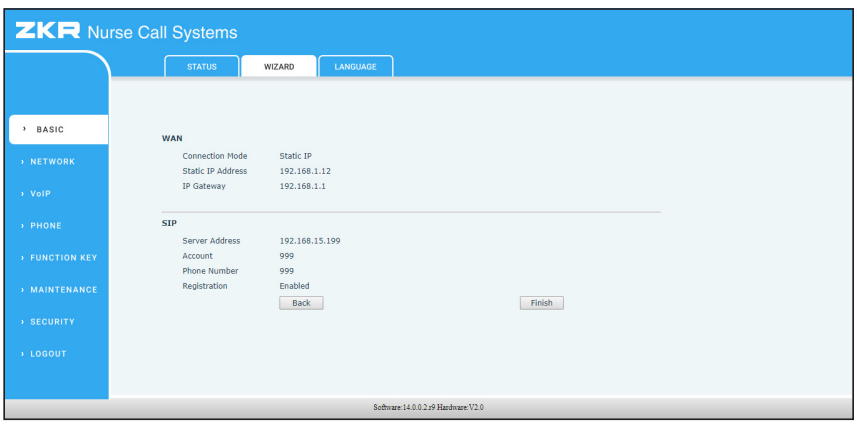


Display Name: Enter a display name for this Nurse Control Panel.
Server Address: Enter the server IP here
Server Port: This field can remain as default
Authentication User: Enter the User Extension for the Nurse Control Panel as defined in Point Operations.



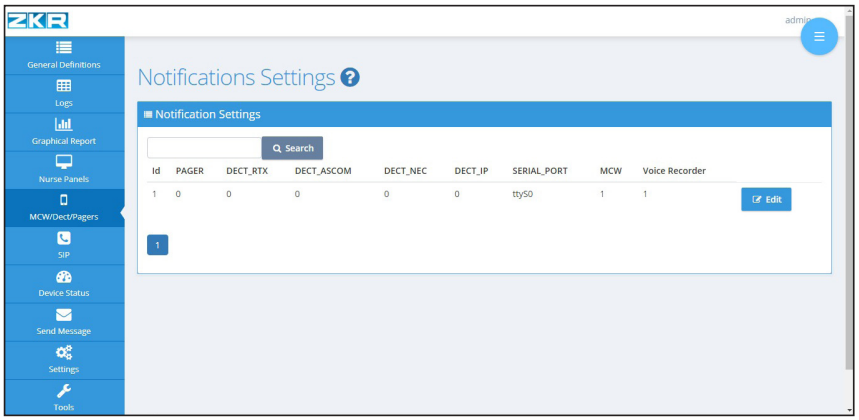
Authentication Password: Enter the Secret for the Nurse Control Panel as defined in Point Operations.
SIP User: Same as Authentication User
Enable Registration: Select this option and click **Next**

You will see the settings you have set and confirm them by clicking **Finish.** The panel will reboot.



Notification Settings

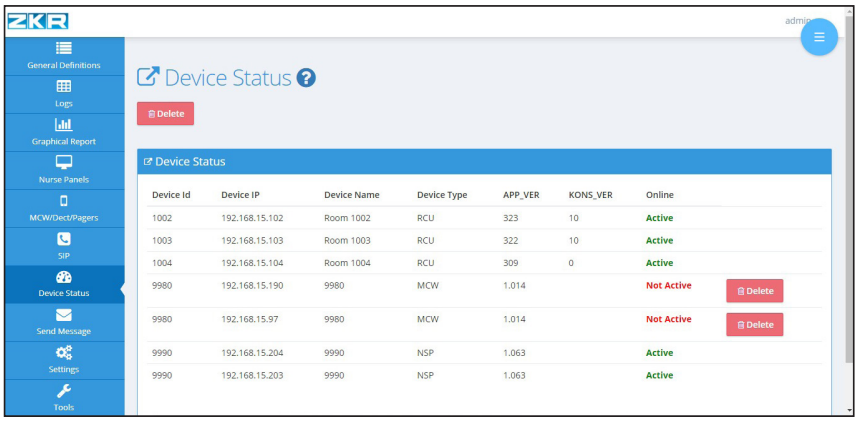
Toggle which communication systems
will receive calls.

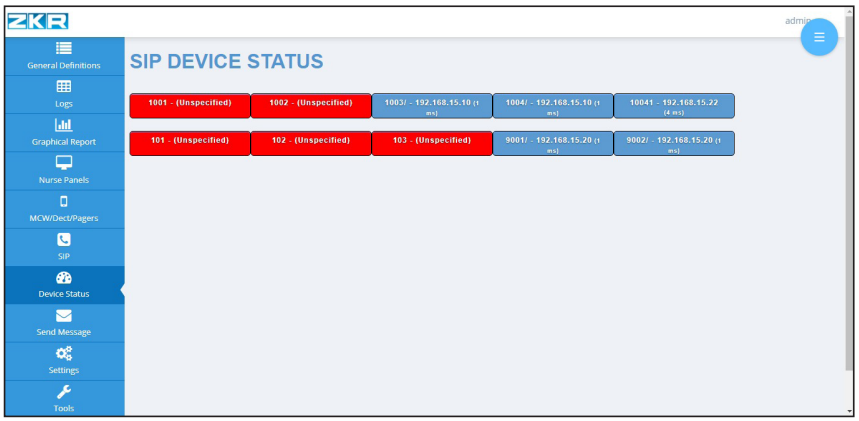


Device Status

Device Status/Devices screen is where **Active** devices on the system can be seen.

All Devices regularly send a signal to the server to indicate they are active.
With the **Delete** button on each device's entry that device can be removed from the list until they send a new signal.
Also
the Delete button at the top can be used for removing all entries. Entries will reappear as they send their active status signal to the server in a few minutes.

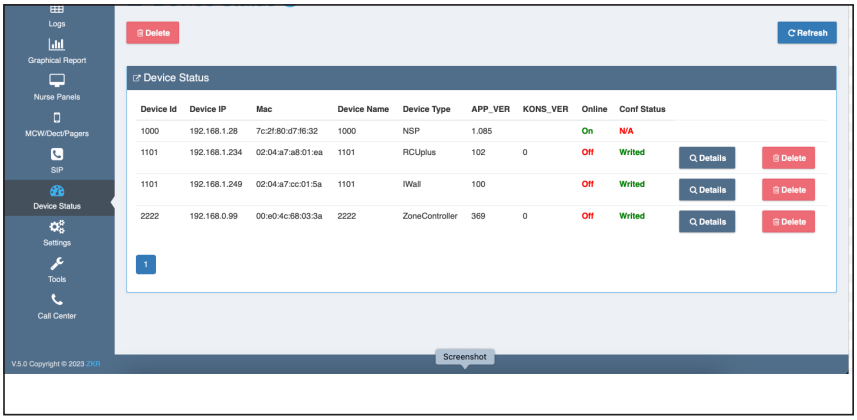




On the **Device Status /SIP Device Status** screen the active and passive status of SIP devices will be shown. Active SIP devices will be blue.

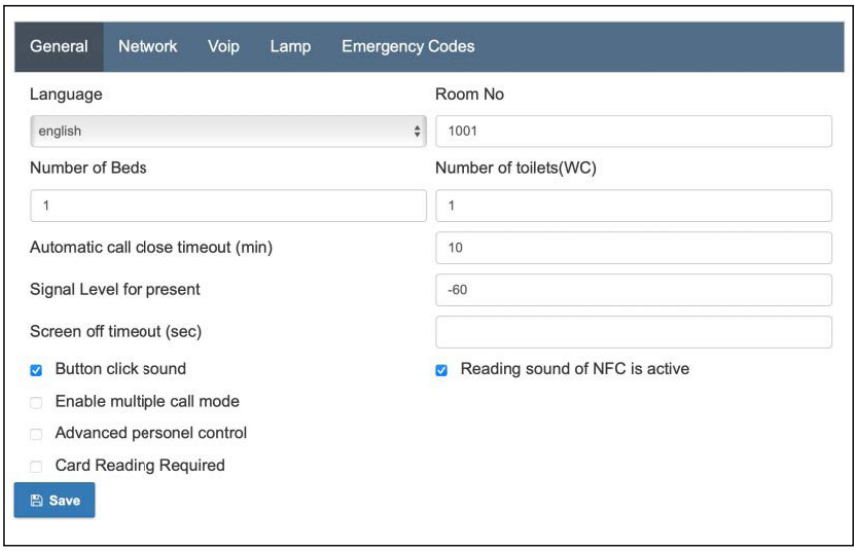
I. Device Configuration via Server

The RCU and the Bedside Console Units can be configured from the server via the Device Status Page. When clicked on the Details button on the page, the corresponding configuration windows will open.



I1. Device Type: RCUPlus - General Tab

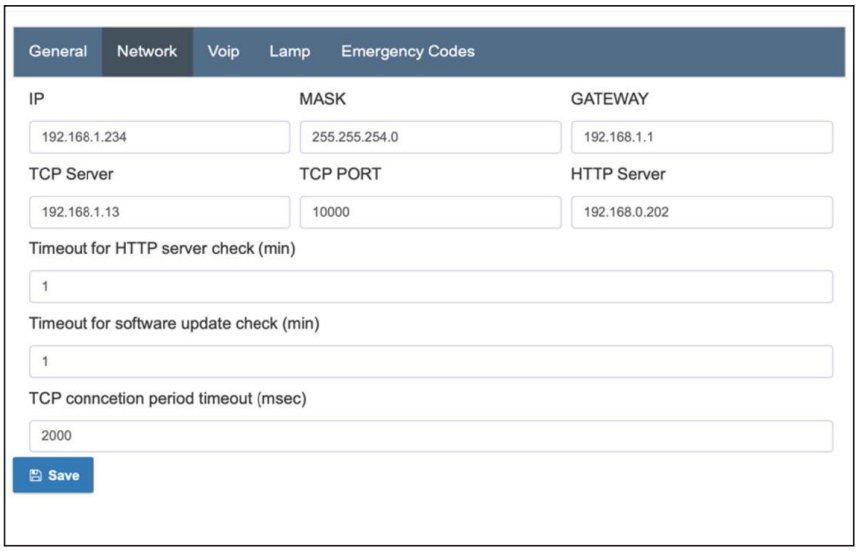
Language: Change the system language here.
Room ID: Assign an ID number to this RCU. This number identifies the room and will be used by the server for addressing purposes. Each RCU must be assigned a different ID number between 1000-9999.



Number of Beds: Set the number of Bedside Call Units to be connected to this RCU (the total number of bedside call units and WC call units cannot exceed 8)
Number of WCs: Set the number of WCs (toilets) and bathroom Call Units to be connected to this RCU (the total number of bedside call units and WC call units cannot exceed 8)
Automatic call Close timeout (min): Bed, WC, or Emergency Code calls are automatically terminated by the system at the end of the specified time. Automatically terminated calls are marked as 'auto-off' by the system server. Set this time in minutes.
Signal Level for Present: This value shows the activation distance of the Nurse Badge. Proximity of the badge can be adjusted by adjusting this value.
Screen off Timeout (sec): If the device is left without interaction for the mentioned time in seconds, the device will show the screensaver.

Button Click Sound: Toggle the click tone heard when touching the screen.
Reading Sound of NFC is Active: Toggle the sound heard when a Mifare Card is read by the RCU.
Enable multiple call mode: If this option is enabled, the calls made from other beds in a room need to be addressed separately. Marking presence with one bed will not affect the call from the other bed.
Advanced Personnel Control: If this option is enabled, the multiple calls in the same room cannot be addressed by the same personnel in the room.
Card Reading Required: Toggle unregistered Mifare card usage on the unit.

Network Tap



IP: The IP address to be defined on the device.
Mask: The Mask value to be defined on the device.
Gateway: The gateway address to be defined on the device.
TCP Server: The nurse panel IP address where the calls on the device will be monitored must be entered in this field. If the TCP server connection is successful, the T mark of the LTH indicator on the home screen will turn green. If the connection fails the status mark will turn red.
TCP Port: The port number to be used for the TCP connection between the nurse panel and the room control device. 10000 is used as default.
HTTP Server: The IP address of the ZKR system server must be entered. If the connection is successful, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.
Timeout for HTTP Server Check (min) : The device continuously checks the http connection. If no access is reached at the end of the value typed in this field, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.
Timeout for Software Update Check (min) : The room control device can automatically update its firmware. The frequency to check for the new software to be given here.
TCP Connection Period Timeout (msec) : It is the necessary timeout duration for the package to arrive during the TCP communication between the room control device and the nurse panel. If the TCP packet does not reach the end of this period, the TCP connection is considered interrupted the T mark of the LTH indicator on the home screen will turn red.

HTTP Server: The IP address of the ZKR system server must be entered. If the connection is successful, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.

Timeout for HTTP Server Check (min) : The device continuously checks the http connection. If no access is reached at the end of the value typed in this field, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.

Timeout for Software Update Check (min) : The room control device can automatically update its firmware. The frequency to check for the new software to be given here.

TCP Connection Period Timeout (msec) : It is the necessary timeout duration for the package to arrive during the TCP communication between the room control device and the nurse panel. If the TCP packet does not reach the end of this period, the TCP connection is considered interrupted the T mark of the LTH indicator on the home screen will turn red.

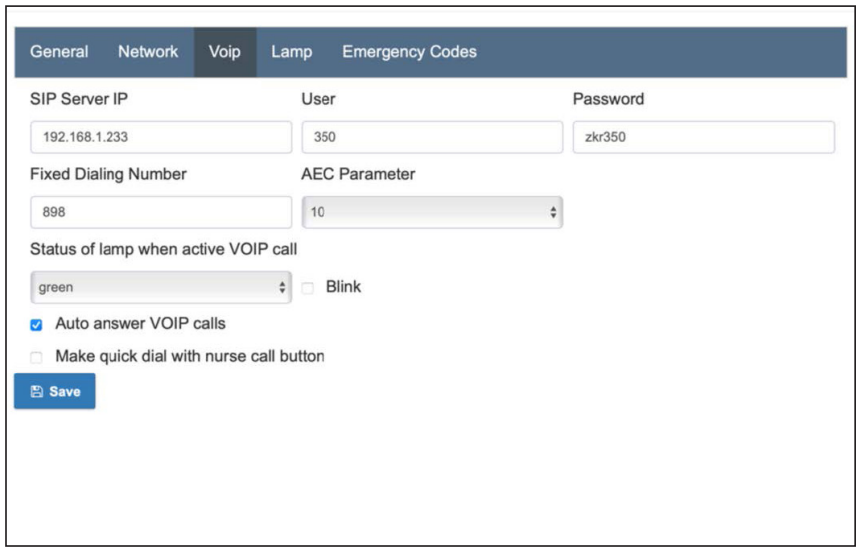
VoIP Tab

SIP Server IP: The SIP Registrar Server Address must be entered. If a different server will not be used, this will be the same as HTTP server.

User: Enter the username to use for the SIP register.

Password : Enter the password for the SIP register.

Fixed Dialing Number : Define the number to be dialled from the Speed Dial key in the call menu.



AEC Parameter : This field refers to the echo cancellation strength during voice call. Adjust as per the requirement.

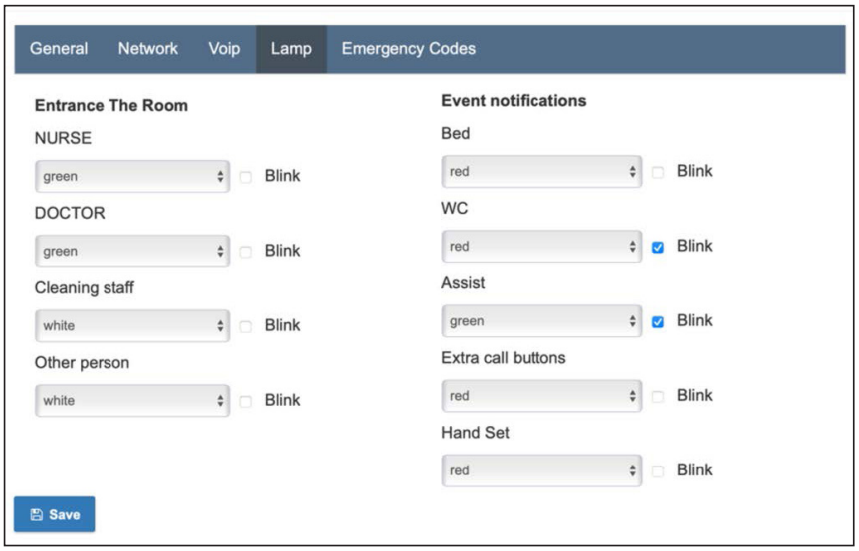
Status of Lamp when Active VoIP Call : We can set the Colour of the Over the Door Light when a voice call is being made from the room.

Blink : This feature allows you to enable or disable the blinking of the Over Door Light for active Voice call event.

Auto-Answer Voice Calls : Toggle to enable the Auto Answer feature for Voice calls made to the RCU. The call gets picked up even if no one answers.

Make QuickDial with NurseCall Button : By enabling this option the NurseCall button can be configured to make a voice call to desired number when pressed.

Lamp Tab



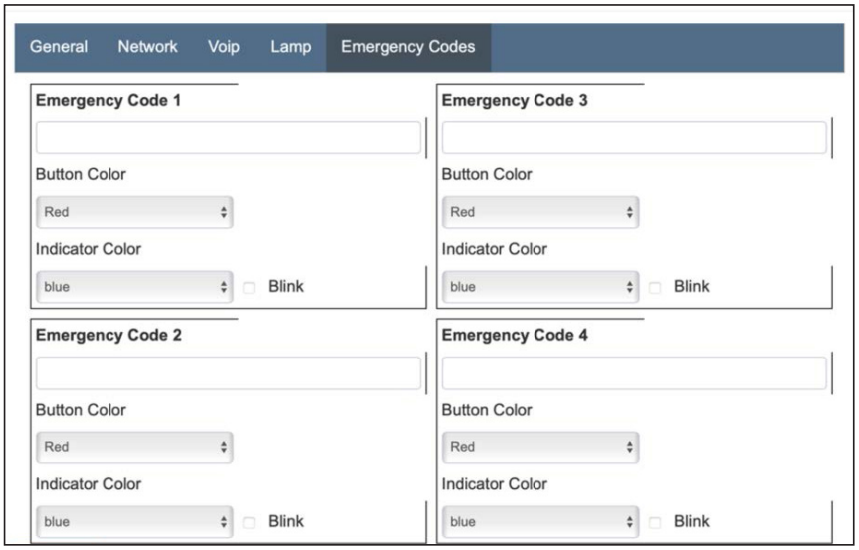
Entrance the Room : Upon a user entering the room and marking their card, the Over Door Light can change it's colour to indicate their presence. You have the flexibility to modify the colour settings of the Over Door Light from this interface for all type of users who might visit the room.

Blink : This feature allows you to enable or disable the blinking of the Over Door Light for each event or user individually.

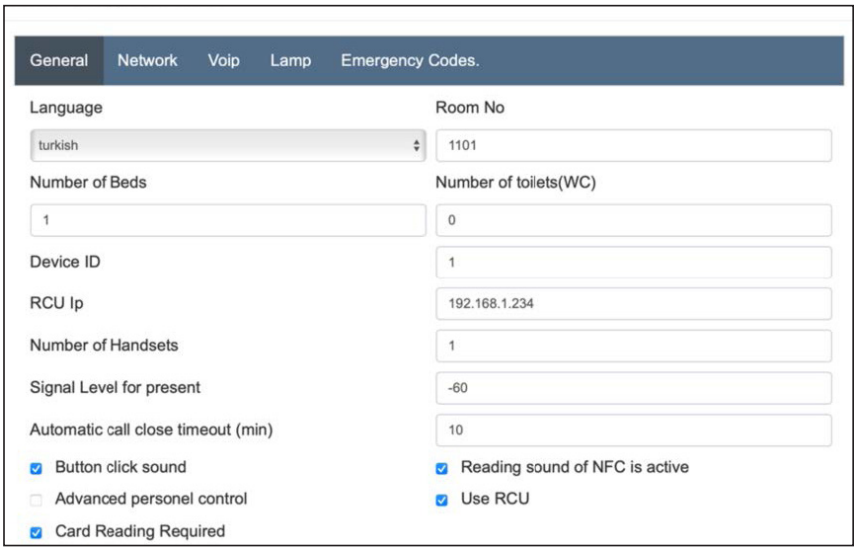
Event Notifications : Here we can modify the colour settings of the Over Door Light for various events.

Emergency Codes Tab

The Emergency Codes Icons in the left side of the home screen can be modified using this interface.

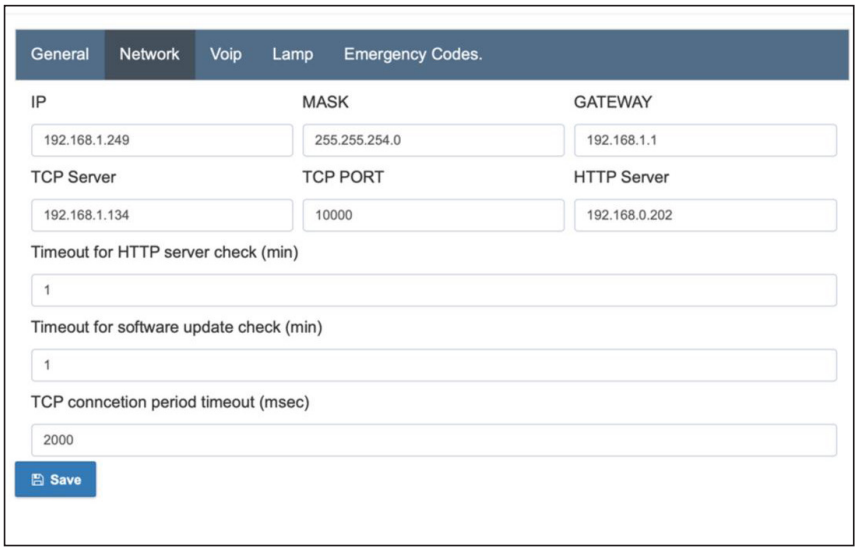


I2. Device Type : IWall - General Tab



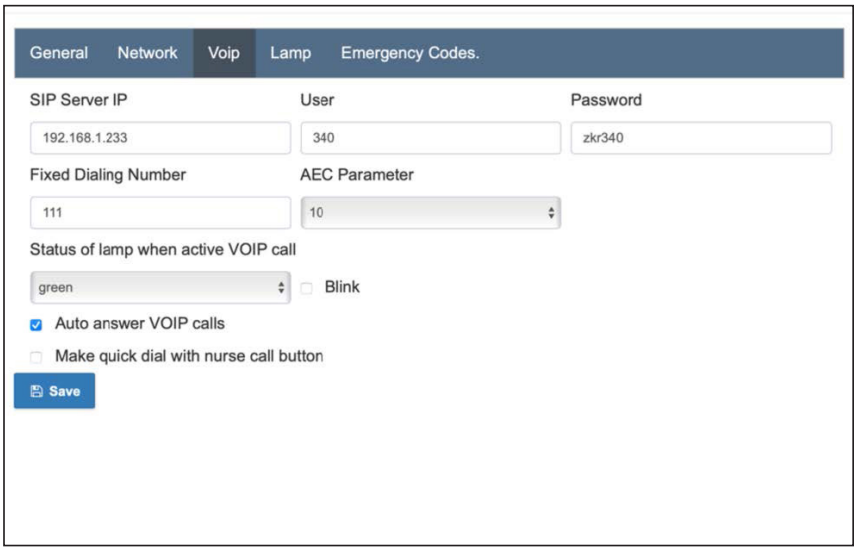
Language : Change the system language here.
Room No : Room identification (when using without RCU).
Number of Beds : No of beds connected to the device (1-2).
Number of toilets (WC) : No. of washrooms connected to the device (2 if light not connected, 1 if light connected)
Device ID : Address of the device.
RCU IP : IP address of the RCU (if connected).
Number of Handsets : Number of handsets that are connected to the device (0-2).
Signal Level for Present : This value shows the activation distance of the Nurse Badge. Proximity of the badge can be adjusted by adjusting this value.
Automatic call Close timeout (min): Bed, WC, or Emergency Code calls are automatically terminated by the system at the end of the specified time. Automatically terminated calls are marked as 'auto-off' by the system server. Set this time in minutes.
Button Click Sound : Toggle the click tone heard when touching the screen.
Reading Sound of NFC is Active : Toggle the sound heard when a Mifare Card is read by the unit.
Advanced Personnel Control : If this option is enabled, the multiple calls in the same room cannot be addressed by the same personnel in the room.
Use RCU : Enable if the room has an RCU.
Card Reading Required : Toggle unregistered Mifare card usage on the unit.
DHCP : Toggle the network settings to be static or dynamic (collect from network).
Query Cards on HTTP Server: This option enables Mifare card privileges to be taken directly from the HTTP server.
Room Control Unit Present: Enable if the room has an RCU.

Network Tab



IP: IP Address of the device.
Mask: Subnet Mask for the network.
Gateway: Network gateway address.
TCP Server: The nurse panel IP address where the calls on the device will be monitored must be entered in this field. If the TCP server connection is successful, the T mark of the LTH indicator on the home screen will turn green. If the connection fails the status mark will turn red.
TCP Port: The port number to be used for the TCP connection between the nurse panel and the room control device. 10000 is used as default.
HTTP Server: The IP address of the ZKR system server must be entered. If the connection is successful, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.
Timeout for HTTP server check (min): The device continuously checks the http connection. If no access is reached at the end of the value typed in this field, the H mark of the LTH indicator on the home screen will turn red and an error message will be sent.
Timeout for software update check (min): The room control device can automatically update its firmware. The frequency to check for the new software to be given here.
TCP Connection Period Timeout (msec) : It is the necessary timeout duration for the package to arrive during the TCP communication between the room control device and the nurse panel. If the TCP packet does not reach the end of this period, the TCP connection is considered interrupted the T mark of the LTH indicator on the home screen will turn red.

VoIP Tab



SIP Server IP: The SIP Registrar Server Address must be entered. If a different server will not be used, this will be the same as HTTP server.

User : Enter the username to use for the SIP register.

Password : Enter the password for the SIP register.

Fixed Dialing Number : Define the number to be dialled from the Speed Dial key in the call menu.

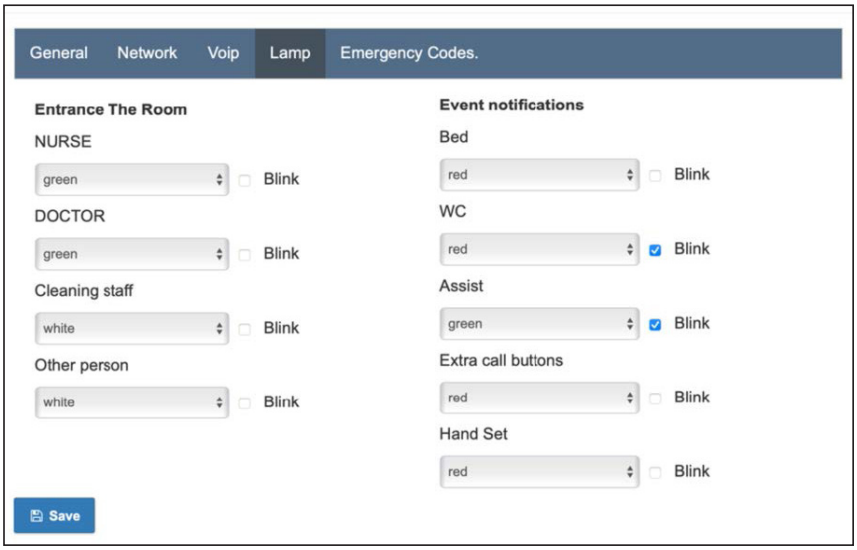
AEC Parameter : This field refers to the echo cancellation strength during voice call. Adjust as per the requirement.

Status of lamp when active VoIP Call : We can set the Colour of the Over the Door Light when a voice call is being made from the room.

Auto-Answer VoIP Calls : Toggle to enable the Auto Answer feature for Voice calls made to the RCU. The call gets picked up even if no one answers.

Make QuickDial with NurseCall Button : By enabling this option the NurseCall button can be configured to make a voice call to desired number when pressed.

Lamp Tab



Entrance the Room : Upon a user entering the room and marking their card, the Over Door Light can change it's colour to indicate their presence. You have the flexibility to modify the colour settings of the Over Door Light from this interface for all type of users who might visit the room.

Blink : This feature allows you to enable or disable the blinking of the Over Door Light for each event or user individually.

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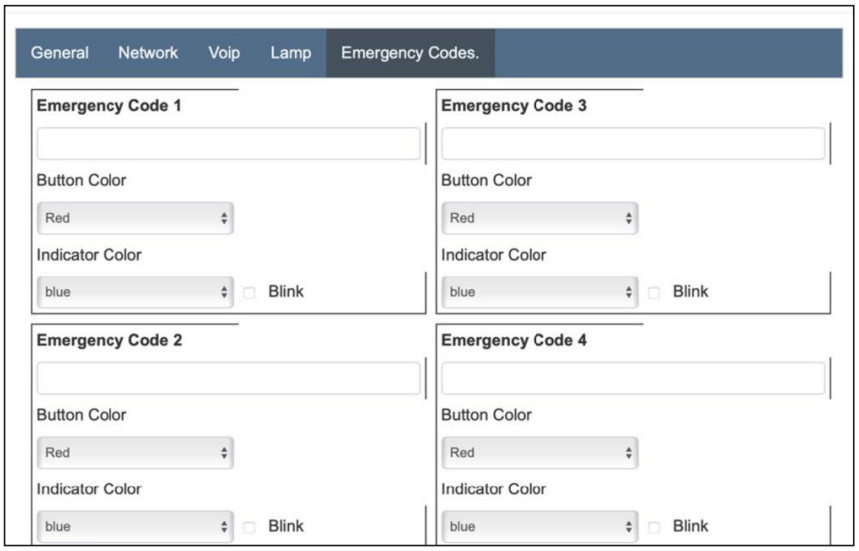
Emergency Codes Tab

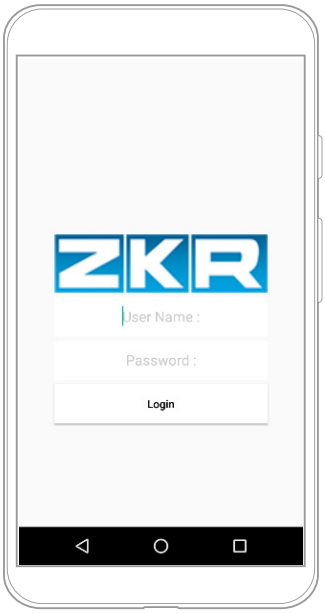
The Emergency Codes Icons in the left side of the home screen can be modified using this interface



H. MCW One

Setting Up The Application

The following screen will be shown when the app is initially opened. The server address needs to entered before entering the login credentials.

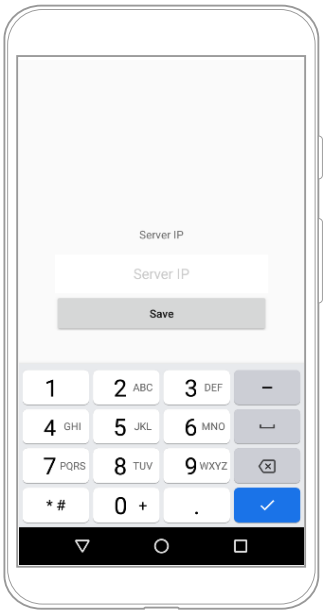


img 1.0

Entering Server Address

Long press on the ZKR logo shown in **img 1.0** which will open up the following screen.

Enter the server IP address in the field and click **save**. The address will be in the format **xxx.xxx.xxx.xxx**



img 2.0

Entering The User Credentials

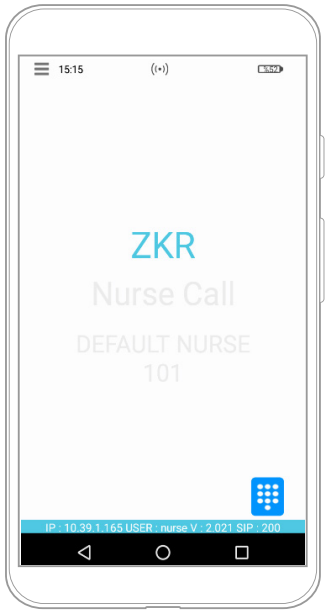
Once the address is saved, you will be direceted to the screen shown in **img 1.0.** You can enter the login credentials provided to you and click **login.**

Note: The app will show notifications if there is any issues with the **login.**

Home Screen

If the login was successful, the app will show the following screen. This is the Home screen of the app.

- The app will show your username and your sip number on the Home screen.
- At the bottom right corner of the app, you can find the dial pad of the app.
- Some additional information are also shown on the bottom of the screen which can be used for troubleshooting any issues.
- On the top left corner you'll find the menu button marked by the 3 horizontal lines.
- Top center the icon shows if the devce is connected to the server or not.
- Top right shows the battery percentage of the device. It turns green when chgarging.

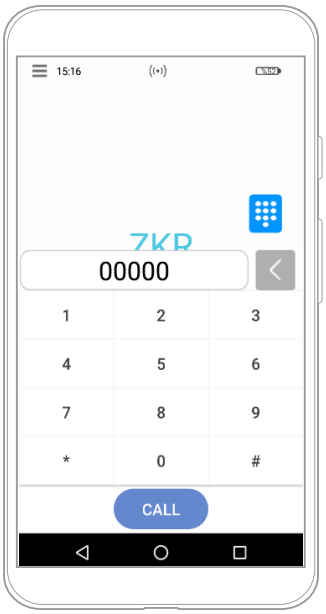


img 3.0

Dialpad Operation

By Clicking on the dialpad button, the following screen will be shown.

Enter the number you want to dial and press call.



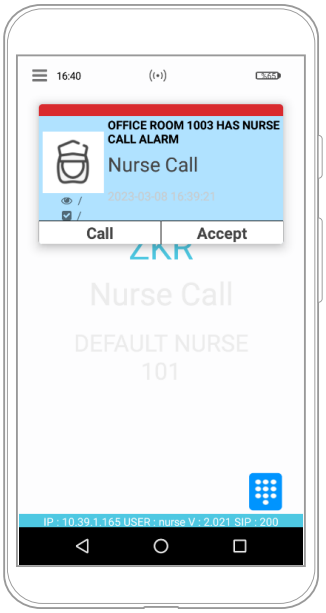
img 4.0

The above image shows the screen after the call is initiated. Disconnect the call by clicking on **Hang Up** button.

img 4.1

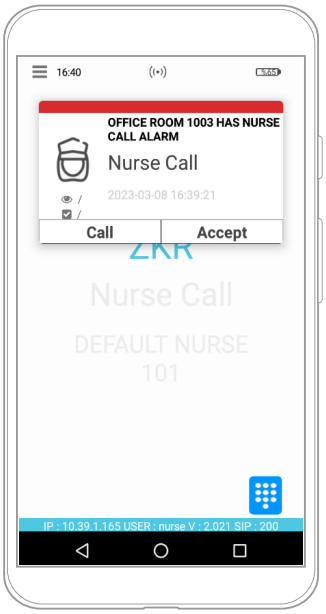
Nurse Call Notification

The following is the notification shown on receiving a **normal nurse call**.



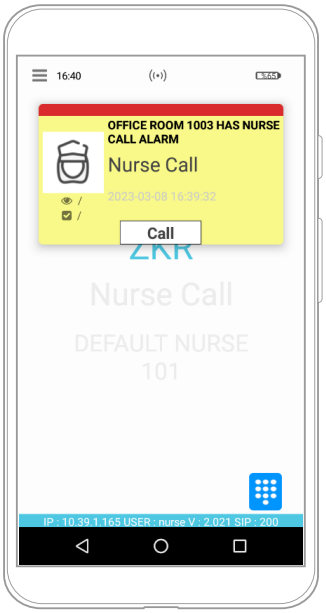
img 5.0

Upon clicking on the notification itself, the message changes its colour to white and the alarm is silenced.



img 5.1

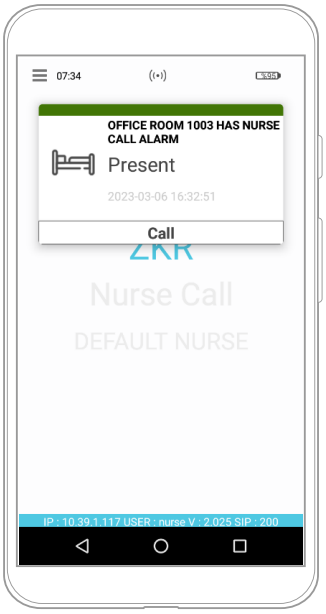
You can accept the call by clicking on the **Accept** button. This will turn the notification Yellow as shown below. Same time this will be logged on the server.



img 5.2

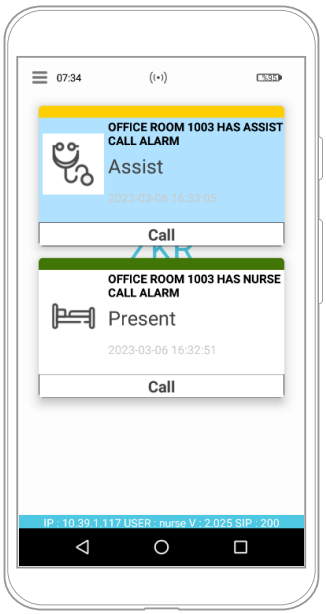
From any of these 3 screens, you can dial to the bedside unit or RCU by simply clicking the Call button.

Once one of the team member reaches the room and marks their presence, the notification will change to the following screen.

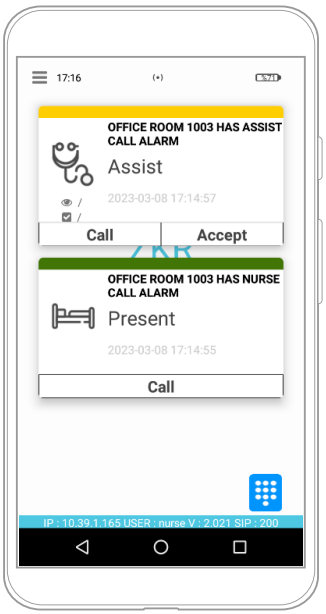


img 5.3

If an assist call is raised by the caretaker it will show as another call on the app. There will be an alarm which can be silenced by clicking on the message.



img 5.4

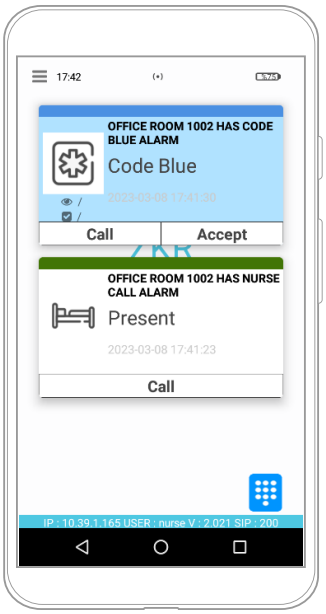


img 5.5

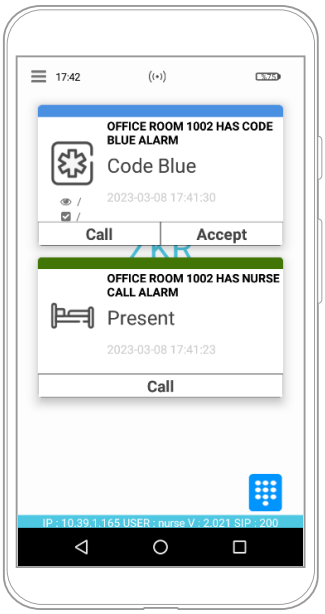
After silencing the call, both the notifications will be of white colour.

Once the Assist and Presence is unmarked in the RCU, the notifications will disappear and the app will return to the Home screen **(img 3.0).**

Code Blue notification will be received as shown below.



img 5.4

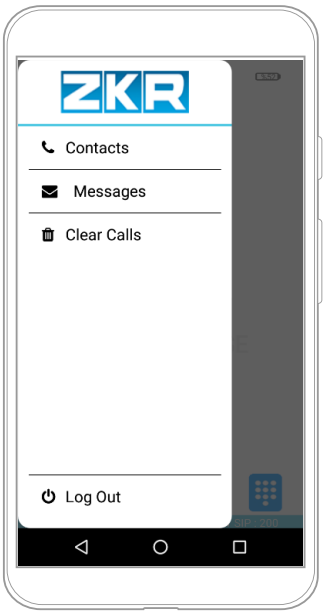


img 5.5

The CODE BLUE calls cannot be accepted but can be acknowledged by tapping on the notification. It's only possible to accept the CODE BLUE call from RCU. After the call is accepted, the notification disappears.

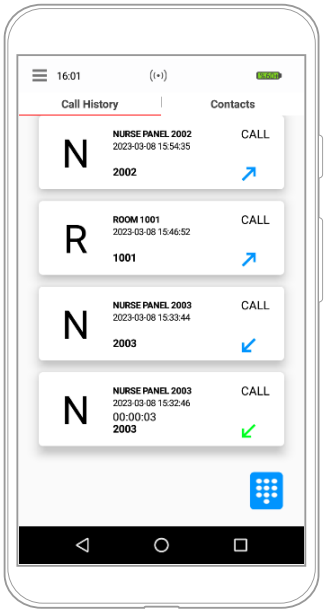
Main Menu

Open Main Menu by clicking on the button on the top left corner of the Home screen, shown in the image **img 3.0. I**t Opens the selection pane as shown below.

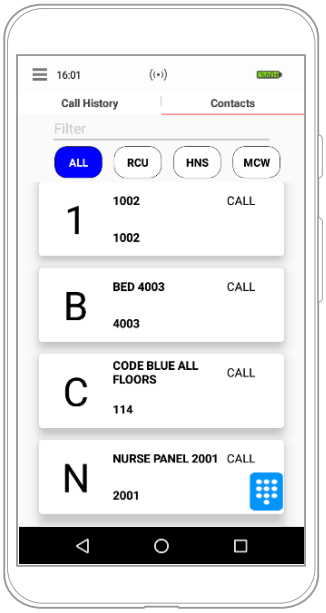


img 6.0

Selecting the Contacts menu item will open the following screen with the Call History **(img 6.1).**



img 6.1



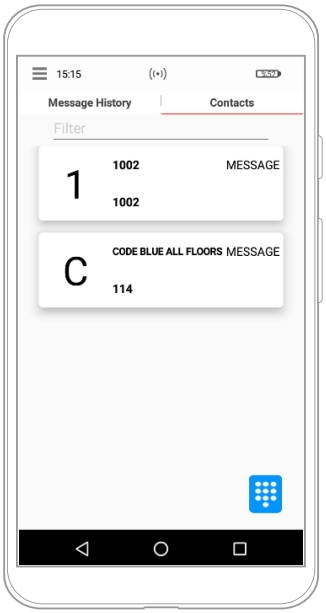
img 6.2

The SIP Contacts saved in the server will be listed on the screen **(img 6.2)**. You can filter them by RCU, Handsets or MCW (Mobile devices).

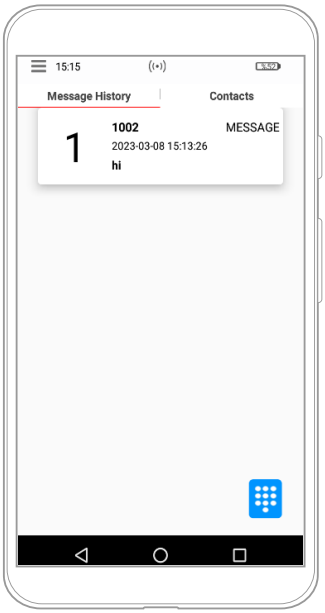
Click on CALL beside the number to dial it directly.

Note: The dialpad operation is same as mentioned in the previous point.

Selecting the **Messages** menu item will open the following screen showing the Message History.

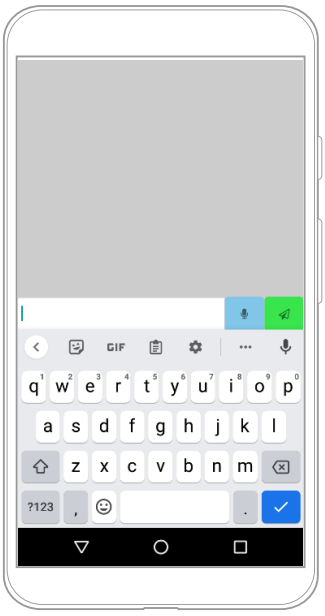


img 6.3



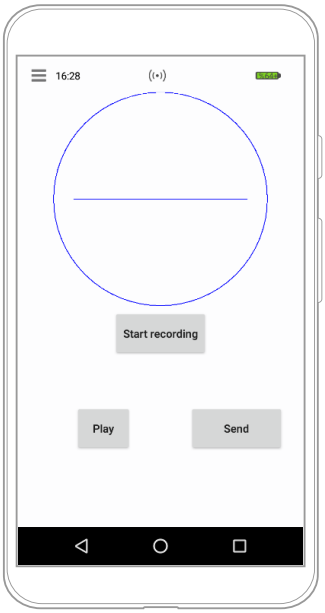
img 6.4

The Contacts tab will list out all the MCW devices which can receive the message. Click on MESSAGE which will open the following screen where you can type the message and send.



img 6.5

You can send voice messages by clicking on Blue Colour MIC icon, which will open the following window.

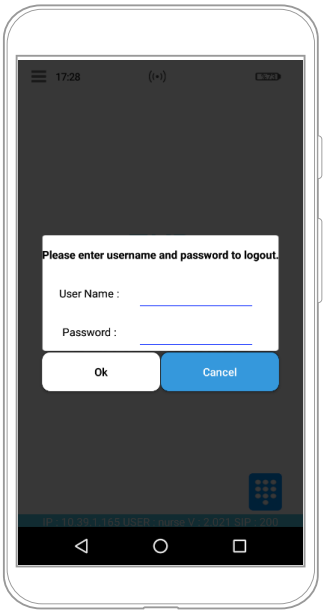


img 6.6

Click on **Start Recording** to record your voice message. Click on **Play** button to listen to the recording. Click Send to send the verified voice message.

Selecting the Clear Calls menu item will clear any calls that can get stcuk after a long time of inactivity.

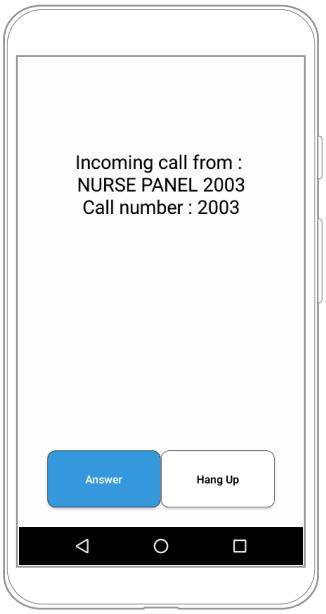
Selecting the **Logout** option will show the following screen to enter the **Username** and **Password.** Enter the same and click ok to log out of the app.



img 6.7

Receiving a Call

The following window will show when a call is received. It'll show the name and number of the user.



img 6.8

Answer the call by clicking on the Answer button and the call can be decliened by clicking on the **Hang Up** button.