

Since 1968

COMMAX
SmartHome & Security

User Manual

Nurse call function CNS-70MN



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COMMAX Co.,Ltd.



- Thank you for purchasing COMMAX products.
- Please carefully read this User's Guide (in particular, precautions for safety) before using a product and follow instructions to use a product exactly.
- The company is not responsible for any safety accidents caused by abnormal operation of the product.

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Warnings and caution

Please follow the things described below in order to prevent any danger or property damage.



Warning

It may cause a serious damage or injury if violated.



Caution

It may cause a minor damage or injury if violated.



Prohibition.



No disassembly



No touch



Must follow strictly.



Shows plugging out the power cord without an exception



Shows the warning and caution for an electric shock.



Shows the warning and caution for a fire.



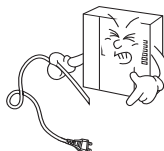
Warning

Power & Installation

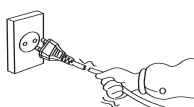
Please don't use several products at the same time on one power socket.
· It may cause a fire due to an abnormal overheating.



Please don't bend the power cable excessively or it may cause an electric shock.
· fire when using a damaged power cable.



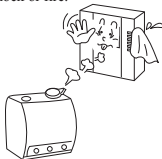
Please don't handle the power cable with a wet hand.
· It may cause an electric shock.



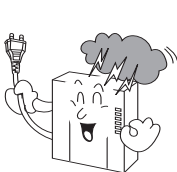
Please plug out the power cable from the socket when not using it for a long period of time.
· It may shorten the product lifespan or cause a fire.



Please don't install the product in the place where there is much oil, smoke or humidity.
· It may cause an electric shock or fire.



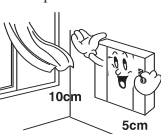
Please don't install the product with the lightning and thunder.
· It may cause an electric shock or fire.



Please don't use and connect this product with other products with different rated voltage
· It may cause a disorder or fire.



When installing the product that generates heat, please install the product away from the wall (10cm) for the ventilation.
· It may cause a fire due to the increased internal temperature.



⚠ Warning

Cleaning & Use

Please don't disassemble, repair or rebuild this product arbitrarily (please contact the service center if a repair is needed).

- It may cause an electric shock or fire.



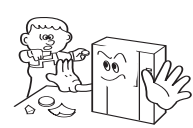
If an abnormal sound, burning smell or smoke is coming out of the product, please plug out the power cable and contact a service center.

- It may cause an electric shock or fire.



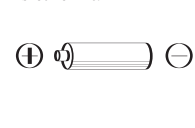
Please don't insert any metallic or burnable materials into the ventilation hole.

- It may cause an electric shock or fire.



Please use only the designated batteries for the products of using DC power.

- It may cause an electric shock or fire.

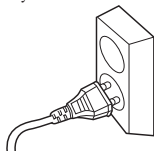


⚠ Caution

Power & Installation

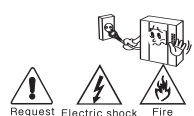
Please plug the power cable firmly into the inner end.

- It may cause a fire.



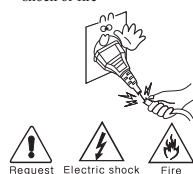
Please hold the plug tightly when unplugging the power cable (a part of the copper wire may be disconnected if the grabbing is only made on the cord when pulling out the cable).

- It may cause an electric shock or fire.



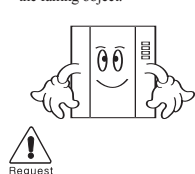
When connecting the power cables after cutting the cable, please install the product with power off.

- It may cause an electric shock or fire.

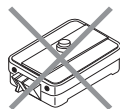


When installing the product, please fix it firmly while using the wall-mounting unit and screws.

- It may cause an injury from the falling object.

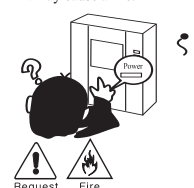


Please be careful when using an AC circuit breaker since there is a possibility of an electric shock.



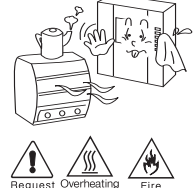
Please check the use voltage and current for the DC-only products and use the appropriate rectifier.

- It may cause a fire.



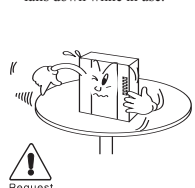
Please avoid direct rays of the sun or heating devices at a time of installation.

- It may cause a fire.



Please don't install the product on an unstable place or small support board.

- It may cause an injury if it falls down while in use.



Cleaning & Use

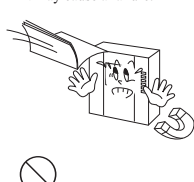
When cleaning the product, please rub it with a soft and dry cloth after plugging out the power cable. (Please don't use any chemical products such as wax, benzene, alcohol or cleanser.)



Prohibition

Please don't drop the product on the ground and don't apply a shock.

- It may cause a failure.



Prohibition

Please use the designated connection cable within the maximum calling distance designated for the product.

- It may reduce the product performance.



Request



1. Nuresecall function

1) Main screen composition



Main screen

- ① , ② Page movement
- ③ Room number
- ④ Bed number
- ⑤ Whole broadcasting
- ⑥ Group broadcasting
- ⑦ Smart control
- ⑧ Remote control

2) Conversation with an inpatient

2.1) Using the speed dial (After setting the bed number)

1. Pick the receiver or press the speaker button in front
2. After pressing the relevant room number, press the bed number.
3. Then, you can speak with by calling the relevant patient. (In case of speaker phone mode, you can speak with if you pick the handset.)



Screen using the speed dial

* ,  you can check the bed numbers of previous and next rooms. (If 12 rooms, 8 beds are inputted, max 24 rooms, 16 beds are set.)

2.2) Using dial button

1. Pick the handset or press the speaker button in front..
2. After entering the relevant room number with the button in front,
3. Press the asterisk(*).
4. If you press the pound button (#) after entering bed number, you can speak with the relevant patient by calling him or her. (In case of speaker phone mode, you can speak with if you pick the handset.)

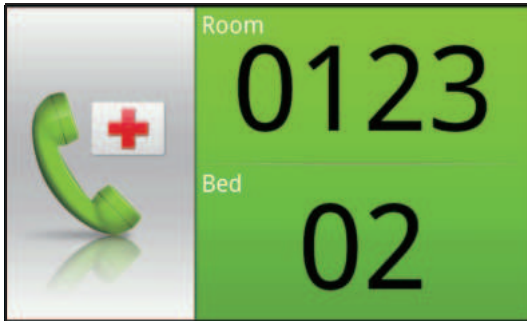


Screen using number button

3) Receiving a call from an inpatient

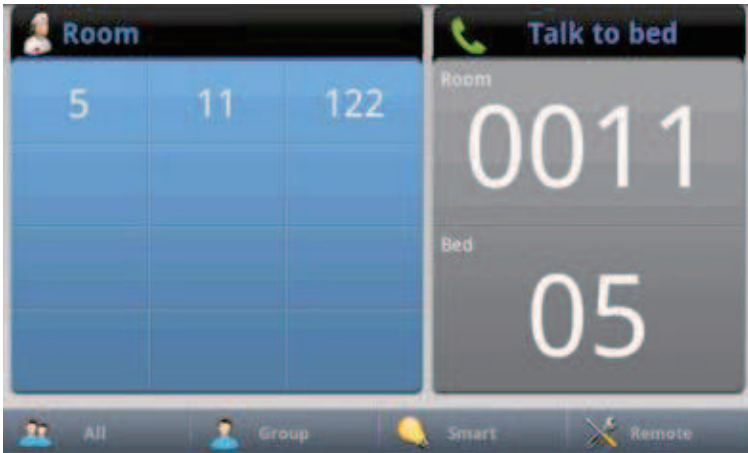
3.1) Request of an inpatient call

1. The number of bed and room requesting call are displayed as green and yellow wall paper is switched.



Call request screen

2. If you pick the handset or press the speaker phone button, the number of bed and room requesting call are displayed.



Incoming progress screen

3.2) Seeing the stand-by call list (in case of offering bed call function)

* If there's call request from another bed during the conversation with a patient, stand-by call list will be shown. If you select the stand-by list while talking, previous call will be ended and conversation with selected bed will be started. Stand-by list will disappear when the conversation has done.



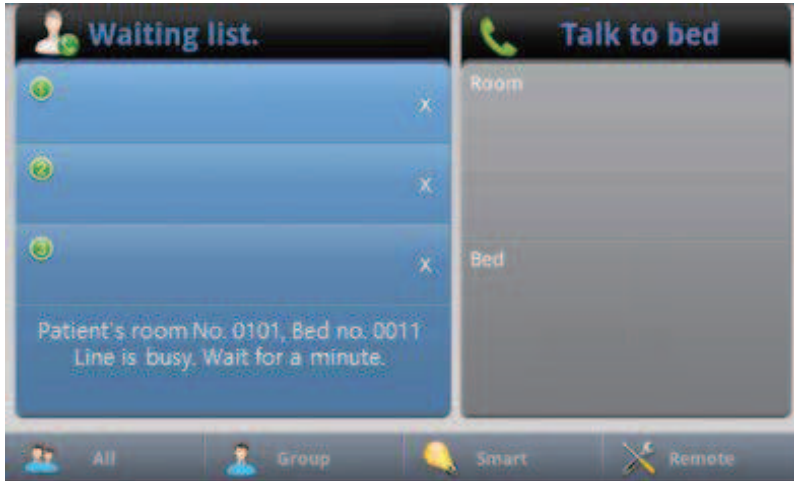
Seeing stand-by call list

3.3) Remove a list of pending calls

1. When the call finished, the waiting list is deleted.
2. ① Press the button to delete the list of all beds.
3. ② If you press the button, only the list of the bed is deleted.

3.4) Outside call(IP-Phone) function(Optional)

During the nurses' absence in the nurse station, call request is delivered by the information of nurse and schedule registered in the server(IP-PBX) to the nurse's cell phone. Once the nurse gets the phone, a main receiver is displayed the number of bed on a screen. In a main receiver, outside call should be ended in order to use call function.



Mark of outside call

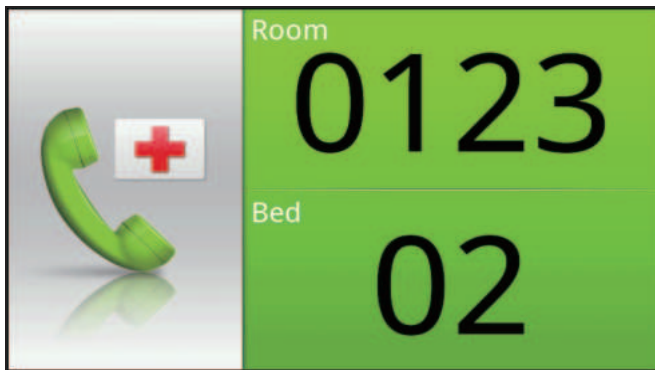
* This function is needed additional devices such as IP-PBX, Media Gateway , PSTN Gateway for its use.

4) Presence function

When a patient's call, when the nurse can take action, press the Presence switch button installed at the entrance to the ward to notify the main receiver. Press the presence switch once more to cancel the presence display. In case of a call or call in busy, It becomes Staff call state.

5) STAFF CALL function

In case that the nurse judges the situation as emergency when the nurse presses the presence switch from patient's call and visits the bed of the patient, in a bed if you try call request on the screen of main receiver in a nurse station the number of bed and emergency sound will break out. (Same as call request screen)

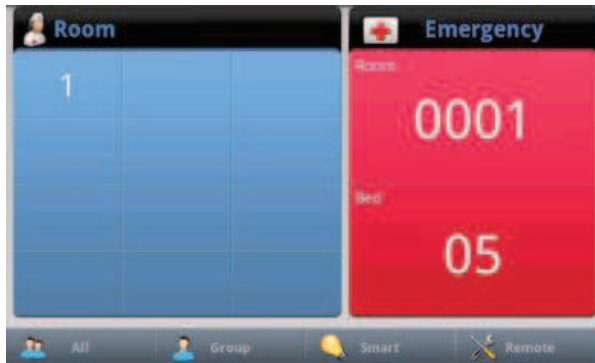


Call request screen

6) Function for emergency situation

6.1) Emergency situation notice

1. You can check emergency request occurred in a ward or outside lavatory or shower room
2. If you press the call button once more or pull the emergency switch in the place occurred in the emergency situation, emergency will be cancelled and stand-by screen will appear



Emergency notice screen in a ward



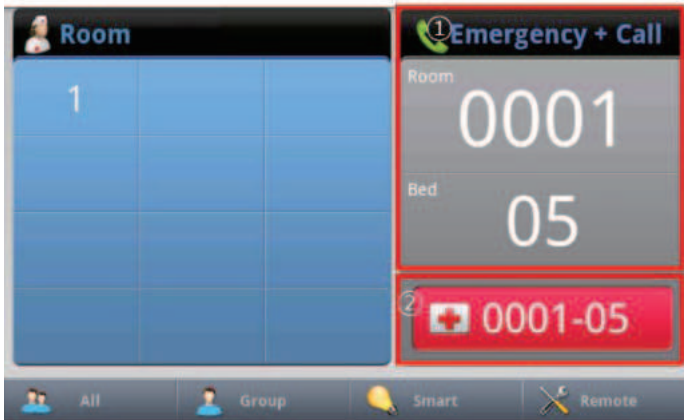
Outside emergency notice screen

* In case of ward of general, lavatory and shower room are marked as same number. In case of outside, room number represents designated number (9997) and lavatory or shower room are marked differently in bed number.

7) Simultaneous situation function (Emergency + Call)

7.1) Simultaneous situation notice

1. In case of emergency during conversation or incoming call in the middle of emergency, you can check them at the same time.



Simultaneous situation notice screen

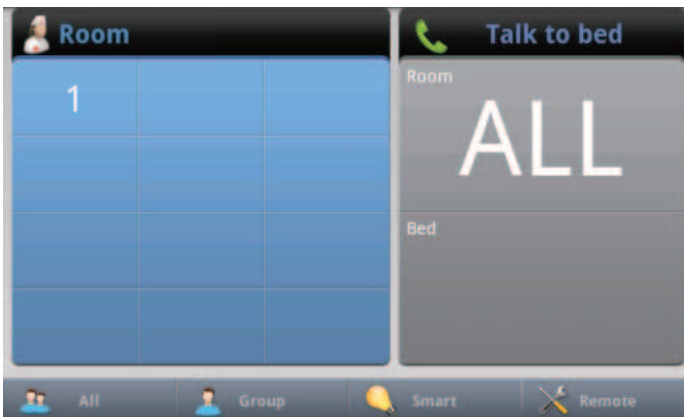
① Call mark

② Emergency situation notice

8) Broadcasting function

8.1) Whole broadcasting

Able to broadcast for whole rooms in connection with receiver. Pick the handset or deliver a message after pressing the whole broadcasting in speaker mode.

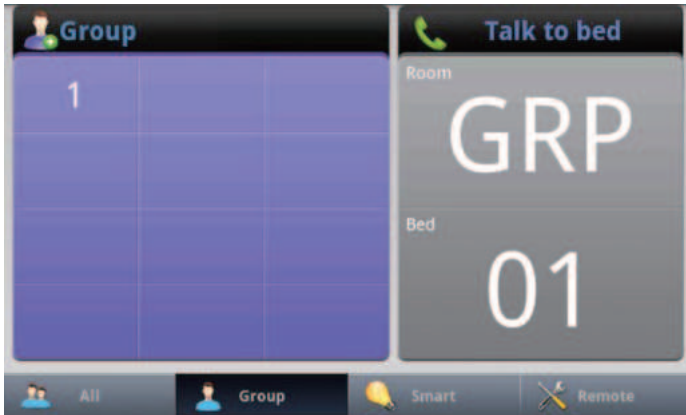


Whole broadcasting implementation screen

8.2) Group broadcasting

Can broadcast with bed in a group. (Group setting in remote control mode)

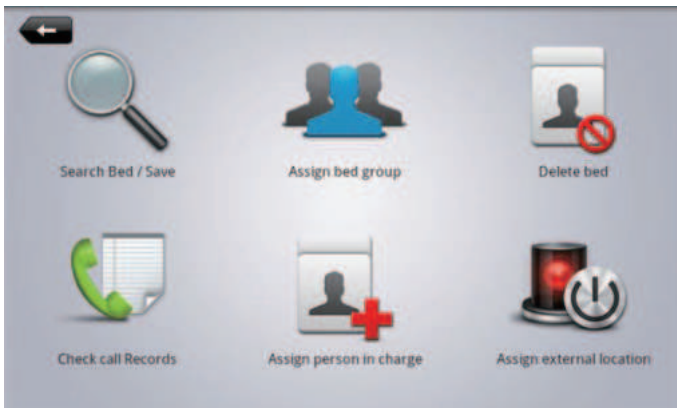
1. Pick the handset or press the group broadcasting at the bottom of menu in speaker phone mode.
2. With using the dial button in front or selecting the group to broadcast, press the group number and deliver a message after pressing group number and pound button (#).



Group broadcasting screen

9) Smart control

This function is provided in order to register and change the bed phone in the main receiver. Because ID of first released bed phone is identified, each bed phone can be used through remote control.



9.1) Bed search and register

You can automatically register shortcut keys by searching for the specified number of shortcuts. (Up to 96 beds can be registered.)

Since the ID of the bed call machine is the same at the time of initial stage, it can be used after changing the ID.

Search Bed / Save

① Max. No. of bed

② Room No. (Start to search)

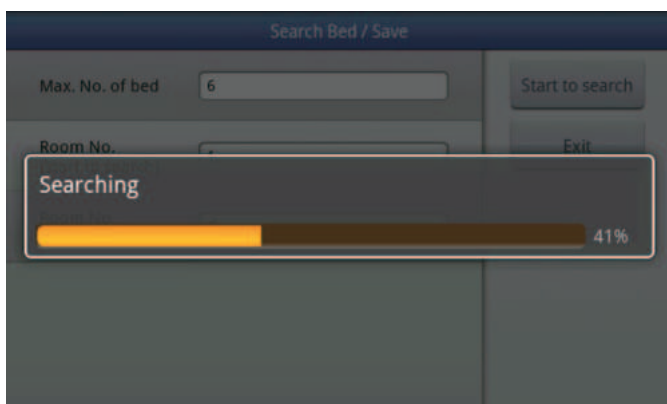
③ Room No. (End to search)

④ Start to search

⑤ Exit

- | | |
|----------------------|----------|
| ① Max Bedroom | ④ Search |
| ② Search number from | ⑤ Exit |
| ③ Search number to | |

1. Select Max bedroom field and enter the total number of beds(The number of beds placed maximum wards or the highest number of beds in the ward)
2. Select the 'Room Search from' field and enter the number of the lowest numbered room in the ward.
3. Select the 'Room Search to' field and enter the number of the highest numbered room in the ward.
4. After entering three kind of information, press "Search" button to start the search.
5. If you press the 'Exit' button after completing the search, you can check the hotkeys (shortcut keys) of each bed automatically registered on the main screen



Searching screen

EX) One ward of the general hospital has from ward 1 to ward 20, and the wards with the most beds among these wards are wards 1010 and 1011, accommodating 8 beds.

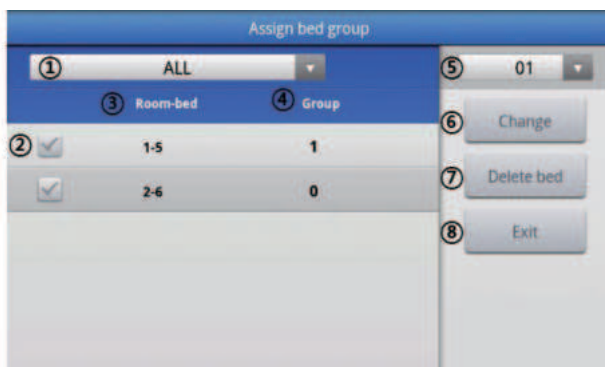
Max Bad => 8

Search number from => 1001

Search number from => 1020

9.2) Bed group assignment

You can set the same group number by selecting the bed you want to group the registered bed.



① Bed Group Filter

② Bed Select

③ BED ID (Ward-Bed No.)

④ BED Group ID

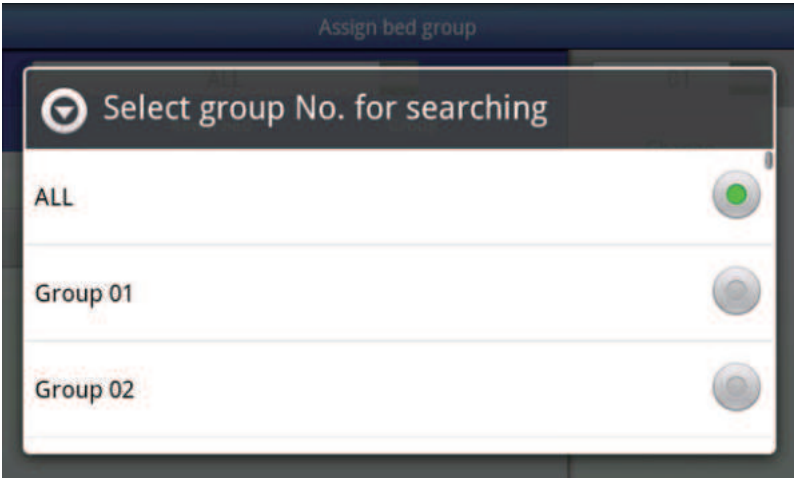
⑤ Select Bed Group ID

⑥ Change Bed Group ID

⑦ Delete Bed Group ID

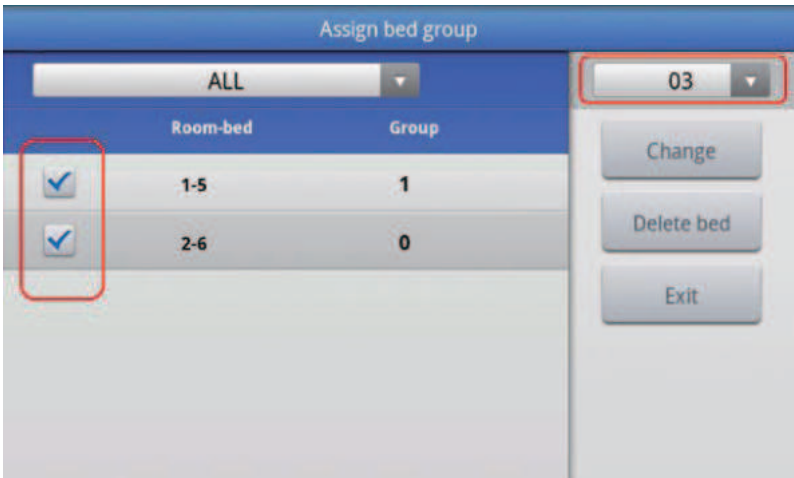
⑧ Exit

1. The bed group filter allows you to search all registered beds or by group.

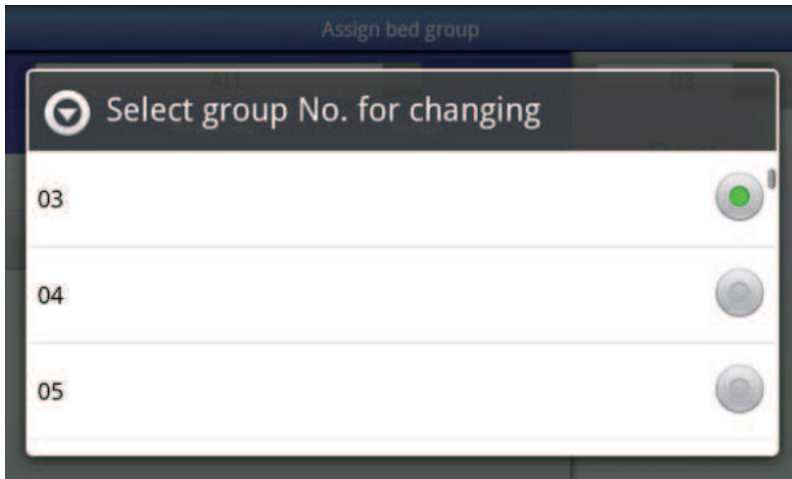


Group Select Screen

2. After selecting the bed to change the group number, press the bed group ID selection button and select the group number to change(The initial setting is group F).

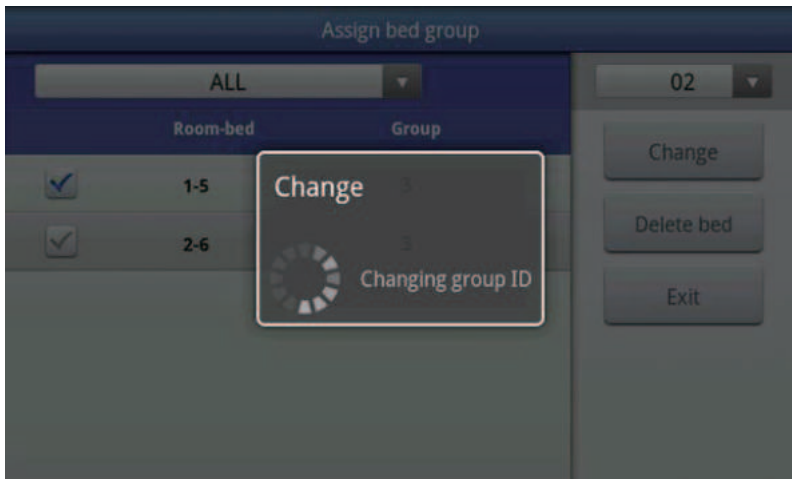


Select Bed and Bed Group ID screen



Select Group Screen

3. After selecting the bed ID and group number to change, click the 'Change' button to change the group number of the bed ID.



Change Group ID

4. After selecting the bed ID and group number, when the 'Delete' button is pressed, the group ID in the initial state is changed to F.

Assign bed group

ALL ▼

03 ▼

	Room-bed	Group
☒	1-5	3
☒	2-6	3

Change

Delete bed

Exit

Assign bed group

ALL ▼

03 ▼

	Room-bed	Group
☒	1-5	F
☒	2-6	F

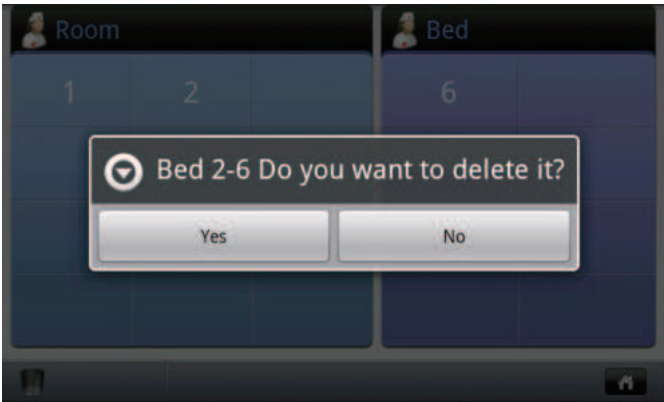
Change

Delete bed

Exit

9.3) Delete Bed

- 1. After selecting the room number of the room you want to delete, press the corresponding bed and a deletion consent message will be provided.
- 2. If you click the “Yes” button, the corresponding bed will be deleted.
- 3. To return to the main screen, press the center (Home) button on the navigation button or press  (Home) in the lower-right direction of the screen.



Bed Delete Screen

9.4) Check call log

You can check the call log between the user and the patient. You can check the sending and receiving destinations, the date and time of the call, and the call duration.

			12:02 PM		
③ Room-bed			④ Received		
			⑤ Call time		
 9997-01			2012-10-17 19:23:49		
①  0148-01			2012-10-17 19:23:41		
 9997-14			2012-10-17 19:22:48		
②  0148-01			2012-10-17 19:22:37		
 9997-14			2012-10-17 19:21:35		
 0148-01			2012-10-17 19:20:55		

- ① Out-bound
- ② In-bound
- ③ Room-Bed

- ④ Request time
- ⑤ Call duration

9.5) Assign a nurse for each bed (option)

This is a setting to link the call to the smartphone of the nurse in charge of the bed where the call occurred when the nurse is absent at the nurse station. Settings can be set with the main receiver or smartphone.

※ The current database must be installed on the IP-PBX server before it can be used.
(PSTN method to be supported later)

9.5.1) User Registration

Telephone No.	Name	Status
901012369874	Bella Kim	[Star]
901015935780	Casey Goodman	[Star]
901095147536	Daisy Nelson	[Star]
901014489632	Frances Robin	[Star]
901025845697	Jenny Miller	[Star]

- | | |
|------------------------|---------------------------|
| ① Call number | ⑤ User Status button |
| ② Name | ⑥ Create user button |
| ③ Select a Nurse | ⑦ Change User information |
| ④ User List (Red area) | ⑧ Delete user information |

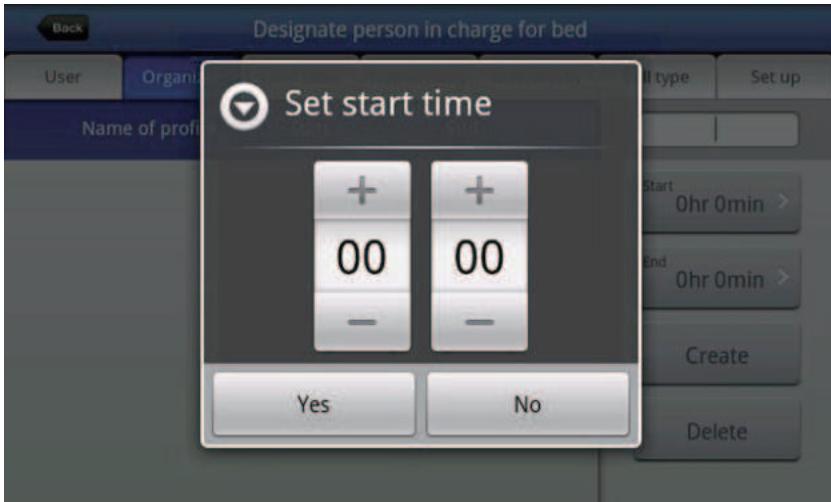
1. After entering the nurse's phone number and name, click the 'Create' button to provide the contents entered in the list.
2. When editing the nurse's information, select it from the list and the selected nurse's name and phone number will be provided in the input box at the top. Select the input box, enter the content, and click the 'Edit' button to edit the content.
3. When deleting the saved nurse information, select the nurse information to be deleted from the list and click the 'Delete' button to delete the selected nurse information from the list.
4. You can set whether to work through the user work status button. Nurses who are not set up will not receive calls.

9.5.2) Time Edit



- ① Time edit list
- ② List of time edit (max 4)
- ③ Profile Name
- ④ Setting Start time
- ⑤ Setting finish time
- ⑥ Create
- ⑦ Delete

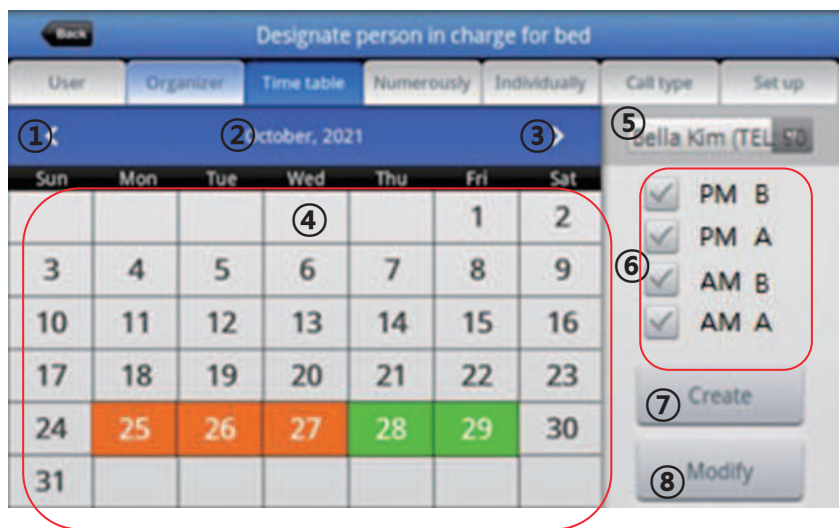
1. Enter a name in the Profile Name field, then tap Set Start Time to enter a start time. After entering the end time by clicking Set End Time, click the 'Create' button to add up to 4 items to the list.



Start time setting screen

2. When editing information, select the profile you want to edit from the list and a name of your choice is provided in the Profile Name field. If you set the time, you can check the changed contents in the list.
3. When deleting information, select the profile to be deleted from the list and click the 'Delete' button to delete it from the list.

9.5.3) Schedule



- ① Change previous month button
- ② Current month display
- ③ Next month change button
- ④ Current month schedule
- ⑤ User select button
- ⑥ Timeline list and button
- ⑦ Create button
- ⑧ Edit button

1. To set the user's work timetable, select the saved user (⑤) and then select the appropriate time zone from the time schedule list (⑥). After designating the month and date to work in the relevant time zone, click the 'Create' button to create it.
2. To edit a user's work schedule, select the user you want to change from the list (⑤), select the appropriate time zone, month, and date, and click the 'Edit' button to change it.
 - You only need to click the 'Create' button once every month, any changes to the schedule for the month after that will be 'modified'.

9.5.4) Multiple designation

When users have the same bed, it is easy to set up through multiple designation.

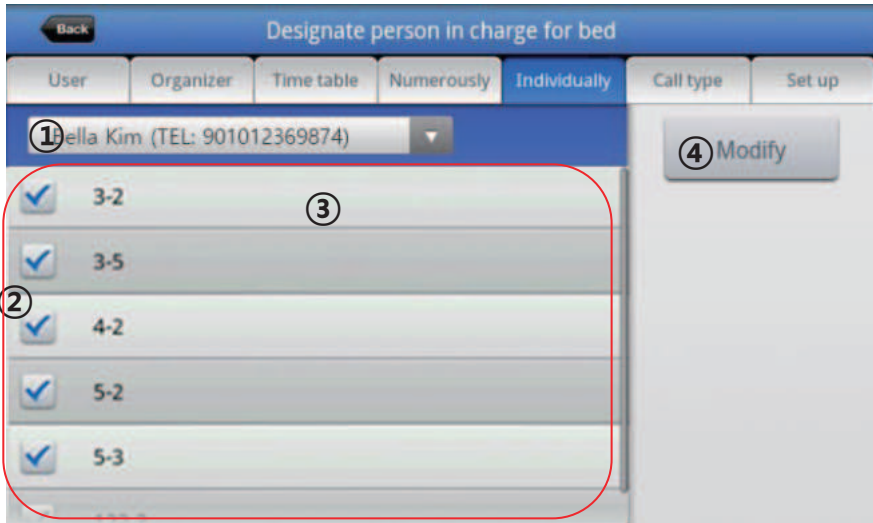


- ① Bed selection button
- ② Room list (red area)
- ③ Bed list (red area)
- ④ Setting button
- ⑤ All bed selection button
- ⑥ User selection button
- ⑦ User List

1. After selecting the room and bed you want to set, select the corresponding user from the user list and press the Set button to save the user in charge of the corresponding bed.

9.5.5) Individual designation

You can individually set the bed the nurse is responsible for



① User selection button

③ All bed list

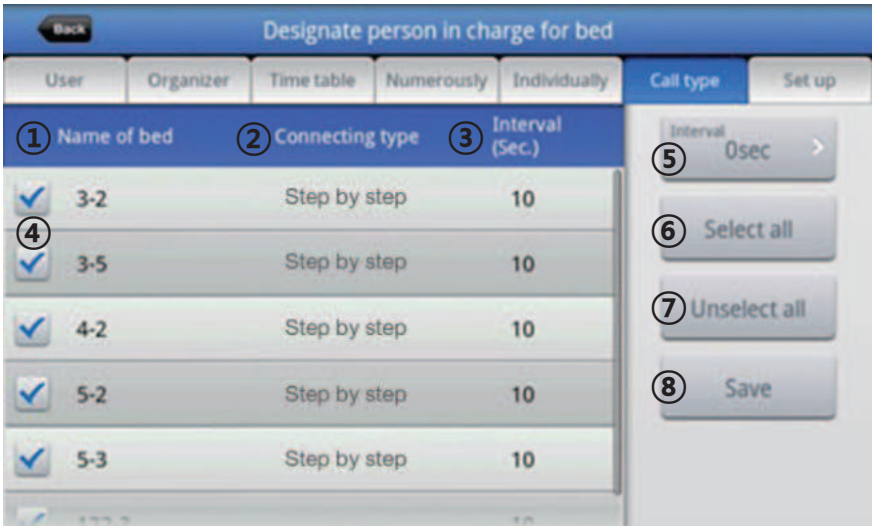
② Bed selection button

④ Edit button

1. After selecting a user, select the bed in charge and click the 'Edit' button to set individually.

9.5.6) Call type

You can select the nurse's smartphone call connection method as a sequential or simultaneous call method.

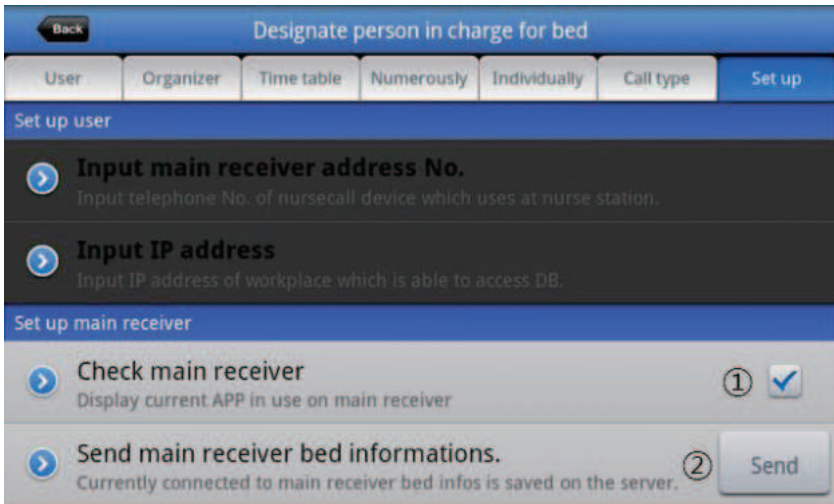


- | | |
|------------------------|---------------------------|
| ① Bed Name | ⑤ Interval Setting Button |
| ② Connection Type | ⑥ Select ALL button |
| ③ Time Interval | ⑦ Clear ALL button |
| ④ Bed Selection Button | ⑧ Setting Button |

1. After checking the bed number, press the 'Set' button to select the sequence. When you want to edit the time interval, press the 'Interval' setting button (⑤) and set the interval.
2. 'You can set all at once by using the 'Select All' and 'Clear All' buttons.

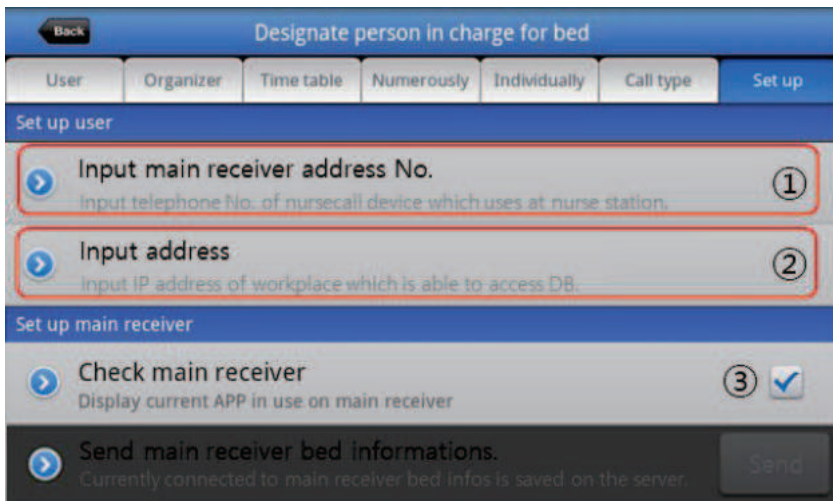
9.5.7) Settings

In order for the user to select the appropriate bed through the main receiver, the bed list must be saved in the server, so this process must be preceded in order to use the designate bed function.



- ① Main receiver confirmation indicator ② Send button

1. A check mark (①) appears when setting on the main receiver.
2. Press the 'Send' button to save the list of all beds connected to the main receiver to the server.

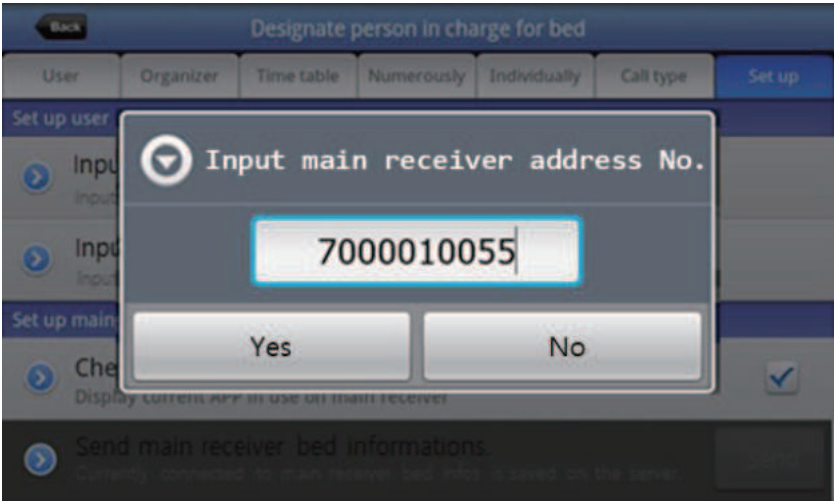


Settings screen via smartphone

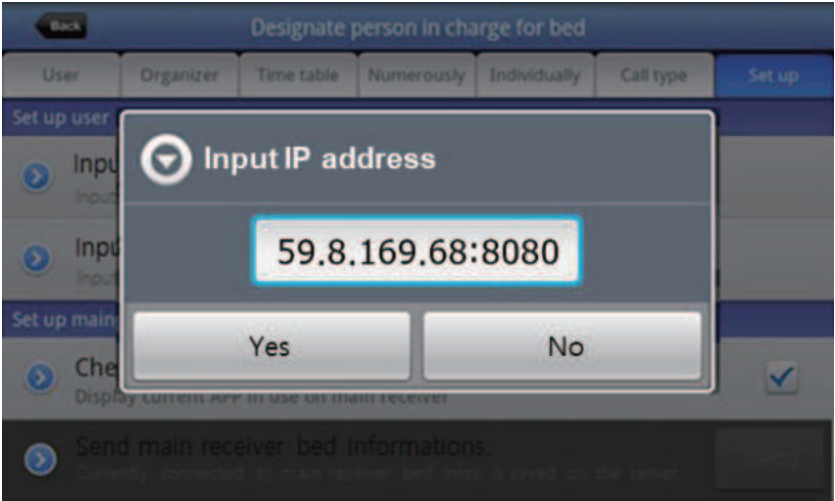
- ① Enter the primary receiver number ③ Main receiver check mark
- ② Enter IP address

3. To use the bed designation function on the smartphone, select Enter

the main receiver's unique number (①) and enter the unique number (phone number).



4. Enter the server IP and port number to retrieve the bed list, user content, and time schedule saved in the server.



5. The main receiver check mark (③) is provided in an unchecked state when setting in the smartphone.

9.6) Specify an outside location

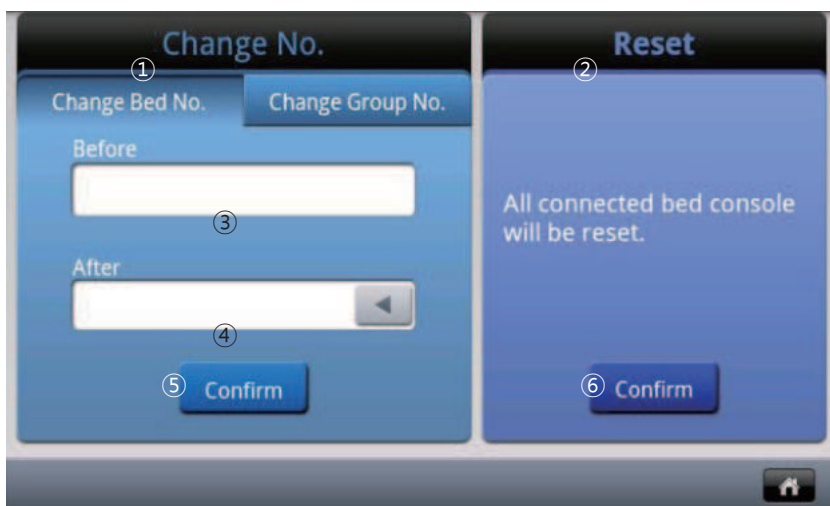
PSM ID	Emergency Location
1	Emergency Exit
2	
3	
4	
5	
6	

1. Set the DIP switch of the main device(CNS-PSM). (1~15)
2. Enter the name of the external place in the field corresponding to the value set by the dip switch.
3. Press the "Save" button.
4. In the event of an emergency connected to the main unit, the name registered in the external location designation is displayed.

10) Bed and group number setting

10.1) Number setting

1. During a call with the bed, press remote control on the main screen and select the number you want to change. (Bed number, Group number)
2. Check the existing number in ③(before change), modify the number in ④(after change), and press ⑤(OK) to change the value.
3. To change the bed number, enter the room number and press the star(*) button, then enter the bed number and click the 'OK' button.
4. To change the group number, enter a new group number and click the 'OK' button.
5. Press the remote control again to confirm the changed number on the standby screen.



Number setting screen

10.2) Reset

1. Reset the power of the bed connected to the main receiver.
2. Press the 'OK'(⑥) button and press the 'YES' button to turn on the bed. You can reset it.

2. Setting

Enter setting mode

You can set the setting by lifting the handset or pressing 9999# on the main screen of speakerphone mode.

Setting

If you press  or  button at the top of the screen in the setting mode, you can move to the standby screen and the previous screen.

COMMAX User Options

You can change your password.

1) Change Password

1. You can change the existing password to be used in COMMAX connection and management to a new password.
2. Press the change password.
3. When the password input screen is displayed, press the current password input field to switch to virtual keyboard mode.
4. Enter the old number and tap next.
5. Enter the new password, click next, and then enter it again to confirm the new password.
6. When you are done entering, press done to return to the password change screen.
7. Click the 'OK' button to change to the modified password.

※ Don't forget your password.

※ The password is a 4 digit number.

※ Passwords are not changed when the existing passwords do not match.

※ If the new password and the new password confirmation are different, the password is not changed.

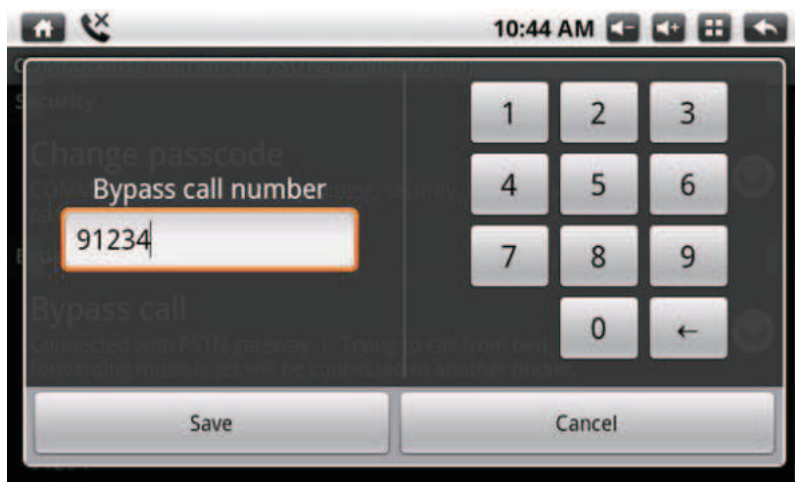
Using a detour call (optional)

1) Setting up a detour call

1. Select from 'Interworking with IP-PBX', 'Interworking with PSTN Gateway', and 'No setting'.

2) Assigning a detour call number

1. Enter the phone number to be contacted.
2. Press the 'Save' Button.



- ※ To use this function, the gateway (CGW-500PSTN) must be installed separately.
- ※ The IP of the CGW-500PSTN gateway must be set to the main receiver.

COMMAX connection

You can set the settings for COMMAX connection. Do not manipulate settings other than the installer. If the correct value is not entered, COMMAX connection and management will not work properly.

1) Setting the server IP

You can set the IP address of the local server, SIP server, and update.

1. Tap the item you want to set.
2. When the input window is displayed, tap the input screen and enter the corresponding IP address.

2) Setting the call prefix

1. Select and press Call Prefix from the menu.
2. When the Call Prefix input screen is displayed, enter the appropriate number and press the OK button.

Network

You can set up a wired network to use COMMAX connection and management.

1) Wired connection

1. Enter the IP address, gateway, netmask, and DNS. (Ask the installer)

Sound and display

1) Setting Silent Mode

You can switch to silent mode. (Excluding media and alarms)

1. Press Silent mode.
2. When silent mode is checked, the sound setting item at the bottom

is disabled. And  is displayed in the notification bar at the top of the screen. When silent mode is unchecked, the sound setting item at the bottom is activated and the notification bar at the top of the

screen  disappears.

2) Set ringtone/media volume

1. Press Ringer Volume or Media Volume.
2. When the volume window is displayed on the screen, move the bar to adjust the volume.
3. Click the 'OK' button to save the settings.

3) Set the ringtone for calls/notifications

1. Press Phone Ring Tone or Notification Ring Tone.
2. For the ringing tone, the list screen of the calling location is displayed. (For notification ringtones, select the list immediately)
3. After selecting the location you want to set, select the desired ringtone from the list. (You can hear the bell in advance)
4. Press the 'OK' button to set the selected ringtone.

4) Setting the screen brightness

1. Press Brightness.
2. A Brightness window will appear on the screen.
3. Move the stick to adjust the volume.
4. Press the OK button to save the settings.

5) Setting the screen auto-off time

1. Tap Screen Timeout.
2. A list of screen time limits is displayed.
3. Press the desired time to save the setting. If the cancel button is pressed, it is not set.

6) Calibrating the touch screen

1. Touch Touchscreen Calibration.
2. Follow the on-screen instructions to tap the cross icons in sequence.
3. When calibration is complete, Calibration Complete is displayed.

storage space

You can check the storage space of the product. Displays the total size of SD card and internal storage space and the amount of available storage space

language and keyboard

You can configure the language and virtual keyboard displayed on the device.

1) Change language

1. Press Select Language.
2. Select the language to set from the list.

2) Setting up the keyboard

Specifies the default keyboard displayed when entering text. When an additional keyboard is supported in addition to the Android keyboard (English input), it can be used as the keyboard the user wants when inputting characters.

1. Check the keyboard to be used as the default keyboard
2. When entering text, a checked keyboard is displayed.

date and time

You can set the date and time.

1) Set the date and time automatically

1. Check Auto.
2. The Time Server (NTP) and Synchronization Interval items are enabled.
3. Tap Time Server (NTP) and then enter the time server. If the entered time server is successfully connected, it will change to the current time.
4. Synchronize with the time server every time set as the synchronization interval.

2) Manually set the date and time

1. Uncheck Auto..
2. Date setting and time setting items are activated.
3. Press Set Date.
4. When the date setting window is displayed on the screen, use the + and – buttons to set the date and press the OK button.
5. Press Set Time to display the Settings screen.
6. Refer to the date setting to set the time.

3) Specify the time zone

1. Tap Time Zone.
2. From the list, select the time zone of your current city.

4) Specify the 24-hour format

1. Check or uncheck Use 24-hour format.
2. When checked, the time is displayed in 24 hours. When unchecked, display in 12-hour format.

5) Format the date

1. Press Select Date Format.
2. A date format selection window will appear on the screen.
3. Tap the format you want to set.

System Information

You can check the components installed in the system and check the product firmware information.

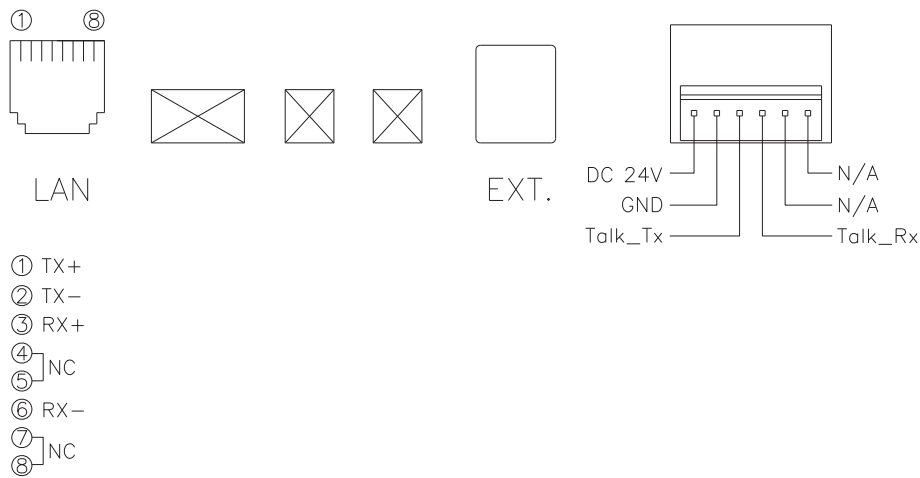
1) Check the component version

1. Click Components.
2. The version of the installed component is displayed.

2) Checking product firmware information

1. The version and serial number of the bootloader and kernel are displayed.

Wiring diagram



Description

- **Product Name:** Nurse Call Device
- **Model Name:** CNS-70MN
- **Rated voltage:** DC29V
- **Maximum current consumption:** 400mA



COMMAX Co.,Ltd.

513-11, Sangdaewon-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea
Int'l Business Dept. Tel. : +82-31-7393-540~550 Fax. : +82-31-745-2133
Web site : www.commax.com