KB858 Nurse Call System

Operation and Maintenance Manual

1. Overview

The KB858 Nurse Call System is a newly developed addressable type system which has been specifically designed for easy operation and installation. Addressable Nurse Call System can pinpoint the location of an activated "User Machine", because each device is associated with an address. The advantage of an addressable system is that up to 120 different addresses can be linked on the same three wires. Each bed in a ward is assigned with a unique address according to the bed numbers. After addressing the Bed Head Panel Unit (User Machine), it can be configured as "Normal Care", "Special Care" or "Emergency Care".
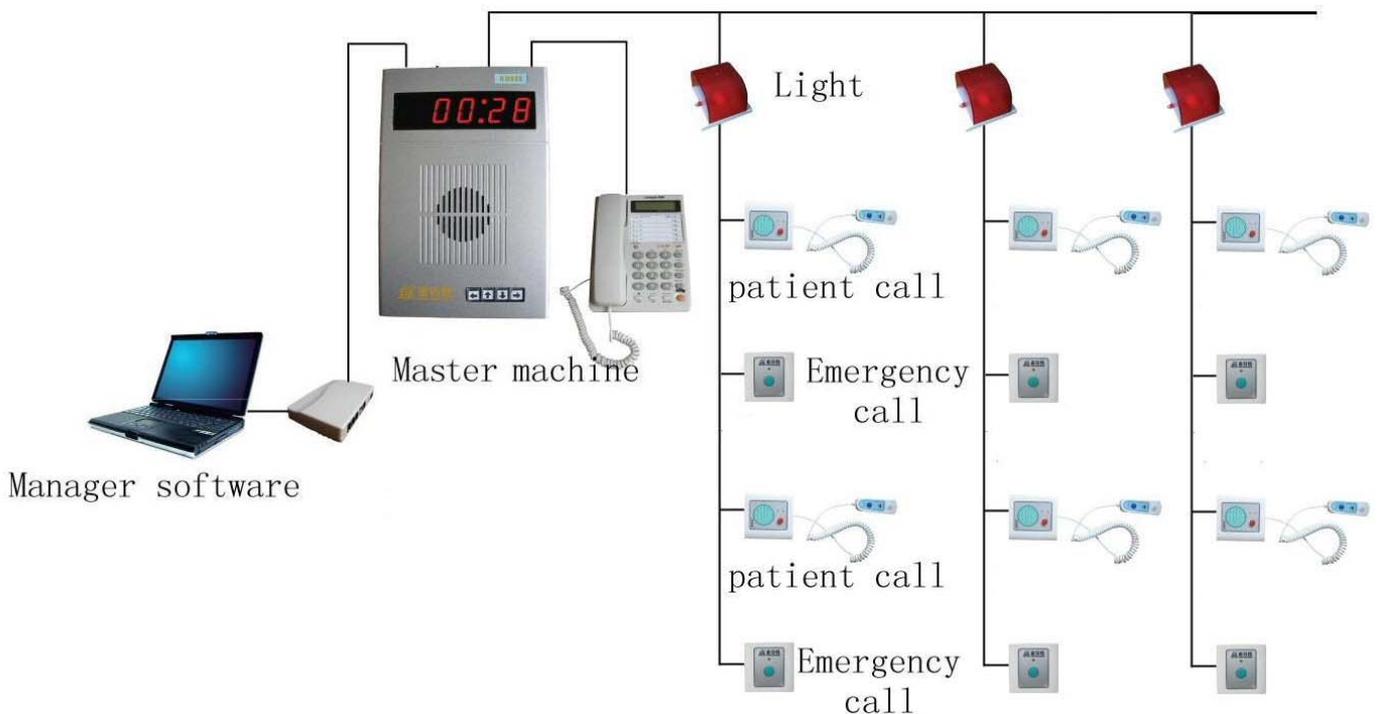
KB858 System Architecture

1.1 Master Machine

Master machine is the main controller of the system. It is designed to connect up to 120 Nos. of user machines. KB858 nurse call system employs a quad data bus to connect the master machine and the user machines, with all the corridor alarm lamps connected to it. The user machines can be addressed and configured, call types as either "Normal Care", "Special Care" or "Urgent Care" through the master machine. User machines in wards have the function of two-way communication with the master machine. The master machine displays the calling information simultaneously with different melodies which is related to the call type. If there is no call, present time is displayed on the display panels. All configurations can be done through the Keys on the Master Machine or Telephone, which is connected to the master machine. One master machine can be used together with 5 auxiliary master machines.

1.2 User Machines

User Machine (or the patient unit) allows the patient to communicate with the nurse station. There are two types of user machines. Both type of user machines can be connected to same data bus and can be configured the call type as per the requirement of the user.

KBC 40 User Machine
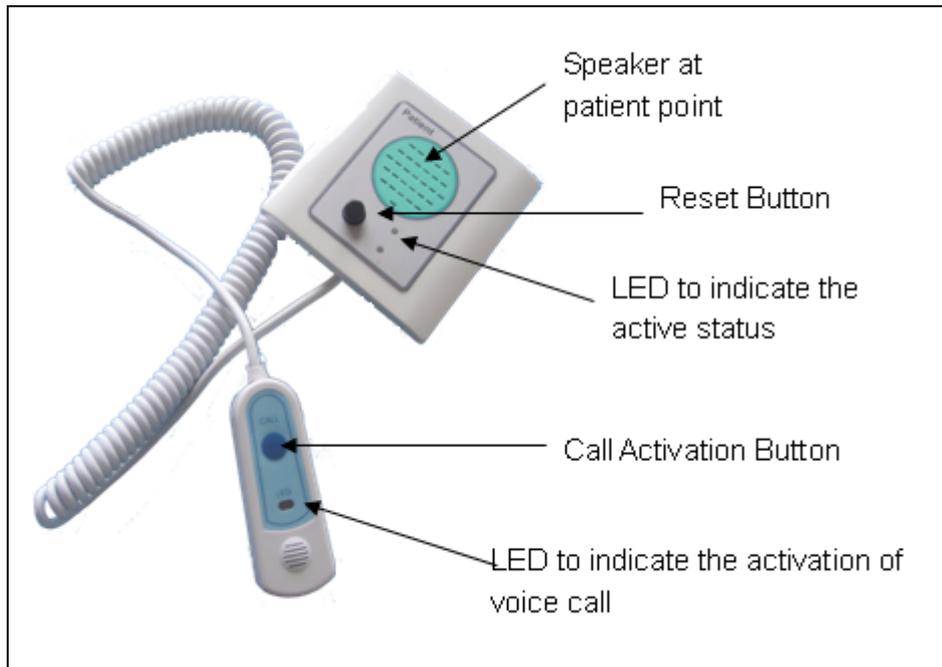
KBC 40 allows two way communications with the nurse station so that a patient may able to get the immediate attention from the caregivers. User station can be assigned with priority levels as "Normal call", "Special care call" or "Emergency call". Caregivers can identify the priority level of the call at nurse station which enhances the responsiveness to urgent patient's call. The LED indication enables patient to see the status of the call. The hand unit comes with a long length cable to facilitate the patient for easy operation.

KBC 20 User Machine
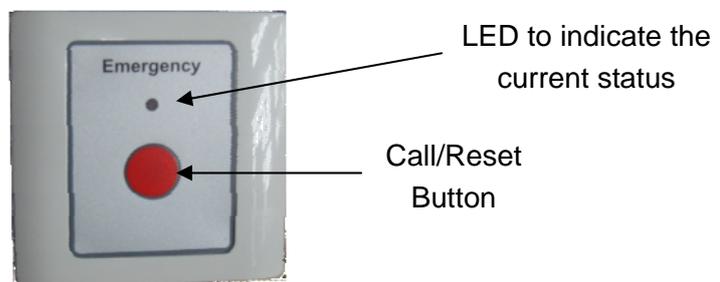
Standard use of KBC 20 is Emergency. It also can be set for different priority levels as "Normal call", "Special call" or "Emergency call". The waterproof call button allows the device to be used

even in outdoor environment. The activation of the call is indicated by the LED.

1.3 Corridor Alarm Lamp

Corridor Alarm Lamps are designed to illuminate with the activation of user machines which are connected the relevant alarm lamp.

1.4 Telephone

Basically a Normal Telephone will be used for both of these operations in this system:

(i). Communicate with user machines

Nurse station and user machines can make a voice call through the normal telephone which is connected to the master machine.

(ii). Programming the System

KB858 System has been designed to program via a normal telephone connected to the master machine. All the functions of the system including numbering the user machines, changing the call priority etc. can be configured through the telephone.

1.5 KBSC858 Information Collector

Information collector is used for connecting the master machine and a computer. It has been designed to process the data of five Nurse Machines and display the information on a single computer display at the same time.

1.6 KBMS Manager Software

All the call information is displayed by the manager software at the nurse station. This is a user friendly software and has been designed to easily identify the caller information so that an immediate action could be taken by the caregivers.

2. The Operation of the system

2.1 Making / Resetting calls

2.1.1 Patient Calls

There are two (KBC20 and KBC40) user machines at a bed head panel in a normal ward. KBC40 user machine is programmed as "Normal Care" or "Special Care" and KBC20 user machine is programmed as "Emergency Care".

2.1.2 Make and Reset a Normal Call from Patient Point

User can simply make a normal call by pressing the "Call" button in the pendent of the "Patient "(KBC40) user machine. With the make of call from user machines, the details of the caller will be displayed on the system computer with related alarm sound.

There are two ways to reset the call from a "patient" (KBC40) user machines. One way is to reset the call from the patient point by pressing the 'Black' cancel button on "Patient" user machine. The other way is by making a voice call to the patient by dialing the caller bed number.

2.1.3 Make and Reset an Emergency Call from Patient Point

An emergency call can be made by pressing the 'Red' button which is on the "Emergency"(KBC20) user machine. Caller details will be displayed on the display with the related alarm sound.

The same 'Red' button at the patient point should be pressed to reset the Emergency calls.

2.2 The Display and Alarm Sounds

Call details will be displayed on the computer monitor via the Manager Software, which is at the nurse station.

2.2.1 How to Open the Display (Manager Software)

Use following path to open the display,

Start > Programs > KB858 Nurse Call System > KB858 Nurse Call System
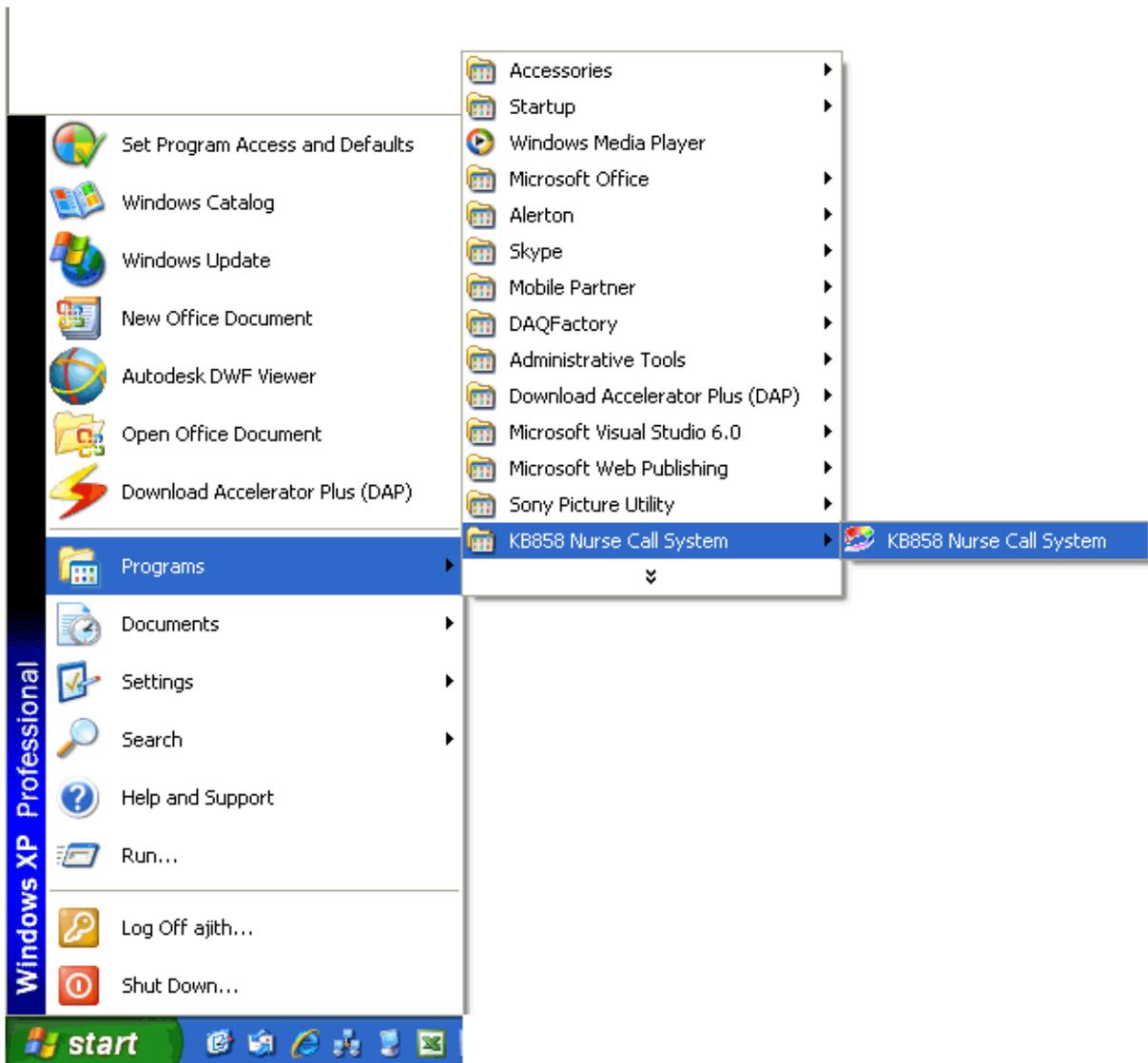
2.2.2 Detail display and Alarm Sounds

Caller details will be displayed on a Normal computer monitor as shown below:
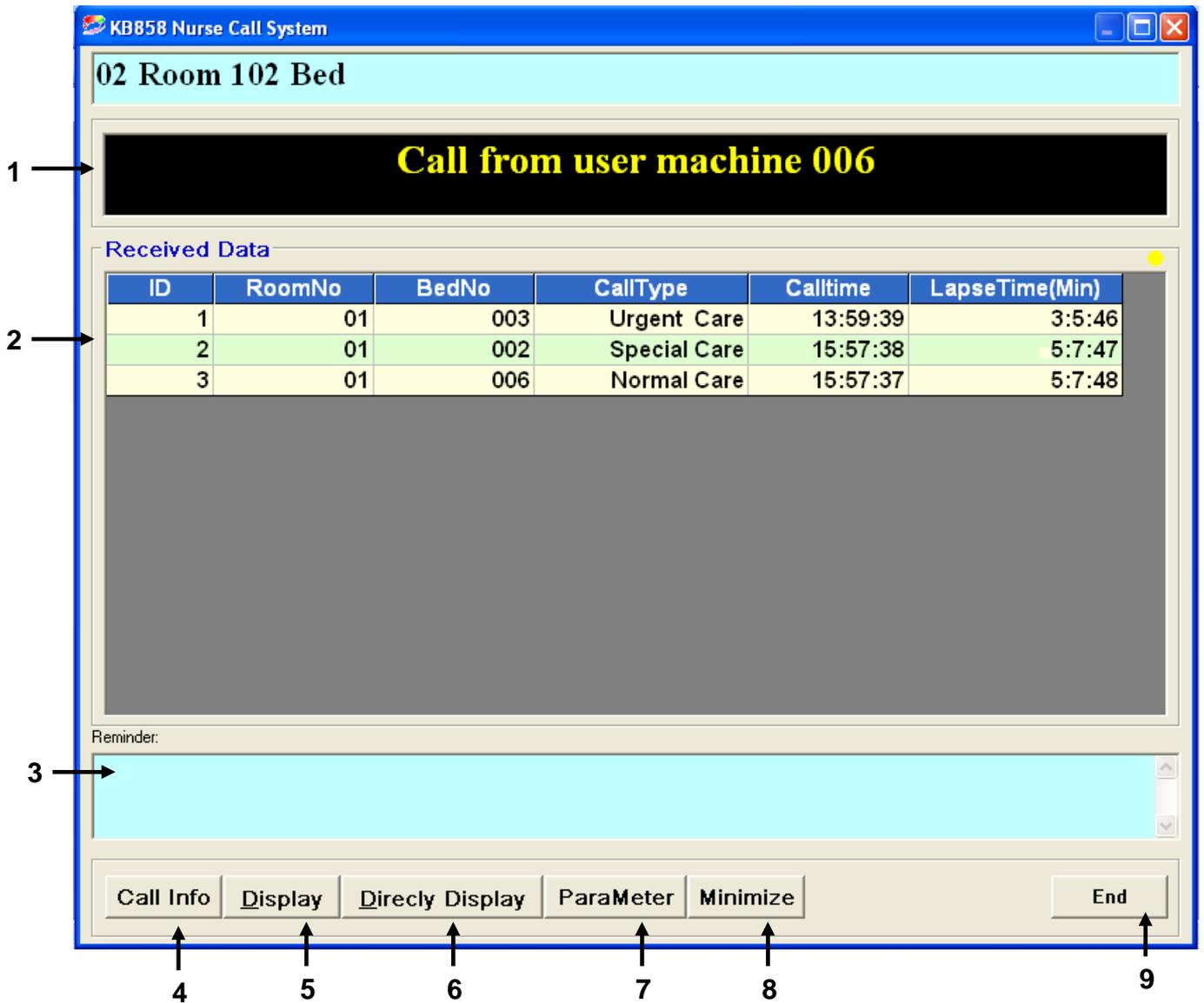
1. Current status of the calls

Current status of the calls will be displayed on this block.

2. Call details display

Call details will be displayed on this block. The highest priority calls are displayed at the top of the list. If there are two or more calls with same priority, the list will be set according to the call activated time.

3. Reminders

User can write a massage in this area for future reference.

4. Link Call history display

User can open the call history window by clicking on this button.

5. Button to display the Normal call ID numbers

Caller ID number can be easily identified by using this display.

6. Button to open call detail display

If the user is in another display, clicking this button will open Call detail display

7. Button to open data entry display

User can open the data entry display by clicking on this button

8. Button to minimize the display

User can minimize the display by clicking on this button. The display can be

maximized by click on the icon at right side of the Task Bar.

9. Button to close the display

Exit the manger software.

3. System Configuration

The system can be configured by two ways,

>   **(i).** With the use of normal telephone connected to the master machine.

>   **(ii).** With the use of function keys in the master machine.

3.1 System configuration with the Telephone

The KB858 system is designed to operate and configured very easily with the telephone which is connected to the nurse machine. The following listed parameters can be set by the telephone by simply dialing the function codes followed by values to be set.

No.	Function Code	Parameter	Description/Remarks
1	＊1**hhmm**＃	**hh**-hour, **mm**-minute	To set the time
2	＊2**nn**＃	**nn**-floor controller No.	Not applicable for KB858
3	＊3**nnn**＃	**nnn**-call no.（01-120）	To configure the ID Nos. of user machine
4	＊4**nn**＃	**nn**-floor no.（01-19）	Not applicable for KB858
5	＊50**nn**＃	**nn**-music Nos(00-03)	To select the music type of master machine
6	＊51**nn**＃	**nn**-Volume(00-07)	Adjust Volume of master machine
7	＊60		To delete all the special care and emergency call configurations
8	＊61**nnn**＃	**nnn**- call Nos（01-120）	set/delete special care attribute of the user call button
9	＊62**nnn**＃	**nnn**- call Nos（01-120）	set/delete emergency attribute of the user call button
10	＊63		To see the attribute of corresponding user call button
11	＃＃		Replace current calling
12	＃＊		Replace all the callings
13	＊＊**nnn**＃	**nnn** New system capacity	To change the system capacity

Table 01 - Function configuration by Telephone

3.2 System configuration with keys on Master machine

There are four function keys on nurse machine: "←", "↑", "↓", "→"

1) Press "→", to enter the main menu

2) Select the function no. by pressing "↑" "↓" (up or down buttons)

3) Press "→" to confirm the selected function.

4) Press "↑" or "↓", to select the configuration of corresponding function, then press "→", to finish the operation

5) During any configuration process, pressing ← will cancel or exit the function operation.

6) All the function operations can be achieved by function keys,

Example: ✱1 equals F1, ✱2 equals F2, and ✱3 equals F3, and so on.

7)   On normal working conditions (when not in function configuration operation), pressing "←" will cancel or reset the current calling.

3.3 User machine configuration

3.3.1 User machine numbering

All user machines should be numbered before operation begins. There cannot be two user machines with same ID on a particular communication bus. To configure the ID numbers at system installation time only. The user machines can be numbered as follows:

a) Pick up the receiver and Dial the function code and User ID which has to be configured. Do not hang up until configure the numbers.

Example: Function No. ✱3, User ID to be configured is 12.

To configure this you would dial   ✱312#

b) After dialing the function code, the master machine will display the ID number that will be configured.

c) Then press and hold the reset button ('black') on the patient user machine or 'red' button on the emergency user machine for about 3 seconds; when the number is assigned to the machine, the green indicator will flash.

d) After configuring the dialed ID number the system is eligible to configure the next ID number without dialing any number. For an example if the user ID 12 is programmed the master machine will automatically step to configure user ID 13. So the programmer should only press and hold the reset button on the particular user machine which has to be numbered as 13. If user does not require configuring the next ID number, the numbering process can be stopped by keeping the receiver.

3.3.2 User machine priority configuration

By default User machines are factory configured as "Normal Care". But User machines can be configured for "Special care or Emergency care", according to the priority levels. Even though both KBC40 and KBC20 can be configured for any of the above priority level, as a usual practice, KBC40 is configured as "Special care" or "Normal care" where as KBC20 used for "Emergency care".

The call priority can be changed as follows.

(i) Configuring for "Special care" (typically for KBC40)

➤ Dial ✱61**nnn**＃ (Where nnn is the user machine number which is needed to be configured). The "Normal care" (by default) user machine will then be converted to "Special care". This will be verified on the master machine by blinking the upper part of the 1st digit of the display.

The same procedure can be used to convert "Special care" to "Normal care", which will be verified by the bottom of the 1st digit.

Example: Assigning the user machine with ID 003 for "Special care"

- Dial ＊61**003**＃

- Check the verification

Verification indication

Reassigning the user machine with ID 003 for "Normal care"

- Dial ＊61**003**＃

- Check the verification

Verification indication

(ii) Configuring for "Emergency care" (typically for KB20)

➢ Dial ＊62**nnn**＃ (Where nnn indicates the ID no assigned to the

Particular User machine which you need to configure).

The "Normal care" (by default) user machine will then be converted to "Emergency care"

The same procedure can be used to convert "Emergency care" to "Normal Care", which will be verified by the bottom of the 1st digit

3.4 Nurse Call System Software Configurations

3.4.1 Connection settings

Use following steps to set the connection settings between the Nurse call system software and information collector

Open KB858 display > Parameter
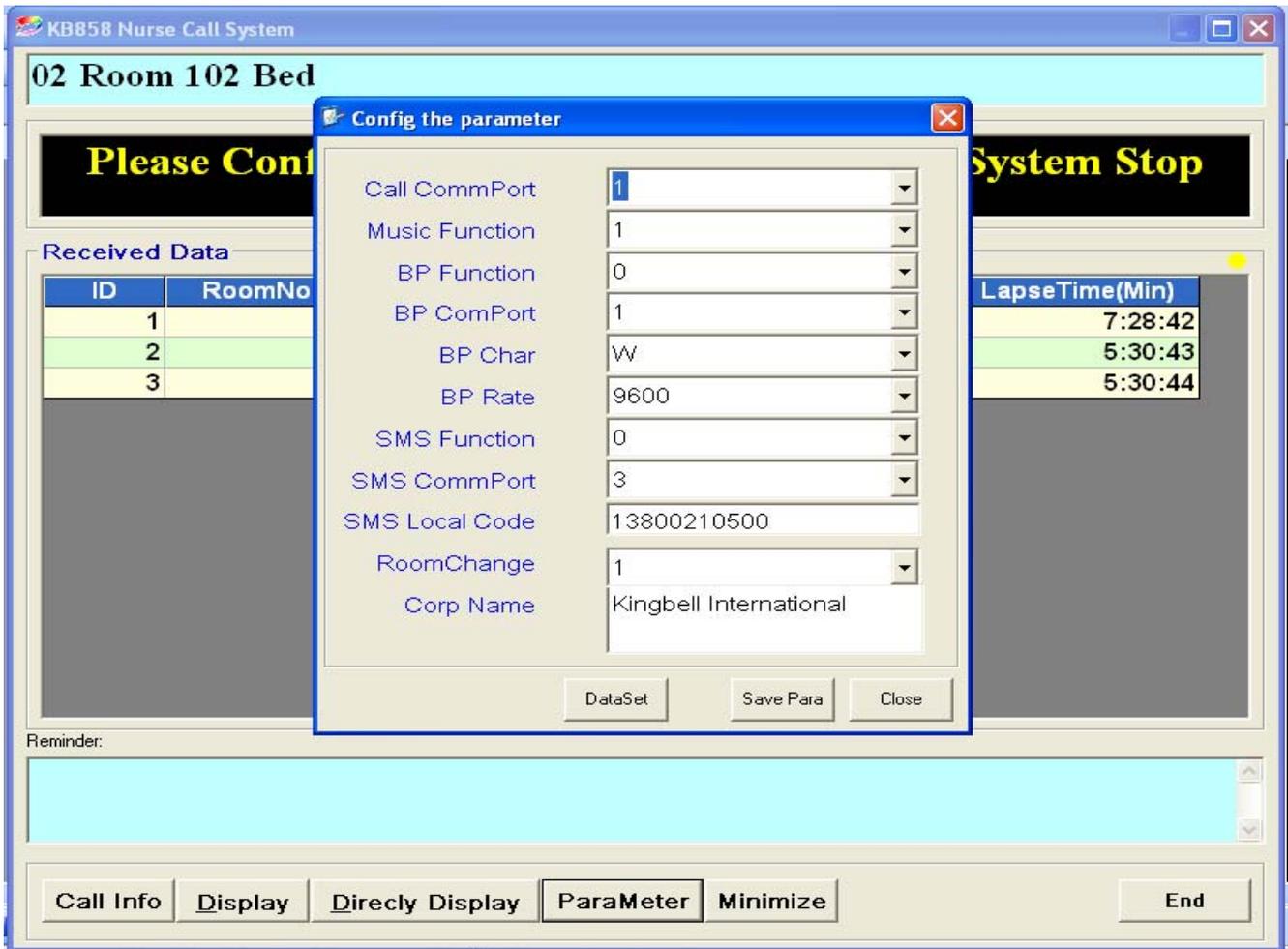
User should configure the "Call CommPort" number and "BP Rate", for KB858 nurse call system. The other settings are not applicable for KB858 nurse call system

Note: The CommPort number must be identical to the COM (serial) port number which the system is connected, Most of the time this should be 1. The default BP Rate (Baud Rate) for KB858 nurse call system is 9600. If there is something wrong with the configuration of the COM port an error message will be displayed when opening the software.

3.4.2 Room Numbers & Bed Numbers settings

Use the following steps to set the room numbers and bed numbers

Open KB858 display > Parameter > Dataset

The data editing display will open:
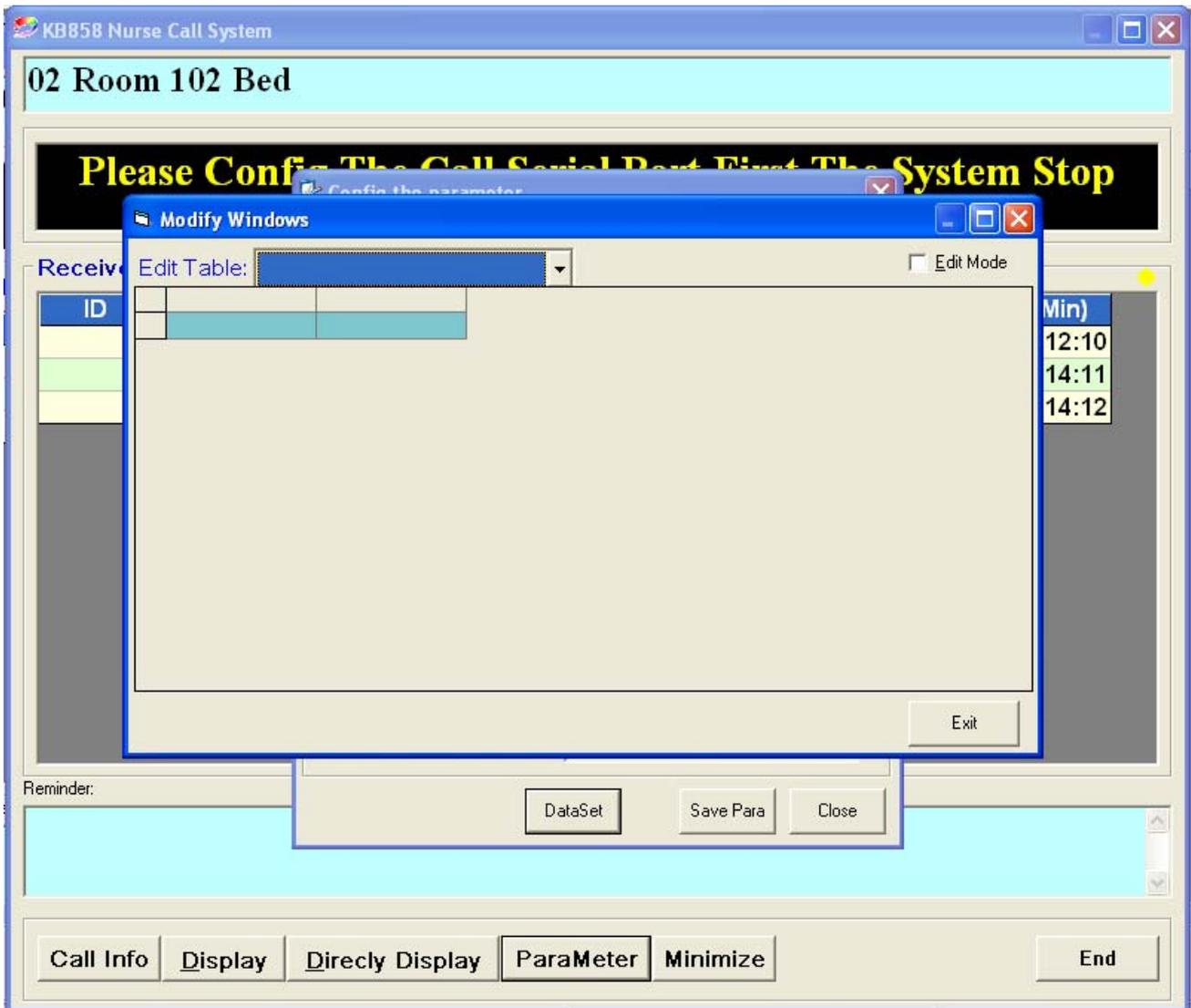
o Step 01- select "Change Room Number" from the Edit Table dropdown menu.
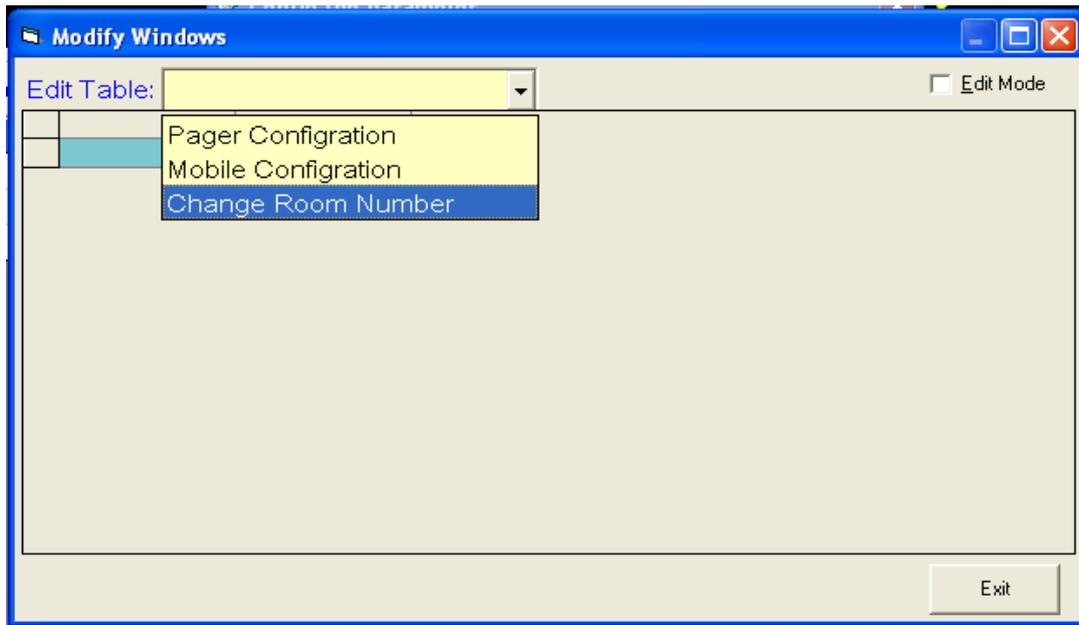
o Step 02- activate the "Edit Mode" by clicking on the check box and edit the user machine numbers, room numbers and bed numbers and exit from the window.
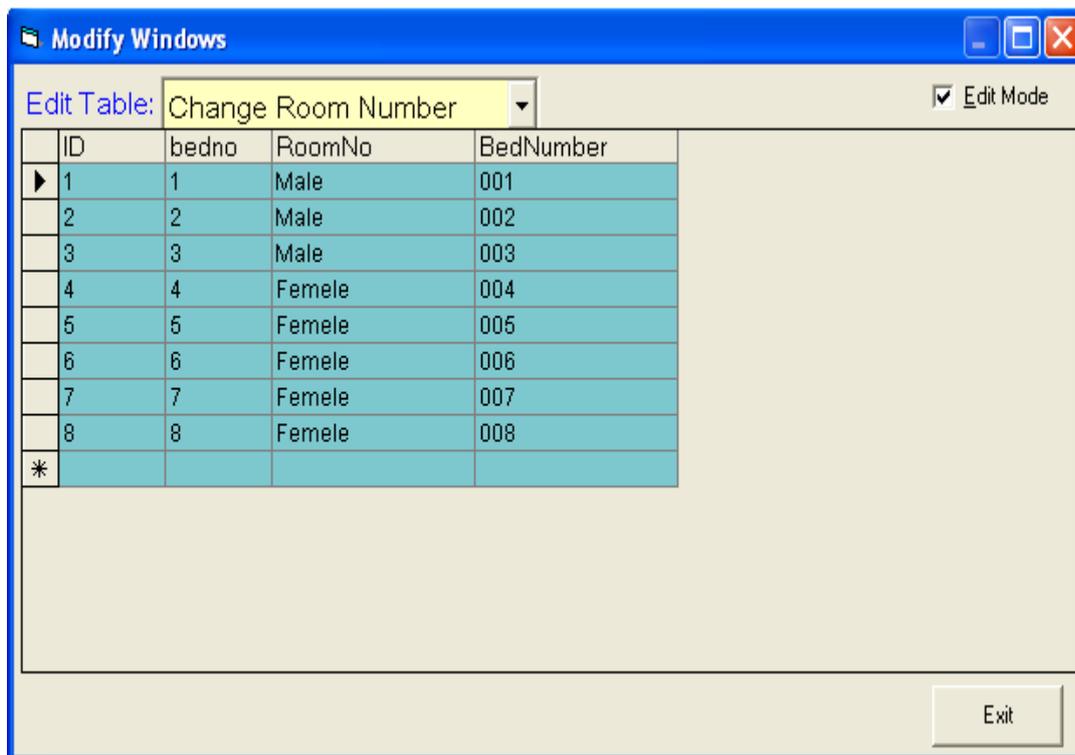
o Step 03-Save the edited data by clicking on the "Save Para" on the parameter configuration window.

4. Troubleshooting

Faults	Reason	Solution
Display "0" with urgent alarming on the master machine	1. There is a short circuit between two main communication lines. 2. There could be a faulty user machine.	1. Check the communication wiring for any short circuit. 2. Replace the faulty user machines on the communication bus.
Cannot make a call or reset a call	1. The main communication lines are open circuited. 2. There could be a faulty user machine.	1. Check the connection of main communication lines. 2. Replace the faulty user machines on the communication bus.
No Caller information on computer display.	1. Information collector machine could be faulty. 2. There is no voltage on main lines. 3. The main communication lines are open connected.	1. Check the COM port number and baud rate. 2. Check the field wiring between computer and the information collector. 3. Check the wiring between the information collector and the master machine.
Unusual Noise from the user machine.	There could be two user machines with the same ID.	Re number the user machines with unique numbers.

5. Maintenance Instructions

- Clean the devices with compressed air.

- Check the wiring for loose connections.

- Test the function of user machines once a quarter year.

- Keep the computers free of viruses.