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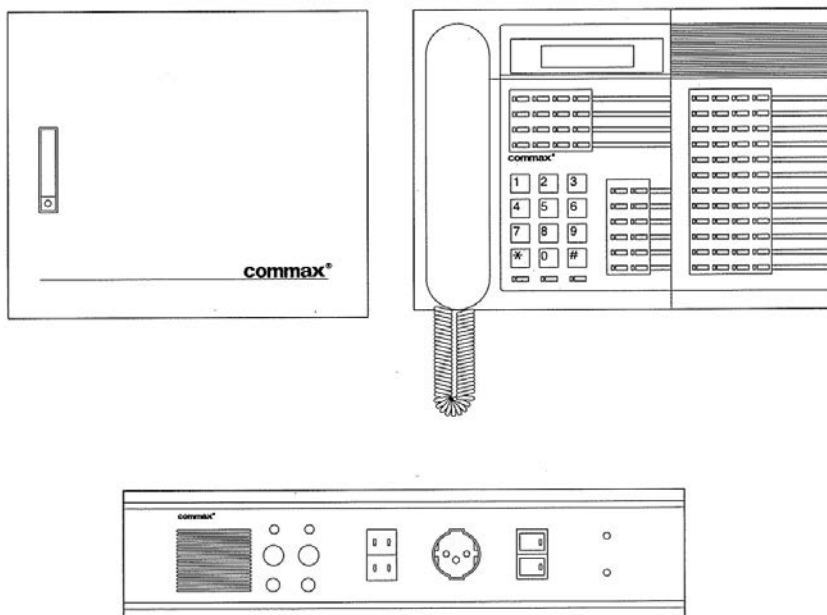
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# User Manual

## COMMAX NURESCALL SYSTEM JNS-4CM

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- The company is not responsible for any safety accidents caused by abnormal operation of the product.



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# 1. System Introduction

This system was designed to exchange the communication between nurse and patient through data communication system.

This system was composed with master station which can control and display whole system and Power controller, and the sub station are connected with 4 common wires. 1 master station is able to cover maximum 32 sub stations and install the presence switch, emergency switch and corridor light.



# 2. System Specification

## 2-1. System Composition

- Sub station: 32 unit / Each Patient Room  
(Subordinate: Presence S/W (1), Emergency S/W (2), Color Corridor Light (1))
- Emergency Display for Corridor Light: 16 Circuits
- Induction lamp: 4-way indication lamp
- Interphone (Master Station): 90 Circuits

## 2-2. System Dimension

- Master Station: 240(L) x 220(W) x 90(H)
- DDS: 240(L) x 129(W) x 70(H)

## 2-3. Power Requirement

- Power Source: 220V
- Input Frequency: 57Hz ~ 63Hz
- Power(Emergency): DC 24V, 6.5A



# 3. System Features

- 3-1. The system is the electronic Nurse Call System developed by new technology. It has various functions and is designed to use conveniently to users.
- 3-2. The end user can put the programming of BED and room number by end user's control, and in case of emergency case, everybody know the place clearly.
- 3-3. There is the speaker phone function on Master unit.
- 3-4. The master station can be covered the sub station (Max 48 unit from 1 master station).
- 3-5. 16 digit 2 line LED DISPLAY (Year, months, time, display).
- 3-6. In case of main power off, there have a EEPROM to keep the program, no need the re-programming.
- 3-7. The corridor lamp display by 2 color lamp or 3 color lamp(emergency and normal case).
- 3-8. Each master station can be communicated.



## 4. Signal and Lamp Specification.

Section	LCD	LED	SOUND	Corridor Light
Communication	Call : XXXX	Steady Green		
Bed Paging	Call : XXXX	Flashing Green	Melody Sound	Flashing White
Toilet(Room)	Emerg : XXXX	Flashing Red	Emer. Sound	Flashing Red
Toilet(Corridor)	Emerg : XXXX	Flashing Red	Emer. Sound	Steady Red
Presence S/W		Steady Green		Steady White
Staff Paging	Staff : XX	Flushing Ginger	Police Sound	Steady White Flashing Red
Interphone	Process AN90:XX			

If the situation will occur simultaneously, corridor light and master station lamp will blink at once.  
(Corridor light, shower room, bed, interphone will blink by turns)



## 5. How to use and function

### 5-1. Bed Call (BED No.: 4 digits)

5-1-1. Call a handset in bed or press the dial button to answer the call.

- Pick up the receiver -> Input a sick room and BED number -> Call( # ) -> Talk
- Pick up the receiver -> Shortcut button -> Talk
- Speaker phone -> Input a sick room and BED number -> Call( # ) -> Talk
- Speaker phone -> Shortcut button -> Talk
- Shortcut button -> Pick up the receiver -> Talk

5-1-2.

When you finish the conversation, please hang off the handset.

5-1-3.

While in conversation, Green led lamp will turn on and Call xxxx-Bed No will be displayed.

### 5-2. Sub Station Function

5-2-1. Communication with master and sub station.

- Press the call button in sub station to communicate with master station, and then green lamp will be lighted and white lamp in corridor will be lighted(in that case, the Led lamp in master station & alarm is warning).
- Press the cancel switch to cancel the communication in sub station (LED in master station display as Sub cancel REQ).

5-2-2. Lift up the handset in Master station for communication. (Corridor Light will be off)  
5-2-3. If the master station is on the line, it will automatically flash the green led on the bed for its conversation. If press the call button, it will be reserved with the alarming of red lamp, and then it will be automatically connected after the previous conversation.

#### **5-4. Presence switch**

5-4-1. For emergency case, the nurse put the presence switch to inform the location with corridor lamp function and notifying to be reply for the master station's call.  
5-4-2. If the presence switch is on, the corridor lamp will be on display the master station.  
5-4-3. To cancel the presence switch, press the presence switch it again.  
5-4-4. Under the presence status, communication or call will be STAFF CALL status.  
5-4-5. When nurse goes into the patient room, press the presence S/W to turn on the white corridor lamp. When nurse comes out from the patient room, press the presence S/W to turn off the green LED then the presence will be canceled.

#### **5-5. Emergency switch (For toilet use)**

5-5-1. For emergency case, push the switch to announce the emergency.  
5-5-2. If that case, the corridor Lamp is on, Display the master station with red lamp.  
5-5-3. To cancel the emergency switch, press the emergency switch it again.

#### **5-6. Emergency shower switch (For shower room use)**

5-6-1 For emergency case, push the switch to announce the emergency.  
5-6-2. If that case, the corridor Lamp is on, Display the master station with red lamp.  
5-6-3. To cancel the emergency switch, press the emergency switch it again.

#### **5-7. Staff Call Function**

5-7-1. In emergency, nurse in a patient room can announce the emergency to nurse station through the call button in sub station.  
5-7-2. If the presence switch is in, white corridor lamp will be automatically lighted and red corridor lamp will blink.  
5-7-3. To cancel the presence switch press the off switch.  
5-7-4. The conversation can be available when the master station receive the call, it will be a presence position.

#### **5-8. Emergency Switch (Corridor Toilet)**

5-8-1. For emergency case, push the switch to announce the emergency, it can be connected 16 units with the master station.  
5-8-2. If that case, the corridor lamp will be lighted. Display the master station with red lamp.  
5-8-3. It will be alarmed directly from the master station, red LED in corridor toilet will blink.  
5-8-4. To cancel the emergency switch, press the emergency switch it again.  
5-9. Induction lamp

#### **5-9. Interphone Call**

Interphone Call can communicate with other place or between nurse stations through installing extra interphone or between master stations.

5-9-1.

Lift the handset, press the Interphone button and the number of room No. or Interphone No.  
(If receiver's line is busy or is receiving, you can hear the busy tone or back tone.)

5-9-2.

When receiver answers the phone, you can communicate.

5-9-3.

To cancel it, hang off the handset and if receiver cancels it, you can hear the busy tone.

### **5-10. Interphone Receiving**

5-10-1.

If one Interphone calls the other, the call sign will be ringing and display the number of Interphone.

5-10-2.

Lift up the handset, you can communicate.

5-10-3.

If you are on the phone with BED, Interphone LED and communication sign will blink.

5-10-4.

If you hang off the phone, Interphone call will be ringing then you can answer.

### **5-11. Interphone Broadcasting**

\*To use the handset, you can broadcast to the master station and Interphone.

- Lift up the handset, press the Interphone button and DIAL button 00.
- All master stations and Interphones receive the broadcasting.
- The master station on the phone with BED can not receive the broadcasting.

### **5-12. Speaker Phone**

\* Without lifting the handset, you can call BED or Interphone.

- But, receiving is possible, you can not communicate so if you want to communicate, please use the handset.

5-12-1.

Press the speaker phone button, you can call the BED directly using BED No or DIAL button.

5-12-2.

You can call the master station or Interphone to press speaker phone and then DIAL button.

### **5-13. State & Time Display**

Using LCD, the master station displays year, month, day and time continuously. To set them up, press the adjustment time button, year, month, day, time and a day of the week

(Sun = 0 ~ Sat = 6) then press Input button.



## 6. How to assign the common Number

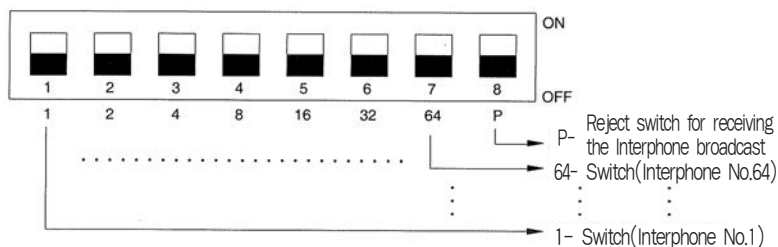
This system is designed for micro process based Data communication, hence setting up identification numbers is required to activate communication function.

### 6-1. Interphone

- Interphone No. shall be assigned by DIP switch placed at the bottom of CDS-90AN.  
Available identification number range: 10~99

For example) No.43 can be received the interphone broadcast ( $1 + 2 + 8 + 32 = 43$ )

For example) No.43 can not be received the interphone broadcast ( $2 + 8 + 16 + 64 = 90$ )



## 7. Bed Programming

\* The system can be operated by programming, after the DIP switch set up completely.

- 1) Programming can be available only on waiting position (Standby).
- 2) While in programming, the system shall not be operated.
- 3) It shall be paging from the bed for testing.(Refer to the drawing no.9-4)
- 4) After completion, the system will be ready to communicate.

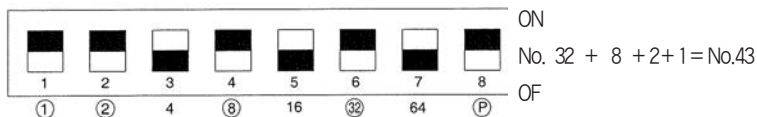
### 7-1. Bed No. and Induction lamp.

- Press the mode button. (" password " will blink on the display window)
- Enter the password (9999). ("Program" will blink on the display window)
- Enter the code (00). ("Pr00[0000]" will blink on the display window)
- Use the arrow button to be displayed pr01[0000]
- Pr02 indicate the bed no., it can be up to no. 32.
- Press the call button from bed to communicate with the master station, CALL>XXXX-XX will blink on the display window, and then lift up the handset to input the bed no. If press the remote-control button, it will be displayed as the following.

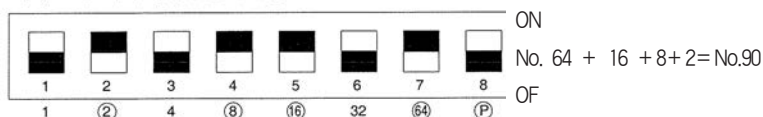


operation

ex) No.43 unit available to receive broadcasting



ex) No.90 unit impossible to receive broadcasting



- If press "1" button, ADDR>XXX-XX will blink in the display window, input the number and press the remote-control button.

- If press "2" button, GROUP>-XX will blink on the display window, input the number and press the remote-control button.

- If press "3" button, LAMP>-XX will blink on the display window, input the number and press the remote-control button.

(No.1: Bed no., No.2: Special Group (Surgery, Labor, etc.), No.3: Induction lamp Group)

## 7-2. Input DSS number

- DIP switch No.2 places on and Under speaker phone status, press the room No. and BED button more than 1 second, you can input the DDS No. after finishing speaker phone status.

- Input more the No.49, press the speaker phone button, DSS button, room No. and BED button then press the remote-control button. DIP switch No.2 places OFF again when this process is completely done.



# 8. Installation Work

## 8-1. Summary

Describe the method of installation for a proper operation of this system and a safety of end user.

8-1-1. The system classify into three parts.

- 1) Master station and DSS for system operation
- 2) PCB Board and Control Circuit classified by power function
- 3) Bed to be installed ion a patient room

8-1-2. All wires shall be connected individually

8-1-3. Each bed can be complied with presence switch, emergency switch, emergency shower switch, and two colored corridor light.

8-1-4. Corridor toilet can be connected up to 16ea.

8-1-5. Interphone shall be wired by piece and installed up to 90ea.

## 8-2. Work Condition

The system consists of the various electronic components, while its installation.

8-2-1. Cable to be connected in master station shall be installed at a proper place for the installation work and kept away from the direct rays of the sun.

8-2-2. Operation temperature shall be kept from 0°F to 30°F, Humidity shall be kept from 50% to 60%.

8-2-3. Power source shall be supplied at a convenient place for grounding and maintenance.

8-2-4. The system shall be installed to keep away from the electronic devices such as monitor, computer, etc.

### 8-3. How to connect between DSS and Master station

As the related drawing No.9-3, insert the plate cable and fix with B.K.T.

### 8-4. How to connect among the Master stations

Master station shall be connected with 9 wires cable.

- 1) Black: 24V
- 2) Brown: GND
- 3) Red: Call
- 4) White: Receiver

### 8-5. Bed Connection

#### 8-5-1. Bed Connection

- It shall be connected between bed and bed with 4P connector.

#### 8-5-2. Emergency Switch (Toilet) Connection

- It shall be connected at the closest sub station, connected in 3P connector (CN6) No.1, 2.

#### 8-5-3. Emergency Switch (Shower Room) Connection

- It shall be connected at the closest sub station, connected in 2P connector (CN8).

#### 8-5-4. Presence Switch Connection

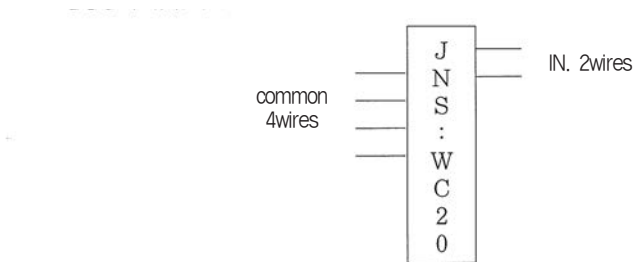
- It shall be connected at the closest sub station, connected in 3P connector (CN6) No.1, 3.

#### 8-5-5. Corridor Light Connection

- It shall be connected at the closest sub station from the presence switch, red lamp shall be connected in 3P connector (CN5) no. 2, white lamp shall be connected in 3P connector (CN5) no.5.

### 8-6. Corridor Toilet Connection

The corridor Toilet can be connected up to 16 unit, refer to the following schematic for connection.

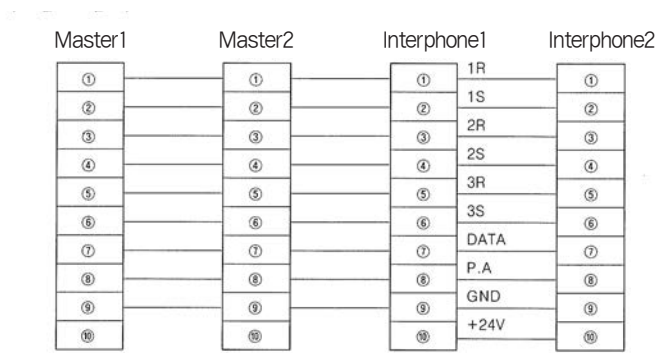


1) Input 2 wire (IN01, IN02...IN16) shall be connected at a switch

2) Output 2 wire shall be connected at each functional switch, if each input will be functional, the related output will be lighted.

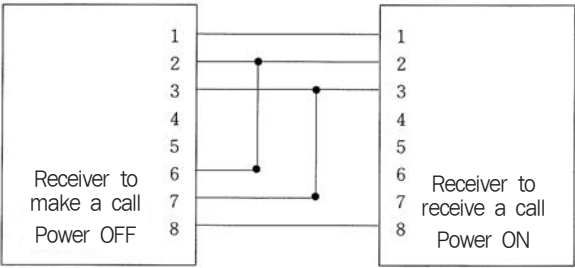
8-7. Interphone connection

For TP-90AN connection or connection among the systems, the interphone shall be connected with 10 pieces of cable by parallel. (Refer to the drawing no.9-4)



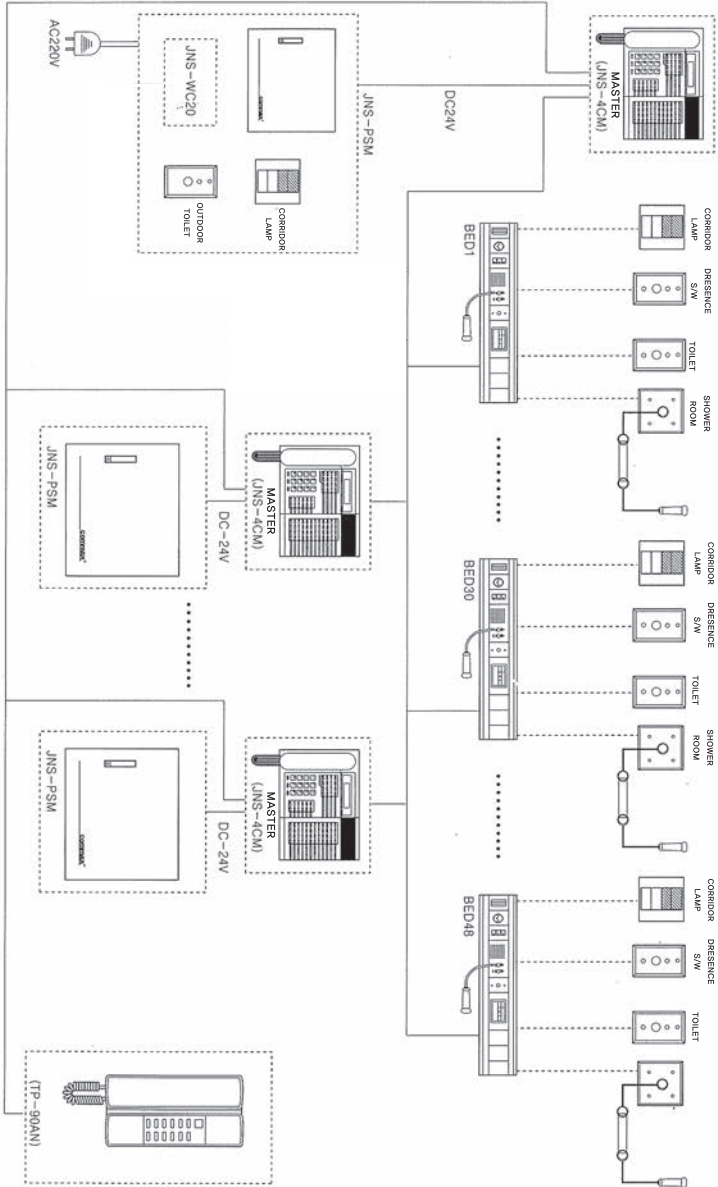
8-8. Transfer phone call Connection

Total bed that receiver' bed to convert and receiver' bed to be converted should be within 48ea. The way of connection shall be shown as the following diagram.

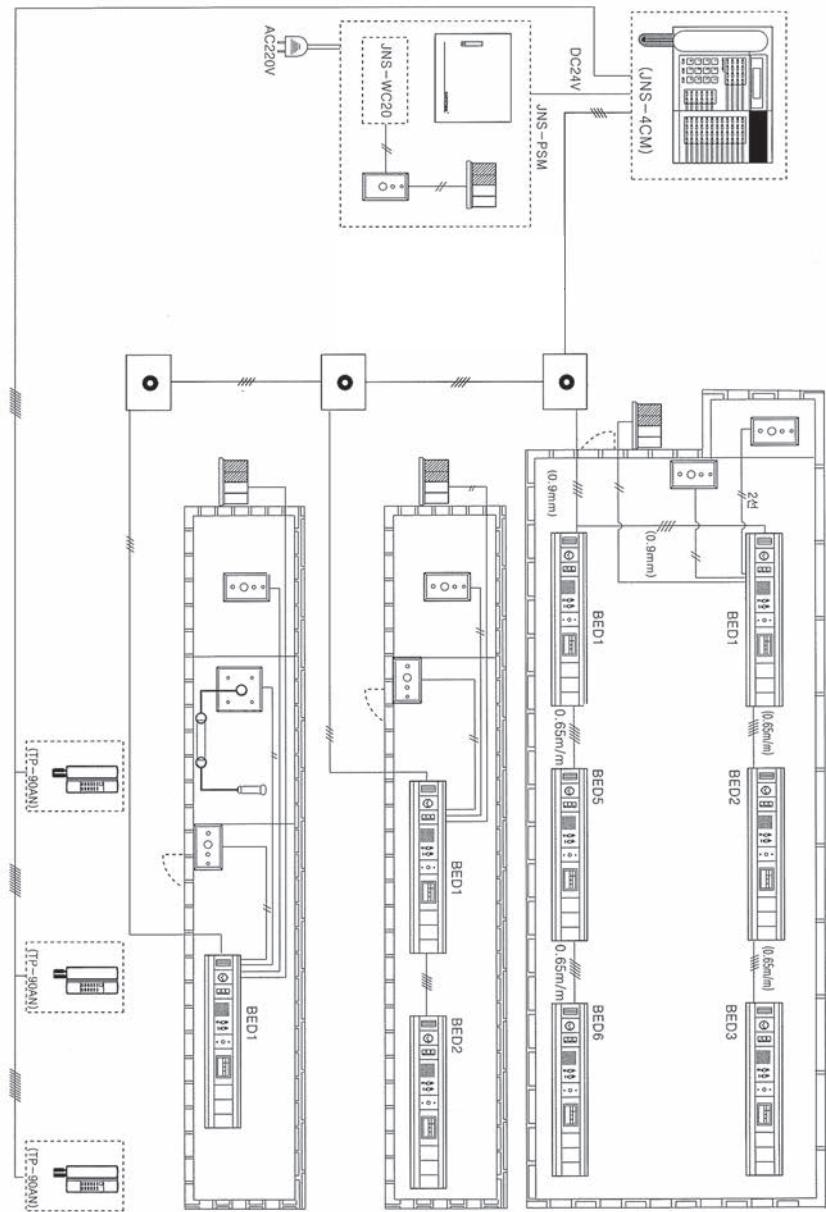




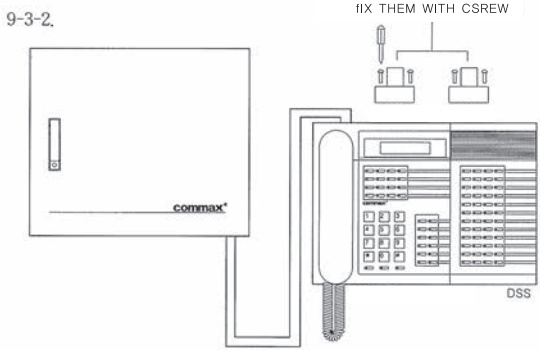
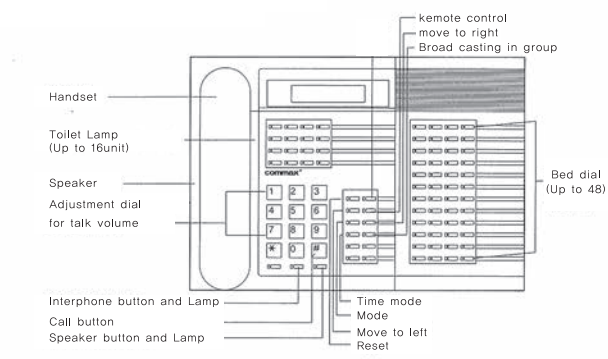
### 9-1. System Diagram



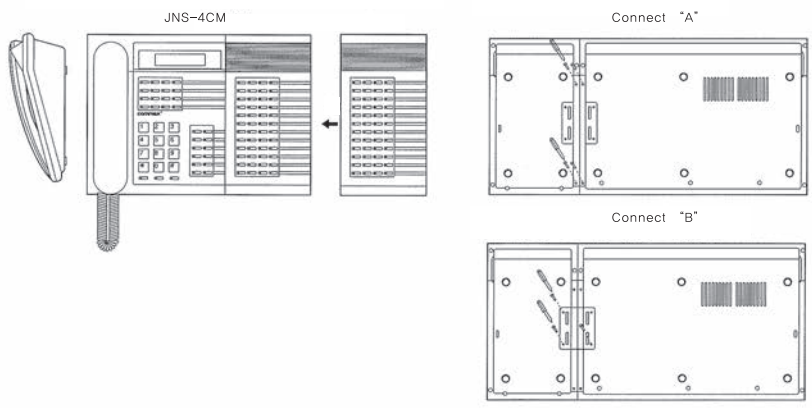
9-2. System Wiring Diagram

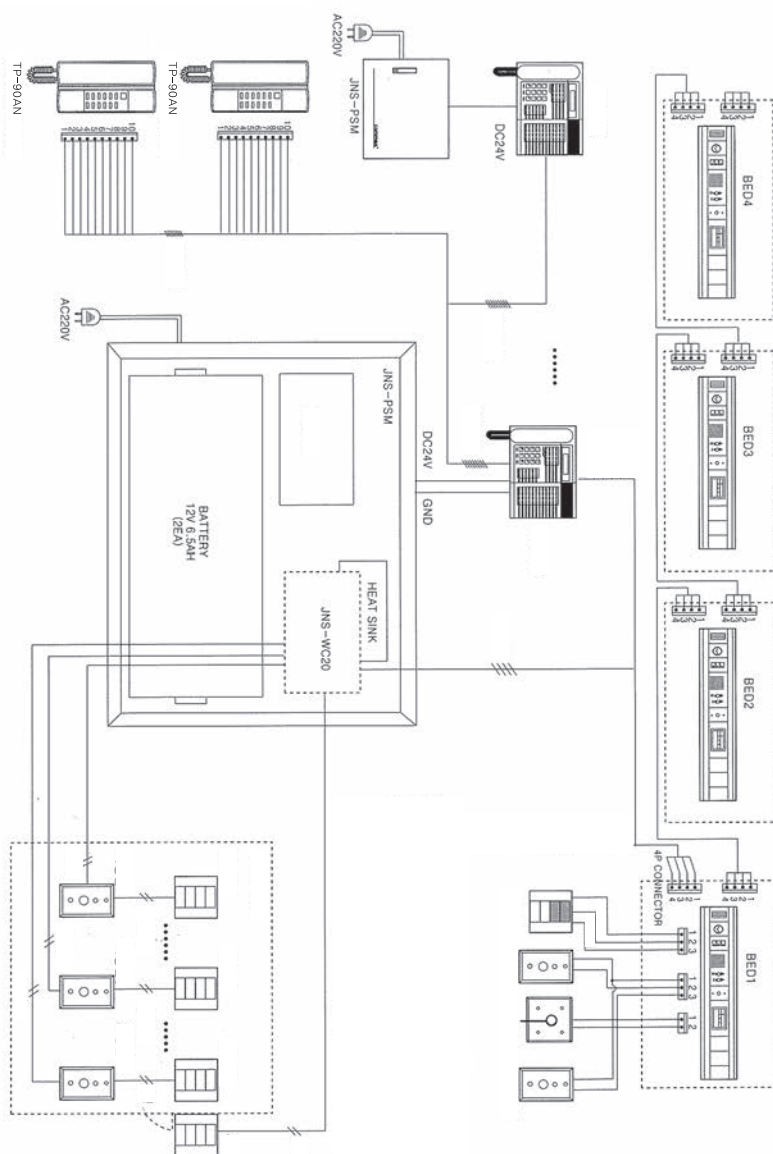


9-3. Parts Name and Connecting Method

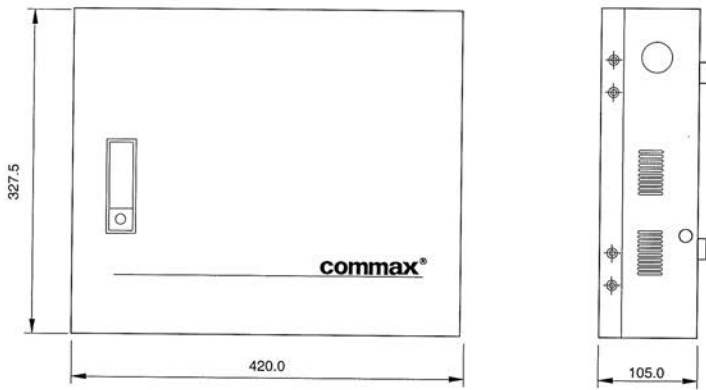


9-3-3. How to connect between JNS-4CM and DSS



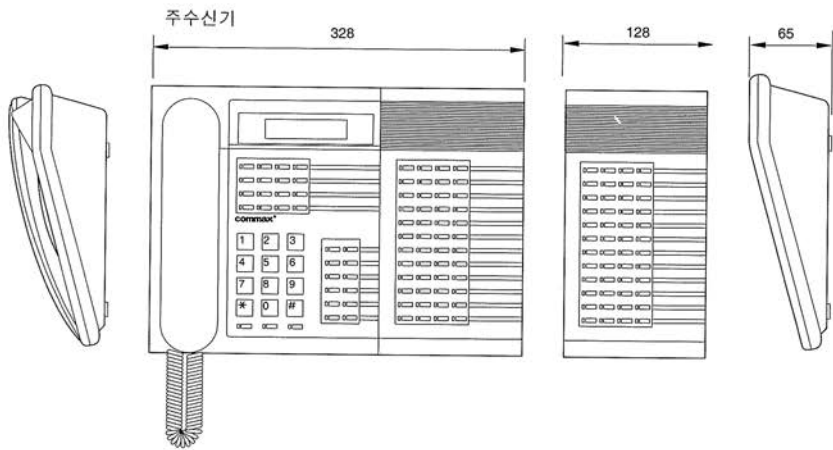


9-5. Dimension  
9-5-1. JNS-PSM



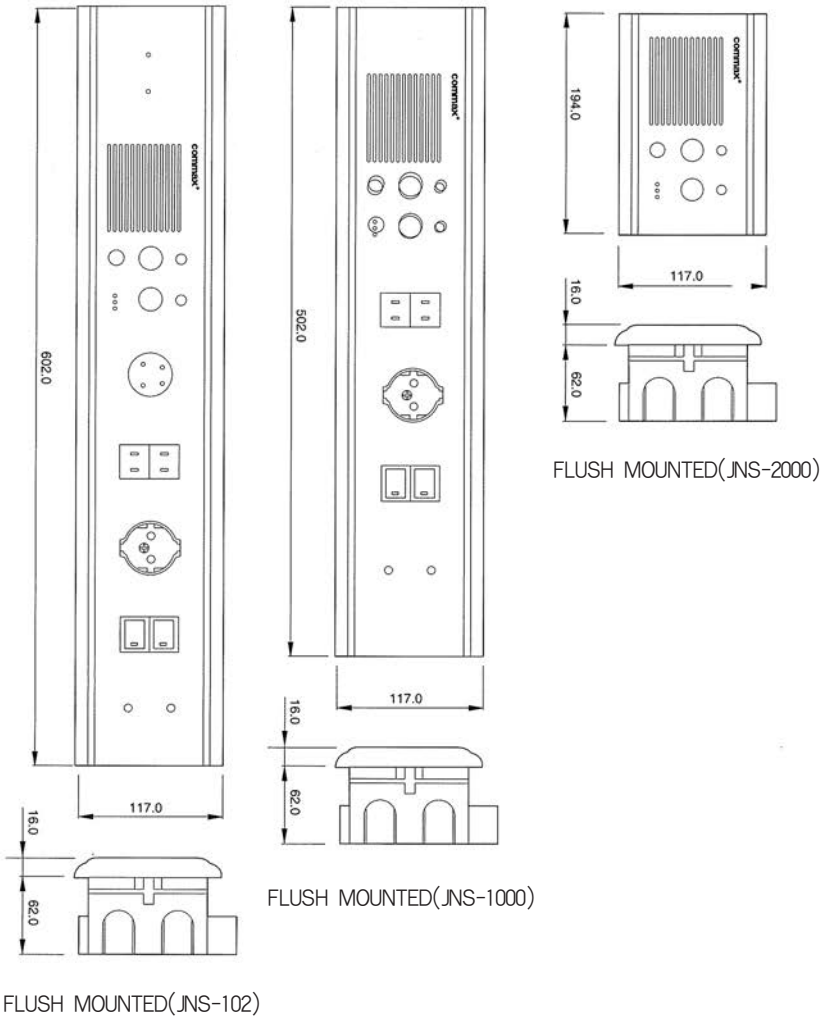
9-5-2. Master Station

9-5-3. DSS

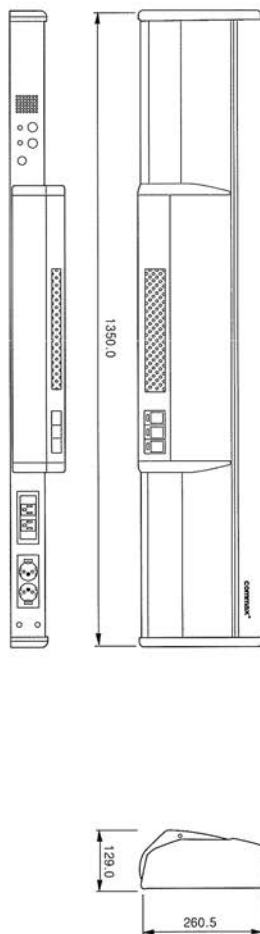




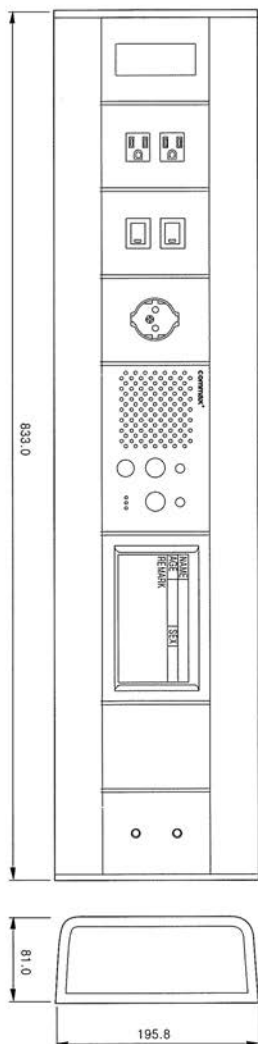
9-5-6. NURSE CALL SUB STATION



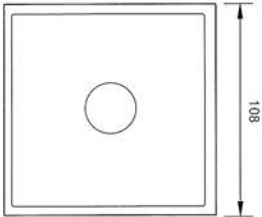
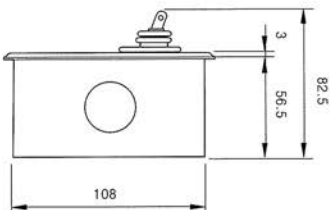
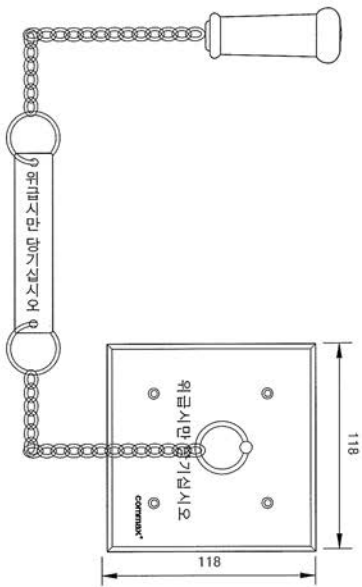
9-5-4, CONSOLE, BED(JNS-9900)



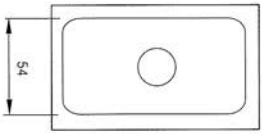
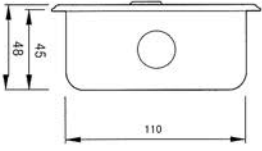
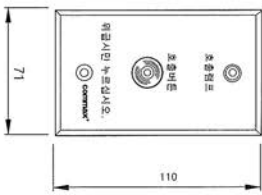
9-5-5, CONSOLE, BED(JNS-3000)



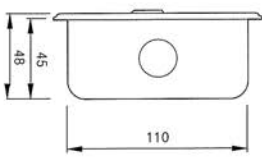
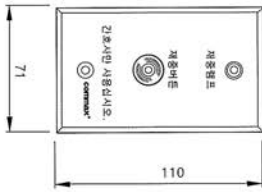
9-5-9. Emergency Switch (Shower room)



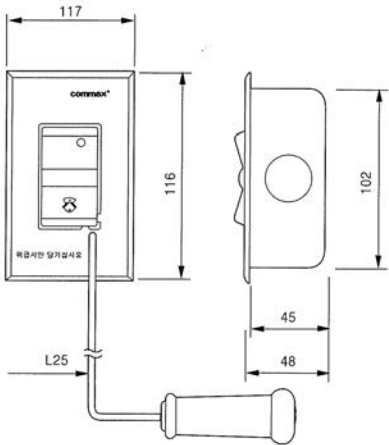
9-5-7. Emergency Switch (Toilet)



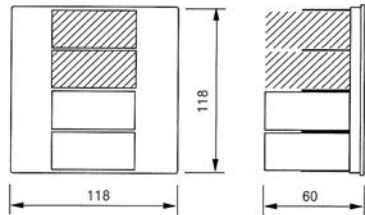
9-5-8. Presence Switch



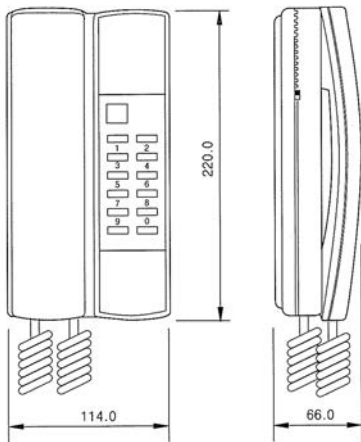
9-5-10. Emergency Switch (Toilet / Pulling style)



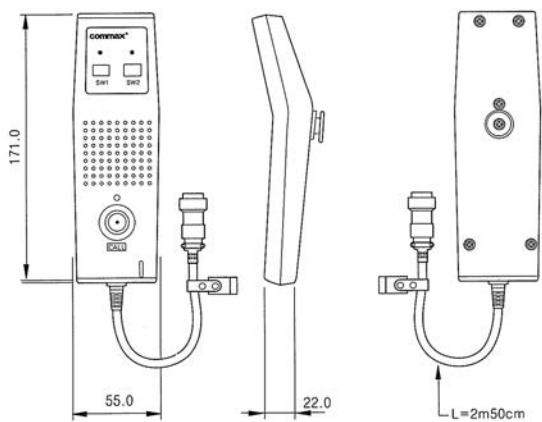
9-5-11. Corridor Light



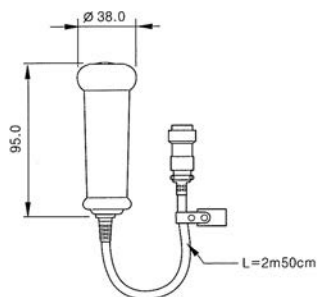
9-5-12. Interphone



9-5-13. Moving Handset



9-5-14. Calling handle





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