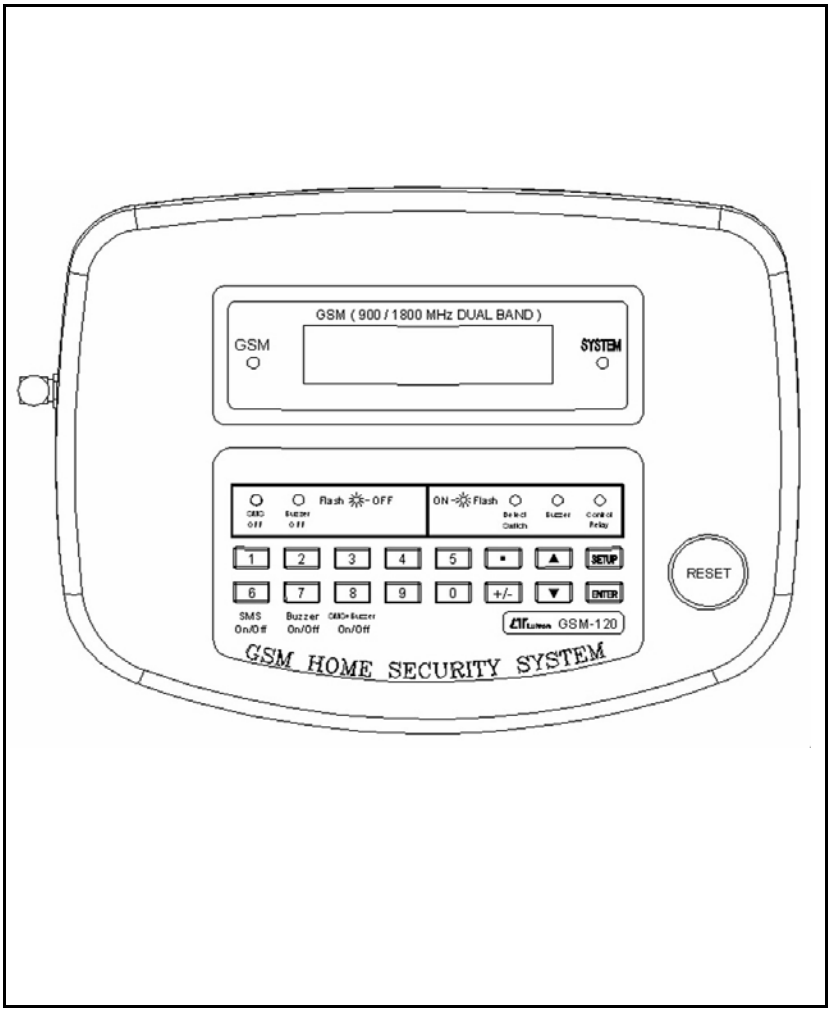
*Cell /Mobile phone home security system*

# GSM HOME SECURITY SYSTEM

Model : BS120



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# 1. FEATURES

* Home security system via GSM mobile phone, no distance limitation.
* If the house is happened the unusual interrupt, user's mobile phone will receive the alarm SMS message immediately.
* Two wireless detect switches ( DS-121, included ), user can install the DS-121 on the door or window easily. When the thief interrupt the house, buzzer will sound and send the SMS alarm message to the mobile.
* Build in alarm buzzer output, wire buzzer is the standard accessory. Wireless alarm buzzer ( WB-122 ) is available as the optional accessory.
* Build in one relay output, user can control ( ON/OFF ) the home electrical equipment via the mobile phone.
* Wireless relay ( WR-123 ) is the optional accessory. When user intend to control the electrical appliance, it is not necessary use the wires to connect the main system if via WR-123.
* Allow to preset three telephone no., alarm SMS will be send to three users in sequence.
* After the SMS command send by mobile phone, the confirm message will be send back to the mobile, safety and no loss.
* SMS delay time, SMS repeat time, buzzer delay time, buzzer repeat time can be preset flexibly.
* Dot matrix LCD display with back light, can display all the system information clearly.
* All setting value will be saved into EEPROM IC, no loss.

* Mobile telephone can call the status of the system.
* Mobile telephone can ON/OFF the alarm function.
* Build GSM mobile modem ( dual band, 900/1800 MHz ).
* Easy operation and installation, can D.I.Y by the user.
* Few and limit SMS command. Intelligent application , innovation, wide range, no limitation.

## 2. APPLICATION

* Home security system.

* Building supervision.

* Industrial security system.

* Remote control the electrical system ( Lighting, Pump, Heater, Refrigerator, Pets feeder.. )

# 3. SPECIFICATIONS

| | |
|---|---|
| DISPLAY | Dot-matrix LCD with back light<br>16 characters x 2 line. |
| GSM Modem | 900/1800 MHz, dual band. |
| LED Indicators | *7 LED Indicators :*<br>GSM indicator<br>System indicator<br>SMS alarm indicator<br>Buzzer alarm off indicator<br>Detect switch indicator<br>Buzzer indicator<br>Control relay indicator |
| Detect Switch Inputs | * Whole system included two " Wireless detect switches " ( DS-121 ) as the standard accessories. User can install DS-121 on the door or window easily. When the thief interrupt the house, the buzzer will sound and send the SMS warning message to the mobile phone.<br>* If need more doors ( windows ) to install the extra " Wireless detect switches ", the DS-121 is offered as the optional accessory.<br>* No number of the DS-121 that can be installed are no limited. Any DS-121 is interrupted, the system will send the warning alarm message to mobile. |

| | |
|---|---|
| Buzzer Output | Buzzer output terminal can connect the " Wire buzzer " ( standard accessory ). When thief interrupt the house, the buzzer will sound. |
| Relay Output | * Build one control relay output ( NO, normal open ) , user can control the home electrical appliance via mobile phone.<br>* Max. load of control relay :<br>1 ACA/250 ACV<br>1 DCA/24 DCV |
| Wireless Buzzer Interface | Can cooperate the " Wireless Buzzer " ( WB-122, optional ). User can hide the main system of BS120 and only present the WB-122 in the obviously place, then the thief will not find the main system ( BS120 ) easily. |
| Wireless Relay Interface | Can cooperate the " Wireless Relay unit " ( WR-123, optional ). User intend to control the electrical appliance, it is not necessary use the wires to connect to the main system if via WR-123. |
| Frequency of Wireless Detect Switch | 433.92 MHz. |
| Standard | CE conformity |
| Operating Temperature | 0 to 50 ℃ ( 32 to 122℉ ) |
| Operating Humidity | Less than 80% RH. |

| | | |
|---|---|---|
| Power supply | Main unit | DC 9V, via adapter in. |
| | Detect Switch | Battery, 006P, DC 9V. |
| Power consumption | Main unit<br>** Buzzer silent* | *GSM module working :*<br>Approx. DC 210 mA |
| | | *GSM module standby :*<br>Approx. DC 125 mA |
| | Detect Switch | *Normal :*<br>No current consumption. |
| | | *Interrupt :*<br>DC 5.8 mA |
| Size | Main unit | 193 x 149 x 46 mm.<br>( 7.6 x 4.9 x 1.8 inch ). |
| | Detect Switch | 110 x 34 x 26 mm.<br>( 4.3 x 1.3 x 1.0 inch ). |
| Weight | Main unit | 500 g ( 1.1 LB ). |
| | Detect Switch | 87 g ( 0.19 LB ).<br>** Included battery* |
| Accessories includes | * Operation manual..... 1 PC<br>* Wireless detect switch, DS-121 ..... 2 sets<br>* AC 100V-240V/DC ( 9V, 1.7A ) power adapter..... 1 PC<br>* Separate Antenna ..... 1 PC<br>* Buzzer with two wires..... 1 PC<br>* Double side stick sponge ..... 2 sets | |
| Optional Accessories | Wireless detect switch, Model : DS-121<br>Wireless Buzzer unit, Model : WB-122<br>Wireless Relay unit, Model : WR-123 | |

# 4. FRONT PANEL & LAYOUT DESCRIPTION

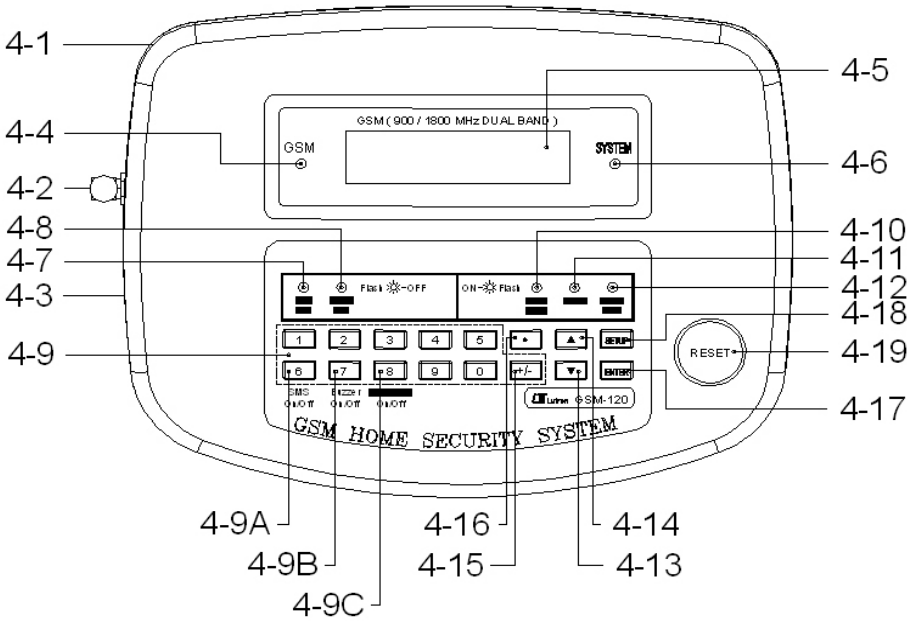



Fig. 1

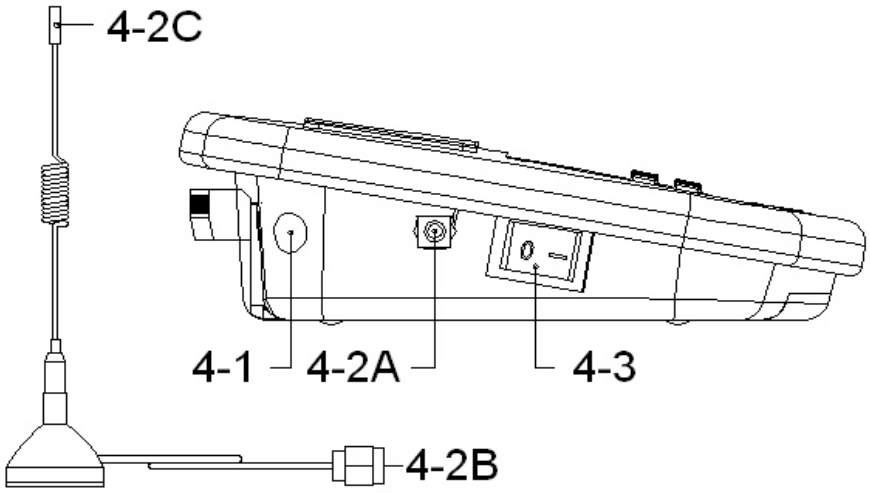



Fig. 2

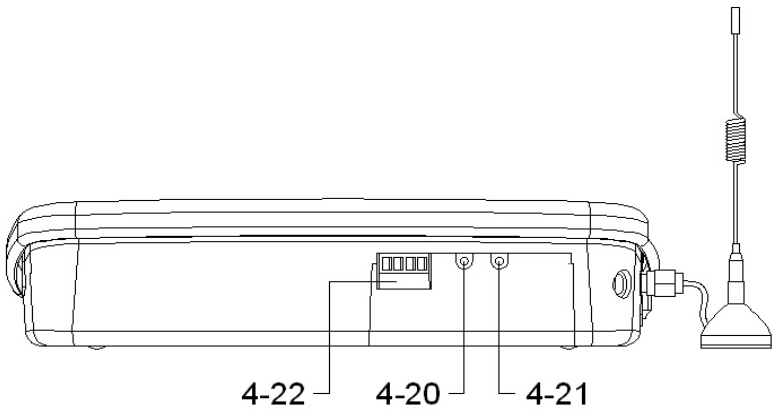



Fig. 3

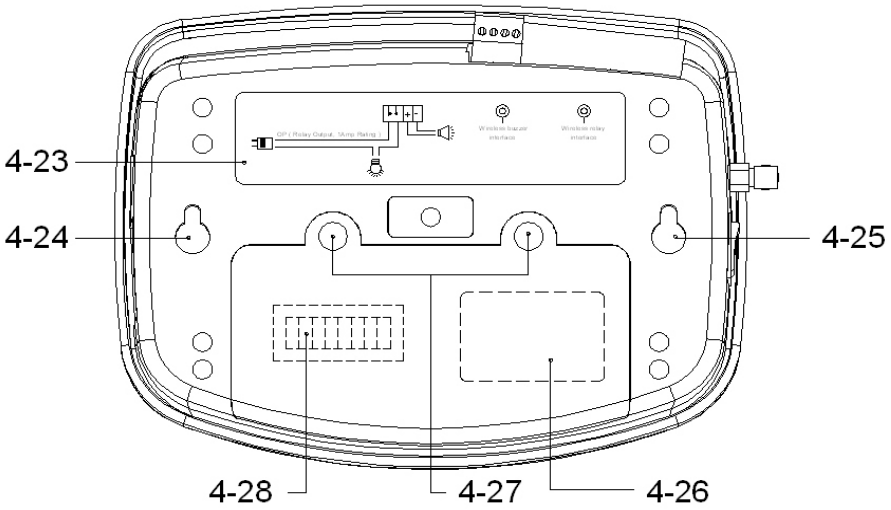



Fig. 4

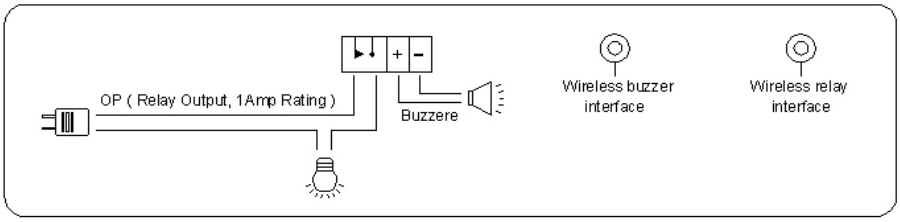



Fig. 5

Connect the " Wire Buzzer " to this terminals, " Red wire " to " + " terminal, Black wire " to " - " terminal.

## Main system

4-1 DC 9V power adapter socket
4-2A Antenna socket
4-2B Antenna plug
4-2C Seperate antenna
4-3 Power ON/OFF switch
4-4 GSM indicator
4-5 LCD display
4-6 System indicator
4-7 SMS alarm indicator
4-8 Buzzer alarm indicator
4-9 Numerical buttons
4-9A SMS Alarm ON/OFF button
4-9B Buzzer Alarm ON/OFF button
4-9C Alarm ON/OFF button
4-10 Detect switch indicator
4-11 Buzzer indicator
4-12 Control relay indicator
4-13 ▼ button
4-14 ▲ button
4-15 + - button
4-16 Decimal button
4-17 ENTER button
4-18 SETUP button
4-19 RESET button
4-20 Wireless buzzer interface terminal
4-21 Wireless relay interface terminal
4-22 Wire terminals ( Buzzer, Relay terminals )
4-23 Terminal instruction label
4-24 Fix hole for wall installation
4-25 Fix hole for wall installation
4-26 SIM card holder
4-27 Screws for the SIM card cover
4-28 Passwords DIP switch of main system.

## DS-121 Detect Switch

4-29 Power indicator
4-30 Low battery indicator
4-31 Power slide switch
4-32 Magnetic sensor
4-33 Battery cover ( DIP switch cover )
4-34 Fix hole for wall installation
4-35 Antenna of DS-121
4-36 Passwords DIP switch of DS-121
4-37 Battery

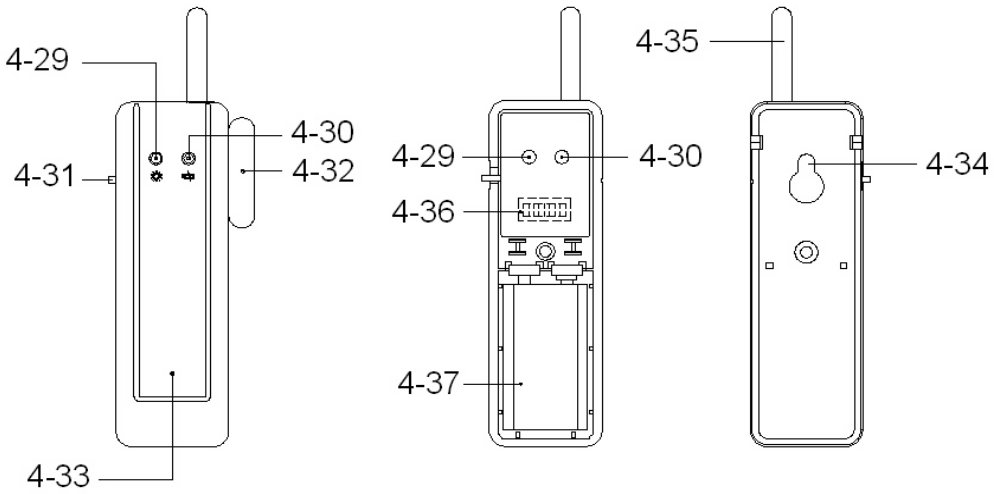
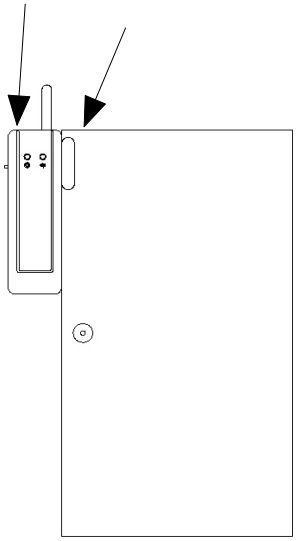
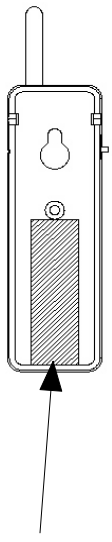



Fig. 6

# 5. BASIC OPERATION PROCEDURES

1) Insert the SIM card into the " SIM card holder ".
   *Refer page 12.*
2) Connect the " Antenna plug " ( 4-2B, Fig 2 ) to the
   " Antenna socket " ( 4-2A, Fig. 2 )
3) Power ON ( 4-3, Fig. 1 ) the main unit.
   Check if the " GSM indicator " ( 4-4, Fig. 1 )
   is under normal condition, refer page 13, page 14.
4) Key in the Tel. Number.
   *Refer page 14, page 15.*
5) Key in the Time value.
   *Refer page 16, page 17, page 18.*
6) Used " Double side stick sponge " ( Attach accessory ) to
   install the Wireless Detect Switch ( main unit and the
   magnetic unit ) on the door or window.





Double side stick sponge

7) Install the DC 9V battery into the Wireless Detect Switch ( 4-37, Fig. 6 ).
8) Connect the Wire Buzzer to the " Wire Terminals " ( 4-22, Fig. 3 )
9) Make sure the " SMS alarm " and the " Buzzer alarm " already set to ON function. ( 4-9A, 4-9B, 4-9C, Fig. 1 )
10) Power ON the Wireless Detect Switch ( 4-31, Fig. 6 )
11) Rest the main unit by pushing the " RESET button " ( 4-19, Fig. 1 ), then leave the home.
12) When arrive home, just push the " ALARM button " ( 4-9C, Fig. 1 ) will OFF the alarm system.

# 6. SIM CARD ACQUISITION and INSTALL

1) Obtain your personal SIM card from the mobile telephone company of your choice.
   You will receive a telephone number and a PIN code with your SIM card.

2) **Cancel the SIM card's PIN code.**
   **( No PIN code when use the SIM card )**

   **The procedures to cancel the PIN code, please use your own mobile to proceed as the instruction manual.**

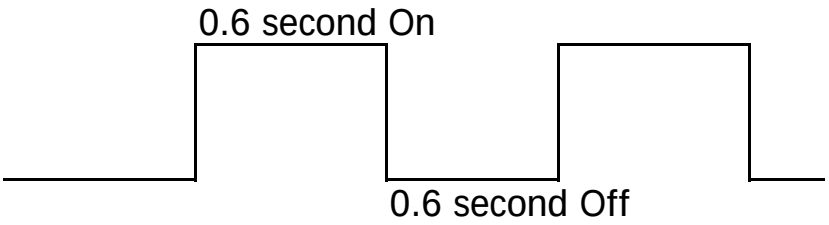
   ***Note :***
   ***To cancel the PIN code is the necessary procedures, otherwise your GSM system will be not working properly.***

3) **To guarantee flawless operation of your GSM Control System, ensure that adequate signal strength is permanently to and from your mobile telephone network. Check this with your mobile before installation.**

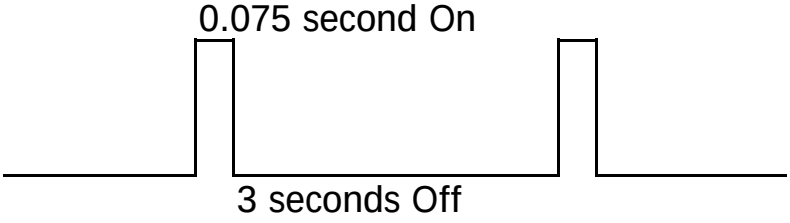
4) Open the SIM card cover by loosing the " Screws for the SIM card cover " ( 4-27, Fig. 4 ). Install the SIM card properly into the " SIM card holder " ( 4-26, Fig. 4 ).

# 7. PREPARING OF OPERATION

1) Install the SIM card, refer page 12.
2) Install the antenna to the Antenna socket " ( 4-2, Fig. 1 ) properly.
3) Connect the plug of the Power Adapter into " DC 9V power adapter socket " ( 4-1, Fig. 1, Fig. 2 )
4) Power on the unit by engage the " Power ON/OFF switch " ( 4-3, Fig. 1, Fig 2 ) to the ON position.
5) LCD display, System indicator and Output indicator :
   * The LCD will lit and count down from 90 seconds back to 0 second then present the SETUP SCREEN ( refer page 14 ).
   * The " System indicator " ( 4-6, Fig. 1 ) will flash ( per 1 second On, 1 second Off ) if the CPU Circuit working properly.
6) GSM indicator ( 4-4, Fig. 1 )
   a. If the GSM modem is not connecting the mobile network, the " GSM indicator " will flash per 0.6 second On and 0.6 second Off.



a. If the GSM modem connect to the mobile network properly, the " GSM indicator " will flash per 0.075 second On and 3 second Off.




# 8. FUNCTION SETUP

## *8-1 TEL ( Telephone )*

Press the " SETUP Button " once, LCD will show SETUP SCREEN

| |
|---|
| **1:TEL 2:TIME** |
| **3:RELAY 4:SAVE** |

SETUP SCREEN

* key in " 1 ", LCD will show

| |
|---|
| **Telephone Num. 1** |
| **+** |

* Use the " ▲ button " to select the " TEL " setting screen ( a. b. c. d. ) as :

a

| **Telephone Num. 1** |
| --- |
| **+** |

TEL 1 SETTING SCREEN

@ Enter the first mobile telephone no.
@ Telephone no. starting with + country code ( For example, Germany is +49, Taiwan is +886, Hong Kong is +852...)
@ For example key in +886919562822

b

| **Telephone Num. 2** |
| --- |
| **+** |

TEL 2 SETTING SCREEN

@ Enter the second mobile telephone no.
@ The procedures are same as the above TEL 1 setting.

c

| **Telephone Num. 3** |
| --- |
| **+** |

TEL 3 SETTING SCREEN

@ Enter the third mobile telephone no.
@ The procedures are same as the above TEL 1 setting.

* If only need one mobile phone to receive warning message, it just key in one telephone no ( Telephone Num. 1 ).
* If need two mobile telephones to receive warning message, it just key in two telephone no ( Telephone Num. 1, Telephone 2 ).
* After finish to key in the desired telephone no. , should key in the " ENTER " button.

* Before finish the " TEL " setting, it should key in " SETUP Button " to return the SETUP SCREEN.

| **1:TEL 2:TIME** |
| --- |
| **3:RELAY 4:SAVE** |

SETUP SCREEN

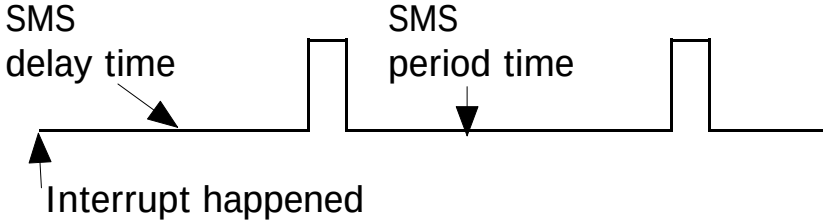
Then key in " 4 " ( SAVE ), LCD will show :

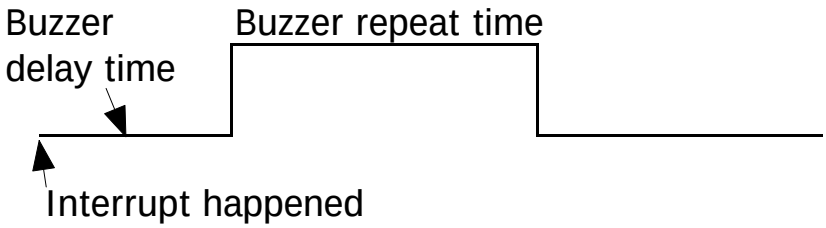
| **Save OK!** |
| --- |
| **SETUP->Exit** |

### *8-2 TIME*

Time setting function is used to set the following time values :

@ SMS delay time
@ Buzzer delay time
@ SMS period time
@ Buzzer repeat time



Press the " SETUP Button " once, LCD will show :

| 1:TEL 2:TIME<br>3:RELAY 4:SAVE | SETUP SCREEN |
|---|---|

## *SMS Delay Time SETTING*

* key in " 2 ", the show the SMS Delay time setting screen :

| SMS Delay :xS<br>(0-99)SEC : | SMS Delay Time SETTING SCREEN |
|---|---|

@ Used the " Numerical buttons " ( 4-9, Fig. 1) to set the desired SMS Delay time is second, then push the " ENTER button " ( 4-17, Fig. 1 ) will entry the new SMS Delay time.

@ The SMS Delay time setting range is 0 to 99 seconds.

## *SMS Period Time SETTING*

* After finish the SMS Delay time setting, push the " ▲ button " , will show the SMS Period Time setting screen :

| SMS Period :xM<br>(1-20)min : | SMS Period Time SETTING SCREEN |
|---|---|

@ Used the " Numerical buttons " ( 4-9, Fig. 1) to set the desired SMS Period time is minute, then push the " ENTER button " ( 4-17, Fig. 1 ) will entry the new SMS Period time.

@ The SMS Period time setting range is 1 to 20 minutes.

## *Buzzer Delay Time SETTING*

* After finish the SMS Period time setting, push the " ▲ button " , will show the Buzzer Delay Time setting screen :

| **Buzzer Delay :xS**<br>**(0-99)sec :** | Buzzer Delay Time SETTING SCREEN |
|---|---|

@ Used the " Numerical buttons " ( 4-9, Fig. 1) to set the desired Buzzer Delay time is second, then push the " ENTER button " ( 4-17, Fig. 1 ) will entry the new Buzzer Delay time.

@ The Buzzer Delay time setting range is 0 to 99 seconds.

## *Buzzer Repeat Time SETTING*

* After finish the Buzzer Delay time setting, push the " ▲ button " , will show the Buzzer Repeat Time setting screen :

| **Buzzer Rep :xM**<br>**(0-99)min :** | Buzzer Repeat Time SETTING SCREEN |
|---|---|

@ Used the " Numerical buttons " ( 4-9, Fig. 1) to set the desired Buzzer Repeat time in minutes, then push the " ENTER button " ( 4-17, Fig. 1 ) will entry the new Buzzer Repeat time.

@ The Buzzer Repeat time setting range is 0 to 99 minutes.

## *Relay Time SETTING*

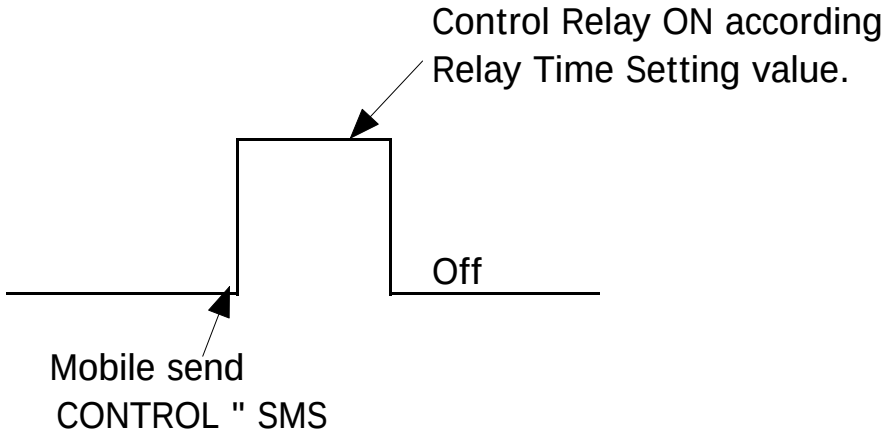
* After finish the Buzzer Delay time setting, push the " ▲ button " , will show the Relay Time setting screen :

| **Relay Time : xx.xM (0.1-99.9) :** | Relay Time SETTING SCREEN |
|---|---|

@ Used the " Numerical buttons " ( 4-9, Fig. 1) to set the desired Relay time in minutes, then push the " ENTER button " ( 4-17, Fig. 1 ) will entry the new Relay time.

@ The Relay time setting range is 0.1 to 99.9 minutes.

@ When mobile send the " CONTROL " SMS ( refer page 23 ), the control relay will be ON ( action ) WITHIN the time according the Relay Time Setting value.



## *Time Default Value SETTING*

If the user intend to entry the Time value as the default value, then after finish the Buzzer Repeat time setting, push the " ▲ button " , screen will show :

| **Set to Default** |
| --- |
| **Press Enter Key** |

Then push the " ENTER button ", ( 4-17, Fig. 1 ) will entry the default time value as follow :

@ SMS delay time = 20 seconds
@ SMS period time = 3 minutes
@ Buzzer delay time = 20 seconds
@ Buzzer repeat time = 5 minutes
@ Relay time = 0.1 minutes

## *Save the Time Setting Value*

* Before finish the " TIME " setting, it should press " SETUP Button " once to return the SETUP SCREEN :

| **1:TEL 2:TIME** |
| --- |
| **3:RELAY 4:SAVE** |

SETUP SCREEN

Then key in " 4 " ( SAVE ), LCD will show :

| **Save OK!** |
| --- |
| **SETUP->Exit** |

### *8-3 RELAY*

Relay setting function is used to set the control relay output is ON or OFF.
Press " SETUP Button " once to return the SETUP SCREEN :

| | |
|---|---|
| **1:TEL 2:TIME**<br>**3:RELAY 4:SAVE** | SETUP SCREEN |

key in " 3 ", will show the RELAY setting screen :

| | |
|---|---|
| **Relay : OFF**<br>**(1) ON (2) OFF** | Relay SETTING SCREEN |

Used the " Numerical buttons " ( No. 1 or 2 ) to set Relay to be ON or OFF, then push the " ENTER button " ( 4-17, Fig. 1 ) will entry the relay condition.

### *8-4 SAVE*

* After the system are already change the data ( value, function ), it should press " SETUP Button " to return SETUP SCREEN.

| | |
|---|---|
| **1:TEL 2:TIME**<br>**3:RELAY 4:SAVE** | SETUP SCREEN |

Then key in " 4 " ( SAVE ), LCD will show :

| |
|---|
| **Save OK!**<br>**SETUP->Exit** |

@ The setting procedures are finished completely, the change data, value and the function will be saved into the memory circuit.

# 9. SMS COMMAND from MOBILE
# SMS CONFIRMATION from SYSTEM
# ERROR SMS COMMAND
# ALARM SMS from SYSTEM

## *9-1 SMS COMMAND from MOBILE*
## *SMS CONFIRMATION from SYSTEM*

***There are 6 types of SMS command that can be send from the mobile are :***

**ALARM-ON**
**ALARM-OFF**
**RELAY-ON**
**RELAY-OFF**
**RELAY-TIME X.X**
**CONTROL**
**CHECK**
**RESET**

### ALARM-ON

SMS command from mobile to set the both
SMS alarm and the BUZZER alarm function are ON
( Available ).

## ALARM-OFF

SMS command from mobile to set the both
SMS alarm and the BUZZER alarm function are OFF
( Disable ).

## RELAY-ON

SMS command from mobile to set the Control
Relay to be ON.

## RELAY-OFF

SMS command from mobile to set the Control
Relay to be OFF.

## RELAY-TIME xx.x

SMS command from mobile to set the value of
Control Relay Time.
Relay time can be se from 0.1 minute to 99.9 minutes.
*For example :*
***RELAY-TIME 9.9*** Relay time set value is 9.9 minutes.
***RELAY-TIME 20.3*** Relay time set value is 20.3 minutes.

## CONTROL

SMS command from mobile to let the Relay ON ( action )
according the above " RELAY-TIME " value
*For example :*
*If the relay time value is 20.3 minute, then when*
*send the " CONTROL " SMS, the control relay will*
be ON within 20,3 minutes.

## CHECK

SMS command from mobile to check details of the system condition.

## RESET

SMS command from mobile to reset the system to the initial condition.

For example, After mobile send the SMS ( ALARM-ON, ALARM-OFF, RELAY-ON, RELAY-OFF, CHECK ) to the system, the mobile will get the SMS confirmation from the system back as similar as following :

| | |
|---|---|
| **Trouble!** → | Show the system is under Trouble ! or Normal |
| **Detect Switch: OFF** → | Show the Wireless Detect Switch condition : ON or OFF |
| **Control Relay: OFF** → | Show the Control Relay condition : ON or OFF |
| **R-Time,Set: xx.x** → | Relay time set value |
| **Buzzer output Silent** → | Show the Buzzer output condition : Silent or Sound |
| **Buzzer Alarm ON** → | Show the Buzzer Alarm status : ON or OFF |
| **SMS Alarm ON** → | Show the SMS Alarm status : ON or OFF |

## RESET

@ SMS command from mobile to reset the system.
@ After mobile send the " RESET " SMS command to the system, the system will not send any SMS confirmation to the mobile, it just to execute the reset function to the system only.
@ After the reset function is executed, the Control Relay output will set to OFF automatically.

### *9-2 ERROR SMS COMMAND*

**If the mobile send the wrong or illegal SMS command to the system, the system will send the following SMS back to mobile to hint operator that the SMS command is wrong :**

***WRONG INSTRUCTIONS !***

### *9-3 CONFIRM SMS from SYSTEM*

If any interrupt from the Wireless Detect Switch the mobile will receive the following warning message as example :

| | | |
|---|---|---|
| **Trouble!** | → | Show the system is under Trouble! or Normal |
| **Detect Switch: ON** | → | Show the Wireless Detect Switch condition : ON or OFF |
| **Control Relay: OFF** | → | Show the Control Relay condition : ON or OFF |
| **R-Time,Set: xx.x** | → | Relay time set value |
| **Buzzer output Silent** | → | Show the Buzzer output condition : Silent or Sound |
| **Buzzer Alarm ON** | → | Show the Buzzer Alarm status : ON or OFF |
| **SMS Alarm ON** | → | Show the SMS Alarm status : ON or OFF |

If mobile send the SMS " RELAY-TIME xx.x " out. mobile will receive the following message for example as :

**Relay Time : 9.9 Min.**

If mobile send the SMS " CONTROL " out., mobile will receive the following message as example :

**CONTROL : Execute**

**Relay time, Balance :**
**9.9 Min.** ⟶ To show relay setting time.

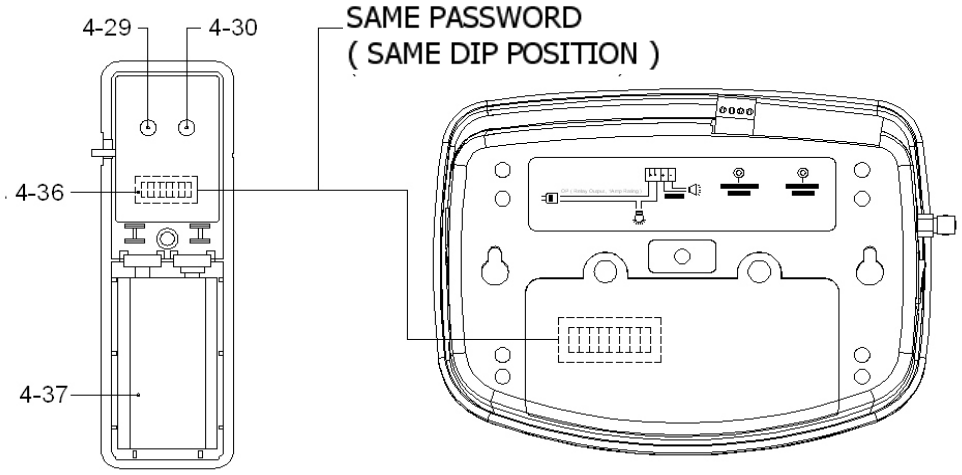
# 10. IMPORTANT OPERATION PROCEDURES & CONSIDERATION

1) The position of

*Passwords DIP switch of main system ( 4-28, Fig. 4 )*
*Passwords DIP switch of DS-121 ( 4-36, Fig. 6 )*

should slide at the same position.

**If the Wireless Detect Switch is interrupted by others, then it should change to the new DIP switch position for both unit.**



2) **If system under normal operation, the LCD display should select to the Regular SCREEN, other wise the system can not accept SMS in or send the SMS out.**

* *Push the " SETUP Button " once again, the LCD will change from SETUP SCREEN to Regular SCREEN alternatively.*
* *If the user do not change to SETUP SCREEN to Regular SCREEN, within certain period the screen will change to Regular SCREEN automatically.*

**a. SETUP SCREEN**

| | |
|---|---|
| **1:TEL** | **2:TIME** |
| **3:RELAY** | **4:SAVE** |

SETUP SCREEN

**b. Regular SCREEN**

***If the LCD already present any Regular SCREEN, it can use the " ▲ Button " or " ▼ Button " to select the following five kinds Regular SCREEN***

1

| | | |
|---|---|---|
| **Buzzer** | **:** | **Silent** |
| **Relay** | **:** | **OFF** |

Regular SCREEN

* *Show Buzzer condition ( Sound /Silent ) and Relay condition ( ON/OFF ).*

2

| | |
|---|---|
| **SMS Alarm :ON** | Regular SCREEN |
| **Buzzer Alarm :ON** | |

* *Show SMS Alarm condition ( ON/OFF ) and Buzzer Alarm condition ( ON/OFF ).*

3

| | |
|---|---|
| **SMS Delay :5S** | Regular SCREEN |
| **SMS Period :3M** | |

* *Show SMS Delay time value and the SMS Period time value.*

4

| | |
|---|---|
| **Buzzer Delay :5S** | Regular SCREEN |
| **Buzzer Rep :1M** | |

* *Show Buzzer Delay time value and the Buzzer repeat time value.*

5

| | |
|---|---|
| **Normal** | Regular SCREEN |
| **Detect SW :OFF** | |

* *Show the system is under Normal or Interrupt condition.*
* *Show the Wireless switch is under ON or OFF condition,*

### *3) RESET Button*

If push the " RESET button " * ( 4-19, Fig. 1 ), the LCD will lit and going on to count down from 90 seconds back to 0 second, then present the SETUP SCREEN.

The " System indicator " ( 4-6, Fig. 1 ) will flash ( per 1 second On, 1 second Off ) if the CPU Circuit working properly.

At the beginning, the GSM modem is not connecting the mobile network, the " GSM indicator " ( 4-4, Fig. 1 ) will flash per 0.6 second On and 0.6 second Off. After the GSM modem already connect to the mobile network properly, the " GSM indicator " will flash per 0.075 second On and 3 second Off.

*Remark :*
*From the mobile to send the SMS command " RESET " will execute the same function exactly as push " RESET button " ( 4-19, Fig. 1 )*

***3)Relay Output terminals***

## *Warning !*

For the long term operation, for each " Relay Output Terminal " ( 4-22, Fig. 3 ), please do not connect the max. load over 1 ACA ( 250 ACV ).

# 11. TROUBLE SHOOTING

1) When the mobile send the SMS command to system, mobile get the following SMS conformation :

   **WRONG INSTRUCTION !**

   ***Corrective action :***
   SMS command entry error ( typing error ) ?
   Repeat the command exactly as the specification, refer page 21, page 22.

2) When the mobile send the SMS command to system, the system do not execute the action as the desired function.

   ***Corrective action :***
   The system may possible not key in the right mobile telephone number?
   Please check and key in telephone no. again.

3) Power on the system, but the " GSM indicator " is not finished.

   ***Corrective action :***
   May the GSM modem is not triggered.
   **Power off, wait at least 10 seconds, then power on. The duration between power Off and power On, should wait at least 10 seconds.**

4) The system do not send the alarm SMS out as the desired.

***Corrective action :***

Check if the system set the alarm function to OFF ( disable ) ?
Setting the ON ( enable ) alarm function again.

5) After power On the system, the GSM modem do not connect to the mobile network ( GSM indicator just flash per 0.6 second On and 0.6 second Off ).

***Corrective action :***

Check if you already cancel the PIN code of SIM card ?
Use your mobile to check the SIM card.
**If the network signal strength is too weak, please use the optional separate antenna to instead the original antenna ( included ).**

6) When the mobile send the SMS command to the system, the mobile do not get any SMS confirmation as desired.

***Corrective action :***

May the LCD SCREEN select to SETTING SCREEN.
Under normal operation, the LCD display should select to the Regular SCREEN, other wise the system can not accept SMS in or send the SMS out.
Refer Page 27.

# 12. OPTIONAL ACCESSORIES

| | |
|---|---|
| Wireless Buzzer<br><br>Model : WB-122 | WB-122 can plug in main system ( 4-20, Fig. 3 ). User can hide the main system ( BS120 ) and only present the WB-122 in the obviously place, then the thief will not find the main system easily. |
| Wireless Relay<br><br>Model : WR-123 | WR-123 can plug in main system ( 4-21, If user intend to control the electrical appliance, it is not necessary use the wires to connect to the main system. |

# ANNEX

Due to intend to let the user to operate the BS120 more friendly, this unit increase the following new function.

***When the LCD already present any Regular SCREEN ( not the SET SCREEN ), if push the Button 0 " then the LCD will count down from 90 seconds back to 0 second. During this counting down period, the main system will halt, the ON/OFF of wireless switch will be not to effect the system, however GSM module will be still working properly ( GSM indicator will flash per 0.075 second On and 3 second Off ).***

Remark :

@ The different between press " Button 0 " and the " RESET Button " are if press the " RESET Button " will reset the system then restart again.
However press the " Button 0 ", just halt the system only.

@ The main application of " Button 0 " are that when the system is ready, if the user intend to leave home, it can just push the " Button 0 " instead of press the RESET Button ", this new operation procedure will be more convenient for the user.