

# MANUAL

# DOOR INTERCOM

## **SS91BV-M / SS1204AV-M GSM / WCDMA INTERCOM (ACCESS CONTROL SYSTEM)**



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**For your protection, read these instructions completely**

**And keep them for future reference.**

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Thank you for purchasing SS91BV-M GSM Intercom. Please read this manual carefully before using.

Be sure to keep this manual for future reference in case of any problem or question should arise.

## **IMPORTANT SAFTY INSTRUCTIONS**

When using this SS91BV-M GSM Intercom, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury. Please read the following before using your equipment.

1. Follow all warning and instructions on the product.
2. Unplug all the connections of product before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
3. Do not use this product near water.
4. Do not use this product near an area where there is a potential of gas leaks or near any fumes that can be explosive.
5. Do not place this equipment near or over a radiator or any other heat source.
6. Do not overload the wall outlet or power cord where the power adapter is installed. This can result in fire or electric shock
7. Avoid spilling liquid on this equipment and do not insert any objects through the ventilation slots.
8. Avoid using the equipment during an electrical storm. There is a remote risk of electrical shock from lighting.

## SS91BV-M GSM INTERCOM INTRODUCTION

The GSM Intercom SS91BV-M is an intercom system, installed at the entrance of a building. It is an ideal product replacing the traditional door phone. It allows you to speak with visitors standing at the entrance of your company or house entrance from a remote location. A visitor, by simply pressing the call button establishes a mobile call with you. During the call you will be able to activate realty.

This SS91BV-M GSM Intercom gives you the opportunity not only to know who is waiting at the entrance from a remote location but also to control the access point. Use of SS91BV-M GSM Intercom at your company or house does not require any special installation and wiring. Simply install the SS91BV-M and connect the door latch and power supply.

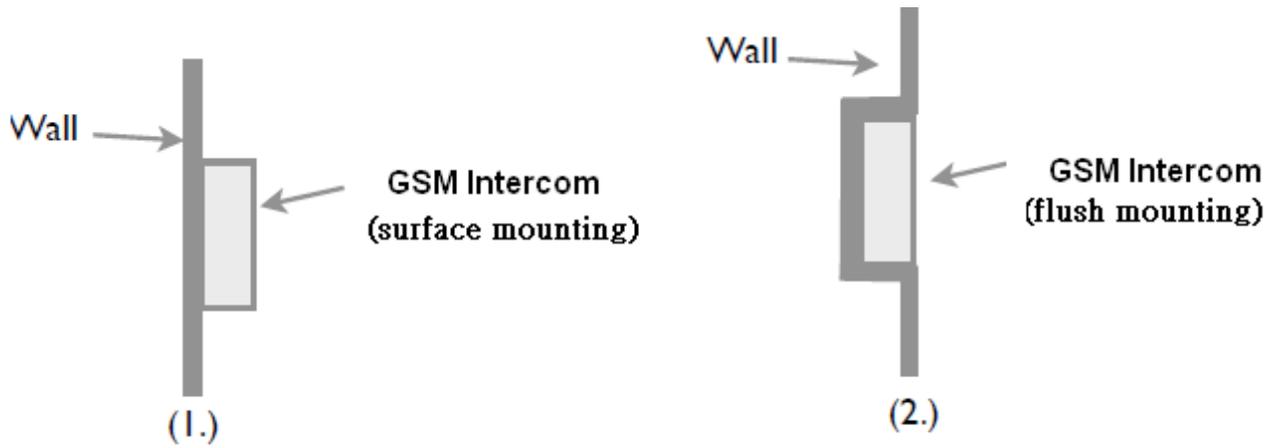
## SS91BV-M GSM INTERCOM WITH ACCESSORIES

Item	Description	Q'ty	Included	Optional
1	SS91BV-M - GSM Intercom	1	⊙	
2	Power adapter	1	⊙	
3	External antenna	1	⊙	
4	Mounting Bracket for antenna	1	⊙	
5	Operational manual	1	⊙	



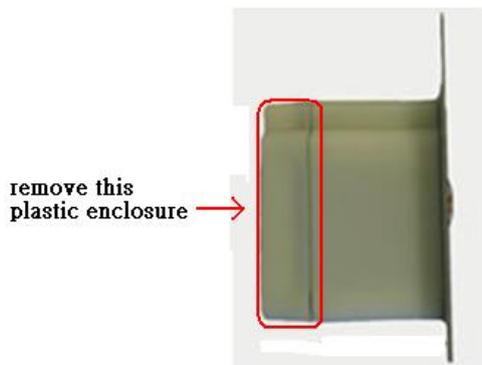
## INSTALLATION

This GSM Intercom is suitable for both flush and surface mounting.

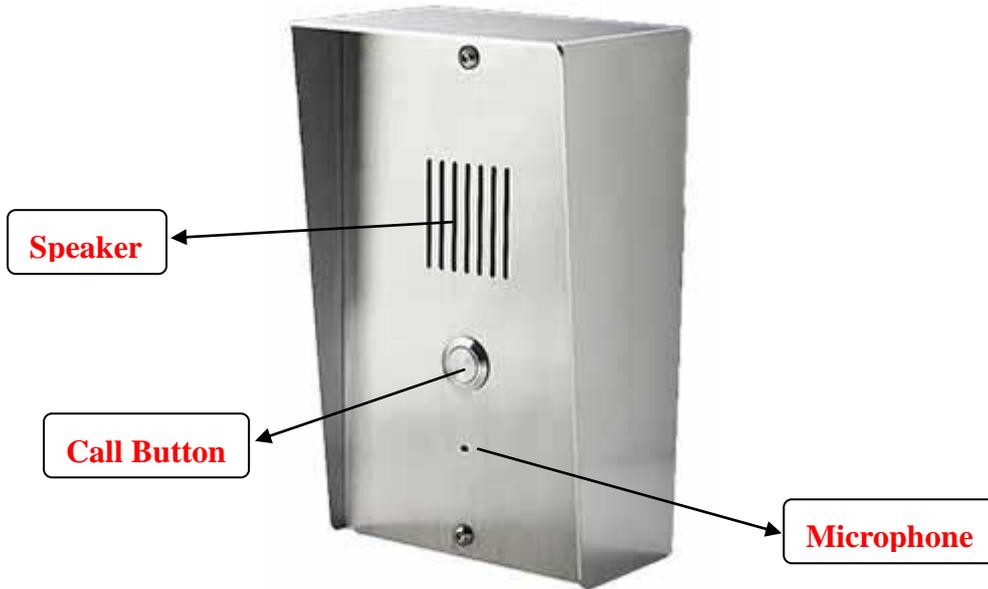


### Note:

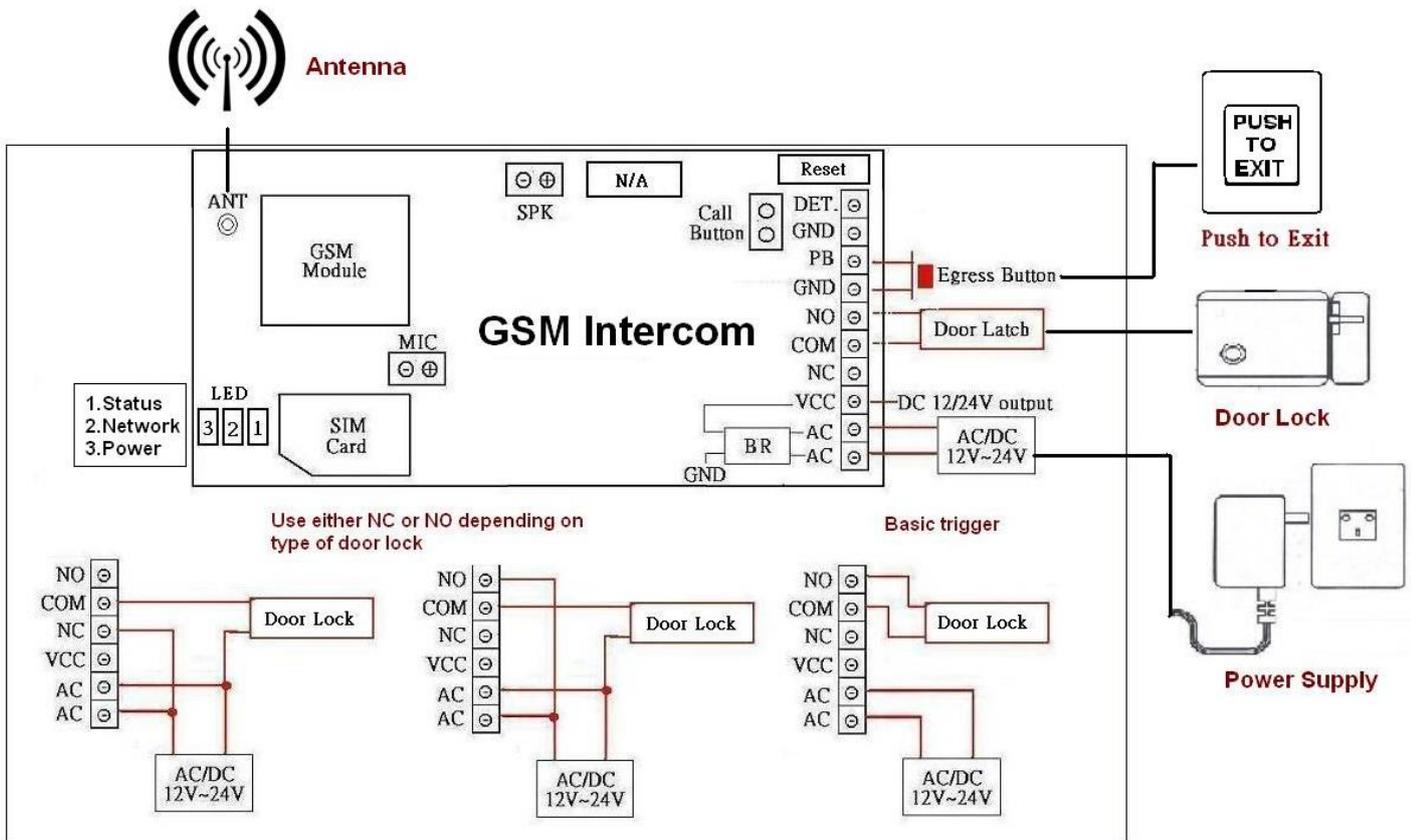
For surface mounting, you will have to remove the plastic enclosure before fitting main station into the stainless steel cabinet.



# SS91BV-M GSM Intercom Unit



## Wiring Diagram



# LED INDICATORS

## 1. LED “Intercom Status “ Indicator

LED	Status
Yellow (standby)	Flashing
Yellow (using)	Solid

## 2. LED ‘Network “Indicator

LED	Status
Green (ready)	Flashes once per 3 seconds
Green (searching)	Flashes once per second
Green (busy)	Solid

## 3. LED “ Power “ Indicator

LED	Status
Red (power on)	Solid
Red (power off)	Off

### 1. SIM card

Register your SIM card with the network, and check it works in a mobile phone

You **MUST** remove the PIN request from the SIM before inserting it in the unit SS91BV-M.

Ensure the power is OFF before inserting the SIM card. Carefully slide the SIM holder in the OPEN direction, insert the SIM, and slide in the CLOSED direction to lock it in place.

### 2. Antenna

Install the antenna as high as possible on the top of the pillar for best possible reception.

### 3. Door Lock

Connect an electric door lock to terminals marked “door latch”.

### 4. Power Supply

Connect a 12 volt DC power supply to terminals marked “AC, AC”

The power supply should be capable of supplying a constant current of no less than 1amp.

### 5. After a final check of wiring , switch on the power

6. Allow 20~30 seconds for the unit to boot up and detect the network. Once successful connection has been made, the unit will sound a confirmation tone and the status LED will begin flashing.

## **SS91BV-M GSM INTERCOM OPERATION**

When the visitor pushes the call button to activate the SS91BV-M ring tone will be heard from the GSM intercom. At the same time connection is established with the phone number that is stored in the SS91BV-M. If the first number is busy or not answered the call can be diverted to the second and the third.. The remote phone answers the call from SS91BV-M and starts conversation with the visitors. During conversation press \* on your mobile for door open. The relay switches can also be temporarily or permanently switched on or off by press # and 1.

### **Enter system menu**

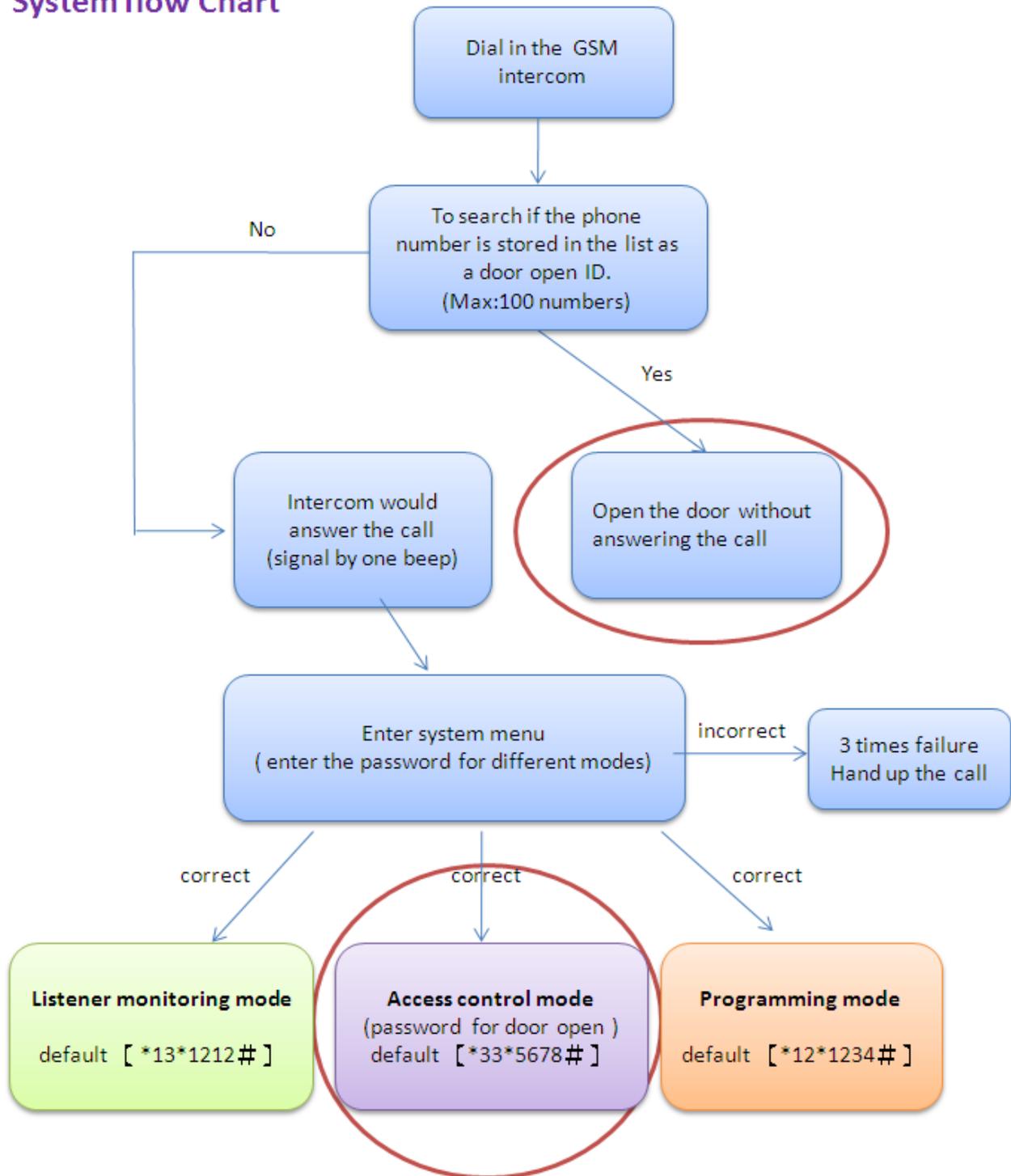
There are three different modes under system menu.

1. Listener monitoring mode
2. Access control mode
3. Programming mode

To gain access to the system menu via dial in, follows these steps:

1. Call the telephone number of the GSM intercom
2. Wait for the intercom to answer and signal by one beep to enter system menu
3. Enter the password of the mode you would like to enter
4. Password correct one beep, password error 3 beeps.
5. 3 times failure attempt on password , hang up the call

## System flow Chart



### **Enter Listener Monitoring Mode**

1. Call the telephone number of the GSM intercom
2. This device will then verify your phone number with your predefined numbers.
3. You will hear a “Do” tone to enter listener monitoring mode by pressing **【\*13\*1212#】** where 1212 is the password.
4. You are now in the “listener monitoring mode”.(you can hear the live sound of the intercom’s surrounding environment)

\* Under this mode speaker is OFF.( **35# : turn on speaker** )

\* You can still control the relay output when you are under listener monitoring mode but speaker must be ON status.

### **Enter Access Control Mode**

1. Call the telephone number of the GSM intercom.
2. This device will then verify your phone number with your predefined numbers.
3. You will hear a “Do” tone to enter access control mode by pressing **【\*33\*5678#】** where 5678 is the password.
4. The door will be opened after enter the correct password

\*(To open the door by password, if the number is not stored in the access control section)

### **Enter Programming Mode**

1. Call the telephone number of the GSM intercom
2. This device will then verify your phone number with your predefined numbers.
3. You will hear a “Do” tone to enter into programming mode by pressing**【\*12\* 1234#】**where 1234 is the password.
4. You are now in the “programming mode”

**Note: At the end of each command there can be one of the two indications:**

**Successful: a long “beep” tone, failed: three short “beep” tone.**

5. To make changes on settings please refer to the user commands.(P15,16)
6. To end programming mode just hang up.

NOTE:

**\*To be successful in programming, originate a call from a land line and enter the digits slowly or using programming by text message.**

## Programming

Programming can be carried out either by dial into the GSM intercom or by text message  
(Certain programming feature can only be set up by text message, please refer to user commands P.15)

### Programming by text message

Programming by text message is the simplest way to customize the settings of the GSM intercom and add or delete telephone numbers. Simply send texts in the format to the telephone number of the SIM within the GSM intercom.

#### Note:

1. A Single SMS text messages is limited to 140 characters.
2. You can program many different user command codes in one text message with SMS command format. **\*12\*1234 # [command Code1] # [command Code 2] # [command Code3] #.....**
3. Each SMS must start with the pass code , default 1234 in the following format **\*12\*1234 #**  
Followed immediately by a command.
4. To program a call button numbers DO NOT enter country code, just the complete number as you would dial it.

#### Example:

Storing a call button phone number (Max 3 numbers) and delete 2&3 phone numbers.(Refer to user commands P.16)

058 57235 (landline number 1)

086 5682554 (mobile number 2)

086 2235644 (mobile number 3)

**Command to use: \*12\*1234#1[ Y][ phone number]#**  
Y= number 1, 2 or 3

SMS format: (storing a call button phone numbers)

\*12\*1234#1105857235#120865682554#130862235644#

SMS format: (delete 2&3 phone numbers from a call button)

\*12\*1234#12\*#13\*#

#### User command code CORRECT

SMS format:

\*12\*1234#1105857235#120865682554#130862235644#

SMS reply:

1105857235#120865682554#130862235644# OK

#### User command code ERROR (user command 19 error)

SMS format: \*12\*1234#1105857235#190865682554#130862235644#

SMS reply: 110587235#190865682554# Error

## Programming by dial in

Note: programming dial in can't be used from telephones which are already programmed to open the door when they dial the GSM intercom but you can disable Caller ID display (withhold the number) on the mobile before using.

To gain access to the programming mode via dial in, follows these steps:

### Example:

Storing a telephone number for dial in door release

Enter Programming Mode by Pressing.....

**\*12\*1234#** (1234 is default password)

A successful pass code will produce a single long beep. A failed attempt will produce 3 short beeps.

You may now program up to 100 telephone numbers into memory.

Use the following commands to program the unit

- \* Insert international country code (1~3 digits): **71 [ country code] #**
- \* Add a number (up to 100 numbers):**72 [ telephone number] #**
- \* Delete a number: **73 [ telephone number ] #**
- \* Delete all numbers: **73\*#**

## Door /Gate Release (ring in to open)

This GSM intercom also has an extra feature to allow user to gain access from their mobile phone by two methods.

1. Caller ID recognition
2. by access control password mode

### 1. Caller ID recognition to open

Ring in to open the door for authorized telephone number. It can support for up to 100 users.

When GSM Intercom receives a call from user, it will check the calling number and if the number is in the list, the GSM Intercom will drop the call and then open the gate / door. The GSM Intercom doesn't answer the call, it simply checks the caller ID, and so it won't cost you anything to open the gate / door.

**For Caller ID recognition to open the door or gate you need to program the mobile numbers and country code into the memory before using.**

**Example:**

Ireland Country code: 353 (UK: 44 / USA: 1)

086 5683624 (mobile number 1)

086 5682554 (mobile number 2)

086 2235644 (mobile number 3)

**Command to use: \*12\*1234#71[country code]#72[ phone number] #72[ phone number] #...**

SMS format:

\*12\*1234#71353#720865683624#720865682554#720862235644#

**To delete phone numbers of dialing in to open**

SMS format: (to delete phone number 1 and 2)

\*12\*1234#730865683624#730865682554#

SMS format: (to delete all numbers)

\*12\*1234#73\*#

After the numbers are programmed you can also send the text message to check the stored numbers by sending SMS format \*21# , then the GSM intercom will reply the phone number list text message.

**2. Access control password to open**

Dial the SIM card telephone number. The unit will answer the call and you will hear a bleep tone.

To trigger door by pressing \*33\*5678#

To latch or hold open door by pressing \*34\*5678#

To unlatch door by pressing \*35\*5678#

\*Above operation same as sending SMS commands

\*This is for door open option for telephone numbers not stored.

## Check GSM signal strength (0~31 levels)

When a request for GSM signal strength SMS is sent to the GSM intercom it will reply with a signal strength code and service provider name. The code will be between 0~31 means the signal level is from poor to best.

Example:

SMS format \*20#

SMS reply: Vodafone Signal Level = 31 【Signal is very strong】

## Check Relay Status

You can send SMS command code to check relay status.

SMS format \*22#

SMS Reply Relay=ON Detect = ON 【Relay=Hold , Detect=GND】

Remark:

Terminal mark” Detect” (see wiring diagram) is for you to connect a door reed switch. The gates would have a reed switch wired through the” DET” input to ground. It’s used by the user to check if the gates are open or closed.

## Administrator Number

Once the administrator number is stored, the unit will only accept programming from this number and only via SMS programming.

Example:

Program a mobile number as an administrator number via SMS

Mobile number: 0865682554

Command to use \*12\*1234#74 [Admin number]#

SMS format \*12\*1234#740865682554#

To delete the Admin number \*12\*1234#74\*#

## Check A Log Of Dial In And Dial Out Numbers Via E-mail Or SMS

This system allows you to save dial in numbers record and will then automatically send the record via e-mail or SMS as your request.

There is a list of commands you need and examples to guide you on the settings for this feature. Please setup following required parameters and commands before you can use it.

**NOTE:** G-mail doesn't support this feature.

o.	Function	SMS command codes
1	Auto sending dial in numbers record	*12*1234#83[N]# N= 0 (sending when it reaches 100 numbers)- default N=1 (sending when it reaches 200 numbers, Max)
Sending record when it reaches 100 numbers. / command code example: *12*1234#830#		
2	Way of sending dial in numbers record via e-mail or SMS	*12*1234#84[N]# N=0 (no saving /sending record) N=1 (via SMS, 4 numbers /SMS) N=2 (via E-mail)
Sending record via email / command code example: *12*1234#842#		
3	GPRS parameters setting	*40*1234#APN, auth_type,user name,password# auth_type: 0= none / 1= PAP / 2= CHAP
Command code <u>*40*1234#internet,0,,#</u> (auth_type = 0 (no need for user name and password)) Example: <u>pass code</u> <u>APN</u> <u>auth_type =0 (none)</u>		
4	E-mail parameters setting ( Doesn't support Gmail)	*41*1234#SMTP server,port,user name, password, e-mail address, e-mail sender name#
Command code <u>*41*1234#gainwise.com,25,gainwise,5826,gainwise@gainwise.com,gainwise#</u> Example : <u>pass code</u> <u>SMTP server</u> <u>Port</u> <u>user name</u> <u>PD</u> <u>email address</u> <u>sender name</u>		
5	Recipient & Carbon copy settings	*42*1234# recipient e-mail address, recipient name, carbon copy e-mail address, carbon copy name#
Commande code example: <u>*42*1234#michael@gainwise.com,MICHAEL,ivy@gainwise.com,IVY#</u> (complete setting) <u>pass code</u> <u>recipient email address</u> <u>recipient name</u> <u>carbon copy email address</u> <u>carbon copy name</u> <u>*42*1234#michael@gainwise.com,ivy@gainwise.com,#</u> (recipient/carbon copy name can be omitted) <u>pass code</u> <u>recipient email address</u> <u>carbon copy email address</u> <u>*42*1234#michael@gainwise.com,MICHAEL,,#</u> ( carbon copy can be omitted) <u>pass code</u> <u>recipient email address</u> <u>recipient name</u>		

No.	Function	SMS command codes
6	E-mail subject setting	*43*1234# e-mail subject#
Command code Example: <u>*43*1234#</u> <u>dial in numbers record#</u> <span style="color:red">pass code</span> <span style="color:blue">email subject</span>		
7	To immediately send current dial in numbers record via email or SMS	*44*1234# SMS reply: successful or failed
8	Check parameters setting	*4[N]*1234# N=0 ( reply GPRS parameters) N=1 ( reply e-mail parameters) N=2 ( reply recipient & carbon copy) N=3 ( reply e-mail subject)
Check GPRS parameters setting / Command code example: *40*1234#		
9	Mobile number for receiving dial in numbers record via SMS	*12*1234#85[mobile No.]#
10	Delete mobile number for receiving dial in numbers record via SMS	*12*1234#85*#
11	SIM card number of SS91BV-M for Clock date and time correction	*12*1234#86[ SIM No of SS91VB-M]#
12	To delete SIM card number of SS91BV-M for Clock date and time correction	*12*1234#86*#
<p><b>Remark: why you need to setup the number for system time clock date and time correction?</b></p> <p>This device has a time clock and supports automatically updating their date and time via NITZ information from network. In case some of the networks are not available for NITZ information, we strongly suggest to setup this clock date and time correction. When the device detects NITZ information is not available from the network will automatically send a command to itself via the SIM card of SS91VB-M for time correction which will keep your “ <b>dial in numbers record</b>” with correct date and time.</p>		

Log Example:

```
001@13/02/23,13:16:31- I 0982384664
002@13/02/23,13:16:43- I 0982384663
003@13/02/23,13:16:53- O 0982437053
004@13/02/23,13:17:14- O 0926251767
005@13/02/23,13:17:46- I 0982384663
006@13/02/23,13:17:59- I 0982384664
007@13/02/23,13:18:06- O 0926251767
008@13/02/23,13:18:25- O 0982437053
```

NO.

date

time

phone number

I : Dial in number / O : Dial out number

### To gain access to the different modes and control relay (by dial in)

No.	Function	command	Description	Default
1	Enter Programming Mode	*12* [ password ] #	Programming by calling	1234
2	Enter Monitoring Mode	*13* [ password ] #	To hear the surroundings where the intercom installed	1212
3	Enter Access control Mode (Trigger relay)	*33* [ password ] #	Password mode access option	5678
4	Hold Relay	*34* [ password ] #	To hold relay to keep door opened	5678
5	Release Relay	*35* [ password ] #	To release relay for door close	5678

### User commands to check system info & control relay via SMS

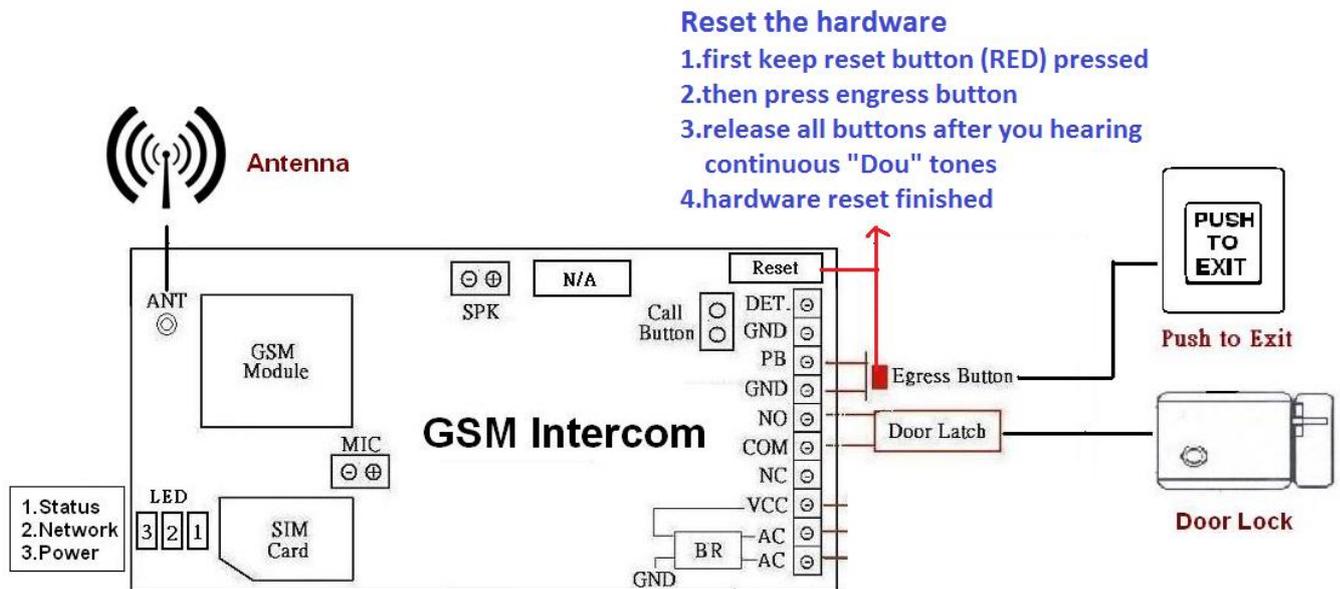
No.	Function	Command	Reply
1	check signal strength	*20#	Signal Level 0~31 from poor to best Service provide name, network
2	Check stored numbers	*21#	O [ number]...,I [ number]....E (N) O : call button numbers list I : dial in to open numbers list E : End N : Next SMS
3	Check relay status	*22#	Relay [ status],Detect [ status ] Status: ON / OFF
4	Trigger relay	*33* [ password ] #	No reply (default password:5678) (Latch on when relay is on hold status)
5	Hold relay	*34* [ password ] #	No reply (default password:5678)
6	Release relay	*35* [ password ] #	No reply (default password:5678)
	• SMS data error	(Only 0~9 、 * 、 # are available)	SMS Data Error
	• Function code error		Function Code Error

## User commands table

You can program many different user command codes in one text message with SMS command format. \*12\*1234 # [command Code1] # [command Code 2] # [command Code3] #.....

No.	Feature	Command	Description	Default
1	Change programming Password	01 [ password ] #	password:4 digit codes	1234
2	Change access control password	02 [ password ] #	password:4 digit codes	5678
3	Change monitoring mode password	03 [ password] #	password:4 digit codes	1212
4	Store a call button phone number	1 [ Y ] [ phone number ] #	Y= phone number 1,2 or 3 Max 3 phone numbers phone No.:3~15 digit codes	None
5	Delete a call button Phone number	1[ Y ]*#	Y= phone number 1,2 or 3 phone No.:3~15 digit codes	None
6	Speaker Volume	3 [ speaker volume] #	speaker volume level:0 ~ 4	3
7	Microphone Volume	4 [ microphone volume] #	microphone volume level:0 ~ 4	3
8	Relay Time	51 [ relay time ] #	relay time: 1~9999 sec	1
9	Call no answer time and divert to next number	52 [ no answer time ] #	No answer time :10~99 sec	20 sec
10	Max call Time	53 [ max call time] #	Max call time:005~999 sec	060 sec
11	Max monitoring time	55[ duration time] #	duration time:00 ~ 60 mins 00 ( no limit)	10 mins
12	Change relay trigger code	61 [ X ] #	X=0~9 / * / #	*
13	Change rely hold code	63 [ X ] #	X=0~9 / * / #	#
14	Change relay release code	64 [ X ] #	X=0~9 / * / #	1
15	Ring in to open the door (Max: 100 numbers)	71 [ country code ] # 72 [ phone number ] # 73 [delete phone number ] # 73*#	Country code:1~3 digit codes Number: 3~15 digit codes Delete number: 3~15 digit codes Del all phone numbers	886
16	Add administrator phone number	74 [ admin number ] #	admin number: 3~15 digit codes ( no number no restriction)	None
17	Del administrator phone number	74*#	delete administrator phone number	None
18	Reset	999#	reset default	None

# How To Reset The Hardware When You Forget your Password



## SPECIFICATION:

Operating Voltage	12 to 24 Volt AC/DC
Operating Current	Maximum 250 mA, Typically 55mA
GSM / WCDMA Module	Cinterion / Simcom
GSM / WCDMA Frequency	GSM 850/900/1800/1900 Mhz, WCDMA 850/1900 or 900/2100 Mhz
Physical size	Face plate: 170 x 100 mm, Stainless cabinet: 174 x 113 x 65 mm
Length of antenna	3 meters cable
Humidity	Less than 80% RH
Operating Temperature	-20°C to 50°C

# Quick programming via SMS

## Program a call button phone number. (Max 3 numbers)

Note: To program a call button numbers DO NOT enter country code, just the complete number as you would dial it.

**Command to use: \*12\*1234#1[Y][ phone number]#**

Y= number 1, 2 or 3

Examples:

058 57235 (landline number 1)

086 5682554 (mobile number 2)

086 2235644 (mobile number 3)

SMS format: \*12\*1234#1105857235#120865682554#130862235644#

## Program a phone number for dial in door release (Max 100 numbers)

Note: Program a phone number for dial in door release you NEED TO enter country code

**Command to use: \*12\*1234#71[country code]#72[ phone number] #72[ phone number] #72[ phone number] #.....**

Example:

Ireland Country code: 353 (UK: 44 / USA: 1)

086 5683624 (mobile number 1)

086 5682554 (mobile number 2)

086 2235644 (mobile number 3)

SMS format: \*12\*1234#71353#720865683624#720865682554#720862235644#

## Operation

When intercom calling your phone and you have answered the call...

Press \* to open

Press # to hold open

Press 1 to release again.

## Sending SMS commands

\*33\*5678# (momentary trigger relay)

\*34\*5678# (hold relay)

\*35\*5678# (release relay)

\*20# (check reception level of intercom)

\*21# (check stored number. The unit will reply with list of stored numbers. I= dial in / O= dial out )

\*22# (check gate / door status)

# Troubleshooting (Q &A)

**.Q. The unit powers up but there is a bleeping from the door station.**

A. This means the unit is not able to detect the network for some reason.

-Check the SIM card is activated and has calling credit.

-Power off the unit, remove the SIM and check it in a mobile phone to verify it can make a call.

-Check the SIM does not ask for a PIN code when put in a phone. If it does, then disable the PIN code request.

-Check the SIM is a standard GSM SIM, not 3G or 4G only SIM. If you are unsure, contact your SIM card provider to verify. Frequency of operation should be any one of the international quad band standards, 850 / 900 / 1800 / 1900 MHz

-Check the reception is good. Poor reception is not sufficient.

-Check the antenna has been mounted as high as possible, not near large metal objects, or wet green shrubs etc.

-Check the antenna connection. Visually inspect that the centre pin inside the antenna is intact, and has not been pushed back inside the fitting.

**Q. The unit calls the first number, but there is not enough time to answer before it diverts to the next number.**

A. Increase the no answer time as per programming instructions.

**Q. The unit calls the first number but voicemail comes on before it can ring the second number.**

A. Decrease the no answer time as per programming instructions.

**Q. The caller ID part does not work.**

A. Be sure to program the caller ID part under 72 feature. If your number is a private or number withheld, then it will not work.

Even if you have already programmed a number to receive a call from the intercom, if you also want that number to have caller ID access, it must be programmed under the 72 feature also.

Ensure the number is entered as you would normally dial it from another phone.

**Q. There is no audio from the gate, but the person at the gate can hear ok.**

A. This can be due to low reception.

-Check reception level by \*20#.

-Change SIM card if necessary to another network which may have better coverage.

-Purchase a high gain antenna.

**Q. The audio quality that can be heard on the remote telephone is poor or humming (buzzing).**

A. A small amount of GSM buzz can be considered normal on GSM intercoms, but not so much that causes inability to hear the person speaking. This can be caused by the GSM antenna being mounted too close to the speech panel or not mounted high enough.

-Try earthing the speech panel chassis to 0V of the power supply.

-This is also a symptom of poor reception. Try above steps on checking and improving reception.

**Q. The \* or # key does not work when the intercom calls a phone.**

A. Check if you can hear the relay clicking at the gate when the \* or # key is pressed during a call. If it can be heard, then the system is working, check wiring between the relay and the lock or gate panel. If the relays do not make a clicking sound, then check this feature on a different mobile cell phone or landline. If it works on a different phone, check the settings on the phone in question under DTMF tones. Failure of DTMF tones to operate correctly is also a symptom of low reception. Check steps above on improving reception. Try pressing the buttons longer when attempting to activate the gates or door.