

Installation & User Manual For  
**Cell Switch *Prime***



GSM Cellular Gate opener and GSM alarm signalling device.

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## Overview of System

Please read this entire manual before attempting to install this system.

This system should only be installed by a professional automatic gate installer or access control specialist dealer.

It is recommended that the system be set up, configured, commissioned and tested on a workshop bench **before** taken to site for installation.

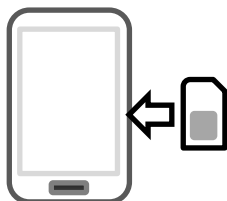
## Site Survey

Before installing this system, you need to be sure that there is good mobile GSM cell coverage in the area it is to be installed. It is recommended that you conduct a site survey, and check reception on the site for a GSM network. If reception is poor in the area, then this system is not recommended.

**\*INSECT INGRESS WILL INVALIDATE WARRANTY\***

## SIM Card

You will need a SIM card in order to use this system. It should be a regular voice and SMS text SIM card. Do not use a data only SIM, as this is only for tablets and will not work in the unit.



- 1) Ensure the SIM has calling credit, and can make and receive calls on a mobile cell phone.
- 2) Check that the SIM is not locked to a phone and can be used in other devices.
- 3) Check that the SIM does not have a PIN code request.
- 4) Disable voicemail service on the SIM.
- 4) You are now ready to begin programming.

## Power

**TIP: Most technical calls received are due to installers using CAT5 or alarm cable to power the unit. Neither are rated to carry enough power (2 amp peak). Please use following cable...**

- Up to 2 metres (6 feet) – Use minimum 0.5mm<sup>2</sup> (18 gauge)
- Up to 4 metres (12 feet) – Use minimum 0.75mm<sup>2</sup> (16 gauge)
- Up to 8 metres (24 feet) – Use minimum 1.0mm<sup>2</sup> (14 gauge)



### **WARNING**

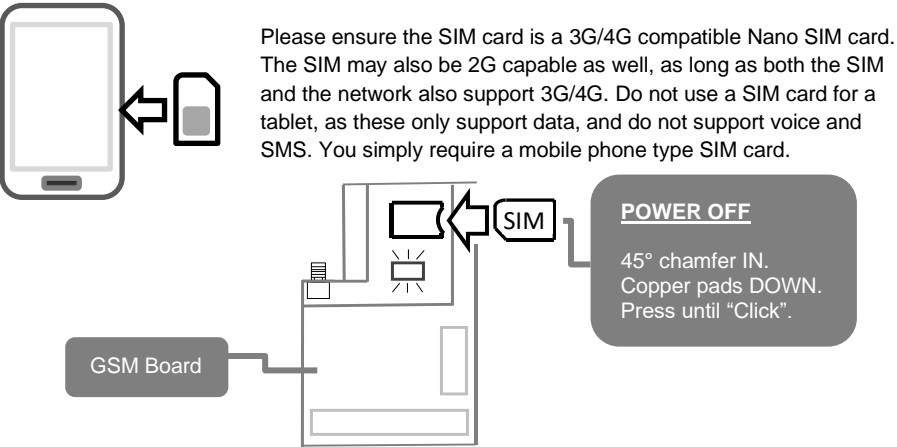
Warranty VOID if power cable requirements are not followed!

Using insufficient power cable thickness will cause excessive stress on electronic components, and therefore void the manufacturer's warranty.

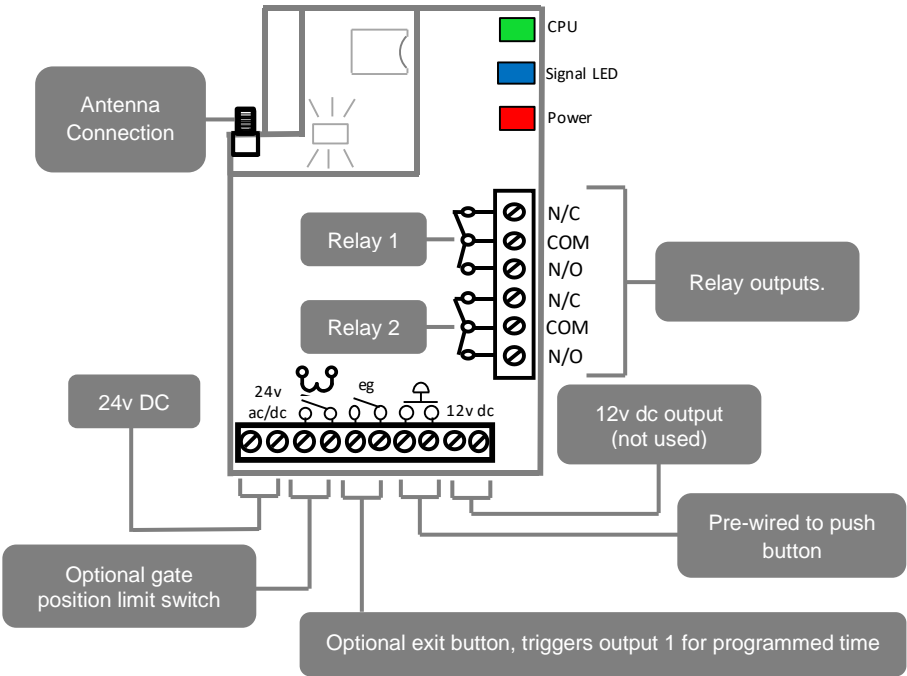
To avoid such problems it is recommended (and is good practice) to locate the power supply as close to the device as possible. This avoids power cable noise and interference and enhances the lifetime of the product.

## Inserting the SIM card

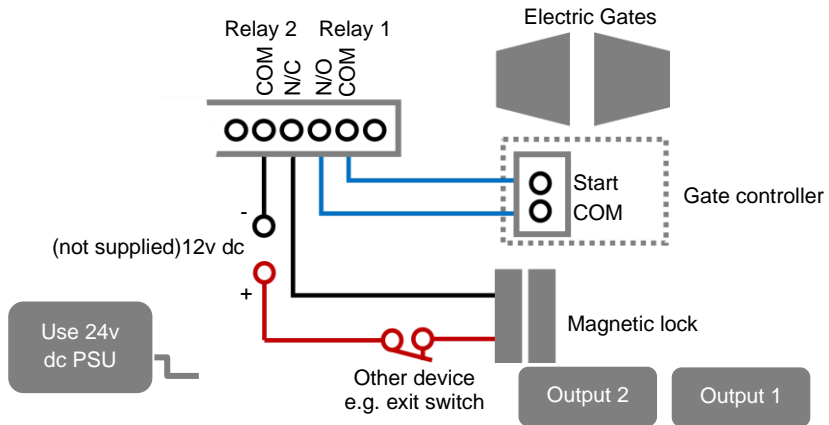
Note: This unit is a dual 3G/4G system, operating on either 3G or 4G network frequencies.



## Connections on the GSM Controller



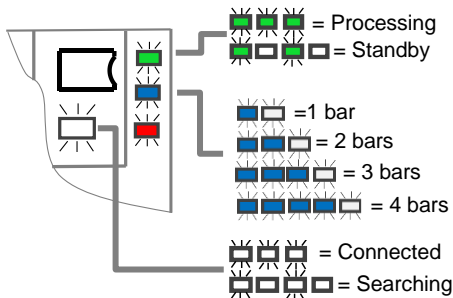
## Output Connections Example



This example shows relay 1 connected to a gate motor controller for vehicle gates, and output 2 connected to a magnetic lock for a door or pedestrian gate.

## Powering Up

Perform a final check of wiring and ensure the antenna is connected before switching on the power. Once the power is switched on, the power LED should illuminate.

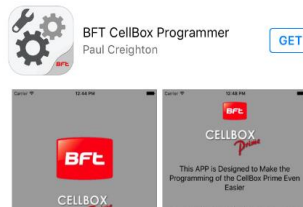
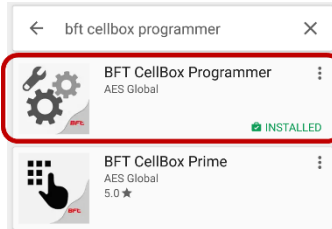


### TIPS: My GSM LED is still searching...

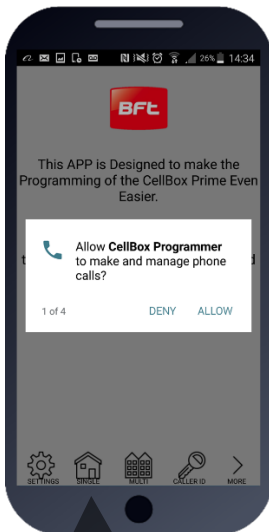
- Check the SIM card is registered and can make a call in a phone.
- Check the SIM card is seated correctly. Power off, clean the contacts on the SIM and the GSM unit, and reinsert the SIM.
- Check power cable distance and thickness.
- Increase antenna height.
- Change network.
- Move antenna away from metal objects.
- Fit a high gain antenna.

# Installing the Programmer APP for the first time

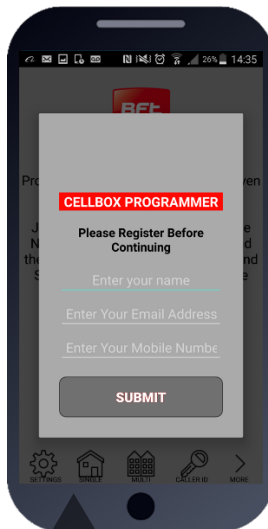
If you are using an Apple or Android smart phone, download and install the BFT Cellbox **Programmer** app. It will make programming much easier. (You can search store, or scan QR code below)



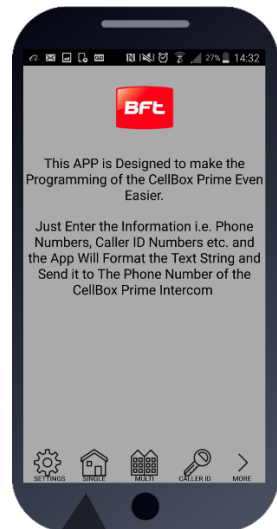
Note: You may notice the app “BFT Cellbox Prime” on the store. This is for the home owner. Installers should install the BFT Cellbox **Programmer** app.



Accept and allow all permissions (Android version shown)



To register first time, enter your name, email and cell phone number.



After you send the registration email, go back to the app screen.

## *Programming a Brand-New Install*

Press **SETTINGS** to reveal the screen shown. This screen will store details for the client.

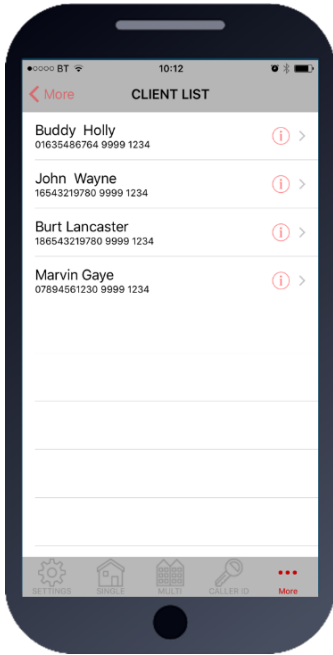
The screenshot shows a smartphone screen with the BFT logo at the top. Below the logo, the title "Settings" is displayed, followed by the instruction: "Enter and Save Client Information. This Can Then Be Accessed and Edited in Your Client List". The form contains five input fields: "First Name" (placeholder: First Name), "Last Name" (placeholder: Last Name), "Phone Number" (placeholder: Phone Number), "Engineer Code" (value: 9999), and "Access Code" (value: 1234). At the bottom of the form are two buttons: "SAVE" and "Cancel".

Enter name or site name for customer.

Enter INTERCOM SIM phone number.

Default Engineer's and user's pass codes. These can be changed later.

**Now you are ready to begin programming!**



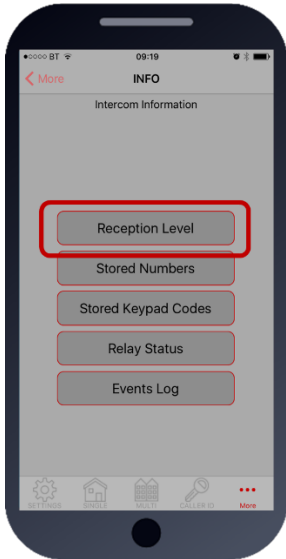
## *Programming an EXISTING Install*

1. Go to MORE>CLIENT LIST to reveal the screen shown.
2. Press and HOLD to select the desired client.
3. Iphone users press the info symbol. Android users **press and hold** the client, and then press upload to begin programming.

**Now you are ready to begin programming!**

## *Programming*

Now that you have either entered a new client, or selected an existing client from the client list, you are now ready to begin programming.

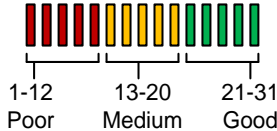


## Step 1: Check Reception

Go to MORE>INFO & press the reception check button.

On Android the app will automatically send a SMS string (\*20#) to the intercom.

**On iphone, users will be taken to their SMS screen to confirm before sending the string.** The intercom should then reply with a signal level between 1 and 31.



For good performance, signal level on 2G should be at least 13. On 3G products it should be no less than 10.

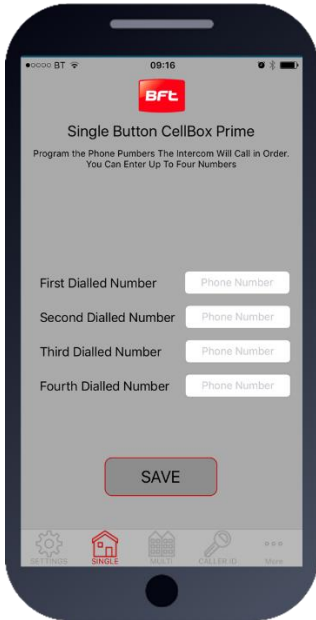
**TIP:** If signal is lower than recommended, then take IMMEDIATE action. Change network if possible, or use an optional high gain antenna. Check power cable is within recommended specification. (Poor power cable can lower reception).

**Note:** SMS string= \*20#



SMS message sent to intercom.

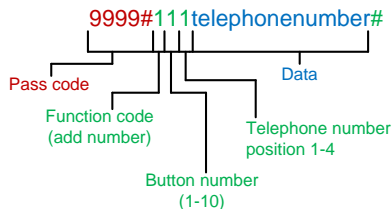
SMS reply to your phone.



## Programming as an Alarm Dialler Device.

1. Press the SINGLE home icon for a 1 button system, or MULTI for a 10 button system.
2. Simply enter cell phone numbers and/or landline phones which the intercom is to call when the call button is pressed. (10 button model please enter button number).
3. Press SAVE. Note: iphone users will be taken to their SMS screen to confirm the SMS string (press send).
4. The intercom should reply with an SMS to your phone showing the SMS string and an OK status.

### SMS Programming Format:



E.g. 9999#111firstnumber#112secondnumber#113thirdnumber#



## Programming as a Gate Opener (100 phone numbers)

1. Press the CALLER ID button.
2. Simply enter cell phone numbers of visitors whom should have access with caller ID (up to 8 at a time).
3. Press SAVE. Note: iphone users will be taken to their SMS screen to confirm the SMS string (press send).
4. The intercom should reply with an SMS to your phone showing the SMS string and an OK status.

To delete, enter number above and press delete

### SMS Programming Method:

Add numbers -

9999#72telephonenumber#72telephonenumber#

Delete specific number -

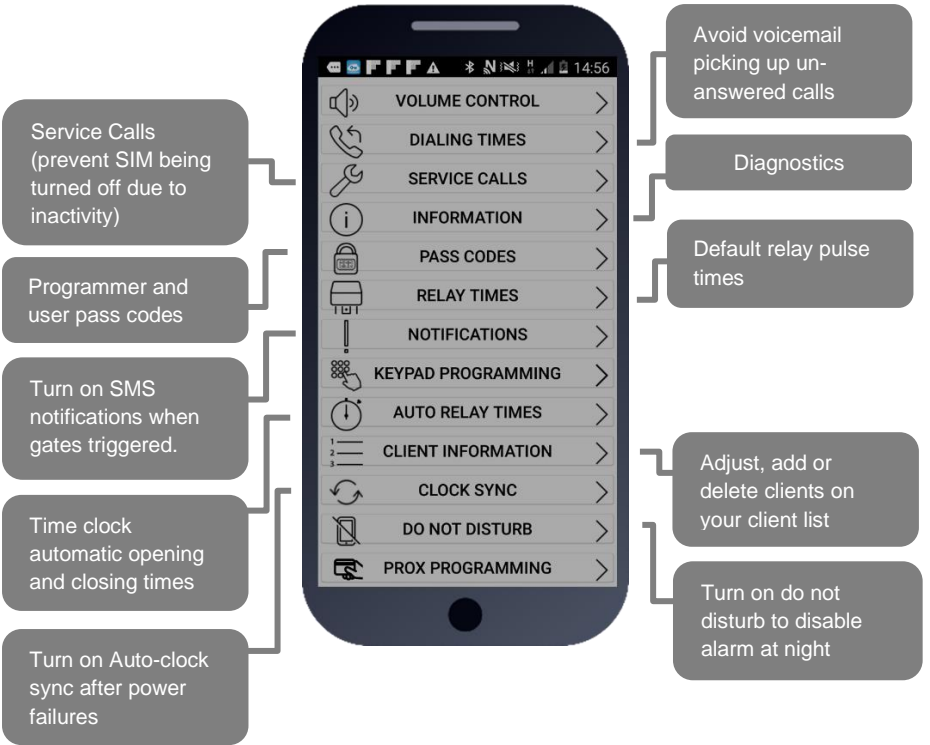
9999#73telephonenumber#

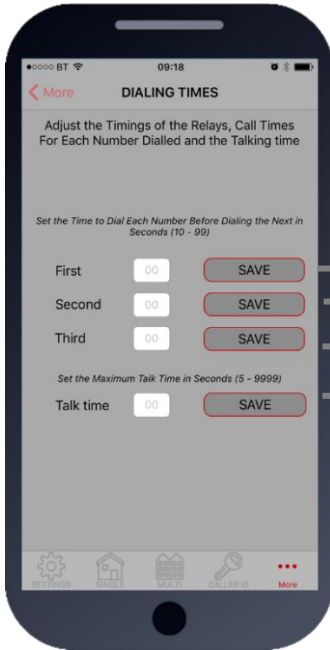
Delete all -

9999#73\*#

## Programming Additional Features

The unit should now be able to call users or have Caller ID access depending on the desired use. Now you may wish to program additional features for the client. Note many of the features below are for other devices that we manufacture including intercoms, however some of the features apply to this device.





## Dialling Times & Talk Time

Change ringing times on each number to avoid voicemail picking up a call on un-answered call so the unit can roll over to the next number.

Note: Default 20 secs (includes 5-8 sec connection time).

Dialling time for first number (default 20 secs)

Dialling time for second number (default 20 secs)

Dialling time for third number (default 20 secs)

Set MAX talking time for all numbers (default 60 secs)

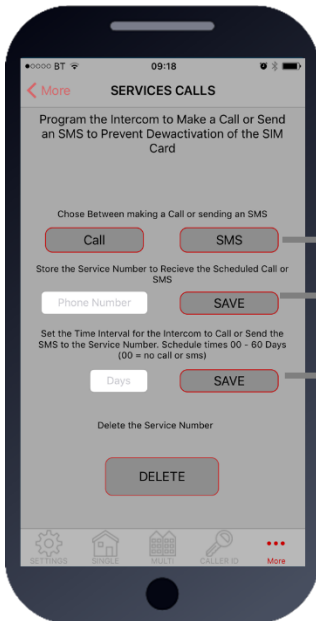
SMS strings:

9999#45XX# (X=dialling time for first number)

9999#46XX# (X=dialling time for second number)

9999#47XX# (X=dialling time for third number)

9999#53XXXX# (X= talking time in seconds, 9999 max)



## Service Calls

This feature is normally only used on intercoms which are seldom used and only for SIM cards which are likely to be de-activated by the network due to inactivity. It can be programmed to make a chargeable outgoing call or SMS to a number of your choice using this screen.

Choose SMS or CALL

Enter the phone number which is to receive the call

Enter the frequency of calls (1-60 days).

TIP: This will call or SMS at the time at which the feature was activated. So, if you set this feature up at 5pm, it will make the service call or SMS at 5pm at the next interval.

SMS string for choosing SMS or CALL:

9999#58X# (For calls, X=2, for SMS, X=1)

SMS string for entering phone number:

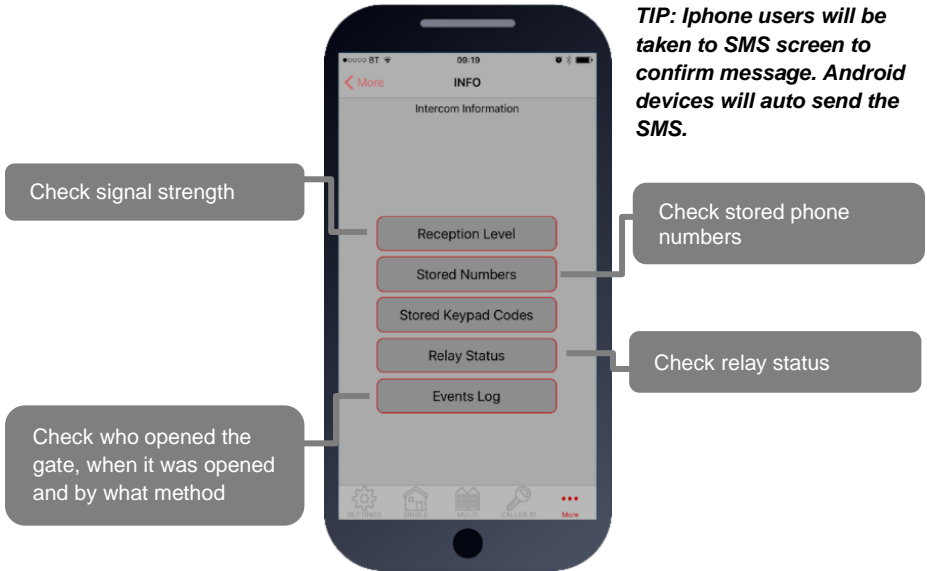
9999#77XXXXXX# (X=cell phone number) 77\*# to delete.

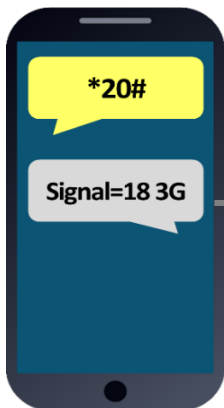
SMS string for frequency of calls:

9999#57XX#

## Info

***TIP: Iphone users will be taken to SMS screen to confirm message. Android devices will auto send the SMS.***



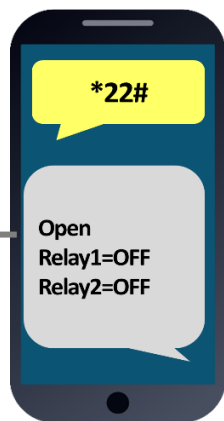
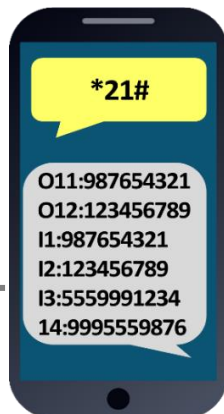


### SIGNAL STRENGTH

Will reply with signal range 1-31 Should be higher than 10.

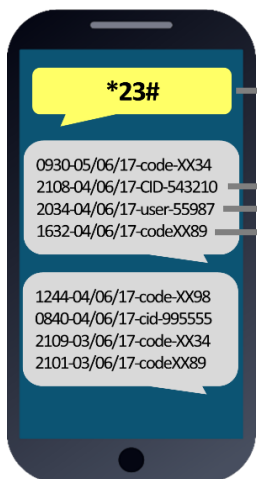
### STORED NUMBERS

O=Dial out number.  
I=Dial IN Caller ID number.



### RELAY STATUS

OPEN – Shows status of the input terminals called STATUS on the intercom, can be used with a limit switch. Relay status shown to check if any relay is latched.



### ACTIVITY LOG

Use this to see who used the intercom and when. Which pin codes were used, who used caller ID, who answered the call.

TIP: Time and date is in international military format.

Last 6 digits of caller ID user phone number

Last 6 digits of phone number which answered the gate

Last 2 digits of keypad code used

## Pass Codes

CAUTION: Take care when changing pass codes. There are 2 levels of 4-digit code (both must be different):

1. Engineers/Programmers code (default 9999)
2. Access/user code (default 1234)

You may wish to change both from their defaults for security.



Restore the app to using default codes (does not restore the intercom)

Enter new programmers code (default 9999)

Enter new user/access code (default 1234)

If changing default codes, then you will now need to update the client list before you can do any further programming.

**If the 1234 user access code is changed, then you will also need to change it on the home owners app.**

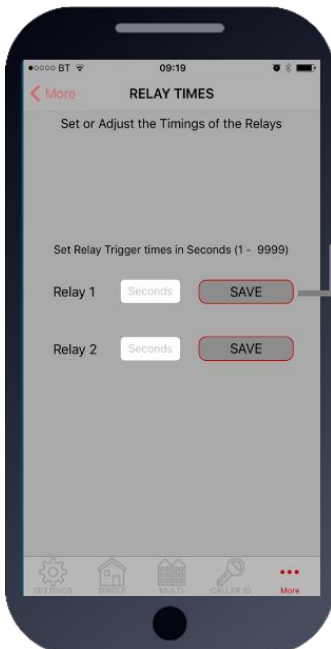
SMS Strings:

9999#01XXXX# (X=new programmers code)

9999#02XXXX# (X=new user access code)

## Relay Times

Relay default trigger times are 1 second. Use this feature to change a relay for a longer time perhaps for a magnetic door lock or to make one relay a momentary relay and the other a 1 hour relay for example.



Enter time in SECONDS then press SAVE to send SMS

**TIP: Iphone users will be taken to SMS screen to confirm message. Android devices will auto send the SMS.**

SMS string for relay 1:

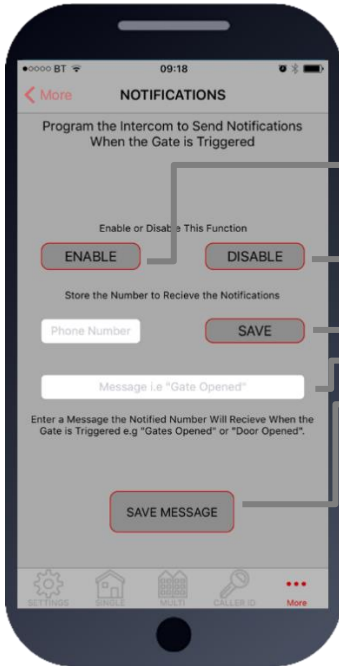
9999#50XXXX# (X=time in seconds, 1-9999)

SMS string for relay 2:

9999#51XXXX# (X=time in seconds, 1-9999)

## Notifications

This feature is commonly used to allow one home user to receive SMS alerts each time the INTERCOM is used to trigger the gates and grant access.



Quick Enable / disable this feature

Enter the phone number to receive the SMS alert and press SAVE

Enter text which you want the user to receive when access is granted, then press SAVE MESSAGE

SMS string for turning ON or OFF:

9999#80X# (X=2 to enable. X=1 to disable)

SMS string for entering phone number to receive notification:

9999#78XXXXXXX# (X=cell phone number) 78\*# to delete.

SMS string for entering text to display:

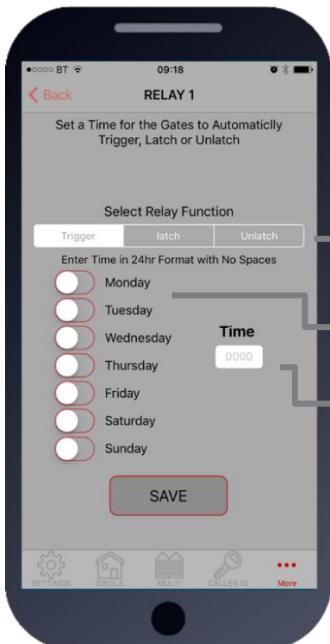
9999#79XXXXXXX# (X is any text message you wish to display on the phone. E.g. Gates Opened)

## Auto Relay Trigger Times

Create up to 40 automatic time clock events to trigger or latch/unlatch gates (depending on gate system setup).

For auto closing gates, send latch command at the desired opening time, followed by a separate unlatch event to close at the desired closing time.

For step-by-step operated gates (non auto-closing), then send a momentary trigger command at the time required to change the state of the gates from open to closed or closed to open.



1. Pick the type of event (momentary/latch/unlatch)

2. Choose the days

3. Enter the time in military 24hr format without colon  
E.g. 8.30am = 0830. 11:10pm = 2310.

1234#1#day,day,day#time#

USER  
passcode

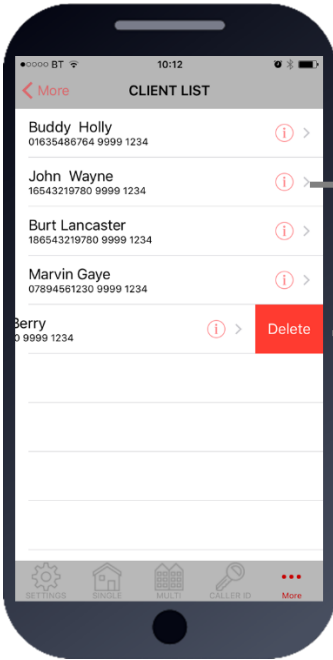
Command:  
1=trigger relay 1  
2=latch relay 1  
3=unlatch relay 1  
4=trigger relay 2  
5=latch relay 2  
6=unlatch relay 2

Select days (up to 7)  
3 digit format, separate with commas.  
E.g. mon,tue,wed,thu,fri

Enter time in 24hr format (no colon)

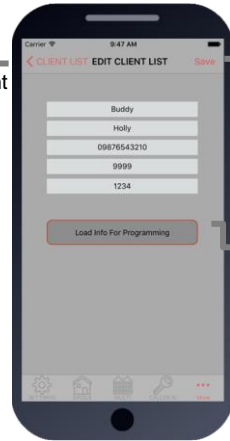
## 10. Client list on iphone

The client list allows you to save sim phone number, customer name and pass codes for all your installs.



Press to select Client

Swipe to delete



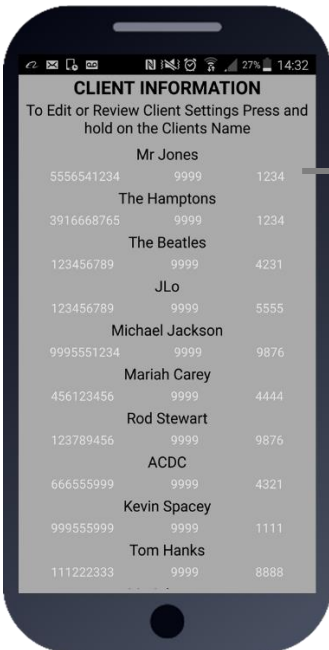
Press to SAVE after editing

Press to load details & program

On any previous install, you can load the customer and then re-program their intercom.

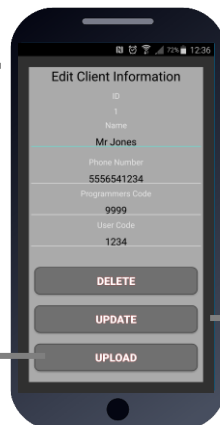
## 10. Client list on android

The client list allows you to save sim phone number, customer name and pass codes for all your installs.



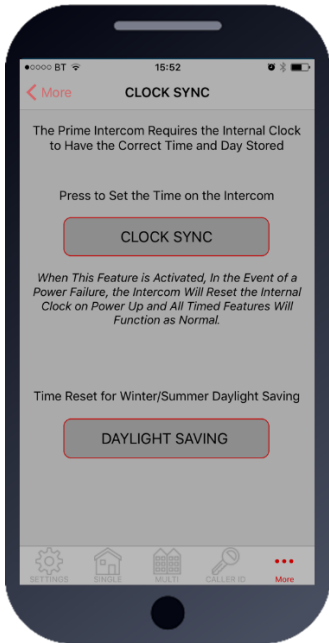
Press & HOLD to select Client

Press to load details & begin programming



Press to save changes

On any previous install, you can load the customer and then re-program their intercom.



## 11. Clock Sync

The unit has an internal time clock counter, which reads the time from an incoming SMS message, and uses this to calibrate its time clock.

For power failure events, this feature allows the unit to send a SMS to itself after a power failure.

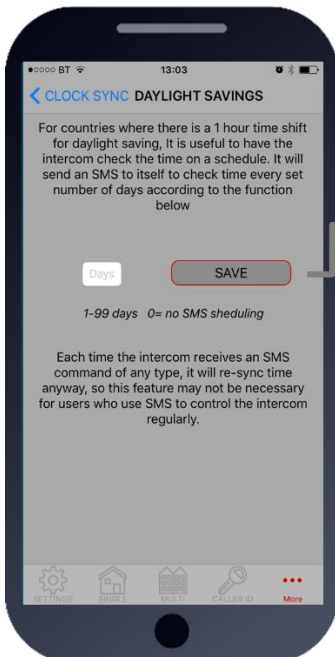
Simply press the button and the app will send a SMS string to the intercom storing the phone number from the SIM card inside memory.

**TIP:** Use this if your area experiences regular power cuts and your client is using timed features.

**Note:** Using this feature will cause the unit to be busy for 2-3 minutes after a reboot. Please be patient with programming etc after a re-boot.



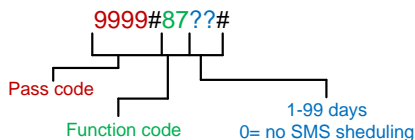
**TIP:** 9999#86\*# will delete this number again



## 11b. Daylight Saving

For regions where there is a 1 hour time shift for daylight saving, it can be useful to have the intercom send itself a SMS every set number of days to re-synchronise the internal clock. The intercom will do this anyway each time a SMS is received.

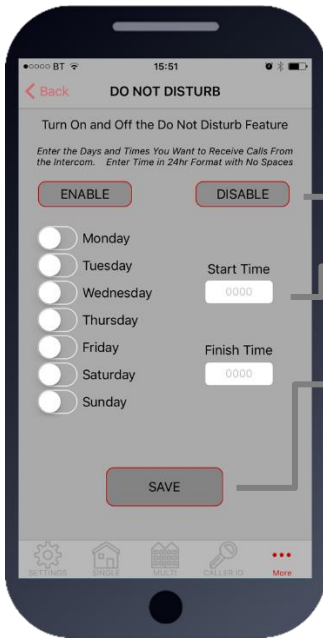
Set the number of days between SMS message sending (depending on carrier provider, this may be chargeable to the customer).



## Do not disturb

This feature allows the alarm input on the device to be active during pre-set times, and ignore button presses all other times.

Use this screen to set the **ACTIVE** times and days for the button.



Quick enable/disable button

Select start and finish times for the button to work (24hr format, no spaces or colon. E.g. 8:30am = 0830)

Press save to send SMS command.

9999#21#day,day,day#time1,time2#

Pass code      Function code      Enter start and end time in 24hr 4 digit format (no colon), and separate with comma. e.g. 0800,2300

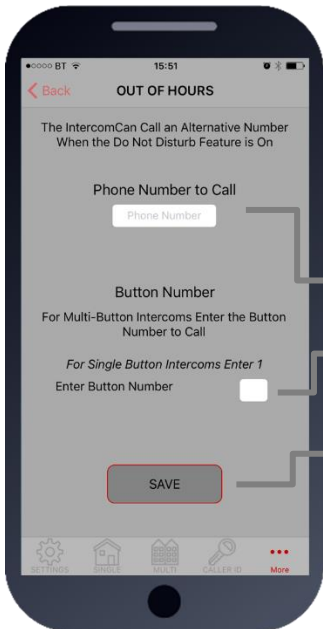
Select days (up to 7)  
3 digit format, separate with commas.  
E.g. mon,tue,wed,thu,fri

To activate, enter the following code:

1234#21#ON# (change ON to OFF to disable again).

## After Hours / Out of Hours

If you have activated the do not disturb feature, the push alarm input will not call anyone after the pre-set time threshold. However, sometimes it is useful to have the device call a different number after hours. For example, in commercial premises it can call the office phones during business hours, and then call a security guard after hours.



1. Enter phone number to call after hours.

2. Enter button number (enter 1 for single button system)

3. Press SAVE to confirm and send SMS

9999#211#telephonenumber#

Pass code      Function code (add number)      Button number (1-10)      Data      Telephone number position 1-4

# Complete list of parameters

The table below show the complete list of features.

## Changing pass codes

9999#01????#	Change programming password	9999
9999#02????#	Change access control password (SMS control of relays, or non-stored numbers can call intercom & enter code to activate output 1).	1234
9999#03????#	Change monitoring mode password (user can call the intercom, enter this pass code to listen in and speak)	5555

## Dial out numbers

9999#1XY????#	Store dialling out numbers. (X = button number 1-9 & 0 for button 10) (Y = number dialled 1-4) (???? = phone number)	N/A
9999#1XY*#	Delete a dial out number. (X = button number) (Y = number position 1-4)	N/A

## Timings

9999#50?#	Relay 1 time. ? = seconds, 1-9999	1 sec
9999#51?#	Relay 2 time. ? = seconds, 1-9999.	1 sec
9999#45??#	Calling time for first number, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs
9999#46??#	Calling time for second number, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs
9999#47??#	Calling time for third number, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs

## Scheduled service calls

9999# 77number#	Store a service number to receive a scheduled call or SMS from the unit. Useful for SIM cards which are not often used to prevent switch off by the network provider.	N/A
9999#57??#	Set the time schedule for the intercom to make a scheduled call or SMS to the service number. 00-60 day time schedule. 00 = no call or SMS.	00
9999#58?#	Choose between making a scheduled call or scheduled SMS. 1 = SMS. 2 = call.	1
9999#77*#	Delete the stored service number	N/A

## Caller ID features

9999# 72number#	Store caller ID number. Max 14 digits. Only last 6 digits compared.	N/A
9999# 73number#	Delete caller ID number.	N/A
9999#73*#	Delete all caller ID numbers	N/A

## Service & diagnostic messages (no passcode required for some of these!)

*20#	Check reception level 1-31 (no passcode needed)	N/A
*21#	Check stored numbers. O = dial out number. I = dial in number. E = end of message. (no passcode needed)	N/A
*22#	Check input status and relay status. (No passcode needed)	N/A

*23#	Sends SMS messages of the last 20 events.	N/A
------	---	-----

#### **Notifications**

9999#80X#	X=1 to disable. X=2 to enable.	N/A
9999#78XXX#	X=phone number to send notifications to. (*=delete number)	N/A
9999#79text#	X=text to send to the receiving phone e.g. "gate opened"	N/A

#### **Automatic Time Clock Trigger Times**

1234#X# day,day,day# time#	X=1,2,3 (trigger, latch, unlatch relay 1) 4,5,6 (relay 2) Day = days of the week (mon,tue,wed,thu,fri,sat,sun) Time = time of day (24 hr format, no colon. E.g. 8:30am = 0830)	N/A
1234*X#	Delete ALL automatic trigger times.	N/A

#### **Clock Sync - Auto Time Calibration after Power Fail**

9999#86XXX#	X=telephone number of SIM inside the intercom.	N/A
9999#86*#	Delete the phone number.	N/A

#### **Summer Daylight Auto Correct**

9999#87??#	?? = number of days between SMS calibration SMS should be sent. 0 = no message sending.	N/A
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#### **Do Not Disturb (push button de-activated during set times)**

1234#21#ON#	ON = activated. OFF = de-activated.	OFF
9999# 21#day,day,day #time1,time2#	Enter all active days during which button should operate. Enter start and end time button should operate (24 hr format, no colon. E.G 8:30am = 0830)	N/A

#### **Alternate Number to Call During Do Not Disturb Times.**

9999# 21X????#	X = button number (1-9. Enter 1 for 1 button system. Enter 0 for button 10) ???? = Alternative phone number to call out of hours.	
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#### **Restore Defaults**

9999#999#	Send with passcode string to clear all programming.	N/A
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## Troubleshooting guide

### **Q. The unit will not power up. No LEDs on.**

A. Check alarm or CAT5 cable has not been used to power the device. If it has, the warranty will be void. Please remove and replace as per instructions.

### **Q. The unit powers up but is not showing network reception or will not respond to SMS.**

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 voice SIM and not a data only SIM for a tablet.

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

- Check alarm or CAT5 cable has not been used to power the device. If it has, the warranty will be void. Please remove and replace as per instructions.

-Power off, remove the SIM, use fine sand paper or a sharp object to lightly clean the SIM pads and contacts on the GSM unit. Gently bend the contacts upwards so that they make better contact with the SIM and try again.

### **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 device, 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. The keys do not work when the device calls a phone.**

A. Check if you can hear the relay clicking at the gate when the keys are 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.

Also check that the relays are not already latched with the \*22# command. If they are latched, they need unlatched before the trigger keys will work.

### **Q. The system was operating the gates fine, but now it will not trigger the gates.**

Most of the time, this is caused by the user accidentally latching the relay. This latches the output relay permanently on. Send the intercom the following SMS \*22#. The device should reply with a message detailing the relay status.. If it has been latched, then the message will state "the relay is ON". In this case refer to the user guide to read how to unlatch it again.

### **Q. The unit no longer calls out to phones but I can make a call to it from my phone.**

A – Check there is balance on the SIM card.

A – Switch off the power, remove the SIM, put it into a phone, and check that a call can be made from a phone. This will verify if the SIM is still working and in service.

# Change History

Key:  
H = Hardware PCB version    S = Software version

Reason for change		
1	1	4G versions available, prime6 level software.

