Installation & User Manual For





Cellular Intercom System Product Version 4.4.6





WARNING

Do not power from the gate controller. Only use the provided UL power supply, otherwise damage may occur and warranty may be void.



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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. This unit can operate on At&T and T-Mobile networks in the USA.

SIM Card

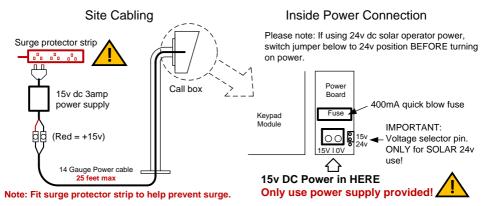
You will need a SIM card in order to use this system. It should be a regular voice and SMS text SIM card. Do not use a data only SIM, as this is only for tablets and will not work in the unit.



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

Power

This system comes with a 15v d.c. power supply. It is recommended that it is located within 25 feet of the intercom and cabled in 14 gauge cable, otherwise damage can occur to the product.



Note: The power board supplies filtered power to the keypad and cellular module, and has surge protection plus a fuse. In the event of a power surge or lightning surge, the fuse is designed to blow and help protect the equipment.

Pedestal Style Call Box Overview

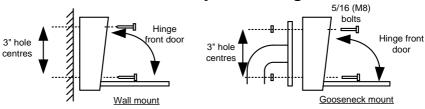


Architectural Wall Mount Style Overview

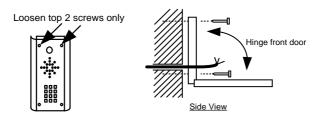


Tip: Keep all protective covers and films on the unit until fully installed. These covers are to protect the unit from scratches during installation.

Pedestal Style Mounting

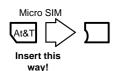


Architectural Style Mounting



Inserting the SIM card

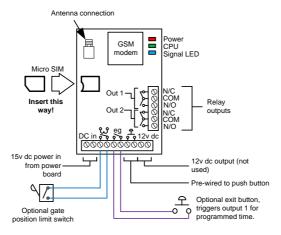
Note: This unit is a dual 2G/3G system, operating on either 2G or 3G network frequencies of 850/900/1800/1900MHz.



Please ensure the SIM card a regular voice SIM card with SMS, from either At&T or T-Mobile. Do not use a data SIM as these are only for tablets.

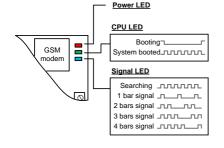
- 1) Put the SIM into a phone to activate and register it with the network.
- 2) If you are using pay and go, top up the SIM with some airtime credit.
- 3) Test that the SIM can make and receive calls and can send and receive a SMS.
- 4) Ensure the power is OFF.
- 5) Slide the SIM card into the holder (pads down as shown).

Connections on the GSM Controller



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...

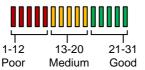
- -Check the SIM card is registered and can make a call in a phone.
- -Check the SIM card is seated correctly. Power off, clean the contacts on the SIM and the GSM unit, and reinsert.
- -Check power cable distance and thickness.
- -Increase antenna height & change network.
- -Fit a high gain antenna.

Programming

TIP: The GSM unit programming is by sending SMS text messages to the unit from a phone.

Check Reception

Send the SMS *20# as shown, to the SIM card number of the intercom. The unit should reply with a reception level between 1 and 31.



Note: Reception levels below 12 can give problems with the relay operation, and poor quality audio, or no audio coming from the microphone on the intercom (the person on the phone cannot hear anything), or buzz on the loud speaker.

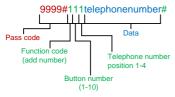


TIP: If reception levels are low, take action now! Either increase the height of the antenna to improve reception or request a higher gain antenna from your distributor or change to another network which may have better coverage.

Programming dial out numbers (Function 11)

Programing text messages must start with a pass code string, followed by a command, followed by data, and each command is separated in the SMS by #.

To begin, program the unit to dial numbers when the call button is pressed. This module will dial up to 4 telephone numbers in sequence.



TIP

111 = Telephone number 1.

112 = Telephone number 2.

113 = Telephone number 3.

The phone image shows an example of a number being stored and the reply sent by the unit to confirm OK. Up to 4 numbers can be sent in a single SMS. The pass code only needs entered at the beginning of each message, and then each new command string is separated by #.

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



Calling time (Function 45-47)

This is the time the unit will spend attempting to call a number before aborting the call and calling the next number on the list. It is very useful to adjust this time so that if there is voicemail or answer machine on a number, that the intercom aborts the call before the machine picks up, otherwise the unit will think the call is answered and never call the next number. The default time is 20 seconds. To adjust this time, send the following SMS messages...

```
9999#45??# Ringing time for first phone number (Where ?? = time in seconds 10-99) 9999#46??# Ringing time for second phone number (Where ?? = time in seconds 10-99) 9999#47??# Ringing time for third phone number (Where ?? = time in seconds 10-99)
```

TIP: Remember to include the network connection time. A mobile phone needing to ring for 10 seconds may need a programmed ringing time of 15 seconds, because it can take 5 seconds to connect the call.

Caller ID access control (Function 72)

This feature allows up to 100 numbers to be stored in memory. Any of these numbers can call the intercom. It will recognise the number, end the call without answering, and activate the output relay 1, all within a few seconds.

Tip: The intercom only compares the last 6 digits of the number with memory; therefore it is not necessary to enter country codes.

To add numbers, send the following SMS (up to 4 numbers can be entered in the same SMS)...

9999#72telephonenumber#72telephonenumber#72telephonenumber#72telephonenumber#

Tip: Even if a number is stored as a dialling out number when the call button is pressed, it needs stored again under the 72 feature if it is also required to have caller ID access.

Internal Clock (Function 86)

The PRIME model has many additional features which require the intercom to have the current time and day stored. Each time the intercom receives a SMS, it will use the time and date from the incoming message to re-calibrate its internal time clock. In the event of a power failure, the time will be lost, however the intercom can send a SMS to itself after rebooting. To activate this feature, enter the following code...

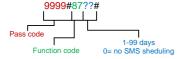


TIP: 9999#86*# will delete this number again

Note: Activating this feature will cause the unit to be busy for 2-3 minutes after boot up. Please be patient with the unit while it re-configures.

Winter/Summer Daylight Saving (Function 87)

For countries where there is a 1 hour time shift for daylight saving, It is useful to have the intercom check the time on a schedule. It will send an SMS to itself to check time every set number of days according to the function below..



Note: Each time the intercom receives an SMS command of any type, it will re-sync time anyway, so this feature may not be necessary for users who use SMS to control the intercom regularly.

Do Not Disturb (Function 21)

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

To activate, enter the following code: 1234#21#ON# (change ON to OFF to disable again).

Now enter the times during which the button should be active as follows....

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

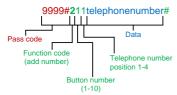
Select days (up to 7)
3 digit format, separate with commas.
E.g. mon,tue,wed,thu,fri
```

Example: to program the unit to be active between 8.00 am and 11pm, for all days send the following SMS...

9999#21mon,tue,wed,thu,fri,sat,sun#0800,2300#

Out of Hours Number (Function 21)

This intercom can call an alternative number after the watershed "Do Not Disturb" time. Enter the number with the following code:

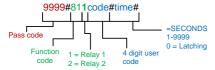


Programming Keypad Codes

There are 3 types of keypad code which can be stored in the unit.

- 1. Permanent code. (Capacity 200).
- 2. Temporary code will expire after a desired length of time. (Capacity 30 at any time)
- 3. Time restricted code will only operate at specified times of the week. (Capacity 20)

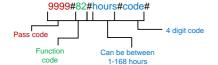
Programing a Permanent Code (Function 81)



Examples:

To program code 5555 to trigger relay 1 for 1 secs, send the following SMS: 9999#8115555#1# To program code 6666 to trigger relay 2 for 6 secs, send the following SMS: 9999#8126666#6# To program code 1234 to trigger relay 2 in **latching** mode send SMS: 9999#8121234#0#

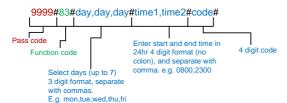
Programing a Temporary Code (Function 82)



Note: This feature is only active for relay 1, and will only trigger relay 1 for the default programmed trigger time.

Example: To program a code 4321 to be active for 8 hours, send SMS: 9999#82#8#4321#

Programing a Time Restricted Code (Function 83)



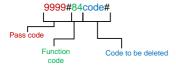
Note: This feature is only active for relay 1, and will only trigger relay 1 for the default programmed trigger time.

Examples:

To program a code 1234 which will only operate Monday-Friday between 9am and 5pm: 9999#83#mon.tue.wed.thu.fri#0900.1700#1234#

To program a code 4321 which will only operate Wednesday between 9am and 11am: 9999#83#wed#0900.1100#4321#

Delete a keypad code (Function 84)

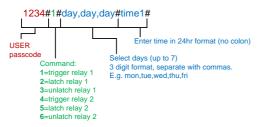


Delete all keypad codes (Function 84)

9999#84*#

Set Automatic Triggering times

This feature is useful to automatically trigger electric gates at pre-set times of the day or night. For gates not set on "auto-closing", this can be used to have opened and closing times with momentary triggers. For gates on "auto-closing", this feature can be used with latching control, again to hold gates open during certain times.



Example:

For gates on step-by-step operation, to automatically close every night at 10pm send SMS:

1234#1#sun,mon,tue,wed,thu,fri,sat#2200#

For gates on automatic closing, to hold open between 8am and 7pm, send SMS:

1234#2#sun.mon.tue.wed.thu.fri.sat#0800# and then a second SMS:

1234#3#sun,mon,tue,wed,thu,fri,sat#1900#

Note: Up to 40 events can be stored.

Delete ALL Automatic Triggering times

1234*#

www.BFTGateOpeners.com | (800) 878-7829

Notification Number

This feature will send a SMS notification to a master user phone number every time the intercom is used to grant access. It will send a SMS any time a relay is activated.

To use this feature firstly turn the function on: 9999#802# (change 2 to 1 to disable again).

Now you must store the phone number which is to receive the notification: 9999#78number#

Now you may store a customised SMS content, which will be sent to the stored number: 9999#79enter any text here#

For example, you may wish to store the following message "My Gates Triggered", or "Gates Opened".

Complete list of parameters

The table below show the complete list of features. *Programming messages below must begin with 9999# (assuming 9999 is still the programming passcode)...*

Changing pass codes

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

Dial out numbers

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

Volume controls

3?#	Speaker volume. Where ? = 1-9. 1 = lowest, 9 = highest.	5
4?#	Microphone volume. Where ? = 1-9. 1 = lowest, 9 = highest.	5

Timings

50?#	Relay 1 time. ? = seconds, 1-9999	1 sec
51?#	Relay 2 time. ? = seconds, 1-9999.	1 sec
45??#	Calling time for first number, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs
46??#	Calling time for second number, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs
47??#	Calling time for third number, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs
53????#	Talking time. 5-9999 seconds.	60 secs

55??#	Max monitoring time (for listen in mode when calling the intercom) 00-60 mins. 00 = no limit.	10 mins
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Scheduled service calls

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
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
58?#	Choose between making a scheduled call or scheduled SMS. 1 = SMS. 2 = call.	1
77*#	Delete the stored service number	N/A

Notification Number

78number#	Store a master user, who will receive a SMS notification from the intercom each time any of the output relays are triggered.	N/A
79text#	Where "text" is the content of the message to be sent. E.g. "Gates Opened, or Door Opened". This will be sent on closing of any output relay.	N/A
80?#	When ? = 1, this function is disabled. Set to 2 to enable.	N/A

Caller ID features

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

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

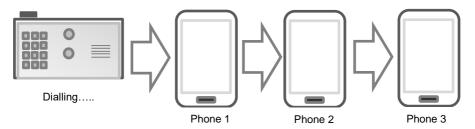
*20#	Check reception level 1-31 (no passcode needed)	N/A
*21#	Check stored numbers. O = dial out number. I = dial in number. E = end of message. (no passcode needed)	N/A
*22#	Check input status and relay status. (No passcode needed)	N/A
*23#	Sends SMS messages of the last 20 events.	N/A

Restore Defaults

999#	Send with passcode string to clear all programming.	N/A
------	---	-----

Using the intercom

This cellular intercom can dial up to 4 numbers in sequence for any call button when pressed..



Any user receiving the call can answer, speak to the visitor, and press the following digits on their mobile or fixed line telephoneto control the relay on the device...



Opening Gates/Door from a stored number

Any stored phone number (up to 100 numbers), can call the intercom. It will recognise the number, terminate the call without answering, and automatically trigger relay 1.

Opening Gates/Door from a non-stored number

If a phone number is not stored, when that phone calls the intercom, the intercom will answer the call. The user can then enter a 4 digit passcode to trigger relay 1 (default user passcode 1234).

Setting up the Free App on Android & Iphone

Android and Iphone users can download an optional app called **BFT Cellbox PRIME**. This makes the procedure of adding and deleting keypad codes easy, as well as other control features.









1. Install and launch the app. Press **SETTINGS** as shown.



Press the PHONE NUMBER button.



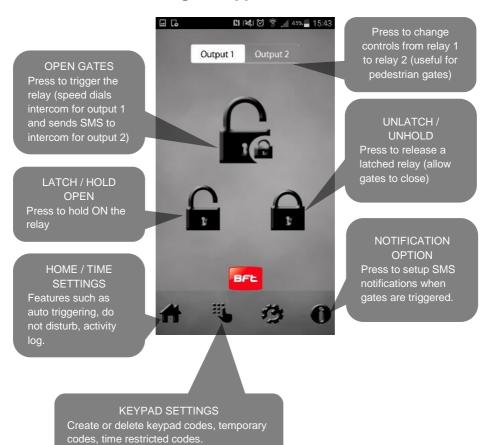
3. Enter the phone number of the intercom SIM card.

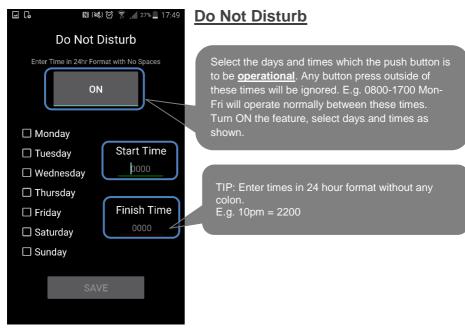
Note: If the default engineers code or user code have been changed from their defaults, then please change as required in the relevant section above.

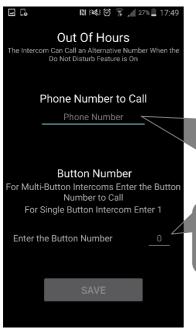
IMPORTANT: On using the Android app, if you receive an error message stating "Command Failed", go to Phone Settings/Application Manager/Permissions, and turn on all permissions for the app.

Now you should be ready to use the app.

Using the App on Android



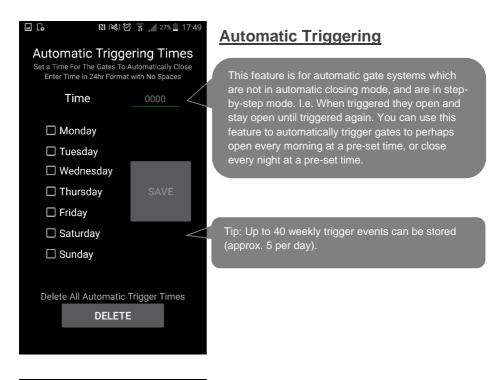


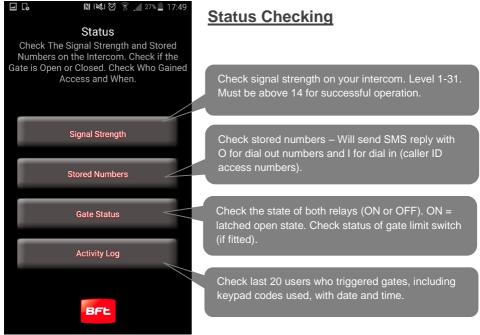


Out of Hours (after hours)

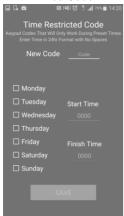
For commercial installations, sometimes it is desirable to call an alternate number after the "do not disturb" cut off time. If a phone number is entered in this screen, then the intercom will call the previously programmed standard numbers during normal operating times entered above, and this alternate phone number after hours

TIP: For multi-button panels, repeat entering the out of hours number for each active button on the panel (see button numbers in your manual).





Timed Code



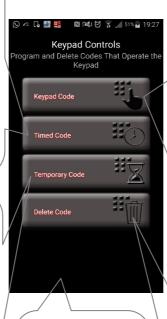
Tip: For time restricted codes.

Temporary Code



Tip: Enter code and time in hours (1-168). Code auto deletes after time expires.

Keypad Codes



General Tips

Permanent codes can be programmed for relay 1 or relay 2. Temporary and scheduled codes can only be programmed for relay 1.

Permanent Code



Tip: Select relay 1 or 2.
Tip: Enter 1 sec for
automatic gates or strike
lock, 7 secs for mag
lock. 0 for latching

Delete Code



Tip: Delete last saved temp or time restricted code, or any known code.

Using the app on Iphone

OPEN GATES

Press to trigger the relay (speed dials intercom for output 1 and sends SMS to intercom for output 2)

LATCH / HOLD OPEN Press to hold ON the

KEYPAD SETTINGS Create or delete keypad codes, temporary codes, time restricted codes



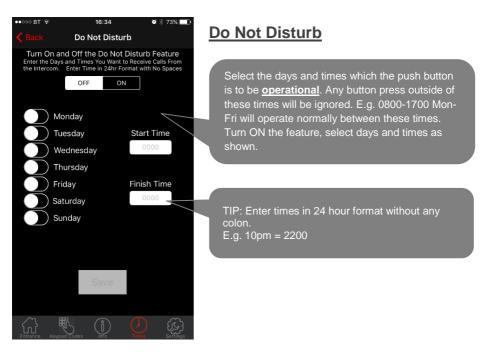
Press to change controls from relay 1 to relay 2 (useful for pedestrian gates)

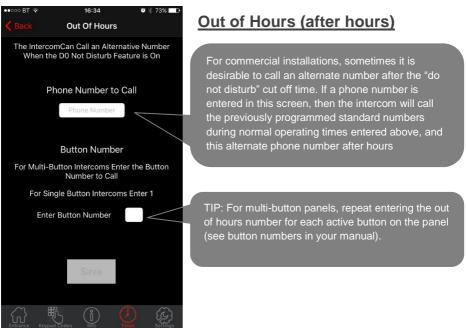
UNLATCH / UNHOLD Press to release a latched relay (allow gates to close)

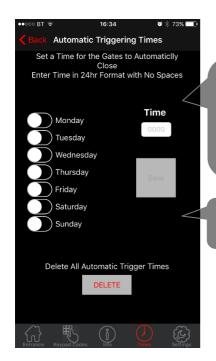
NOTIFICATION OPTION Press to setup SMS notifications when gates are triggered.

TIME SETTINGS

Features such as auto triggering, do not disturb, activity log, set clock etc.



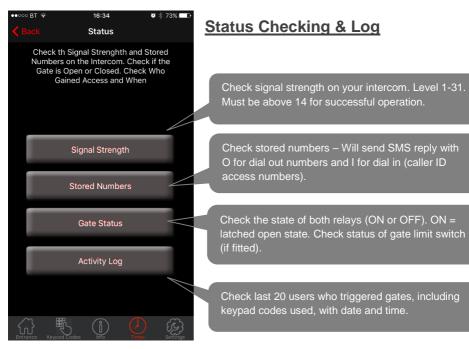


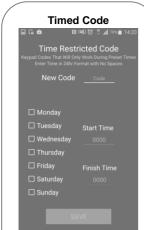


Automatic Triggering

This feature is for automatic gate systems which are not in automatic closing mode, and are in step-by-step mode. I.e. When triggered they open and stay open until triggered again. You can use this feature to automatically trigger gates to perhaps open every morning at a pre-set time, or close every night at a pre-set time.

Tip: Up to 40 weekly trigger events can be stored (approx. 5 per day).



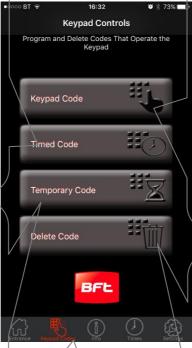


Tip: For time restricted codes.

Temporary Code

Temporary Code

Keypad Codes



Tip: Enter code and time in hours (1-168). Code auto deletes after time expires.

General Tips

Permanent codes can be programmed for relay 1 or relay 2. Temporary and scheduled codes can only be programmed for relay 1.

Permanent Code



Tip: Select relay 1 or 2. Tip: Enter 1 sec for automatic gates or strike lock, 7 secs for mag lock. 0 for latching

Delete Code



Tip: Delete last saved temp or time restricted code, or any known code.

Control by SMS

This intercom allows the user to send SMS commands to control the relays and check status as follows...

```
1234#1# - Relay 1 momentary trigger.

1234#2# - Relay 2 momentary trigger.

1234#2# - Relay 1 latch ON or hold ON.

1234#3# - Relay 1 unlatch or switch OFF.

1234#6# - Relay 2 unlatch or switch OFF.
```

Check if door or gate is open or closed



Send the SMS as shown, and the unit will reply showing the status of the input limit switch (if used), and the relay..

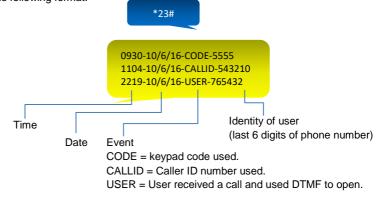
This example shows that the input sensor is in OPEN state, and the relay is OFF.

If the relay is latched, then the status will change to ON. If the input limit witch is closed, the status shown will change to CLOSED.

TIP: If there is not a physical limit switch fitted to the door or gate, then the status input will always show OPEN.

Check User LOG

Any phone can send the SMS *23# to the SIM card in the intercom and it will reply with a log of the last 20 events in the following format:



Maintenance of the Intercom

The intercom SIM card will need topped up occasionally if it is a pre-pay casual SIM card. It is recommended that you register this SIM card on the provider's web site. You can register card payment details. Many networks offer an auto top up feature, which means they will automatically top up your intercom when the balance runs low.

The stainless steel can dull or discolour over time in weather conditions. This can be polished with a suitable stainless steel cleaner.

Troubleshooting guide

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

A. Check power supply voltage at intercom is within 14.8V DC. Cable length from PSU to intercom should be less than 25 feet and in 14 gauge. Check the fuse.

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.
- -Power off the unit, remove the SIM and check it in a mobile phone to verify it can make a call and has calling credit.
- -Disable any PIN code request if active on the SIM card.
- -Check the SIM is a standard voice capable SIM. If you are unsure, contact your SIM card provider to verify. Compatible networks are At&T and T-Mobile.
- -Check the reception is medium or good. Poor reception is not sufficient.
- -Power off, remove the SIM, use fine sand paper to lightly sand the SIM pads and contacts on the GSM unit, lightly bend the contacts upwards so that they make better contact with the SIM and try again.

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.
- -For US customers, ensure the numbers have been entered with a leading 1. If this does not work, try again without the leading 1.

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 or excessively long power cables.
- -Check reception level by *20#.
- -Change SIM card if necessary to another network which may have better coverage.

-Purchase a high gain antenna.

This may also be caused by a defective microphone, water on a microphone from a sprinkler for example, or dirt/insects blocking the microphone hole. If reception is optimum and the problem persists, contact your supplier or installer.

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 is a symptom of poor reception. Try above steps on checking and improving reception. Consider fitting an external high gain antenna.

Q. The keys do not work when the intercom 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 or insufficient power cabling. Check steps above on improving reception or addressing the power problem. -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.

-Sometimes excessively long power cables or thin power cables can cause this problem. Prove it by connecting a temporary extension lead and the power supply directly to the unit.

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

99% of the time, this is cause by the user accidentally latching the relay. This latches the output relay permanently on. Send the intercom the following SMS *22#. The intercom 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.

Q. The Android App shows an error message "Command Failed" when I try to use a function.

A – Go to phone settings/application manager/cellbox prime/permissions, and ensure all permissions are turned ON. Also ensure the app settings screen has a valid phone number stored.

Change History

Key:

P = Panel version H = Hardware PCB version S = Software version

Version		n	Reason for change	Date
Р	Н	S		
3	2	2	First version. Power filter board, new CAP on GSM, and 15v PSU.	7/Dec/15
3	2	3	Firmware update to add network type to reception check (2G/3G).	14/Jan/15
3	3	4	Caller ID fix for international + symbol (At&T issue)	Oct 2016
3	3	5	Codec change to improve DTMF on some phones.	Oct 2016
4	4	6	PRIME model, new firmware, larger flash storage, Micro SIM holder, antenna connects direct to PCBA, Red colour PCBA, all black model design.	Nov 2016