

Voyager Mobile Entry

Intercom (VME-I)

2G/3G

Installer Manual

Device Telephone Number: _____

Device Security Code: _____ 8531 _____

Installation Steps

1. If there is a SIM installed in the GSM device skip to step 3.

2. If there is no SIM installed then you will have to

A) Obtain a SIM with credit. This device is a 2G/3G device so all available SIM cards should work without a problem.

B) When obtaining the SIM ask that voice mail is turned off.

C) Vodafone and O2 PAYG SIM cards don't have a PIN number on the SIM.

But other operators still put a security PIN on their SIM cards. This must be removed before using the SIM on the GSM device.

D) Place the SIM into the SIM card slot on the GSM device. See the wiring diagram for this device, to see how the SIM is entered.

3. Wire up the GSM device as shown on the wiring diagram.

The GSM device is powered by a +12V, 2 Amp power supply. For correct operation the power supply supplied with the system must be used to power the complete system. Only one power supply is required. Do not use a separate power supply to power the intercom call station.

4. Apply power to the GSM unit.

Initially the Register light will be on constant and as the unit registers on the network, will start to flash every 1 second.

5. Give the Unit about 2 minutes to register when first turned on.

When the Signal Strength light is on constantly or flashing the unit has signal from the network. If the signal strength light fails to light at all

you may have to change the position of the device to pick up a GSM signal. It may also be an option to use a SIM from a different network.

With low 3G signal levels the Signal Strength light may not flash but the unit may operate correctly.

Test Operation - Place a Telephone Call to the Device

6. Call the GSM device from your mobile or from a landline telephone.

The GSM unit defaults to open access so with no programmed Telephone numbers any caller can open the gate or door.

The GSM device sees the incoming call and hangs up the call. The GSM unit will pulse the Relay. This is a no cost call.

The Device Makes a Telephone Call

7. Programming Phone Numbers into the GSM device.

Now program the phone list, with the phone numbers that the GSM device will dial once the intercom button is pressed. For initial testing this is best if it's your own number. It can be changed later using the same text command.

Send this text.

phone 1 xxxxxxxxxx

Receive This Text Response

Phone number xxxxxxxx
Programmed.

*xxxxxx represents your mobile number eg:0872376605

** There should be NO Spaces in the Telephone Number

*** But there are spaces between each word "Phone number
xxxxxxx"

*** Do not hit return when typing the command to move to the
next line of the mobile phone screen.

*Four more numbers can be programmed into the phone list of the GSM device. These numbers will be called in sequence until a response is received (either * or #)

8. To test calling operation and audio quality you will need a second person either at the intercom or at the mobile phone.

- Move the mobile phone away from the intercom.
- Press the intercom button to place a call from the GSM device. The GSM device will call the number at location for phone 1.
- Answer the call and test that audio can be heard by speaking normally at both ends.
- Press *** to grant access** (this will pulse the relay).
- For a user who **doesn't want to grant access terminate the call with #**.
- When the end user is called by the GSM device, just hanging up the phone isn't sufficient. If further numbers are programmed then these will be called in a follow on call. When not granting access, terminate the call by pressing #.

Programming Phone and Open Telephone Numbers

9. The number programmed in the last section for phone 1 can be used to call into the device to open the gate or door.

Make a call from the number programmed into location Phone 1. The relay should pulse and the gate or door should open.

10. Programming Telephone numbers into OPEN number locations.

Telephone numbers that can call into the GSM device are called Open Numbers. They act to open the gate or door.

Numbers can be programmed per location or just put into any empty location.

Send this text.

Open 1 xxxxxxxxxxxx

Receive This Text Response

Open number xxxxxxxx
Programmed.

Note 1: xxxxxxxxxxxx is the telephone number of the person you want to be able to open the gate or door.

Note 2: Make sure there are no spaces in the telephone number text. Also make sure the response received is valid and has the correct number you programmed.

Up to 200 numbers can be programmed into the open list of the GSM Unit. Use the following Text commands:

open 2 xxxxxxxxxxxx

open 3 xxxxxxxxxxxx

.....

11. Programming phone numbers into free locations.

To program a number into any free location send the following command

Send this text.

Open xxxxxxxxxxxx

Receive This Text Response

Open number xxxxxxxx
Programmed.

12. Removing Phone Numbers.

Send this text.

Remove xxxxxxxxxx

Receive This Text Response

Phone removed.

Note 1: xxxxxxxxxxxx is the telephone number of the person you want to remove from being able to open the gate or door.

Note 2: If a telephone number is stored more than once in the device then this command will only remove the first occurrence it finds. Other occurrences will remain.

13. To Check Numbers in the Phone List.

For example to check what number is programmed into the first phone number in the list.

Send this text.

Send phone 1

Receive This Text Response

phone 1 xxxxxxxxxx

14. To Check Numbers in the Open List.

For example to check what number is programmed into the first phone number in the list.

Send this text.

Send open 1

Receive This Text Response

open 1 xxxxxxxxxx

See the Details on page 6 on the “Get Y” Text command which gets 10 open numbers at a time.

15. Open the gate or door from a minute to many hours.

For example to open the gate or door for 20 minutes

Send this text.

Gate Open 20

or

Door open 20

Receive This Text Response

Text received.

The gate will open and then close after 20 minutes.

Note: For this mode of operation to function; when the Pulse Relay is latched the gate or door controller must hold the gate open. This is dependent on the configuration of the main controller.

16. The table below lists additional SMS Text commands that can be used to control the GSM device.

Text to Send	Response	Result
Gate open <i>Door open</i>	text received	Open the gate or door permanently
Gate close <i>Door close</i>	text received	Close the gate or door.
Gate open XX <i>Door open XX</i>	text received	Open the gate or door for XXX minutes. This command can work for 5 minutes or many hours such as 8, 12 or 16 hours
Test	GSM Access unit test Call	This text can confirm the device is on the network and has credit to send an SMS Text response.
Pulse time XX	Pulse time XX	Change Pulse Switch, pulse time to XX seconds. The default is 3 seconds. Use this if the Gate Controller requires a different pulse time. <u>Power Cycle for this to take effect.</u>
Default	Restored to Factory Settings.	Return the GSM device to the factory default settings. Caution: All Telephone numbers will be cleared.
Gate Lock on <i>Door lock on</i>	Access point Lock on	This function locks access from people ringing into the device.
Gate Lock off <i>Door Lock off</i>	Access point Lock off	This function allows access to people ringing into the device.
Set Y XXXXXXXXX XXXXXXXXX XXXXXXXXX	Phone numbers from Y Programmed	A number of telephone numbers can be set. Up to a maximum of ten numbers. The location of the first number to set is given(Y) followed by the phone numbers to set(XXXXXXXXXXXXXXXXXX.....
Get Y	Open Number 1 872730901 2 872730902 3	10 numbers can be requested from the device, starting with location Y. For example: Get 1 will get the first 10 Open Numbers. Get 40 will get the last 10 Open Numbers.

Options for Security Settings

If extra security is required when using the GSM Unit it is possible to enable a requirement for a security code when configuring the unit.

When the security code is on, then all text messages sent to the GSM device must be followed by the four-digit security code. The default four-digit code is 8531 The security code is OFF by default when the Unit leaves the factory. It can be turned on as follows:

17. To Turn on the Requirement for a Security Code.

Send this text.

Receive This TxT Response

code on 8531

Security code on

Note: The command to turn off the code is “code off 8531”

18. Changing the Security Code.

Send this text.

Receive This TxT Response

Change XXXX YYYY

Security Code Changed

XXXX is the New Security Code, YYYY is the old Security Code.

Example: Change 1234 8531

Program the Control Phone.

The Control phone can be programmed to allow someone other than the person programmed as phone 1 to receive important messages from the system. This may be necessary should the installer have responsibility for maintaining the system.

Send this text.

Receive This TxT Response

Control phone
xxxxxxxxxxx

Control phone
xxxxxxxxxxxxx
programmed.

Configure Input 1 and Input 2 for Open & Close Status.

19. Input 1 is configured to work as follows.

Wiring a set of contacts as shown in the wiring diagram, into input 1 will allow for the following text command to be sent to determine the gate or door status.

Send this text.

Gate status

or

Door status

Receive This TxT Response

Status open

OR

Status Closed

Note 1: If contacts are not fitted to the gate or door and wired to the input then this message will always return “Status Open”

Input 2 can be configured to send an SMS text on all gate or door openings and closings.

Wire a set of contacts or a limit switch, to Input 2 as shown on the wiring diagram and mount on the gate or door so that they separate when it opens

The message will go to the number programmed in phone 1, unless the Control Phone is programmed. In which case the message will go to the Control Phone.

Now when the gate or door is opened the number will receive the “Access open” SMS Text automatically.

When the gate or door is closed the number programmed above will receive “Access closed” SMS Text automatically.

Ring and Talk Timers

20. The device is configured with two timers. The first controls the ring time, i.e. how long the phone being called, will ring for, while the second controls how long the person answering at the phone being called, can talk for.

The defaults for these times are:

Ring Time: 20 seconds

Talk Time: 40 seconds

To change these times:

The following text commands will allow the installer to change the ringing time and the talking time.

Send this text

Ring time xx

Receive this response

Ring Timer set to xx seconds

*Where xx is in seconds from 00 to 99.

Send this text

talk time xx

Receive this response

talk time xx

*Where xx is in seconds from 00 to 99.

Avoiding Voice Mail or Answering Machines

On occasion it may be that an answering machine or voice mail can be heard at the speaker of the GSM intercom. This can be avoided by reducing the Ring time of the GSM Intercom. For example the command shown below will reduce the ring time to 15 seconds from a default of 20 seconds.

Send this text

Ring time 15

Receive this response

Ring Timer set to 15 seconds

Note 1: The installer needs to be careful when reducing the ring time that he is allowing sufficient time for the person answering the call to get to his phone and answer the call. Alternatively, It may be necessary to change the number of rings before the voice mail or answering machine activates. This can be done at the answering machine or through the GSM network operator.

Note 2: In all cases a positive indication is required from the person answering the call from the GSM unit to stop it calling additional telephone numbers. So the person answering the call must grant access with * or terminate the call with #. Not granting access, and simply hanging up the called phone will result in further numbers being dialled by the GSM Intercom, if they are programmed.

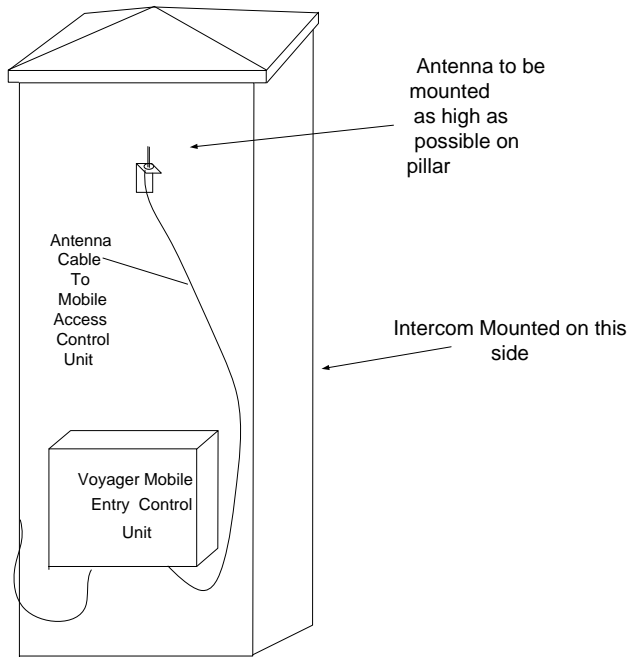
Note 3: Care needs to be taken when extending the available talk time as this will extend the time the device remains in the call. The end user should be made aware that the GSM Intercom will stay online and only timeout after this time, even if they hang up the call at their end, when talking on a landline. The call will terminate if the user grants access with "*" but if not granting access they should terminate the call by pressing "#" and then hang up. This will also minimise credit usage, per call, from the GSM Intercom.

Ensuring Best Intercom Audio Quality

This product is capable of operating on 2G or 3G networks. Typically the device will initially register on a 3G network if available. However if a 3G network is unavailable or if signal levels on the available 3G network are too low the device will operate on the available 2G network. On 2G networks, because of the technology used, you may hear some GSM hum coming through. This can be minimised by following the correct install procedure detailed below.

21. 2T-Technology have gone to great lengths to ensure that the audio quality from your Mobile Entry and Intercom system is the best possible. However the system must be installed following these basic guidelines to ensure you obtain the best quality.

- Follow the wiring diagram enclosed with the system. There is only one power source supplying power to the system. The Intercom receives power from the Mobile Entry GSM PCB.
- Keep the intercom away from the Mobile Entry housing. This is the normal arrangement with the Intercom on one side of a gate peer with the Mobile Entry housing on the other side. Or with the intercom outside a house or business and the Mobile Entry housing on the inside. See the diagram on the next page
- Keep the GSM antenna away from both the Intercom and the Mobile Entry housing. Follow the mounting instructions shown in the diagram opposite for mounting on a pillar. Interference from the antenna can have a very bad effect on audio quality.
- Ensure you test the quality of audio communication before finishing the installation. This will require two people, one at the Intercom and one with a mobile phone some distance from the installed Mobile Entry system.
- Do not test the installed system using a mobile phone while standing beside the intercom. Feedback and interference will make it impossible for the system to operate correctly. Move away from the intercom with a mobile phone with which it is communicating.



3G Only Operation

Audio quality is better on 3G networks due to the technology used. On occasions then, it may prove necessary to force the device to remain on the 3G network even if signal levels are low.

Send this text.

stick on

Receive This Text Response

GSM Stick on 3G ON

To turn off this mode of operation and to allow the device to switch back to 2G if necessary send "stick off"

To make this new mode active remotely send a reset to the device. Once the device reboots this mode will be operational.

Send this text.

Reset

Setting Speaker and Microphone levels

Speaker and Microphone levels have been factory set to an optimum level. However it may be necessary in noisy environments to adjust these settings

22. Speaker settings go from 0 to 10. The default setting is 3

Below is an example of setting the speaker level higher than the default setting.

Send this text.

speaker 5

Receive This Text Response

Speaker level 5

23. Microphone settings go from 0 to 10. The default setting is 5

Below is an example of setting the microphone level lower than the default setting.

Send this text.

mic 4

Receive This Text Response

Microphone level 4

Get Remaining Credit on the SIM

24. The GSM device can be used with bill pay or pre pay SIM cards. For pre pay cards the ability for the user to get an indication when credit is falling low is useful and allows the user to add credit when required.

Send this text

Gate Credit

Receive this response

The text response sent from the network is forwarded to the user.

OR:

Send this text

Door Credit

Receive this response

The text response sent from the network is forwarded to the user.

Note 1:

The request for credit can only be sent once in a 2 minute period. If sent more often than this it will be ignored.

Note 2: The message passed back to the user is exactly how the network responded to the request. If it doesn't give the required details then you should contact your network provider for the details.

Automatic Credit Check Messages

25. The GSM device is configured to automatically pass a credit check message to the user set as phone 1.

This check occurs regularly and its occurrence is set as the number of calls made by the GSM device. Default is 20 calls. If this number is reduced then the credit message will come out more often.

Send this text.

Credit calls xx

Receive This Text Response

Calls Number is xx

The operation of automatic credit check can be turned off if required.

Send this text.

Credit calls 0

Receive This Text Response

Calls Number is 0

26. The GSM device is pre configured to handle a number of different SIMs to obtain the credit text response from the network. However it may be necessary to configure it to use your particular SIM.

Send this text

Credit Code *174#

Receive this response

Credit Number Set

There are different codes for different networks. This table gives a list of those that can be used. A number of them work automatically and do not have to be programmed into the GSM device.

Network	Ireland	UK & NI
Vodafone	*174#	*#1345#
O2	*100#	*#10#
Meteor	*#100#	
3	*100#	
Tesco	*100#	

Note : Items in bold are known by the system and will work automatically. Items not in bold will have to be programmed, for the credit check feature to function correctly.

Credit Top Up Warning Messages

26. The GSM device is configured to automatically send a credit top up request to the user programmed in phone 1. If the Control phone is set then these text messages will go to it instead.

These messages are very important for these reasons:

A) They warn the end user to top up the system regularly. Without this top-up the SIM will be de activated by the mobile operator.

Remember it is not enough to have credit on a pay as you go SIM. The SIM must be topped up regularly.

B) They use credit on the SIM. Without using credit on the SIM, the SIM will be de activated by the mobile operator.

C) It indicates that the device is healthy and on the network.

By default these messages are sent every 75 days. To reduce the period between these messages to 30 days, send this text.

Send this text.

Receive This Text Response

credit expiry 30

Credit expiry every 30 Days

The Number of days can be set from 1 to 200

To disable the sending of this credit top up text:

Send this text.

Receive This Text Response

Credit Alarm off

Credit Alarm off

This feature can be enabled by sending the text " Credit Alarm on"

Note 1: We must advise strongly against turning off this feature. Failing to add credit to a PAYG SIM will result in the SIM being deactivated.

Diagnostics

27. The table below lists the SMS Text commands that can be used to diagnose problems with an installed GSM device.

Text to Send	Response received	Result
Diag stored	This returns the stored values recorded over the last 5 days.	Features such as the Signal Strength, ability to register etc. are recorded over the last 5 days, and returned. Also a system health report is calculated and returned.
Diag Live	These are the current values, not yet stored.	

A typical response to these commands is as follows:

VME-I 2 NV: SS too low: 5 Not checking SS: 0 Cant register: 0 OS Problem: 0 State stuck: 1 Health Metric: Good

The Details of this response is given as follows:

Returned Text	Meaning
VME-I 21 NV:	Product Code, Software Version, 21 = 2.1 and NV means non volatile or stored.
SS too low:	Number of times Signal strength below an acceptable threshold.
Not checking SS	Network issue not giving a response to the request for Signal Level. Device may reset.
Cant register:	Network issue not allowing the SIM or the device to register on its Network. Device will not function.
OS Problem	Internal device problem. Device may reset.
State stuck	Internal device problem. Device may reset.
Health Metric	A combination of the numbers above providing a word in English as a measure of the health of the device, Can be 'Good', 'Bad' and 'Very Bad'

Trouble Shooting Guide

Question: I have powered up the unit. How will I know when it is ready to operate?

Answer:

1. The first time the unit powers up it will make a “Beep-Beep” noise when it has registered on the network.
2. The Registered LED will flash every second. Hopefully also the Signal Strength LED will be flashing, or on constantly.
3. Send a text to configure the unit using your mobile phone. Once the text is received the unit will make a Beep-Beep sound.

Question: I have powered up the unit. The Registered LED is flashing every second but the signal strength LED is not lighting at all

Answer:

1. With low 3G signal levels the Signal Strength light may not flash but the unit may operate correctly.
2. If there are problems with the unit due to low signal levels then re locate the GSM unit and antenna so that better signal level is achieved, or change the SIM in the device for another network, so that better signal level is achieved.

Question: I am sending a text messages to the GSM unit but I’m not getting any response.

Answer: Check the following

1. Confirm the unit has power and is registered on the network by checking the ‘Registered’ LED is flashing every second.
2. You know the device is receiving your Text, because once the text is received the unit will make a Beep-Beep sound.
3. Confirm the SIM in the device has credit and has been topped up in the last 2 months.
4. Check the spelling and format of the text matches that described in this manual. Do not use return to move to the next line when creating the text command.

Question: I have entered a number into phone 1 position but the GSM unit will not place a call to the number.

Answer:

1. Please check steps 1. and 3. In the last answer.
2. Check the devices response Text when you programmed Phone 1. It will list the number it programmed. This number must be correct.
3. Ask the device to return Phone 1 with the Text command “send phone 1” the device should respond with the number it has programmed in Phone 1 position.
4. On occasion the mobile phone the device must call has very weak signal level or is turned off and the network is unable to place a call to it. Wait until the remote phone is in a different location and confirm it is turned on, and try again.

Question: The GSM unit is operating but it always calls Phone 2 and Phone 3, even if phone 1 is answered.

Answer: The remote phone answering the call must give a response of * (meaning open Gate or Door) or # (Meaning Terminate call, Do not open Gate or Door). Just hanging up the call will cause other numbers to be called.

Question: When I send a text for ‘gate credit’ I get

- (A) No response
- (B) A response saying I have 0.00 credit

Answer:

- (A) If you get No Response then there may be no credit on the SIM in the GSM unit. Or you may have to set the code for this SIM, see the section on "Automatic Credit Check". It is also possible that the network sent no response when the GSM unit requested the credit amount.
- (B) Getting a response saying you have 0.00 credit happens with some Network operators that operate bundle credit schemes where you're top up buys you calls and text that you work down over time. You have x number of calls and text pre purchased but your credit balance remains at 0.00.

REGISTER OF TELEPHONE NUMBERS PROGRAMMED INTO THE GSM DEVICE.

Phone 1	
Phone 2	
Phone 3	
Phone 4	
Phone 5	

Open 1	
Open 2	
Open 3	
Open 4	
Open 5	
Open 6	
Open 7	
Open 8	
Open 9	
Open 10	
Open 11	
Open 12	
Open 13	
Open 14	
Open 15	
Open 16	
Open 17	
Open 18	
Open 19	
Open 20	
Open 21	
Open 22	
.....	
	This list can go to 200 numbers

Control Phone	
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