DAC LIMITED

USER GUIDE
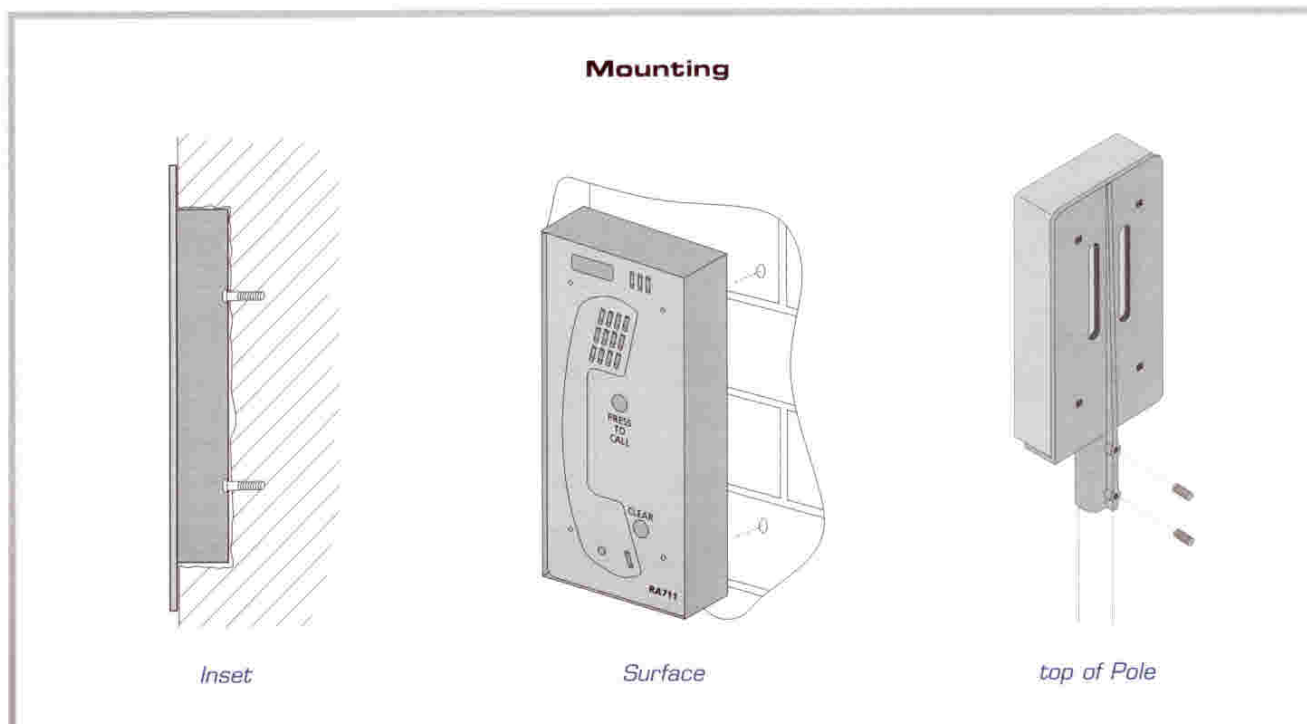**RA711-GSM**

Contents

Introduction

The RA711 GSM (3G/4G) Telephone has been designed to provide a means of installing a weather and vandal resistant telephone in an area that is remote and lacks the provision of infrastructure. The RA711 GSM (3G/4G) Telephone is a stand alone communication terminal that utilises the GSM mobile telephone Network to make and receive voice calls. The RA711 GSM utilises a QUAD band GSM modem that can connect to any standard GSM Network (3G or 4G). The RA711 GSM telephone is supplied SIM free allowing the user/ customer to select any mobile network operator as their preferred carrier.
This user guide is designed to assist with the operation of the RA711 GSM (3G/4G), provide simple installation instructions and explain the various programming and reporting parameters available. If you require more detailed technical information please contact your supplier or DAC Limited direct.

GSM Antenna

GSM (3G/4G)
Network Transmitter

RA711-SB/2B/3B
Autodial Telephone

Power Options
12v DC Battery
240v Mains Power Pack [12v 2A DC](Optional)
Solar Panel [battery charging] (Optional)

Mounting Options
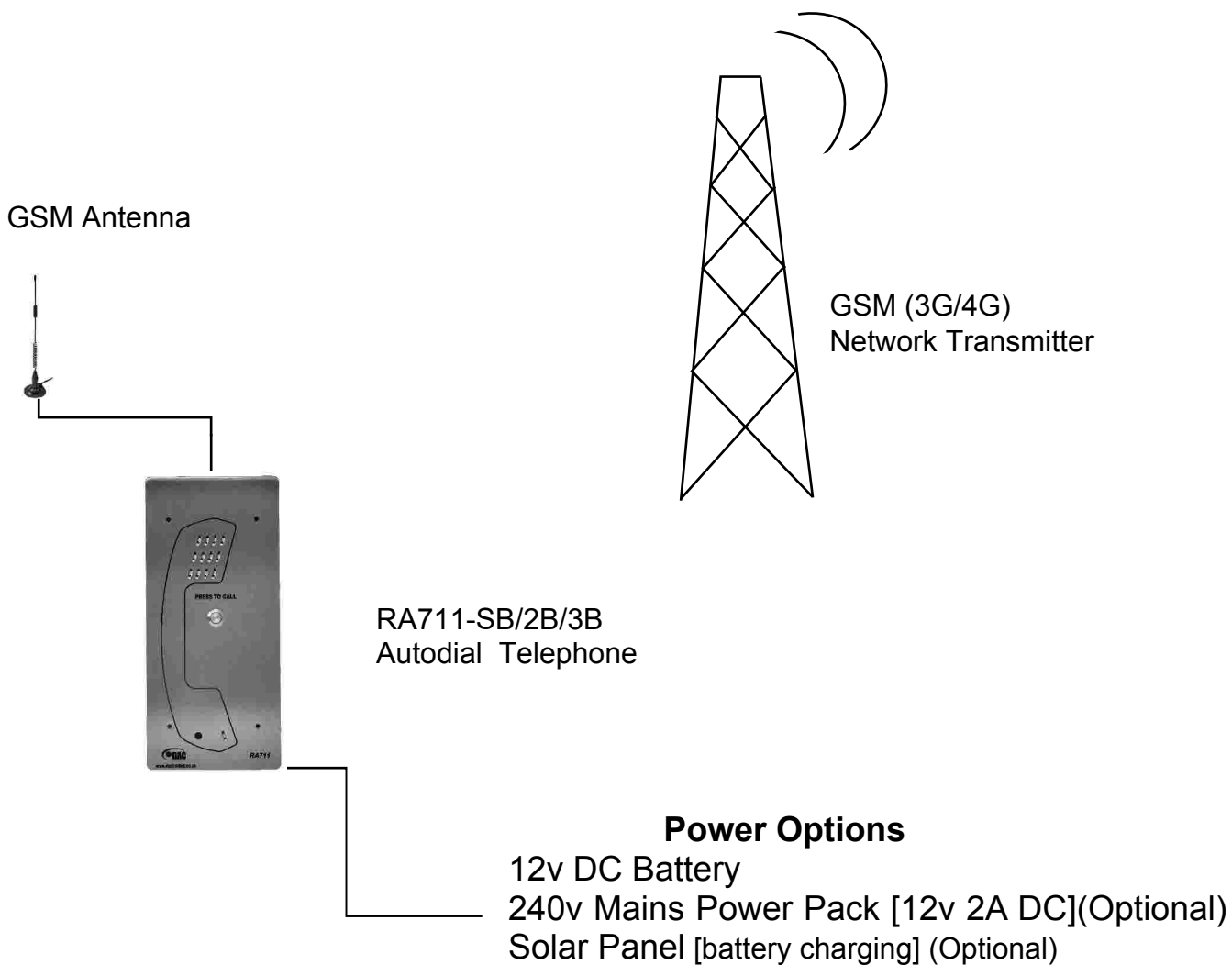
Mounting

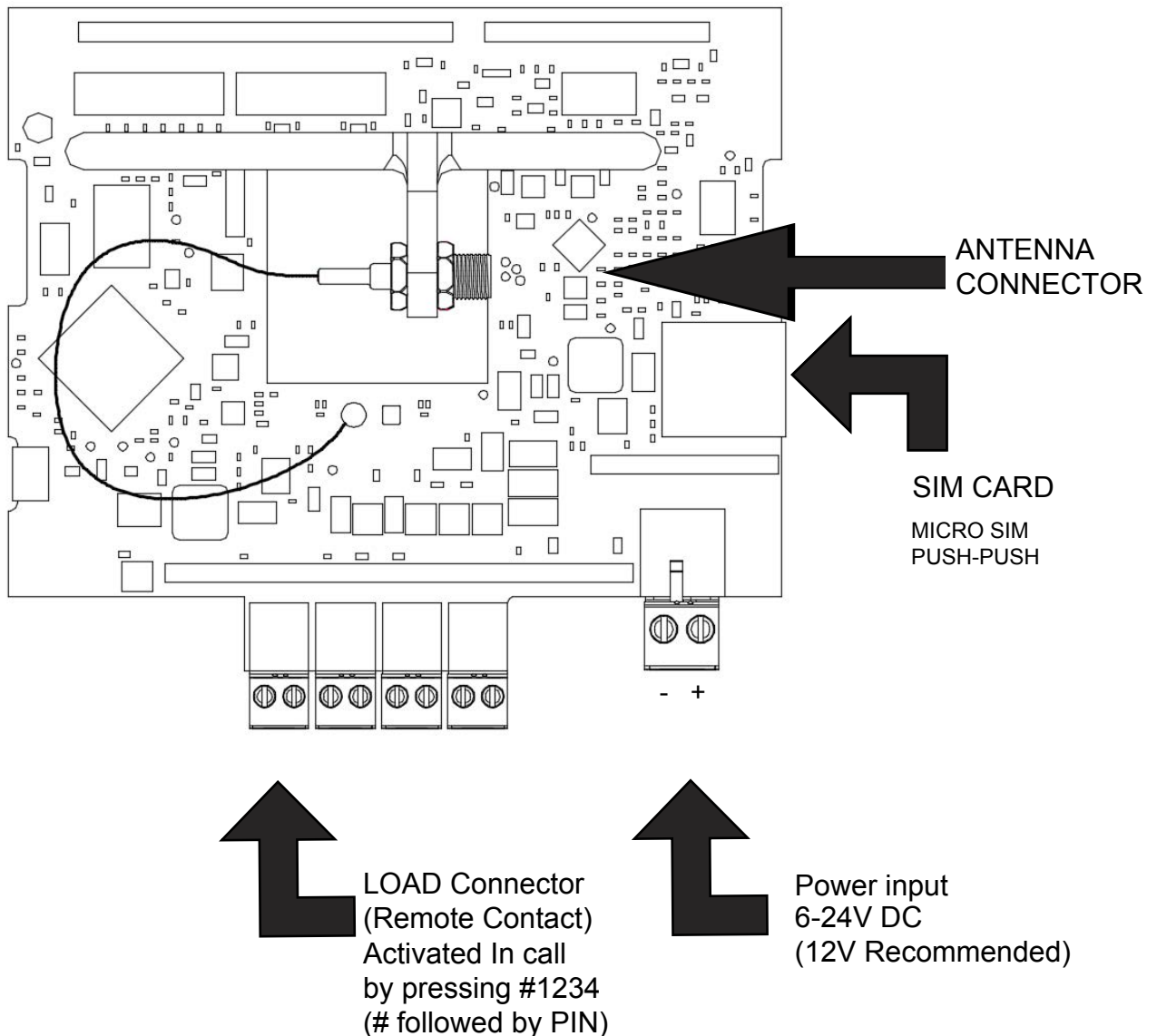Inset   Surface   top of Pole

Wall Mounting

Inset [Flush] mounting using In Wall Box
Part No. RA711-IW or Surface mounting
using rear enclosure Part No. RA711-OW.

Top of Pole Mounting

Top of pole mounting bracket
[Part No. 552642] available
from DAC Limited.

Electrical Connection - VERY IMPORTANT

The HOOK LED indicator should be OFF when the telephone is ON HOOK and should be ON when the telephone is OFF HOOK. During incoming ringing the LED will flash slowly and if a FAST FLASH is observed this indicates that the telephone is NOT registered on the network. When configured the INPUT / OUTPUT Terminals monitor a CHANGE OF STATE ONLY and are volt free contacts.

ANTENNA CONNECTOR

SIM CARD

MICRO SIM
PUSH-PUSH

- +

LOAD Connector
(Remote Contact)
Activated In call
by pressing #1234
(# followed by PIN)

Power input
6-24V DC
(12V Recommended)

When connecting power to the telephone it is important that a suitably rated power supply is used and the polarity of connection is carefully selected. Suitable power supplies are 12V DC battery [can be charged via solar panel] or a constant 12V DC mains Power Pack with a power rating of 2 Amps or 25 watt. Power consumption will be dependant on usage, please consult with your supplier for advice concerning suitable power options for your particular application.

Operation

The telephone is energised upon connection to an external power supply [12v DC Sealed Lead Acid Battery or Mains Power Pack]. A valid GSM SIM Card [not supplied] must be installed for correct operation.

To Make a call:
The telephone is taken 'OFF HOOK' by pressing the call button, tone mimic is presented to the user via the telephone speaker. The telephone then automatically dials the number stored in the telephone memory (see section Configure Voice Call destination command [CVC]). A voice call is then conducted and telephone will automatically go back 'ON HOOK' when the call is ended.
To Answer a call:
Incoming calls generate a ringing condition [audible speaker ringer] and the calls can be answered by pressing the call button.

SMS Configuration and status reporting

The telephone's operational parameters can be configured and telephone health status requested remotely by using SMS [Short Message Service] text messages containing correctly formatted commands.

Incoming command texts allow various parameters to be configured and outgoing log texts can provide log reports regarding the telephone status. The messages are sent and received via standard GSM mobile devices [mobile telephones] and are displayed as standard text messages.

Typical command parameters would include, but is not limited to:

Telephone Location - this can be up to 30 characters long identifying the telephone location e.g. **DAC Limited BB7 9ED.**
Reporting Number - this configures the desired number(s) [up to 3] where the telephone reports its' health status.
Handset Volume - the volume in the handset can be remotely configured via SMS.
Ringing Volume - ringing volume can be adjusted remotely via SMS.

Typical report parameters would include, but are not limited to:

Battery voltage - if battery voltage falls below a pre-determined level the telephone will report automatically.
Handset Integrity - If the handset integrity loop is broken the telephone can report via SMS.

Commands

USERTEXT message

The telephone compiles and sends an SMS text message [USERTEXT] to a command originator, to confirm changes of configuration after an incoming command has been processed, or to a maximum of three (3) SMS destinations as asynchronous responses to changes in telephone status. This essentially means that when the USER [command originator] changes a programmable parameter within the telephone via SMS, the telephone will respond to the USER via SMS confirming the changes. In addition to this the telephone will also respond to up to three (3) other numbers notifying that a change has been made. A human readable format is used as follows:

Location: {location of telephone} this can be configured via SMS
Type: <Status_text> This indicates parameter that has been changed or modified.
Battery: [Battery_voltage] current battery voltage e.g. 11.95V accurate to approx. 37mV
Signal: [GSM Signal_level] Range is 0-31 (0 unregistered, 31 max strength)
Last Call: [Duration of last call if over 10 seconds]
Ver: <Firmware _Version> Factory preset.

Configure or change USERTEXT recipients [CTX]

In order to configure the USERTEXT recipients [person (s) who receives notification of parameter change or system error] the telephone will require data input via SMS using the CTX command. Up to 3 numbers can be stored [3 recipients] and the numbers are input as follows:

CTX1234....+441234567890.+442345678901.+449876543210

⇧ It is important that these 'full stops' are added (and correct PIN if changed)

The originator [the person who sent the SMS command] and the USER LIST will receive the following message indicating that a parameter has been modified:

Location: {location of telephone} this can be configured via SMS
Type: **New SMS No's set**
Battery: [Battery_voltage] current battery voltage e.g. 11.95V accurate to approx. 37mV
Signal: [GSM Signal_level] Range is 0-31 (0 unregistered, 31 max strength)
Last Call: [Duration of last call if over 10 seconds]
Ver: <Firmware _Version> Factory preset.

Configure Voice call destinations command [CVC]

The product can be configured to dial a number stored in the telephone's memory. When the user presses the call button the telephone produces dial tone mimic and confidence tones whilst it connects to the pre-programmed internal memory number. Autodial number can be configured by the USER and changed as required. To re-program the number the following command is used:

CVC1234.+44123456789

To store additional number (when telephone equipped with more than one "press to call" button) use:

CVC1234.+44123456789.+441234567890.+441234567890

⬆ It is important that the prefix [country code] '+44' is used. Also ensure correct PIN is entered CVC1234.(1st autodial number).(2nd autodial number).(3rd autodial number)

The originator [the person who sent the SMS command] and the USER LIST will receive the following message indicating that a parameter has been modified:

Location: {location of telephone} this can be configured via SMS
Type: **New VOICE No's set**
Battery: [Battery_voltage] current battery voltage e.g. 11.95V accurate to approx. 37mV
Signal: [GSM Signal_level] Range is 0-31 (0 unregistered, 31 max strength)
Last Call: [Duration of last call if over 10 seconds]
Ver: <Firmware _Version> Factory preset.

Configure Location command [CLO]

Each telephone can be programmed with its own unique location reference, this can be configured remotely is limited to 30 characters and must not contain the symbols ',' [comma]or '.' [full stop]. The following command sets the location to DAC Limited BB9 7DR:

CLO1234.DAC Limited BB7 9ED

The originator [the person who sent the SMS command] and the USER LIST will receive the following message indicating that a parameter has been modified:

Location: {location of telephone} this can be configured via SMS
Type: **New Location set**
Battery: [Battery_voltage] current battery voltage e.g. 11.95V accurate to approx. 37mV
Signal: [GSM Signal_level] Range is 0-31 (0 unregistered, 31 max strength)
Last Call: [Duration of last call if over 10 seconds]
Ver: <Firmware _Version> Factory preset.

Configure PIN change command [PIN]

The product is PIN protected for security purposes [default 1234] if a new PIN is required the following command will change the PIN from 1234 to 5678:

PIN1234.5678.5678

The new PIN must be provided twice for confirmation and separated with a '.' [full stop].

The originator [the person who sent the SMS command] and the USER LIST will receive the following message indicating that a parameter has been modified:

Location: {location of telephone} this can be configured via SMS
Type: **New PIN set**
Battery: [Battery_voltage] current battery voltage e.g. 11.95V accurate to approx. 37mV
Signal: [GSM Signal_level] Range is 0-31 (0 unregistered, 31 max strength)
Last Call: [Duration of last call if over 10 seconds]
Ver: <Firmware _Version> Factory preset.

Status request command [REQ]

In order to clarify telephone status a request can be made to establish system parameters and health status. Upon receipt the telephone replies with a USERTEXT message to the command originator:

REQ1234

The originator [the person who sent the SMS command] and the USER LIST will receive the following message indicating that a parameter has been modified:

Location: {location of telephone} this can be configured via SMS
Type: **Request**
Battery: [Battery_voltage] current battery voltage e.g. 11.95V accurate to approx. 37mV Signal: [GSM Signal_level] Range is 0-31 (0 unregistered, 31 max strength)
Last Call: [Duration of last call if over 10 seconds]
Ver: <Firmware _Version> Factory preset.

Configure Parameters Command (CFG)

This describes the parameters that can be configured/monitored and should only be used following consultation with your supplier or with DAC Limited direct.

Parameter	Value
Configure Command	CFG
PIN	1234
IO 1& 2 direction [0-output, 1-input]	00
IO 1 & 2 output [0-relay off, 1-relay on]	11
Auto answer after this number of network RING indicators (0...25, 00 - off)	5
Auto on-hook time [minutes] (0..20, 00 - off)	6
Handset volume (0..5, 5-highest)	0
Handsfree volume (0..5, 5-highest)	4
Mimic hook to dialtone period (10..2500ms, 0 - off)	100
Mimic dialtone to autodial period (10..10000ms, 0 - off)	100
Mimic DTMF tone period (10..640ms)	80
Mimic DTMF inter-tone period (10..640ms)	90
Mimic volume (0..10, 0 - off)	2
Ring volume (0..10, 0 - off)	2
Audio volume (0..10, 0 - off)	0
Battery low level (0..24V, 0 - off)	11
LOGTEXT autosend period [days] (0..250, 0 - off)	1
Door illumination brightness (0..255, 0 -off)	100
Audio playback volume (0..10, 0 - off)	0

Full command string: CFG1234.00.11.5.6.0.4.100.100.80.90.2.2.0.11.1.100.0

Quick Start Guide

1. Unpack telephone, you have been supplied with:

  • RA711-GSM Telephone
  • Mains power pack 12V DC 2A (optional)
  • GSM Antenna (optional)

2. Insert valid SIM card into telephone SIM holder
3. Connect antenna ensuring instructions are followed on page 3 [Electrical connection]
4. Connect power supply [telephone will take up to 3 minutes to initially connect to network, however this normally occurs in less than 60 seconds]
5. At this stage you can call the telephone [telephone number determined by SIM card], however the telephone will not dial out until a number is stored in the internal memory.
6. If required, store a number in the internal memory by utilising the CVC [Configure Voice Call] command. Send a text message to the telephone as follows:

CVC1234.+44XXXXXXXXX

Ensure you send text message with full stop and country code [as written here] followed by valid telephone number

You will receive a message back from the telephone confirming that you have configured the voice call number.

When the telephone is operated [call button is pressed] it will now dial the telephone number you have stored in the memory.

GENERAL CARE AND MAINTENANCE

The RA711 Telephone does not require any regular maintenance. To clean wipe with a damp cloth.

Do not use any abrasive cleaners on the telephone as this may cause the telephone to become discoloured.

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