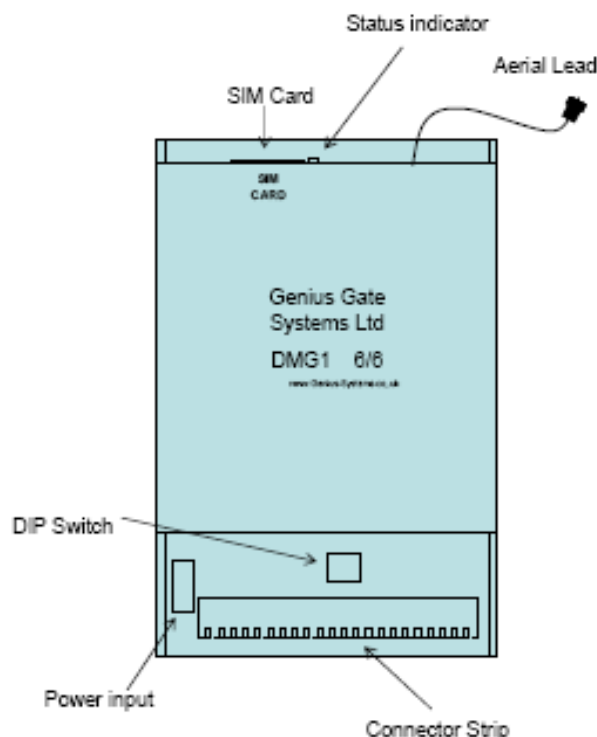


## Setup Instructions of the DMG1 6/6 Telecommander

The DMG Telecommander is a simple remote control device based on GSM Cellular technology that provides interfaces for a standard push button gate access unit with voice capability that will connect to any fixed line or mobile telephone over the public network. There are options for toll free inbound calling and SMS communications.

It provides up to 6 dry contact relay outputs (one of which is a toggle) that may be commanded from the keypad on the remote telephone handset.

Its important features are as shown opposite



Before attempting to set up the unit you will need the following:

1. A suitable weather proof cabinet to install the complete system. The DMG is NOT suitable for outside installation.
2. A SIM card for any of the GSM networks.  
The SIM may be on any Tariff.
3. A suitable Power supply of nominal Voltage 12 Volts DC ( +/- 3 Volts) terminating in a 2.1mm female plug with the centre contact being Positive. It should be externally fused at 2 A although the mean current is about 350mA. The negative line must be grounded and/or connected to the 'Common' line for all of the other equipment
4. A GSM Dual band Antenna with a Female FME connector. This can either be directly connected to the flying antenna lead or via an extension lead and adaptors as needed. The Antenna should have or be mounted on a metal base plate of at least 50mm x 50mm for best operation. This may be part of the external cabinet.


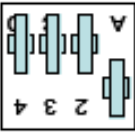
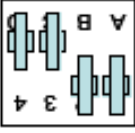


Note: We can advise on or supply any of the above items if desired.

### Set Up - Basic with default settings

The default setting will give no call forward and call duration when answered of around 30 seconds. The call duration timer is restarted each time the remote party presses a button to operate a relay (whether the relay is in use or not by the gate control equipment). This will allow the call to be extended indefinitely.

- Set the DIP switches.  
The DMG offers two button inputs and two relay outputs as default. Relay 2 is a toggle that is to say it changes state from open to closed and vice versa each time it is commanded from the remote telephone. All the other relays as 1 second closure only. The DIP switches can then be used to 'trade' button inputs for relay outputs as below:

### DIP Switch Truth Table

DIP	Relays	Buttons
	1,2,3,4,5,6	1,2
	1,2,4,5,6	1,2,3
	1,2,5,6	1,2,3,4
	1,2,6	1,2,3,4,5
	1,2	1,2,3,4,5,6

The DMG reads the DIP switches each time it starts up and self configures accordingly. Do not set the switches in any other combination as the DMG will not necessarily read them correctly. If you need to re configure from one set to another, you must power cycle the DMG to make sure it will read the new configuration.

- Load the SIM with the numbers in use.

Place the SIM card into any convenient Cellular phone and turn it on. Set the memory in use to SIM only.

For Example in a Nokia Phone this is found under Names - Settings - Memory in Use where you can select 'SIM only'

Having done this key in the number you wish to assign to Button 1, use the full sequence that you would ordinarily dial.

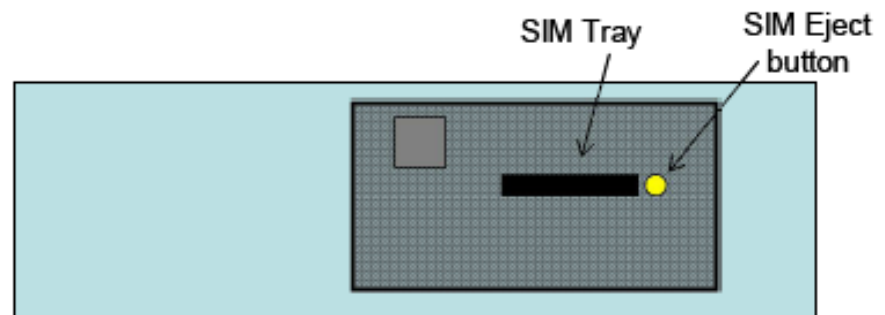
Save the number and give it a name. The names for your numbers need to follow the following rule. For Button 1 the number MUST use the Name 1A (in Capitals). Button 2 the name 2A and so on for all 6 buttons. You must not add further characters to the name.

Note that unlike earlier versions of the DMG1, It does not matter in which order the phone numbers are entered or where they are stored on the SIM.

**NOTE:** Some recent phones will add extra characters to the Name when saving to sort the names into other categories eg Home, Work, Mobile etc. This will cause problems. If you may wish to consider a free standing SIM reader/writer like the SIM Tool 2 that is widely available.

If you do not wish to modify or extend the settings for the Call forwarding or call duration or activate the SMS or Toll free calling option please continue otherwise see the notes in section 5.

When finished remove the SIM (not forgetting to return the phone to its original memory setting) and using the tip of a ballpoint or a similar small object eject the SIM tray from the top of the DMG at the point shown by pressing the Yellow button as below:



### 3. Connect up the external components

Mount the DMG as desired and connect the antenna.

Note that the Antenna produces short range audio interference and should be kept at least 300mm away from the audio gate panel if they are obliged to occupy the same cabinet.

Connect the Audio circuits using the terminals marked. The COMMon terminals for the Mic and Speaker for the voice circuits are the Left Hand ones of each pair. These may be connected together if needed but best audio interference rejection is obtained if they are connected together at the Voice panel only.

Next connect the Button inputs to the terminal strip as indicated. Note The DMG Button inputs respond to being grounded via a dry contact only.

Next connect the relay outputs to the external drive circuits. Remember that Relay 2 is a Toggle. Diagrams are available for most common industry analogue panels and can be found on our website although the correct one should be with this instruction. Please contact us if you have a different panel and we will advise on compatibility.

### 4. Test the system

Check all connections and once satisfied power up the DMG1 and the Gate panel.

The Status indicator will start to flash quickly as the GSM unit tries to register with the network. Once registration is complete the indicator will flash slowly. NOTE the DMG will take approximately 60 seconds to complete its internal checks and read the data stored on the SIM before it will respond.

With a mobile phone (or landline) call the phone number issued with the SIM. The DMG will answer the call after 3 or 4 rings and issue a simple Dit-Dit-Dit Dee sound to the caller. The call will hold for about 30 seconds as the internal countdown timer runs out, during which time the caller can operate the relays by pressing button1 on the phone for relay 1, button 2 for relay 2 and so on. Each button press will reset the countdown time to 30 seconds run time. Successful relay operation results in a Dit-Dit-Dit-Dee sound being issued. The sound for relay 2 however also indicates the status of the relay. Being a Dit-Dit-Dit-Dee-Dee as the relay closes and a Dit-Dit-Dit-Doh-Doh as it opens.

Let the call drop once proper operation is established and initiate outbound calls by pressing the gate buttons to call the target numbers loaded into the SIM earlier. Once again check for proper operation.

## 5. Advanced Features

### 5.1. Call Forwarding

#### How it works

When a button is pressed, say Button 1, The DMG1 will scan the SIM card for the name that begins with 1A and call the number stored there. The call will ring until the call forward timer runs out. The call is then automatically dropped and a new call set up to the Number stored at 1B. If there is no number stored at 1B the DMG1 will call the number at 1A again. This will ring until the call is answered or the DMG1 countdown timer runs out or in some cases the Network drops the call anyway. This will be about 30 seconds. As network conditions are variable the number of rings for the first number may vary a little over time.

#### Modifying the Settings.

The Call forward timer defaults to 1 second that is to say it is effectively disabled. The call duration timer is 30 seconds. Both of these can be changed.

#### Usage suggestions

- With a single Number stored at 1A and no 1B the system will redial the number at 1A as is stated above. If the call forward timer is set to about 15 seconds the effect is to give a 4 or 5 rings followed by a short break when the phone will start ringing again. Many users find this provides a form of distinctive ringing thus indicating a call from the gate. It can be useful to reduce the call forwarding timer (to about 8 Seconds) to make the first ring only one or two.
- The call forwarding timer may be extended to any value up to 99 seconds if needed but it must be noted that the default value was chosen to avoid the likelihood of a customers Voicemail answering the call in which case the Second call will not occur.
- The call duration timer can also be increased from its default of 30 seconds up to 99 seconds if more time is needed to answer the phone, perhaps for a landline in a large building. The 30 second default was chosen to keep call charges at a minimum as the call will not necessarily drop if the remote number is a mobile when the remote party hangs up.

#### Changing the settings

If you want to change the timers you can do so by Storing a name on the SIM card (without a telephone number) in the form DAT4xxyy where xx or yy is a number of seconds. The value for xx is the time delay from the call setup to the call forward trigger. The value for yy is the call duration timer and is optional.

Note if you want to make the call forward less that 10 seconds you must enter a leading zero eg 07 for 7 seconds. Entering a value of less than 30 seconds for the call duration will not have any effect. DAT must be in Capitals.

#### Examples:

Name	Effect
DAT415	15 second Call forward delay (about 5 rings), standard 30 second call duration
DAT408	8 second call forward delay, standard 30 second call duration
DAT40845	8 second call forward delay, 45 second call duration

## 5.2. Toll free inbound Calling

### How it works

You may store up to 20 numbers that the DMG1 will compare against the inbound Caller Line Identity (CLI) when an inbound call is made. If it finds a match it will operate relay number 1 and drop the call. Thus a caller who makes a speed dial call to the gate can open the gate without any call charges and by only pressing one button on the phone keypad. It may be noted that Key 5 on most keypads is easy to identify without looking as it generally has a raised dimple.

The Numbers are stored in the SIM by entering the name DATS (in capitals) and storing the number in question against that name. If you want to store multiple numbers, you can store up to 20 in which case you can extend the DATS name as DATS01, DATS02 DATS03 and so on for each number you store.

## 5.3. SMS Communications

The DMG can be contacted from a mobile using the Simple Messaging Service (SMS). To enable this, the DMG1 uses a 4 Digit security site code. The default value for this is 1234. If you wish to use your own code for added security you can give it your own value. The Code is any 4 digit number except it may NOT start with a zero.

The Site Code is stored in the SIM by storing the Name DAT3xxxx (in capitals) where xxxx is the Site code. Do not store a number for this name.

The DMG 1 can then be sent a standard type SMS message via its telephone number to which it will reply.

As an example assume the Site code 1966 has been stored as DAT31966

The features then enabled are:

Inbound Message	Function	Result
DMQ1966	A status Query	DMG1 will collect the signal strength and reply. Signal level should be above 12 units for stable operation
DMR1966.1A	Read a number	DMG1 will search for a number against the reference 1A and report it.
DMW1966.5A!01999999999	Write a number	DMG1 will search for a number against the reference 5A and create or overwrite it and report the action.
DMS1996.1	Switch a relay	DMG1 will operate the relay 1 and report the action.

**Note:** The Syntax MUST be exactly as above. The number for the write command is in standard national format

**Version 3.5**

**March 2009**