

## 4G, 3G & GSM Cellular Intercom: SMS Programming

There is storage space in the memory of the intercom for 1000 numbers. These can comprise of any of the 4 number types. Numbers programmed as 'Master' number allow master users to change settings and add other numbers. They are not called when the button is pressed but they will operate the output relays when they dial the SIM card telephone number. 'Call' numbers are the numbers dialled when the button on the intercom is pressed. When a 'Call' number dials the SIM card telephone number the default relay will operate. 'User' numbers are purely for 'dial-to-open' access control. They can operate the output relays when they dial the SIM card number. 'Text' numbers are sent SMS messages on events such as dial-in notifications.

### Registering the Master Phone

The user in charge of setting up the unit (known as the 'Master' user) must first send the following SMS text message to the SIM card number.

**MASTER** <master's number>,<PIN>.

There must be one space after MASTER before the number

There must be a stop (.) at the end of the message

**The 5-digit PIN is written on the sticker above**

e.g.

**master** 07000000000,12345.

*Ensure there is no space before or after the comma ','*

Sets the master phone number as 07000000000 for PIN 12345

Only the first Master has to use the pin – further master numbers can be added by other masters as follows:

**Master** 07000000001.

### Adding and Removing Numbers to be Called

The order in which numbers are dialled is the order in which they are added to the system. To add a call number to the system use the following command:

**CALL** <user number>. e.g.

**call** 07574777888.

First number dialled

**Call** 07570301799.

Second number dialled

To remove a number the **REMOVE** command is used. Numbers are removed in the reverse order to which they are added:

**remove** 07574777888.

If a number is both a master number and a call number the last one added will be removed first. If the call number was added after the master number (which is most likely), the call number will be removed by the first REMOVE command sent. If another REMOVE command is sent the master will also be removed by the second command

### Useful Commands

**VOLUME 7**

sets the volume to maximum (VOLUME 1 sets the volume to minimum)

**MIC 7**

sets the microphone sensitivity to maximum

**RTIME 30**

sets the maximum dialling time to 30 seconds (max 250s)

**CTIME 60**

sets the maximum call length to 60 seconds (max 250s)

### Output and Call Handling

During a call the output is activated by pressing the \* or # key on the telephone keypad. This will activate the corresponding relay output (as per **RLYTIME** and **RLYMODE**) and instantly disconnect the call.

By default, any user number, call number or master number can activate the output relay by dialling the intercom SIM card telephone number. The default setting is for the intercom to reject the call as soon as the number is read. To switch back to this default mode the following command is sent to the intercom:

#### REJECT CALL

If desired the intercom can be set to answer incoming calls if the number is recognised and a conversation can be made between the intercom and the calling telephone. In this mode, to activate the relay the \* or # key is pressed. To enter this mode the following message is sent to the intercom:

#### CONNECT CALL

If the output must be controlled for a measured period of time the RING mode is selected. In this mode the relay is activated when a recognised number calls the intercom for as long as the caller continues to dial the number. The call is never answered. This is also useful when it is not desirable to reject the call. To enter this mode the **RLYMODE** command is used as follows:

#### RLYMODE RING

### Signal Strength

To view the received radio signal strength the '**CSQ**' command is used. The intercom will naturally use 4G if possible which can result in low signal strength readings. The 3G and 2G bands frequently offer a high signal strength and will be used when 4G is unavailable. A good RSSI value is over 15 with 31 being the maximum.

### Viewing the Number List

The list of numbers in the memory can be read by sending the '**LIST**' command. MXXXXXXXX numbers are master numbers, CMXXXXXXXX numbers are the number to be called when the button is pressed. UXXXXXXXX numbers are the number with just dial-to-open access control.

### Output Relay Status

The relay status and gate open/closed state can be viewed by sending the '**STATUS**' command. This will return both the gate and relay activation status. Additionally the current firmware version can be found using this command.

### Online Programming

The intercom has access to the IoT Portal (<http://iot-portal.com>). This allows settings and numbers to be viewed online. This requires your SIM card to have a data allowance and for the APN to be set. Native SIM cards (i.e. the network's own SIM like O2 and not reseller SIMs like GiffGaff) often do not need the APN to be set. To set the APN the APN command is used as follows:

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apn "giffgaff.com","giffgaff","" (where giffgaff.com is the APN, giffgaff is the username and in this case there is no password "")
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When the intercom is required to be online, send the following command:

#### Get link

Click the temporary link sent in the SMS reply to access the intercom

**NB: 12-24V AC/DC Absolute Maximum – Please measure AC voltage with a volt-meter.  
Do not wire the intercom to mains voltages.**