SHERLO TRONICS

Part no: MB4000

micro **SD** ScanDisk 2GB microSD

USB

2000x Remotes, 8 User Passwords, microSD Card, USB
2 x Relays, 1 x Siren, AC fail, RS-485, Low battery detect,
4000 x GSM numbers, Full event log.

12VDC

CE

TABLE OF CONTENTS

PROGRAM MODE

Follow the instructions to enter into Program mode with the ADMIN code before you begin

Press the Enter button

Use the Keypad to type in the units ADMIN code.
Default is: 1;2;3;4
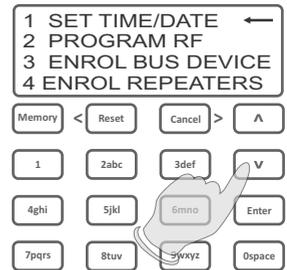
Use the Down arrow key to select the Menu you wish to Program. Press Enter to continue or Scroll down to Exit to go out of Program mode

Specification, Features & Applications

Specification:

Encryption:	Code-Hopping
Operating Range:	500m (Open air)
Frequency:	403MHz or 433MHz
Memory Capacity:	2000 Remotes
Events memory:	2000 Time/Date
Outputs:	2 Dry Relays
	1 x SIREN (800mA)
Connectivity:	1 x AC Fail (150mA)
	1 x USB(2)
Inputs:	1 x microSD (FAT32)
	GSM & LAN (UARTS)
	RS-485
Voltage Input:	9.8V - 16VDC
Current draw:	80mA
Dimensions (lxbxh):	167 x 130 x 35mm
Gross Weight:	0.6 Kg
Operating Temp:	-3°C to 60°C
Warranty:	24 Months
Release Date:	June 2013

Applications

Shopping Centre Panic System

Frail Care Nurse-call System

Retirement Village Alarm Monitoring

Housing Estate Alarm Monitoring

Office Park Alarm Monitoring

Resort Alarm Monitoring

Features

Memory Capacity of 2000 Remotes

Low battery detection

microSD card for backing up

USB 2.0

40 Character custom text programmable

SMS Input & Output commands

Programming remotes via an SMS

Internal Piezo buzzer notification

Up to 8 x Data receivers per unit

Monitoring Software GUI with Reporting

User codes & full event logging of all actions

Keeps time & date for a day if de-powered

Approvals:

This product is approved for use in residential, commercial and light Industrial environment and complies with the essential protection requirements of the R&TTE Directive 1999/EC on the approximation of the laws of the Member states relating to electromagnetic compatibility and radio spectrum.

Certifications:
IEC 60950-1:2005 + A1:2009

Order Codes:

Mimic Base control panel: Code-hopping	MB4000

MB4000

For more info visit our web site: www.sherlotronics.com

Wiring Diagram

DATA RECEIVER

Please refer to [3] PROGRAM ASKDRX] menu after you have powered the Data receiver up for the first time.
You can enrol up to 8 x Receivers.

RS-485 BUS

Max: 4

microSD Card holder   USB

Do not exceed 1000m cable run

NORMALLY CLOSED
NORMALLY OPEN — Relay 2
COM

NORMALLY CLOSED
NORMALLY OPEN — Relay 1
COM

Siren +
−

NEG
+12V

AC FAIL

[1] TIME / DATE SETTING

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
1  SET TIME/DATE    ←
2  PROGRAM RF
3  PROGRAM ASKDRX
4  ENROL REPEATERS
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]
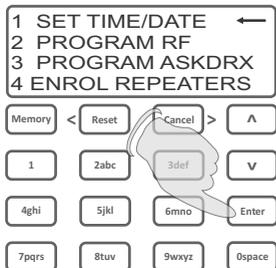
Use the up & down buttons
to Select SET TIME/DATE
Press the Enter

```
-  SET DATE / TIME  -

dd/mm/YYYY  hh:mm:ss
29/05/2013   16: 53 :00
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]

Use the Left & Right and
enter the applicable date
followed by the time.

```
-  SET DATE / TIME  -

dd/mm/YYYY  hh:mm:ss
29/05/2013   16: 53 :00
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]

When finished press the ENTER
Then scroll down to Exit and press
the Enter button again

[2] PROGRAM A REMOTE CONTROL or TRANSMITTER DEVICE

Please note: Before you begin, make sure the **ASKDRX** Data Receiver is wired up and programmed in before you start. Follow step **[3]** on page 5. **[3] PROGRAM ASKDRX**
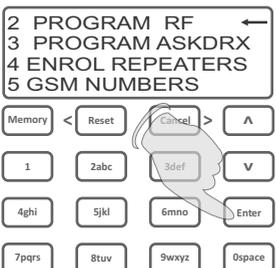
```
2  PROGRAM  RF     ←
3  PROGRAM ASKDRX
4  ENROL REPEATERS
5  GSM NUMBERS
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]

Use the up & down buttons
to Select **PROGRAM RF**
Press the **Enter**

```
No: 1      EMPTY
------------TEXT-------------
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]
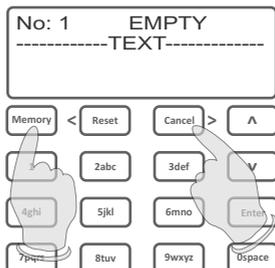
Press either the **>** to select
a No: that is EMPTY or you can
type in a number.
Once you have decided on a
No: Press the **MEMORY**
button.

```
No:  1
1 - LEARN RF
2 - DELETE RF.
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]
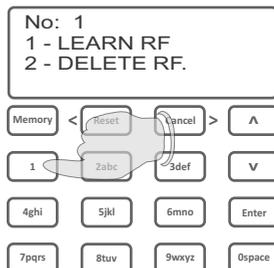
Press button **1** to Learn
in a RF Remote control devices
to the units memory.

```
PRESS REMOTE BUTTON
3X  TO LEARN IN.
```
[Memory] < [Reset] [Cancel] > [^]
[1] [2abc] [3def] [v]
[4ghi] [5jkl] [6mno] [Enter]
[7pqrs] [8tuv] [9wxyz] [0space]

3 beeps
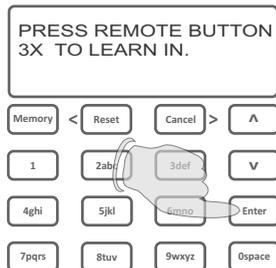
Press three times

The screen will prompt: **PRESS REMOTE BUTTON 3x LEARN IN.**
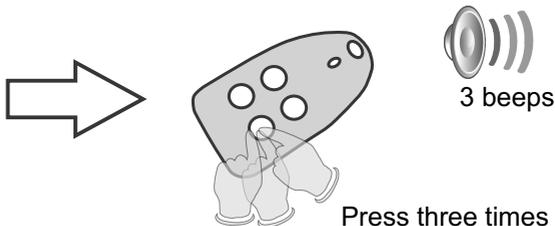
Once it is Learn in the unit will Beep to confirm when you press the remote.
To test that the remote is Learnt in, press the remote few times and make
sure the unit beeps to acknowledge that it is correctly learnt in. To Exit back to the MAIN Menu, Press the
ENTER button or continue with Learning in additional Remotes to the unit.

[2] DELETE RF DEVICE

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
2 PROGRAM RF    ←
3 PROGRAM ASKDRX
4 ENROL REPEATERS
5 GSM NUMBER
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space

Use the up & down buttons
to Select PROGRAM RF
Press the Enter

```
No: 1      FULL
------------TEXT-------------
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
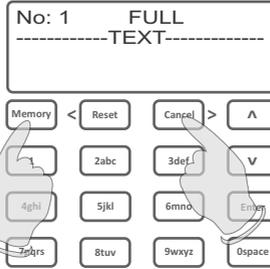
Press either the **>** to select
a No: that is FULL or type
in the No. Press the MEMORY
button to continue.

```
No: 1
1 - LEARN RF
2 - DELETE RF
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space

Press button 2 to Delete the RF
Remote control from the units
memory. The unit will Beep and
display [DEVICE DELETED]

[2] PROGRAM IDENTIFICATION TEXT

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
2 PROGRAM RF    ←
3 PROGRAM ASKDRX
4 ENROL REPEATERS
5 GSM NUMBER
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
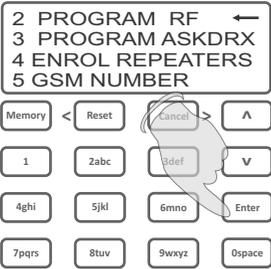
Use the up & down buttons
to Select **LEARN/DELETE RF**
Press the **Enter**

```
No: 1      FULL
------------TEXT-------------
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
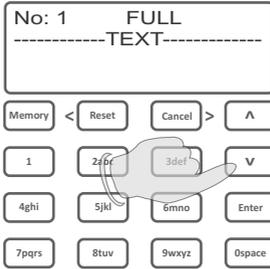
Press the Down button to make
the cursor drop to the bottom
of the screen.

```
No: 1      FULL
------------TEXT------------↓
___
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
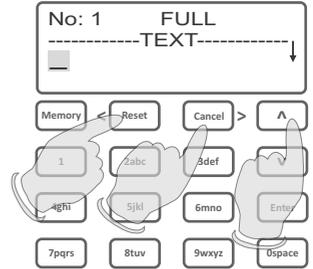
You can now type in the description
of the remote using the keypad.
Use the < & > buttons to go back
and forth and use the Up button once
finished the description to program a
new No:

[3] PROGRAM THE DATA RECEIVER

Follow the instructions to enter into Program mode with the ADMIN code before you begin. Always Delete ALL
devices first if you start a new installation or have done a Factory Default, then Auto Learn all.

```
3 PROGRAM ASKDRX ←
4 ENROL REPEATERS
5 GSM NUMBER
6 SET RELAY OUTPUT
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
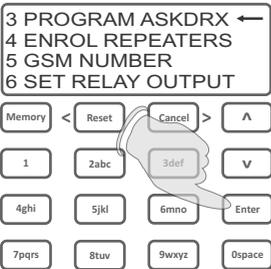
Make sure the Data Receiver
(ASKDRX) is wired up as per
the wiring diagram before you
continue.

```
PROGRAM ASKDRX
1: AUTO LEARN
2: DELETE ALL
3: EXIT
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space

You can either Auto learn all
device automatically or Delete
all. We recommend first deleting
all before you start a new
installation.

```
AUTO LEARN

ID:1   24031
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
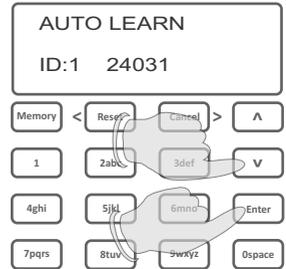
Up to 4 ASKDRX's can be Learn
into the MB4000. Make a note of each
units ID code if installing more than 1 unit.
Press Enter when you are done

[4] ENROL REPEATERS

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
4 ENROL REPEATERS ←
5 GSM NUMBER
6 SET RELAY OUTPUT
7 SET PASSWORD
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space
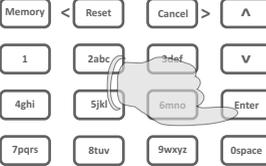
Make sure the Data Receiver is wired up as per the wiring diagram before you start. Press the Enter button to continue.

```
REPEATER:1  EMPTY ←
REPEATER:2  EMPTY
REPEATER:3  EMPTY
REPEATER:4  EMPTY
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space
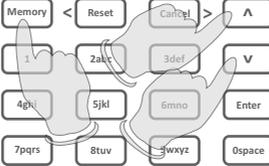
Select a Repeater No: using the Up / Down keys followed by pressing the MEMORY button

```
REPEATER:1
1 - ADD REPEATER
2 - DELETE REPEATER
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space
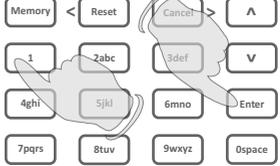
Press button 1 to ADD the Repeater to the unit for Supervision of the Device. The unit does a supervision check every 4 hours.

```
ENROL REPEATER NOW..

9E01AC23ACEFDE20
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space

Now bridge the SUPERVISION jumpers on the RPT-800_V2 Repeater unit.

On

Off

Supervision AC Fail Default
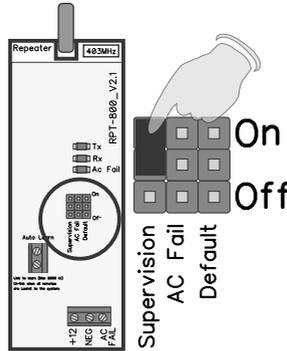
```
REPEATER:1  FULL  ←
REPEATER:2  EMPTY
REPEATER:3  EMPTY
REPEATER:4  EMPTY
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space
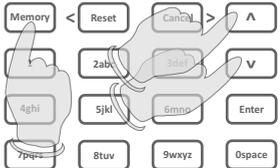
Select a Repeater No: using the Up / Down keys followed by pressing the MEMORY button or Press Enter to go back to the main menu screen

[5] GSM Numbers

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
5 GSM NUMBER       ←
6 SET RELAY OUTPUT
7 SET PASSWORD
8 BACKUP SYSTEM
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space
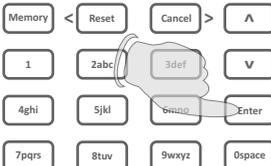
Use the up & down buttons to Select GSM NUMBERS Press the Enter

```
SELECT GSM NUMBER
1 - SET MASTER
2 - SET INDIVIDUAL
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space
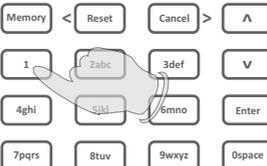
Press either button 1 or 2. 8 Master numbers can be set and 2 individually numbers per remote RF device.

```
CALLING CODE: +27
CELL1:
CELL2:
CELL3:
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			V
4ghi	5jkl	6mno			Enter
7pqrs	8tuv	9wxyz	0space

Using the Keypad enter the GSM number that will receive a SMS. Press the RESET button for 2sec to clear the blocks if you make an error or to try and clear a zero to type a calling code like +27_.

Please refer to this link : **http://wikitravel.org/en/List_of_country_calling_codes** on the web for reference to all the international calling codes used. The unit is set for South Africa as its default code which is **+27_.**

[6] SET RELAY OUTPUTS

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
6 SET RELAY OUTPUT ←
7 SET PASSWORDS
8 BACKUP SYSTEM
9 INSTALL BACKUP
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space

Use the up & down buttons
to Select SET RELAY OUTPUT
Press the Enter

```
RELAY1 [003]
RELAY2 [180]

*Time is in seconds*
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
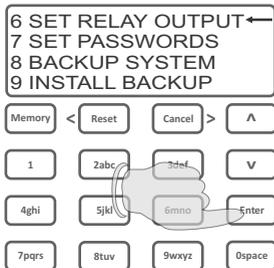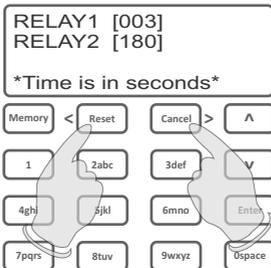
Use the Left & Right and
up & down button to move the
cursor. A max of 999 seconds
can be set.

```
RELAY1 [003]
RELAY2 [180]

*Time is in seconds*
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
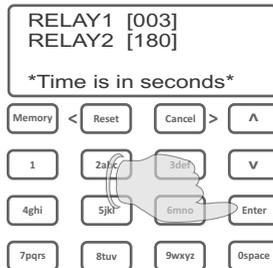
When finished press the ENTER
to return to the Main menu.

[7] SET PASSWORDS

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
7 SET PASSWORDS ←
8 BACKUP SYSTEM
9 INSTALL BACKUP
10 FIRMWARE VERSION
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
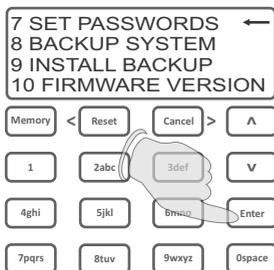
Use the up & down buttons
to Select SET PASSWORDS
Press the Enter

```
1 USER 1: ****  ←
2 USER 2: ****
3 USER 3: ****
4 USER 4: ****
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
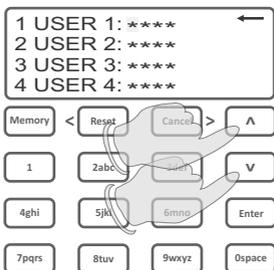
Enter a unique 4-digit code for the
user. Use the up & down keys
to move to other users. Press &
hold RESET to clear a whole code
if not in use.

```
1 USER 1: 2576  ←
2 USER 2: ****
3 USER 3: ****
4 USER 4: ****
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
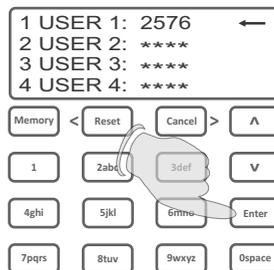
When finished press the ENTER
to return to the Main menu.

Note: If you want to RESET the ADMIN password back to default, then power up the unit whilst pressing
the Cancel button. Default is: 1;2;3;4

[8] BACKUP THE SYSTEM

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
8 BACKUP SYSTEM ←
9 INSTALL BACKUP
10 FIRMWARE VERSION
11 DEFAULT
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
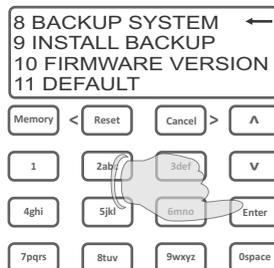
Make sure you have a clean
formatted microSD card
inserted. You can format a card
in menu 13. Press Enter

```
CONFIRM REQUEST

1) YES
2) NO
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space

Press button 1.

```
BACKING UP TO MICRO

SD CARD 100%
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def			v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space
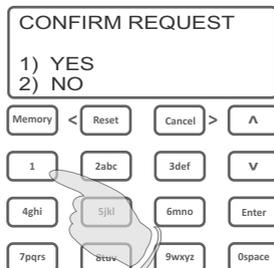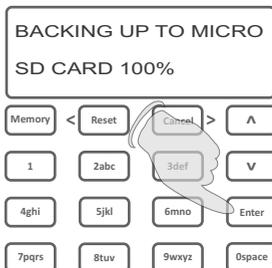
When finished press the ENTER
to return to the Main menu.

[9] INSTALL A BACKUP

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
9 INSTALL BACKUP     ←
10 FIRMWARE VERSION
11 DEFAULT
12 TEST
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
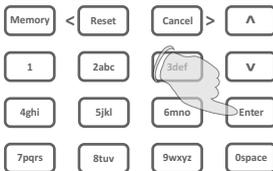
Make sure you have a clean formatted microSD card inserted. Press Enter

```
CONFIRM REQUEST

1) YES
2) NO
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
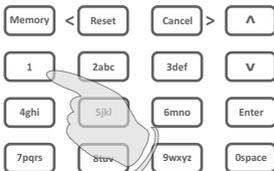
Press button 1.

```
-INSTALLING BACKUP-
 CODES - DONE
 TEXT   - DONE
 CELL    -DONE
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
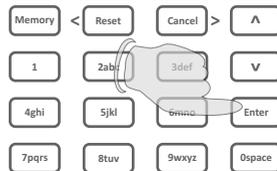
The unit will start the backup process which will take about 80 seconds.

[11] DEFAULTING THE UNIT

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
11 DEFAULT           ←
12 TEST
13 FORMAT SD CARD
14 EXIT
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
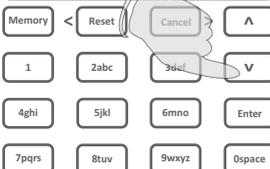
Use the up & down buttons to Select SET RELAY OUTPUT Press the Enter

```
1 CELL NUMBERS       ←
2 REMOTE CODES
3 EVENTS
4 TEXT
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
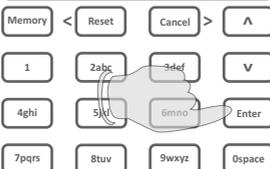
You can just clear certain parts of the units memory or do a full Factory Default. Scroll down to the relevant function and press Enter

```
CONFIRM REQUEST

1) YES
2) NO
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
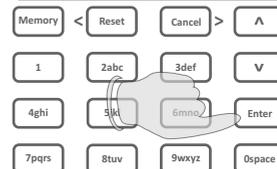
When finished scroll to 6 Exit to go back to the MAIN Menu.

[12] TESTING REMOTES

Follow the instructions to enter into Program mode with the ADMIN code before you begin

```
12 TEST              ←
13 FORMAT SD CARD
14 EXIT
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
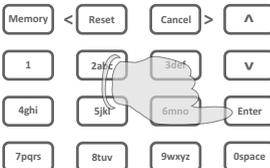
Use the up & down buttons to Select TEST Press the Enter

```
PRESS REMOTE TO TEST
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
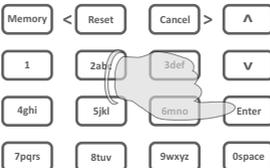
You can TEST to see if the remotes that you programmed in are working. The unit should beep and display the remote No: The TEST mode will not trigger the GSM output or switch the Siren and Relays on.

```
PRESS REMOTE TO TEST
REMOTE: 1
CUSTOM TEXT HERE
AND HERE
```

Memory	<	Reset		Cancel	>	^
1		2abc		3def		v
4ghi		5jkl		6mno		Enter
7pqrs		8tuv		9wxyz		0space
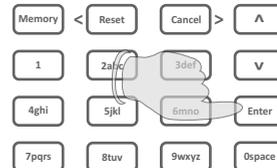
When finished press Enter to return to the MAIN menu.

AC FAIL

The unit will trigger an AC FAIL event if the AC MON input is connected to the 3.2A power-supply AC Fail output. The AC Monitoring input requires a +12V logic level to work. When +12V restores to 0V the unit will clear the AC FAIL message. Please note: The unit will not activate its Relays or Siren output when it detects a AC fail conditions. It will only Send out a SMS message and log the Event into the event register.

```
28/06/2013      16:56:03


                      [AC  FAIL]
```

Memory	<	Reset	Cancel	>	^
1	2abc	3def	v
4ghi	5jkl	6mno	Enter
7pqrs	8tuv	9wxyz	0space

USER MENU

Follow the instructions below to enter into USER Program mode with a USER code before you begin

```
28/06/2013      16:56:03

MB4000 MIMIC BASE
```

Press the Enter button

```
ENTER PASSWORD

      1 2 3 4
```

Use the Keypad to type in any of the 8 USER codes.
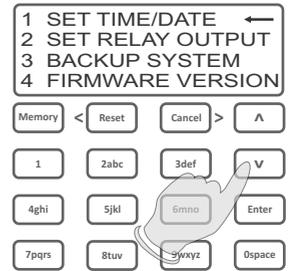
```
1 SET TIME/DATE    ←
2 SET RELAY OUTPUT
3 BACKUP SYSTEM
4 FIRMWARE VERSION
```

Use the Down arrow key to select the Menu you wish to Program. Press Enter to continue or Scroll down to Exit to go out of Program mode

The USER PIN code will give the user five menu functions. The following menus are available for the USER pin code to access.

1. Setting the Time & Date
2. Setting the Relay contact time
3. Backing up the system to a microSD card
4. Checking the Firmware version
5. Testing remotes

Any changes made to the unit will be logged in the event log with the USER'S PIN CODE and the changes that were made to the unit. This will prevent any unauthorised changes made to the unit.

HOW TO OPERATE THE SYSTEM

The MB4000 unit will respond as a 24hour input to remote controls or Alarm transmitters that are programmed to the unit. When a valid signal is received the unit will sound its internal buzzer and will prompt the user to Enter a PIN CODE. The pin code is a 4 digit number that is issued to a user on installation of the product. The unit is able to store up to 45 Events in a buffer memory if they are not reset by a PIN code. A pin code will need to be entered to reset each signal received.
The ADMIN code is a PIN CODE issued for either entering the unit into Program mode or can RESET all events in memory at once. The ADMIN default code is 1,2,3,4 and should be changed when the unit is installed.

Receiving a signal screen

Date the signal was received

Time of the activation

MB4000

Remote no#
The unit can store from #1 - #2000

28/06/2013   16:56:03
#1   E:1
TESTING A PANIC
BUTTON

Event number stored in buffer memory
Up to 45 can be stacked into its memory.

Up to 40 Characters of Custom text that was programmed to the remote No#
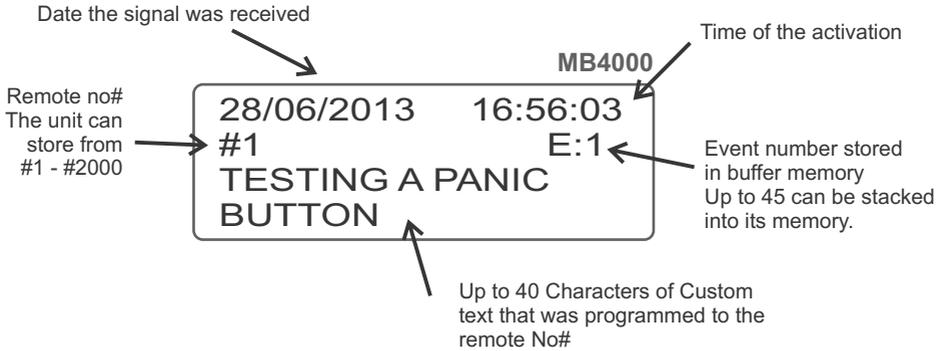
VIEWING EVENTS / SAVING EVENTS TO MICROSD CARD

You can either View the events that the unit has stored in its memory, or save them to a microSD card. Press the MEMORY button on the far top left of the keypad and follow the prompts on the screen.

28/06/2013   16:56:03
MB4000 MIMIC BASE

--EVENTS DISPLAY--
1) SAVE TO SD CARD
2) VIEW EVENTS
3) EXIT

10/07/2013 17:59:20
No:1   ADMIN
TESTING A PANIC
BUTTON

Saving Events to a microSD card

First make sure the microSD card is formatted to FAT32. Then insert the card into the slot on the bottom right of the unit.
Press MEMORY, followed by 1. The unit will then start the process. When done you can eject the microSD card and view it on a pc in either Note pad or Import it to Excel.

FIRMWARE UPDATE

It is possible to update the units Firmware. Please consult with us for the availability of a new software version. As we make improvements we will make the firmware available.

The procedure to update the firmware is as follows.
Save the firmware onto a formatted microSD card. De-Power the MB4000 unit and then insert the microSD card into the card holder. Power up the MB4000. The unit will detect that the microSD card has a firmware and update file automatically. The Display will read [FIRMWARE UPDATE]. This takes approx 10 seconds. Remove the card after the firmware is updated.
NB:- Do not leave the microSD card in the unit if it has a firmware update file.

SOFTWARE VERSIONS DONE

V8.1..........First release date 16/07/2013 MB4000_V1
V8.2..........Second release date 30/08/2013
        * Minor bug fixes for the LCD sprint functions
        * ASKDRX devices have been made for 8 devices
        * Auto exit from Events menu after 30 seconds from no operation
        * Reset of events can now be cleared from just typing the password
V8.3.........Updated keeloq sync counter
V8.4.........Updated Flash driver (bug fix)
V8.5.........Updated USB connection for the monitor GUI
V8.6.........Improved SPI routine, USB works only in routines test and standby routines
V9............New Feature added. Learning in Remotes and Text over the air using a SMS message. A separate USB dongle reads the remote controls code. (Optional extra)

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