

Lifeline 4000

Advanced User Guide



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Who should read this guide?

As its name suggests, this guide explains the more advanced features of Lifeline 4000. It is a supplement to the main Lifeline 4000 User Guide, not a replacement. This guide is intended for interested owners/users of Lifeline 4000, care and control centre staff, as well as installers and service engineers. For information on basic installation, operations such as raising an alarm and answering a call, please consult the main Lifeline 4000 User Guide.

How is this guide organized?

This guide is divided into four sections

- **Common Tasks** is intended for control centre staff. It explains how homecare management entries can be made, as well as the basics of local programming.
- **Common Installations** explains the various ways in which a Lifeline 4000 can be configured. It includes explanations and configurations for inactivity monitoring, intruder detection, door control, among others.
- **Programming Reference** deals with all of the parameters in Lifeline 4000 that might be set using local programming.
- **External Connections** explains how to make connections to Lifeline 4000's input and output ports.

Control centres and Lifeline 4000

Full use. The Tunstall PNC3 Vision control centre (version 5.4 and above) takes advantage of the wide variety of new features offered by Lifeline 4000. In particular, PNC3 Vision (version 5.4 and above) can handle the high-quality two-way speech Lifeline 4000 allows. PNC3 Vision also offers remote programming of Lifeline 4000 through its new, easy-to-use programming utility.

Normal use. Other control centres will also be able to accept calls from Lifeline 4000, even some older non-Tunstall control centres. This is because Lifeline 4000 uses standard codes and protocols for communication with these older centres. However, these control centres will not be able to take advantage of the new facilities offered by Lifeline 4000, and some non-Tunstall centres may not be able to remotely program Lifeline 4000.

Tunstall grouped alarms (also called scheme alarms), such as Haven, Communicall and Communicall Vision can accept alarm calls from Lifeline 4000 (but only when they have either a Telephone Interface Card (TIC) or a UAC interface to the telephone network). There is no facility in any grouped alarm to remotely program Lifeline 4000. However, the high quality-two-way speech offered by Communicall Vision means that it can take advantage of the high-quality two-way speech offered by Lifeline 4000.

1 Common Tasks

When help arrives

When a carer or member of control centre staff arrives at the home of someone who has raised an alarm they need to let the control centre know that help has arrived (once they have seen to the immediate needs of the resident). They do this simply by pressing the large integral alarm button on the Lifeline 4000 to raise an alarm call, and then speaking to the operator who answers the call. Operators using PNC3 Vision control centres version 5.3 and above should normally park alarm calls where help is being sent. These parked calls/reminders will then be displayed at the control centre when the person who has arrived to help makes this further alarm call from the Lifeline 4000 that made the original call.



Homecare Management

When someone arrives at a resident's home to perform a service—such as check a central heating system, or perform a personal service, such as providing physiotherapy—they can register this service using a Lifeline 4000, providing the Lifeline 4000 in question has been configured to make homecare calls. There are two types of service: **timed** and **non-timed**. For a **non-timed service** the provider simply enters the details into the Lifeline 4000 and the Lifeline 4000 calls the control centre to let the computers at the control centre know that a service has been delivered. For **timed services** the service provider enters their details before they provide the service, and enters further information into the Lifeline 4000 after they have provided the service. Once the Lifeline 4000 knows that the service has been delivered it will call the control centre computers to let them know that the service has been provided, giving the start time and end time for the service.

How do I register my service using my radio trigger?

If you have been given a radio trigger such as a GEM or Amie for registering the service you provide then your service can be registered with just two simple steps:

1. Press the **Home Care Primer** button (this will be a radio trigger of some sort).
2. Press your radio trigger. If you have been given more than one trigger (i.e. one for each service you provide) then make sure you press the trigger that relates to the service you have provided.

How do I register my non-timed service?

You will be given a four-digit personal identification number (PIN) by your control centre, just like the ones needed to take money out of bank cash machines. Every time you deliver a service you enter this number into the resident's Lifeline 4000. The Lifeline 4000 will pass this number onto the computers at the control centre so that they know you have delivered your service. You will also be given a two-digit service code for the service you provide. If you provide more than one service you will be given a different two-digit code for each of the services you deliver. To register your service you need to follow the four steps explained here.

1. Press the **Homecare** user key on the top of the Lifeline 4000. If the Lifeline 4000 has a display you will see the words **Enter PIN** displayed.
2. Enter your personal identification number (your PIN). After you have entered your PIN the words on the display (if the Lifeline 4000 has one) will change to **PIN Entered Service Code ??**
3. Enter the two digit service code. If the Lifeline 4000 has a display it will then display the words **Resident ?**
4. If the service is for a resident then enter the number for the resident who is receiving the service and then press the **#** key. If the service is not for any particular resident then just press the **#** key without entering a resident number. If the Lifeline 4000 has a display it will display the words **Service Complete**.



How do I enter my timed service?

A timed service is just like a non-timed service, except that you must enter your PIN **before** you deliver the service, and enter your service code again to let the Lifeline 4000 know when you have finished the service. The **main** difference is that you press the ***** key for some entries instead of always pressing the **#** key, as you would for a non-timed service. You need to follow the five steps explained here.

1. Press the **Homecare** user key on the top of the Lifeline 4000. If the Lifeline 4000 has a display you will see the words **Enter PIN** displayed.
2. Enter your personal identification number (your PIN). After you have entered your PIN the words on the display (if the Lifeline 4000 has one) will change to **PIN Entered Service Code ??**
3. Enter the two digit service code. If the Lifeline 4000 has a display it will then display the words **Resident ?**
4. If the service is for a resident then enter the number for the resident who is receiving the service and then press the ***** key. If the service is not for any particular resident then just press the ***** key without entering a resident number. If the Lifeline 4000 has a display it will show the words **Service Started**.
5. When you have delivered the service press the **Homecare** user key on the top of Lifeline 4000. Enter your PIN and press **#**, and then enter the service code as before. This time, however, you press the **#** key, not the ***** key. This ends the service, and the Lifeline 4000 will pass the information back to the computers at the control centre.



What if I arrive when someone else is also delivering a timed service, do I have to wait? Lifeline 4000 can time up to five different services at once. Consequently, you would only have to wait if five service providers were already each present providing a timed service.

What if I forget to enter the end of my timed service? Lifeline 4000 will do nothing with your service information until you enter the end of the timed service. If after 24 hours you have still not entered the end of your timed service then Lifeline 4000 will assume that you have forgotten about the service and will remove it from its memory without making a call to the control centre.

Will my service information always reach the control centre? Unlike alarm calls, Lifeline 4000 will only make one call to a control centre with service information. This is to ensure that the Lifeline 4000 is available for alarm calls. In the unlikely event that the call does not get through to the control centre the information on the service will be lost.

Background information on sound

Augmented ringing

The ringing volume can be altered using the buttons on top of the Lifeline 4000 (see the main Lifeline 4000 user guide). The volume can be set as high as volume 5 (see table). However, there are two further volume settings, volumes 6 and 7, that cannot be reached using these buttons. These higher volumes are used during augmented ringing. Augmented ringing is where the volume of the ringing gets louder the longer a telephone call goes unanswered. In short, volumes 6 and 7 are used only when a telephone call is unanswered.



Speech volume

The volume of speech can be altered during a call using the volume buttons on the top of the Lifeline 4000 (see the main Lifeline 4000 user guide). Once again, the volume can be set as high as volume 5. The user cannot set the Lifeline 4000 to use volumes 6 and 7. These volumes are only used if a call operator at a PNC3 control centre selects **Increase Volume** from their **Call** menu during a call.

Volume 7
Volume 6
Volume 5
Volume 4
Volume 3
Volume 2
Volume 1

Local programming

What is local programming?

The term **programming** simply means changing the settings inside a Lifeline 4000. These settings include, for example, the telephone number of the control centre to call.

Lifeline 4000 can be programmed in three ways. First, control centre staff using version 5.4 and above of PNC3 Vision can change many of the settings inside a Lifeline 4000 during a telephone call. Second, Tunstall Service Engineers, using the Lifeline 4000 Engineer's software application, can change almost all of the settings inside a Lifeline 4000. Finally, some settings can be programmed just using the buttons on a Lifeline 4000 together with the number keys under the flap. This last method is called **local programming**. This guide explains all the settings that can be altered using local programming. The **Programming Reference** which forms chapter 3 also includes explanations of some parameters that cannot be altered.



Displays and card inserts

Anything that can be programmed locally on a Lifeline 4000 with an LCD display can also be programmed on a Lifeline 4000 with the card insert. However, it is difficult to check your entries without a display. For this reason it is best if you program Lifeline 4000s that do not have a display using either the Lifeline 4000 Engineer's software application, or via PNC3 (version 5.4 and above), rather than rely upon local programming methods. All of the examples below assume that you are programming a Lifeline 4000 with a display.



Display



Card Insert

What is a parameter?

You may sometimes hear engineers mention parameters or variables. Lifeline 4000 has a wide range of parameters that can be altered. You can think of parameters as small boxes inside Lifeline 4000 that hold information. For example, one box (parameter) holds the first telephone number that Lifeline 4000 will call to raise an alarm. Another parameter holds the Lifeline 4000's unique identification number (its unit ID). When you program a parameter in Lifeline 4000 you change its value. In other words, you change the information inside the box.

Programming a parameter

There are four major steps involved in programming a parameter.

- Enter local programming mode.
- Enter the number of the parameter you wish to alter.
- Delete the present value in the parameter and enter a new value.
- Leave local programming mode.

Enter local programming mode

1. Press and hold *****, and then also press and hold **#**.
2. Keep holding the keys down until you hear Lifeline 4000 beep (after about two seconds).
3. Release the **#** key.
4. Then release the ***** key.
5. The words **Local Programming** will display on the display.



Enter the number of the parameter you wish to alter

6. To enter a parameter press the ***** key. You will then hear another beep and the word **Param** will be shown if the Lifeline 4000 has a display.
7. Enter the number of the parameter you wish to change and then press the ***** key. The display will either show the word **Programmed**. Lifeline 4000 will beep and then wait for a valid parameter if you enter an invalid number.

Delete the present value in the parameter and enter a new value

8. Press the **C** key to delete the present value in the parameter (for the display version only).
9. Enter the new value for the parameter and press the ***** key.
10. Lifeline 4000 will then beep and the display will then show **Programmed**.

Leave local programming mode

11. You can leave local programming simply by pressing the **Cancel** key. If you want to program another parameter then do not press the **Cancel** key, press the ***** key to enter the number of the next parameter you wish to program (this takes you back to step 6 in the procedure above).

Cancel and the **C** key

Note that the **Cancel** key is the green key marked with a letter **C**, beside the red integral alarm button on Lifeline 4000. The **C** key is the black key under the flap, between the **B** key and the **D** key.



Ending programming

If you wish to end or abort the programming then press the **Cancel** key at any time. If you press the **Cancel** key after a parameter has been accepted then this will not remove the value you have entered. If you change your mind after programming a parameter then you need to program the parameter again with the value you replaced.

There are other ways in which Lifeline 4000 will switch out of local programming mode. If you do not press any key for more than 2 minutes then the Lifeline 4000 will start to beep. After 10 seconds of beeping the Lifeline 4000 will switch out of programming back into its normal waiting mode. Lifeline 4000 will also automatically switch out of local programming mode if an alarm is raised.

Incoming calls. If someone calls the telephone line to which the Lifeline 4000 is connected then you will need to press the **Cancel** button to cancel programming, and then press the **Cancel** button again to answer the call.

Setting the unit identification number

The unit identification number is the unique number you can program into each Lifeline 4000. This number is also sometimes called the equipment identification number. This is the number that the Lifeline 4000 will transmit to a control centre to identify itself, and can be up to 12 digits long. If you are programming the Lifeline 4000 for Mrs Jones of 34 Holbeck Terrace, Cromwell, then you should ensure that the number you enter as the equipment identification number matches the number in the control centre database for Mrs Jones of 34 Holbeck Terrace. For more information on this see Chapter 5 in Volume A of the PNC3 Vision control centre manual.

To program this parameter:

1. Enter local programming mode by holding down the ***#** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***2***.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value (the new identification number) and then press *****.
5. End local programming by pressing the **Cancel** key.

Once you have entered the new identification number you should make a test alarm call. You can then speak with a call operator and check that the information that appears on the control centre screens matches the dwelling and the residents.

Setting the clock

Lifeline 4000 has a 24-hour clock. In other words, 9.30am is displayed as 09:30. 10.15pm is displayed as 22:15. To set the time you need to enter programming mode, select parameter 171, and then enter the time as a four-digit number.



Examples

Setting the time to 9.35am

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value **0** **9** **3** **5** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting the time to 1pm

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value **1** **3** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting the time to 10.48pm

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value **2** **2** **4** **8** and then press *****.
5. End local programming by pressing the **Cancel** key.

Entering the alarm telephone numbers to call

The Lifeline 4000 has space for ten different telephone numbers to call if an alarm is raised. Each number can be the telephone number of a control centre, or the telephone number of an individual (a personal recipient).

If Lifeline calls a control centre then it will communicate with the computers at the control centre using a series of electronic tones. If Lifeline calls an individual it will announce either the unique ID (the equipment identification number), or it will play the message that has been recorded into it. For more information on recording messages for personal recipients see the main Lifeline 4000 User Guide. However, Lifeline needs to know whether it is calling a personal recipient (an individual) or a control centre, so that it knows whether to play a message or communicate using electronic tones.

Lifeline assumes that its first two telephone numbers are control centre numbers. It assumes that the latter eight numbers are personal recipient telephone numbers. In other words, Lifeline assumes that the number in parameter **0** is the number of a control centre. Lifeline also assumes that the number in parameter **1** is the number of a control centre. If it calls either of these telephone numbers it will attempt to communicate using electronic tones.

Lifeline assumes that the numbers in parameters **7, 8, 9, 10, 39, 40, 41, 42** are all telephone numbers for personal recipients. If you look at the table of parameters and telephone numbers you can see that these are the parameters for the latter eight telephone numbers.

Changing Lifeline's assumption. Given that Lifeline assumes that the first two telephone numbers are control centres, and the latter eight are the numbers of personal recipients, what do you do if you want to enter a third control centre number? The answer is that you put a # character before the number, by pressing the **#** key. If you look at the table you can see that the telephone number for parameter **7** has a # character in front of it. Likewise, if you put a # character in front of either of the first two telephone numbers (parameters **0** and **1**) Lifeline will treat these first two numbers as personal recipients, instead of treating them as control centres.

How are parameters numbered? You might wonder why these parameters have such different numbers. Why not number them 1 to 10? The answer is that parameters are numbered, where possible, in the same way as older pieces of equipment. This makes it easier for control centres with old control centre software to program Lifeline 4000. As long as you know the correct parameter number you do not need to pay any attention to *how* they are numbered.



Parameter	Telephone Number
0	01977662551
1	01652628001
7	#01634647783
8	01634642783
9	01634647223
10	01634647111
39	01634643946
40	01634649822
41	
42	

Examples

Programming the first alarm telephone number

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value (the new telephone number) and then press *****.
5. End local programming by pressing the **Cancel** key.

Programming the second alarm telephone number

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value (the new telephone number) and then press *****.
5. End local programming by pressing the **Cancel** key.

Programming the second alarm telephone number to call a personal recipient

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **#** and the new value (the new telephone number), and then press *****.
5. End local programming by pressing the **Cancel** key.

Programming the third alarm telephone number

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **7** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter the new value (the new telephone number) and then press *****.
5. End local programming by pressing the **Cancel** key.

Programming the fourth telephone number as a control centre number

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **8** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **#** and then the new value (the new telephone number), and then press *****.
5. End local programming by pressing the **Cancel** key.

Registering a personal radio trigger

Lifeline 4000 can accept radio inputs from Amie and GEM personal triggers, as well as the Fall Detector trigger. For background information on how radio triggers work with Lifeline 4000 please see the Lifeline 4000 User Guide.

Lifeline can also accept radio input from other devices. For example, alarm pull cords, smoke detectors, temperature monitors and many other types of device can each be linked to a Tunstall Radio Output Module to allow them to send radio signals to Lifeline. This can save on the cost and inconvenience of installing wires. This section deals only with registering Amie and GEM personal radio triggers. See the section on triggers in the **Programming Reference** in chapter 3 for information on registering and configuring different types of trigger.



Amie



GEM



Fall Detector

How does Lifeline know which radio triggers belong to it?

Each radio trigger has an identification number automatically entered into it when it is made at the factory. When a radio trigger is set off it transmits this identification number. Lifeline listens for any radio transmissions on a particular frequency. If it detects a signal it checks the number that has been sent. Next, Lifeline looks through each of the parameters that hold radio trigger identification numbers to see if there is a match between the number it has received and one of the numbers in its memory. In other words, Lifeline asks the question, *Does the transmitted number match the number of any of the radio triggers that belong to me?*

Registering a trigger

To register a radio trigger all you have to do is enter its identification number in one of the radio trigger parameters. This is a simple two-step process. First, you select a parameter, and then you press the alarm button on the GEM or Amie radio trigger. Lifeline listens for the number that is transmitted and puts it into the parameter you have selected.

	Parameter
Personal Trigger 1	21
Personal Trigger 2	27
Personal Trigger 3	28

More than three personal triggers

You can have more than three personal radio triggers registered to one Lifeline 4000 if needed. In total, you can have up to 18 personal triggers. To register further triggers you need to consult the section on triggers in the **Programming Reference** in chapter 3.

Examples

Programming Personal Trigger 1

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **2** **1** *****.
3. Press the alarm button on the radio trigger. Lifeline will beep and the words **Trigger registered** will be announced, and the words **Programmed** will be displayed if the unit has a display.
4. End local programming by pressing the **Cancel** key.

Programming Personal Trigger 2

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **2** **7** *****.
3. Press the alarm button on the radio trigger. Lifeline will beep and the words **Trigger registered** will be announced, and the words **Programmed** will be displayed if the unit has a display.
4. End local programming by pressing the **Cancel** key.

Clearing Personal Trigger 2

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **2** **7** *****.
3. Press *****.
4. End local programming by pressing the **Cancel** key.

Programming Personal Trigger 2 with a Fall Detector

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **2** **7** *****.
3. Press the alarm button on the radio trigger. Lifeline will beep and the words **Trigger registered** will be announced, and the words **Programmed** will be displayed if the unit has a display.
4. End local programming by pressing the **Cancel** key.

Test the radio trigger

You must always test a radio trigger after you have registered it with a Lifeline 4000. It is always possible that the Lifeline did not receive the trigger number successfully. Alternatively, it may have received another number just before you pressed the radio trigger alarm button (this is unlikely, but it can happen).

If you register a Fall Detector then you must test that it can detect a fall, by jolting it and tipping it on its side. **Testing is essential.**



Failing to register

When you register a radio trigger you will normally hear a high-pitched beep from the Lifeline 4000. If you hear a low tone then the registration has failed. The most common reason for such a failure is that the radio trigger is already registered with the unit. If a trigger is already registered in the parameter for Personal Trigger 1 the Lifeline 4000 will not allow you to register it in the parameter for Personal Trigger 2.

Registering with more than one home unit

It is not recommended that you register a radio trigger with more than one home unit. However, it is possible. If, for example, a person lived in two properties, each with a Lifeline 4000, then it is possible for them to have one or more triggers registered with both units.

Replacing the battery

Lifeline 4000 contains a rechargeable battery. This allows the unit to function for some time if the mains electricity supply has failed. These are the steps required to replace the battery:

1. Make sure you have a replacement battery from your supplier (part number D3606005).
2. If the battery cover has been damaged then make sure you have obtained a replacement cover from your supplier.
3. Find a flat surface near the Lifeline 4000, and cover the surface with a cloth or other soft cover to avoid marking or damaging the front of the Lifeline 4000 when it is turned over.
4. You **must** disconnect the Lifeline 4000 from the telephone line.
5. Disconnect the Lifeline 4000 connected from its mains electricity adaptor, and turn the unit upside down, resting it on the soft surface.
6. Push and slide the battery cover off.



7. Carefully remove the battery and unplug it.



8. Plug in the new battery and replace the battery cover.



9. Turn the Lifeline 4000 over, so that it is the correct way up.
10. Reconnect the Lifeline 4000 to the telephone line.
11. Test the new Lifeline 4000 battery by connecting the mains adaptor and allowing the unit to charge for six minutes. Disconnect the Lifeline 4000 from its mains adaptor. The alarm button should remain lit for several seconds. If the alarm button does not remain illuminated for at least three seconds then you may require another battery.
12. Test the Lifeline 4000 by raising an alarm call, preferably with a radio trigger or using the integral button. **It is essential that you test the unit after replacing the battery.**

2

Common Installations

This chapter presents a list of common installations. It explains the various factors you might wish to consider for each installation, and directs you to the parameters you need to adjust.

Installing movement detectors

You may need to install movement detectors for inactivity monitoring and intruder detection. If properly configured, movement sensors, such as PIRs and pressure mats, can be used for both intruder detection and inactivity monitoring. You might wish to consider the following:

1. Lifeline 4000 can be made to beep every time it receives a trigger from a movement sensor. This facility is only intended for installation, and can be set using parameter 48 (see **Intruder Monitoring** on page 57).
2. Register a movement detector with the Lifeline 4000 before you attach it to a wall, ceiling or floor. For example, if you wish to use a PIR movement detector you should register it prior to drilling holes in a wall to mount it. This can save time if the PIR is faulty. More importantly, you should test that the Lifeline 4000 can receive radio signals from the PIR when the PIR is in position (but before you have drilled any holes). If a thick concrete beam or metal cabinet is between the PIR and the Lifeline 4000 then there is a chance that the radio signal will not get through, and you will have to select a different place to mount the PIR.
3. If you are installing several movement detectors then consider registering these triggers as **Extension Radio Triggers** rather than as triggers in the predefined parameters. The advantage of **Extension Radio Triggers** is that they can also contain location information (see page 38), which can be particularly useful in dealing with alarms and identifying the cause of repeated false alarms.
4. Do not register a movement detector as an intruder trigger. Intruder triggers are the sorts of sensors that detect whether a pane of glass has been broken. A movement sensor registered as a movement detector is more flexible—it can be used for both inactivity monitoring and intruder detection (see the section on **Trigger Types and Actions** on page 44). You also have the option of registering it as an Entry/Exit type of movement sensor, which provides time for arming and disarming an intruder alarm.

Inactivity Monitoring

If you intend to configure a Lifeline 4000 for inactivity monitoring then you may wish to look at the points raised in the previous section on installing movement detectors. In addition, there are the following points to consider:

1. A Lifeline 4000 that is set up to monitor inactivity should normally have an **Away** key (see the section on Configuring Keys on page 25). If you are concerned that the resident might accidentally turn the monitoring off using an obvious **Away** key then consider making the key labelled **(A)** under the flap the **Away** key. If you do this you should make a note of this in the table of settings you leave with the unit, and you might also wish to apply a note to the underside of the flap covering the number keys.
2. Inactivity monitoring is more reliable if more than one movement sensor is fitted. However, one movement sensor in a key place, such as a hall or landing, will usually still perform well.
3. Do not use a PIR type of movement sensor in a resident's bedroom to detect inactivity. The small movements made by a bed-bound resident who is ill and requires attention are usually enough to trigger the sensor and ensure that help is not summoned.
4. See the section on **Inactivity and Temperature Monitoring** in the following chapter (page 52). For historical reasons, inactivity monitoring is enabled using the **User Options** parameter (see page 30).
5. If you have previously configured older equipment for inactivity monitoring, you should be aware that Lifeline 4000 has more sophisticated methods for deciding when a resident has been inactive.



labelling an inactivity call

Before Lifeline 4000 makes an inactivity call it will warn the resident. It will announce, *An inactivity call is about to be made. Please press Cancel.* It will then wait ten minutes before making the call, and during this time it will repeat the announcement every 30 seconds. This warning gives the resident chance to cancel the inactivity call, and so reduces the chance of a false alarm. However, it is important that residents with inactivity monitoring are given three important pieces of information:

1. The resident must be told the **Inactivity Time** setting programmed into their Lifeline 4000. The resident should know for how long they can be inactive before a call is raised.
2. The ten minute gap between the inactivity warning and the call being made to the control centre must be explained, although it should also be emphasized that they should not rush to cancel the call. If they are too late they can always raise an alarm by pressing the integral button on their Lifeline 4000 and let the operator who answers the call know that they do not need assistance.
3. When a resident visits friends or relatives, and even when a resident goes to the shops, the resident must use the **Away** feature to disable inactivity monitoring.



Intruder Detection

If you intend to configure a Lifeline 4000 for intruder detection then you may wish to look at the points raised in the first section in this chapter on installing movement detectors. In addition, there are the following points to consider:

1. A Lifeline 4000 that is set up to detect intruders should always have an **Intruder** key (see the section on **Configuring Keys** on page 25). You can set either the (A), (B), (C) or (D) key under the flap to be the **Intruder** key if you wish, although if you do this you will need to make a note of this, possibly leaving a sticky label on the underside of the flap covering the number keys. Using one of the keys under flap can be helpful given that the user has to lift the flap anyway to disable the intruder alarm. This can also make more of the user keys available for use as **Fast Dial** keys.
2. Make sure that the movement detector trigger types are set for intruder detection (see the **Trigger Uses** digit in the **Trigger Types and Actions** section on page 44).
3. If security is a major concern then make sure that the **Intruder** and **Movement** trigger types are set to have no visual indications of a call, nor should they make any sounds (see **Trigger Types and Actions** on page 44). You might also turn off speech synthesis and other sounds (see **Messages** and warnings on page 30).
4. If you need to flash or illuminate a light, or sound a siren, the external output can be triggered (see **Trigger Types and Actions** on page 44 for details of switching the external output, and chapter 4 for details of making an external connection).
5. If you require the Lifeline 4000 to call a different series of alarm numbers when an intruder alarm is raised then:
 - See **Entering the Alarm Telephone Numbers to Call** in chapter 1, page 13, for information on how to enter alarm telephone numbers to call.
 - See **Call Sequences** on page 49 for how to program a call sequence.
 - See **Trigger Types and Actions** on page 44 for how to select the call sequence to use.



Smoke and Fire Alarms

1. If you decide to register a number of smoke alarms with a Lifeline 4000 you might wish to use the **Extension Radio Trigger** parameters (see page 38) as these allow you to set location codes. This information is likely to be of value in a large house, both to the fire brigade in the event of a fire, and to the control centre in tracking down any faulty alarms.
2. If you want Lifeline 4000 to call a different set of telephone numbers when a smoke alarm is triggered then:
 - See **Entering the Alarm Telephone Numbers to Call** in chapter 1, page 13, for information on how to enter alarm telephone numbers to call.
 - See **Call Sequences** on page 49 for how to program a call sequence.
 - See **Trigger Types and Actions** on page 44 for how to select the call sequence to use.



Temperature Monitoring

Temperature monitoring requires temperature sensing devices that can detect when a set temperature has been exceeded and emit a radio trigger signal. Normally, these sensors should trigger just once when the set level is passed. If the sensor continually transmits its signal it will raise a false alarm when the resident returns from being away, switches from Away to Home, thus enabling temperature monitoring. You might also wish to consider the following:

1. Registering radio triggers is dealt with on page 34 in the section on **Triggers**.
2. If you need to use a number of temperature sensors you can use the **Extension Radio Trigger** parameters, and these will also allow you to enter location information (see page 38).
3. You might wish to set a long prealarm delay for this sort of trigger, to allow anyone present to cancel the alarm and deal with the problem. To adjust the prealarm delay see the **Trigger Types and Actions** section on page 44.
4. If either of your temperature settings are only configured during an Away state or a Home state then you must ensure that one of the user keys is set to be an Away key (see **Configuring Keys**, page 25).
5. See page 55 for further details regarding temperature monitoring.



Opening doors

Lifeline 4000 can be configured to open a door using a relay connected to its external output.

1. For details of how to make a connection to the external output see chapter 4.
2. For information on naming a user key and setting the key type to **Relay**, see **Configuring Keys** on page 26.
3. The section on Configuring Keys also explains how to control the external output using a key. A user key should be set to toggle the output, so that pressing it once opens the door, and pressing it again locks the door.
4. It is possible that the resident could easily leave a door unlocked, and so you might consider some sort of visual confirmation of state, such as a light connected to the relay.

Witness Protection

Lifeline 4000 can be configured to raise an alarm if a resident believes they are under threat. The following steps should be considered:

1. Turn off any visual confirmation of a call being made. See **Trigger Types and Actions** on page 44.
2. Turn warnings and speech synthesis off (see **Warnings and messages**, page 30).
3. If any alarm calls are to be made to personal recipients you might want to silence these announcements at the Lifeline 4000 (see personal recipient configuration, page 62).
4. If you are considering a hardwired input then you might wish to select one where the circuit is normally closed (i.e. the circuit is normally made). If this sort of trigger is ripped out by an intruder the circuit will disconnect and an alarm will be raised anyway. See chapter 4 for information on making a hardwired connection. See page 43 for how to configure the hardwired input.
5. An intruder might use the **Cancel** button on the Lifeline 4000 to cancel an alarm call. This button can be disabled. See page 29 for more information.
6. An intruder might disconnect the telephone line before entering the house or flat. Lifeline 4000 can be configured to make periodic calls. The gaps between these calls can range from 99 days to just 1 minute if the high resolution option is used. If a person was at serious risk you might wish to set the telephone to call in with an automatic, silent call every ten minutes.



Fall Detector. If you are concerned that an individual may be attacked then a Fall Detector could be a useful precaution. If the resident is knocked to the ground it will automatically raise an alarm. In addition, it will be difficult for an intruder to forcefully take the Fall Detector from the resident without setting it off.

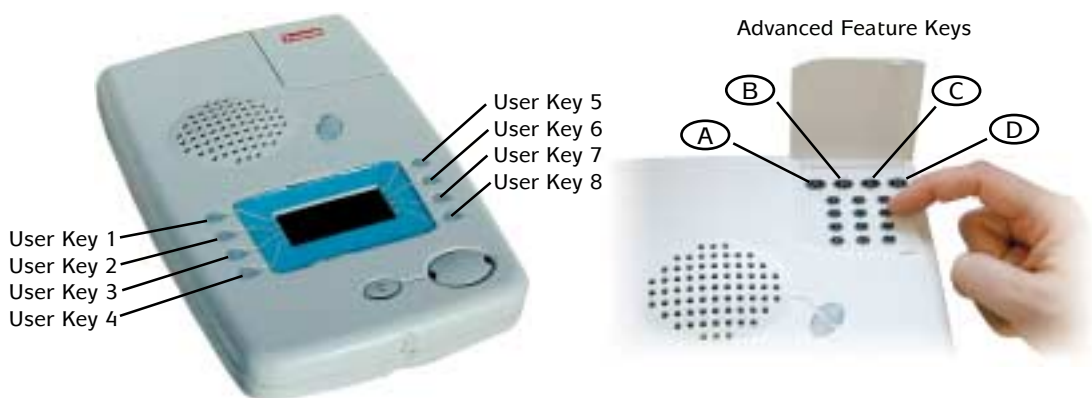
3

Programming Reference

Some topics are dealt with in the main user guide for the Lifeline 4000. Specifically, changing the ringing volume, altering the volume of speech during a call, and entering fast dial numbers. Other basic topics have been explained in **Common Tasks** (chapter 1 of this guide). These include, registering a personal radio trigger, setting the equipment identification number, setting the time for the internal clock, and entering the telephone numbers to call when an alarm is raised.

Configuring Keys

Each User Key on the Lifeline 4000 can be configured to perform a number of different tasks. In addition, the four Advanced Feature keys labelled **(A)**, **(B)**, **(C)** and **(D)** under the flap can be programmed to perform different tasks. The text that is displayed by each of the eight user keys can be configured for a Lifeline 4000 with a display. The **Cancel** button can also be configured. It can be set so that it will not cancel an alarm. It can also be configured so that it can be used to answer an incoming call.



Assigning key actions

Any of the **Users Keys** or **Advanced Feature Keys** can be made to act as a fast dial key, away key, intruder key, speaker key, etc. Each key can also switch the external output on or off. To set a user key parameter you must enter a six-digit figure.



Always zero	External Output	External Output Time On	External Output Time Off	Always zero	Key Action
0	2	3	9	0	4

External output. The key can have three possible effects on the external output. It can switch the output on (and will have no effect if the output is already on), it can switch it off (and again will have no effect if the output is already off) or it can toggle the output. This means that if the output is on it will be turned off, whereas if the output is off it will be switched on. In the example above the number entered for external output is 2. This means that pressing the key will turn the output on. Information on making hardwired connections to either the input or output for Lifeline 4000 can be found in chapter 4 of this guide.

External output action	Value
No effect	0
Switch off	1
Switch on	2
Toggle	3

Time on and off. If the output is turned on then it can also be made to flash (to switch on and off). The **External Output Time On** figure can be anything from 0 to 9. Entering the digit 9 means that the output would be on for 1.8 seconds. Entering the digit 3 means that the output would be on for 1.5 seconds. Every increment of 1 adds 0.2 seconds to the time. The **External Output Time Off** determines how long the output is off for, before switching back on again. If either of these figures is set to zero there will be no flashing. In addition, these entries will have no effect if the key switches the output off (either because it is configured to switch it off or because it is configured to toggle and the output was previously on).

Key Action. The different key actions are displayed in the adjacent table. Once you assign a key to an action the text beside it on the display will automatically change. However, you can assign custom text to a user key if the key has been set to be a **Fast Dial** or a **Relay** key.

The action called **Relay** does nothing. This is the action you would normally assign to a key if you wanted it to open a door using the external output. You would configure the key to toggle the external output and assign its action as relay. This means that once the output has been switched the key will then do nothing else (i.e. it will not act as an **Away** key or **Fast Dial**).

The functions of the different key types are explained in the main Lifeline 4000 User Guide. However, to summarize, the **Away** key is used for switching the **Away** feature on and off. The **Speech Record** is used to record voice tags (messages) for the **Fast Dial** keys, as well as a message to play to personal recipients. The **Home Care Management** key is used by service providers for entering details of their services (see chapter 1 of this guide). The **Intruder** key is used for turning the **Intruder** feature on and off. The **Speaker** key is used for answering and ending incoming calls. The **Silence** key mutes both the microphone and the loudspeaker.

Which keys? In order to allow the resident as many **Fast Dial** keys as possible, a good idea is to assign less frequent tasks to the Advanced Feature Keys, (A), (B), (C) and (D). **Speech Record** is important, but infrequently used, and so you might want to assign this task to key (C). You might also want to assign the Intruder and Homecare actions to keys (A) and (B). This is because both of these actions also require the use of the numbered keypad.

Key Action	Value
Not Assigned	0
Away	1
Speech Record	2
Home Care Management	3
Relay	4
Fast Dial	5
Intruder	6
Speaker	7
Silence	8

Key	Parameter
User Key 1	120
User Key 2	121
User Key 3	122
User Key 4	123
User Key 5	124
User Key 6	125
User Key 7	126
User Key 8	127
Key A	141
Key B	142
Key C	143
Key D	144

Examples

Setting the first user key to be the Away key

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **2** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **0** **0** **0** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting the second user key to be a Fast Dial key

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **2** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **0** **0** **0** **5** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting the **C key to be the Speech Record key**

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **4** **3** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **0** **0** **0** **2** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting the fifth user key to toggle the external output (to lock and unlock a door)

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **2** **4** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **3** **0** **0** **0** **4** and then press *****.
5. End local programming by pressing the **Cancel** key.

Assigning Text to User Keys

The method for assigning text to **Fast Dial** keys is explained in the main Lifeline 4000 User Guide. If you wish to assign text to a **Relay** key then first set it to be a **Fast Dial** key (see earlier in this section). Set the text you wish to see by the key and then set its type to be **Relay**. You will find that the text you entered while the key was set to be a **Fast Dial** key will display by the key.

Key	Parameter for Key Text
User Key 1	207
User Key 2	208
User Key 3	209
User Key 4	210
User Key 5	211
User Key 6	212
User Key 7	213
User Key 8	214

Cancel button

The **Cancel** button can be used for cancelling an alarm call. However, there may be situations where it would be better if the **Cancel** button did not work,

Number of calls that cannot be cancelled		Disable Cancel for technical calls	
0	2	0	1

such as witness protection and domestic violence cases. Parameter 172 contains a 4-digit number. The first two digits determine the number of alarm calls that cannot be cancelled. Normally, these digits are set to 00, meaning that any alarm call can be cancelled. The second two digits in parameter 172 can be set to 00 or 01. If set to 01 then the **Cancel** button will not cancel technical alarms. Examples of technical alarms include low battery calls, mains fail calls and mains restored calls.

If parameter 172 is set to 0201, for example, then the first two alarm calls in a sequence cannot be cancelled, and the **Cancel** button will never cancel a technical alarm call. The **Cancel** button will only cancel normal alarms after the Lifeline 4000 begins alarm call 3.

Example

Preventing the Cancel button from working for the first 4 calls, and allowing the Cancel button to cancel technical alarms

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **2** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **4** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

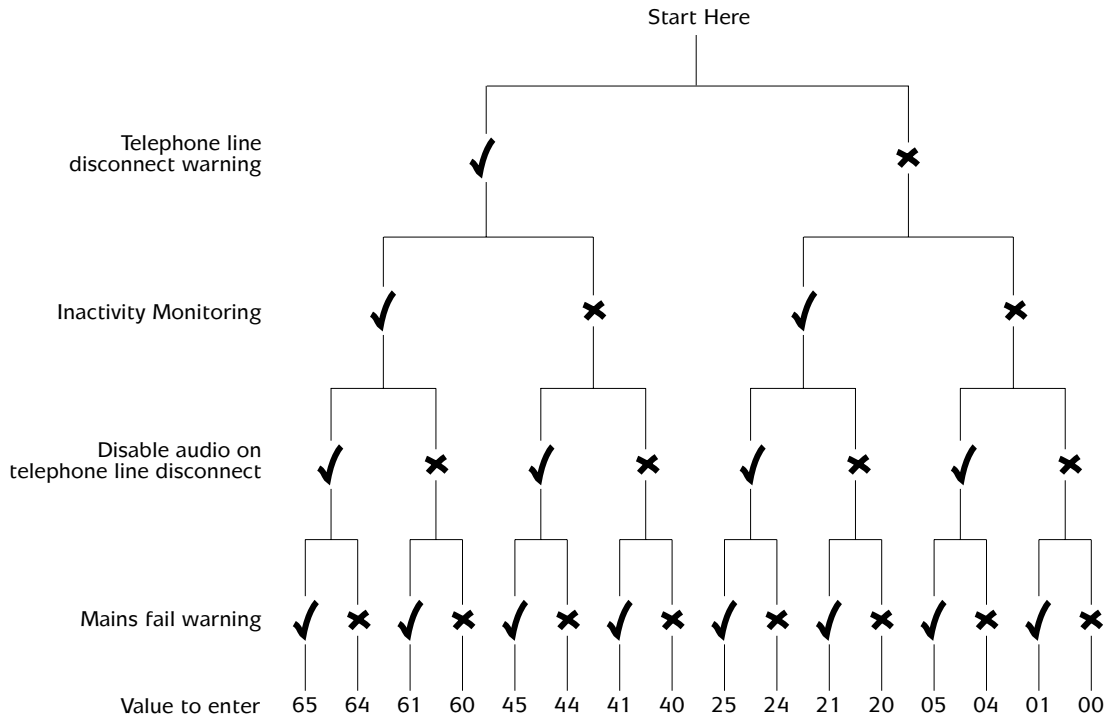


Messages and warnings

User Options

The **User Options** parameter allows you to set the warnings for telephone line disconnection as well as mains (power) failure. For historical reasons, this is also the parameter that determines whether **Inactivity Monitoring** is turned on or off. As explained earlier in this guide, this allows Lifeline 4000 to remain compatible with older control centres.

The User Options parameter number is 11. To set this parameter you need to enter a 2-digit number. Follow the tree below from top to bottom to discover the value you need to enter.



Telephone Line Disconnect Warning. This determines whether Lifeline announces when it is not connected to the telephone line. If this feature is turned on then Lifeline will make these announcements at regular intervals. The default setting is on.

Inactivity Monitoring. This determines whether Lifeline monitors inactivity. For more information see the section on Inactivity Monitoring in Chapter 2. The default setting is off.

Disable audio on telephone line disconnect. This determines whether Lifeline provides an audible warning when the telephone line is disconnected. If this feature is turned on it disables the audible warning—it is very easy to get this the wrong way around and assume that setting this feature to true enables the audible warning, when the reverse is true.

Mains Fail Warning. When there is a power cut Lifeline will make announcements at regular intervals. However, in regions where power cuts in the middle of the night are common, many residents prefer this feature to be turned off. The default setting is on.

Examples

Turning mains fail warning off, line disconnect warning on (with audible warning enabled not disabled) and Inactivity Monitoring off

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **4** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Turning mains fail warning on, line disconnect warning on (with audible warning enabled not disabled) and Inactivity Monitoring off

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **4** **1**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Turning mains fail warning off, line disconnect warning on (but disable audible warning) and Inactivity Monitoring on

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **6** **4**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Speech Synthesis and Language

Parameter 35 allows you to use 2 digits to set how speech synthesis is used, and to determine which of the two languages entered into the Lifeline 4000 at manufacture is used (e.g. Dutch or French). The first digit determines the speech synthesis (see table below), while the second digit sets the language to be used. The second digit sets the language the Lifeline 4000 should use. The **#** key sets the home unit to use the second language. If you do not enter a second digit, and just press the ***** key to enter the new value for the parameter, this sets the language to be the first programmed language.

The settings for speech synthesis will affect the mains fail and line disconnect warnings. These warnings are determined by the settings in the User Options parameter (explained earlier), and if speech synthesis is not enabled then tones will be heard instead.

Setting for digit 1	Value
Not fitted	0
All messages enabled	1
All messages enabled except voice tags	2
All messages enabled except personal recipients	3
All messages enabled except personal recipients and voice tags	4
All messages disabled	5

Examples

Enabling all speech messages and setting the language to language 2

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **3** **5** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **#**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Disabling all speech messages and setting the language to language 1

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **3** **5** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **5**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Away reminder

If a resident switches into **Away** mode this will turn inactivity monitoring off, and in some cases will also disable temperature monitoring. However, it is possible that a resident will turn **Away** on, but then forget to turn it off upon their return. For this reason Lifeline 4000 can periodically announce the words **Away Reminder**, and the timing for this is set in parameter 130.

To set this parameter you need to enter the time between announcements. This time is set in hours and minutes. The time between announcements can be as little as 1 minute, and as much as 23 hours, 59 minutes.



Examples

To set the time between announcements to one hour

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **1** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

To set the time between announcements to 12 hours 15 minutes

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **2** **1** **5**, and then press *****.
5. End local programming by pressing the **Cancel** key.

To turn the announcements off

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Intruder Monitoring. If Intruder Monitoring is turned on then the **Away Reminder** parameter will have no effect—no reminder announcements will be made.

Triggers

For a Lifeline 4000 the process of receiving a trigger and raising an alarm call is a three-stage process, which can be characterized by three questions the unit asks:

- 1 Does the radio trigger I have just received belong to me (i.e. this Lifeline 4000)?
- 2 What sort of trigger is it—a personal trigger, a smoke alarm?
- 3 Now I know what sort of trigger it is, what action do I perform?

The external hardwired input and the red integral alarm button skip the first stage, but with this exception the process is the same for all triggers. This process is summarized in the diagram on the opposite page, and explained in more detail below.

Radio Triggers

Lifeline 4000 can accept radio inputs from Amie and GEM personal triggers, the Fall Detector trigger, as well as the TalkBack speech trigger. For background information on how radio triggers work with Lifeline 4000 please see the Lifeline 4000 User Guide.

Lifeline can also accept radio input from other devices. For example, alarm pull cords, smoke detectors, temperature monitors and many other types of device can each be linked to a Tunstall Radio Output Module to allow them to send radio signals to Lifeline. This can save on the cost and inconvenience of installing wires.

What happens when you set off a radio trigger?

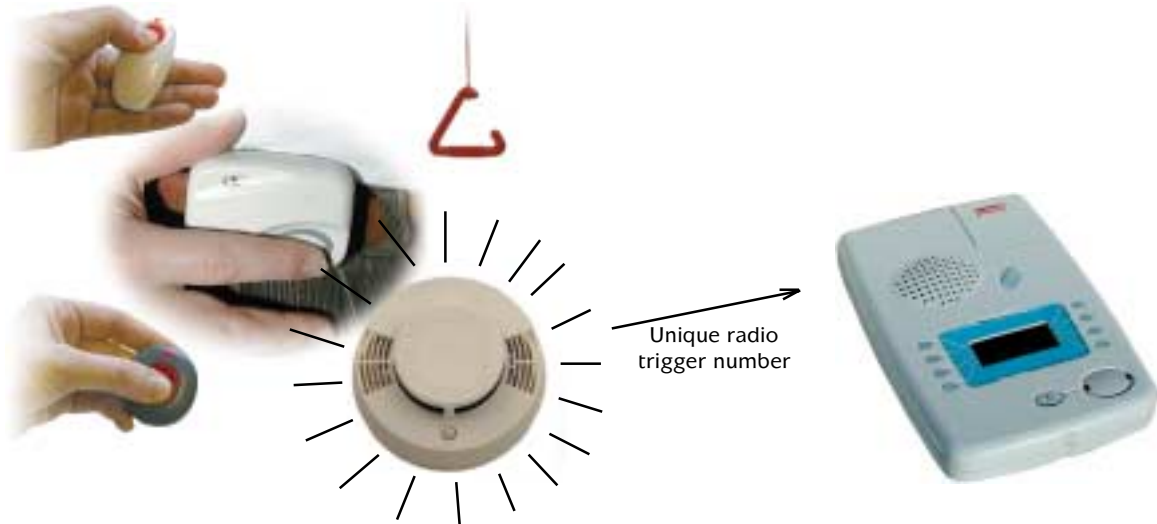
Each radio trigger has an identification number automatically entered into it when it is made at the factory. When a radio trigger is set off it transmits this identification number. Lifeline listens for any radio transmissions on a particular frequency. If it detects a signal it checks the number that has been sent. Next, Lifeline looks through each of the parameters that hold radio trigger identification numbers to see if there is a match between the number it has received and one of the numbers in its memory. In other words, Lifeline asks the question, *Does the transmitted number match the number of any of the radio triggers that belong to me?*

Getting a hit and selecting an action

Let us imagine that Lifeline receives a radio transmission from a radio trigger. It works its way through each parameter and finally finds a parameter with a value that matches the number it heard being transmitted. Lifeline then moves to the next stage and asks the question, *What sort of trigger is it?* It answers this question in one of two ways.

Method 1. Some parameters are designated as particular trigger types. For example, if Lifeline finds that the radio identification number it has received matches the number in parameter 24 then Lifeline will say, *24 is always a smoke trigger and so I will perform the smoke action.*

Method 2. For more flexibility, some radio triggers parameters are not designated as particular types (these are called **Extension Radio Triggers**). For example, if Lifeline finds that the number it has received from a radio trigger matches the number in parameter 62 it will say, *I have a match, this is one of my triggers, now I need to find out what sort of trigger it is.* To do this it looks in the next parameter (i.e. parameter 63). This will have the meaning of the radio trigger.



Unique radio trigger number

Call to control centre

The questions a Lifeline asks

1. Does the number that has been transmitted match any of the numbers in any of the radio trigger parameters?
2. If there is a match, which type of trigger it is?
 - Is it one of the parameters reserved for a particular type of trigger?
 - Is it one of the extension radio trigger types? If it is then its type is defined in the next parameter.
3. Once the trigger type is known, what action needs to be taken? The action will be defined in the parameter for that trigger type. The action will include the call sequence to use.



Triggers: A quick guide

How to register and set up a trigger is explained in brief.

1. Register the trigger in one of two ways

In a reserved parameter (see page 36).

In an extension parameter (page 38), and then set the type and the location code (page 38 and 41).

2. Configure/check the action for that trigger type

The action for a trigger type includes the pre-alarm delay, visual and auditory indications, the call sequence used, whether the trigger can be used to answer a call, whether the type of trigger is used for inactivity monitoring and/or intruder monitoring, and finally whether it triggers the external output. See page 44 for more information.

3. Configure/check the call sequence used for the trigger type

Which of the ten emergency numbers are used, and in what order, is dealt with on page 49.

Registering radio triggers

To register a radio trigger all you have to do is enter its identification number in one of the radio trigger parameters. This is a simple two-step process. First, you select a parameter, and then you set the radio trigger off. Lifeline listens for the number that is transmitted and puts it into the parameter you have selected.

The easy way. How do you let the Lifeline 4000 know what sort of trigger you are registering? The easy answer is that you select a parameter that is reserved for that particular type of radio trigger (see the adjacent table). If you select parameter 19 and then set off a radio trigger then Lifeline will assume that it is a radio trigger attached to a smoke detector. Whenever Lifeline receives this trigger it will perform the smoke action, because it is registered into a parameter reserved for a smoke detector.

The flexible way. You can also register a radio trigger in one of the **Extension Radio Trigger** parameters. This means that you have to designate its type in the next parameter, and so this is more effort. However, the advantage of this method is that it also allows you to transmit location codes that both the TT92 and BS protocols support. This method will be explained in more detail a later in this section.

Type	Parameter
Personal Trigger 1	21
Personal Trigger 2	27
Personal Trigger 3	28
Smoke Detector 1	19
Smoke Detector 2	24
Smoke Detector 3	25
Activity Detector	23
Intruder Detector 1	20
Intruder Detector 2	26
Temperature Detector (A)	22

Examples

Registering a trigger in Smoke Detector 1

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **9** *****.
3. Set the radio trigger off. Lifeline will beep and the word **Programmed** will be displayed if the unit has a display. If the Lifeline being programmed has speech synthesis turned on then it will also speak the words **Trigger Registered**.
4. End local programming by pressing the **Cancel** key.

Registering a trigger in Intruder Detector 1

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **2** **0** *****.
3. Set the radio trigger off. Lifeline will beep and the word **Programmed** will be displayed if the unit has a display. If the Lifeline being programmed has speech synthesis turned on then it will also speak the words **Trigger Registered**.
4. End local programming by pressing the **Cancel** key.

Test the radio trigger

You must always test a radio trigger after you have registered it with a Lifeline 4000. It is always possible that the Lifeline did not receive the trigger number successfully. Alternatively, it may have received another number just before you pressed the radio trigger alarm button (this is unlikely, but it can happen). Consequently, testing is essential.



Failing to register

When you register a radio trigger you will normally hear a high-pitched beep from the Lifeline 4000. If you hear a low tone then the registration has failed. The most common reason for such a failure is that the radio trigger is already registered with the unit. If a trigger is already registered in the parameter for **Smoke Detector 1** the Lifeline 4000 will not allow you to register it in the parameter for **Smoke Detector 2**.

Registering with more than one home unit

It is not recommended that you register a radio trigger with more than one home unit. However, it is possible. You could, for example, register a smoke detector radio trigger with more than one home unit.

Registering triggers in the Extension Radio Trigger parameters

Extension Radio Triggers are spaces for further triggers. However, these triggers can be of any sort. Any trigger registered in an **Extension Radio Trigger** parameter can be made to act like a smoke detector, a pull cord, a personal radio trigger, or any other type of trigger available. For example, parameter 60 is a slot for a radio trigger number, while parameter 61 is used to determine the type of trigger registered in parameter 60 (see the adjacent table).

Registering a movement sensor (e.g. PIR or pressure mat) radio trigger into parameter 60 is just like registering any other sort of radio trigger. Enter local programming mode, select parameter 60 and then set off the movement detector radio trigger by moving in front of the PIR or treading on the pressure mat. Next, you should select parameter 61 and enter a number to tell the Lifeline 4000 the type of trigger you have just entered. You can also enter a location code in parameter 61, and these codes are explained later in this section.

Extension Radio Trigger	Parameter for Trigger	Parameter for Trigger Type
1	60	61
2	62	63
3	64	65
4	66	67
5	68	69
6	70	71
7	72	73
8	74	75
9	76	77
10	78	79
11	80	81
12	82	83
13	84	85
14	86	87
15	88	89

Examples

Registering a personal radio trigger in Extension Radio Trigger 1

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **6** **0** *****.
3. Press the alarm button on the personal trigger. Lifeline will beep and the word **Programmed** will be displayed if the unit has a display.
4. End local programming by pressing the **Cancel** key.
5. Set the type of the trigger in parameter 61 (see later in this section).

Registering a radio-based smoke detector in Extension Radio Trigger 2

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **6** **2** *****.
3. Set the radio trigger off. Lifeline will beep and the word **Programmed** will be displayed if the unit has a display.
4. End local programming by pressing the **Cancel** key.
5. Set the type of the trigger in parameter 63 (see later in this section).

Setting the trigger type

The type for each Extension Radio Trigger is set in the following parameter (see table on previous page). For example, the type of the trigger in parameter 60 is set in parameter 61. Likewise, the type of the trigger in parameter 62 is set in parameter 63.

Trigger Type		TT92 Location Code		BS Location Code		BS Priority	
0	1	5	1	1	5	0	1

The first two digits are used to set the type (see adjacent table). The remaining digits are used to set the location codes, which are explained a little later in this section. The example above sets the trigger type to be a smoke detector located in the living room with a priority of 1.

If you set the type in parameter 63 (i.e. the first two digits) to 00 then this will indicate that the Extension Radio Trigger is not used. Even if a radio trigger is registered in parameter 62 nothing will happen when it is set off. If the type is set to 01 then the Lifeline 4000 will treat the trigger as if it is a smoke alarm. If the type is set to 03 then the Lifeline 4000 will treat the trigger as if it is a pull cord.

Intruders and movement sensors. Some types of trigger will only be used as intruder detectors. For example, if you have a device to detect when a window has been broken (and it is linked to a radio trigger), then you should set the type for this to intruder (i.e. to 03). A movement detector, on the other hand, can be used for more than just intruder detection. It can also be used for sensing activity, and hence used for inactivity monitoring. Consequently, even if you intend to use a movement detector for intruder detection do not set its type to be intruder (i.e. 03). Set its type to be movement (i.e. 08 or 09)—it can still be used for intruder detection.

Types of movement sensors. You will often hear movement sensors referred to as PIRs (Passive Infrared Radiation detectors). However, this is only one sort of movement sensor. Others, such as pressure mats, or those that rely upon beams of light being broken, will work just as well with the Lifeline 4000.

Entry/exit and non-entry/exit. Some movement detectors will always be triggered when the owner or resident of a property leaves after setting the intruder detector to **on**. These sensors will also be triggered when the resident returns, just prior to the intruder detector being turned off. The resident needs enough time to leave the property, and enough time on return to turn the intruder detection off. Lifeline 4000 will allow the resident this time, but only for sensors that are set to be the exit/entry type.

If a movement detector is likely to be set off as the resident leaves or enters their home then set the type of the trigger to be 08 (i.e. movement sensor entry/exit). If the movement sensor is not likely to be set off when the resident leaves or enters—it might be in a bedroom for example—then set the type to be 09 (i.e. movement sensor non-entry/exit).

Type of trigger	Value
Unused	00
Personal	07
Pull cord	02
Smoke Detector	01
Temperature A	04
Temperature B	05
Home Care Primer	10
Intruder	03
Movement entry/exit	08
Movement non-entry/exit	09
Activity	06



Activity. A trigger that is set to activity is one that is used only for resetting the inactivity timer. In other words, it will have no other effect. It is important to note that other types of trigger can also reset the inactivity timer. Consequently, if you have a movement sensor, and you would like it to be used for both the intruder alarm as well as inactivity sensing, then it is better to set it to be a movement sensor, using code 08 or 09.



Temperature. A sensor that monitors temperature will send a radio message when the temperature exceeds a limit. This message will trigger the Lifeline 4000. For example, the temperature might drop below 10°C. Another sensor might trigger when the temperature rises above 27°C. This is why there are two temperature codes—one for Temperature A and another for Temperature B. Lifeline 4000 is designed to receive triggers from temperature sensors in the home, although there is no reason why it cannot be used for industrial monitoring as well. For example, you may wish to monitor the temperature in a greenhouse that contains a valuable crop.



Home Care Primer. In chapter 1 of this guide there is an explanation of how a service provider can register the service they are providing. They can do this using the numbered keys under the flap on the top of the Lifeline 4000. It is also possible to provide service providers with their own radio trigger. To register a service they simply press a radio trigger in the home (the Home Care Primer) and then press their own radio trigger. The Lifeline 4000 then calls the control centre and passes the service provider's number back to the control centre computers. This saves on the time and effort involved in entering numbered codes.



The Home Care Primer trigger is the one that service providers press prior to pressing their own radio trigger. In effect, the Home Care Primer trigger says to the Lifeline 4000, *prepare for a trigger that does not belong to you, and send its details to the control centre as a service provider ID.*

Locations and location codes

Protocols. When a Lifeline 4000 communicates with a control centre it uses a protocol. A protocol is just an agreed method of communication. Lifeline 4000 can use a number of protocols, including the TTNEW protocol, the Telalarm protocol, the Bosch protocol, the British Standards (BS) protocol and the more advanced TT92 protocol.

Location codes. Both the TT92 and BS protocols can be used to send location information. To understand why this is important, imagine that you have been asked to set up a Lifeline 4000 in a large five-bedroomed house shared by five people. You fit radio-based smoke detectors in every bedroom, as well as the kitchen, the lounge and the hall. When one of these smoke detectors raises an alarm all the control centre will be told is that a smoke detector has triggered an alarm call. Yet, the fire brigade and police would ideally like to know which detector triggered the alarm to allow them to plan an evacuation and find the fire quickly. Location information allows the control centre to know which sensor has been triggered. It is not just of use in fires, but can also help to identify a sensor that triggered an intruder alarm call, which can be particularly useful if the sensor is faulty and has been raising false alarms.

The location codes used by the TT92 and BS protocols are standard (see adjacent tables). However, you need to bear in mind that a control centre as sophisticated as PNC3 Vision can override these standard codes, either globally for all calls or individually for particular properties (see chapter 5 of volume A and chapter 2 of volume C in the PNC3 Vision User Manual).

Which location information should I enter? If you enter the BS location information, but the Lifeline 4000 is using the TT92 protocol, then you will find that the location information you have entered will have no effect. If you are using the TT92 protocol then only the location information entered for TT92 will be transmitted.

BS Codes and types. The limitations of the BS protocol means that it also uses the location codes to transmit information on the call type. Some of these are included in the smaller table below.

Examples

Program Radio Trigger Extension 1 to be a smoke detector in the main bedroom

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **6** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **1** **2** **1** **1** **2** **0** **1**, and then press *****.
5. End local programming by pressing the **Cancel** key.

The 01 is the code for the smoke alarm type, the 21 is the TT92 location code for the main bedroom, the 12 is the BS location code for any bedroom, and the 01 is the BS priority. A smoke alarm is usually the highest priority of 1. The TT92 codes do not need a priority as these are set automatically for the type of alarm, although PNC3 Vision can override these for any particular property.

BS Call Type	BS Code
Inactivity Alert	30
High Temperature Alert	41
Low Temperature Alert	42
Gas Alert	43
Lighting Circuit Failure	44
Fire/Smoke Alarm	46
Heating Failure	47
Intruder Alarm	50
Periodic Call	61
Mains Power Failure	63
Service Call	68

Program Radio Trigger Extension 2 to be a non-entry/exit movement sensor in the living room

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **6** **3** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **9** **5** **1** **1** **5** **0** **8**, and then press *****.
5. End local programming by pressing the **Cancel** key.

In the example the 09 is the code for a non-entry/exit movement detector. The 51 is the TT92 location code for the main living room. The 15 is the BS location code for a living area, and we have made the BS priority for this call 08, as clearly an intruder alarm is not as important as a smoke alarm.

Program Radio Trigger Extension 3 to be a pull cord in the downstairs toilet

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **6** **5** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **2** **3** **3** **1** **3** **0** **6**, and then press *****.
5. End local programming by pressing the **Cancel** key.

In the example the 02 is the code for a pull cord. The 33 is the TT92 location code for a downstairs toilet. The 13 is the BS location code for any bathroom or toilet, and the BS priority for this call 06, as a resident pulling a cord in a toilet may well be in some distress.

Location	TT92 code	BS Code
Portable	00	20
Bedrooms		
Unspecified	20	12
Main	21	12
Second	22	12
Other	23 - 29	12
Bathrooms		
Unspecified	30	13
Main	31	13
Second	32	13
Other	35 - 39	13
WC downstairs	33	13
WC outside	34	13
Kitchen		
Unspecified	40	14
Main area	41	14
Secondary area	42	14
Other	43 - 49	14
Living area		
Unspecified	50	15
Living Room	51	15
Dining Room	52	15
Study	53	15
Second Living Room	54	15
Other	55 - 59	15
Hall/Landing/Stairs		
Unspecified	60	16
Hall	61	16
Landing	62	16
Stairs	63	16
Other	64 - 69	16
Garden/Garage		
Unspecified	70	
Garage 1	71	
Garage 2	72	
Front Garden	73	
Back Garden	74	
Other	75 - 79	

Setting the type for the hardwired input

The hardwired input is a physical connection into the Lifeline 4000. The details for making this connection can be found in chapter 4. Once the connection has been made you can set parameter 58 just as you might set any of the types for an Extension Radio Trigger (as just explained in the previous section). The only exception is the addition of the **Open/Closed** value.

Trigger Type		Open/Closed		TT92 Location Code		BS Location Code		BS Priority	
0	8	0	0	6	1	1	6	0	9

Open and Closed. The **Open/Closed** digits determine whether the circuit connected to the hardwired input is normally closed or normally open. If the circuit is **Normally Open** and the digits are set to 00, then Lifeline 4000 will only be triggered if the circuit is closed (if the connection to complete the circuit is made). The advantage of this approach is that if the wires become disconnected it will not raise a false alarm (unless the bare wires touch).

If the circuit is set to **Normally Closed**, and the digits for this setting are set to 01, then Lifeline 4000 will be triggered if the circuit is broken. This is useful if security is an issue. For example, if an panic button has been wired into a kitchen and an intruder rips the button away from its connection this will still trigger the alarm—because the circuit has been broken.

Imagine that we have placed a pressure mat in the hall of a property and connected it to Lifeline 4000's hardwired input. As the pressure mat is in the hall it is likely to be triggered when a resident returns to turn off the intruder alarm, and so we need to make it an entry/exit type. The entries can be seen in the table above, and in the example below.

Example

Program the hardwired input to act as an entry/exit movement detector placed in the hall

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **5** **8** *****.
3. Delete the old value using the **C** key.
4. Enter **0** **8** **0** **0** **6** **1** **1** **6** **0** **9**, and then press *****.
5. End local programming by pressing the **Cancel** key.

The 08 is the code for a movement entry/exit alarm type, 00 is because the connection is normally open, the 61 is the TT92 location code for the hall, the 16 is the BS location code for any hall or landing, and the 09 is the BS priority.

Note. The actions Lifeline can be made to take with different types of triggers are explained in page 44, and all of the different trigger types are listed on page 45.

Trigger types and actions

As we have seen in the previous section, we can declare any Extension Radio Trigger input (as well as the hardwired input) to be a smoke detector, an intruder detector, a pull cord, or any other type of available trigger. However, we can also configure how these different types of trigger behave. For each of type of trigger we can set any of the following.

Prealarm delay. This determines how long the Lifeline 4000 waits before raising an alarm after receiving a trigger. During this time (and for a few seconds after) the resident normally has the opportunity to cancel the alarm. Setting a prealarm delay of 10 seconds, for example, can be useful for the integral button (the main alarm button on the top of the Lifeline 4000), as it allows residents who have accidentally pressed it while cleaning some time to cancel the alarm call. The minimum time for this setting is 0 seconds, while the maximum is 60 seconds.

Call Visual indication. Whether there is any visual indication of an alarm being raised, such as the integral alarm button flashing, or the display showing messages reporting the progress of the call, can be determined by this setting.

Control centre tones. This determines whether the communication tones sent by the control centre computers can be heard through the Lifeline 4000's loudspeaker.

Call progress tones. The tones that the Lifeline 4000 normally makes while connecting to a control centre can be turned off.



Answer call. This determines whether the particular type of trigger can be used to answer a call (i.e. to pick up the receiver in hands-free mode). For example, personal radio triggers, such as GEM or Amie, are often used to answer a call. This allows a resident to have a hands-free conversation from their armchair or bed without moving to answer the call. Pull cords could also be set to answer any incoming calls.

Inactivity. Any alarm type can be set so that it restarts the inactivity timer. Generally, most alarm types are set by default to reset the inactivity timer.



Intruder. This determines whether the alarm type is used to trigger an intruder alarm when the intruder feature is turned on. Commonly, the intruder type of alarm is set to trigger an intruder call, as we might expect. However, the movement sensors, both entry/exit type and non-entry/exit type, can be used to trigger an intruder alarm call.

Call sequence. Which call sequence, of the ten available, will be used by the alarm type can be set. The call sequence determines which telephone numbers are called, in what order and how many times the numbers are retried before Lifeline 4000 moves on to the next call.

External output. This determines whether the alarm type will switch the external output.

A clarification regarding trigger types

It might be useful to just run through a few of the different trigger types. The **Integral Button** is the large red alarm button on the top of the home unit. The **Personal** trigger type refers to personal radio triggers, such as GEM, Amie and Fall Detector. **Home Care Management** is the type of trigger/action where a service provider enters their timed or non-timed service using the numbered keys under the flap on the top of Lifeline 4000. **Home Care Management Primer** is where a service provider presses a button (usually a radio trigger), and then presses their own radio trigger, which indicates the service they have provided. The **Information** trigger type can be used for a variety of purposes. However, the most common is a periodic call.

Type	Parameter
Integral button	134
Personal	153
Pull Cord	148
Mains Fail	128
Mains Restored	135
Smoke	147
Temperature A	150
Temperature B	151
Activity	152
Intruder	149
Movement Entry/exit	154
Movement Non-Entry/exit	155
Home Care Management	136
Home Care Management Primer	156
Information	139

Prealarm Delay		Call Indication	Trigger Uses	Call Sequence	External Output	Time On	Time Off
0	0	0	0	2	0	0	0

The table on the next page shows the entries for Call Indication and Trigger Uses.

Examples

Set the action for the smoke call type

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **1** **4** **7** *****.
3. Delete the old value using the **C** key.
4. Enter **0** **0** **0** **0** **2** **0** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

The actions for some trigger types are simple to set. A smoke detector needs no prealarm delay, and so this is set to 00. We want the call progress visual signs and tones to be seen and heard and so we set this to 0 (see table later). We do not want a smoke detector to answer a call, reset the inactivity timer or set off the intruder alarm, and so we set this value to 0. We want calls of this sort to use call sequence 2, and we do not want the smoke/fire detectors to switch the external output.

Set the action for the integral button

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **1** **3** **4** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **2** **0** **0** **2** **1** **0** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

As the resident may be prone to accidentally pressing the integral alarm button while cleaning, we have set the prealarm delay to 20 seconds, to give plenty of time to cancel a call. We want all of the call indication features on, and so we have entered a 0. The Trigger Uses value is set to 2 because we want the integral alarm button to reset the inactivity timer, but not to answer an incoming call or raise an intruder alarm. The next digit is 1 because we want this trigger type to use call sequence 1. Finally, we do not want the integral button to switch the external output and so the last three figures are all zero.

Set the action for non-entry/exit movement detectors

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **1** **5** **4** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **7** **3** **2** **0** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

We do not want a prealarm delay for this sort of alarm, and we want to turn off any call indication, and so the value is set to 7. We want these movement detectors to both raise an intruder alarm and reset the inactivity timer, but not answer a call, and so the value is 3. Finally, we want this type of trigger to use call sequence 2, but not to switch the external output.

Call Indication	State	Value
Call Progress Tones	On	0
Control Centre Tones	On	
Visual Indication	On	
Call Progress Tones	On	4
Control Centre Tones	On	
Visual Indication	Off	
Call Progress Tones	On	2
Control Centre Tones	Off	
Visual Indication	On	
Call Progress Tones	On	6
Control Centre Tones	Off	
Visual Indication	Off	
Call Progress Tones	Off	1
Control Centre Tones	On	
Visual Indication	On	
Call Progress Tones	Off	5
Control Centre Tones	On	
Visual Indication	Off	
Call Progress Tones	Off	3
Control Centre Tones	Off	
Visual Indication	On	
Call Progress Tones	Off	7
Control Centre Tones	Off	
Visual Indication	Off	
Trigger Uses	State	Value
Answer Incoming Calls	On	7
Reset Inactivity Timer	On	
Raise Intruder Alarm	On	
Answer Incoming Calls	On	6
Reset Inactivity Timer	On	
Raise Intruder Alarm	Off	
Answer Incoming Calls	On	5
Reset Inactivity Timer	Off	
Raise Intruder Alarm	On	
Answer Incoming Calls	On	4
Reset Inactivity Timer	Off	
Raise Intruder Alarm	Off	
Answer Incoming Calls	Off	3
Reset Inactivity Timer	On	
Raise Intruder Alarm	On	
Answer Incoming Calls	Off	2
Reset Inactivity Timer	On	
Raise Intruder Alarm	Off	
Answer Incoming Calls	Off	1
Reset Inactivity Timer	Off	
Raise Intruder Alarm	On	
Answer Incoming Calls	Off	0
Reset Inactivity Timer	Off	
Raise Intruder Alarm	Off	

Set the action for personal triggers for witness protection

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **5** **3** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **7** **0** **3** **0** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

An individual on a witness protection scheme might be given several radio triggers with which to raise an alarm. We would not want any prealarm delay, and so the first two figures are both zero. We want all progress information turned off so that any criminal who may have visited in order to intimidate the witness is unaware of the call being made. Normally, personal triggers are configured to answer an incoming call, but because we do not want a personal radio trigger to answer a call, reset the inactivity timer or raise an intruder alarm call the next digit is set to 0. We want this trigger type to use call sequence 3, and we have set the external output to three zeros—to have no effect.

External output

A trigger type can have three possible effects on the external output. It can switch the output on (and will have no effect if the output is already on), it can switch it off (and again will have no effect if the output is already off) or it can toggle the output. This means that if the output is on it will be turned off, whereas if the output is off it will be switched on. In the example below the number entered for external output is 2. This means that pressing the key will turn the output on.

External output action	Value
No effect	0
Switch off	1
Switch on	2
Toggle	3

Information on making hardwired connections to either the input or output for Lifeline 4000 can be found in chapter 4 of this guide.

Time on and off. If the output is turned on then it can also be made to flash (to switch on and off). The **External Output Time On** figure can be anything from 0 to 9. Entering the digit 9 means that the output would be on for 1.8 seconds. Entering the digit 3 means that the output would be on for 0.6 seconds. Even increment of 1 adds 0.2 seconds to the time. The **External Output Time Off** determines how long the output is off for, before switching back on again. If either of these figures is set to zero there will be no flashing. In addition, these entries will have no effect if the key switches the output off (either because it is configured to switch it off or because it is configured to toggle and the output was previously on).

Example

Set the action for Temperature A monitors so that a light is flashed

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **5** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **6** **0** **0** **0** **0** **2** **9** **9**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Imagine we are setting up a Lifeline 4000 in a house. The three residents in the house need support during the day, and all are potentially vulnerable to the cold. Consequently, we want to monitor the temperature. We have fixed several temperature sensors around the home, and each one will trigger if the temperature drops below 18°C. When the temperature drops below this level we want a call to be raised. However, we also want a light to be flashed so that any carer in the home is made aware of the problem so they can check the central heating.

The first two numbers are set to 60 to provide a 60 seconds prealarm delay. If there are any carers present they will be able to cancel the alarm call and deal with the problem themselves. The next figure is zero because we want all of the call progress indicators. However, we do not want this alarm type to answer a call, reset the inactivity timer or raise an intruder call. Consequently, we set the fourth digit to zero. The fifth digit is zero because we want this type of call to use call sequence 10. The external output is set to 2, so that this type of alarm will always turn the external output on. The next two figures are both 9 because the output will be flashed on for 1.8 seconds and then flashed off for 1.8 seconds. The output has been connected to a relay, in accordance with the instructions in chapter 4 of this guide.

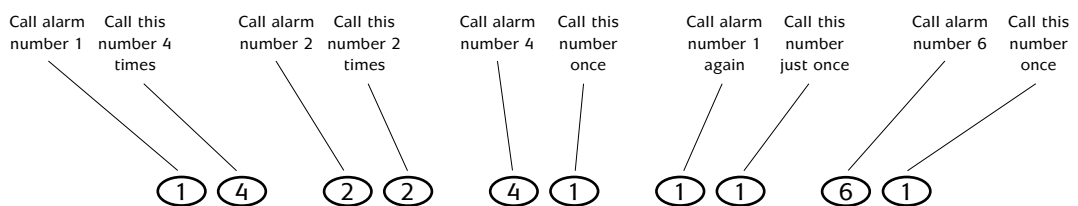
Call Sequences

There are up to ten alarm numbers that can be stored in a Lifeline 4000, but which order should the numbers be called in? For example, if a resident presses the integral button and raises an alarm you might want the home unit to first call the next door neighbour—a personal recipient. If a smoke detector raises an alarm, however, you might want the home unit to call a control centre first. An alarm sequence is a list of which numbers to call, and how many times to try each one before moving on to trying the next number. Different types of alarm can use different call sequences. In total, you can have up to ten different call sequences stored in a Lifeline 4000.

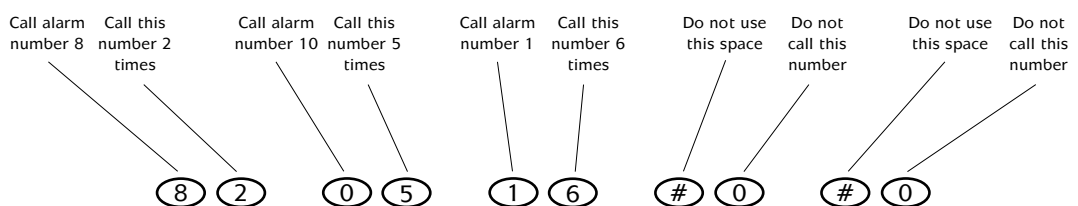
For reasons of memory space, each call sequence is split between two parameters. The first five numbers to call are in the first parameter, and the next five are entered into the following parameter. The adjacent table shows which parameters hold which call sequence.

How do you enter a call sequence?

The easiest way to understand how a call sequence is entered is to consider an example. Let us imagine that we want to call the main control centre number first, and we want to try this number four times. Then we want to call the second control centre number we have twice. Following this, it might be useful if we call a personal recipient just once. Next, we will try the main control centre once more, before trying another personal recipient just once.



We can enter the second half of the call sequence in the next parameter. Note, that if you want to leave the end of a call sequence unused (i.e. you do not want to use all ten possible spaces), you can enter # and then 0. If you enter 0 for the alarm number to use this means that the Lifeline 4000 should use alarm number 10.



Any particular alarm number can be tried up to nine times. If you use the Engineer's Utility to program a Lifeline 4000 then you can set this number to be as high as fifteen. In other words, a single number in a sequence can be tried up to 15 times. However, the number of call attempts you enter for any particular alarm number can be overridden by a factory-set parameter in each Lifeline 4000. This factory-set parameter contains the legal limit for retries for the country for which the Lifeline 4000 has been manufactured.

Call Sequence	Parameter for first five numbers	Parameter for second five numbers
1	100	101
2	102	103
3	104	105
4	106	107
5	108	109
6	110	111
7	112	113
8	114	115
9	116	117
10	118	119

Examples

Set call sequence 1 so that it calls each alarm number in turn just once

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **1** **0** **0** *****.
3. Delete the old value using the **C** key.
4. Enter **1** **1** **2** **1** **3** **1** **4** **1** **5** **1**, and then press *****.
5. Enter the next parameter—press ***** **1** **0** **1** *****.
6. Delete the old value using the **C** key.
7. Enter **6** **1** **7** **1** **8** **1** **9** **1** **0** **1**, and then press *****.
8. End local programming by pressing the **Cancel** key.

Set call sequence 2 for use by smoke detector triggers

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **1** **0** **2** *****.
3. Delete the old value using the **C** key.
4. Enter **1** **1** **2** **1** **8** **1** **1** **2** **2** **2**, and then press *****.
5. Enter the next parameter—press ***** **1** **0** **3** *****.
6. Delete the old value using the **C** key.
7. Enter **3** **1** **1** **4** **2** **4** **1** **9** **2** **9**, and then press *****.
8. End local programming by pressing the **Cancel** key.

We might want to call each control centre just once initially, and then try the personal recipient who lives next door. We might try the control centres again after this, calling each one twice before trying another personal recipient, and then repeatedly trying the control centres once more. In the sequence entered the Lifeline 4000 will finish the sequence by calling alarm number 1 four times, then alarm number 2 four times, before calling alarm number 1 and then alarm number 2 nine times each.

Set call sequence 3 to call personal recipients first and then the control centres

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first.
2. Enter the parameter—press ***** **1** **0** **4** *****.
3. Delete the old value using the **C** key.
4. Enter **5** **1** **3** **1** **6** **1** **4** **1** **7** **1**, and then press *****.
5. Enter the next parameter—press ***** **1** **0** **5** *****.
6. Delete the old value using the **C** key.
7. Enter **1** **3** **2** **3** ***** **0** ***** **0** ***** **0**, and then press *****.
8. End local programming by pressing the **Cancel** key.

For some residents their first port of call might be a personal recipient. You might wish to set any personal radio triggers to use a call sequence that contacted the control centres first. However, you might also want a call sequence for the integral button that contacts personal recipients first. This is an example of how such a list might be entered. The control centre numbers are entered last, with the last three spaces in the call sequence unused.

Inactivity and temperature monitoring

As mentioned in the main Lifeline 4000 User Guide, Lifeline 4000 can be set up to monitor a resident's activity. If a resident is inactive then Lifeline 4000 will make a call to the control centre.

Inactivity monitoring is turned on and off using parameter 11 (see the section on **Messages and warnings** earlier in this chapter). Using parameter 11 for this allows Lifeline 4000 to remain compatible with older control centres. The details of configuring inactivity monitoring are dealt with here.



Detecting inactivity

Given the pressure mats and movement sensors needed to detect inactivity Lifeline 4000 is normally configured for this task by a service engineer. However, the principle of how Lifeline 4000 detects inactivity is quite simple. Lifeline 4000 uses two simple methods to decide whether a resident has been inactive. We will call one the **stopwatch method** and the other the **clock method**.

The stopwatch method. A Lifeline 4000 will have an Inactivity Time programmed into it. The Lifeline 4000 monitors the movement sensors and pressure mats. Every time one of these is set off it resets an internal stopwatch. Every so often the Lifeline 4000 will ask the question, *Does the time shown on the stopwatch exceed the Inactivity Time?* If it does then Lifeline 4000 will raise an inactivity call. In other words, if the resident is inactive for a period longer than the **Inactivity Time** programmed into their Lifeline 4000 then Lifeline 4000 will make an inactivity alarm call.

Usually, the **Inactivity Time** is set for 12 or 14 hours. It is possible to set the **Inactivity Time** for just 3 or 4 hours. However, this will cause the Lifeline 4000 to raise an inactivity call every night, as most resident will spend longer than 4 hours asleep, and hence will not move around their home. The minimum setting for **Inactivity Time** is 30 minutes, while the maximum setting is 50 hours.

The clock method. Lifeline 4000 can be programmed with an **Inactivity Start Time** and an **Inactivity Stop Time**. If we imagine that these are set to 9am and 4pm respectively, then Lifeline 4000 will expect to detect movement at least once between these two times. In other words, when the clock reaches the 4pm (the **Inactivity Stop Time**) Lifeline 4000 asks itself, *Has there been any activity since 9am (the Inactivity Start Time)?* If there has been no activity then Lifeline 4000 will raise an alarm.

Using the stopwatch and clock methods together. Let us imagine that there is a resident who is at risk from a medical condition, but who insists upon living alone. If you use the stopwatch method you may have to wait 12 or 14 hours before you find out that this person has collapsed and needs help. If you use the clock method you might also have to wait a long time. The answer is to use both methods.

The clock times (the **Inactivity Start Time** and the **Inactivity Stop Time**) should be set for the times when the resident gets up and when the resident goes to bed. Let us imagine that the

resident normally gets up and 7am and goes to bed at 10pm. The **Inactivity Time** (for the stopwatch) then needs to be set to a reasonable movement time, such as 1 hour. Lifeline 4000 will then expect some movement at least every hour. If the stopwatch exceeds the **Inactivity Time** (in this case 1 hour) then Lifeline 4000 will raise an alarm call. However, Lifeline 4000 will only monitor activity between 7am and 10pm. As a consequence, Lifeline 4000 will not raise an alarm after 10pm once the resident has retired to bed, even though the inactivity exceeds 1 hour.

The advantage of using both the stopwatch and clock methods together is that when a resident is inactive and needs assistance this can be detected more quickly. The disadvantage is that the resident will need to remember to set Lifeline 4000 to **Away** even if they are going to the shops for just an hour or so, as Lifeline 4000 will more readily raise an inactivity alarm as it is waiting a shorter period of time before calling for help.

Setting the inactivity parameter

To set parameter 131, the inactivity parameter, you need four pieces of information:

1. The inactivity monitoring method you want to use, either the stopwatch method, the clock method or both.
2. The clock start time.
3. The clock end time.
4. The inactivity time for the stopwatch.

The first two digits determine the method used, either stopwatch, clock or both (see adjacent table). In the example above the digits 02 have been entered and so both methods will be used.

Method		Clock Start Time				Clock Stop Time				Inactivity (stopwatch) Time			
0	2	0	7	0	0	2	2	0	0	0	3	0	0

The **Clock Start Time** has been set to 7am (0700) while the **Clock Stop Time** has been set to 10pm (2200 because it is a 24-hour clock). The **Inactivity Time** has been set to 3 hours (0300). This means that an alarm will be raised if the resident does not trigger one of the movement sensors for more than three hours. However, this only applies between the hours of 7am and 10pm.

Method	Value
Stopwatch	00
Clock	01
Stopwatch and Clock	02

If you select the stopwatch method for inactivity monitoring then the **Clock Start Time** and **Clock Stop Time** entries will have no effect. If you select the clock method of inactivity monitoring then the **Inactivity Time** entry will have no effect. Only if you select both methods will all of the entries into this parameter have an effect.

If you turn inactivity monitoring on, but you have not registered and configured movement detectors for the Lifeline 4000, then false alarms will be raised. If a resident presses an alarm button then this is usually enough (depending upon how the **Trigger types and actions** are

configured—see earlier in the chapter) to reset the inactivity stopwatch. However, reliable detection of activity requires movement sensors.

It is important to remember that the settings you enter into parameter 131 will have no effect if inactivity monitoring is not enabled using parameter 11 (see the section on Messages and warnings earlier in this chapter).

Examples

Setting inactivity monitoring to use the stopwatch method with an Inactivity Time of 12 hours

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **0** **0** **0** **0** **0** **0** **0** **0** **0** **1** **2** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting inactivity monitoring to use the clock method between 9am and 10pm

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **1** **0** **9** **0** **0** **2** **2** **0** **0** **0** **0** **0** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Setting inactivity monitoring to use both the stopwatch and clock methods between 9am and 10pm, with an Inactivity Time of 4 hours

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **2** **0** **9** **0** **0** **2** **2** **0** **0** **0** **4** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Temperature monitoring

Two different temperature settings can be monitored using a Lifeline 4000. For example, you could have one temperature sensor monitoring the temperature in a greenhouse, while another monitors the temperature in the kitchen or hall. Alternatively, you could set up two temperature sensors in the hall, one that triggered when the temperature was too high and the other that triggered when the temperature was too low. In this way a control centre would know whether the temperature was too high or too low, rather than whether the temperature is just *out of the acceptable range*.



Another configuration is to have a temperature sensor that monitors temperature while the resident is at home, and another that monitors temperature when the resident is away (i.e. when the **Away** feature is turned on). As you might expect, the acceptable temperature when the resident is at home would be higher than the lowest temperature allowed when the resident is away.

Multiple sensors. Although Lifeline can monitor two different temperature settings, this does not mean that only two temperature sensors can be registered with a Lifeline 4000. For example, you could register ten temperature sensors as **Extension Radio Triggers** (see the section on **Triggers** earlier in this chapter) and distribute them in the rooms of a large house. If any of these sensors detected a temperature out of range it would send a radio trigger to Lifeline, and the Lifeline 4000 would raise an alarm.

Setting temperature limits. A Lifeline 4000 cannot be used to set the temperature limits for temperature monitoring. The temperature at which an alarm will be triggered is set in the temperature sensor itself. Once a limit has been exceeded (so that the temperature is either too high or too low) the temperature sensor will send a radio trigger message to the Lifeline 4000 which will then raise an alarm.

Temperature A enabled in Away state	Temperature B enabled in Away state	Temperature A enabled in Home state	Temperature B enabled in Home state
1	0	1	1

Parameter 132 allows you to turn temperature monitoring on and off for the two temperature settings, **A** and **B**. For each temperature setting, **A** and **B**, you can enable monitoring by entering a **1**, or disable monitoring by entering a **0**, for both the **Home** and **Away** states. In the example above, **Temperature A** is set for both **Home** and **Away**. **Temperature B**, however, is only set to be turned on when the resident is away. Typically, monitors configured to act as Temperature B sensors would be set to trigger when the temperature drops several degrees below normal room temperature. Consequently, if this setting is enabled when the resident is away, and has turned off the central heating, it would probably raise a false alarm.

Examples

Set Temperature A to be on only when the resident is at home, and Temperature B to be off at all times

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **2** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **1** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Set Temperature A to be on when the resident is Away and Temperature B to be on when the resident is Home

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **2** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **0** **0** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

Intruder monitoring

The intruder detection option relies upon intruder detectors, such as sensors that detect when a pane of glass has been broken, as well as movement sensors, such as PIRs and pressure mats. The section on **Triggers** earlier in this chapter suggests how these can be registered and configured.

Intruder Enabled	Entry Tones	Always Zero	Test Mode
1	1	0	1

Parameter 48 is used to enable and configure the intruder feature. The first digit in the example above is set to zero if the intruder feature is not enabled, and one if the feature is enabled.

Exit tones. Lifeline will always sound exit tones once the intruder alarm has been turned on. These remind a resident that they have just a short time before the alarm is armed.

Entry tones. Lifeline can sound tones when a resident enters their house or flat. These tones remind the resident that they have triggered the intruder alarm and they need to enter their personal identification number (PIN) soon, before the Lifeline 4000 raises an alarm call. Entry tones help to prevent false alarms. However, entry tones also alert intruders to the presence of an alarm. Consequently, some resident prefer not to have these tones. The second digit in the example above determines whether residents hear entry tones from the Lifeline 4000 when they re-enter their house of flat and disable the alarm. If the second digit is set to one then the resident will hear entry tones. If the digit is set to two then the resident will not hear entry tones.

Test mode. The last digit in the example above determines whether Lifeline beeps every time a trigger from a movement sensor is received. If this last digit is set to zero then a beep will be heard every time a movement sensor is set off. To disable this feature you need to enter a one. This feature is very useful when you are setting up and testing an alarm. However, it is important to turn this feature off (to enter a one as the last digit) once you have finished an installation, otherwise the beeping can become annoying.



Examples

To enable the intruder alarm, to enable entry tones, and to enable test mode

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **4** **8** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **1** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

To enable the intruder alarm, to disable entry tones, and to disable test mode

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **4** **8** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **2** **0** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

To disable both the intruder alarm and the test mode

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **4** **8** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **1** **0** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

Entry/Exit time

Once a resident has set the intruder alarm he or she has a certain amount of time to leave before the intruder monitoring becomes active. Lifeline also allows the same amount of time for a resident to disable the intruder alarm upon their return. You can set this time to anywhere between 0 and 120 seconds using parameter 49. Note that you must always enter three digits for this parameter, even if you set the time for just five seconds (i.e. 005 seconds).

Example

To set the intruder entry/exit time to 60 seconds

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **4** **9** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **6** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Personal Identification Number (PIN)

In order to disable the intruder alarm the resident needs a personal identification number (PIN). This must be a four-digit number. You can set this using parameter 50.

Example

To set the intruder PIN to 1234

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **5** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **2** **3** **4** and then press *****.
5. End local programming by pressing the **Cancel** key.

Call configurations

Periodic Calls

Lifeline 4000 can be set to call the control centre every so often—usually every twenty-eight days. In this way the control centre can be sure that the unit is functioning correctly. If the control centre does not receive this regular call (assuming it has been configured to expect this call) then it will alert the call operators at the control centre to the potential problem.

Number of days between calls		Enabled/Disabled	12-hour delay
2	8	1	1

In the example above the first two digits set the number of days between calls, and this can range from 1 day to 99 days. The third digit determines whether periodic calls are enabled or not. In the example above periodic calls are enabled, with **1** for enabled (and **0** for disabled).

Add 12 Hours. If you set the Lifeline 4000 to make a periodic call in twenty-eight days time then it will make its first call just 24 hours later. After this, it will call in exactly twenty-eight days time. Consequently, if you program it at 3.30 in the afternoon then the unit will make every periodic call at 3.30pm. Many control centres prefer home communication units to call with periodic calls in the late evening or the middle of the night, when the control centre has few calls. Setting the 12 hour delay feature to 1 achieves this.

Examples

To enable periodic calls every 70 days, with a 12-hour delay to ensure that the call arrives at night

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **2** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **7** **0** **1** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

To enable periodic calls every 5 days, without the 12-hour delay

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **2** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **5** **1** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

High resolution periodic calls

Lifeline 4000 also allows high-resolution periodic calls using parameter 166, although only if periodic calls are enabled in parameter 12. If high-resolution calls are enabled then this overrides any other settings made in parameter 12. High-resolution periodic calls can take place just hours or minutes apart. They are of particular use in domestic violence and witness protection cases, where you wish to ensure that the unit has not been unplugged or the telephone line cut.

Enabled	Always Zero	Hours		Minutes	
1	0	0	3	0	0

The first digit in the table above is set to 1 for enabled and 0 for disabled. The latter four digits set the time between calls in hours and minutes, with a maximum of 23 hours 59 minutes and a minimum of 1 minute. In reality, it would be unwise to set a time between calls to be as small as just one minute.

Example

To enable periodic calls every 3 hours

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **6** **6** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **0** **0** **3** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Adding a random time element to a periodic call

If many Lifeline 4000s are programmed to call into a control centre with a periodic call at the same time this can lead to congestion at the control centre, and this is more likely to be a problem with high-resolution periodic calls, where many calls are being made. To address this problem, it is possible to add a random time element to a periodic call, up to a maximum of four hours. This call randomization only applies to high-resolution calls.

If the time entered into parameter 167, in hours and minutes, equals 00:00 then there will be no random element added. If the time is 3 hours 30 minutes (see the example below) then a random time element will be added to when the call is made, up to a maximum of 3 hours 30 minutes. Consequently, the time entered into parameter 167 is the maximum variance allowed in the random time element added to a periodic call.

Example

To set the maximum random time added to a high-resolution periodic call to 3 hours 30 minutes

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **6** **7** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **3** **3** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Personal recipient configuration

When Lifeline 4000 makes a call to a personal recipient it will announce either the number of the unit, or the personal recipient announcement that has been recorded into it. It will continue to do this until the person who has received the call presses a key (i.e. any number key) on their telephone. Normally, residents can hear these announcements. However, parameter 133 can be used to silence these announcements, although this setting only affects what is heard by the resident, **not** what is heard by the recipient. This can be useful if calls are made to personal recipients when a Lifeline 4000 is being used for witness protection, or in domestic violence cases. If the first digit of parameter 133 is set to 1 then the personal recipient announcements will be silenced at the Lifeline 4000. If the digit is set to 0 then the personal recipient announcements are not silenced, and can be heard by the resident if he or she is in earshot.

Call confirmation. Parameter 133 also determines whether a confirmation call is made to a control centre. A confirmation call is a type of information call. Only the computers at the control centre receive the call. It is made after a personal recipient has accepted an alarm call by pressing a key on their telephone. It allows the control centre computers to make a note of the alarm call in the control centre call log, even though the alarm call was made to a personal recipient and not to the control centre directly. If the second digit in parameter 133 is set to 1 then a confirmation call will be made. If the second digit is set to 0 then no confirmation call will be made.

Silence personal recipient announcements at the Lifeline Home Unit only	Call Confirmation
1	1

Parameter 133 needs two digits, each of which can be either 0 or 1. In the table above, the first digit is set to 1, which means that the personal recipient announcements will be silenced at the Lifeline 4000. The second digit is also set to 1, which means that a confirmation call will be made once the personal recipient call has been accepted.

Example

Silencing personal recipient announcements at the Lifeline, while turning call confirmation on

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **3** **3** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **1**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Incoming call timeout

Some residents forget to end a call. In other words, some users answer calls, but when the conversation ends and the person at the other end puts the telephone down, they forget to end the call using the **Cancel** key.

To address this problem Lifeline 4000 can be made to end a call after a period of time. However, you should note that Lifeline will not do this sensitively—it will cut off any incoming call once the time limit entered into parameter 170 is exceeded, regardless of whether the conversation is still in full flow.

The time period allowed for an incoming call can be set in hours and minutes. If parameter 170 is set to 0000 then there will be no call timeout.

Examples

To turn the incoming call timeout off

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** **0** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

To set the incoming call timeout to two hours, thirty minutes

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **0** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **2** **3** **0**, and then press *****.
5. End local programming by pressing the **Cancel** key.

Mains fail call configuration

Lifeline 4000 can make an alarm call when the mains power fails and it has to switch over to using its batteries. This call takes place one hour after the mains failure. However, this can mean that every Lifeline in a town that has a power cut will try to call the control centre exactly one hour after the beginning of the power cut, thus jamming the telephone lines. Consequently, Lifeline 4000 can be made to make this call at a random time after the beginning of the power cut.

Mains fail call range	Mains restored call range	Always one	Mains restored call enabled	Call frequency		Battery low call	Always zero	Packing shutdown time				Digits 13 to 16 always zero
1	1	1	1	0	4	0	0	0	0	3	0	0000

Digit 4 of parameter 93 (see the table above) determines whether a mains restored call will be made at all. If it is set to 0 then no mains fail call will be made, while a value of 1 in the fourth digit will make Lifeline raise a mains restored call.

Mains fail call time range. The first digit of parameter 93 determines the time range (in hours) in which Lifeline can make the mains fail alarm call. If it is set to 0 then it will make the call exactly one hour after the mains failure. If the first digit is set to 1 then it will make the call between one and two hours after the mains failure. If this digit is set to 4 then Lifeline will make the call between 1 and 5 hours after the mains failure. The maximum is 9 hours.

Mains restored call time range. The second digit is the time range (in hours) in which Lifeline 4000 will make a call to say that the mains has been restored. If this digit is set to 0 then the mains restored alarm call will be made immediately after the mains power has been restored. If the digit is set to 1 then Lifeline will make the call at any time up to one hour after the mains power was restored. If the digit is set to 3 then Lifeline will make the call any time up to a maximum of three hours after the mains power was restored. Again, the maximum is 9 hours.

Mains fail call frequency. Lifeline can be made to repeatedly call with a mains fail alarm. Digits five and six in parameter 93 determine the time in hours between each call. The maximum of 12 hours. The minimum of 00 hours will mean that, after the initial mains fail call, no further calls are made until the mains is restored and a mains restored call is made.

Battery low call. The battery low digit determines whether a call is made to the control centre when the battery needs to be changed. A value of 1 means that the call will be made. A value of zero means that the call will not be made.

Packing shutdown time. This setting is used during manufacture. It is the time the Lifeline 4000 will remain turned on after it has lost both a telephone connection and mains power. This time is entered in minutes and seconds, with the maximum being 59:59—59 minutes and 59 seconds. If this value is set to 00:00 then the Lifeline 4000 will never shut down after it has lost both a telephone connection and mains power.

Examples

To set the Lifeline 4000 to enable mains fail calls, and set the mains fail and mains restored time range to one hour each, and the call frequency to 6 hours

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **9** **3** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **1** **1** **0** **1** **0** **6** **0** **0** **0** **0** **0** **0** **0** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

To set the Lifeline 4000 to enable mains fail calls, and set the mains fail time range to three hours, and the mains restored time range to two hours, and the call frequency to 0

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **9** **3** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **3** **2** **0** **1** **0** **0** **0** **0** **0** **0** **0** **0** **0** **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

Tone dialling/pulse dialling

Old telephones use pulse dialling, while modern telephones use tones to dial telephone numbers. Lifeline 4000 uses tone dialling. However, it can be switched to use pulse dialling if the local telephone exchange cannot accept tone-dialled calls.

To set the Lifeline 4000 to use tone dialling

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **4** **7** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

To set the Lifeline 4000 to use pulse dialling

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **4** **7** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

Ringling

Ringling can be disabled using parameter 94. For example, a resident might have an ordinary telephone connected to the same line as their Lifeline 4000 and might prefer only to hear their ordinary telephone ring when someone calls.

Disable ringing	Disable augmented ringing
0	0

Parameter 94 can also be used to enable and disable augmented ringling. Augmented ringling is explained below, where parameter 169 can be used to determine when augmented ringling starts.

The first digit for parameter 94 determines whether ringling is enabled or disabled (0 = enabled, and 1 = disabled). The second digit in parameter 94 sets whether augmented ringling is enabled or disabled. If ringling is disabled then the setting for augmented ringling will be irrelevant, as no ringling of any sort will be heard.

Example

To enable ringling and disable augmented ringling

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **9** **4** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **1** and then press *****.
5. End local programming by pressing the **Cancel** key.

Augmented ringling interval

Lifeline 4000 can be made to increase the volume of its ringling the longer an incoming call goes unanswered. The number of rings that Lifeline allows before it increases its volume is set in parameter 169. If a value of 00 is entered then Lifeline will never increase the volume of the ringling. If a value of 03 is entered then Lifeline will increase the volume of the ringling after just three rings.

Note that the value entered into this parameter will have no effect if augmented ringling is turned off using parameter 94. Likewise, it will have no effect if incoming ringling is turned off using parameter 94 (above).

Example

To set the Lifeline 4000 to augment ringling after five rings

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **6** **9** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **5** and then press *****.
5. End local programming by pressing the **Cancel** key.

Miscellaneous

Configurable date

Parameter 174 allows anyone programming a Lifeline to enter a date. This date will remain in the Lifeline 4000's memory until it is next changed. This can be used for any purpose, depending upon the needs and policies of the control centre. One use might be to record the date when the unit and its connections were last checked by a member of staff. This date could then be checked from the control centre using manual programming methods.

Day		Month		Year	
0	7	0	5	0	1

The date is entered in the format: day, month, year. For example, the date in the table above is 7th May 2001.

Example

To set the date to 6th June 2002

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **1** **7** **4** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **6** **0** **6** **0** **2** and then press *****.
5. End local programming by pressing the **Cancel** key.

Away state

When a resident presses a user key configured to act as an **Away** key Lifeline changes parameter 31. However, it can be useful to set this by directly programming parameter 31 if no **Away** key has been defined.

To set the Away state to Away

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **3** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **3** **5** and then press *****.
5. End local programming by pressing the **Cancel** key.

To set the Away state to Home

1. Enter local programming mode by holding down the ***** key and then holding down the **#** key until the unit beeps. Release the **#** key first, and then the ***** key.
2. Enter the parameter—press ***** **3** **1** *****.
3. Delete the old value using the **C** key (display version only).
4. Enter **0** **0** and then press *****.
5. End local programming by pressing the **Cancel** key.

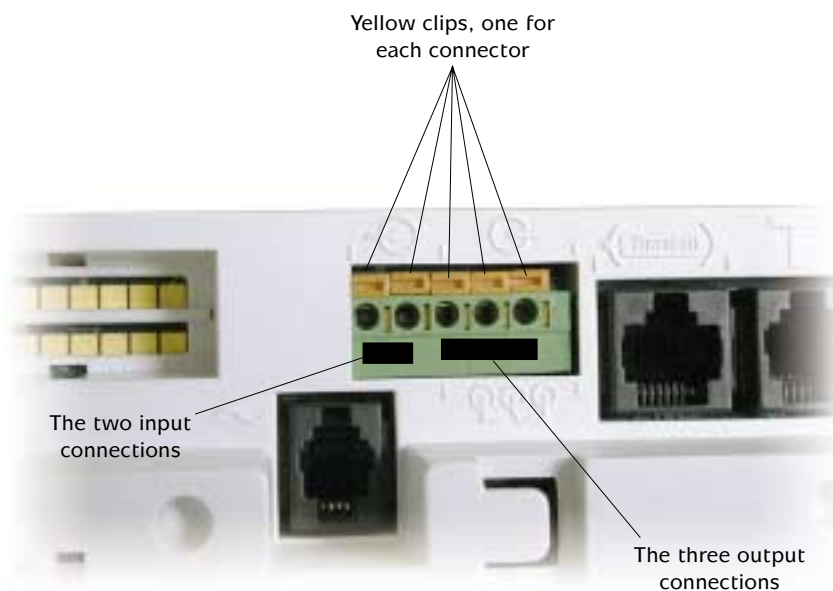
4

External Connections

Inputs and outputs

A Lifeline Home Unit can be physically connected to one input trigger. It also has one physical output. The terminals for these hardwired connections can be found underneath a Lifeline Home Unit, next to the power socket.

To make a connection use a terminal screwdriver, as shown here. Use the screwdriver to press the yellow clip down, insert the wire, and then release the yellow clip. The wire should be held in place.



Hardwired Input

The Lifeline Home Unit is primarily designed as a device for accepting radio-based inputs. Nevertheless, one hardwired input is available. The input should not provide a voltage of any sort. Lifeline Home Unit normally detects an input when the circuit to its two input contacts is closed (i.e. the circuit is made). Lifeline can also be set to detect an input when a closed circuit is opened, which can be useful when security is an issue. The key points to note are:

1. The input should not provide a voltage—a circuit is either made or broken (closed or opened) to indicate triggering.
2. The input circuit, when closed, must have a resistance less than 500 ohms.
3. When the input circuit is open (i.e. broken or not made) it must have a resistance greater than 30K ohms.
4. Lifeline Home Unit provides a small wetting current of 300uA for the input. Some switches will not work with such a small current. Make sure that the switch and circuit you have selected is fit for the task and will work reliably with this current.
5. Parameter 58 (see the section on **Triggers** in Chapter 3) can be used to set whether the input is normally open or normally closed. This parameter also determines the type of trigger connected to the input, and hence the action the Lifeline Home Unit will take when the input is triggered.

While parameter 58 (see page 43) can be used to set the hardwired input to be almost any type of trigger, the one exception is that the hardwired input cannot be a home care primer button. A home care primer must be a radio trigger. The type the hardwired input can be set to (i.e. what it means) is explained in the section on **Setting the trigger type**, on page 39.

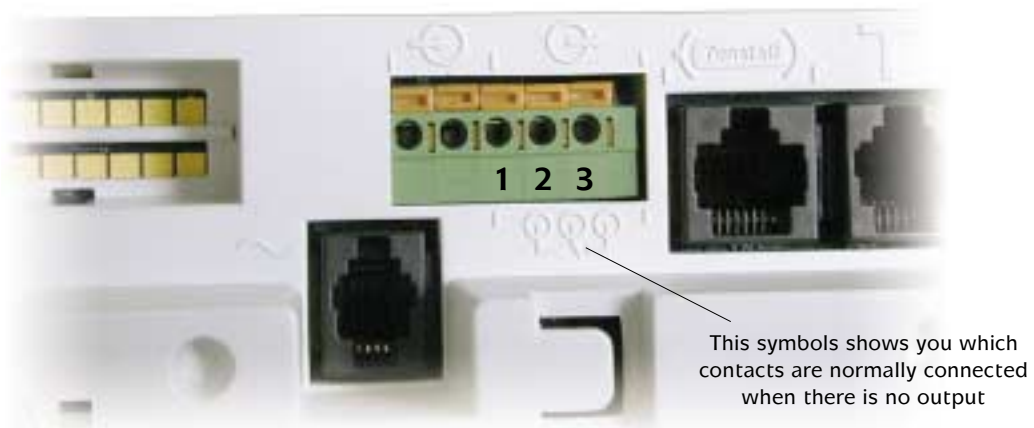


Hardwired output

The output is intended to switch a relay, although it can also be used to control other types of switch, such as optical switches. In other words, the Lifeline Home Unit output can switch small voltages, although these small voltages and currents can be used to control larger switches. The key points are as follows:

1. The output does not provide a voltage of any sort—it simply makes or breaks (closes or opens) a circuit.
2. There are three contacts for the output. These allow you to create a circuit that is normally open or normally closed (i.e. the output is a change-over relay).
3. If the circuit connected to the output is DC (direct current) then the maximum current is 1A and the maximum voltage is 30V.
4. If the circuit connected to the output is AC (alternating current) then the maximum current is 300mA and the maximum voltage is 125V.
5. The output circuit needs a minimum current of 10uA, and a minimum voltage of 10mV (DC), otherwise the Lifeline Home Unit may not switch it reliably.

If you exceed the maximum specifications set out in points 3 and 4 above you will probably burn out the change-over relay in Lifeline Home Unit, although the damage may not be limited to just this. **Under no circumstances should any Lifeline Home Unit ever be used to directly switch mains voltages.**



Output off. When there is no output there is no connection between connectors 1 and 2. However, there is a connection between connectors 2 and 3.

Output on. When there is an output this situation is reversed—there is a connection made between connectors 1 and 2, while the connection between connectors 2 and 3 is lost.

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Lifeline Home Unit settings

Unit ID:

Owner/Resident/Main User:

Parameter	Value Entered	Parameter	Value Entered

Name of person who made changes:

Date: