

EDAC700 RTU Getting Started

Version 1.8

Code Version 1.2.4 and above

Rev B & C hardware

Written By
Richard Nicholson



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PART 1 - UNDERSTANDING YOUR EDAC700 RTU

1 Overview

Note! Please read the Getting Started Section before powering up the EDAC700!

The EDAC700 RTU is a remote terminal unit that allows remote monitoring, alarming, interrogation, and control of various equipment types.

The EDAC700 RTU has 20 physical I/O points that can be individually configured as either Analogue or Digital Inputs or as Digital Outputs. The following options are supported on any I/O point:

- Digital Input - Normally Open
- Digital Input - Normally Closed
- Analogue Input 0-1v
- Analogue Input 0-10v
- Analogue Input 4-20mA
- Digital Output

Using the configured I/O the EDAC700 RTU can monitor security sensors, high/low temperatures, high/low liquid levels, equipment power on/off detection and equipment failures.

The EDAC700 communicates I/O status by means of voice messaging by landline telephone or cell phone, alphanumeric pager messaging and SMS text messaging.

The EDAC700 RTU utilises its Roster, Timeframe, Call List and I/O Group functions to allow cost effective management of plant and equipment. The correct technical expertise will be called when a particular fault occurs. The engineer or technician will then be able to remotely assess the urgency of situation and take the appropriate action.

Analogue sensors (4-20mA etc) can report a spoken value with engineering units. The analogue reading can also be sent as part of an alphanumeric paging message, or as part of a text message to a cell phone.

The EDAC700 RTU has the ability to be interrogated remotely using a touch-tone phone for a status update of its inputs or remote manual on/off control of equipment such as pumps, motors or lights using its output functionality.

The EDAC700 RTU can be configured with its keypad or via its RS232 port using a PC and Hyperterm, or using remote dial in modem access.

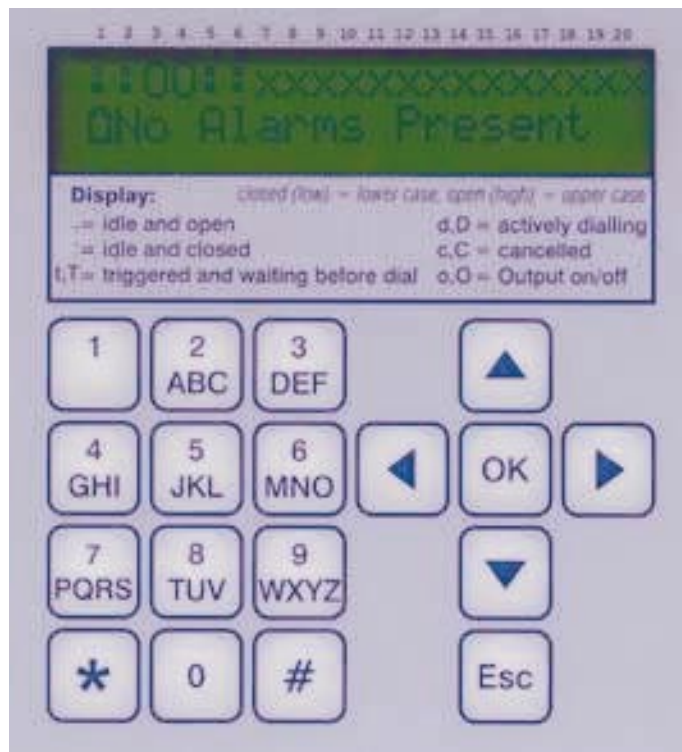
You can also communicate to external devices such as data loggers by connecting them to the EDAC700 RTU RS232 port.

2 Operating the EDAC700 RTU



The EDAC700 RTU has two modes of operation. Most of the time it is in Run Mode, which means it is monitoring I/O, and any alarms configured are armed. By use of a PIN entry, the dialler can be set to Program Mode to allow the user to configure the dialler.

2.1 On-screen display

The current operation of the EDAC700 RTU is shown on the 2-line 20-character LCD.



This Run Mode screen shows the types and states of Inputs 0 - 20. In the bottom left corner there is a Power status character. This character shows how the device is currently being powered.

-  = Powered from the external Power Supply.
-  = Powered from the internal Battery

2.2 Terminology

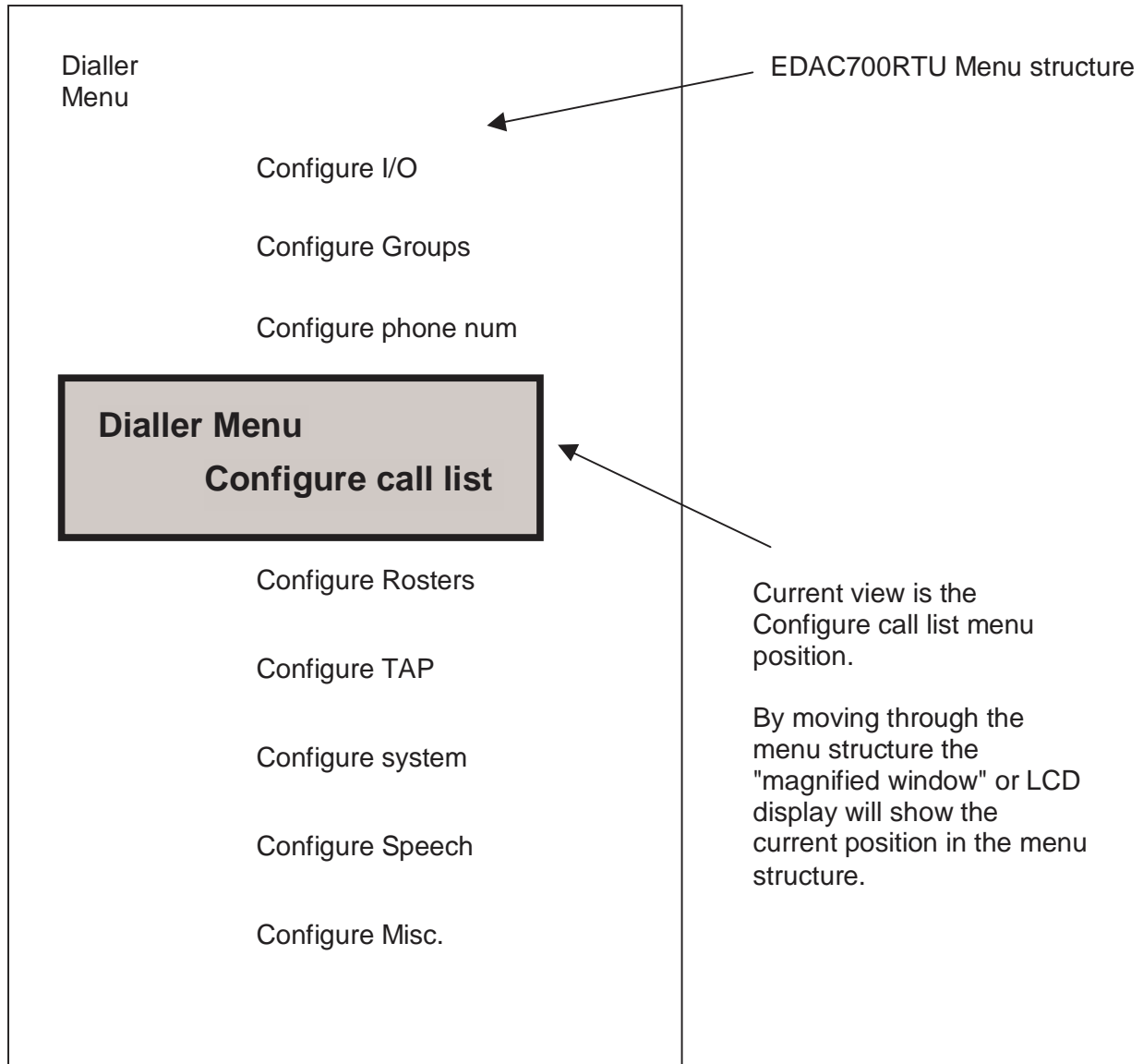
The following describes the terminology that will be used though out this manual to describe keyboard operations.

- <Up> Up arrow key on keypad
- <Down> Down arrow key on keypad
- <Left> Left arrow key on keypad
- <Right> Right arrow key on keypad
- <Ok> OK on keypad
- <Esc> Escape key on keypad
- <*> Asterisk key on keypad
- <#> Hash key on keypad

2.3 Menu Layouts

The list of menus is viewed using the LCD display, and navigated using the keypad. At any one time only a small part of the available menu information is displayed. It is probably easiest to consider the LCD to be a sliding magnifying glass over a large piece of paper. You can control the up/down and left/right movement of this window.

The following image shows the Configure Dialler menu, accessible in Program Mode.



Default Run Mode Screen

↓ (Press <ESC> to get back to this screen at any time)

Input status indicator line →

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
c	x	x	D	.	.	x	x	x	x	x	x	x	x	x	x	x	x	O	x

Indicates if running on RTU Power or RTU Battery ☒

No Alarms Present

This line Indicates dialer activity

x indicates nonassigned or Off
 . configured input in idle state
 T Triggered input
 D Actively Dialing or Triggered
 W wait to retry dialing
 c indicates canceled alarm
 O indicates output

Date and Time Screen

↑
↓
(Esc)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
c	x	x	D	.	.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Current Date → 01/08/01

Current Time, seconds tick over → 11:36:46

Input Reading Display Screen

← ↑ →
↓
(Esc)

(Press Left or Right arrow for previous input) ← →

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
IN 1	Input 1																			

Screw Terminal/Input Number

User Label

Open

Digital Input: Open/Closed

(Press Left or Right arrow for next input) ← →

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
RTU Power																				

14.4

Analog Input: Will not display units here, but does speak them

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
IN 30	Runtime Meter 1																			

123.1 Hrs R

Runtime Meter: 123.1 = Current value
R = indicates meter is active

Output Control Screen

← OK →
↓
(Esc)

(Press left arrow for previous Output) ← →

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
OUT 19	Heater Control																			

Screw Terminal/Output Number

User Label

OFF (OK to Change)

(Press right arrow for next output) →

Press (OK) to toggle Output On / Off

Pulse and RunTime Meter Status Screen

↑
↓
(Esc)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
p	p	p	p	x	x	x	R	r	r	R	x	x	x	x						

Pulse / RunTime 21-36

Small "p" indicates pulse input configured.
Small "r" indicates runtime Meter configured, but no active input present. Not counting

Large "R" indicates Runtime Meter configured, and active input present. Is counting.

Program mode PIN Screen

↑
↓
(Esc)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Program Mode																				

Enter pin...

Enter pin number to get to "Program Mode". PIN can be entered at any time in other screens too.

2.4 Run Mode

In Run Mode the dialler is monitoring I/O, and any alarms configured are armed. The EDAC700 will default to Run Mode on power up. In Run Mode the EDAC700 RTU will generate alarm notification calls, answer calls to speak input status and analogue values, and allow the user to set outputs on and off.

The LCD & Keypad can be used to display status information. You can also enter a valid group PIN when in Run Mode to cancel and acknowledge an alarm notification call.

Run Mode will also allow remote modem access, optionally secured with a PIN, to external equipment connected to the EDAC700 RTU.

Keypad in Run Mode

- When in Run Mode the LCD display can be moved by using the <Up> and <Down> keys. This provides the ability to scroll through the Menu.
- When in the Input or Output display of Run Mode, the <Left> and <Right> key will also work, to allow scrolling through inputs or outputs.
- When an Output screen is displayed in Run Mode, the <Ok> key can be pressed to change the output on/off status.
- At any time in Run Mode a PIN number can be entered to get to Program Mode. The default PIN is 0000.
- At any time in Run Mode a Group PIN can be entered on the keypad to cancel an active alarm.
- The <Esc> key can be pressed at any time to get back to the first Run Mode display. If a key is not pressed after a short delay the display will automatically switch back to the first Run Mode display.

2.5 Program Mode

- Typing a PIN into the EDAC700 RTU while in Run Mode enters Program Mode.
- Program Mode is used to set any parameters relating to the operation of the EDAC700 RTU.
- Program Mode settings can be made via the in built keypad & display, a laptop with RS232 connection, or a remote modem using MS Windows Hyperterm or custom application software.
- In Program Mode the user can assign physical I/O points, record and play back spoken messages, assign phone numbers, make call lists & rosters and edit various other parameters that effect operation of the EDAC700 RTU.

Keypad in Program Mode

- Use <Up> & <Down> arrows to move up and down through the menu structure.
- Use <Ok> to select an item.
- Use <Left> arrow to go back up and through the menu structure.
- Use <Right> arrow to move forward and down through the menu structure.
- Use <Esc> to quit or go up a menu level. If configuring an input, EDAC700 RTU will ask if you want to "save changes? <Ok>". Press <Esc> again to abandon editing, or <Ok> to save any changes you have made. This can be a quick way out when editing a configuration (or input, or call list) that may already have been set up.
- When setting up a new input or editing an existing configuration the number keys can be used to enter numeric values, or alphabetical letters. Alphabetical entries are made in the same way as entering text on a cell phone.
- Use <*> as a comma ",", when editing a phone number or text message entry.
- Use <*> as a decimal point "." when editing a set point or decimal number.

3 Walking through the first setup.

This Section will walk you through a typical setup procedure of the EDAC700 RTU. Although a very simple example it will demonstrate the necessary sequence that must be followed when configuring the EDAC700 RTU.

Note! The Technical Reference Manual covers configuration in more detail.

The first steps involve pre-installation checks and powering up the EDAC700 RTU for the first time. Then in the example we will configure one Normally Open (NO) switch input, and then generate an alarm notification call using one phone number and one call list.

We will cover these steps:-

- 3.1 What you will need
- 3.2 Initial Start up
- 3.3 Configuring an Input
- 3.4 Configuring a Group
- 3.5 Configuring a Phone number
- 3.6 Configuring a Call List
- 3.7 Generating an Alarm Notification Call

3.1 What you will need!

You will need a phone line or extension that the EDAC700 RTU can use to make an alarm notification call. You will also require a telephone that the EDAC700 RTU can call and you can answer or receive the call on. This might be a local extension, second phone line or a cell phone.

To trigger the alarm you will need to connect Input 1 to Com/Gnd, via a short length of wire acting as your sensor. This will trigger the alarm and let the dialler run through its paces.



Note! Please take all necessary electrical safety precautions when working inside the EDAC700 RTU. Only suitable qualified personnel should be able to work on the EDAC700 RTU with the front cover open.

3.2 EDAC700 RTU Initial Start Up

The EDAC700 RTU comes with its own 12V regulated DC Plug pack.

The plug pack comes wired to a green connector plug. If this plug is unplugged, plug it in to the right hand side terminal block. Note that the terminal is labelled 12V + & -Com. If you wish to use an alternative supply it must have a DC regulated output of between 12 & 30VDC.

Battery Connections

The internal battery must be connected to the main board after unpacking.

Connect red lead to the positive (+) terminal, and black lead to the negative (-) terminal. If you get them around the wrong way the Battery fuse (1 amp 20mm) will blow.

After connecting the battery, the plug pack can be plugged into the main supply if it is not already.

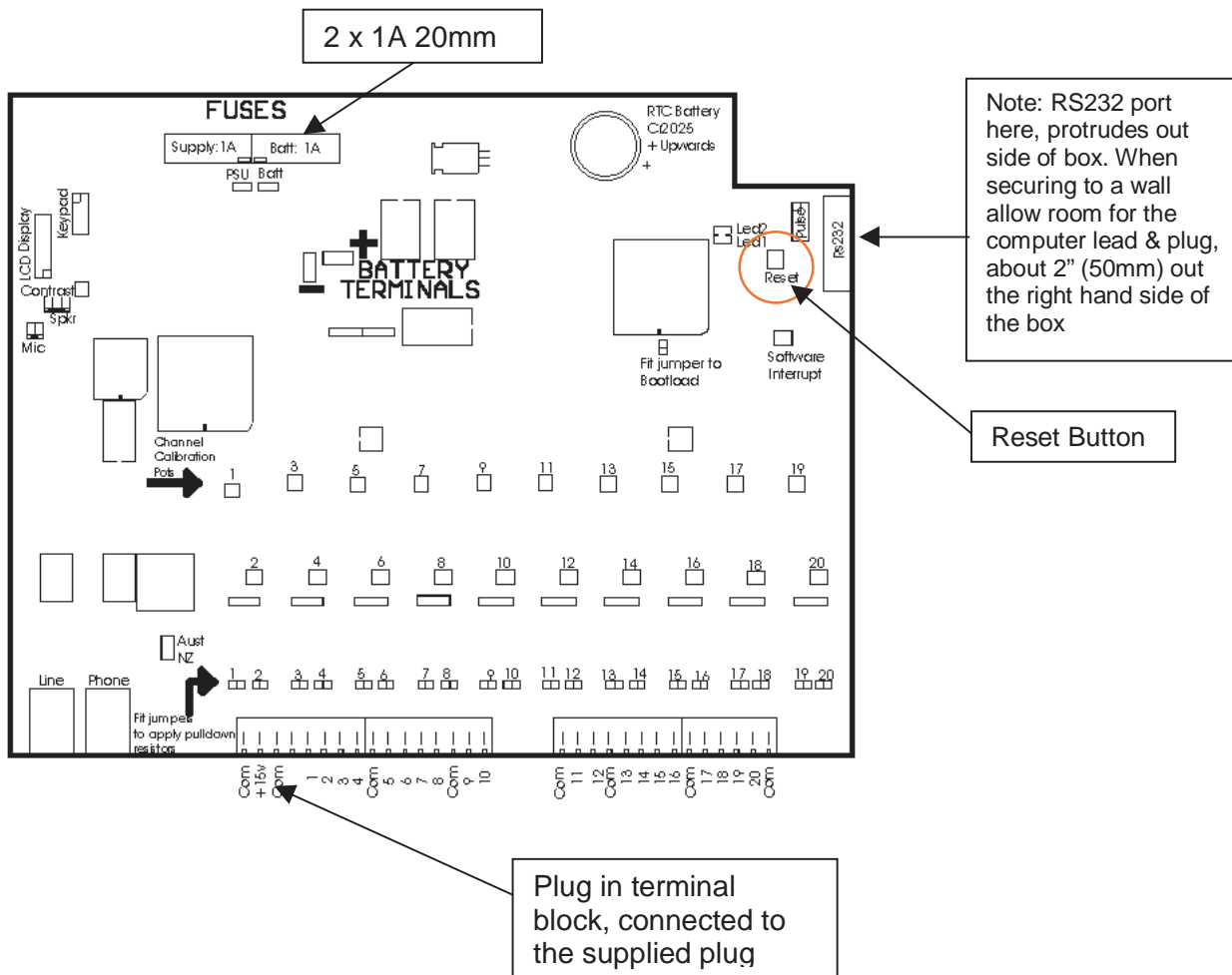
Power Up

When power is connected to the EDAC700 RTU it will beep continuously for a short time. During this time it will display "RUN_" on the LCD. The beeper will then stop and the display will show a code version number like 1.4.7 under the word RUN_, for a short time.

Note! This version number is important and will be required if you need to make any technical support calls.

After this the EDAC700 RTU goes into Run Mode and will display the Run Mode Display. If it does anything different to this sequence and does not end up at the Run Mode display, power it down completely and start again, or press the Reset button located in the top right corner of the circuit board.

If the battery is not connected, the EDAC700 RTU may generate a low battery alarm, and will ask for a PIN. If this happens, connect the battery and check the supply voltage. Press the Reset button to start again.



RS232 Connection

The EDAC700 RTU can be configured from a PC via the RS232 port. EDAC supports the use of Windows Hyperterm for this purpose, and this is fully documented in the Technical Reference manual.

For the initial walk-through, all the examples given are shown using the EDAC700 RTU keypad. Screen shots are included to enable you to confirm your position in the menus.

3.3 Configuring an Input

Go to Program Mode by entering the default PIN number "0000" using the EDAC700 RTU keypad. The following message appears:



```
Main Menu
Exit to Run Mode_
```

Now that you are in Program Mode, press the <Down> arrow until "**Configure Dialler**" appears.



```
Main Menu
Configure Dialler_
```

Pressing <Ok> brings up the Dialler Menu.

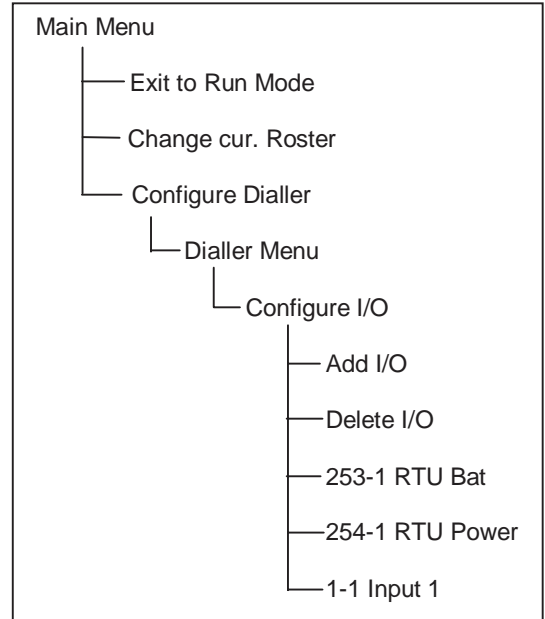


```
Dialler Menu
Configure I/O_
```

Press <Ok> again on the "**Configure I/O**" Menu.



```
I/O Menu
Add I/O_
```



You are now in the "**Configure I/O**" menu. Use <Down> and <Up> to move through the choices.

- Add I/O
- Delete I/O
- 253-1 RTU Batt
- 254-1 RTU Power
- 1-1 Input 1

Press <Down> to move down to "**1-1 Input 1**".



```
I/O Menu
1-1 Input 1_
```

This is factory configured as a Normally Open digital input. Press <Ok> to select it.

```
1 Input No.=1
```

```
--
```

You are now in the configuration settings for input 1.
Press <Ok> to move down though Input 1 configuration options.

```
on voice message#1  
#=record_
```

Stop when you see this display. If you go past it use the <Left> arrow to go back.
Press <#> to start recording your “On” message for Input One. Several messages are displayed while the RTU prepares to record. Wait for the EDAC700 RTU to beep before you start your recording.

```
RECORDING VOICE  
Press any key to end
```

Press any key when you are finished recording. The EDAC700 RTU will play your recording back to you. Press <Ok> to stop listening to the recording playback.

```
on voice message#1  
*#=play #=record_
```

Press <Ok> to move to the “**Off voice message: 1**”. Record your “Off” message in the same way.

```
off voice message#1  
#=record_
```

Press <#> to start recording your “Off” message for Input One. Several messages are displayed while the RTU prepares to record. Wait for the EDAC700 RTU to beep before you start your recording.

```
RECORDING VOICE  
Press any key to end
```

Press any key when you are finished recording. The EDAC700 RTU will play your recording back to you. Press <Ok> to stop listening to the recording playback.

```
off voice message#1
*=play #=record_
```

Press <Ok> to move on to the final message.

```
Save changes? <ok>
--
```

Press <Ok> to save your changes.
You are now back at the start of the “I/O Menu”.

```
I/O Menu
Add I/O_
```

Press <Esc> to go back up to the “Dialler Menu”.

```
Dialler Menu
Configure I/O_
```

3.4 Configuring a Group

From the “**Dialler Menu**” you need to select “**Configure Groups**”.
If you are continuing from the section above, press the <Down> arrow once.

```
Dialler Menu
Configure Groups_
```

Press <Ok> to select “**Configure Groups**”.
Press <Down> arrow twice to get to 1, Group 1.

```
GROUP Menu
1,Group 1_
```

Press <Ok> to select it. The name entry screen is displayed.

```
1 Group name
Group 1_
```

Press <Ok>. Display will move to the next field, which allows you to record a group message.

```
Group voice mess#1
#=record_
```

Press # to start recording your descriptive message for Group One.
Several messages are displayed while the RTU prepares to record. Wait for the EDAC700 RTU to beep before you start your recording.

```
RECORDING VOICE
Press any key to end
```

Press any key when you are finished recording. The EDAC700 RTU will play your recording back to you. Press <Ok> to stop listening to the recording playback.

```
Group voice mess#1
*=play #=record_
```

Press <Ok> to move on to the next screen.

```
Group Pin=1000
--
```

Press <Ok> to move on to the final message.

```
Save changes? <ok>
--
```

Press <Ok> to save your changes.

You are now back at the start of the “**Group Menu**”.

```
Group Menu
Add group_
```

Press <Esc> to go back up to the “**Dialler Menu**”.

```
Dialler Menu
Configure I/O_
```

3.5 Configuring a Phone Number

From the “**Dialler Menu**” you need to select “**Configure phone num**”.
If you are continuing from the section above, press the <Down> arrow twice.

```
Dialler Menu
Configure phone num
```

Press <Ok> to select the Phone List Menu.

```
Phone List Menu
Add Phone Number_
```

Press <Ok> to add a Phone Number.

```
Phone name
TEST_
```

Enter a name for the phone number. The EDAC700 RTU keypad will allow you to enter a name using the alphanumeric function of the keypad. It is similar to editing a cell-phone phone book entry. Press <Ok> when finished.

```
Phone number=
_
```

You can now enter a phone number. Do not forget any prefix that may be required to get an outside line. Use a comma to put in a delay. On an EDAC700 RTU Keypad <*> is read as a comma when entering phone numbers. Press <Ok> when finished.

```
Cancel method
*any key cancel_
```

At this point you can continue to press <Ok> to step though the choices and save at the end, or press <Esc> to jump out and save.

```
Save changes? <ok>
---
```

Press <Ok> to save your changes.

You are now back at the start of the “**Phone List Menu**”.

```
Phone List Menu
  Add Phone Number_
```

Press <Esc> to go back up to the “**Dialler Menu**”.

```
Dialler Menu
  Configure I/O_
```

3.6 Configuring a Call List

From the “**Dialler Menu**” you need to select “**Configure Call List**”.

If you are continuing from the section above, press the <Down> arrow three times.

```
Dialler Menu
Configure Call List
```

Press <Ok> to select the Call List Menu.

```
Call List Menu
Add a call list_
```

Press <Ok> to add a call list.

```
Pick phone
1 TEST_
```

Press <Ok> to select the phone number you have just entered. If more phone numbers are available, you may have to scroll down through the numbers using <Down>.

```
wait aftr call(n)=0
---
```

At this point you can continue to press <Ok> to step through the choices and save at the end, or press <Esc> to jump out and save.

```
Save changes? <ok>
---
```

Press <Ok> to save your changes.

Press <Esc> twice to exit out of the “**Call List Menu**” and back up to the “**Dialler Menu**”.

```
Dialler Menu
Configure I/O_
```

Press <Esc> and <Ok> to return to Run Mode - the EDAC700 RTU will beep.

3.7 Generating an Alarm Notification Call

At this point the EDAC700 RTU should be fully configured and ready to generate an alarm notification call.

Plug a live phone lead/connection into the "Telephone" socket on the EDAC700 RTU.

Using a short length of wire, connect any "Com" to "Input 1" on the terminal strip.

The EDAC700 RTU should indicate an active trigger is present in the Run Mode display, and start to dial the phone number you entered above.

3.8 Cancelling the Alarm Notification Call

Answer the alarm notification call, and listen to the voice messages.

On the telephone you have received the call on:

Press "*" "*" to hang up. The EDAC700 RTU will call back almost straight away.

Press any key to cancel or acknowledge the alarm. This will stop the EDAC700 RTU from making more calls from the Call List allocated to this Group and associated Input.

4 Voice Messages and Telephone Communications

4.1 Voice Message Types

Application voice messages set up by the user relating to the Site name, Input sensor types, and Group Names. These are typically setup by the user. User application messages are recorded in Program Mode.

Application messages include

- Site Messages
- Group Messages
- I/O Messages

Application voice messages can be recorded at any time. They are stored in Flash RAM and will be stored indefinitely even if the power is completely removed.

System messages are recorded in System-Mode. System messages are recorded at the factory or by an accredited service centre.

System messages include

- Engineering units
- Numbers
- Spoken menu

4.2 Phone Communication Basics

The following keystrokes are used when communication with the RTU by phone.

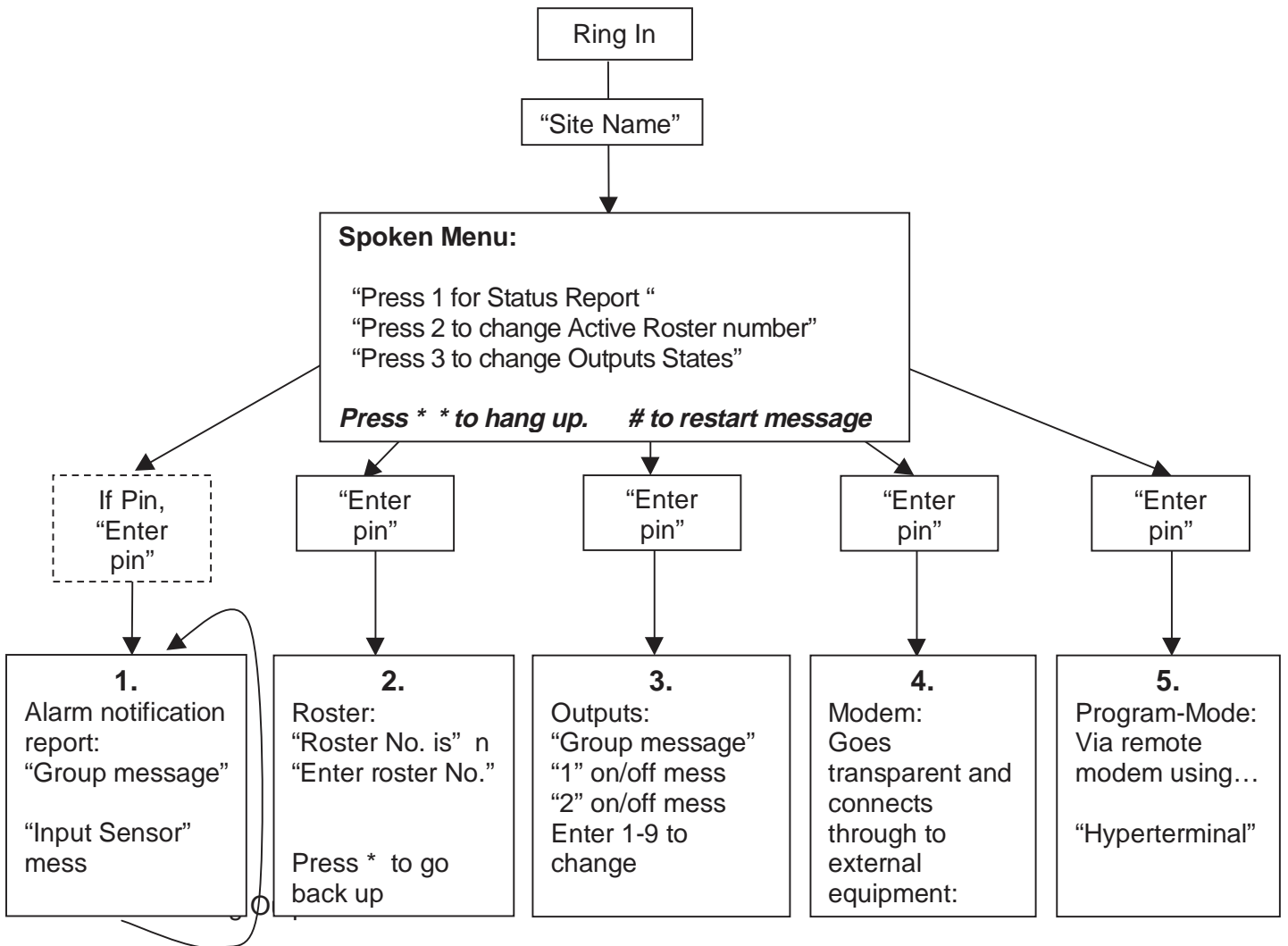
- “* *” Hang Up
When the EDAC700 RTU is speaking you can use “* *” to terminate a call. This works best when the EDAC700 RTU is speaking the site message. This feature does not work if the EDAC700 RTU is speaking reporting only inputs or acknowledged inputs. In this case, wait for the site message to start speaking again, then enter “* *”. The EDAC700 RTU will hang up after a preset time out period.
- “#” Restart Speech Message
Pressing the “#” makes speech restart from site message or the start of the currently selected menu option.
- Pin number accepted, “beep, beep”.
When a pin number is entered correctly the EDAC700 RTU will issue a beep sound to indicate a correct pin has been entered.
- Message “Invalid Option”
This message will be played when an invalid key is pressed. An example is when you select a number for rosters or outputs when no rosters or outputs have been defined. This will happen after entering the pin. Because there are no rosters defined or outputs configured for the option you have selected, the EDAC700 RTU will report the pin as an “invalid option”.

4.3 Voice Menu Navigation

The EDAC700 RTU uses the system messages combined with Site name, Input sensor and Group voice messages to create a talking menu.

This menu can be heard when you dial in to the EDAC700 RTU, or when the EDAC700 RTU dials out with an alarm notification call. During alarm notification calls different parts of the menu may or may not be present depending on the dialler's configuration.

4.4 Ring In Options

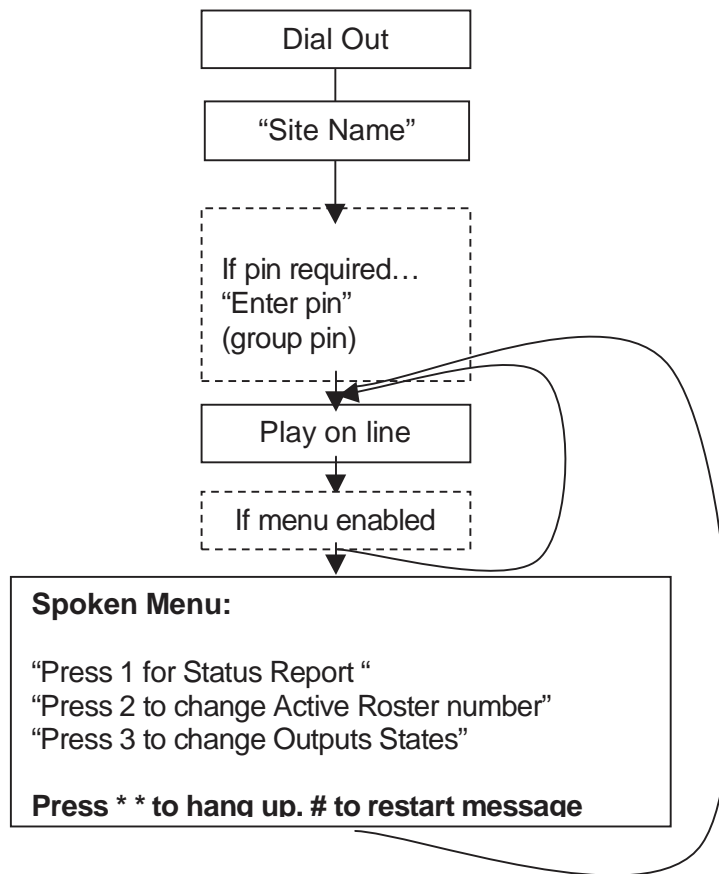


4.5 Output Options

Outputs are controlled by the user calling into the EDAC700 RTU and selecting "3" from the spoken menu.

After entering the Output Group PIN you are able to toggle any outputs on and off using the corresponding number key on your phone. You will hear a message confirming any change in the state of an output.

4.6 Alarm notification Options



4.7 Acknowledging alarm notification calls

Alarms can be acknowledged either by any pressing any key on your phone, or by entering a PIN. This can only be done using a touch-tone phone when you receive an alarm notification call or when you ring into the EDAC700 RTU.

A valid Group PIN should be entered during the "Site name", "Group" or "Input status" messages. The EDAC700 RTU will beep twice to indicate a valid pin has been accepted.

When the EDAC700 RTU is configured with multiple groups and PIN's plus one call list, it can be difficult to get a PIN accepted. You must enter your correct Group PIN while the appropriate Group message, and associated Input is playing.

NOTE! The alarm can also be acknowledged via the EDAC700 RTU keypad. At any time a valid Group PIN can be entered via the keypad.

5 Alarm System Concepts

The correct procedural steps are required to successfully configure an EDAC700 RTU. The following section provides background on the configuration of alarms, call lists & rosters.

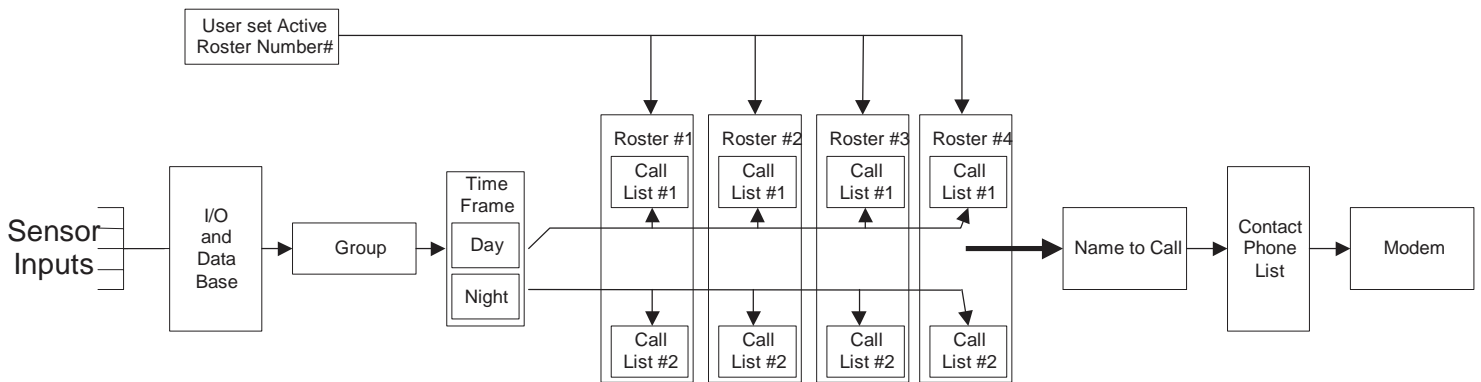
5.1 Configuration Steps

Configuration must be performed in the following order for best results.

1. Setup Inputs and record Input Messages.
2. Define Groups and record Group Messages.
3. Enter the Master Phone List.
4. Build Call Lists from the Master Phone List.
5. Build Rosters of one or more Call Lists.
6. Test dialling out and in.
7. Change any system settings to improve performance.
8. Setup Time frames if required and test.

5.2 Alarm structure Block Diagram

In order to configure the dialler correctly it is important to understand the dialler's internal structure. The following diagram shows the relationship between the dialler functions such as Rosters, Time Frames, Call Lists, Inputs and Groups.



Each sensor has a physical input terminal number. This is normally 1-20 for a standard EDAC700 RTU.

Each Input must be mapped to a Group. When an Input is triggered, or goes into an alarm state, the Group mapped to that specific input generates an alarm.

The Group then undergoes a Time Frame test to determine which Call List is associated to that specific Group. If no Time Frames have been configured the Time Frame test is not performed. You could consider it to have one continuous Time Frame 00:00am to 23:59pm, when no Time Frames have been set up.

A Group must have a Call List and Roster associated with it. The active Roster will determine which call list is used. The Call List will initiate alarm notification calls based on the prioritised list of numbers it has mapped to it. The Call List will use the Master Phone List to get the phone number and initiate an alarm notification call.

6 Configuration Database

The Database is the physical RAM space used to store configuration record data. Configuration records comprise all data inputs used to configure the dialler such as Inputs, Groups, the Master Phone List and Call Lists.

Each time a configuration is saved in Program Mode the EDAC700 RTU will report the percentage of database space available.

Note! - There are very few constraints with regards the allowable number of characters for each function. However a combination of entries can impact on the available database space when there are a large number of entries. The list below indicates the character number constraints.

Phone number -	up to 40 Characters per entry
Names and Labels	up to 40 Characters per entry
Number of Rosters	Unlimited
Number of Call Lists	Unlimited
Number of Phone Numbers	Unlimited
Number of Groups	Unlimited

If complex applications are to be considered some thought should be considered to using database space efficiently.

- ◆ Long names and labels will use up space that could be used for configuring additional Inputs or Phone Numbers
- ◆ If you require large amounts of Inputs, you may end up with a limited space for Phone Numbers or Call Lists, keeping labels for names short will save memory.
- ◆ If you require large “Call lists” and “Phone Numbers”, you need to consider how many “Inputs” are required. If you need a large list of phone numbers you may not have space for a large number of inputs.

If the memory used exceeds 95% a warning message is displayed.

NOTE! Deleting voice files will NOT create more room in the database and deleting configuration records will not create more voice space. The database and the voice file areas are totally independent!

6.1 Database % Used

When the user saves a configuration record, i.e. any configuration or editing in Program-Mode, into the database a report screen will be generated. This will display the database usage.



The above screen is accessible without at any time by navigating to Program Mode -> Configure Dialler -> Configure Misc. -> Check Memory -> Database Usage. You can also check Voice File usage from the same menu.

Part 2 - CONFIGURING YOUR EDAC700 RTU

7 Overview of sensor I/O configuration

The EDAC700 RTU has 20 physical I/O points that can be individually configured as either an analogue or digital input or as a digital output.

These Inputs and Outputs can be further configured in the following ways:

Digital Input - Normally Open

Digital Input - Normally Closed

Analogue Input 0-1v

Analogue Input 0-10v

Analogue Input 4-20mA

Digital Output

Pulse and Runtime Metering (optional - provided on a Pulse/Runtime Meter expansion board)

7.1 I/O Groups

Each I/O configuration must be associated with a Group.

When an Input goes out of range it is the Group mapped to the Input that generates an alarm notification call. You cannot cancel an Input, you must cancel a Group.

Groups can only be Input Groups or Output Groups. Digital and Analogue Inputs can be mixed in a single Group.

The mapping or association of an Input with a Group is done when configuring the I/O. This can be edited later if required.

7.2 Input latching

By default the setting is "do not latch". With this setting when an input is triggered it will remain triggered while the input is present and out of range. If the input trigger comes back into range the trigger will be removed from the Group to which it is mapped. This is also call "self cancelling".

If the input is configured as a "latched input", then when the trigger is removed or goes back into normal operating range the dialler will ignore it, and the trigger will still be presented to the Group. The EDAC700 RTU will continue to make alarm notification calls until it receives an acknowledgement from a user. Once an acknowledgement is made the EDAC700 RTU will cancel the input from the Group.

7.3 Input Trigger Delays

There are a couple of parameters that can be used to set delays in seconds before a input is considered to be a valid trigger. These would be used where a sensor can trigger but must remain triggered for *n* seconds before it is considered an alarm.

Examples of this type of sensor are proximity sensors, or mains drop out relays that would need to be on continuously for an extended period before being accepted as a valid alarm trigger.

7.4 Digital Input Reporting

Each Input can be configured as a “trigger that causes dial out” (default) or as a “reporting only”.

Reporting only inputs do not make alarm notification calls.

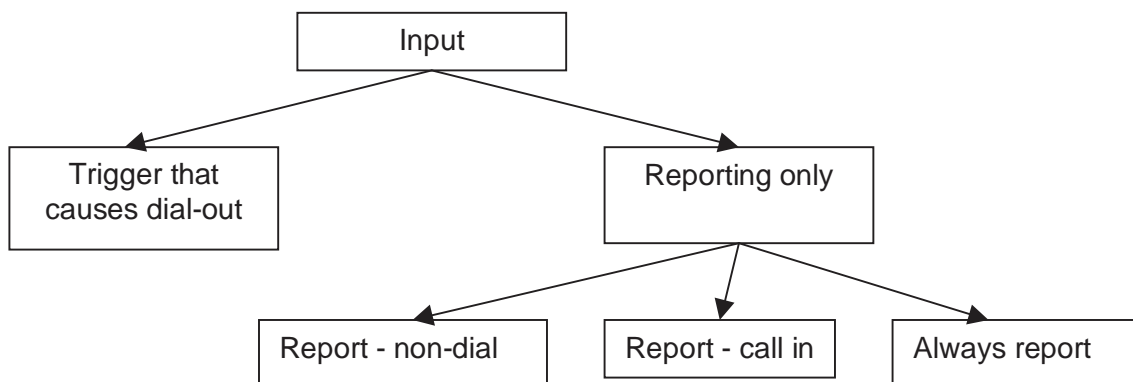
Reporting inputs can be configured using three options:

Option 1: “report - non dial”. Will report a status voice message whenever an alarm notification call is made.

Example: A 4-20mA Water Level (WL) sensor on a reservoir configured with float switches for high and low water level alarms. You require alarm notification calls from the high or low water level alarms and also want a report on the actual water level with the same alarm notification call. This sensor would then be configured as a “report – non dial”. This setup will allow the WL sensor to report it’s reading with the alarm notification call for the appropriate high/low float switch that’s been triggered.

Option 2: “report – call in”. A status voice message will only be reported when a user calls the EDAC700 RTU.

Option 3: “always report”. The EDAC700 RTU will make alarm notification calls when an Input is triggered. A status voice message will be reported when the EDAC700 RTU makes an alarm notification call or when a user calls the EDAC700 RTU.



7.5 Analogue Input Reporting

To configure an input that will always report the analogue sensor value and generate alarm notification calls you must configure two input records mapped to the one physical input terminal.

Example: If the analogue sensor is connected to input screw terminal 1, you would configure Input 1, “1 Input No = 1”, as an analogue input alarm and configure it as “trigger that causes dial out”. You then need to set up a second input configuration record. Configuration Input 1, “2 Input No = 1”, as “report - non dial”, “report – call in” or “always report”.

Note! When the alarm is triggered and makes a notification call, the analogue reading will be spoken twice if the second configuration record is configured to “report – non dial” or “always report”.

7.6 Input Paging Messages

Each I/O sensor configuration record can have a pager message associated with it. This message can be up to 40 characters long. If you do not intend to use a pager simply exclude this step.

If you are using an analogue sensor and pager message, the analogue reading will be added to the end of the pager message when the EDAC700 RTU generates a pager notification call. Your pager message will need to reflect this, e.g. "Water Level is high, reading is: ".

7.7 Input Voice Messages

Each I/O sensor configuration record potentially has 3 voice messages:

On Message

Off Message

Suffix Message (Analogue input only)

8 Configuration Options

This section provides a summary of all the frequently used configuration options, with an explanation of the choices available at each step.

8.1 Configuring I/O

The “ Configure I/O ” menu includes three pre-configured Inputs.

253-1 RTU Batt	Battery backup reading
254-1 RTU Power	RTU Power supply voltage
1-1 Input 1	Example input configuration

When configuring a sensor Input the first thing to do is to choose a Physical I/O Point number. This will be a number between 1 and 20. You do not have to use consecutive numbers although it is recommended.

You will then need to give the Input or Output a representative label. The LCD accommodates 20 characters across the screen; labels can be up to 40 characters long.

Note! Consider what your label would look like on the LCD when in Run Mode.

Enter a descriptive name of up to 40 characters that might suit the sensor type.

Note! Long names use up data base space (RAM).

Select a Group to which the input sensor will be assigned. You can also add a new group from this option, by pressing <Up> until the “Add Group” appears.

Each I/O configuration must be associated with a Group. When an Input goes out of range it is the Group associated with the Input that generates an alarm notification call. You do not acknowledge an individual Input, you can only acknowledge a Group. The mapping or association of an Input with a Group is done when configuring the Input. Mapping between I/O and Groups can be changed at any time.

I/O Functions.

Scroll down through the menu options to choose an appropriate I/O function.

Off

Sensor has been removed for servicing. This allows a sensor to be removed from a configured Physical I/O Point without causing an alarm call to be initiated.

Normally Open

Clean contact NO digital input.

Normally Closed

Clean contact NC digital input.

20mA Loop

4mA to 20mA analogue input.

10V Analogue

0V to 10V DC analogue input.

1V analogue
0V to 1V DC analogue input.

Output reset off

Digital output is OFF when EDAC700 RTU is powered up.

Output reset on

Digital output is ON when EDAC700 RTU is powered up.

Pulse accumulator

Please contact EDAC Electronics, New Zealand with queries on this subject.

Runtime meter

Please contact EDAC Electronics, New Zealand with queries on this subject.

Analogue alarm set point configuration and delays

When configuring an analogue input you need to set Alarm High “Set Point”, Alarm Low “Reset Point”, and select the “Analogue trig type”.

Analogue trig type

The “Analogue trig type” setting will decide how the analogue signal is tested against the “Set Point” and “Reset Point”. Sensor signals out of normal operating range will generate an Input alarm trigger to the Group.

***Trig when high (default)**

- Trigger when the analogue signal is above the “Set point”.
- Remove the trigger when the analogue signal is below the “Reset point”.

Trig when low

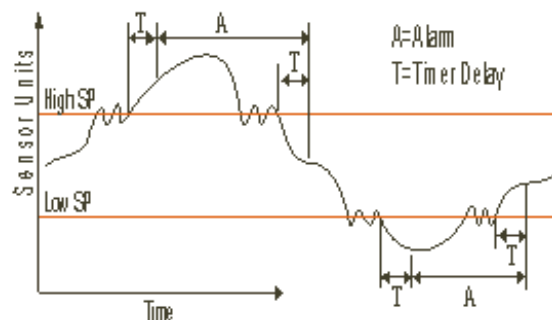
- Trigger when the analogue signal is below the “Set point”.
 - Remove the trigger when the analogue signal is above the “Reset point”.
- Note: The “Set point” value must be smaller than the “Reset point”.

Outside set/reset point

- Trigger when the analogue signal is above the “Set point” or below the “Reset point”.
- Remove the trigger when the analogue signal is between the “Set point” and the “Reset point”.

Between set/reset pts

- Trigger when the analogue signal is between the “Set point” and the “Reset point”.
- Remove the trigger when the analogue signal is above the “Set point” or below the “Reset point”.



Shows the relationship between Set Point and Reset Point, and the analogue signal.
(High SP = **Set Point**, Low SP = **Reset Point**).

8.2 Configuring Groups

Each configured I/O Point must be mapped to a Group. It is the Group that generates the alarm notification call.

The following entries are available for each group:

Group Name

Each group has an individual name. This can be changed at any time after initial installation.

When working with different Input sensor types it is logical to group the sensor types together. E.g. Intruder Sensor Group, Smoke detector Group. These groups can then be associated with a Call List with the telephone numbers of the appropriate personnel.

Voice Message

Each Group has a voice message used for reporting. This can be changed at any time after initial installation.

Group PIN

Each Group has a 4-digit PIN number associated with it. On an alarm notification call the number is entered using a touch-tone phone to acknowledge and cancel the alarm. A single PIN can be used for all Groups or each Group can have its own individual PIN.

Group Type

Each Group can be either an Input (Default) or an Output Group type. You cannot map Inputs and Outputs to the same Group. In order to turn an Output on it must be associated with an Output Group.

Output

Output Groups are limited to 9 Outputs. The number of keys available on a normal touch-tone phone sets the limit. The keys, numbers 1 to 9, are used to toggle the outputs on and off during a phone call with the EDAC700 RTU.

8.3 Configuring Phone Numbers

The EDAC700 RTU requires a phone book, called the Master Phone List in order to build a Call List. All I/O must be mapped to a Call List. The Call List and the Master Phone List each only require a single entry in order to make successful alarm notification calls.

The Master Phone List contains a descriptive name, the phone number and associated setup parameters.

Phone Number

The number to be dialled, including prefix numbers and area codes. Use "," to add a 2 second pause during dialling. On the EDAC700 keypad use <*> to enter a “,”.

Phone Name

The name of the person or service that the dialler will call on this number.

Alarm cancellation method

When the EDAC700 RTU makes an alarm notification call you can set one of three options that decides how the alarm can be cancelled:

cancel not allowed

The EDAC700 RTU will play the appropriate voice messages for the configured time (set in this menu) and then hang up.

any key cancel

The EDAC700 RTU will stop making any further alarm notification calls if any key on a touch-tone phone is pressed.

PIN cancel

A valid PIN number for the triggered Group must be entered. The PIN required is configured in the Group Menu. This option would normally be used when other people might answer the phone that the EDAC700 RTU calls.

Call Time

This is used to set the time the EDAC700 RTU is allowed on each alarm notification call. It is the time from the instant the I/O trigger causes a dial-out to the time it will hang up if no DTMF tone is received. Time is entered in seconds.

Dial out speech sequence

When the EDAC700 RTU makes an alarm notification call you can set one of four options that decides the order of voice messages:

No extras

Will start speaking alarm status message straight away, user can then press a key or enter a PIN to acknowledge and cancel the alarm.

Report pin

Will ask for a PIN before it starts speaking the alarm status message. Any valid Group PIN will work.

Speak Menu

Will start by speaking the Main Menu “Press 1 for....2 for...3 for...etc. Will not require a PIN after pressing 1 to get the alarm status message.

Report PIN + Menu

Will start speaking the main menu but will ask for a PIN after pressing 1 to get the alarm status message. Any valid Group PIN will work.

Service type

This sets the type of alarm service used on this number.

Voice

A voice message will be spoken to a human recipient on a phone.

Numeric pager

A numeric message will be sent to a numeric pager.

SMS/alpha-numeric pager

A text message will be sent to either an alphanumeric pager or a cell phone.

Telephone tone detection

The EDAC700 RTU is capable of detecting dial tone and ring tone from the telephone exchange using its inbuilt modem.

no tone detect

The dialler will dial without waiting to detect dial tone.

detect dial tone

The dialler will only dial after dial tone is detected.

detect ring tone

This feature is not currently available. Please contact EDAC Electronics, New Zealand with any queries.

dial & ring tone

This feature is not currently available. Please contact EDAC Electronics, New Zealand with any queries.

8.4 Configuring Call Lists

The EDAC700 RTU must define a Call List defined before it can make alarm notification calls. The Call List and Master Phone List only require one entry each in order to make successful calls.

Phone Number

When building a Call List you must first select a phone number to call. Select a phone number from the list, or if the one you need is not defined the EDAC700 RTU will let you add them as required.

Wait after call

This setting is a delay in minutes that the EDAC700 RTU will wait between calls from the Call List. This is used to allow a user to phone in and cancel the alarm if required. It also allows the EDAC700 RTU time to self-cancel if the alarm trigger has been removed or gone back into its normal operating range.

Ack drops number

When the EDAC700 RTU dials a number from the Call List it looks for an acknowledge signal from the user. When set to "Yes" the EDAC700 RTU, after receiving the acknowledge signal from the user, will drop the phone number it is currently dialling from the list.

Example: This configuration is most likely to be used when you want to notify a list of people of an incident. For example the EDAC700 RTU could be at a fire station and be triggered to dial the current roster of fire fighter crew. As each Fire Fighter crew member receives the call they can acknowledge it and not be called again.

Max Call Count

You can set the maximum number of calls for each number on the Call List.

Example: If one or two of the numbers on the Call List are cell phone numbers and the owner has the phone switched off or is not answering, you would not want a default of 99 calls going to the message service. In this case you can set this number to 2 or 3.

8.5 Configuring Rosters

If no Rosters are defined the EDAC700 RTU will default to using Call List 1. A Roster must have at least one Call List or a number of Call Lists mapped to it. Once one or more Rosters have been configured the operator can change the current Roster either via the menu options using a touch-tone phone or the EDAC700 RTU key pad.

Example 1: Single Group

A set of Rosters is required if you want to use different Call Lists on different days of the week or as shift staff come on and off duty.

For this example we have configured digital Inputs 1 to 5, which have been mapped to Group 1.

We have 5 duty officers on a 5-day rotation. The duty officer of the day will be first on the Call List. If this duty officer does not respond the next officer on the Call List will be called.

The following table illustrates the five Call Lists that need to be configured before we start building the required Rosters.

Call List 1	Call List 2	Call List 3	Call List 4	Call List 5
Ben	Richard	Mark	Roger	Paul
Richard	Mark	Roger	Paul	Ben
Mark	Roger	Paul	Ben	Richard
Roger	Paul	Ben	Richard	Mark
Paul	Ben	Richard	Mark	Roger

You will need to build 5 rosters.

	Roster 1	Roster 2	Roster 3	Roster 4	Roster 5
Group 1	Call List 1	Call List 2	Call List 3	Call List 4	Call List 5

By default **Roster 1** will be selected. By changing the roster number you can use different call lists associated with the group.

Example 2: Multiple Groups

If you want to use multiple Groups, with different Call Lists you need to set up at least one Roster.

A Roster can contain a number of Call Lists. Each Call List is mapped to a Group that in turn is mapped to 1 or more Inputs.

The connection between a Call List and a Group is done in the Roster Configuration Menu.

The following table illustrates a possible configuration using 2 Rosters, 3 Groups and 6 Call Lists:

	Roster 1	Roster 2
Group 1 (Flow Sensors)	Call List 1 (Plumber 1)	Call List 4 (Plumber 2)
Group 2 (Power sensors)	Call List 3 (Electrician 1)	Call List 6 (Electrician 2)
Group 3 (Fire sensors)	Call List 2 (Fire officer 1)	Call List 5 (Fire Officer 2)

Points to note from the above table

- The Call Lists above may consist of one or more phone number entries.
- It is not required that the Call List number lines up with a Group number. Groups can be given sensor specific labels.
- The Roster maps the connection between a Group and a Call List.
- One Group can use the same Call List in all Rosters.
- It is important to plan your Group, Call List and Roster composition before programming the EDAC700 RTU. It is suggested that you draw up tables of Groups and Call Lists before configuring your Rosters.

8.6 Changing the Roster Number

There are two methods available to change the current roster number.

Changing Roster by Telephone

Initiating a phone call to the EDAC700 RTU would be the normal way that this would be done. It can also be done on an alarm notification call if the spoken menu option is turned on.

Phone the EDAC700 RTU.

Select option 2, “**2 to change Roster**” from the spoken menu.

Enter the correct PIN (Default = <0002>).

The EDAC700 RTU will report “**The current roster number is 1**”.

It will then say: “**Please enter Roster Number**”.

Press an appropriate Roster number key.

If there is no Roster defined for the number you selected, the EDAC700 RTU will say “**Invalid Roster number**”.


If you select a valid roster number the EDAC700 RTU will report: “**The current Roster Number is**” with the number you have just selected.

Press <*><*> to terminate the call and hang up.

Changing the current Roster number when on site

To change the current Roster number, start from Run Mode and enter the Program Mode PIN (“0000” by default).

Press Down arrow once, then press <Ok>.



```
Main Menu
Change cur. Roster_
```

The currently selected Roster is displayed.



```
Roster is
*1 Roster 1_
```

Use the <Up> and <Down> keys to move through the configured rosters, then press <OK> to select the desired Roster.

Press <Esc> to exit this option, then <Ok> to return to Run Mode.

8.7 Configuring TAP and SMS

In order to use Alpha paging or SMS you must arrange access to a TAP server/host. The EDAC700 RTU uses standard TAP protocol; it does not use ETAP or Pacnet.

To configure the dialler for Paging or SMS, you must configure the TAP access numbers and the Pager number or cell phone number.

The Tap service is configured via the “**Configure TAP**” menu.

The next step after configuring the TAP access is to configure your phone numbers for notification on the Alpha/ numeric pager or cell phone.

This is done via the “**Configure phone numbers**” menu.

If using a pager you will need its RIC code. In the “**Configure phone numbers**” menu, you should enter a suitable name, and the RIC code.

If you want to use SMS, you will enter your cell phone number here.

The pager message comes from the Input configuration. See “**I/O Menu**” and select the Input sensor that you want to generate paging messages.

If the input selected is configured for analogue, the analogue reading will be added to the end of the text message entered above.

Analogues and Paging/SMS

When an analogue input is configured, and reports to a pager/cell phone, the analogue value is sent with pager message for SMS and alpha paging. The pager message, which is entered in the “Configure input” menu needs to reflect this. E.g. “High wl alarm, the reading is: ”. The EDAC700 RTU will add the analogue reading to the end of this message when it makes an alarm notification call.

8.8 Configuring System Settings

This Menu is where the user can setup default values for security and operational options of the dialler.

Rings answ norm

The number of telephone rings the EDAC700 RTU will leave until answering an incoming call when the dialler is in Run mode and there are **no** alarms triggered.

Rings answ wait

The number of telephone rings the EDAC700 RTU will leave before answering an incoming call when the dialler is in Run mode and there **are** alarms triggered. If the dialler has alarms present, this would be the time after an alarm notification call during which the dialler is “waiting” for an alarm acknowledgement.

Rings answ canc

The number of telephone rings the EDAC700 RTU will leave before answering an incoming call when cancelled alarms exist.

Cancel-call in

The method of cancelling an alarm when answering an incoming call.

Not allowed
*Any key (default)
Group Pin

Program pin

The Security (PIN) number used to access Program mode from the main startup screen (Run mode). The default is **0000**.

Roster pin

The PIN number required to access the Roster Menu over a phone call, i.e. menu option ‘2’ on the Spoken Menu.

Modem mode

The PIN number required to establish a remote modem connection. This function is used to talk to an external device attached to the RS232 of the EDAC700 RTU.

Remote Prg Pin

The PIN number required to establish a remote modem connection in program mode. This allows the user to remotely setup the EDAC700 RTU as if it was connected directly to the local RS232 port.

Group Priority

This sets the sequence of alarm notification calls made when multiple Groups have triggered alarms.

No (Default)

When set to “No” the EDAC700 RTU will make alarm notification calls alternatively from each triggered Group.

Yes

When set to “Yes” the EDAC700 RTU will consider the lowest numbered group (Group 1) to have the highest priority.

Pin report, call in

When a user dials the EDAC700 RTU and this option is set to “report pin”, menu option ‘1’ will require a PIN. If this option is set to “report pin not req”, the user will not have to enter a PIN.

report pin not req.

*report pin (default)

8.9 Configuring Speech

This Menu lets the user configure the default speech records for the EDAC700 RTU.

Site message

The user can listen to the site message (if it exists) or record the site message. The site message usually contains the company name or the site location.

System msgs

Note! This option is only available to EDAC Accredited Service Centres. Please contact your local EDAC representative if you need system messages changed.

8.10 Configuring Miscellaneous Settings

This Menu is where the user can configure miscellaneous options of the EDAC700 RTU.

Change date & time

This option lets the user change the date and time. The default time is displayed on the second line until a number key is pressed and a changed is initiated.

RS232 config

This option allows selection of the RS232 speed of the EDAC700 RTU serial port. This must be one of:

19200, 9600, 4800, 2400, 1200 or 300 baud

Up/Download config

Note! This option is only available to EDAC Accredited Service Centres. Please contact your local EDAC representative if you need these settings changed.

Erase config

WARNING! This option will delete ALL database records and voice files (not including system messages). Use this option to clear all site-specific configuration.

Check Memory

Check the status of user variable memory.

Database Usage

This option will display the % used of the Database storage capacity using a simple bar graph representation. If the amount used exceeds 95% a warning message is displayed.

Voice File Usage

This option will display the % used of the Voice Message storage capacity using a simple bar graph representation. If the amount used exceeds 95% a warning message is displayed.

APPENDIX 1

Technical Specifications

Electrical

- Input Voltage: 10VDC to 30VDC
- Power Supply cut off voltage, switches to battery at: 9.3v
- Input Current: 300mA normal operation, with battery connected

- Battery Backup: 12V 7A/Hour battery capable of over 24 hours normal operation
- Battery charge current: 50mA
- Auto power down at: 10.8v, protects battery from full discharge

Configurable Input/Output - Alarm, Monitor and Control

- 20 physical I/O configurable as digital or analogue input or digital output

- 2 messages per physical I/O

- Configurable as "report only" or "alarm notification".

- **Digital Inputs**

Up to twenty digital inputs

- Normally Open Contact
- Normally Closed Contact
- +30VDC maximum
- +1.5VDC trigger

- **Analogue Inputs**

Up to twenty 12 bit analogue inputs configurable for either

- 0V to 1V
- 0V to 10V
- 4 mA to 20mA

- **Outputs**

Up to twenty controlling digital outputs

- Open collector
- 150mA maximum current

- Zener diode protected inputs up to 24VDC.
- Inputs also reverse polarity and over Voltage protected by crowbar diode.

Communication

- 2 line 20 digit LCD display
- 18 key splash-proof keypad
- RS232 port
- Internal 14k4 modem, with PSTN Line Interface - standard RJ45 connectors

All functions are programmed using the keypad and LCD display, the RS232 port or via the modem.

Mechanical

- Weight: 10 kg

- Height: 303 mm
- Width: 343 mm
- Depth: 120 mm

Voice and Pager Messages

- Up to 300 seconds of System and User Recordable Voice Messages
- 20 second voice messages per input and group (default 20 seconds can be extended)
- 40 digit alpha-numeric or numeric pager message per input or group

Groups

- 1 to 20 inputs per group
- 1 to 9 outputs per group
- 1 group name message per group
- groups can be either input or output but not both

Call Lists

- 1 to 20 telephone numbers per call list

Time Frames

- choice of timeframe (day/night)

Rosters

- unlimited rosters
- only one active roster at a time

Programmable Parameters

- Up to 20 telephone or pager numbers per call list.
- One alphanumeric pager and SMS message per physical input and I/O group.
- Up to 40 digits for telephone or pager number.
- Reporting and System Messages
- 4 digit security PIN numbers
- Groups, Call Lists, Rosters, Time Frames

Optional Expansion Unit

The 32-bit Pulse/RunMeter Unit is an optional extra for the EDAC 700. This unit features 8 Pulse Accumulator Inputs and 8 Run-Time Meter Inputs or alternatively an additional 20 digital Inputs.

The unit fits inside the EDAC 700 Case and derives its power supply from the EDAC 700.

When configured for Pulse/RunMeter Inputs it will give reports, but will not generate alarms.

When configured as Digital Inputs, the EDAC 700 will generate alarm notification calls

- Input Voltage Range: 0-20V
- Input Trigger Voltage: 0V
- Power Supply: 12V (derived from the EDAC 700)
- Current Consumption: 30mA
- 8 Pulse Accumulator Inputs:
 - Input Frequency: 5kHz
 - Maximum Count: 4294967296
- 8 Run-Time Meter Inputs:
 - Resolution: 0.1 Hour

Lightning Protection

The EDAC 700 RTU must be provided with an earth discharge circuit to allow for lightning and mains surge discharge.

This can be accomplished by connecting a cable with a M3 crimp terminal attached, to the M3 mounting screw located beside the RJ45 PHONE socket, at the bottom left corner of the main EDAC 700 PCB. This cable should then be connected back to a suitable earth point. This would normally be the common earth buzz bar at the switchboard, or an external earth stake, located beside the building.

APPENDIX 2

Frequently Asked Questions (FAQ)

EDAC700 RTU beeps intermittently and asks for a PIN number

Normally this means an alarm trigger is present and the dialler is not fully configured.

A valid phone number, and “Call List”, must be present before the EDAC700 RTU can generate an alarm notification call successfully.

It may be trying to generate a battery or power fail alarm. Ensure the battery is connected and the power supply is connected and working. You will need to enter a PIN to cancel the alarm, or go to Program-Mode and back.

PIN not working

If the PIN will not work or you forget your PIN you can momentarily press the reset button located in the top right corner of the main board and continuously hold down a key on the EDAC700 RTU keypad while the EDAC700 RTU re-boots. It will start in Program Mode. You can then go to the “Configure System” menu to check or change PIN numbers if required.

Hang up with “*” not always working**

When the dialler is speaking it cannot always hang up when you use “***”. This works best when the dialler is speaking the “site message”. It will not work if it is speaking “reporting only” inputs or acknowledged inputs. Wait for the “site message” to start speaking again, then enter “***”, or else simply hang up. The EDAC700 RTU will hang up the phone after a preset time-out period.

“#” re-start speech, not always working

In an alarm notification call, “#” should make speech restart from “site message”. This does not work all the time. Works fine for call-in, when in “spoken menu” part.

No positive “beep, beep” response for Pin number entry

In some places this positive feed back may not happen, will give one beep for correct PIN or no beep. The voice message that follows from a correct pin will reflect that the pin has been accepted.

Message “Invalid Option” spoken when in Rosters or Outputs

This message is normally played if you select a key press that is not going to do any thing or is a wrong key. It also can be heard if you select “2” for Rosters or “3” for Outputs, if no rosters or “Outputs have been defined. This will happen after entering the PIN. Because there are no rosters defined or Outputs configured, the EDAC700 RTU will report the pin as an “invalid Option” this is because it does not have configuration associated with the option you have selected.

Problems with entering PIN Numbers

This problem is with “Cancel by PIN number”, not “Cancel by any key”. “Cancel by any key” will work fine if the rules outlined below are observed.

With one Group configured, the user can enter a PIN at any time, like after the active input message. There is no problem with this set up.

When we have multiple groups, triggered at the same time, and one call list, it can be difficult to get a PIN accepted if it is not entered at the correct time. This is due to each group potentially having different PIN numbers, and the correct PIN must be entered while the EDAC700 RTU is speaking the appropriate Group message or active input message.

With multi groups you can only enter your PIN number while the appropriate group message, or the active input message for that group is being spoken. It is logical to want to enter a PIN after hearing the group and active input message. This cannot be done, as the window for the correct pin has closed. The EDAC700 RTU will now be speaking the next group message and active input messages.

This could be problematic, with some users. The user needs to wait until the message replays from the start and enter the PIN during the group message. The first digit of the pin should be held down slightly longer, this allows the EDAC700 to hear the key press and pause the speech while the user enters the rest of their PIN number.

This problem will only show up under quite specific conditions when two or more groups get triggers and are connected to one call list and PIN numbers are being used rather than “cancel by any key”.

This PIN problem could possibly make for problems with training end users. We do not think it is acceptable to try and train operators to enter PIN numbers at exactly the correct time. You should be able to enter any group PIN at any time and have it applied to the correct group.

This problem will be fixed as a high priority in an upgrade that will be available in the near future.

I cannot dial in to cancel an alarm when notified by Alpha Paging/SMS text messaging & it also does not self-cancel when the trigger is removed

When doing paging or SMS, if the wait time is zero (default) the EDAC700 RTU will not update input status between calls, while in the wait state, which happens between alarm notification calls.

If the Input trigger clears itself, it may take several calls before the EDAC700 RTU stops making alarm notification calls. You need to set the wait time between calls to 1 minute.

The wait time is in “Call List” configuration. If it is not set to 1 minute or more the user cannot ring into the EDAC700 RTU to cancel the alarm.

The Alpha paging or SMS message has a number after the text, what is it?

If you have configured an analogue input, and when it is triggered it reports to a pager or cell phone text message then the current analogue reading is added to the end of the message. Your pager message needs to reflect that this reading will be added on.

Example: Use pager messaging entry like this "High WL Alarm, the reading is: "
On alarm notification call the text message might be "High WL Alarm, the reading is: 12.3".

Data Base Repair "ERROR: db repair" what does this mean?

Due to the EDAC700 RTU being a computer-based product, it is possible for it to occasionally get its memory scrambled. If this should happen it will report that the database has been repaired while re-booting. In most cases the EDAC700 RTU will be fine, however you should consider using the "Erase Config" option from the "Configure misc" menu if this should happen. If you don't use this option you should test that your configuration is working correctly.

You should also use "Erase Config" after an Operating System upgrade, to ensure that all parameters line up correctly.

APPENDIX 3 - GLOSSARY

Acknowledged: When an Input has triggered an alarm, the dialler has made an alarm notification call, and the operator has indicated to the dialler that the alarm has been received, then the alarm is acknowledged. This means the dialler can cancel any further alarm notification calls.

Alarm Notification Call: When the dialler makes an outgoing call, and uses its recorded voice and pager messages to notify the called party that there are one or more triggered alarms.

Application Voice Messages: Short messages recorded for each I/O point and Group giving site-specific labels.

Armed: Dialler is in Run Mode and monitoring its I/O. See Normal State.

Cancelled: See Acknowledged.

Com/Gnd: Common or Ground electrical connection.

Call Lists: Selections of one or more of the numbers stored in the Master Phone List. Each List is mapped to an input Group being monitored for alarms. If an alarm is triggered, the RTU will use the Call List to make alarm notification calls in the order listed. There can be a number of Call Lists constructed to accommodate different requirements.

Default Pin Number: The factory default PIN number for access to Program Mode is 0000.

Dialler: EDAC700 RTU.

Database: The memory area where all the site-specific configuration information for the dialler is stored. This includes Input, Group, Call List, and Roster configurations as well as Phone numbers and security settings such as PIN numbers.

Groups: A collection of Inputs is mapped to a Group. Groups can be either one input or any number of inputs or I/O points. These Groups can be used to trigger an alarm. Multiple Groups can map and re-use I/O points. If an "Input" is triggered or out of range the group it is mapped to generates an alarm. You cancel a Group rather than an input.

Input: Input signal for alarm testing or reporting. Can be configured in a number of different ways.

I/O: Abbreviation of Input/Output. This refers in this manual to an individual dialler screw terminal. Each terminal can be configured as either an Input or an Output.

Master Phone List: All telephone numbers and the associated names are entered into the Master Phone List. When constructing a Call List the numbers must already have been entered into the Master Phone List.

NO: Normally Open Input.

NC: Normally Closed Input.

Normal State: Dialler is in Run-Mode and no alarms are present. See Armed.

Output: A dialler terminal configured to Output a signal.

Password: Normally a “Personal Identification Number” (PIN).

Physical I/O Point: The physical screw terminal that will be wired to an external device.

Program Mode: The operation state used to configure the EDAC700 RTU.

RTU: Remote Terminal Unit.

Run Mode: The normal armed state of the EDAC700 RTU.

Rosters: A collection of one or more Call Lists. There can only be one Roster active at any one time.

SCADA: Acronym for “Supervisory Control And Data Acquisition”.

System Voice Messages: Spoken words programmed at the factory to provide the basic vocabulary in messages. These Include numbers, units and other keywords.

Triggered Input: The state when the signal on a physical I/O point has changed to a value that is outside its programmed operating parameters.

Time Frame: This refers to the division of a time period into two parts. Call Lists are assigned to a Time Frame within each Roster. The dialler will determine which Call List to use based on the current Time Frame as well as the current Roster.

Wait State: Dialler is in Run mode and there are alarms present. The dialler is waiting for an acknowledgment of its alarm call.

Zone: Same as Group, security industry terminology.

WARRANTY

This product is guaranteed by EDAC Ltd to be free of manufacturing defects or faulty materials, for a period of TWELVE MONTHS from the date of invoice.

This warranty covers the repair or replacement of goods returned to EDAC Ltd. Expenses incurred in returning the EDAC 700 RTU are not included.

Goods may be repaired or replaced at EDAC Ltd's discretion. Repairs by parties other than EDAC Ltd during the warranty period will not be reimbursed and will end the warranty agreement.

This warranty extends to the repair of the EDAC 700 RTU unit only and does not cover consequential damage or damage to itself or faulty operation due to poor installation, incorrect programming, use of incompatible peripherals, mechanical or electrical abuse, use in unsuitable mechanical or electrical environments, or Acts of God.

This warranty only applies when clean contact, voltage-free (relay type) Input triggers are used. This warranty will be void if any source of voltage is applied to the Inputs of the EDAC 700 RTU.

A full document of TERMS and CONDITIONS is available from EDAC Ltd, NZ

International Contact details

New Zealand

EDAC Electronics Ltd.
31 Leslie Hills Drive
PO Box 80033
Riccarton
Christchurch
New Zealand

Telephone: +64 3 341-5166
Facsimile: +64 3 341-5176
E-mail: sales@edacelectronics.com
Web: www.edacelectronics.com

Australia

EDAC Electronics Aust. Pty Ltd.
Suite 6 173 Boronia Rd
Boronia
Vic. 3155
Australia

Telephone: +61 3 9762-6244
Facsimile: +61 3 9762-6255
E-mail: billk@edac.com.au
Web: www.edac.com.au