IRIS-4
Firmware 4.10.2

ADD:SECURE

Table of Contents

1   OVERVIEW

This document details changes from firmware Version 4.10.1 to Version 4.10.2. for IRIS-4 products.

2   CHANGES IN THE RELEASE

2.1   Terminals Versions Supported In This Release

- IRIS-4 160
- IRIS-4 200, IRIS-4 220, IRIS-4 240, IRIS-4 240AP
- IRIS-4 400, IRIS-4 420, IRIS-4 440
- IRIS-4 620, IRIS-4 640
- IRIS-4 620D, IRIS-4 640D
- HON GT20-4, GT40-4
- IRIS-4 640ARX

2.2   Resolution of DHCP issue

An occasional issue where the terminal might not obtain an IP address via DHCP has been resolved. It is believed that this issue is related to the reponse from the DHCP server being slower than is expected.

2.3   Full Details

Full details of all changes are shown below.

ID	Details
T8886 **T9140**	Fix DHCP to wait for Ethernet to reconnect after a Restart. Retry period lengthened from 1s to 3s and removed elapse timer.

3   HOW TO REFLASH

Reflashing can be instigated remotely via the IRIS Secure Apps system to which the terminal is reporting, thereby saving the need for a site visit. This can be done either by using the Reflasher App within IRIS Secure Apps or within the IRIS Secure Apps Dialler Dialogue App, by instructing the terminal to 'Start Dialler Management' to the reflash server IP address (see below).

Alternatively, for local upgrade, connection to the reflash server can be instigated from the installer menu, Settings->Reflash:

The reflash IP address is set by default to AddSecures's reflash server (195.59.117.164) and does not need to be changed unless another reflash server is to be used.

Reflashing can also be carried out by direct local connection to terminals, using our IRIS USB Reflasher that can be downloaded from our web site www.addsecure.com

Please note – the terminal must be correctly powered during reflashing, in accordance with the installation guide. It should not be powered by just USB connection or by just battery. Failure to do so can result in the terminal losing its software programme and becoming inoperable.

4   PREVIOUS RELEASES

4.1   Release 4.10.1

4.1.1   Terminals Versions Supported In This Release

- IRIS-4 160
- IRIS-4 200, IRIS-4 220, IRIS-4 240, IRIS-4 240AP
- IRIS-4 400, IRIS-4 420, IRIS-4 440
- IRIS-4 620, IRIS-4 640
- IRIS-4 620D, IRIS-4 640D
- HON GT20-4, GT40-4
- IRIS-4 640ARX

4.1.2   Resolution of SMS Text transmission issue when SIM pin set

An issue with SMS transmission from the terminal has been resolved. This issue was introduced in release 4.10.0 and only happens if a PIN code is set on the SIM card.

4.1.3   Full Details

Full details of all changes are shown below.

ID	Details
T8612	Fix sms coding when entering pin code.
T8639	Added logging of cellular technology and operator.

4.2   Release 4.10.0

4.2.1   New Terminal Types

The following new IRIS-4 terminal types are supported:

- IRIS-4 240AP - A version of the IRIS-4 240AP that offers 4G support to the Australian market.
- IRIS-4 640ARX – An OEM version of the IRIS-4 640D for ASSA ABLOY market.

4.2.2   Terminals Versions Supported In This Release

- IRIS-4 160
- IRIS-4 200, IRIS-4 220, IRIS-4 240, IRIS-4 240AP
- IRIS-4 400, IRIS-4 420, IRIS-4 440
- IRIS-4 620, IRIS-4 640
- IRIS-4 620D, IRIS-4 640D
- HON GT20-4, GT40-4
- IRIS-4 640ARX

4.2.3   EBLTalk Fire Panel Support

Support for Fire Panel serial interfaces has been extended to include Panasonic EBLTalk fire panels on the second RS232 port. This allows technical information from the panel serial port to be reported to the monitoring centre alongside the normal Fire and Fault reports.

A special option required by some monitoring centres to swap the message Zone number and address is also provided as shown above. For more information please contact AddSecure Technical Support.

4.2.4 Full Details

Full details of all changes are shown below.

ID	Details
T1655, T6423, T6805, T7286	New feature: Add support for EBL/Panasonic Fire panel serial interface.
T6744	New feature: Add USB flow control so reflashing via local USB connection can be speeded up.
T5784, T6813	New feature: Allow extended SIA message size for ESMI Fire panels.
T7421	New feature: Add read tamper status (%I112?) and reset tamper (%I113=) commands to allow IRIS Toolbox to be upgraded to show tamper status and support tamper reset.
T7419	New feature: Add a 'Key default' AT command (AT&F11) for use by IRIS Toolbox.
T8024	New feature: Add Touch Screen menus to configure EBL Address/Zone swap and ESMI SIA mode settings. Tidy up ESPA and Galaxy configuration menus and headings.
T6706	New feature: Add IRIS-4 240AP (LE910C1-AP) celluar network scan, with or without simcard fitted.
T7577	New feature: Add cellular Firmware Switch (selects Telstra firmware) for IRIS4 240AP with LE910C1-AP module.
T7739, T7740	New feature: Add fetching and display of software package and customer firmware, with AT command %G178/179 for IRIS4 240AP with LE910C1-AP module.
T7544	Manufacture Test: Added manufacture testing of rs232 port 2 on IRIS4 6xxD, 640ARX and HON GTxx-4.
T7387	Manufacture Test: Fix Ethernet manufacture test to avoid occasional timeout failures (issue arose in v4.8.0)
T6973, T6974	AADP Protocol - Add Pin status reporting.
T7727	AADP Protocol: Fix fault where AADP does not report error with Nak if SIA alarm message has DC-09 preamble.

T7682	AADP Protocol: Fix fault where terminal resets if pin input with empty configuration read.
T7876	AADP Protocol: Fix fault where terminal reports pin input 5 configuration when asked for pin input 6.
T6977, T6978	AADP Protocol: Add Cellular Bridge set and read.
T6975, T6976	AADP Protocol: Fix error in Version response.
T8047	AADP Protocol: Fix fault where setting of pin 7 is not rejected with NAK.
T6981, T7393	AADP Protocol: Report plastic SIM card ICC number in Read QR Code response.
T6935	IRIS-4 640ARX: Restrict operation of to only AADP by disabling access to serial port settings via (virtual) touch screen and by AT commands. Disabled RS232 1, RS232 2 and COM ports (except when manufacture testing). Panel interface settings menu for RS232 1, RS232 2 and COM not shown. Panel interface setting menu for Eth 2 does not show emulation mode. AT command %A9 (serial 1 emulation), %A13 (COM emulation), %A14 (serial 2 emulation), %A15 (eth 2 emulation) cannot be set or read. AT command %A10 (RS485 emulation mode) can only be read (will show AADP mode which is the factory default).
T7505	IRIS-4 640ARX: Default cellular bridge parameters to allow out-of-the-box connection to ARX panels via Link.
T7163	Update text strings - add translations for 'Tamper restore' 'Cellular bridge' and 'Destination IP'. Correct three Dutch strings.
T7513, T4449, T6852	Extend documentation to assist with Connect provisioning GUI.
T7407, T7408	Fix SIP errors: remove uninitialized strings, allow full 32bit integer conversion to strings (to avoid negative numbers), lengthen message sizes and other generated strings to cater for worst case content.
T6705, T6745	Fix fault revealed in V4.9.0 where HHL serial configuration is wrong and causes baud rate error.
T7391	Fix error where settings %A6 and %A7 (serial port redial and call clear on idle times) are saved in the wrong parameter.
T7307	Fix fault where routing of serial port data to panel interface task not reset on a terminal default.
T8041	Fix fault where terminal resets if it has been sending SMS messages and the Telit cellular module gets reset.
T6748, T7397	Prevent Galaxy Flex RS485 bus communication problem when spurious packet received by terminal on Galaxy UDL port (10001).
T8369	Fix a problem with manufacturing test on Ethernet 2 connector for terminals defaulted with Ethernet 2 not shared with Ethernet 1,

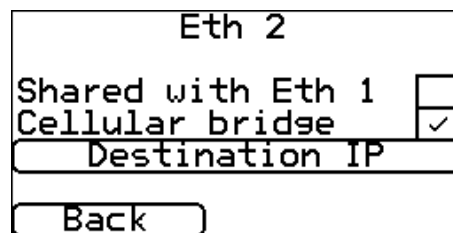| T6476	Future application (New models): Add support for cellular ME910C1_E2 module.
T6481, T6943, T6815	Future application (Telit upgrade): Add cellular module OTA firmware updating basic support. AT command &V37 to view parameters.
T7021	Future application (TDA 74xx variants): TDA 74xx-4 version to v1.60.3
T7166, T7168, T7170	Future application (Edge VS 5000 terminals only): Correct operation of EN54-21 fire ACK, Fail To Communicate and Fault LEDs and Relays (other products unchanged).

4.3   Release 4.9.0

4.3.1   New Terminal Types Supported

The following new IRIS-4 terminal types are supported:

- IRIS-4 620D - A dual Ethernet version of the IRIS-4 620
- IRIS-4 640D - A dual Ethernet version of the IRIS-4 640

4.3.2   Ethernet to Cellular Bridge

IRIS terminals with cellular connection and two Ethernet ports (IRIS-4 440, IRIS-4 640D) offer the posibility of bridging between the cellular connection and the second Ethernet port (Eth 2). In this case a DHCP server is also provided on the Eth 2 port. This mode of operation is enabled when a SIM card is fitted to the terminal and has attached to the SIM provider's cellular data network and when the Ethernet 2 port is set to 'Cellular bridge' mode, as shown below.

```
┌─────────────────────────────┐
│           Eth 2             │
│                             │
│ Shared with Eth 1      ┌──┐ │
│ Cellular bridge        │✓ │ │
│     ┌──────────────────┴──┐ │
│     │   Destination IP    │ │
│     └─────────────────────┘ │
│   ┌───────────┐             │
│   │   Back    │             │
│   └───────────┘             │
└─────────────────────────────┘
```

Note - only a single Ethernet device is supported.

IP TCP and UDP packets sent to the SIM card IP address are bridged to the terminal Eth2 port and vice-versa. Note that other IP protocol types are not bridged.

When a device attached to Eth 2 makes a DHCP request, the terminal offers the following:

- The IP address that is the IP address associated with the SIM card fitted.
- Subnet mask 255.255.255.0.
- Gateway address within the same subnet as the IP address offered.
- DNS server address(es) from the SIM card provider's cellular data network.
- IP address renewal time of 15 minutes and lease time of 30 minutes.

Alternatively, if the device uses a fixed IP address, this IP address should be be set in the 'Destination IP' on the touch screen menu as shown above. The Gateway IP address set in the device should be set to the same IP address as the device but with the last part of the IP different such that:

- If the last part of the IP address is even, then the same number + 1
  - E.g. 192.168.124.4 IP address, 192.168.124.5 gateway
- If the last part of the IP address is odd, then the same number – 1
  - E.g. 192.168.124.5 IP address and 192.168.124.4 gateway

### 4.3.3 Modified Support for Vanderbilt SPC Panels via Ethernet

For some time, IRIS 4xx terminals, which have two Ethernet interfaces, have been capable of supporting connections from Vanderbilt (formerly Siemens) SPC panels via Ethernet and forwarding alarms from the panel to ARCs equipped with an IRIS Secure Apps system. This function has been extended to the new IRIS-4 6xxD products as well.

There has been a modification to the way this works, driven by the fact that Microsofts' Dial-up Networking function is no longer supported in Windows 10 in the same was as it was on earlier Windows versions. This means that remote access to the panel from Siemens SPC Pro software is no longer possible using the combination of Dial-up Networking and the IRIS Remote Service App. Therefore, an alternative way of supporting SPC Pro connection via AddSecure 's Link service has been provided. The same can also be done with any SIM card that provides remote connection from an external IP source.

This does mean that remote connection from SPC Pro requires an IRIS terminal which supports cellular connection. However, this should not create practical difficulties as the motivation to use an IRIS terminal with a Vanderbilt panel includes the provision of a cellular interface, either as part of a dual path solution or as part of a single path cellular solution.

The ways that this affects the installation are as follows:

1) The IRIS terminal now includes a DHCP server on the second Ethernet interface so the panel should be set to use DHCP, rather than a fixed IP address.
2) The monitoring centre IP address (the EDP IP address) set in the panel must be the IP Gateway address given to the panel by the IRIS DHCP server. This IP address can be obtained from the panel (e.g. via the keypad).
3) For remote access to the panel using SPC Pro, the destination IP address for the panel must be the IP address associated with the SIM card fitted to the terminal. Depending on the SIM card provider this may require a connection between the PC running SPC Pro to the SIM card providers own data network. In the case of AddSecure's Link service this uses a connection using OpenVPN with a Certificate provided by AddSecure.
4) The IP Address and Remote Access settings have been removed from the terminal's touch screen menu as they are no longer required. When selecting Siemens mode, the option 'Shared with Eth 1' is automatically deselected.
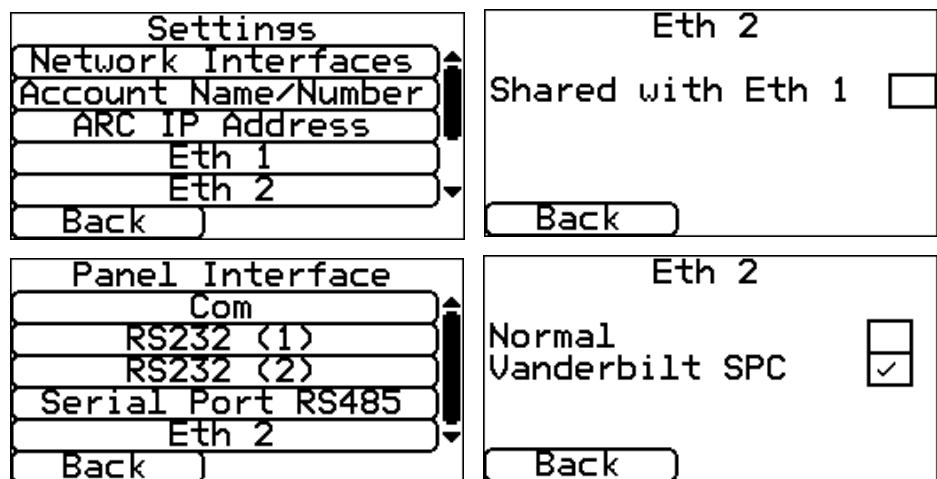
4.3.4 ESMI Fire Panel Support

Support for Fire Panel serial interfaces has been extended to include ESMI fire panels on the RS485 port.

```
Serial Port RS485

Galaxy      ☐
ProSYS      ☐
ESMI        ✓
      Galaxy
   Back
```
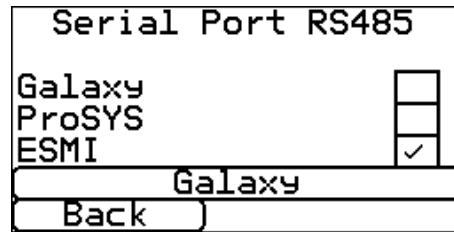
4.3.5 Corrections and Improvements

The following issues have been corrected:

- When using the touch screen or virtual touch screen, selecting Panel Interface->Com-> Emulation Mode 'Texecom' erroneously sets RS232 (1) to baud rate 19200.

4.4 Release 4.8.0

4.4.1 New Terminal Types Supported
- HON GT20-4 - Honeywell OEM module - upgrade of the GT-20 NG with second Ethernet port, 4G and other IRIS-4 features.
- HON GT40-4 -Honeywell OEM module - upgrade of the GT-40 NG with second Ethernet port, 4G and other IRIS-4 features.

4.4.2 Corrections and Improvements
- Prevent terminal resetting if very long SIP user name configured.
- Improve handling of check calls from SAR elevator panels to ensure panel correctly identifies test call acknowledgement.
- Allow incoming SIP voice calls during mains failure when terminal is running off battery.
- Reception of SMS text messages has been made more reliable. It was found that text messages might not be seen by the terminal if sent while the terminal was being reset. This reduces problems encountered during terminal provisioning.
- Correct fault that sometimes caused the selection of the plastic SIM card on Edge terminal as it should always use the eSIM.
- Improve operation of PPP stack in error conditions.
- Additional diagnostic on Ethernet interface to give more information when a bad packet is received.
- Prevent 2N lift alarm panels (e.g. top and bottom of car) sending alarms if they have not been enabled in the terminal configuration.
- Resolve an issue with HHL panel interface baud rate that was introduced in Release 4.6.5.

4.5 Release 4.6.5 (Edge VS5000 only)

4.5.1 New Terminal Types Supported
- Edge VS5010, VS5051, VS5053, for Lift applications.

4.5.2 Corrections and Improvements
- SIP protocol uses actual peer IP address in SIP header fields rather than the configured IP address so that it can work with dual SIP servers.
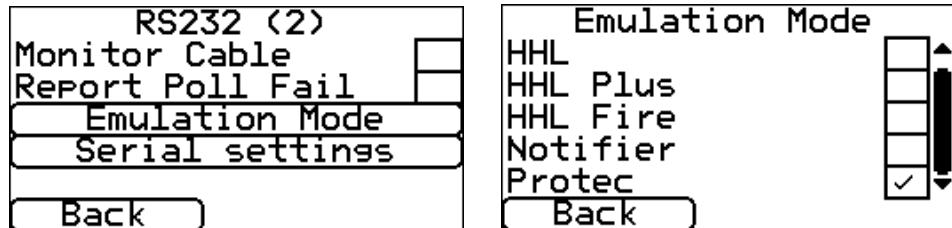
4.6 Release 4.6.3 (IRIS-4 160 only)

4.6.1 New Terminal Type Supported

- IRIS-4 160 – plastic case with transmission interfaces Ethernet, WiFi and cellular (2/3/4G)

4.7 Release 4.6.2

### 4.7.1 Protec Fire Panel Support

Support for Fire Panel serial interfaces has been extended to include Protec panels on serial port 2.

4.7.2 Tamper Restore

This enhancement has been made for compliance to Belgian Incert standards and is only applicable if 'INCERT 2+/3' mode has been selected on the Touch Screen->Extra Features menu.

If a tamper switch activation occurs (including activation of the tamper input on non-cased variants), it does not restore automatically, it must be restored via the Touch Screen->Extra Features menu 'Reset Tamper' button.
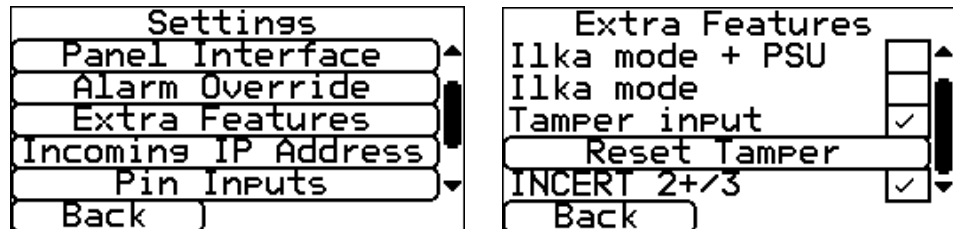
If the tamper physical condition has been restored before 'Reset Tamper' has been selected, the reset button will be removed and the tamper restore message will be sent to the monitoring centre. If not, the button will be removed and the tamper restore will be sent when the condition is restored.

4.7.3 Cellular Mode

A Cellular Mode setting menu has been added to the 2/3/4G settings menu to select the Cellular technology used.
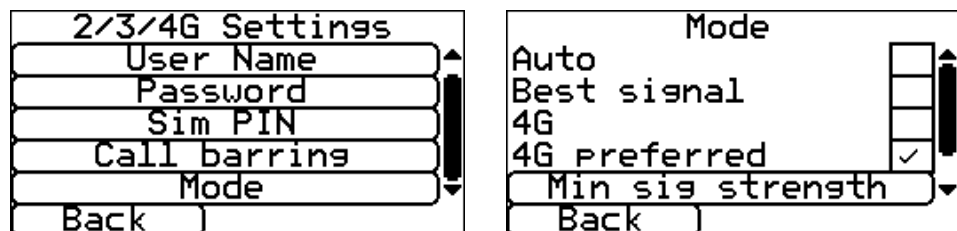
The options available are:

- Auto – the terminal will adopt the technology that is selected by the combination of the SIM card configuration and the network operator.
- Best signal – the terminal will select the technology with the highest signal strength (the default setting in the previous firmware release).
- 4G – fixed to 4G only. Note if there is no 4G available the terminal cannot fall back to 2G or 3G and so cellular communication will not be possible.
- 4G preferred – 4G is selected as long as it is available and above the minimum signal strength selected. Note if there is no 4G available the terminal will fall back to 3G or 2G if available.
- 2G + 3G – the terminal will not use 4G.
- 3G - as '4G' but fixed to 3G.
- 3G preferred – as '4G preferred' but 3G is selected if available and above the minimum signal strength specified.
- 2G - as '4G' but fixed to 2G.
- 2G preferred – as '4G preferred' but 2G is selected if available and above the minimum signal strength specified.
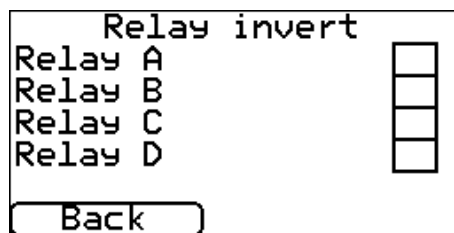- Enhanced roaming – the same function as available on the previous version of software.

4.7.4 'Fail to Communicate' Relay output

A relay can be selected to indicate 'Fail to Communicate'. This is found in the 'Trouble Reporting' 'Via Relays' menu.
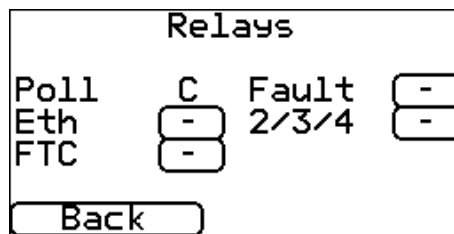
4.7.5 Relay Invert Setting

A relay invert setting is available in the 'Relays' menu.

4.7.6 Support for Contact ID protocol with 10-digit account code

Historically, the Contact ID protocol has been specified only with a four-digit account code, although the IRIS system can support up to 6 digits of account code with Contact ID format. There is now an updated version of the Contact ID protocol that allows 10 digits for the account code and the terminal has been updated to support this. When 'alarm override' is selected, the terminal includes a modified account number in a 10-digit Contact ID message, as follows:

- If the terminal's account number has 7, 8 or 9 digits, it is padded with leading 0s to make it 10 digits long before being included in the Contact ID message.
- If the terminal's account number is more than 10 digits, the leading digits are removed to make it only 10 digits.

4.7.7 'Only Analogue' Dialling via GSM

The 'Only Analogue' option on the 'Panel Interface' 'Dial Port' menu has been replaced by a 'PSTN only' option, as 'GSM only' dialling is no longer available.

4.8 Release 4.2.2

4.8.1 Operation with Galaxy Flex alarm panels

It has been identified that when an IRIS terminal is connected to a Galaxy Flex alarm panel via the RS485 bus, some events can cause it to generate a Tamper alarm within the panel. This release prevents this happening.

4.8.2 Operation with Galaxy alarm panels with 4-6 digit account code conversion

Some time ago a feature was built in to IRIS 6xx series terminals to automatically convert 6 digit account numbers given to it from the alarm panel, to 4 digit numbers where the number starts with two leading 0's. This prevents confusion between the alarm monitoring centre, the installer and the alarm panel. A situation has been found recently where if the monitoring centre has set up two accounts, one with six digits (e.g. 00abcd) and one with the same four digits (abcd), then the terminal oscillates between the six digit and the four digit version. This situation has been resolved in this release.

4.9 Release 4.2.1

4.9.1 Regular test alarm

In cases where the IRIS terminal is not connected to an alarm panel that can itself generate a regular test alarm (e.g. when inputs are used), it can be convenient for the terminal to generate a regular test alarm. This gives the monitoring centre a consistent way to monitor end-end connectivity across many installations. Previously IRIS-4 4xx terminals have supported test alarms over PSTN only, but not over all paths (i.e. the first path available).
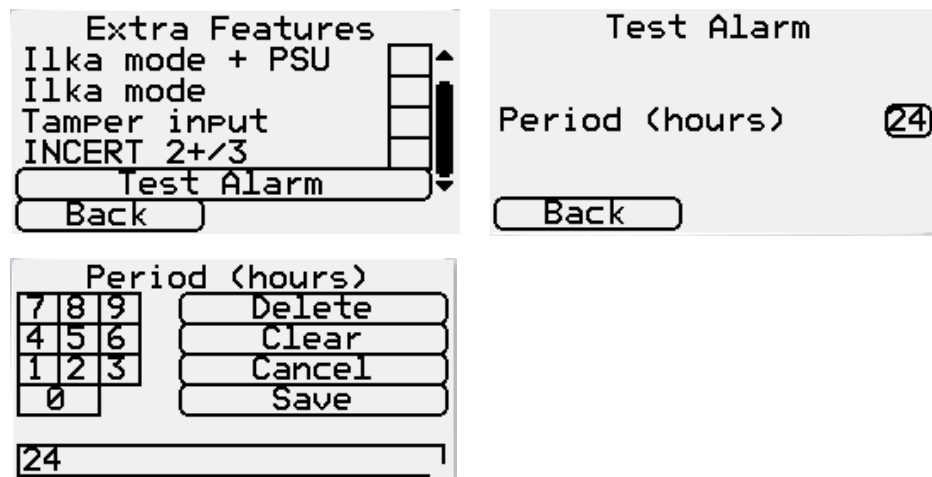
4.9.2 Operation with Vanderbilt SPC panels via Ethernet

IRIS-4 4xx terminals support connection to Vanderbilt SPC panels via the second Ethernet connection on the terminal. Alarms from the panel are sent to the monitoring center using the SIA protocol. The alarm time and data received from the panel is included in the SIA message. It has been noted that the SIA time/date format was not correct and this has been rectified.

4.9.3 Operation with Notifier fire panels

IRIS-4 4xx terminals support a serial connection to Notifier alarms panels and convert the alarm information from the panel to SIA format for transmission to a monitoring center. The terminal has been enhanced so that it supports the maximum message length (105) supported by the panel.
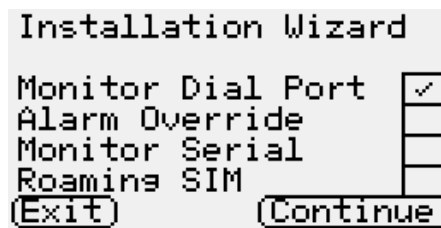
4.9.4 Selection of Cellular Technology

By default, IRIS-4 terminals select the cellular technology (2G, 3G or 4G) with the highest signal strength. It has been found that if one of the technologies is available on the cellular network to which the terminal has local access, but is not able to support data transmission, then this process is not optimum and the terminal may not select the technology with highest signal strength. This situation has been resolved.

4.10 First IRIS-4 release - 4.2.0

This was the first release of IRIS-4 firmware. This contains the same functions as the previous release of the IRIS Touch NG series which IRIS-4 superseded, with the additions described below.

4.10.1 Enhanced Roaming Selection

On the IRIS Touch NG series, the installation wizard included a selection tick box for 'Roaming SIM', as below.

```
Installation Wizard

Monitor Dial Port   [✓]
Alarm Override      [ ]
Monitor Serial      [ ]
Roaming SIM         [ ]
(Exit)         (Continue)
```

This was removed from this menu on the IRIS-4 series because the meaning of the selection was ambiguous. The intention of the setting is 'enhanced' roaming where the terminal monitors the signal strength of the signal from all available cellular service providers and selects the one with the highest signal strength. It was identified that the setting was being selected by some installers if the SIM card in use is a roaming enabled SIM card and where there was no need for the selection of the operator with the strongest signal, as described above. This could result in intermittent trouble being reported by the terminal to the monitoring centre. The selection of this feature, for those who need it, has therefore been moved to the settings menus.

```
     2/3/4G Settings              Roaming Mode
     (    Password    )
     (    Sim PIN     )       Normal        [✓]
     (   Call barring )       Enhanced      [ ]
     (   Roaming SIM  )
     (Preferred Technology)
     (     Back       )          (   Back   )
```

4.10.2 Selection of Preferred Technology

```
     2/3/4G Settings           Preferred Technology
     (    Password    )
     (    Sim PIN     )              (Auto)
     (   Call barring )
     (   Roaming SIM  )        (   Min sig strength   )
     (Preferred Technology)
     (     Back       )             (   Back   )
```

This setting allows the installer to select the preferred technology (Auto, 2G, 3G or 4G) used by the dialler for its cellular connection and the minimum signal strength required for the connection. If the signal strength is not at the required level (default is 10), the terminal will

use a different technology that does meet the requirements. A setting of 'Auto', which is the default, instructs the terminal to select the technology with the highest signal strength, as with IRIS Touch NG terminals.