iris touch

IP security to go

# 600 Range Dialer Installation Manual

Version 1.0

# Contents

# 1. Introduction

## 1.1. About this manual…

This manual is designed to help you, the Installer, with the installation process for the IRIS Touch alarm dialer. We recommend that you read through this manual, in its entirety, before you visit the customer's site and begin the installation.

## 1.2. Overview

The IRIS range of alarm dialers allow users to migrate intruder alarm systems away from traditional PSTN communications to IP based and/or wireless networks, without the need to upgrade or replace the alarm system.

The majority of intruder alarm systems which are configured to make alarm calls to a central monitoring station use the traditional PSTN analogue network as the communications path. However, PSTN is becoming increasingly unsuitable as users move to IP and Voice over IP (VoIP) for their fixed networks or rely purely on mobile (GSM and GPRS) communications. In addition most PSTN service providers are migrating to VoIP networks, so in the not too distant future PSTN lines may be withdrawn.

The IRIS dialer range is unique in offering a quick and cost effective way to interface any existing alarm system to alternative networks such as GSM, Ethernet and GPRS. As a result of the flexibility and power of IRIS it has become the IP transmission system of choice for Monitoring Centres across Europe.

The IRIS 600 series is a PCB format unit intended to be used in the following situations:

- The alarm panel can communicate with the IRIS card via a serial/RS485 interface on the IRIS. This includes panels such as Honeywell Galaxy and Texecom Premier.
- The requirements for alarm signalling is limited to 4 pin inputs – e.g. fire systems or cash machines.

There are two dialers in the range:

- IRIS Touch 620 - Ethernet
- IRIS Touch 640 - Ethernet & GPRS

The IRIS Touch dialer should be located within the alarm panel tamper protected enclosure and powered from the alarm panel battery backed power supply.

## 1.3. System specifications

| Feature | Touch 620 Ethernet | Touch 640 Ethernet & GPRS |
|---|---|---|
| Serial data connection for direct connection to alarm panel | ✓ | ✓ |
| RS485 data connection for direct connection to alarm panel | ✓ | ✓ |
| Alarm transmission and panel upload/download via serial or RS485 connection | ✓ | ✓ |
| Support for SIA (1-3), Contact ID, and Scancom (Fast Format) | ✓ | ✓ |
| Secure polling (monitoring) over Ethernet | ✓ | ✓ |
| Secure alarm transmission over Ethernet | ✓ | ✓ |
| Pin inputs for alarm messages over Ethernet | 4 | 4 |
| Configuration and diagnostics over Ethernet | ✓ | ✓ |
| Secure polling (monitoring) over GPRS | | ✓ |
| Secure alarm transmission over GPRS | | ✓ |
| Pin inputs for alarm messages over GPRS | | 4 |
| Configuration and diagnostics over GPRS | | ✓ |
| Relay contact outputs | 2 | 2 |
| Pin inputs for alarm messages over SMS | | 4 |
| USB port for local configuration | ✓ | ✓ |
| 9-30V DC power from alarm panel | ✓ | ✓ |

# 2. Before you start…

## 2.1. Package contents

In this package you should have the following components:

- Main dialer PCB with four self-adhesive feet
- Ethernet cable (cream) for connection to IP network.
- Antenna for GSM/GPRS. *(Ethernet & GPRS only*).
- Installation manual.

## 2.2. Pre-requisites

Prior to installation, you **must** ensure you have the following:

- The IP address for the Monitoring Centre.
- Confirmation that the Monitoring Centre is set up and ready for the account number or name to be used for this IRIS dialer.
- The type of IP address (either automatic or fixed) for the installation site. If the site has a fixed IP address, you should get this information from the customer in advance, together with the Gateway Address and the Subnet Mask for the IRIS dialer.
- An additional long Ethernet cable, in case the installation site requires one longer than that supplied with the IRIS dialer.
- A SIM card enabled for GPRS with the PIN code clear. (*Ethernet & GPRS only*.)
- The GPRS Access Point Name (APN) of the SIM card provider. Some networks also require a User Name and Password which can also be obtained from the SIM card provider. (*Ethernet & GPRS only*.)

# 3. Indicators

The IRIS Touch dialers have LED indicators [1] that have the functions described below:

| Name | Function |
|---|---|
| ETH | On when Ethernet connected and synchronised |
| GPRS | On when GSM registered *(Ethernet & GPRS only.)* |
| POLL | On when successfully polling with Monitoring Centre. Note – flickers off to show each poll |
| SERIAL | 0 .2s on 0.2s off to show not communicating with panel<br>1.5s on 1.5s off to show dialer not configured<br>0.1s on 0.9s off to show normal communications |
| SYS | Flashes 0.5s on 0.5s off to show dialer operational |

# 4. Installation for pin alarms

The IRIS Touch has PIN inputs that can be used to generate alarm messages. These can be:

- Text messages via SMS ((*Ethernet & GPRS only*.)
- SIA alarm messages over IP to the Monitoring Centre.
- Fast Format alarm messages over IP to the Monitoring Centre.

Note - these pin alarm inputs can also be used when the dialer is directly connected to an alarm panel via the serial or RS485 connections.

## 4.1. Installation

Install the IRIS Touch inside the existing alarm panel enclosure and fix with the self-adhesive feet.

Plug the Ethernet cable between the socket [2] on the IRIS and the local IP router or socket that has been allocated for the IP connection.

Connect the antenna to the PCB [3]. (*Ethernet & GPRS only*.)

Fit the SIM card [4] (*Ethernet & GPRS only*.)

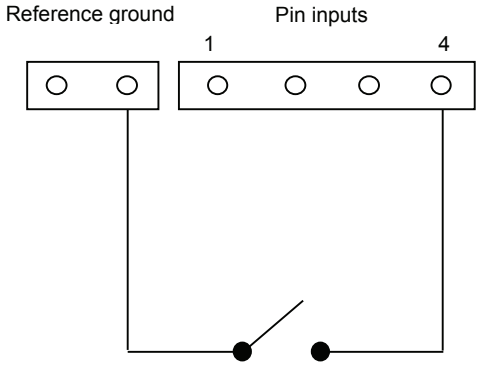
Power must not be applied to the PCB while the SIM card is being fitted or removed or it may be damaged.

Connect power from the panel's battery backed supply to the IRIS Touch power connection terminals [7].

Check the following:

- The Ethernet LED is on steady to show Ethernet connected.
- The GPRS LED goes steady to show GSM registered. (*Ethernet & GPRS only*.)

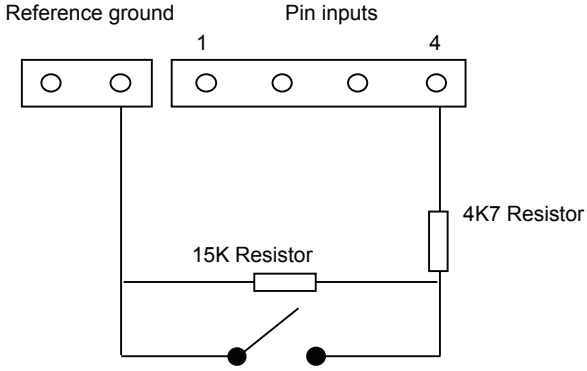
Each PIN input [5] is designed to be connected in a loop via an open/close contact source from an alarm panel, or other device, to a reference ground PIN [6] available on the IRIS dialer, as shown below:




Opening the contact (i.e. loop is open circuit) generates an alarm signal.

Closing the contact generates the equivalent restore signal.

It is also possible to link the contacts to the IRIS dialer via sense resistors so that an open or short circuit tamper on the loop can be detected and the Monitoring Centre alerted. In this case the connections should be made as shown below:




**Note:** For this feature to work correctly it is essential that the resistors are connected at the contact end of the loop and not the dialer end. The Monitoring Centre must also enable this facility on the dialer.

## 4.2. Configuration

Configuration is performed via Chiron's IRIS Dialer Configuration software running on a PC or Laptop connected to the dialer via the USB interface.

Parameters that should be configured on the Networks page are:

- Unit account number/name, as provided by the Monitoring Centre [11]
- IP address of the Monitoring Centre [12]
- IP address for the dialer (if fixed, not DHCP) [13]
- APN (and optionally User Name and Password) as provided by the GPRS operator [14] (*Ethernet & GPRS only*.)

Click on Update with Shown Settings [15] and check that the POLL LED comes on to show that the Dialer is communicating with the monitoring centre.

The default SIA messages for each PIN are shown below.

| Pin | 'Set' message | 'Restore' message | Meaning |
|---|---|---|---|
| 1 | NBA01 | NBR01 | Burglary alarm/restore |
| 2 | NFA02 | NFR02 | Fire alarm/restore |
| 3 | NQA03 | NQR03 | Emergency alarm/restore |
| 4 | NOP04 | NCL04 | Open/close |

These can be changed from the Alarms page, by clicking on Retrieve Current Settings [17], making the modifications required [18], and then clicking on Update with Shown Settings [19].

## 4.3. Post Configuration Tests

Carry out tests on all the alarm inputs to make sure the Monitoring Centre receives the signals correctly.

If using GPRS backup, disconnect the Ethernet cable and check that the signals are still received correctly.

# 5. Installation for use with Galaxy panels

## 5.1. Installation

Install the IRIS Touch inside the existing alarm panel enclosure and fix with the self-adhesive feet.

Plug the Ethernet cable between the socket [2] on the IRIS and the local IP router or socket that has been allocated for the IP connection.

Connect the antenna to the PCB [3]. (*Ethernet & GPRS only*.)

Fit the SIM card [4] (*Ethernet & GPRS only*.)

Power must not be applied to the PCB while the SIM card is being fitted or removed or it may be damaged.

Connect to Galaxy bus using either a standard Galaxy jumper cable to the 4 pin header connector [8] or wires to the connector block [7].

Turn on power to panel.

Check the following:

- The SERIAL LED shows Not Configured (1.5s on, 1.5s off) or Normal (.1s on .9s off) to confirm dialer is communicating with the panel.
- The Ethernet LED is on steady to show Ethernet connected.
- The GPRS LED goes steady to show GSM registered. (*Ethernet & GPRS only*.)

## 5.2. Configuration

The IRIS Touch can be configured from Galaxy keypad – but note that for GPRS it is not possible to configure the settings (e.g. APN ) from the Galaxy keypad as the galaxy has no entry method.

The APN can be configured via an SMS message from any mobile phone or via the IRIS Dialer Configuration Software running on a PC or Laptop connected to the dialer via the USB interface.

The configuration menu on the Galaxy panel for the Ethernet card is found at location 56 (Communications) entry 4 (Ethernet).

If the IRIS Dialler is not set to defaults, default it by clearing the Primary IP address on the Galaxy (menu 02 entry 2). Check that the SERIAL LED is showing Not Configured.

If GPRS is used, set the GPRS APN. This cannot be done from the Galaxy keypad as there is no APN menu entry. As an alternative, send a text message to the phone number of the SIM card being used. The text should be in the format:

AT%G10='apn'

Where 'apn' is the APN name, e.g. orangeinternet

Alternatively, the information can be set via the Networks page of the IRIS Dialer Configuration software [14].

Fixed IP address only - set the IP address, subnet mask and gateway address on the Galaxy keypad menu 01 (Module Configuration). The Site Name parameter is not required.

In the Alarm Report menu (02) set:

- Alarm format required (e.g. SIA) (entry 1)
- IP address of Monitoring Centre in Primary IP (entry 2). Note Port Number is not required.
- Account number (entry 4)
- Note – other menu entries are not used and need not be set.

Make an Engineer Test call (menu 05). The parameters entered will be sent from the panel to the dialer and polling to the Monitoring Centre will start.

Check that the POLL LED comes on.

## 5.3. Post Configuration Tests

Carry out alarm signaling tests to make sure the Monitoring Centre receives the signals correctly.

If using GPRS backup, disconnect the Ethernet cable and check that the signals are still received correctly.

## 5.4. Trouble Reporting

The IRIS dialer will report the following trouble conditions to the Galaxy panel:

- Line Fail – if polling via Ethernet or GPRS is not successful.
- Fail to Communicate if an alarm is not transmitted successfully after 10 attempts.

## 5.5. Galaxy Alarm Panel Management

The IRIS adapter acts as a conduit for remote configuration of the Galaxy panel and remote keypad operation using Honeywell's RSS software running with direct IP connection on the PC.

Incoming and outgoing calls are supported.

Incoming calls (from RSS) are initiated using the fixed IP address set for the adapter and the default Galaxy port number 10001.

Outgoing calls are initiated from the IRIS Polling Engine using the IRIS Remote Data Call function to the IP address of the PC running the RSS software.

# 6. Installation with Texecom panels

## 6.1. Installation

Install the IRIS Touch inside the existing alarm panel enclosure and fix with the self-adhesive feet.

Plug the Ethernet cable between the socket [2] on the IRIS and the local IP router or socket that has been allocated for the IP connection.

Connect the antenna to the PCB [3]. (*Ethernet & GPRS only*.)

Fit the SIM card [4] (*Ethernet & GPRS only*.)

Power must not be applied to the PCB while the SIM card is being fitted or removed or it may be damaged.

Connect to a panel serial port bus using a straight-through one-one jumper cable.

Turn on power to panel .

Check the following:

- The SERIAL LED shows Not Configured (1.5s on, 1.5s off) or Normal (.1s on .9s off) to confirm dialer is communicating with the panel – note that this may take a few minutes after power up.
- The Ethernet LED is on steady to show Ethernet connected.
- The GPRS LED goes steady to show GSM registered. (*Ethernet & GPRS only*.)

## 6.2. Configuration

Configuration is through the panel keypad under the UDL/Digi options menu, according to Texecom's instructions.

If GPRS is used, first set the GPRS APN. This cannot be done from the Texecom keypad as there is no APN menu entry. As an alternative, send a text message to the phone number of the SIM card being used. The text should be in the format:

AT%G10='apn'

Where 'apn' is the APN name, e.g. orangeinternet

Alternatively, the information can be set via the Networks page of the IRIS Dialer Configuration software [14].

In the Setup Modules sub menu select Setup IP Data and define:

- IP address, Gateway address and Net Mask of the dialer (if fixed IP address used)
- Port number to be used for communications with Wintex
- Polling IP address of the Monitoring Centre
- Dialer name
- Modem speed is set to 19200

In the Com Port Setup sub menu, make sure the com port used to connect to the dialer is set as IRIS IP Module.

## 6.3. Post Configuration Tests

Carry out alarm signaling tests to make sure the Monitoring Centre receives the signals correctly.

If using GPRS backup, disconnect the Ethernet cable and check that the signals are still received correctly.

## 6.4. Alarm Panel Management

The IRIS adapter acts as a conduit for remote configuration of the panel and remote keypad operation using Texecom's Wintex software running with direct IP connection on the PC.

Incoming and outgoing calls are supported.

Incoming calls are initiated using the fixed IP address set for the adapter and the port number set on the panel and in Wintex.

Outgoing calls are initiated from the IRIS Polling Engine using the IRIS Remote Data Call function to the IP address of the PC running the Wintex software.

# 7. Relay outputs

The IRIS dialer has two relay outputs [10] that can be used in a number of ways:

- To indicate communications path failure.
- Activation by incoming SMS Message.
- Setting by the Monitoring Centre.

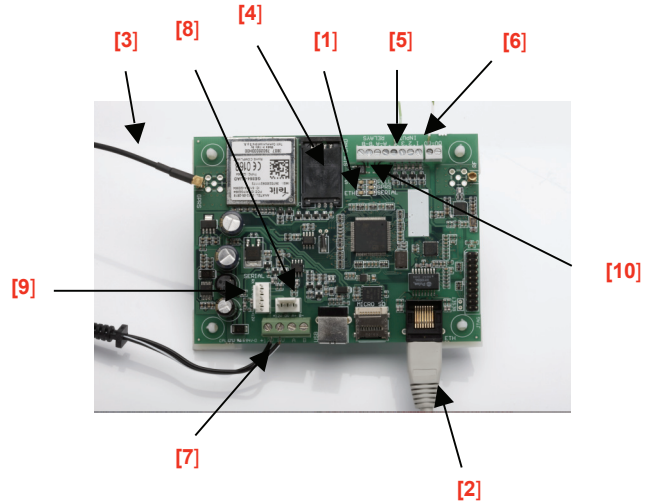
The relay contacts are normally open and closed when activated.

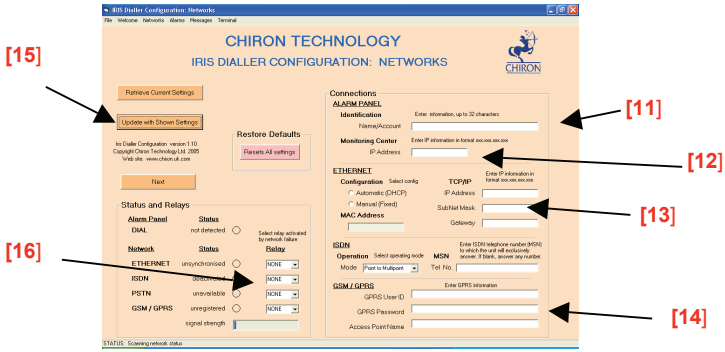
Wire to these contacts as required and define how they are to be used using the configuration software [16].

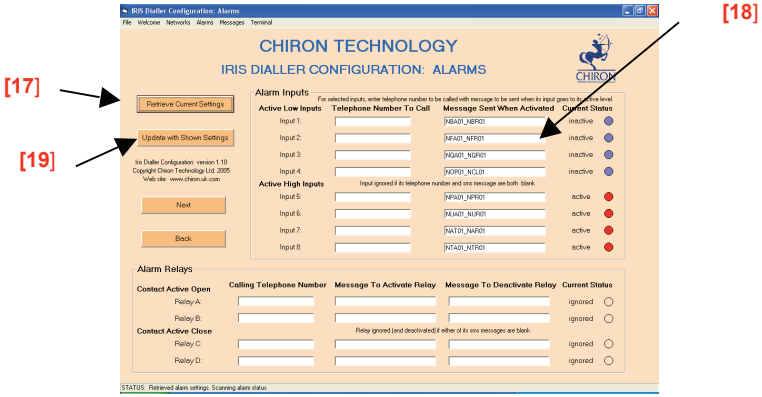
# 8. Troubleshooting

| Problem | Resolution |
|---|---|
| No LED activity display when IRIS dialer is connected to the power. | Check that there is power to the system and that the wiring is the correct polarity. |
| Serial LED flash pattern indicates no connection to panel | Alarm panel serial/RS485 interconnect fault. |

# Appendix A – Installation photo/screen shots




[17]
[18]
[19]
IRIS Dialler Configuration: Alarms
File Welcome Networks Alarms Messages Terminal
CHIRON TECHNOLOGY
IRIS DIALLER CONFIGURATION: ALARMS
Retrieve Current Settings
Update with Shown Settings
Iris Dialler Configuration version 1.10
Copyright Chiron Technology Ltd. 2005
Web site: www.chiron.uk.com
Next
Back
Alarm Inputs
For selected inputs, enter telephone number to be called with message to be sent when its input goes to its active level
Active Low Inputs
Telephone Number To Call
Message Sent When Activated
Current Status
Input 1:
NBA01_NBR01
inactive
Input 2:
NFA01_NFR01
inactive
Input 3:
NJA01_NJR01
inactive
Input 4:
NOP01_NCL01
inactive
Active High Inputs
Input ignored if its telephone number and sms message are both blank
Input 5:
NPA01_NPR01
active
Input 6:
NUA01_NUR01
active
Input 7:
NAT01_NAR01
active
Input 8:
NTA01_NTR01
active
Alarm Relays
Contact Active Open
Calling Telephone Number
Message To Activate Relay
Message To Deactivate Relay
Current Status
Relay A:
ignored
Relay B:
ignored
Contact Active Close
Relay ignored (and deactivated) if either of its sms messages are blank
Relay C:
ignored
Relay D:
ignored
STATUS: Retrieved alarm settings. Scanning alarm status

# Appendix B – Specification

| | |
|---|---|
| **Alarm Dialer Interface** | |
| Direct connection to various panel types:<br>Honeywell Galaxy (V4.00 onwards) (via RS485)<br>Texecom Premier (V7.60 onwards) (via serial) | |
| RS485 2 wire half duplex | |
| Serial data – 3V logic levels (5V tolerant), Tx, Rx, Ground | |
| **Ethernet Interface** | |
| 10Mbps and 100Mbps (10/100BaseT) with auto-negotiation | |
| UTP with standard RJ45 socket for CAT-5 cabling | |
| Dynamic IP addressing (DHCP) or fixed | |
| **GSM/GPRS Interface** | |
| Dual band GSM 900 MHz and DCS 1800 MHz | |
| MMCX socket for antenna connection | |
| **IP** | |
| TCP ports (outbound): 51292 (diagnostics), 52737 (polling), 53165 (alarms) | |
| **PIN Inputs** | |
| Maximum input voltage range | 0V to +24V |
| Input 'low' threshold | < 2V |
| Input 'high' threshold | > 3V |
| Input pull-up impedance | Internal 10K to 5V supply |
| **Relay Outputs** | |
| Maximum operating voltage | 24V |
| Maximum current rating | 1A |
| **Power Supply** | |
| Supply voltage | 9 - 30V DC |
| Ethernet only (typical current) | 145mA (supply at 12v) |
| With GSM/GPRS (typical current) | 185mA (supply at 12V) |
| **Note**: These figures are based upon the Ethernet link being connected. With GSM/GPRS there will also be additional transient peak current of up to 250mA required as GSM and GPRS transmissions (e.g. for network registration and calls) are made. | |
| **Weights** | |
| Dialer unit | 60g |
| Fully packaged | 160g |

## Conformance

The IRIS range of alarm dialers comply with the following European Directives:

- 1999/5/EC (Radio & Telecoms Terminal Equipment Directive).
- 72/23/EEC (Low Voltage Directive).
- 89/336/EEC (Electromagnetic Compatibility Directive as amended by 92/31/EEC).

***Conformance to EN50131 and EN50136***

The IRIS dialers are compatible with the requirements of European standards prEN50131-1 (Alarm Systems – Intrusion and hold-up systems Part 1: System Requirements) (dated Feb 2004) and EN50136-1-1 (Alarm Systems – Alarm transmission systems and equipment) (January 1998 with Amendment 1 August 2001) as follows:

- The IRIS dialers conform to Environmental Class II.
- The IRIS dialers are compliant to ATS 6 compatible with Security Grade 4.

## Safety

Care should be taken when interconnecting telecommunications equipment that only like interfaces are interconnected to avoid safety hazards.

SELV: SELV (Safety Extra-Low Voltage) is defined as a secondary circuit which is so designed and protected that under normal and single fault conditions the voltage between any two accessible parts does not exceed a safe value (42.4V peak or 60V dc maximum).

The interfaces on the IRIS dialer have the following safety classifications:

- Data Interface: SELV suitable for connection to the SELV interface on a data terminal such as a PC COM port.
- Power Interface: SELV for connection to a DC supply.
- Inputs and Outputs: SELV for connection to alarm output and input pins.