

Entryphone[®]

PinNet 4

Product manual

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This document covers the installation and use of the Entryphone on-line PinNet door control system

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Important

Training courses for the installation and use of all Entryphone products are available. For further information on course availability, or to discuss specific requirements, contact sales on 020 8870 8635 or visit entryphone.co.uk.

HEALTH AND SAFETY

Installation must comply with National Wiring Regulations (BS7671)

If the secured door is part of an escape route the locks must also comply with any local fire, health and safety regulations.

For **Technical Support** contact 020 8870 8635 during normal office hours 9.00 am to 5:00pm Monday to Friday or visit our website www.entryphone.co.uk at any time.

Entryphone products are supplied for installation by qualified engineers and not intended for DIY installation.

Changes are periodically made to Entryphone products. THE ENTRYPHONE COMPANY LIMITED shall not be liable for errors in this document or for any consequential damages connected with the use of this document.

General Description

The Entryphone PinNet 4 is an access control system (using 125Khz RFID technology) that will control up to four doors.

Its choice of keypad, GSM modem and IP control makes it ideal for properties where local administration is difficult to manage. The system incorporates an on-board web interface for setting up the device, users and viewing activity logs. User administration can also be via a GSM modem using SMS text messages allowing remote management via our web site or phone service.

Key fobs can also be added, modified or removed through the programmer reader and keypad, using the Entryphone® activation code system.

The PinNet also has an optional “operate by phone” feature where one lock output can be triggered when the unit is called from an authorised telephone.

Features

- Built-in web site server.
- Key fob administration via SMS text messaging
- 1000 entry activity log
- One-day password system for maintenance access
- 1000 users
- 8 time profiles
- Automatic clock adjustment for day-light saving
- “Door release by phone” feature (option)
- No master key fob required
- Tenants can add their own keys using an encrypted code for the designated unit
- Individually numbered units for issuing of one-day password

Operation

Key fobs

The system operates when an electronic key is presented to a reader; the key's unique code is read by the system. Either:

1. It will determine that the key has permission to release the door at that time and it will release the door for a programmed number of seconds.

Alternatively:

2. If it does not recognize the key's code it will not release the door and the system will log that an invalid key has been presented.
3. If it does recognize the key but does not have permission, e.g. time profile, it will not release the door and will log the event and the reason for rejecting the request.

Operation by phone

Where it is preferred not to issue a key fob the unit will accept a telephone number in place of a fob code number. When the unit is called from an authorised number the first lock relay will operate.

Capacity

The system can be connected to up to four readers and four door releases. It can supply 12V AC or DC in either fail-safe (power to lock) or fail-secure (power to unlock) for conventional releases.

Up to 1000 keys can be stored in the system's memory and it has a 1000 entry transaction log.

Programming

Programming and administration of the system is carried out in a number of ways:

1. **(KP) Keypad Control** where activation codes are provided through Entryphone's web or telephone service.
2. **(SMS) GSM modem** control where fobs are added, modified or deleted using SMS text messaging through Entryphone's web or telephone service.

Service controlled off-line programming is for customers that require a managed system but do not want to administer it or have the expense of an internet connection. The initial set-up is carried out by Entryphone and further adding or deleting of keys is achieved by entering an activation code on the unit's keypad or via SMS text message.

3. **(PC) Direct programming** using a PC or through a LAN

The PinNet has an Ethernet connection and an integrated web server so the unit can be controlled directly using a web browser

Reader operation and beeps

The PinNet reader will initially beep as the key is presented regardless of the beeps that follows it. This is to indicate to the person presenting the key that the PinNet understands that a key has been presented.

Key ok	Continuous tone for the length of the release time.
Key on system but not valid	4 long beeps
Key not recognised by system	6 short beeps
Key not an EM type RFID key	No beeps

Apparatus

PN4CU - Control unit



The PN4CU is the PinNet's main control unit. There are connections for LAN (RJ45), a programming keypad, four fob readers, four lock relays and four request-to-exit switches. In addition it can be fitted with a battery backup and GSM modem.

Dimensions H 300 W 230 D 110

PN4GSM – PinNet GSM Modem



The PN4GSM when fitted to the system allows tokens to be added and deleted by Entryphone. Also the system can be set-up so that a door can be operated by ringing the unit from a validated telephone.

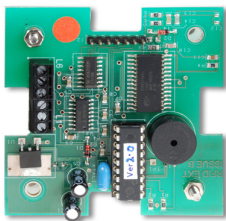
PN4BB– PinNet Back-up battery



The PN4BB can be fitted to the PinNet to provide power in the case of mains failure. The battery will provide emergency power for the PinNet circuitry and will operate the electric releases if DC devices are fitted and powered directly from the PinNet (see connection diagram 2)

Dimensions H 100 W 150 D 53

PN4PM – PinNet panel mount reader



The PN4PM is designed to fit as an integral part of an Entryphone entrance panel. The reader will be fitted into the panel at manufacture.

Dimensions H 66 W 66 D 30

PN4RF – PinNet reader - flush



The PN4RF reader fits into a standard single gang flush box.

Available in brushed or mirror polished stainless steel

Dimensions H 85 W 85 D 30

PN4RS – PinNet reader - surface



The PN4RS surface-mount reader

Available in brushed or mirror polished stainless steel

Dimensions H 70 W 84 D 33

PN4RK – PinNet reader & keypad - flush



The PN4RK is a reader and keypad in one unit for when either tokens need to be authenticated with a PIN number or just PIN access is required.

Available in flush or surface models in brushed or mirror polished stainless steel

Dimensions H 216 W 89 D 38

PN4UR – PinNet USB reader



The PN4UR is a USB reader that allows key fobs to be read directly to a PC.

PN4T – PinNet key fob



Standard Entryphone 125Khz EM4100 key fob

Connection Diagrams

Notes

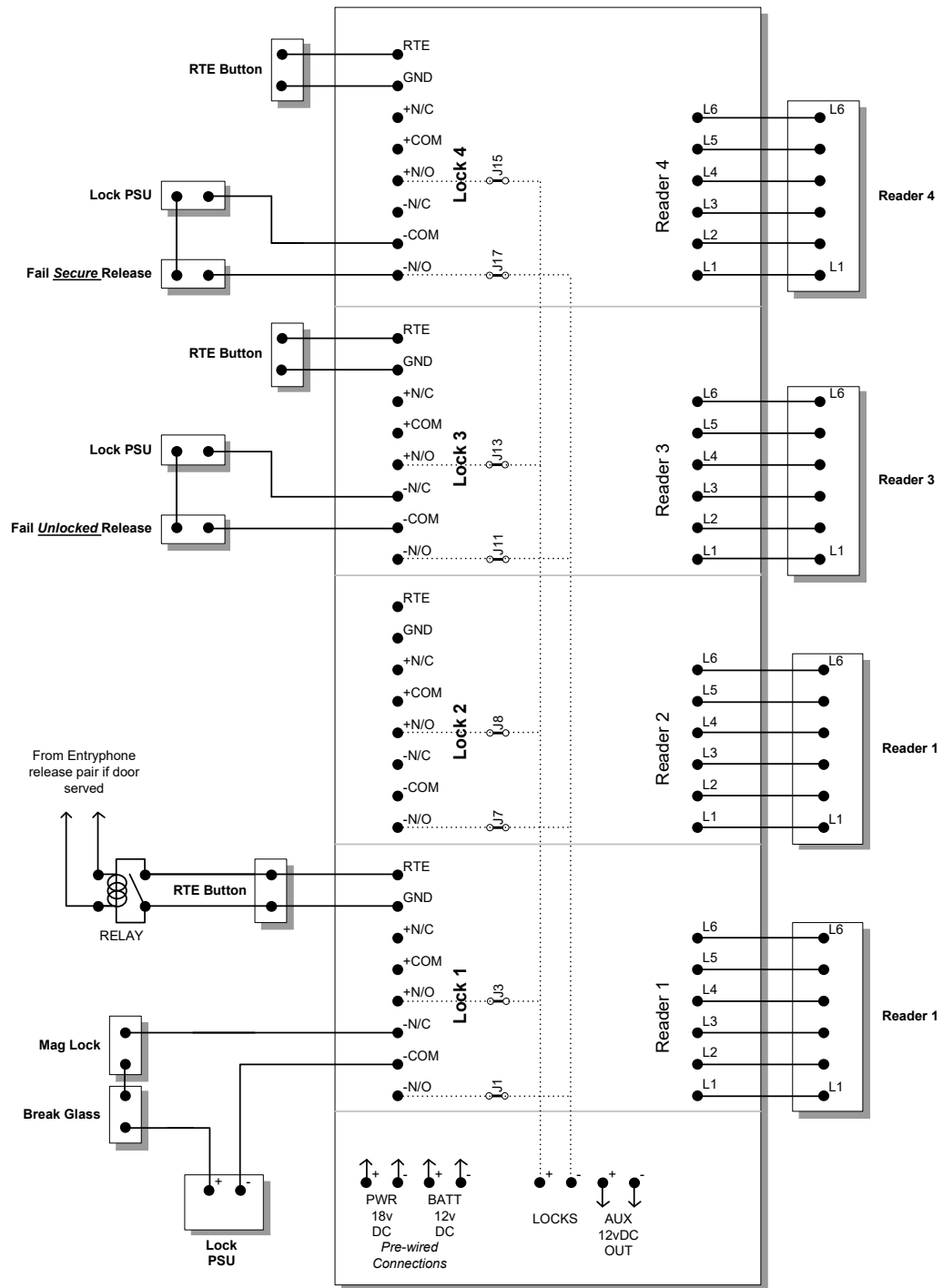
The diagram shows examples of the PinNet lock release switching outputs connected to the three most common door release types:

1. Fail secure release. Power is applied to the device to release the lock.
2. Fail unlock release. The device is continuously powered to keep it locked.
3. Maglock. The device is continuously powered to keep it locked.

With maglocks there is no mechanical means to open the door (unlike door releases that operate in conjunction with standard night latch locks which can be operated using the handle on the inside and a key from the outside) and therefore a request-to-exit (RTE) must be provided for egress and an emergency break-glass unit is also **required for fire regulation compliance**.

The diagram shows each device powered by its own power supply (PSU). If required the locks can be powered through the unit via the "LOCKS" terminals (please note there are jumper links on the board so individual lock outputs can be isolated).

Connections



Programming

Service programming

If the unit is intended for off-line administration by a service provider the unit will have been provided pre-programmed.

There are a number of ways of administrating the PinNet:

- Via the built-in web server, see page 10
- Entryphone provide a service for adding users.
- Via text (SMS) messages - for units with a built-in modem. Please contact Entryphone for more information about the structure of the text messages.
- Keys may be added/deleted via a programming keypad (PN4R5KP), see page **Error! Bookmark not defined.** Please contact Entryphone for more information on the operation of this keypad.

Local programming

For local programming the unit must be connected to a PC, with a suitable web browser installed, via an Ethernet connection (please refer to the schematic and connection diagrams).

The PinNet4 has an integral web server and all programming is carried out by accessing the unit's web pages. To access the log-in home page type `http\192.168.0.254` into the address line of your preferred web browser.

Integrated web site

Finding the PinNet web server

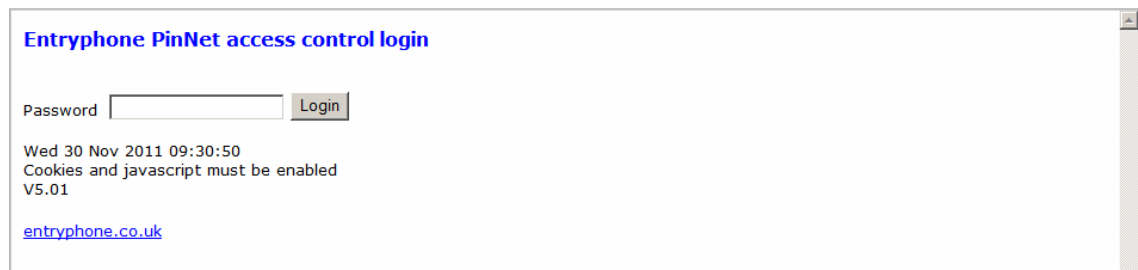
The unit is shipped with a static IP address of 192.168.0.254 with DHCP¹ services disabled.

The unit can be set to behave as a DHCP client by adding a jumper marked 'LINK TO ENABLE DHCP' on the PinNet board. The static IP address can be changed in the unit's web server interface.

Connect the unit to either a network or directly to a PC (with a crossover cable), launch a web browser and type in the following address:

<http://192.168.0.254>

The following screen should appear:



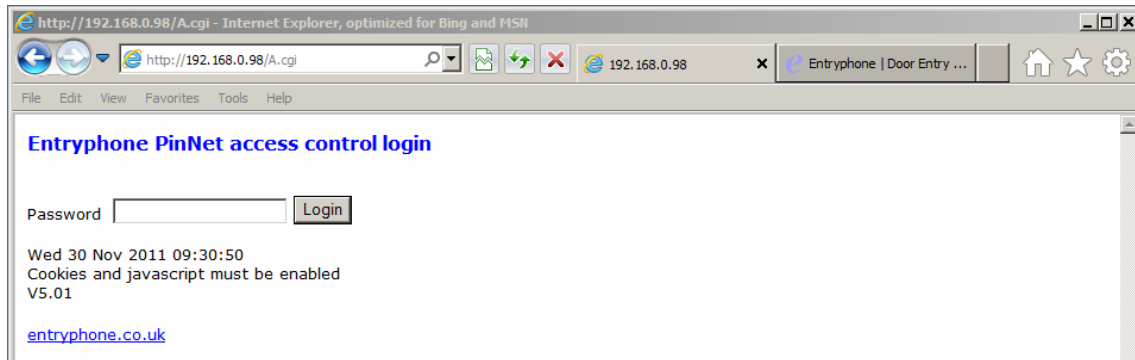
Please note the following when locating the unit's web server:

- If connecting directly between the unit and a PC, use a crossover Ethernet cable. Use a normal Ethernet (CAT5/6) cable if connecting into an existing network or hub/switch.
- In order to see the unit's web server located at 192.168.0.254 the IP address of the PC must be in the 192.168.0.nnn range.
- If trying to locate the PinNet within your router's list of connected devices please note that all PinNet units have a starting Mac² address of 00:60:35.
- Please note that as the screen print above shows, cookies and Javascript must be enabled to use the PinNet web interface.

¹ DHCP (Dynamic Host Control Protocol) is the process whereby the unit will glean an IP address as well as other details from a DHCP server. Broadband routers often provide DHCP services.

² Every network (TCP/IP) enabled device has a unique Mac address which identifies that device.

Logging on



There are two possible passwords that will work with the unit's web server.

- The password that was either set during manufacture (which will be unique to the unit) or set by the current administrator.
- A unique one-day maintenance password. The one-day passwords are available from Entryphone on +0044 20 8870 8635 or requested via the contact us section of www.entryphone.co.uk.

Login notes:

- Passwords are case sensitive.
- Passwords can only be made up of letters and numbers.
- The daily password depends on the date set in the PinNet. Therefore when requesting a daily password, please make a note of the date that the PinNet reports on the login screen.

Users

Following a successful login the Users screen is displayed:

Name	Description	KeyID	Start	Active	TimeProfile	Expiry	Access code	PinActive	R1	R2	R3	R4	
Edit 24 hour access		FFFFFFFF	00/00/00	<input checked="" type="checkbox"/>	1	00/00/00	1234	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete
Edit Banks, Rob	PX610656 Acme Inc.	0105A69071	00/00/00	<input checked="" type="checkbox"/>	1	00/00/00		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete
Edit Forward, Neil	PX610655 Acme Inc.	01064322FF	00/00/00	<input checked="" type="checkbox"/>	1	00/00/00		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete
Edit Fresco, Al	PX610657	01064796B0	00/00/00	<input checked="" type="checkbox"/>	1	00/00/00	9999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete
Edit Master, Ed	PX610654 www plc	0106433EA0	00/00/00	<input checked="" type="checkbox"/>	1	00/00/00		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete
Edit Mint, Murray	PX610653 www plc	0105A69750	00/00/00	<input checked="" type="checkbox"/>	1	00/00/00		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete
Edit Working hours		FFFFFFFF	00/00/00	<input checked="" type="checkbox"/>	2	00/00/00	5678	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete

Please note the following:

- Conventionally new users will be added to the bottom of the list. However, in environments with many users being added and deleted it is possible for users to slot elsewhere into the list.
- By default this screen show the first 50 users. Change this number to increase the number of users to view, and click **Users to display**.
- PinNet will accommodate up to 1500 users.

For a detailed description of the headings and their meanings please see **Add user** on page 13

Add user

Please note that there are many other way of adding users to PinNet. For further information please see Service programming on page 9

The screenshot shows a web browser window titled 'http://192.168.0.101/fr.cgi - Windows Internet Explorer'. The address bar shows 'http://192.168.0.101/fr.cgi'. The page content includes a navigation menu with links: [Users](#), [Readers/Locks](#), [Time profiles](#), [Log](#), [Date/Time](#), [Change password](#), [Setup](#), and [entryphone.co.uk](#). Below the menu is a blue header for 'Add/Edit user'. The form contains the following fields and options:

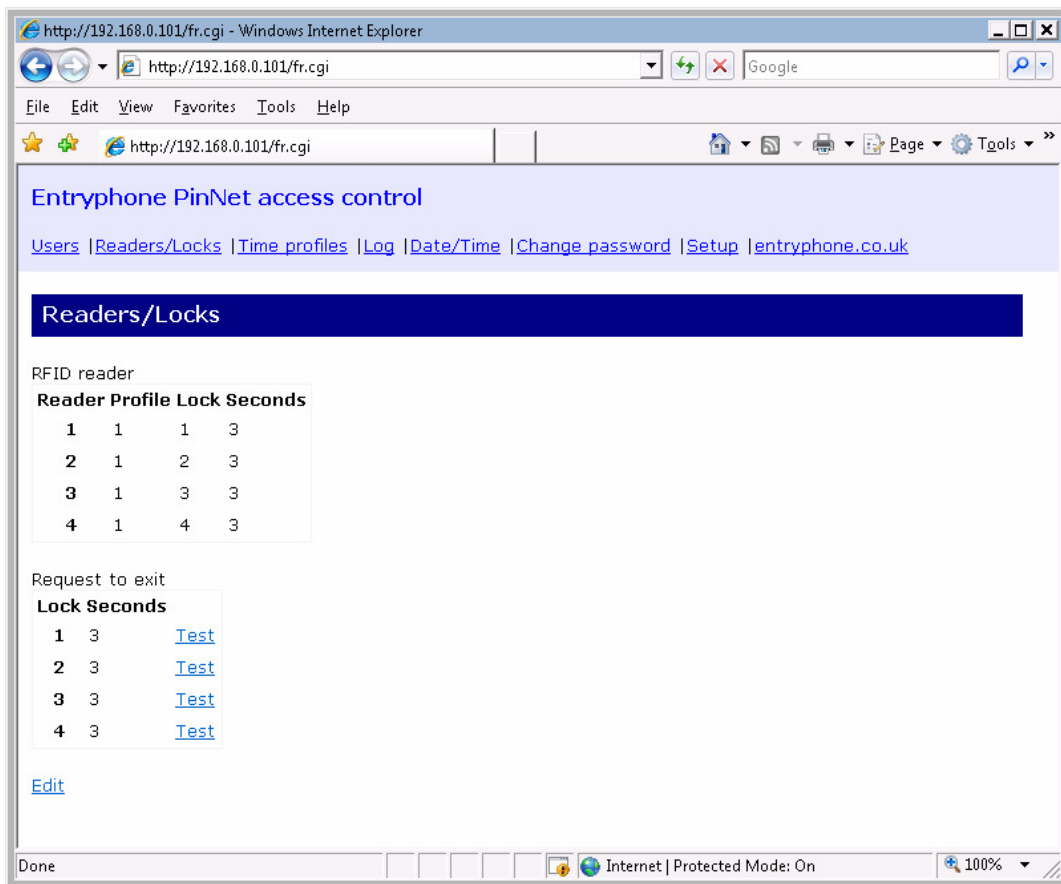
- Name:
- Description:
- KeyID: *
- Start Date: dd/mm/yy
- Expiry Date: dd/mm/yy
- TimeProfile: (dropdown)
- PIN: nnnn
- Pin Active:
- Active:
- R1:
- R2:
- R3:
- R4:
- Update:

Field descriptions:

Heading	Use
Name	Free text. Normally used for a name
Description	Free text. Normally used for key number printed on key.
KeyID	<p>The number embedded in the RFID key. Should be a 10 digit alpha numeric set of characters. It is not case sensitive. You may use a USB fob reader PN4R5KP (see page Error! Bookmark not defined.) to type a key number into the system.</p> <p>OR</p> <p>Modem fitted units only - The telephone number (without spaces) of a phone number that is allowed to phone in to the system to activate the lock. The phone number must be between 11 and 16 digits.</p> <p>The system only checks the last 10 digits so that calls coming in from abroad with other leading digits will be understood. This facility</p>

Heading	Use
	only works with lock 1.
Start Date	The date that the key will start working.
Expiry Date	The date that the key will stop working.
Time profile	The time profile this user is allocated to. See page 16 for further information.
PIN	4 digit numeric PIN for systems fitted with a keypad at the entrance panel – see Pin Active
Pin Active	Only switched on when a user has to present a fob and type a PIN to activate the lock. Confusingly this is not used for PIN only users.
Active	Turn on/off this user.
R1-R4	Turn on/off which readers that this user can use.

Readers/Locks



Use the Edit button to change the settings.

RFID reader

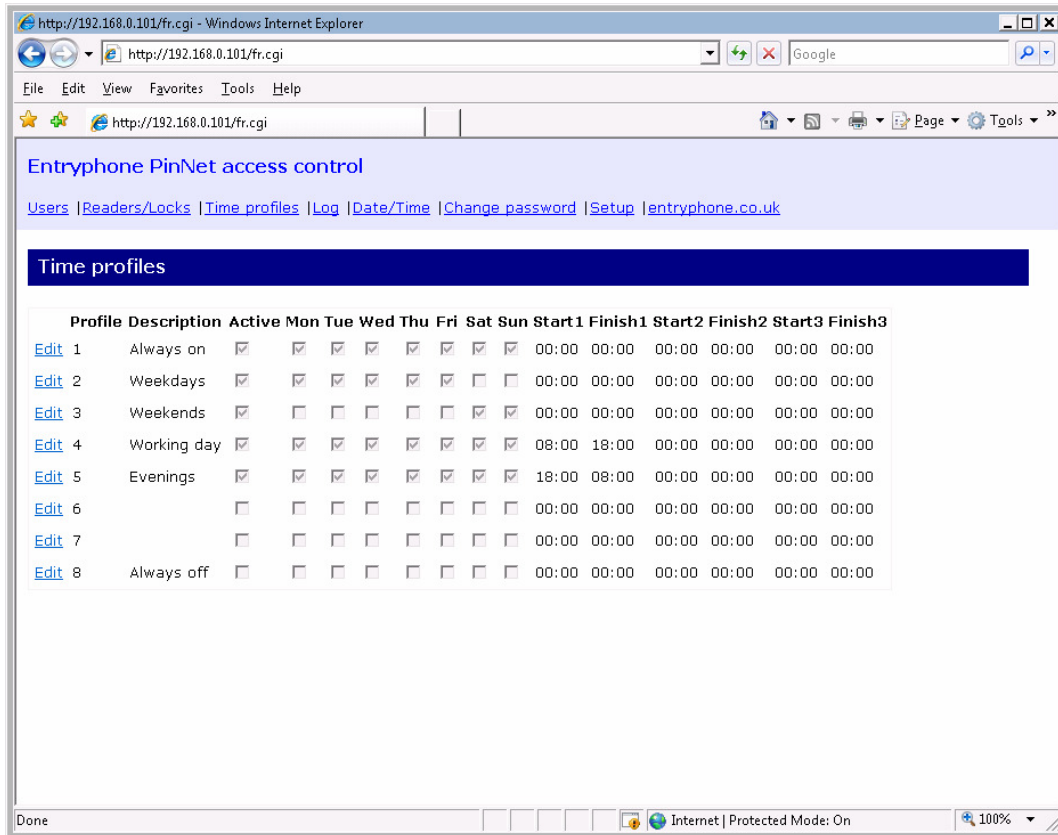
Reader	Non editable. Represents the four readers that can be attached to the PinNet board.
Profile (Time Profile)	A reader/lock combination can be associated with a particular time profile. For example a reader/lock can be set to not operate regardless of how an individual's fob settings are configured.
Lock	Which reader operates which lock. For example, two readers could be used to operate the same lock.
Seconds (0-10 secs)	Number of seconds the lock is released for. Set to 0 to turn off the lock.

Request to exit

Number of seconds the lock is released for on **Request to exit**. Set to 0 to switch off the **Request to exit** facility.

Time profiles

Factory set Time profile defaults:

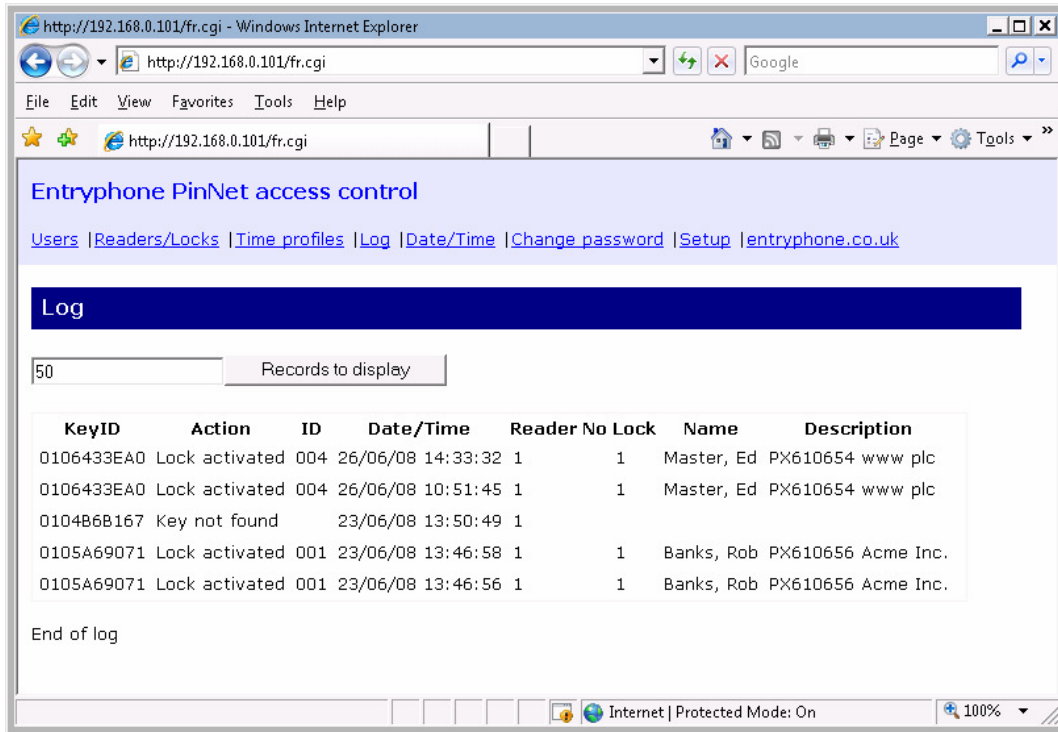


Each user is allocated to a time profile. The time profiles override the settings for a user. For example if a user is set to Time Profile 1 and Time profile 1 is set to operate the lock on Saturday and Sunday between 08:00 and 10:00, then regardless of the users setup they will only be able to operate the lock within these settings.

Profile	The system is permanently set with 8 time profiles
Description	Describes use of the time profile
Active	Turning off the active tick will prevent the lock from releasing
Mon - Fri	Can turn on and off individual days
Start , Finish – 3 sets	Can set three sets of Start/Finish times. For example a time profile could be used to operate only in working hours. Set both the start and finish time to 00:00 for no time restriction.

Log

An example log:



Heading	Meaning
KeyID	The internal number stored on the RFID key or telephone number used to activate the lock.
Action	See table on page 18
ID	The memory position of the user. This is used for maintenance diagnosis.
Date/Time	The date and time the action took place. The date/time may be configured in the Date/Time screen accessible from the menu.
Reader No	The reader that the fob was presented to.
Lock	The lock number that was released.
Name & Description	As a key is presented to a reader the name and description is copied from the user settings to the log. Should the name or description of the user be changed it will not back date those changes in the log, thus preserving how the key was set up at the point at which it is presented to the reader.

Activity log – action column

The following items are recorded in the activity log showing in the **Action** column:

Log message	Description	Facility
RTE	Request to exit activated lock	Request to exit button
Key not found	No such key programmed into system.	Presenting a fob to a reader
Key inactive	User set to inactive	Presenting a fob to a reader
Before start date	Specific to a user	Presenting a fob to a reader
After expiry date	Specific to a user	Presenting a fob to a reader
Invalid PIN	No such PIN programmed into system.	Typing a PIN
Invalid reader	Reader (R1-4) set to inactive in the users screen.	Presenting a fob to a reader
User time profile inactive	Time profile set to inactive	Presenting a fob to a reader
Outside user time profile	Outside time settings set in Time profile screen	Presenting a fob to a reader
RFID time profile inactive		
Outside RFID time profile		
Lock activated	The lock relay activated	Presenting a fob to a reader
Lock test	Lock tests from Readers/Locks screen.	Web interface
Phone activated	Lock relay activated by phoning the system with a phone number listed in the users screen.	Modem
Phone not found	Phoning the system from a telephone not registered as a user, or the telephone set to disable caller id.	Modem
Phone not active	Phoning the system from a legitimate phone but the user set to inactive.	Modem

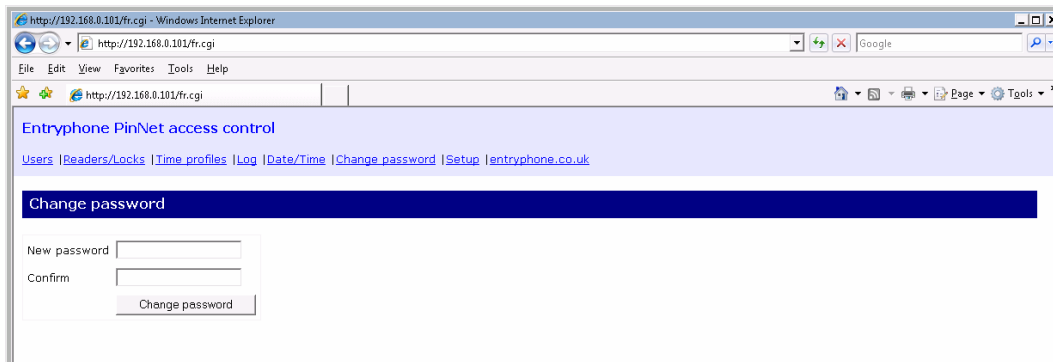
Date/Time

The date and time screen is designed to allow for synchronisation with a PC. Click '**Synchronise to PC Time**' to copy the browser date and time to the PinNet controller.

Day light saving

The date and time on the unit will automatically change for British summer time twice a year. The clock will go forward by 1 hour on the last Sunday of March at midnight (GMT), and back 1 hour on the last Sunday of October at midnight (GMT).

Change password



The screenshot shows a web browser window displaying the 'Entryphone PinNet access control' interface. The page title is 'Entryphone PinNet access control' and the URL is 'http://192.168.0.101/fr.cgi'. The page contains a navigation menu with links for 'Users', 'Readers/Locks', 'Time profiles', 'Log', 'Date/Time', 'Change password', and 'Setup'. The 'Change password' section is highlighted with a blue header. Below the header, there are two input fields labeled 'New password' and 'Confirm', and a 'Change password' button.

Type the new password into the two boxes shown above. You do not need to know the old password to use this screen.

Setup

Entryphone PinNet access control

[Users](#) | [Readers/Locks](#) | [Time profiles](#) | [Log](#) | [Date/Time](#) | [Change password](#) | [Setup](#) | [entryphone.co.uk](#)

IP Setup

Link J1 for DHCP:Port80 - leave open to use settings below - Reset after changing details

IP Address	<input type="text" value="192.168.0.254"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.0.1"/>
Port Number	<input type="text" value="80"/>
<input type="button" value="Update"/>	

Communications setup - requires modem

[Signal Quality](#)

Detected at: Mon 18 Oct 2010 16:44:12

Signal Strength 0-31 (99 not detectable):
Channel bit error rate 0-7 (99 not detectable):

Contents of communications buffer

Hardware reset

Warning - activation of this command will suspend normal operation for a second or two

[Reboot](#)

IP Setup

The IP settings above are used only if J12 (not J1 as shown on the screen above), also marked '**Link to enable DHCP**' is not linked.

Signal quality: The signal quality from the GSM modem. Displays the result as x,y where x is the error rate and should be conventionally 0 if there is no error and y is the signal strength ranging from 0 to 15, where 0 is no signal. The x,y is shown in the **contents of communication buffer**.

Hardware Reset: Performs a reboot of the PinNet board. Suspend normal operation for approximately 2 seconds.
The **Contents of the communication buffer** and the **Contents of the ring buffer** both record the communication between the PinNet and the GSM modem.