

GT10L Terminal User Guide



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**Important Note:**

Menus and options will vary depending on the hardware options supplied and software version installed. Please refer to additional instructions supplied with your terminal for additional information.



About the GT10L Terminal

The GT series of data collection terminals has been designed for various applications including Time and Attendance in both the commercial and retail sectors, where low cost, flexibility and ease of installation are essential factors.

The terminal incorporates a flexible, modular hardware design which supports different reader technologies such as biometric, proximity, barcode and magnetic as well as enabling power supplies and ancillary input/output modules to be easily added.

The GT series of terminals run an advanced Linux operating system offering unsurpassed functionality with flexibility giving a rich user experience for data collection solutions.

The ability to manage the software after deployment is incorporated as a fundamental function of the system. Everything from a complete operating system flash image update to a change in application program parameters can be downloaded over the Internet or uploaded via USB memory stick.

About this Guide

This GT10L user guide is intended for users who will be responsible for installing and configuring the GT10L terminal. It is aimed at users who need to understand how to configure the terminal, remotely connect to the terminal and how to install applications onto the terminal.

Related Documents

You should also refer to the following documents, available from Grosvenor Technology.

- The GT10/L installation guide describing the hardware connections
- AssistIT User Guide explaining how to use the AssistIT service for remote support

Technical Support

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Hardware Specification

Display

- 10 inch full colour capacitive multi-touch display with toughened glass for use in high traffic environments
- 16:9 aspect ratio, 1280 x 800 pixel resolution

Processor

- Industrial specification ARM Cortex A9 Quad Core 800MHz

Operating System

- Linux

I/O

A choice of optional input/output accessories are available, including:

- Contactless smartcard readers: Mifare, iClass SE
- Proximity card readers: supports a full range of reader types, including HID Prox 125kHz
- Magnetic stripe card reader
- Barcode card reader or external USB scanner: multi-format
- Fingerprint scanner: Lumidigm M series, Suprema*
- 6 internal USB 2.0 ports
- Camera and microphone
- Speakers

Memory

- 2GB RAM

Internal Persistent Storage

- 8GB high performance flash storage
- SD, SDHC and SDXC compatible card slot

Host Connectivity

- Ethernet: 10/100/1000
- Wi-Fi: Intel dual band, dual stream 802.11ac (optional)

Power

- 12VDC $\pm 5\%$
- Power over Ethernet 802.3at / 802.3af (optional)
- Internal lithium ion battery backup, up to 2 hours



Operating Temperature

- 0°C - 45°C (32°F to 113°F)

Plug and Play Deployment

- Fast easy installation
- Easy to fit reader modules and peripherals

Integration

- Software Developers Kit available

Sound

- 2x Integrated speakers
- Integrated Microphone

Camera

- 5 mega-pixel, wide angle; supports photo and video

Physical Security

- Lockable case

Certifications

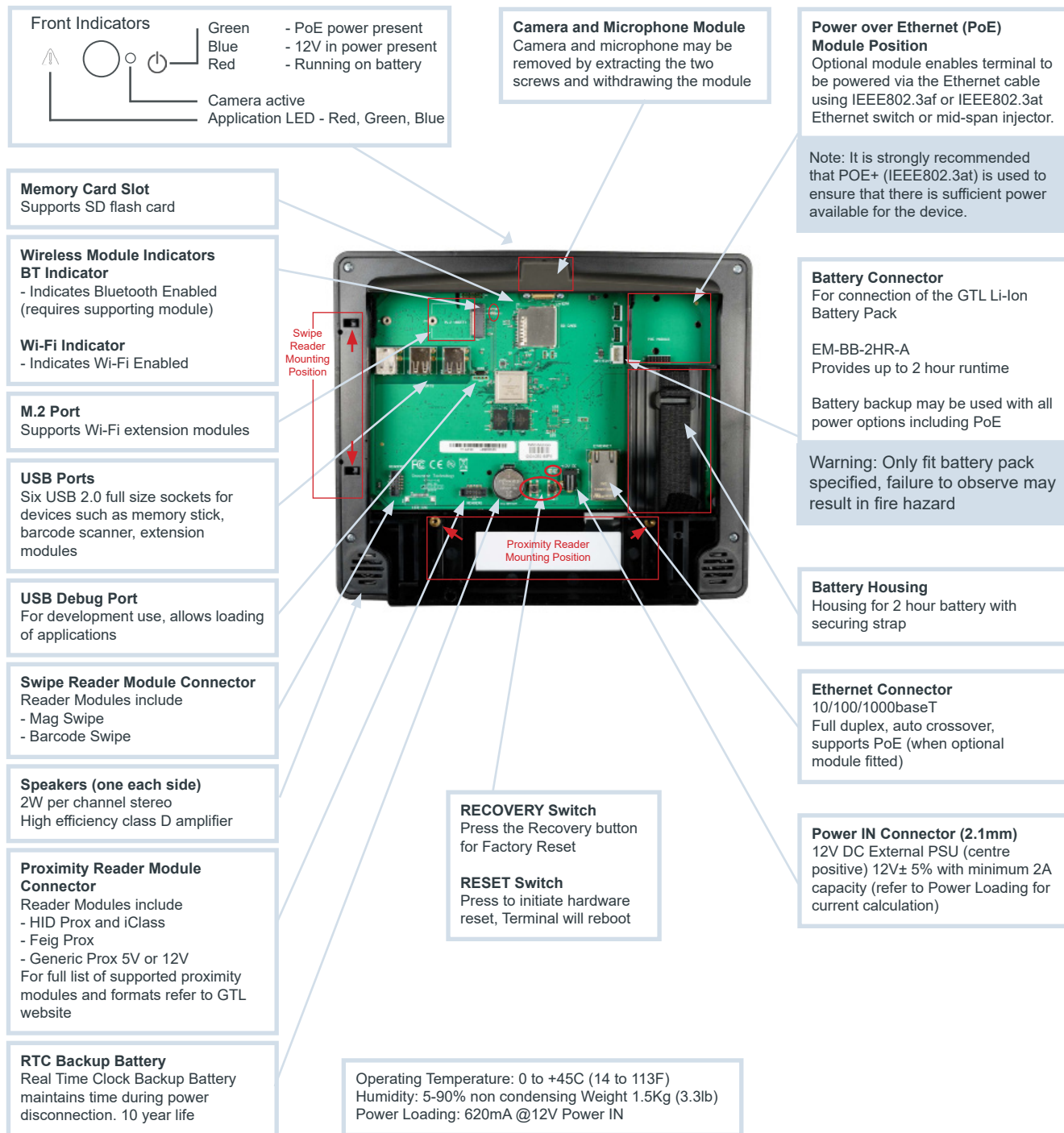
- CE, FCC (Part 15 Class B)

Dimensions (HxWxD)

- 230mm x 275mm x 96mm (9.1 inches x 10.8 inches x 3.8 inches)
- Height with optional biometric reader: 300mm / 11.8 inches
- Width with optional swipe card reader: 295mm / 11.6 inches



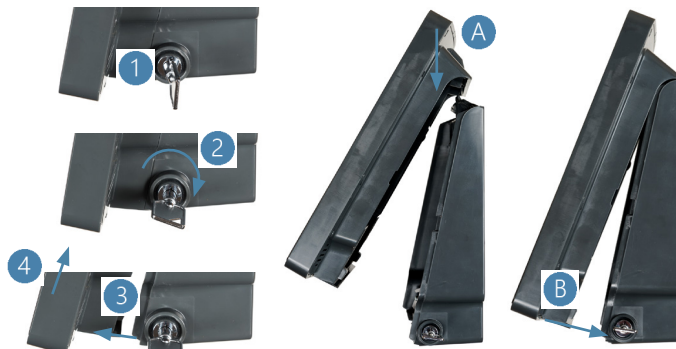
Hardware Specification





Opening and fitting Front Panel to Back Panel

1. Insert the key
2. While pressing the key in rotate clockwise
3. Front panel bottom can now be pulled forward
4. When separated, lift front panel to remove



Note:
Key cannot
be removed
in the
unlocked
position



The GT10L Terminal can be customised by fitting a range of option modules.

Internal Proximity Reader Modules

For reading credentials including cards and tags

■ HID 125KHz Reader Module	RM-HID-IT/RS
■ HID iCLASS Reader Module	RM-ICLSE-IT/RS
■ KERI Reader Module	RM-KERI-IT/RS
■ FEIG 125KHz Reader Module	RM-FEIG-FC-IT/RS
■ INDALA Reader Module	RM-IND-IT/RS
■ Reader Adapter Module 12V	RMK-12VPRX-IT/RS
■ Reader Adapter Module 5V	RMK-5VPRX-IT/RS

Card Swipe Reader Modules

■ Barcode Reader Module	RM-BAR-A
■ Magnetic Stripe Reader Module	RM-MAG-A

Biometric Modules

- RM-LUM-M320-A



- Operating System Linux
- Remotely upgradeable/configurable



Before starting the installation consider

- Which power option is to be used - as this may influence cabling requirements, vicinity to power outlets and accessory modules required (refer to “[Power Options](#)” on page 14)
- The environment the GT10L will be installed into – if the GT10L is to be installed into outdoor, wet, harsh or extreme environment then the AE-ENC-EP-GT10 environmental protection enclosure should be used to protect the GT10L.

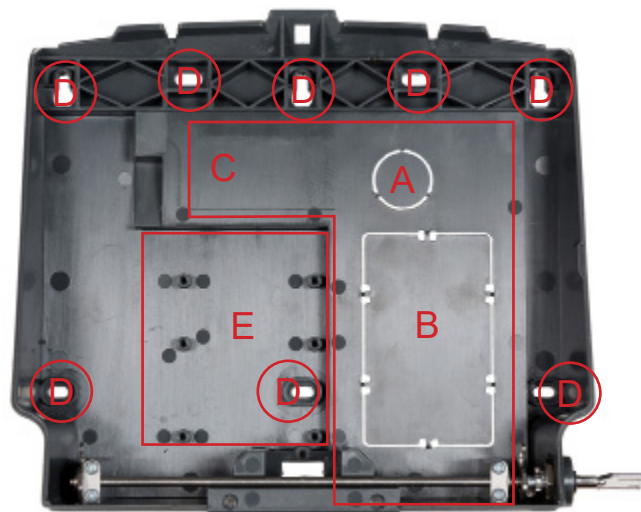
Fitting the Terminal

Location:

The Terminal should be fixed to a flat surface at a height that is comfortable for users to view and interact with the screen without glare from reflections and in a suitable level of ambient light. Take care to adhere to any local regulations such as disabled access when determining the height of the unit.

Secure to a Vertical Surface:

- Before mounting the back panel first fit any Biometric Reader options as these need access from the rear of the unit.
- Bring in any cables through snip-out apertures (A or B). Cables may be routed within the cabling cavity between the back panel and mounting surface (C).
- For installations in the USA the unit may be mounted over a power outlet with PSU (wall wart) inside the case. For this type of installation snip-out the large aperture (B)
- Fix the back panel to a flat vertical surface at a height that will be comfortable for users to see and touch the screen observing any national regulations. Use suitable screws through any of the fixing points (D) circled to firmly secure the device taking care to not over-tighten the screws or distort the case.
- Expansion Modules e.g. EM-IO-USB-IT may be fitted in the area (E)





AC 110-240V via Adapter

The Terminal can be powered from an AC power outlet using an optional plug-top or wall wart power supply. Adapters include

- AE-PSU-PT-12VDC universal adapter with UK, Europe, Australia and US interchangeable AC plugs
- AE-PSU-NA-12VDC adapter with US AC plug

Where national codes of practice permit the PSU may be fitted inside the housing.



DC 12V

The Terminal can be powered from a suitable 12Vdc power supply with 2.1mm DC plug centre positive connected to the '+12V DC' power in jack.

The supply should have a stabilised voltage output of 12VDC $\pm 5\%$ with minimum 2A capacity. The power supply should incorporate suitable overload protection.

The GT10L power indicator will show blue when power is supplied via the 12V power jack either with direct DC connection or with ac power adapter.

Power over Ethernet PoE

By fitting optional module CM-POE-HC-IT the GT10L may be powered via the Ethernet cable with suitable upstream PoE switch or injector. Supported standards

- IEEE 802.3af (PoE) injector provides Terminal with 1000mA @12V
- IEEE 802.3at (PoE+) injector provides Terminal with 2000mA @12V

When the GT10L is running from PoE the power indicator on the front of the Terminal will show green.

Note: It is strongly recommended that POE+ (IEEE802.3at) is used to ensure that there is sufficient power available for the device.



Battery Backup

The GT10L includes a backup battery to power the terminal should the normal power supply fail. The standard battery pack is **EM-BB-2HR-A** which provides up to 2-hours runtime.

The Terminal will continue to run when power is removed until the battery charge level reaches its lower threshold. The terminal may be shut down prior to battery exhaustion by using the 'Shutdown' option accessible through the launcher.

Once shutdown the Terminal will remain off until power is restored. When in the shutdown state there is very little draw on the battery and it can remain in this state for extended periods.

For optimum battery life it is recommended that the battery is charged a minimum of every six months if the unit is in shutdown for prolonged periods by applying power to the Terminal.

Charging of the EM-BB-2HR-A battery pack is managed by the GT10L and depending on power source typical recharge time from 0% to 100% will range from 3 hours to 12 hours. Charging times will be extended in elevated ambient temperatures to protect the battery.

When the GT10L is running from battery the power indicator on the front of the Terminal will show red.



The EM-BB-2HR-A battery pack comprises a rechargeable li-ion battery along with protection circuitry to prevent safety hazards caused by overload, over-charging or over-discharge.

WARNING - ONLY FIT BATTERY PACK SPECIFIED, FAILURE TO OBSERVE MAY RESULT IN FIRE HAZARD

A battery service life of 5-years is possible, although this can be affected by a number of factors, including: a prolonged period of storage prior to use, the number of charge/discharge cycles, and the battery operating/charging temperature. Grosvenor Technology recommend that batteries are inspected regularly for any signs of swelling which may indicate the battery has reached its useful life expectancy and should be replaced. We recommend that batteries are replaced every 3-years as regular maintenance and to ensure hassle free operation and a visual inspection of every battery at least once annually [as a minimum]. It is also recommended that hardware should utilise the latest firmware available as this may also contain the ability to improve battery performance.

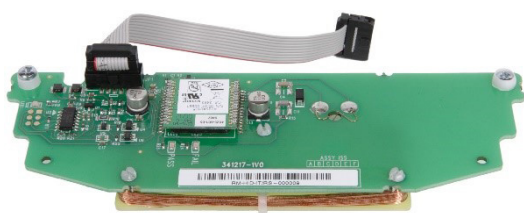


Installing Option Modules

Front Panel Fitted Options:

When fitting any option modules prepare the Terminal by removing the front panel and placing it face down on a clean flat surface that will not scratch the glass front.

Fitting Internal Proximity Reader Modules



Internal proximity reader modules fit in the position shown below and are secured using the two screws supplied with the module.



1. Connect the reader module ribbon cable to the GT10L READER 1 connector observing polarity indicated by keyway
2. Fix screws in module to threaded bushes in front panel with cable tucked under module
3. Tighten screws until module is firmly fixed but take care to not over tighten



Installing Option Modules



Fitting Card Swipe Reader Modules



- Barcode Reader Module RM-BAR-A
- Magnetic Stripe Reader Module RM-MAG-A

The fitting position for a swipe module is indicated by the box below.



1. Insert the tabs on the reader module into the front panel pressing down until the tabs are fully inserted then slide the module so there is no gap between the side of the module and the front panel bezel
2. Screw down the two fixing screws to secure the module. Screw tension should be sufficient to hold module firmly but avoid over tightening
3. Connect module by fitting the ribbon cable connector to the Front Panel observing polarising bump position



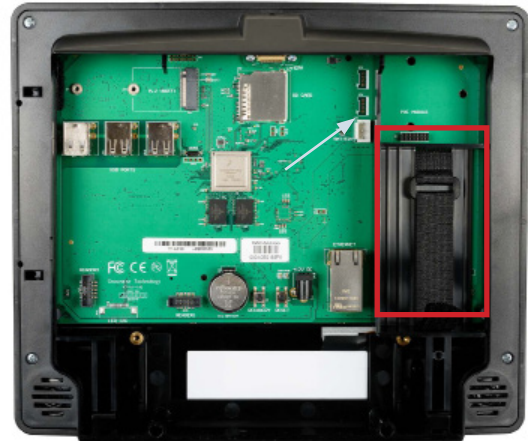


Installing Option Modules

Replacing the Battery Pack

Part no: EM-BB-2HR-A

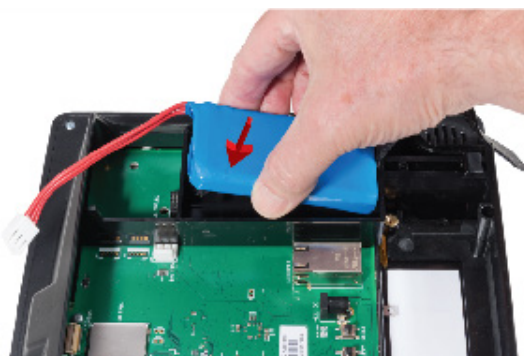
The battery pack fits into the compartment outlined below and connects to the BATTERY connector arrowed.



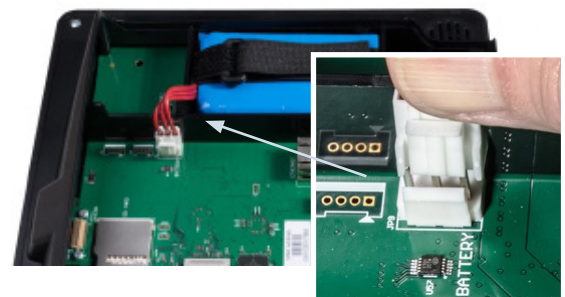
1. To remove the old battery, disconnect the cable by squeezing the tab on the connector before pulling.
2. Release the hook and loop strap then withdraw the battery.
4. Loop the strap through the eye and pull the strap then secure the hook and loop. The strap should be a loose fit around the battery to allow for some expansion.



3. Fit the battery pack into the compartment



5. With the battery secured the battery cable can be connected observing polarisation on the connector



Note: Connecting the battery pack will not power-up the unit immediately even if it is fully charged. Battery backup will be enabled when power has been applied to the unit.

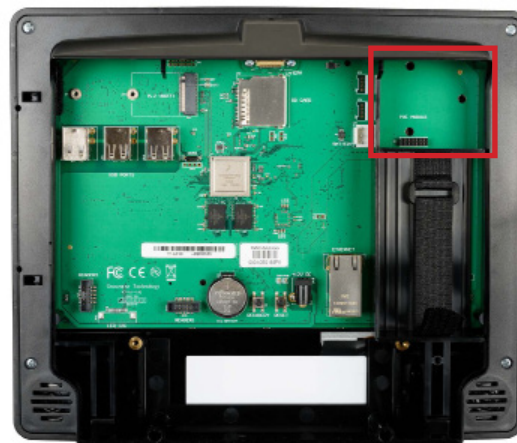
Installing Option Modules



Fitting the Power Over Ethernet Module

Part no: CM-POE-HC-IT

The fitting position for the PoE module is indicated by the box shown.



1. Manoeuvre the module into position as shown
2. Press the module down until it clicks into place on the three mounting pillars



Removing the PoE Module

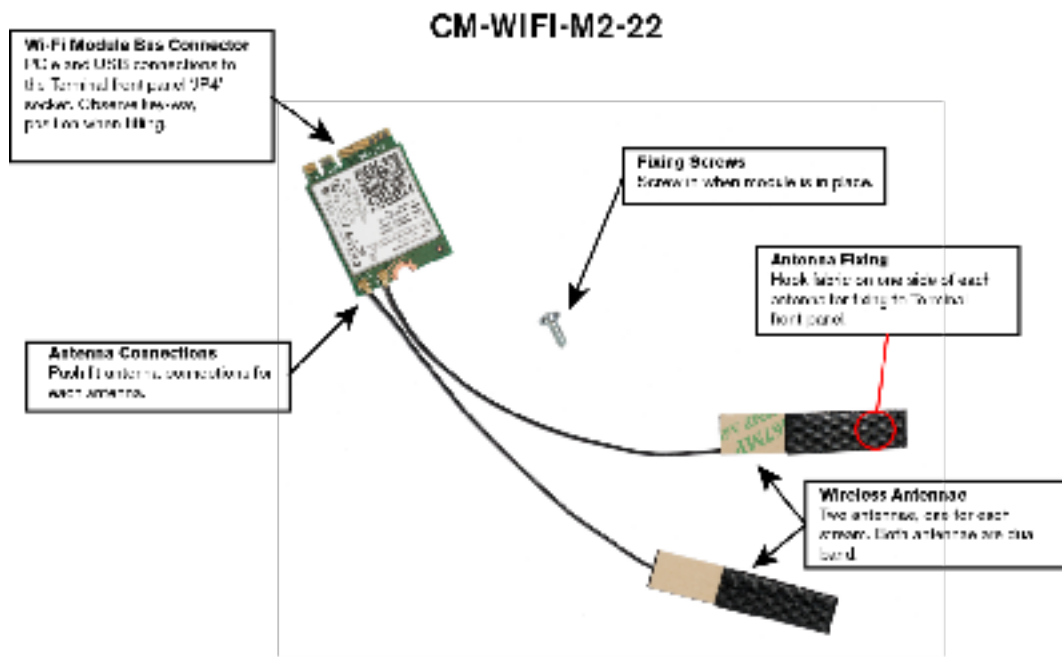
- Use a flat blade screwdriver to lever the module as shown to release the top fixing
- Reposition the screwdriver and fully release the module.



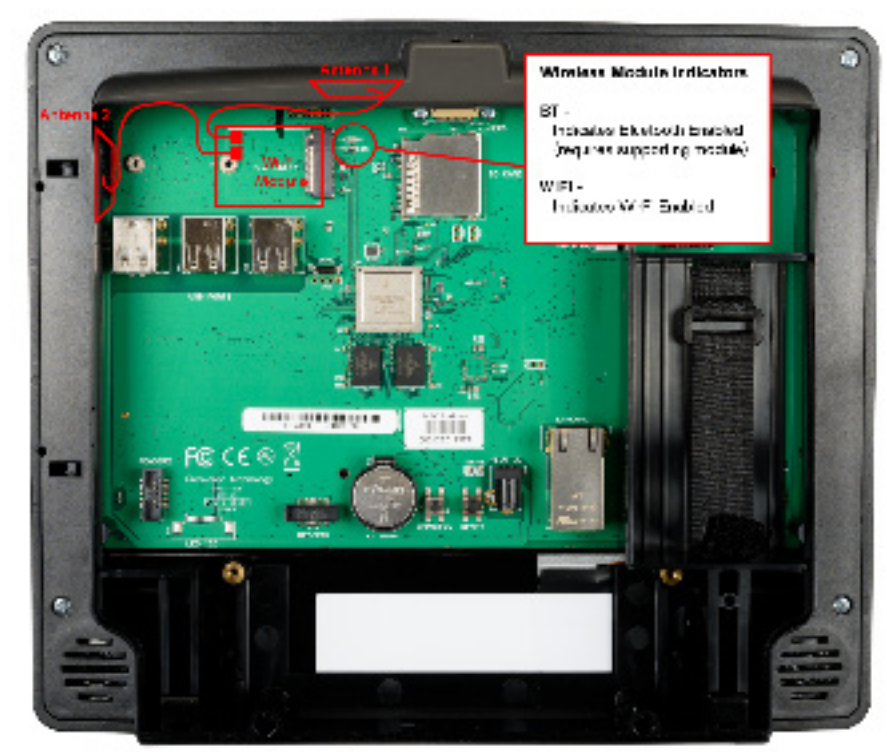


Installing Option Modules

Fitting the Wi-Fi Module



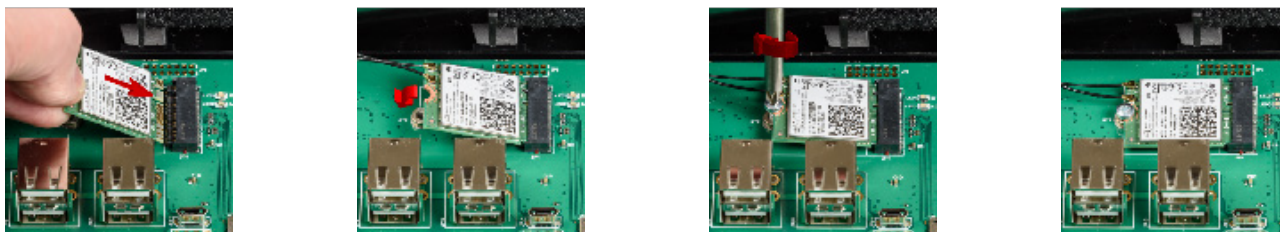
The fitting position for Wi-Fi module and antennae is illustrated below.



Installing Option Modules



Fit the module as illustrated below to socket JP4 and secure with screws.



Fit the two antennae to the case.

These are secured with loop and hook fastening, the loop part is fitted to the front panel during manufacture in the two antenna locations. The hook part is on the back of each antenna. Locate each antenna as shown below observing the orientation so that the hook fabric engages the loop fabric and apply light pressure to secure.

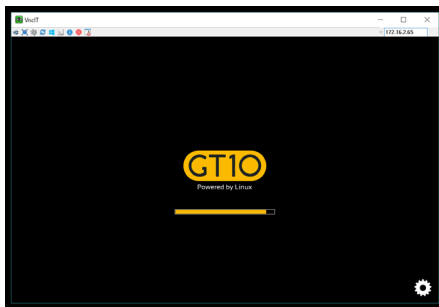




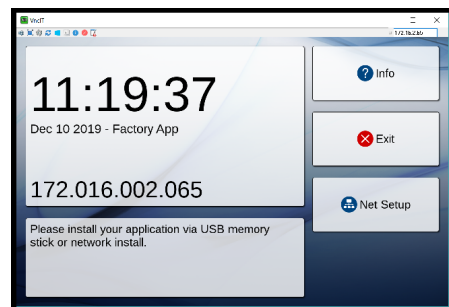
System Start-up

When the GT10L system is powered on, a bootloader runs which loads the Linux operating system. This runs start-up scripts to set up and configure the terminal and to start enabled services.

When an application is installed and once the unit is fully booted, the initial screen gives you the opportunity to enter the **Terminal Setup** by pressing the **Cog Icon** (bottom right of screen). If the cog icon is not pressed, the system times out and automatically runs the installed application. See below:



Press Cog Icon for Set-Up Menu



Factory App Launch Screen

If no application is installed, the terminal continually displays the prompt to enter the **Terminal Setup**.

With the **Factory App** installed, the following buttons are active from the launch screen:

- **Info**
Accesses Info pages on the Application, Firmware, Health and Network status.
- **Exit**
Exits the application momentarily, thus allowing the user to access the terminal's set-up menus for system configuration. See [“Terminal Setup” on page 23](#)
- **Net Setup**
Allows network download of an application by specifying ID and PIN. See [“Deploying a Terminal Using a Network Connection” on page 37](#)

The set-up menus allow the terminal configuration to be changed at the terminal.

Note: Once connectivity is achieved between the terminal and a remote computer, the terminal can be configured remotely either by downloading data using server software (such as Custom Exchange) or by using tools such as SSH and AssistIT. (See [“Remote Connections” on page 34](#))



Accessing the GT10L Terminal Setup

When accessing the terminal's set-up, you are prompted to enter a PIN before the set-up menus can be accessed:

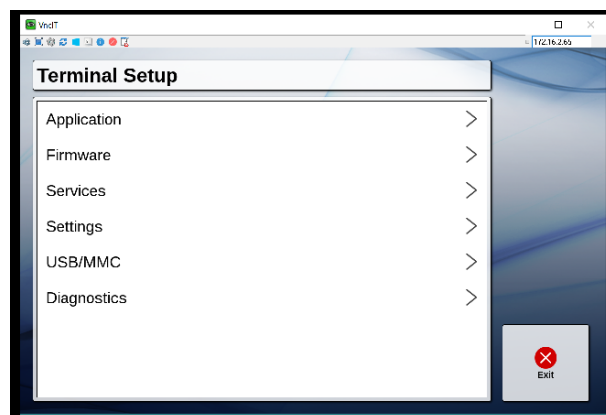
The available Terminal Setup menus are as follows:



PIN Entry Screen

The default PIN is 1905.

We strongly recommend that you change the default PIN (see [“The Terminal PIN”](#) on page 36 for details).

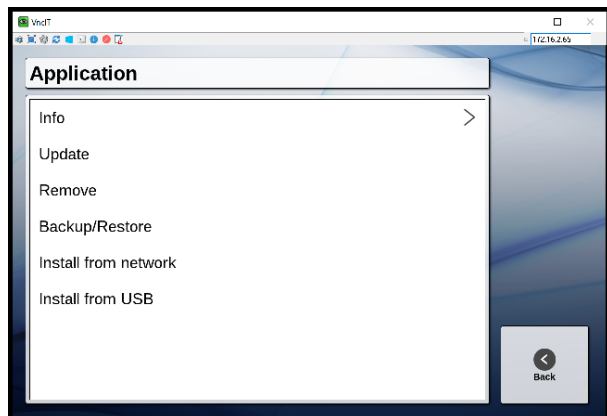


Terminal Setup Screen

- **Application** – used for managing the installed application. See [“Application Menu”](#) on page 24
- **Firmware** – used for managing the firmware properties. See [“Firmware Menu”](#) on page 25
- **Services** – used to enable and disable services on the terminal. See [“Services Menu”](#) on page 26
- **Settings** – used for configuring a variety of terminal properties. See [“Settings Menu”](#) on page 27
- **USB/MMC** – used to browse files via a USB connection. See [“USB Menu”](#) on page 32
- **Diagnostics** – used to run a variety of tests. See [“Diagnostics Menu”](#) on page 33



Application Menu



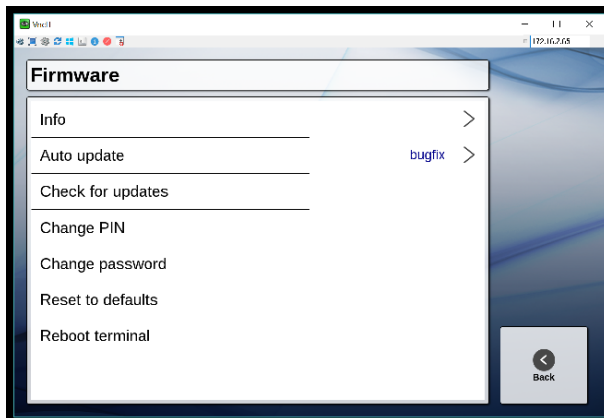
Application Menu

Options on the Application set-up menu are used to manage the installed application.

Info	<p>Select this option to display the currently configured application parameters:</p> <ul style="list-style-type: none"> ■ Name The name of the installed application ■ Version The version of the installed application. ■ URL The application's update URL, used to check and download newer versions of the application ■ Problem Report Indicates whether any crash reports exist following an application abnormal end
Update	The firmware checks for an application update immediately. If one is found, you are given the choice to update or not.
Remove	This permanently removes the installed application and its associated database from the terminal.
Backup / Restore	<p>Allows the application to be backed up to and restored from a USB memory stick.</p> <p>An Auto Backup feature allows a backup to be scheduled automatically. A specified number of these backups can be saved on the USB stick.</p>
Install from network	Install application from pre-configured network location.
Install from USB	Install application from USB memory stick.



Firmware Menu



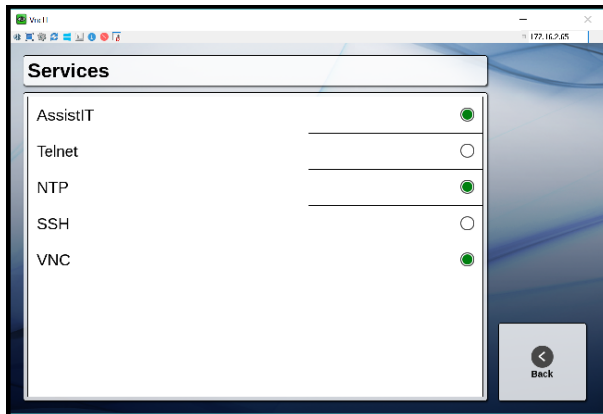
Firmware Screen

Options on the Firmware set-up menu are used to manage the terminal firmware.

Info	<p>Select this option to display firmware and terminal information:</p> <ul style="list-style-type: none"> ■ Firmware The current firmware version, e.g. IT3200.x.x.x1.0.0 ■ Build Date The current build date of the firmware ■ URL The firmware's update URL, used to check for newer firmware versions ■ Bootloader Bootloader version ■ MAC Terminal MAC address, e.g. 00:01:CE:01:08:BC ■ Part No Part/Serial No. detail of front panel assembly ■ PCB Revision PCB revision ■ HW Tested Date that terminal passed hardware test
Auto Update	Configure the timing and which update mode to use for updating the firmware. If a newer version of the firmware is found, it will be automatically downloaded and installed.
Check for updates	This forces the firmware to check immediately for a firmware update. If one is found you are given the option to update or not.
Change PIN	This allows you to set a new PIN. This PIN is entered before entering the set-up menus and also before running applications from the USB memory stick. You must first re-enter the old one.
Change password	The default password is the numeric part of the terminal serial number.
Reset to defaults	This removes the data (not the application) and resets the system settings back to the provisioned configuration.
Reboot terminal	This reboots the terminal.



Services Menu



Services Setup Screen

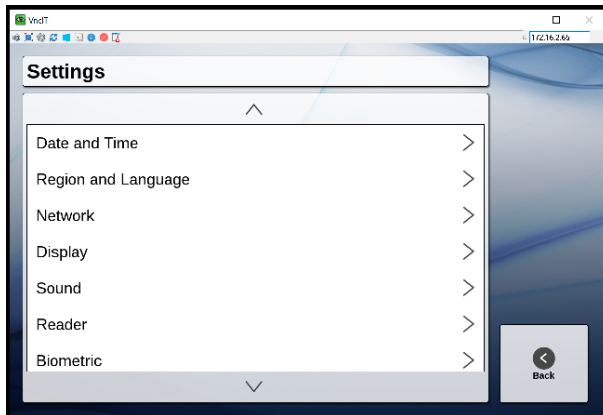
Options on the Services set-up menu can be used to enable or disable various services. You may require these if you are setting up remote connections. See [“Remote Connections” on page 34](#). Note that by default only NTP is enabled.

Note: Before enabling any service, consider any associated security risks, which will depend on the network the terminal is installed in.

AssistIT	Enable this for Grosvenor’s comprehensive remote support feature. The AssistIT service uses port 5222/TCP to connect to the server and port 7777/TCP for VNC, Shell and LogView data. For AssistIT to work fully, these ports must not be blocked.
Telnet	<p>Enable this to run a shell on the terminal from a remote computer. This needs to be enabled if the development environment is being used. The Telnet service listens on port 23/TCP.</p> <p>Telnet is not secure and should only be used for debug/development purposes and should not be left on.</p>
NTP	Enable this if the terminal is to acquire its time and date using the Network Time Protocol. If enabled, the terminal will try to connect to the default pool.ntp.org server on the Internet. The NTP service uses port 123/UDP to connect to the server. For NTP to work this port must not be blocked.
SSH	Enable this to run a Secure Shell on the terminal, which allows remote users to log in to the terminal’s shell securely. SSH provides a secure alternative to Telnet and does not transmit passwords in plain text. A SSH client program is required on the remote computer. The SSH service listens on port 22/TCP.
VNC	<p>Enable this if you wish to control the terminal from a remote computer. The remote computer will need to run a VNC client program, such as UltraVNC Viewer. Once connected, the display on the terminal can be viewed on the remote PC and the keypad on the terminal can be operated remotely. The VNC service listens on port 5900/TCP.</p> <p>VNC is not secure and should only be used for debug/development purposes and should not be left on.</p>



Settings Menu



Settings Setup Screen

Options on the Settings menu can be used to configure a variety of terminal settings.

Date and Time

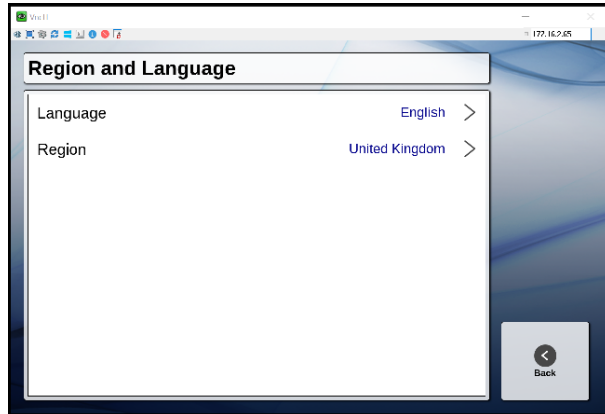
These values set the terminal's time, date and time zone:

Set Time	Enter the current time. It is recommended that NTP is used
Set Date	Enter the current date (dd/mm/yyyy)
Timezone	<p>Select the time zone the terminal is in. The following zones are supported:</p> <ul style="list-style-type: none">■ Africa■ America■ Asia■ Australia■ Europe■ Customized Use this option if a customised time zone needs to be created. Specify time zone using the uClibc TZ environment variable specified in the format: <code>stdoffset[dst[offset][,start[/time],end[/time]]]</code> For example, UK time is represented by: <code>WET+0WEST,M3.5.0/1,M10.5.0</code>
NTP Server	This lets you change the NTP server if required.

Note: For more information on the time zone format, see http://www.opengroup.org/onlinepubs/007904975/basedefs/xbd_chap08.html



Region and Language

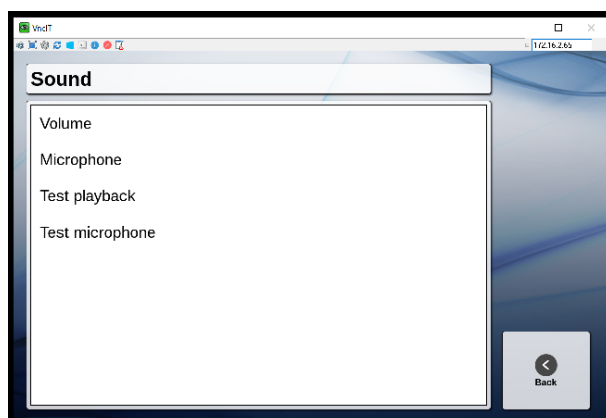


Region and Language Setup Screen

These values control the terminal's language and location. This information is used by the application to display translated text and show dates, times, numbers, etc. according the configured region:

Language	Languages that are supported include: Bulgarian, Chinese, Croatian, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian (Bokmål), Norwegian (Nynorsk), Polish, Portuguese, Russian, Slovak, Slovene, Spanish, Swedish, Turkish.
Region	The following regions/locales are supported: Austria, Belgium (Dutch), Belgium (French), Belgium (German), Bulgaria, Canada (English), Canada (French), China, Croatia, Czech Republic, Denmark, Finland (Finnish), Finland (Swedish), France, Germany, Greece, Hong Kong (Chinese), Hong Kong (English), Hungary, Ireland, Italy, Japan, Luxembourg (French), Luxembourg (German), Netherlands, Norway (Bokmål), Norway (Nynorsk), Poland, Portugal, Russia, Singapore (Chinese), Singapore (English), Slovakia, Slovenia, Spain, South Korea, Sweden, Switzerland (French), Switzerland (German), Switzerland (Italian), Taiwan, Turkey, United Kingdom, United States.

Sound



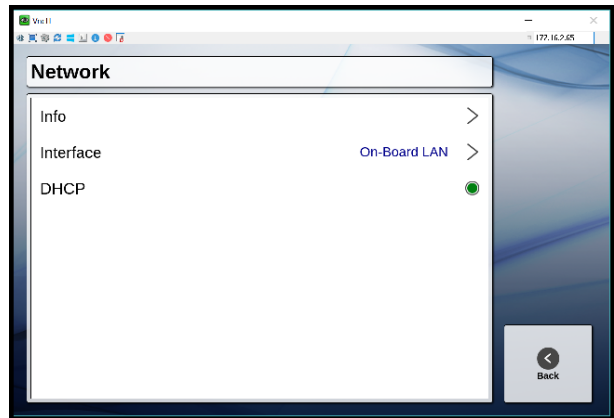
Sound Setup Screen

These settings change the default volume, test playback and microphone operation.

Volume	Adjust by using the left and right arrow keys
Microphone	Adjust by using the left and right arrow keys
Test playback	Select Play in this option to hear the tone at the current volume level
Test microphone	Check the microphone operation by recording a test message. Press F2 to record, stop and play message.



Network

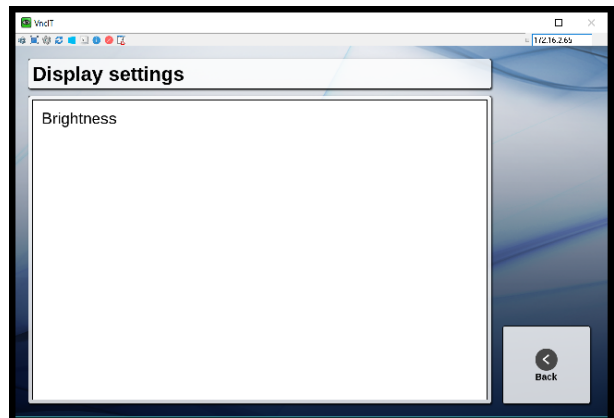


Network Setup Screen

These values configure the terminal's network settings:

Info	Selecting this option displays the current network settings. An example of the information provided is shown below:	
	<ul style="list-style-type: none">■ Interface: On-Board LAN■ Status: Connected■ Mode: DHCP■ MAC: 00:01:ce:01:d6:2a■ IP Address: 172.016.003.049	<ul style="list-style-type: none">■ Netmask : 255.255.252.000■ Gateway : 172.016.044.255■ DNS1 : 172.016.047.001■ DNS2 : 172.016.047.002
DHCP	<p>Select this if the terminal is to be dynamically supplied with an IP address from a DHCP server as opposed to having to enter a static IP address.</p> <p>For static IP, the following settings need to be configured:</p> <ul style="list-style-type: none">■ IP address■ Subnet mask■ Gateway address■ Primary and secondary DNS servers	

Display



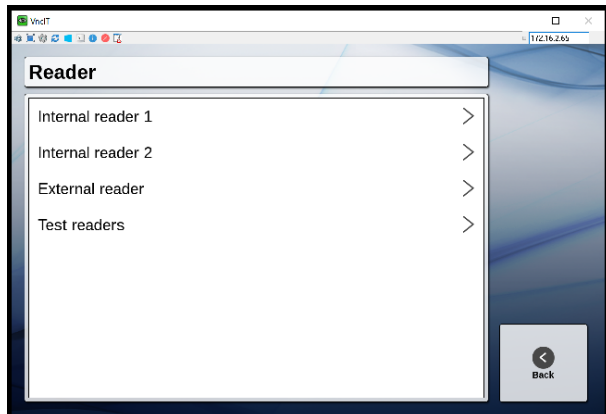
Display Setup Screen

This allows the brightness of the display to be changed.

Brightness	Adjust the brightness of display by using the left and right arrow keys.
------------	--



Reader



Reader Setup Screen

These settings configure the type of reader fitted and defines how data from the reader is decoded.

Internal Reader

Info

Details of the internal reader detected/configured.

Type

Select the type of reader from one of the following:
No Reader, Autodetect, Wiegand, Clkndata, Barcode, iClass, Mifare.

Proximity decoders

Currently supported data formats:

- Type 100 – CMP 26 bit
- Type 101 – CMP 37 bit
- Type 102 – 10304
- Type 103 – 8 – 32 Bit
- Type 104 – Corporate 1000

Mifare decoders

Currently supported data formats:

- Type 105 – Mifare 32 Bit CSN
- Type 106 – Mifare 56 Bit CSN
- Type 107 – Mifare UID
- Type 108 – Mifare CSN
- Type 109 – Mifare Application

Magnetic decoders

Currently supported data formats:

- Type 200 – Auto detect
- Type 201 – 5 Bit only
- Type 202 – 7 Bit only

Decoder

This determines how the terminal treats the data generated by the reader.

Barcode decoders

Currently supported symbologies:

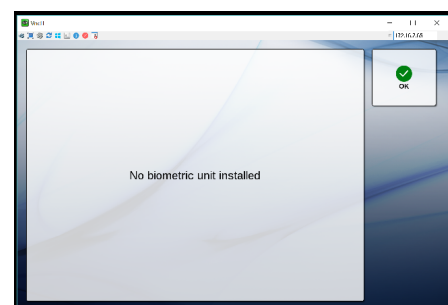
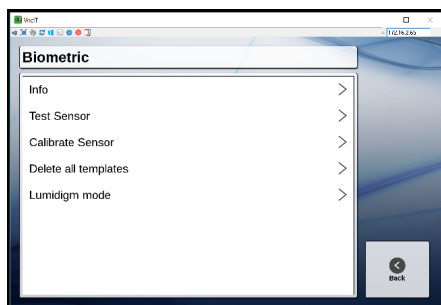
- Type 300 – Auto detect
- Type 301 – 3 of 9
- Type 302 – 2 of 5 interleaved
- Type 303 – Codabar
- Type 304 – Barcode 93
- Type 305 – Barcode 128
- Type 306 – UPC
- Type 307 - EAN

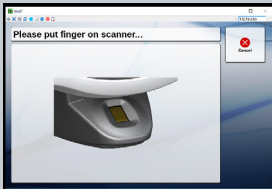
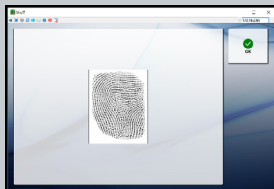


Internal reader	Special Decoders <ul style="list-style-type: none"> ■ Type 1 – Passthrough. This causes the data stream generated by the reader to be passed directly to the application as an ASCII bit stream. This allows the application to decode the data in situations where the reader encoding is not yet supported by the firmware. This option is also a useful tool for data format analysis. ■ Type 2 – Bitmask decoder. Enables a pre-defined bitmask to be applied to a reader data string that is of an unsupported format, in order to obtain the desired transponder number
External reader	Displays information on connected external readers.
Test reader	<p>This enables the configured reader to be tested. The user should swipe/present badge and the decoded data is displayed on the terminal's display, for example:</p> <ul style="list-style-type: none"> ■ #2 0004405100693 (2nd swipe same badge) ■ #1 0004405100693 (1st swipe of badge) is shown (bit length, decoder used, and so on)

Biometric

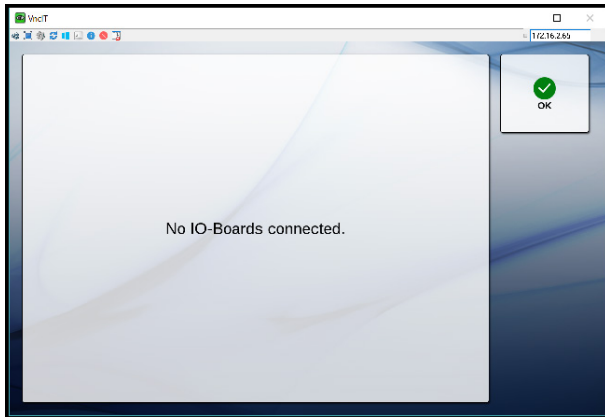
The terminal automatically detects whether a biometric reader is fitted. If detected then the following selections can be made, otherwise the message **No biometric unit installed** will appear.



Info	Module: Displays the model/firmware details of the biometric reader.
Test Sensor	<p>This prompts the user to place their finger on the reader. Once read, the user's template is shown on the display, for example:</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Note that this process does not enrol the user, but by displaying a representation of the fingerprint, it can be used to confirm that the reader is working correctly and is not damaged.</p>
Calibrate Sensor	This option allows recalibration of the biometric sensor and is normally only used following sensor replacement.
Delete all Templates	This option allows the user to permanently delete all templates in the biometric reader. Use this option with care!



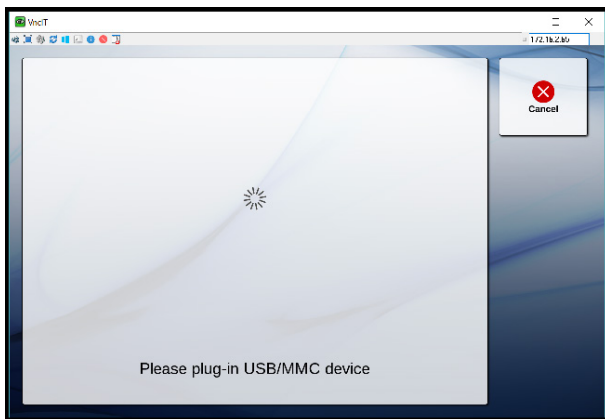
IO-Boards



Options will vary dependant on the IO board(s) fitted.

Please refer to relevant hardware guide for options.

USB Menu



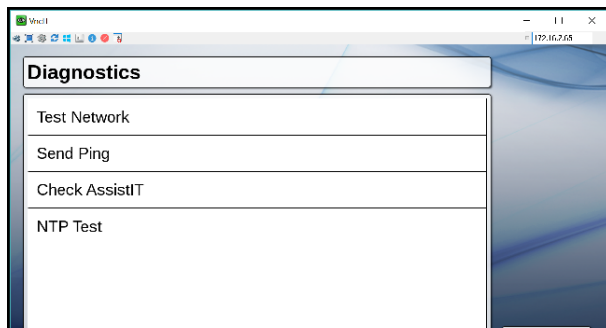
When you select this option and plug in a memory stick you will be presented with the following options:

- Install firmware image (IT3200-fw-*.bin)
- Install application (*.app)
- Restore backup (*.itbackup)

Please note that if an application installation package is detected, you will be given the option of installing.



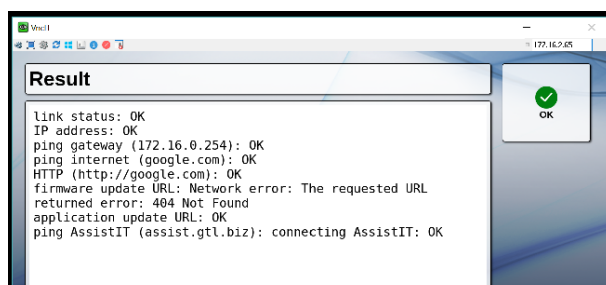
Diagnostics Menu



Diagnostics Menu

Options on this menu can be used to perform the following diagnostic functions:

Test Network

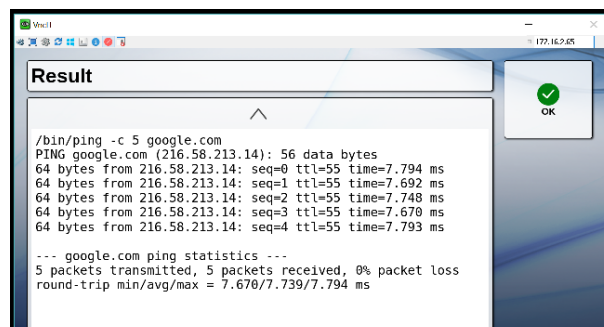
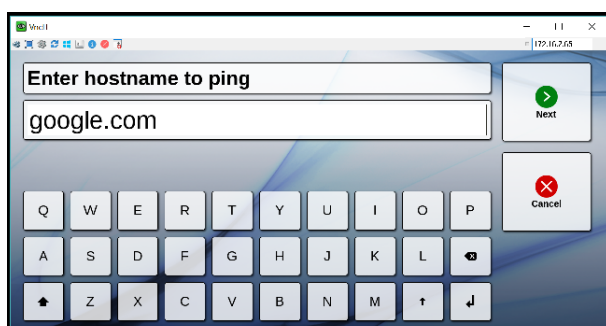


This option runs a number of network tests to check and displays the results

- Link status of Ethernet cable
- Gateway reachable (via ping)
- Gateway and Nameserver working by pinging Internet address (google.com)
- HTTP requests on port 80 working by connecting to http://google.com
- Firmware update URL working
- Application update URL working

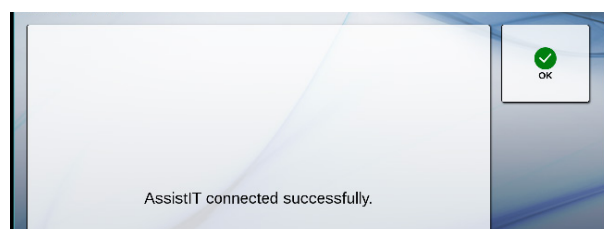
Send Ping

This option prompts you to **Enter a hostname to ping** and displays the results.



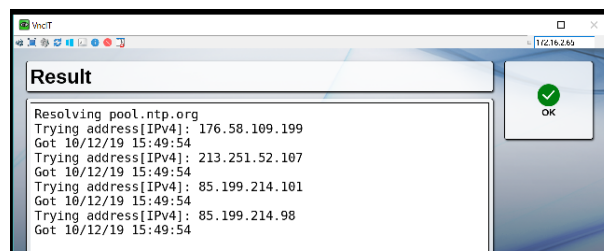
Check AssistIT

This option allows you to confirm whether AssistIT can connect successfully.



NTP Test

Tests the connection to the configured NTP server – the default timeserver cluster is **pool.ntp.org**





Remote Connections

The recommended method for remotely connecting to a command line shell in the terminal is to use SSH.

Using SSH

On Windows platforms the free program PuTTY can be used.

To connect, specify the IP address of the terminal e.g. 172.16.3.49 (Note: Omit any leading zeros). Once a connection has been initiated, you are prompted to log into the terminal and are prompted for a login name and a password.

Login: root
Password: 00000088 (for example)

The user name is root and the password is the numeric part of the terminal serial number located inside the terminal at the top of the motherboard.



We strongly recommend that you change the default password, see [“The Login Password”](#) on page 36.

Once you are logged in, shell commands can be run.

Note: The SSH service must be enabled as part of the terminal configuration. See [“Services Menu”](#) on page 26.

Using AssistIT

Enabling the AssistIT service allows the support representative to interrogate the terminal’s configuration, as well as access to other remote control services. Full instructions on how to use this feature can be found in the AssistIT User Manual.

Note: The AssistIT service must be enabled as part of the terminal configuration. See [“Services Menu”](#) on page 26.

Using Telnet

The log-in messages are the same as the SSH session.

Note: The Telnet service must be enabled as part of the terminal configuration. See [“Services Menu”](#) on page 26.

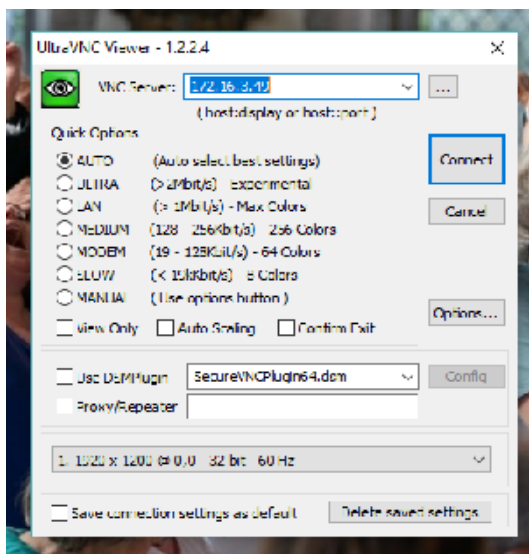
Using Telnet is not secure and not recommended.



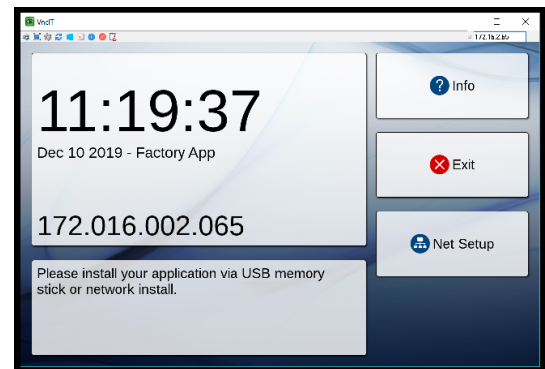
Using VNC

If the VNC service is enabled on the terminal it is possible to control the keyboard remotely by using a VNC Client viewer program on the remote computer.

The example below uses UltraVNC viewer to remotely control the terminal. The connection screen is as follows:



Once connected, the remote terminal's live display is shown in a window on the computer's desktop. The keyboard on the remote computer causes the same key to be pressed at the terminal.





Security and Passwords

The GT10L terminal uses three passwords, the PIN (Personal Identification Number), the remote Login password and the VNC password. This section explains their purpose and how you can change them.

The Terminal PIN

You need to enter the PIN at the terminal to access the set-up menus (see [“Accessing the GT10L Terminal Setup” on page 23](#)).

The factory default PIN is **1905**.

We strongly recommend that you change this as soon as possible to ensure security of the terminal.

There are two ways to change the PIN:

1. You can change it from the **Change PIN option** on the terminal's **Firmware** set-up menu. See [“Firmware Menu” on page 25](#). You must first enter the old one.
2. You can also change the PIN on the command line.
For example, to change the PIN to 12345, enter the following command:

```
$ cfgset -p it_cfgit_pin 12345
```

The Login Password

The terminal Login password is used by Telnet and SSH to log in into the system. It can be changed from the terminal's shell, for example using SSH or via the terminal settings.

By default the password is the numeric part of the terminal serial number.

We recommend that you change the password as soon as possible to ensure security of the terminal.

To change the password on the command line, enter a command of the following format:

```
$ cfgset -p it_login new_password
```

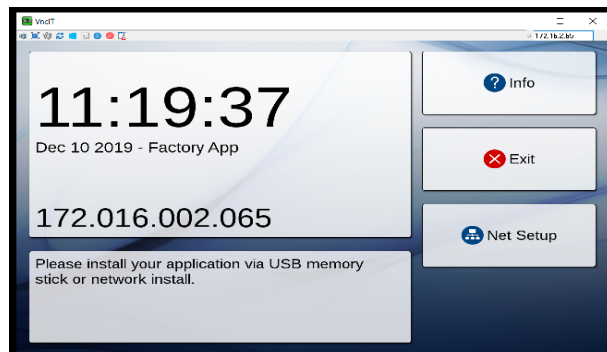
Reboot the terminal to activate the password.

Note: When using the **cfgset** command to save a new password or PIN, you must use the **-p** option as the terminal saves the password in an encrypted form. If the password is lost then it may result in the terminal being reset to its factory default state. In this case all user data on the terminal will be destroyed.



One of the strengths of the GT10L terminal is its ability to deploy an application using either a USB memory stick or a network connection.

The GT10L terminal comes with the FactoryApp application pre-installed, which makes it very easy to install and configure a terminal via USB or network.



Factory App

Deploying/Configuring Terminal with a USB Memory Stick

Installing and configuring a terminal via USB can be initiated from several menu options:

- **FactoryApp > USB Setup**
- **Terminal Setup > Application > Install from USB**
- **Terminal Setup > USB > Install Application**

To prepare a USB memory stick, you need to do the following:

- Create an **IT-Install** folder on the USB memory stick
- Copy your application file into the **IT-Install** folder
- Copy the firmware image file required into the folder (optional)

Note: You must ensure that there is only one application file and one firmware file per terminal type within the **IT-Install** folder.

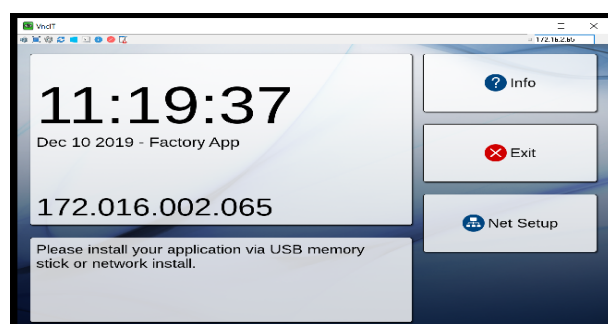
Some applications support loading a pre-configuration file as part of their wizard. Such file must be named **itcfg.xml** and saved to the **IT-Install** folder.

Deploying a Terminal Using a Network Connection

If the terminal is connected to the Internet, installing and configuring it via the network is the easiest method. This can be initiated from:

- **FactoryApp > Net Setup**
- **Terminal Setup > Application > Install from network**

The user is asked for an ID and a PIN. The terminal then connects to the Grosvenor Server and downloads the application, firmware and pre-configuration file for that ID.





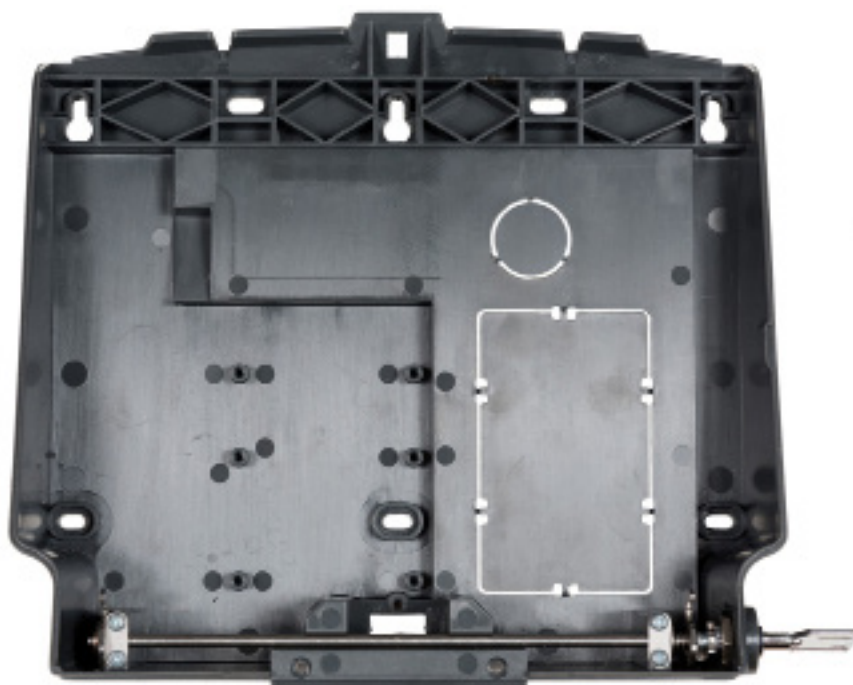
The tables below list some of the common modules that can be fitted to the GT10L terminal. For installation details, refer to the hardware Installation Guide provided with the module.

Main System Unit

Code Number	Description
FP-GT10L	GT10L front panel (processor board + display)

Designed for simple installation, Grosvenor terminals use a back panel with various mounting and cable entry possibilities to meet a wide range of installation situations.

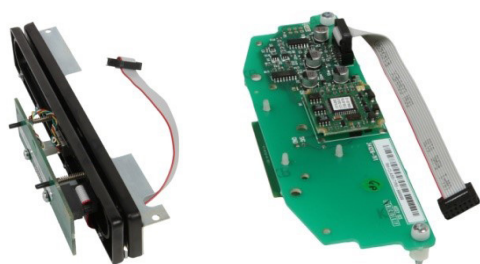
The back panel includes clip-in cable entry plates to allow secure installations without the need to remove or re-wire connectors.





Reader Modules (only popular assemblies listed)

Part Number	Description
RM-BAR-A	Infra-red barcode reader
RM-FEIG-FC-IT/RS	Feig reader (EM4100 - Fix Code)
RM-FEIG-HI-IT/RS	Feig reader (Hitag)
RM-HID-IT/RS	HID 125KHz prox reader
RM-HID-CD-IT/RS	HID 125KHz prox reader, clock and data output
RM-ICLASS-IT/RS	HID 13.56MHz iClass
RM-HON-IT	Honeywell reader module
RM-IND-IT/RS	Indala 125KHz prox reader
RM-IND-CD-IT/RS	Indala 125KHz prox reader, clock and data output
RM-KAN-IT/RS	Kantech reader module
RM-KERI-IT/RS	Keri/Pyramid prox reader
RM-LUM-M320-A	Lumidigm biometric finger reader module
RM-MAG-A	Mag stripe reader (Track 1 or Track 2)
RM-MIF-IT	Mifare reader module IT
RM-PAX-IT/RS	Paxton prox reader module
RMK-5VPRX-IT/RS	Generic 5V reader mounting plate
RMK-12VPRX-IT/RS	Generic 12V reader mounting plate





Communications Modules

Code Number	Description
CM-POE-HC-IT	Power over Ethernet Module
CM-WIFI-I-USB-IT	USB WI-FI Dongle (Internal)

The CM-POE-IT is an optional plug-in module to the GT10L Front Panel which enables the terminal to be powered via the Ethernet connection from a IEEE802.3af or IEEE802.at standard PoE switch.

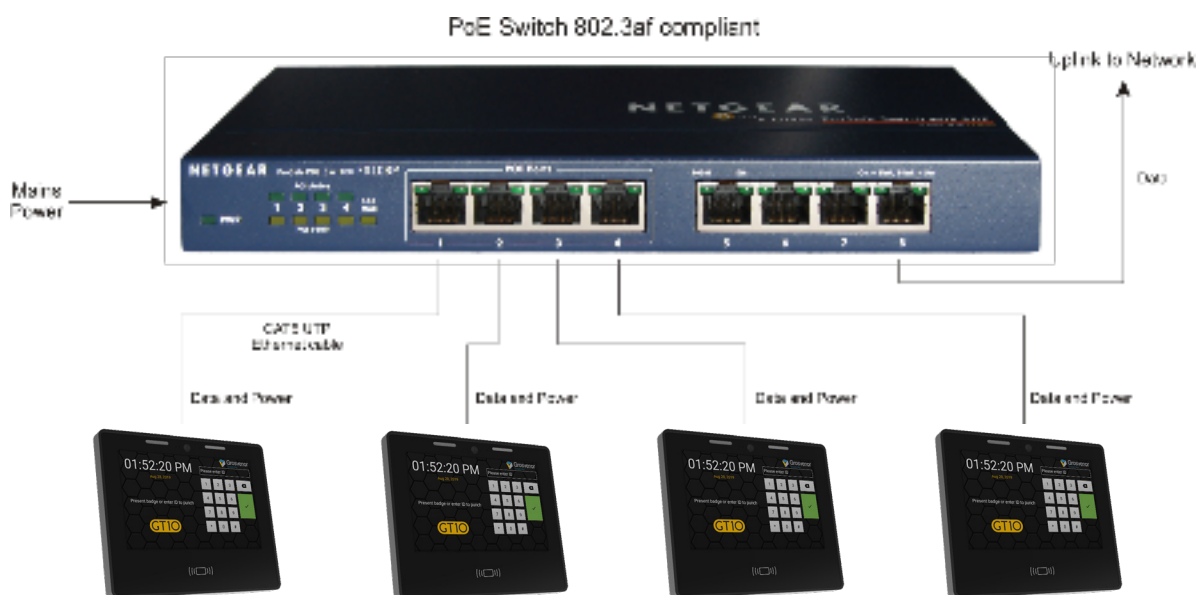
IT IS STRONGLY RECOMMENDED THAT WHEN POWERING THE TERMINAL FROM A POE SWITCH OR INJECTOR THAT THIS COMPLIES WITH IEEE802.3AT STANDARDS (POE+) TO ENSURE THAT THERE IS SUFFICIENT POWER AVAILABLE FOR THE TERMINAL AND ANY INSTALLED OPTIONS.



CM-WIFI-I-USB-IT



CM-POE-HC-IT





Expansion Modules

Code Number	Description
EM-BB-2HR-A	2 Hour Battery Backup module
EM-IO-USB-IT	USB I/O expansion module
EM-USB-IT	External USB expansion port
EM-IO-ER-IT	I/O Board external reader IT/GT

Ancillary Equipment

Code Number	Description
AE-INJ-POE-PHI01	POE injector with integral PSU
AE-PSU-PT-12VDC	12VDC plug top PSU
AE-PSU-WM-12VDC	12VDC wall mount PSU
AE-PSU-NA-12VDC	12VDC Plug top PSU, US



It is important to follow these instructions carefully in order to prolong the life of the unit.

Maintenance Instructions

The terminal may be cleaned as often as necessary with any proprietary computer screen cleaning material.

- Pre-impregnated micro-fibre cloths or tissues are preferable. If spray products are used, take care to avoid run-off and do not allow any liquid to enter the terminal case.
- For a smear-free finish, polish with a dry, clean, lint-free cloth.
- DO NOT use any other janitorial products, acids, solvents, polishes or abrasives.

As long as the care instructions for the GT10L are followed, there is no need for regular maintenance of the device (other than the battery).