



# **S3040 Installation Manual**

*Portable Reader Family*

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## Publication Date

16th October 2014

**Warning**

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

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Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Published by: -

Controlled Electronic Management Systems Limited

195 Airport Road West

Belfast

BT3 9ED

Northern Ireland

United Kingdom

Tel: +44 (0)28 9045 6767 / Fax: +44 (0)28 9045 4535

E-mail: [cem.sales@tycoint.com](mailto:cem.sales@tycoint.com)

Website: [www.cemsys.com](http://www.cemsys.com)

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# Chapter 1

## Introduction

The S3040 Portable Reader is the next generation hand-held card reading device, replacing the S3030 Portable Reader. Portable Readers are intended primarily to be used by a security guard at fixed temporary locations, especially where power may not be available, but may also be used in patrolling mode for random checks within predefined zones.

The security guard verifies that a cardholder is authorised to be at a given location and records their presence by swiping their card against the S3040 Portable Reader. The credentials are checked against a cardholder database and the reader displays the result of that check, to enable the security guard to take appropriate action.

The cardholder's photograph (if saved when the card was issued) will also be displayed on the screen to enable the security guard to visually check that the card holder is the card owner.



Figure 1 S3040 portable reader

## 1.1 Specification

Specification	Details
Dimensions	220 x 89 x 30mm
Weight	550g approx.
OS	Windows® embedded handheld 6.5
Storage and memory	512MB MDDR. 256MB NAND flash and 8GB iNAND.
Comms. to host	Encrypted database over: <ul style="list-style-type: none"> <li>• TCP/IP using 802.11b/g/n WiFi or</li> <li>• Cabled connection (Ethernet via Clarinet USB/Ethernet Hub)</li> </ul>
Power	<ul style="list-style-type: none"> <li>• AC charger (12V/2A, 100-240VAC; 50 / 60 Hz)</li> <li>• Li-Ion smart battery (5600mAh) up to 12 hours of battery life</li> <li>• Charging time: Sleep mode, approx. 3.5 Hrs.</li> <li>• LifeSupport™ battery swappable technology.</li> </ul>
Battery life	Up to 12 hours of continual usage.
Battery charging	12 hours for first charge. 3.5 hours for subsequent charges.
I/O Ports	<ul style="list-style-type: none"> <li>• Serial port (9-pin; D-sub) x 1</li> <li>• USB OTG (client 2.0 and host 2.0; 5-pin; type Mini AB) x 1</li> <li>• Speaker x 1</li> <li>• DC in Jack x 1</li> <li>• Docking connector (4-pin) x 1</li> </ul>
Database capacity	Encrypted Storage of up to 200,000 cardholders.
Read head options	Single multi-tech FlexiConn™ readhead.

Table 1: S3040 Specification sheet

Card Types	Card Part Codes
HID 125Khz Proximity Cards	RDR/304/001
13.56 MHz MiFare/DESFire CSN	RDR/304/005
iClass SE	RDR/304/008
Multi-smart read head	RDR/304/009

Table 2: Card types supported and associated part codes



## 1.2 S3040 Components



**Figure 2** Front components

Label	Feature	Feature Description
1	Mobile phone indicator	Not supported.
2	RF (radio frequency) indicator	Flashes to indicate wireless connection.
3	Charge/ notification indicator	<ul style="list-style-type: none"> <li>• Glows <b>amber</b> to indicate that battery charging is in progress</li> <li>• Glows <b>green</b> to indicate that battery is fully charged</li> <li>• Glows <b>red</b> to indicate that the battery power is critically low (less than 10%)</li> <li>• <b>Flashes red</b> to inform user of scheduled appointments, alarms and reminders</li> </ul>
4	Earpiece	Not supported.
5	Touchscreen	Displays the output of device and responds to tapping.
6	Keypad	Includes keys for numbers and specific functions.
7	Power button	Turns on or off the device.
8	Microphone	Not supported.

Table 3: Front components described



Figure 3 Rear components

Label	Feature	Feature Description
1	Stylus	Serves as the input device by tapping it on the touchscreen to make selections and enter information.
2	Camera lens	Not supported.
3	Peripheral cap	Contains the read head to enable access cards to be read and processed.
4	Camera flash	Not supported.
5	Upper hand strap support	The hand strap attaches here.
6	Speaker	Plays S3040 sounds.
7	Battery cover	Remove this to access the battery.
8	Lower hand strap support	The hand strap attaches here.

Table 4: Rear components described

## 1.3 Package Contents

A new S3040 Portable Reader typically will contain:

- PDA
- PDA accessories including:
  - Li ION Battery
  - Power Adapter (UK/EU AC charger - 24W; 12V/2A, 100-240VAC; 50 / 60 Hz)
  - Stylus
  - USB cable
- Peripheral Cap
- CEM read-head
- CEM labels
- Charging cradle

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**Note**

A carry case and hand strap for the unit are not included.

## 1.4 Charging the S3040

To charge the S3040 reader:

1. Fit the appropriate converter plug (region dependent) to the AC adapter.
2. Connect the DC jack end of the AC adapter to the rear of the S3040 docking cradle. There are only two connection ports on the docking cradle. One is the round AC adaptor port (the correct port for the DC jack end) and the other is a mini-USB port. (See Figure 4)



**Figure 4** Docking cradle charging port

3. Connect the plug end into a wall power outlet.
4. Set the S3040 unit into the docking cradle as shown in Figure 5.



**Figure 5** S3040 placed into docking cradle

5. Check that the charge notification indicator on the S3040 and on the docking cradle glows amber. This indicates that charging is in progress.

### Note

It is recommended that the user does not disconnect the S3040 from the docking cradle until the battery is fully charged. The user is notified of this by the amber indicator turning green. This will take 12 hours for the initial first charge and up to 3.5 hours for all subsequent charges.

### 1.4.1 S3040 battery performance

For optimal performance of the S3040 lithium battery, take note of the following:

- Charge the battery fully before using the S3040 for the first time
- The first charge of the S3040 should be for at least 12 hours and all subsequent charges should take up to 3.5 hours
- Battery life should be up to 12 hours with continual use
- Use only the included AC adapter/docking cradle to recharge the reader
- There is no need to fully discharge the battery before charging
- Do not charge the battery in high temperature conditions (e.g. in direct sunlight)
- As a protection against damage, your device stops charging when the battery's temperature is extremely high or low.
  - In high temperature conditions, the charging stops when the battery's temperature gets above 70°C (158°F) and continues when the temperature lowers to 60°C (140°F)
  - In low temperature conditions, the charging stops when the temperature gets below -5°C (23°F) and continues when the temperature rises to 0°C (32°F)
- Over-discharge of the battery can affect charging performance; therefore if the reader is not to be used for a long period of time, make arrangements to charge the battery at least once every two weeks
- If the S3040 is not set up to communicate with the AC2000 server (CDC0) wirelessly, make sure that WiFi is switched off (See Turning WiFi on and off on page 19), as the battery depletes more quickly when WiFi is activated.



#### Important

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When the battery is recharged upon a warning of low power, it should be charge for at least 30 minutes.

- Other important battery-related instructions:
  - Replace only with the same or equivalent type recommended by the manufacturer, as a risk of explosion exists if battery is replaced by an incorrect type
  - The battery must be recycled or disposed of properly, taking care not to mutilate, puncture, or dispose of battery in fire, as it can explode, releasing hazardous chemicals
  - Use the battery only in the specified equipment

### 1.4.2 Battery hot swapping

The S3040 device supports battery hot swap. This allows a depleted battery to be removed from the S3040 reader and replaced with a charged battery, without losing data from the reader. Perform the following steps to execute this task:

1. Remove the battery cover with the device power on. This will cause the system to automatically enter the suspend mode.
2. Replace the battery and battery cover within 180 seconds. The battery cover must be locked to enable normal S3040 operation. If the time exceeds 180 seconds, the reader will automatically shut down and any unsaved data might be lost.
3. Press the power button to resume operation.



# Chapter 2

## S3040 User Interface



### Important

Before the S3040 reader is fully operational with AC2000, the unit will have to be fully charged by placing it in the charging cradle for 12 hours.

## 2.1 User Interface

The user interface of the S3040 consists of a touchscreen and keypad. Enter commands into the device by touching an icon on the screen or pressing the keys on the keypad.

### 2.1.1 Touchscreen navigation

The touchscreen displays the startup user interface when the device is powered on. The application displays icons indicating the status and the card/fingerprint query response.

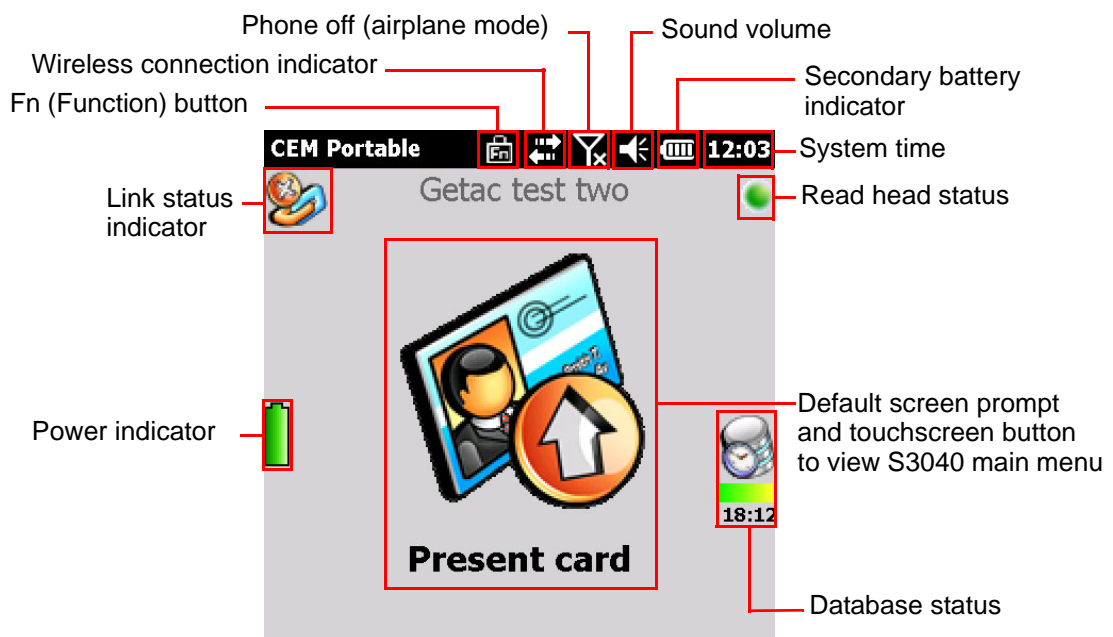


Figure 6 Startup user interface

**Note**

The phone function is not supported in S3040, so a **Phone off** icon will always be displayed.

Icon	Meaning
Power indicator	Displays the percentage of battery life remaining.
Default screen prompt	Prompts the user that the reader is ready to read cards. Also touch screen here to enter the S3040 main menu.
Link status indicator	Server connection status indicator. If X is displayed over the icon, this indicates no connection to server.
Wireless connection indicator	Displays the wireless connection status. If X is displayed over the icon, this indicates no connection.
Phone Off (Airplane mode)	The phone function is not supported in the S3040.
Sound volume	Indicates the volume status.
Secondary power indicator	Displays the battery status.
System time	Standard digital clock display.
Read head status	Indicates the status of the read head.
Database status	Time remaining before the database is due to expire.

Table 5: Touchscreen status indicators

### 2.1.2 Navigating the keypad

Several keys on the keypad are used as an alternative means of inputting device commands.



Figure 7 Keypad navigation

Key	Function
Power	Places the reader into standby mode or switches the reader off completely (press and hold).
Fn	Function (Fn) key is a modifier that activates secondary functions on dual-purpose keys. When pressed, the Fn button displays on the reader Toolbar. (See Figure 6)
OK/End (with Fn key activated)	Returns user to main startup menu.

Table 6: Key functions

All other keys, other than those identified in Figure 7 are inactive and/or unsupported.



## Chapter 3

# S3040 Hardware Configuration

### 3.1 S3040 Installation Overview

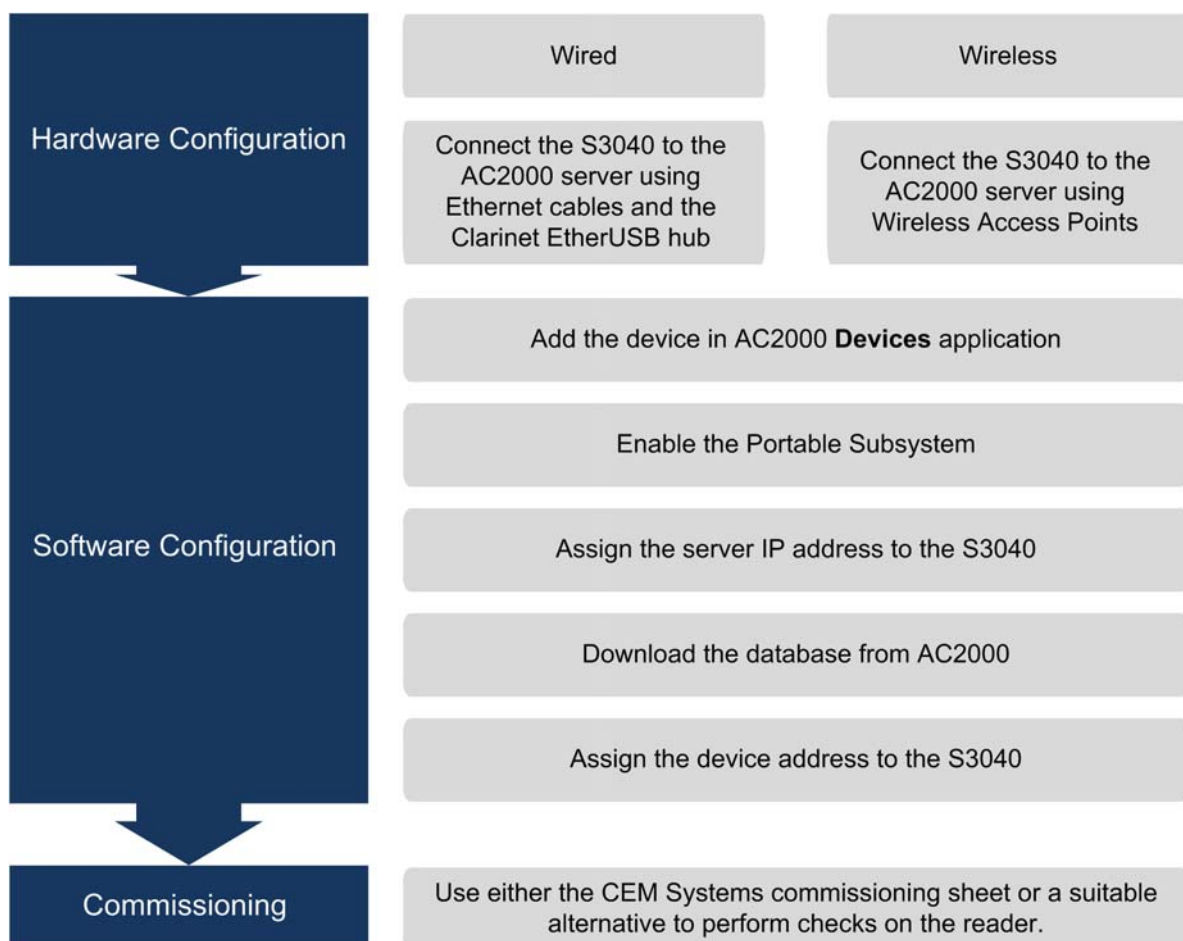


Figure 8 Installation overview



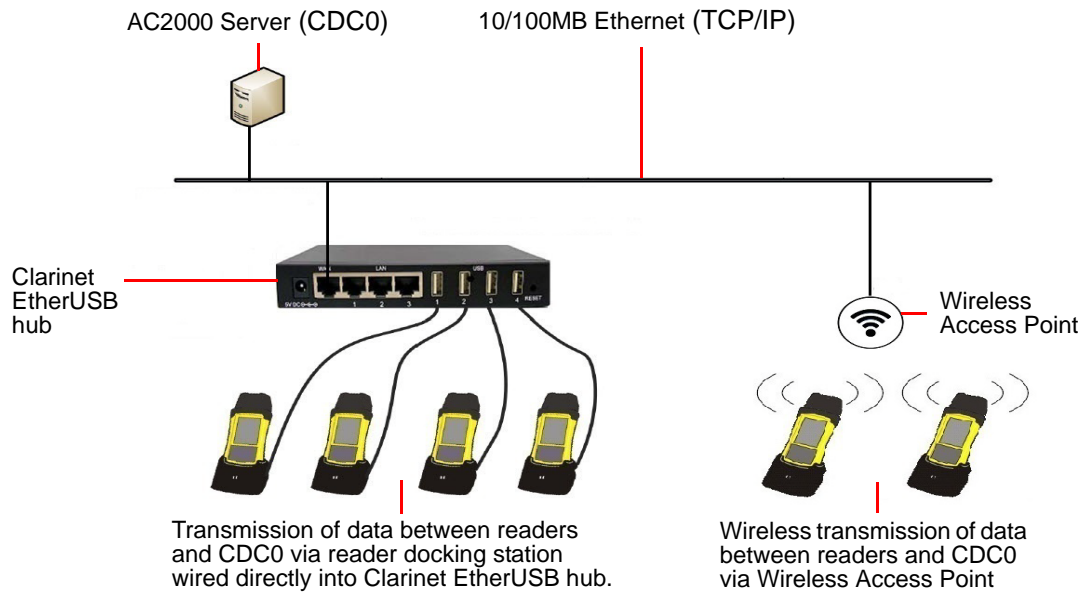
#### Important

Before the S3040 reader is fully operational with AC2000, the unit will have to be fully charged by placing it in the charging cradle for 12 hours. Instructions for setting up and configuring the S3040 is based on the pre-requisite that a site already has an operational AC2000 system populated with cardholders and cardholder images.

## 3.2 S3040 Connection to AC2000 Overview

Connection between the S3040 and the AC2000 server can be established via two methods:

- Wireless connection - The AC2000 server communicates with the S3040, via wireless transmission of data between a Wireless Access Point and the S3040 reader.
- Wired connection - The AC2000 server communicates via EtherUSB hub.



**Figure 9** Wired and un-wired connection with AC2000

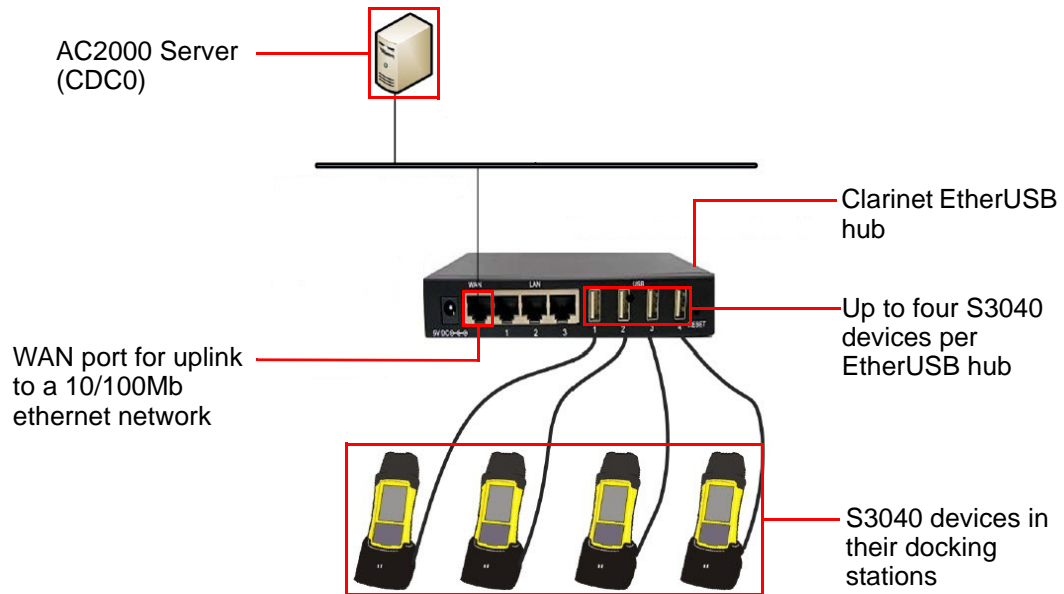


### Important

Give careful consideration to the system design before deciding whether to adopt a wired or wireless system. There may be various impacts upon the ability to use wireless connection to the server, such as distribution of Wireless Access Points, negative affect on battery life and the regularity of database refresh intervals. The S3040 operates offline, only coming online periodically to synchronise the database with the CDC.

### 3.3 Connecting to AC2000 via Wired Ethernet

The S3030 can be connected via a Clarinet EtherUSB hub, as per the diagram below:



**Figure 10** Connection to AC2000 using USB hub

Perform the steps given in the following sections to establish a connection with AC2000.

#### 3.3.1 Assign DHCP address to EtherUSB hub

The Clarinet EtherUSB hub must be assigned a DHCP address. It is a prerequisite that a DHCP network exists to enable this step to be performed:

1. Power up the EtherUSB hub. LED display:
  - **POWER (PWR)**: Solid, then slow flash, but a fast flash indicates hub fault
  - **UPLINK**: solid green (for network link)
2. Connect the EtherUSB to a network switch that is connected to the DHCP server.
3. Open a workstation that is connected to the same DHCP network.
4. Run Clarinet's EA104 DevFinder application (available from the **Download** section of the Clarinet Systems website) or another similar Network Discovery Tool to find all newly added devices on the DHCP network.
5. From the list of newly added devices, confirm the Clarinet EtherUSB hub is displayed.

#### Note

The model number EA104 and serial number as displayed on the EtherUSB unit is displayed.

6. Write down the IP address that has been assigned to the device from the DHCP network, as this will be needed for the next step.

#### 3.3.2 Assigning a Static IP address to EtherUSB hub

7. Launch an internet browser and navigate to: **http://<HUB-IP-Address>:9876/**

#### Note

Replace the text **<HUB-IP-Address>** with the static IP address assigned by the DHCP server in the previous step.

8. Enter the login details to display the Clarinet EtherUSB hub home page:

- **Username:** admin
- **Password:** password

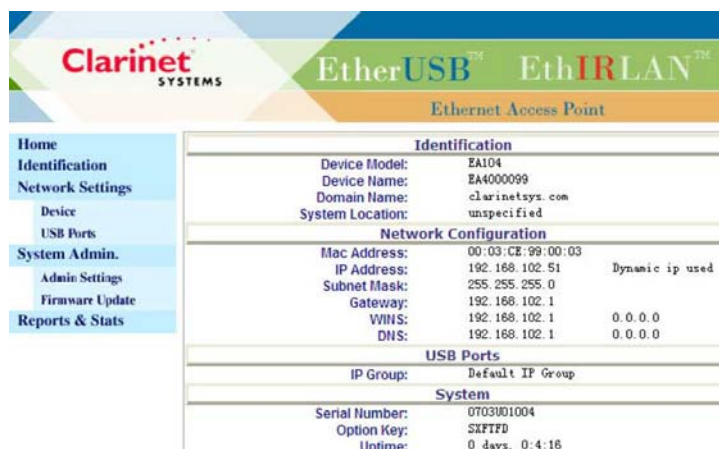


Figure 11 Clarinet EtherUSB hub home page

9. Select **Network Settings | Device**.

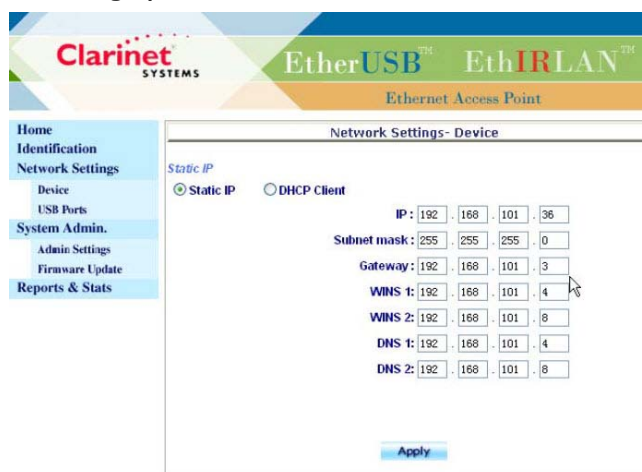


Figure 12 Changing the default static IP address

10. Select the **Static IP** option.

11. Change the **IP** address (as assigned by the DHCP network previously) to an address within the AC2000 network range and change the **Subnet mask**, **Gateway**, **WINS 1**, **WINS 2**, **DNS 1** and **DNS 2** to suit settings for the network that hosts AC2000.

12. Click **Apply**.

13. Select **Admin Settings**.

14. Select the **System Restart 'Yes'** checkbox and click **Apply**. This saves all the modified settings and will cause the EtherUSB hub to reboot.

15. Once reboot is complete, launch an internet browser and navigate to: **http://<HUB-IP-Address>:9876/**, replacing **<HUB-IP-Address>** with the newly assigned IP address, to ensure that the Clarinet EtherUSB hub home page is displayed as in Figure 11.

**Note**

If the Clarinet EtherUSB hub home page does not display, there has been an error when assigning the IP address and the previous steps should be carefully repeated.

16. Connect the S3040 docking cradle to the EtherUSB hub with the USB cable.

The connection is now set up. The next step is adding the reader to AC2000 on page 21.

## 3.4 Connecting to AC2000 Wirelessly

It is also possible to connect the S3040 reader to the AC2000 server wirelessly if appropriately located Wireless Access Point(s) exist, providing access to the AC2000 network.

### Note

The S3040 operates offline, only coming online periodically (every 15 minutes) to synchronise the database with the CDC. Therefore it is not suitable if real-time transactions are required.

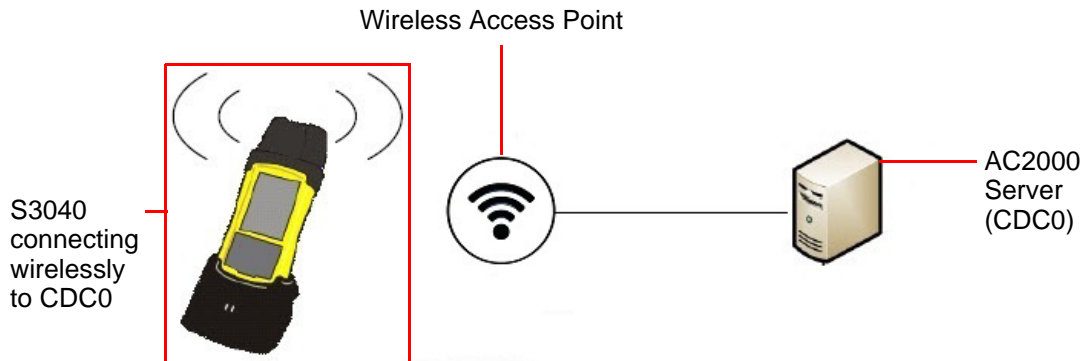


Figure 13 Wireless connection to AC2000 server

### Note

Before setting up the wireless connection, the **Network Name (SSID)**, **Network Key**, **Encryption** and **Authentication** must be obtained for the appropriate network Wireless Access Point(s).

### 3.4.1 Accessing the wireless settings

1. Tap the central icon on the S3040 screen to access the S3040 main **Options** interface.
2. Tap the **Settings** button in the S3040 main **Options** interface.
3. Tap the **WiFi Set** touchscreen button. This highlights the button and activates the **PIN for WiFi settings** keypad.

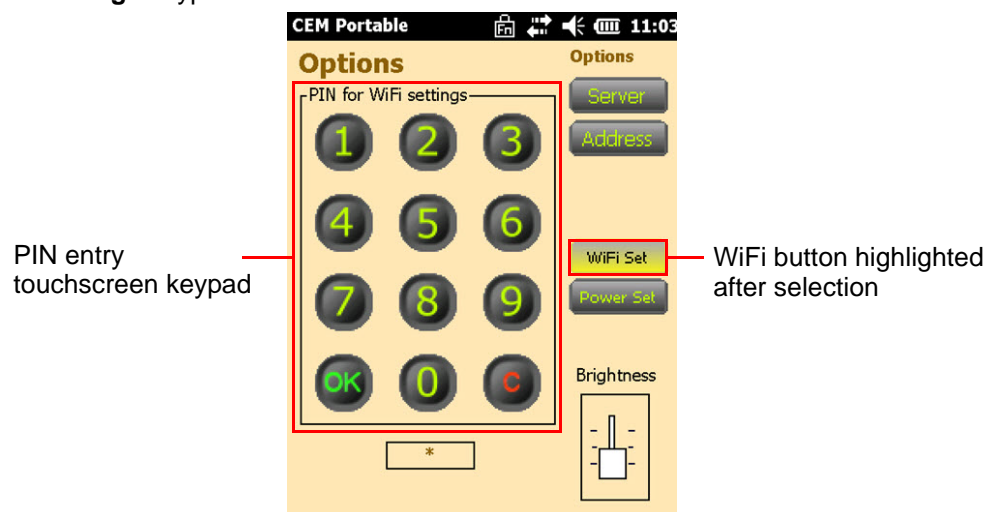


Figure 14 PIN keypad to access WiFi settings

4. Enter the PIN code 48625 into the **Pin entry touchscreen keypad**.

- Click **OK** on the keypad. The Windows wireless setting screen will now open.

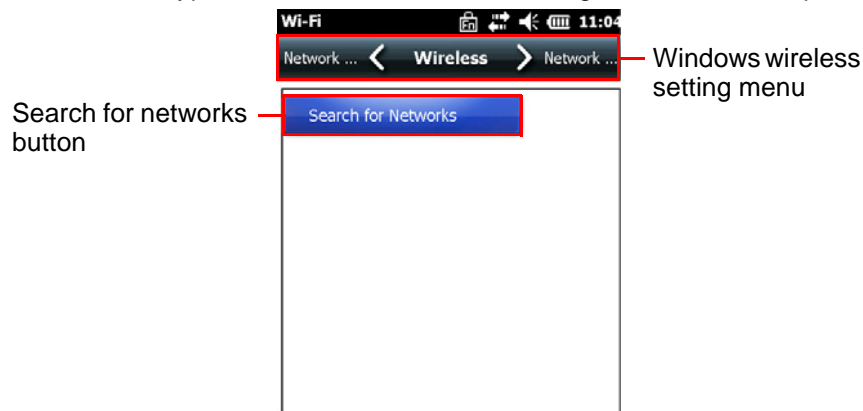


Figure 15 Windows wireless setting screen

The **Windows wireless setting menu** displays the **Wireless** option screen by default. Pressing the arrows on either side of **Wireless** scrolls through the menu to the next option, which is **Network Adapters**.

### 3.4.2 Configuring Network Adapters

- Scroll the **Windows wireless setting menu** using the scrolling right or left buttons to display the **Network Adapters** configuration.



Figure 16 Network Adapters configuration

- Set **My network card Connects to** the **Work** option. (Recommended)
- Ensure that **CSR UniFi Wireless LAN** is selected from the drop down list of adapters. After selecting the appropriate adapter, the user is prompted to choose between **Use server-assigned IP address** (default setting) or **Use specific IP address**.

9. If **Use specific IP address** is selected, then enter the appropriate **IP address**, **Subnet mask** and **Default gateway** in the appropriate fields displayed.

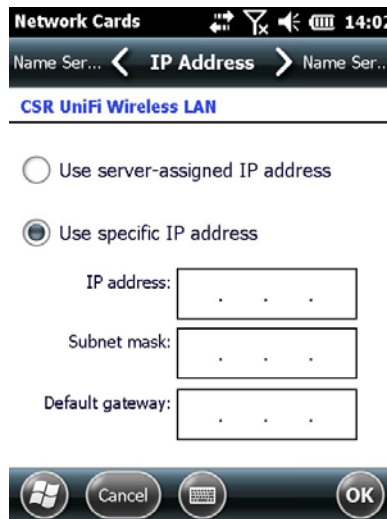


Figure 17 CSR UniFi Wireless LAN address options

10. Click **OK** to apply settings and exit.

### 3.4.3 Connecting device to wireless network (WAP)

11. Scroll the **Windows wireless setting menu** using the scrolling right or left buttons to display the **Wireless** configuration again. (See Figure 15)

#### Note

The wireless will normally be turned off, if it has not been used before. If this is the case, a large button **Search for Networks** will be displayed as in Figure 15.

12. Press the **Search for Networks** touchscreen button to switch on WiFi (WiFi active icon is displayed in the toolbar) and search for available Wireless Access Points..



Figure 18 WiFi icon displayed

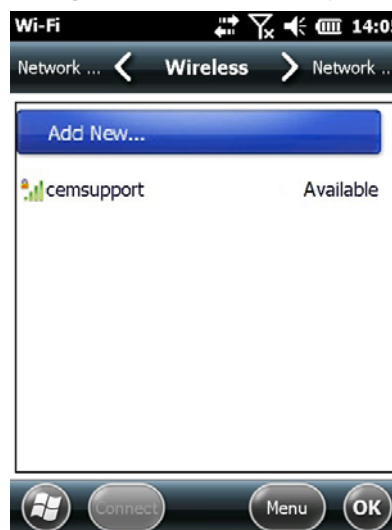


Figure 19 Search for Networks results

13. Select the appropriate Wireless Access Point from the list that is displayed on the screen.



14. Make appropriate changes to the **Configure Wireless Network** interface and tap the **Next** touchscreen button.
15. In the **Configure Network Authentication** interface, type the required login details for the selected Wireless Access Point and tap the **Next** touchscreen button.
16. Make any changes necessary to the secondary **Configure Network Authentication** interface and tap the **Finish** touchscreen button.
17. The WiFi connected icon now displays in the S3040 toolbar.



Figure 20 WiFi connected icon

The connection is now set up. The next step is adding the reader to AC2000 on page 21.

### Adding new wireless connections.

1. Follow Steps 1-7 in Connecting to AC2000 Wirelessly on page 15.
2. Press **Add New** to search for available Wireless Access Points. The WiFi active icon is displayed in the toolbar as in Figure 18.
3. Follow Steps 9-14 in Connecting to AC2000 Wirelessly on page 15.
4. Repeat this process until all Wireless Access Points necessary have been added.

### Editing existing wireless connections

1. Follow Steps 1-7 in Connecting to AC2000 Wirelessly on page 15.
2. Tap and hold an existing connection in the Windows wireless setting screen. The Wireless settings menu is displayed.



Figure 21 Wireless setting menu

3. Select **Edit**.
4. Make necessary configuration changes to the wireless connection selected.
5. Press **Next** after editing is complete in each configuration screen.
6. Press **Finish** on the final screen to apply all changes made.

### Deleting existing wireless connections

1. Follow Steps 1-7 in Connecting to AC2000 Wirelessly on page 15.



2. Tap and hold an existing connection in the Windows wireless setting screen. The Wireless settings menu is displayed as in Figure 21.
3. Tap the **Remove Settings** button to delete the existing connection.

### 3.4.4 Turning WiFi on and off

If the S3040 is only to be used with USB connection, ensure no wireless access points are configured and turn off the wireless as described below. This will prolong battery life between S3040 charging intervals.

#### Note

The wireless will normally be turned off, if it has not been used before. If this is the case, a large button **Search for Networks** will be displayed. If this is displayed, then wireless is already switched off. Take no further action.

1. Follow Steps 1-7 in Connecting to AC2000 Wirelessly on page 15.
2. If wireless has been switched on before and existing Wireless Access Points are listed, tap and hold the **Add New** button or select **Menu** on the bottom toolbar to display the Wireless settings menu.



Figure 22 Wireless settings menu

3. Tap **Turn Off Wi-Fi** to disable wireless.
4. To enable wireless, repeat these steps again, choosing **Turn on Wi-Fi** from the Wireless settings menu.

### 3.4.5 Configuring WiFi advanced settings

1. Follow Steps 1-7 in Connecting to AC2000 Wirelessly on page 15.
2. If wireless has been switched on before and existing Wireless Access Points are listed, tap and hold the **Add New** button or any of the existing Wireless Access Points to display the Wireless settings menu. Selecting **Menu** on the bottom toolbar accomplishes this also.

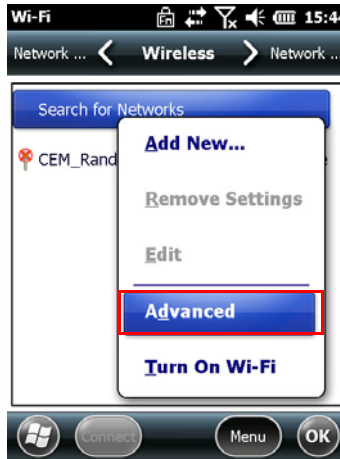


Figure 23 Wireless settings menu

3. Tap the Advanced button to open the Wi-Fi Advanced Settings screen..

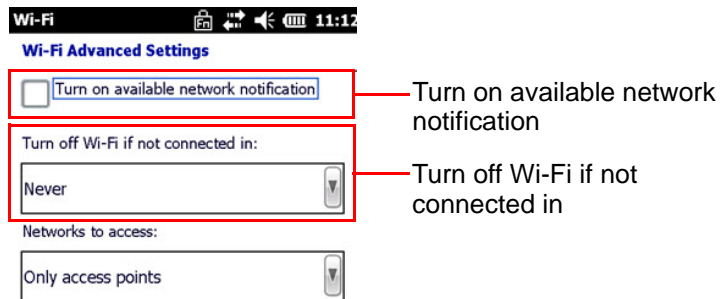


Figure 24 Wi-Fi Advanced Settings

4. Make sure the **Turn on available network notification** box is not checked, to avoid popup messages when it finds un-associated access points.
5. The **Turn off Wi-Fi if not connected in** setting will depend how the system is intended to be used.
  - a. If the wireless is only to be used when the S3040 reader is in the docking cradle and it is connected to external power, set this to around the **1 minute** period by selecting appropriately from the drop-down list. This means that when the S3040 is returned to the base, it will automatically connect to the server.
  - b. If the wireless is to be used in the field for near real-time operation, this must be set to **Never**.
6. Ensure that **Only access points** is selected in the **Networks to access** drop down box.

# Chapter 4

## S3040 Software Configuration

Once the connection (wired or wireless) between the S3040 reader and the AC2000 server has been setup, the S3040 is configured for use in AC2000 by performing the following actions:

- Adding the device in AC2000 (Devices)
- Enabling the Portable Subsystem on the CDC
- Assigning the server IP address to the S3040
- Downloading the databases from AC2000
- Assigning the device address to the S3040
- Configuring the reader address as a portable Muster device in AC2000 (if applicable)
- Configuring random checks (if applicable)

### 4.1 Adding the Device in AC2000 (Devices)

The reader must be added to AC2000 using the **Devices** application:

1. From the **Floatbar**, select **Device Configuration | Devices**.
2. Expand the Controller DF – V3 Portables list.
3. Right-click the appropriate **Device Group** and select **Add Device**.
4. Select 3040 Portable from the **Device Type** dropdown list.
5. Enter a meaningful device location (e.g. Warehouse, Muster Point 1)) and click **Add**.
6. Click **Save**.

## 4.2 Enabling the Portable Subsystem on the CDC

Before using S3040 readers in the AC2000 system, this option will need to be enabled on the CDC by taking the following steps:

1. Open a **SSH** terminal emulator connection (such as Putty) with the CDC.
2. Login as user: **root**
3. Type **I** in the command line and press return to display the **Integrations menu**.

```
Integrations menu:
1)AD TUR                      2)AD Hybrid DUR
3)AD NTLX and UE              4)Airport Edition
5)BACnet or Minerva MX Fire panels 6)Bosch
7)Contact ID Interface        8)DSC PowerSeries
9)Galaxy                      10)Genetec
11)IndigoVision SMS4          12)MatriVideo
13)Milestone                  14)Satel Integra
15)Victor                     16)API
17)Portables subsystem
Select Integration to Set Up(or X to eXit):_
```

**Figure 25** Integrations menu in terminal emulator

4. Type option number corresponding with **Portables subsystem** (17 in this example) and press **Enter**.
5. Press **Return** when prompted after all enabling script has run and this displays the integrations menu again.
6. Type **x** and press **Return** to exit integrations menu.
7. Type **L** and press **Return** to log out of terminal emulator session.

## 4.3 Assigning the CDC IP Address to the S3040

1. Set the S3040 into the docking cradle.
2. Switch on the S3040 reader.
3. Tap the central icon on the S3040 touchscreen or press the **OK** keypad button (with the **Fn** button activated) to access the S3040 main **Options** interface.
4. Tap the **Settings** button in the S3040 main **Options** interface.
5. Tap the **Server** touchscreen button. This highlights the button and activates the **PIN to set Server IP address** keypad, which allows access in to change the Server IP address.
6. Type **48625** into the keypad and press **OK**.
7. Add the AC2000 Server (CDC0) IP address and press **OK**.

## 4.4 Downloading the Database from AC2000

Once the S3040 is connected to the AC2000 Server (CDC0), it downloads two databases - the cards database and the images database.

The databases are downloaded automatically to the reader when it is placed into the docking cradle for the first time after initial connection to the server, during the setup process. This may take a considerable length of time, depending on the number of images in the database and this process may be run overnight for large databases. The progress of the download is indicated on the S3040 screen by a status bar. When it has finished downloading, the database status indicator will change from Expired to Ready by displaying a green tick.

### Note

If failure occurs when downloading the database, an error message will be displayed.

Database synchronisation also begins automatically each time the reader is placed back into the cradle after use and the connection to AC2000 has been established. Once connected, the server connection status indicator will display with a tick to confirm successful synchronisation. All transactions recorded by the S3040 reader since the last synchronisation, will be added to the server database for future records.





Symbol	Meaning
	When the S3040 is in use, the database status indicator displays this icon and shows how much time is remaining before the database is due to expire.
	The reader will initially display this icon (Refresh) as the database is updated. Do not disconnect the reader from the server when this item is displayed. Leave it in the docking cradle until synchronisation is complete.
	When synchronisation is complete, this icon (Ready) will be displayed.
	This icon means that the database is unavailable. It could be locked, expired or experiencing an error. Return reader to the docking station to resolve the issue. If problems continue, data within the database may be corrupt. This may be resolved by renewing the database with data from the server database. Please refer to the Renewing the AC2000 database on page 29.

Table 7: Database synchronisation symbols and meanings

## 4.5 Assigning the Device Address to the S3040

The address which was assigned to the reader in the AC2000 **Devices** application needs to be applied on the device.

### Note

This is the final step before the S3040 becomes operational and can read cards.

1. Tap the central icon on the S3040 touchscreen or press the **OK** keypad button (with the **Fn** button activated) to access the S3040 main **Options** interface.
2. Tap the **Settings** button in the S3040 main **Options** interface.
3. Tap the **Address** touchscreen button. This highlights the button and activates the **PIN for Address** keypad, which allows access in to change the S3040 reader's address.
4. Type **48625** into the **PIN for Address** keypad and press **OK**.
5. Select the appropriate **Reader Address** (e.g. DF 0010) from the list and press **OK**.

## 4.6 Configuring S3040 User Functions in AC2000

This section outlines how to configure S3040 functions in AC2000. Instruction on how to use the functions after initial setup can be found in the S3040 User Manual. Functions discussed are as follows:

- Managing multiple secure areas (roaming)
- Checking occupancy
- Mustering
- Random Checks

### 4.6.1 Configuring S3040 roaming function

The S3040's **Roam** function enables the user to manage multiple secure areas with different access permissions (roaming areas). This means that the reader can be taken into multiple roaming areas and used to perform checks in each one.

Example: An AC2000-controlled site containing four buildings, two for general office staff, one exclusively for site managers and one for security staff. This represents four roaming areas with three different **Access Permissions** applicable (One for security staff, one for managers and one for general office staff). The S3040 User Manual describes how the user can select to **Roam** different areas.

---

#### Note

Roaming is of the most benefit to users with an established **Access Level** structure.

#### Pre-requisites for roaming

Before the guard can start using the S3040 to perform roaming checks:

- The S3040 must be assigned to at least one access group.
- The cardholder's **Access Permissions** must be configured correctly
- The reader must be configured as a **3030/3040 Portable** in the **Devices** application

#### Adding the reader as a roaming device

1. From the **Floatbar**, select **Device Configuration | Devices**.
2. Expand the Controller DF - V3 Portables list.
3. Right-click the appropriate **Device Group** and select **Add Device**.
4. Select **3030/3040 Roaming** from the **Device Type** drop down list.
5. Enter a description for the roaming area. This is the description that appears in the list on the S3040 screen. In the example given above, it could be called roaming Area 1-4 or individual names could be given, such as Managers Suite.
6. Click **Add**.
7. Repeat steps 3-6 for each roaming area.

#### Creating roaming Access Groups

1. From the **Floatbar**, select **Administration | Access Permissions**.
2. Select **Access Groups** and click **New**.
3. Enter a description for the new **Access Group**. This should be the same as the device description. So in the example given it is roaming Level 1-4.

4. Select the appropriate **Device** e.g. roaming Level 1-4.
5. Assign the new group to the appropriate **Access Level** by selecting the **Access Levels** button and then the relevant checkbox.
6. Repeat steps 2- 5 for each roaming area.

## 4.6.2 Configuring S3040 occupancy function

Once the S3040 is added to the AC2000 system and is communicating with the AC2000 server, the occupancy function needs no further configuration. Assumption is made that the AC2000 system is operational and populated with cardholders within defined **Access Groups** and **Access Levels**.

## 4.6.3 Configuring the S3040 as a muster device

S3040 readers may be used as portable muster devices. This means that, in the event of an emergency, the reader may be taken to the muster point where cardholders swipe the reader with their card to confirm that they are no longer in danger. Once the muster is complete, the reader can be brought back to the cradle where it will synchronise the muster information with the AC2000 Server and recharge its battery.

### Note

Ensure that the appropriate **Access Levels** and **Card Formats** are configured for the muster zone before attempting to set this up.

The S3040 reader must be added as the muster device in AC2000 first. This is done using the **Muster Zones** application.

1. Start workstation and log in to AC2000.
2. From the **Floatbar**, select **Device Configuration | Muster Zones**.
3. Select **New**, and enter a description for the new zone e.g. Portable.
4. Select **Device Configuration**.
5. From the list of **Available Devices**, select the **Portable device** then **Add (Muster)**.
6. Click **Save**.



### Important

It is strongly recommended that the reader be kept permanently in the charging cradle (except when in use during an emergency). This ensures that the database is up to date at all times. By enabling the reader for mustering, the reader enters into muster mode. It is recommended that the device is not used for any other purpose.

The S3040 device selected is now a mustering device. The AC2000 system administrator must now set up **Muster Zones** in AC2000. For further information about setting up **Muster Zones**, please refer to the **Muster Zones** section of **AC2000 SE Operator Guide**.

## 4.6.4 Random checks

In certain situations, it may be suitable to perform other checks in addition to authenticating a cardholder's card and confirming their identity as previously described. If appropriate, the system administrator will implement this procedure and configure the system accordingly.

Example: A system administrator configures the system to prompt security guards using a S3040 that some cardholders need to be tested for drugs. When a cardholder who has been selected for a random test swipes on a portable reader, the reader screen will display the message **Drug Test**. This message appears in the field where the cardholder's date of birth usually appears (if information is captured in AC2000). If this message appears on the screen, the user will perform a **Drug Test** in accordance with company policy and training.

The prompt displayed can be configured to read something other than **Drugs test**. For example a construction site may prompt a security guard to **Check PPE** (Personal protective equipment) for adherence to company policy, or an airport might use the **Search** prompt to manage search ratios.



Figure 26 Example of Random Check

**Note**

Depending on what fields are enabled and disabled on the reader, the prompt will either display as in the

Configuring a Random Check



Important

The configuration of the **Random Check** function will only complete following completion of a server process that will run immediately after midnight on the day that this function is enabled. Therefore this function should be configured the day before it is actually required.

Perform the following actions to configure a **Random Check**:

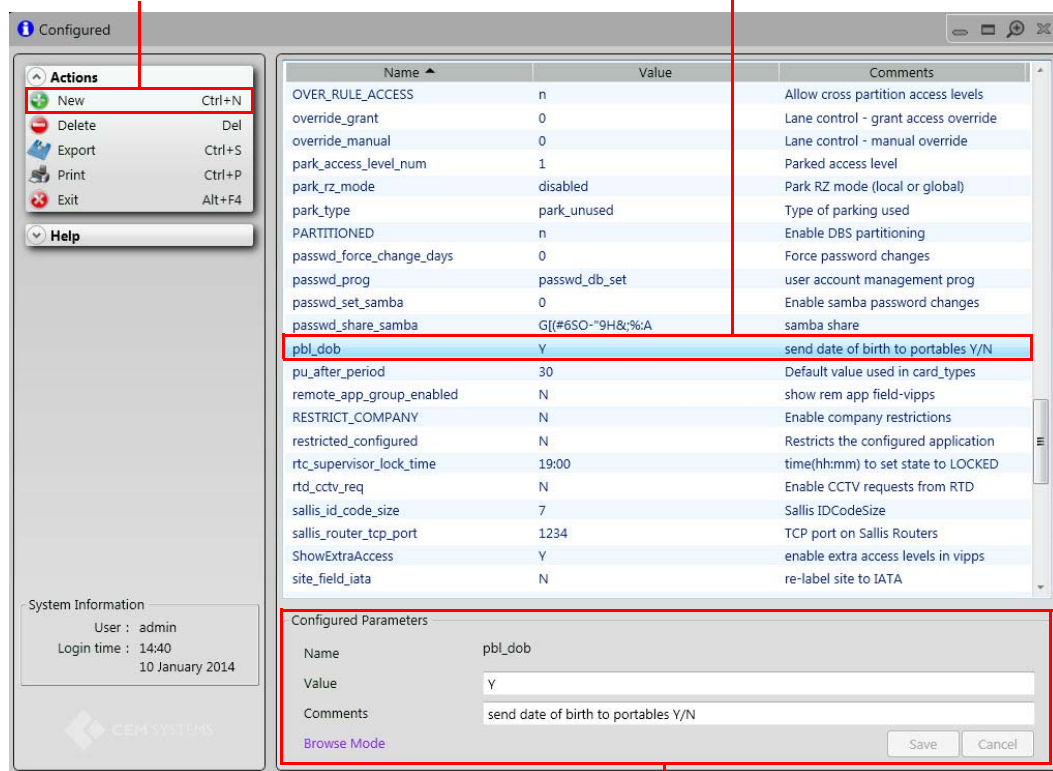
1. Startup a workstation and login to AC2000.



2. From the AC2000 **Floatbar**, select **Advanced Configuration|Configured**.

Create a new  
configurable parameter

pbl\_dob configurable  
parameter entry



Configured Parameters pane

Figure 27 Configured application interface

3. Scroll down the list of configurable settings and select **pbl\_dob**. This will display the associated parameters in the bottom section of the interface (**Configured Parameters**).
4. Click in the **Value** field of **Configured Parameters**.
5. Replace the text in the **Value** field (**Y** or **N**) with **\*\*\*Drugs test\*\*\*** or another appropriate screen prompt to appear on the S3040 screen.
6. Save to apply changes.
7. Click **New** to create a new configurable parameter.
8. In the Configured Parameters pane, Name field pbl\_rand\_test\_ratio.
9. Value - User defined (1 in X number of people receive test), where X is user configurable.
10. Comments =explanation of 1 in X. O = Off.
11. Save to apply changes.

To apply the changes that have been made, it is essential to re-initialise the Subsystem.

12. Open a **SSH** terminal emulator connection (such as Putty) with the CDC.

13. Login as user: **root**

14. Type **I** in the command line and press return to display the **Integrations menu**.

```
Integrations menu:
1)AD TUR                               2)AD Hybrid DVR
3)AD NTLX and UE                       4)Airport Edition
5)BACnet or Minerva MX Fire panels    6)Bosch
7)Contact ID Interface                8)DSC PowerSeries
9)Galaxy                               10)Genetec
11)IndigoVision SMS4                  12)MatriVideo
13)Milestone                           14)Satel Integra
15)Victor                              16)API
17)Portables subsystem
Select Integration to Set Up(or X to eXit):_
```

**Figure 28** Integrations menu in terminal emulator

15. Type option number corresponding with **Portables subsystem** (17 in this example) and press **Enter**.
16. When the prompt is displayed that confirms that the portables subsystem is already installed - Do you want to disable it (y/n), type **Y** and press **Enter**.

```
Integrations menu:
1)AD TUR                               2)AD Hybrid DVR
3)AD NTLX and UE                       4)Airport Edition
5)BACnet or Minerva MX Fire panels    6)Bosch
7)Contact ID Interface                8)DSC PowerSeries
9)Galaxy                               10)Genetec
11)IndigoVision SMS4                  12)MatriVideo
13)Milestone                           14)Satel Integra
15)Victor                              16)API
17)Portables subsystem
Select Integration to Set Up(or X to eXit):17
Running setup for 'Portables subsystem'
portables subsystem is already enabled.
Do you want to disable it(y/n)?_
```

**Figure 29** Disabling Portables subsystem from integrations menu

17. Press **Return** when prompted and this displays the integrations menu again.
18. Type option number corresponding with **Portables subsystem** (17 in this example) and press **Enter** to enable this functionality again.



#### Important

This initialisation of the subsystem can take a considerable length of time, especially on a larger site where the database contains many images. It may be more appropriate to let this process run overnight in such cases.

19. Press **Return** when prompted after all enabling script has run and this displays the integrations menu again.
20. Type **x** and press **Return** to exit integrations menu.
21. Type **L** and press **Return** to log out of terminal emulator session.

#### Note

All S3040 readers will need to 'Coldstart' to apply all changes that have been made. This process can take a considerable length of time and is achieved by pressing the Renew DB button, whilst the reader is on the docking cradle.

After a process runs on the S3040 reader at midnight, it will then display the prompt that has been configured, when a cardholder who has been selected to receive the test or prompt, swipes the reader with their card.

## Appendix A: Renewing the AC2000 database

This function exists to enable a user to refresh all database data held on the reader. This may be necessary if data corruption exists and it needs to be overwritten by the original data to clear the problem. It is unlikely that this function will ever need to be executed. If necessary:

1. Place the S3040 reader into the docking cradle.
2. Tap the central icon on the S3040 touchscreen or press the **OK** keypad button (with the **Fn** button activated) to access the S3040 main **Options** interface.
3. Tap the **Settings** button in the S3040 main **Options** interface.

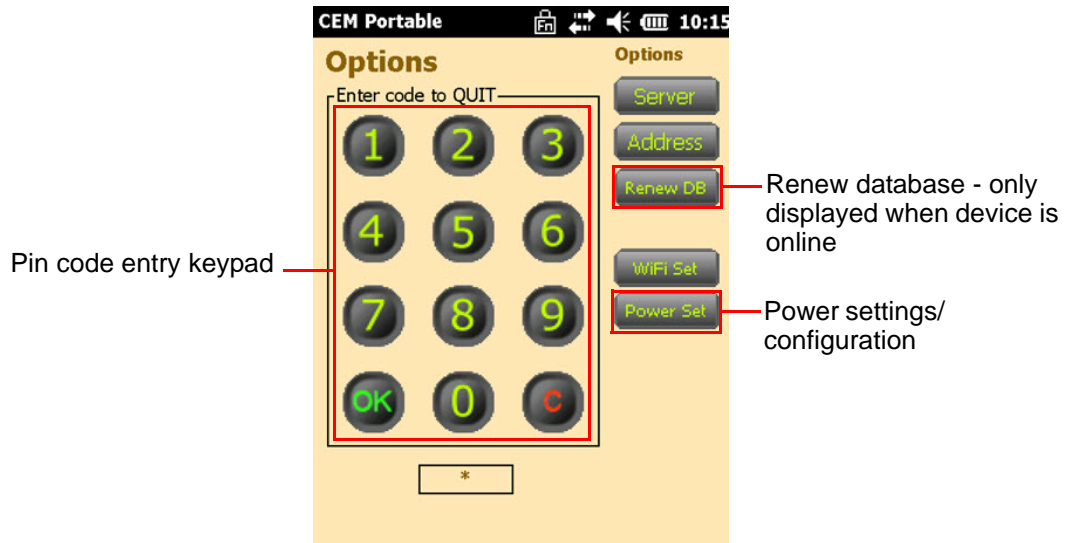


Figure 30 Options menu

4. Tap **Renew DB** (Renew Database) touchscreen button (See Figure 30). This changes the text at the top of the keypad to **PIN to force Coldstart**, instead of the default **Enter code to Quit**.

### Note

Renew DB button is only displayed when the device is online.

5. Type the code **48625** into the keypad displayed. (See Figure 30)
6. Click **OK** on the keypad to instruct the S3040 to refresh all data.

### Note

The S3040 reader requires both communications with the CDC and power from the docking cradle charger. Whether your S3040 is set up as a docking cradle connected system (hard-wired) or as a wireless reader, the reader must be placed in the docking cradle before the database can be renewed. The reader performs some processes and checks with the CDC before the **Renew DB** option is displayed on the S3040 screen.



CEM Systems  
195 Airport Road West  
Belfast  
BT3 9ED  
United Kingdom  
Tel: +44(0)2890 456767