



Falcon® X3



Quick Reference Guide

1 INTRODUCTION

1.1 DATALOGIC FALCON X3™ DESCRIPTION

The new Datalogic Falcon mobile computer takes the Falcon's industry leading form factor to the next level of performance in ergonomics, computing and ease of use. The Falcon continues the tradition of being a product suitable for warehouses and large retail stores while expanding its abilities into the toughest logistics environments. The Falcon delivers ergonomics, rugged construction, laser and image data capture, along with real time computing and communication speed in a product that is easy to develop for, deploy and manage.

C³ – Real time data and voice

Capture

Enterprises rely on accurate inventories to both plan and manage activities. Three data capture options optimize the Falcon for the application. A laser scanner tackles high volume environments where speed is essential to the receiving and shipping operations. The 2D imager captures linear, stacked and 2D codes using the inherent nature of pictures to reduce failed reads due to damaged and poor quality barcodes while enabling the user to scan from almost any orientation. An optional camera also provides the ability to take pictures at QVGA to 3 Mega pixel resolutions respectively. This added capability reduces the need for another device while providing additional methods for proof of delivery and damaged goods verification. Datalogic's patented Green Spot good read feedback reduces errors on both the Falcon's laser scanner and 2D imager. For applications like cross docking where bar codes can be close at hand or far away, an auto ranging laser offers a solution.

Compute

The parallel computer architecture of the Falcon melds the strengths of an XScale™ PXA310 microprocessor with a Cortex-M3 coprocessor. This combination gears the device for real time information management gathering. Memory of 256 MB RAM / 256 MB Flash is sized for running multiple simultaneous applications, for managing large databases or the use of thick applications when off-line autonomy is required. A Micro SD Card Slot provides a simple way for users to increase memory storage capacity as needed. The Falcon tailors itself to the information technology practices of the enterprise through either the Microsoft Windows CE 6.0 or Microsoft Windows Mobile 6.5 operating system.

Communicate

As information is collected the Falcon turns to the task of communication via a Summit IEEE 802.11 a/b/g radio. This integrated Wi-Fi radio is optimized to deliver superior range through a balance of transmit power and receiver sensitivity. A Summit utility tailors the user interface for easy configuration and consistent management. Complimented by a CCX v4 certification from Cisco, the Falcon provides infrastructure compatibility focused on enterprise requirements for encrypted communication and seamless roaming. Voice applications leverage the internet protocol connection for hands-free voice picking and push to talk communications. Bluetooth® Wireless Technology connects headsets, printers and other peripherals eliminating cumbersome wires and costly replacement of broken or damaged cables. An extensive accessory offering accommodates existing installation needs for USB, RS232, modem or Ethernet communications.

F³ – Ergonomic & Rugged

Form

The Falcon comes in two form factors to tackle the differing scanning intensities found in an enterprise. A pistol grip version with numeric keypad tackles the high volume scan and quantity entry found at the receiving dock. While a hand held with alpha numeric keypad better suits the lighter pick and pack duty of preparing goods for shipment. The Falcon's low weight balances a large 3.5" display with a full size keyboard and a single piece 5000 mAh battery into both of these packages. The three indicators lights on the Falcon forehead serve as quick visual reminders to power capability, keyboard state and scan performance.

Function

The Falcon must do more than function for a full shift, it must survive daily abuse and trauma. The Falcon meets the classic drop criteria of 6 feet (1.8 meter) and repeated tumbles from lower heights. Coupled with an IP64 sealing against water and dust allows the Falcon to literally take an industrial pounding. Plastic key caps with metal snap dome actuation withstand not only the abusive environment but the heavy use found in third party logistics centers, literally millions of cycles per year.

Feel

Falcon delivers Datalogic's trademark ergonomics in a contoured package. An arched pistol grip handle and ergonomic trigger make the rapid receiving of goods comfortable through out the day. Falcon numeric and alphanumeric keyboards use a phone key layout placing numeric keys at the device top with navigation, scan and enter keys. This highly functional layout places high use keys at the user's finger tips. Maximized key sizes drive additional user efficiency with or with out gloves. A crystal clear QVGA display and back lit keyboard make the Falcon readable in dark back corners or full sunlight.

D³ – Easy and Intuitive

Develop

The Falcon leverages Datalogic's open source software development kit (SDK) for creating applications. The Datalogic™ SDK provides a set of libraries allowing easy application development using C++, .NET and Java programming languages. Both MCL Collection and Wavelink® Studio™ offer additional solutions to enable development. For terminal emulation environments available tools include the Wavelink Industrial Browser™, Wavelink Terminal Emulation, and Wavelink Speakeasy. Each of these is implemented solely on the mobile device using scripting so no host changes are required! For WMS or ERP systems requiring more customization, Vo-CE provides both speech recognition and text to speech interface capabilities.

Deploy

Wavelink device management tools make the Falcon an easy device to both deploy and maintain. Datalogic Desktop and Configuration Utilities deliver unprecedented ability to customize device configuration to the use environment or process. For small or remote installations, Scan to Configure provides simple barcodes that anyone can use to configure the Falcon.

Direct

The Datalogic Firmware Utility is a powerful tool for upgrading Datalogic mobile computer firmware. Wavelink Avalanche™ provides a clear and complete view of the state of your Datalogic Mobile Computer assets. This powerful interface shows all the devices under management and the last time they have been updated at a glance. Wavelink Remote Control allows an administrator to remotely diagnose and remedy both applications and device settings, or even provide assisted guidance. For

added security the Falcon can be implemented with Wavelink CE Secure and Wavelink Certificate Manager. Wavelink Communicator provides 100% client-side push-to-talk capabilities.

1.2 MODEL DESCRIPTION

The brand new Datalogic FALCON™ is available in different models depending on the options it is equipped with. All options are listed below:

- Communication: Wi-Fi IEEE 802.11 a/b/g, Bluetooth
- Capture: High performance Laser with Green Spot, 2D Imager with Green Spot, Auto Ranging Laser, Camera
- Form Factor: Hand held, Pistol Grip
- Keyboard: Numeric, Alphanumeric

For further details about the Datalogic FALCON™ models refer to the web site:

<http://www.mobile.datalogic.com>.

For further information regarding Windows Mobile refer to the website:

<http://www.microsoft.com/windowsmobile>.

The currently available models are:

- 945250000 FalconX3 00A0HP-3F1-MEN1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Camera, Alpha-Numeric, Windows Mobile 6.5
- 945250001 FalconX3 00A0WI-3F0-MEN1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, 2D w GS, Alpha-Numeric, Windows Mobile 6.5
- 945250002 FalconX3 00A0XL-3F1-MEN1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, Autorange Laser, Camera, Alpha-Numeric, Windows Mobile 6.5
- 945250003 FalconX3 00A0HP-3N0-MEN1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Numeric, Windows Mobile 6.5
- 945250004 FalconX3 00A0HP-3N0-CEU1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Numeric, CE 6.0
- 945250005 FalconX3 00A0HP-3F0-CEU1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Alpha-Numeric, CE 6.0
- 945250006 FalconX3 00A0XL-3F0-CEU1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, Autorange Laser, Alpha-Numeric, CE 6.0
- 945250007 FalconX3 00A0WI-3F0-CEU1
Falcon, PistolGrip, PXA 310, 256MB/256MB, 802.11 a/b/g, 2D w GS, Alpha-Numeric, CE 6.0
- 945200000 FalconX3 00A0HP-2N0-CEU1
Falcon, Handheld, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Numeric, CE 6.0
- 945200001 FalconX3 00A0HP-2F0-CEU1

Falcon, Handheld, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Alpha Numeric, CE 6.0

- 945200002 FalconX3 00A0WI-2F0-CEU1
Falcon, Handheld, PXA 310, 256MB/256MB, 802.11 a/b/g, 2D w GS, Alpha Numeric, CE 6.0
- 945200003 FalconX3 00A0HP-2F1-MEN1
Falcon, Handheld, PXA 310, 256MB/256MB, 802.11 a/b/g, Laser w GS, Alpha Numeric, Camera, Windows Mobile 6.5

1.3 PACKAGE CONTENTS

The Datalogic FALCON™ package contains:

- 1 Datalogic FALCON™ mobile computer
- 1 CD-ROM Datalogic SDK containing:
 - Datalogic Applications (DCU, DFU, TCL, Datalogic Mobility Developer Assistant™)
 - User Manuals
- 1 CD-ROM Getting Started Disk only for Windows Mobile
- 1 user's manual
- 1 rechargeable battery pack
- 1 Windows Mobile/ CE End User License Agreement (depending on models)
- 1 Keypad overlay

Any other packages will contain the accessories necessary for the Datalogic FALCON™ connection to the host computer and to the network: the cradle, one or more connection cables.

Remove all the components from their packaging; check their integrity and congruity with the packing documents.



**CAUTI
ON**

Keep the original packaging for use when sending products to the technical assistance center. Damage caused by improper packaging is not covered under the warranty.



NOTE

Rechargeable battery packs are not initially charged. Therefore the initial operation to perform is to charge them. See paragraph 2.1.

1.4 INSERTING A MICRO SD CARD

Datalogic FALCON™ provides the possibility to add a Micro SD memory storage card. To access the Micro SD card slot and insert the card, proceed as follows:

1. Turn off the Datalogic FALCON™.
2. Press the latch release and lift the battery from the enclosure, as indicated in the figure below:



- a. Open the Micro SD card slot by pulling up the locking plate:



b. Shift the cardholder to the right and then pull it up; insert the Micro SD card with the written part upward.



c. Lock the card into place by pushing the cardholder down and then shifting it to the left; pull the locking plate down.



6. Replace battery.

To remove the Micro SD card, follow the steps above to access the SD area, and remove it from its slot.



CAUTION

Follow proper ESD precautions to avoid damaging the SD. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

Do not force the card. If you feel resistance, remove the card, check the orientation, and reinsert it.

Do not use the Micro SD card slot for any other accessories.

1.5 INSTALLING THE SIM CARD DELETE THIS SECTION

To correctly insert the SIM Card, proceed as follows:

1. Turn off the Datalogic FALCON™.
2. Press the latch release button and pull the latch down, as indicated in the figure below:



3. Remove the cover and the battery pack, then open the SIM card slot by pulling up the locking plate:



- Shift the cardholder to the left and then pull it up; insert the SIM Card with its contacts downward and its round corner at the bottom:



- Lock the card into place by pushing the cardholder down and then shifting it to the right.



- Pull the locking plate down.
- Close the battery cover properly, by pressing the latch release button and pulling the latch down.



CAUTION

Follow proper ESD precautions to avoid damaging the SIM card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

Do not force the card. If you feel resistance, remove the card, check the orientation, and reinsert it.

Do not use the SIM card slot for any other accessories.



The SIM Card option is not available in 802.11b/g radio and batch models.

1.5.1 Removing the SIM Card Delete this section

To remove the SIM card, follow the steps above to access the SIM area, and remove it from its slot.



**NOT
E**

All the basic functionalities normally associated to the SIM card are managed by the terminal (GPRS connectivity, phone calls, SMS handling).

It is possible that not all the services connected to the SIM card can be used or can be managed by the terminal.

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1.6 ACCESSORIES

Cradles

- 94Axxxxxx Single Cradle, Falcon X3
- 94Axxxxxx 4 slot Cradle, Falcon X3
- 94Axxxxxx Powered Mobile Dock, Falcon X3
- 94Axxxxxx Etherenet 4 slot, Falcon X3
- 94Axxxxxx Multi Battery Charger, Falcon X3

Batteries

- 94ACCxxxx DL-FX3 Standard Battery

Power Supply

- 94ACC1381 Power Supply, Dock, PWR Plug 2.1mm

Cables

- 94A051970 Cable, USB Handylink, Client
- 94A051971 Cable, USB Handylink, Host
- 94A051972 Cable, RS232 Handylink, Client
- 94A051973 Cable, RS232 Handylink, Host
- 94A051976 Adapter, PWR Jack 2.1mm to Handylink
- 94A051975 Power Adapter, 12 to 24V PWR Plug 2.1mm

Various

- 94ACC1371 Module, Ethernet, Single Slot Dock
- 94ACC1372 Module, Modem, Single Slot Dock
- 94ACCxxxx Soft Case, FalconX3
- 94ACCxxxx Belt Holster, FalconX3
- 94ACCxxxx Handle, FalconX3
- 94ACCxxxx Stylus, Integrated, FalconX3 (5pcs)



*Use only a Datalogic Mobile-approved power supply and cables.
Use of an alternative power supply will invalidate any approval
given to this device and may be dangerous.*

NOTE

1.7 REGULATORY STATEMENTS

Radio Frequency Interference

FCC Statements

“This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.”

“The User is cautioned that changes or modifications not expressly approved by Datalogic for compliance could void the user’s authority to operate the equipment.”

SAR COMPLIANCE

“This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual. For body worn operation, this device has been tested and meets the FCC RF exposure guidelines when used with Datalogic accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.”

“This product has been tested and found to comply with the following standards:

- OET BULLETIN 65 SUPPLEMENT C: evaluating compliance with FCC

Canadian Compliance Statement

This Class A Digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe A est confirmé à la norme NMB-003 du Canada.

Equipment is certified to the requirements of RSS-210 for 2.4-GHz per IEEE 802.11 (b)(g), IEEE 802.15 .

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain with IC RF exposure compliance requirements please follow operation instruction as documented in this manual.

2 BATTERIES AND MAINTENANCE

**NOTE**

Rechargeable backup batteries and battery packs are not initially charged. Therefore the initial operation to perform is to charge them. See below.

**CAUTI
ON**

Annual replacement of rechargeable battery pack avoids possible risks or abnormalities and ensures maximum performance.

2.1 CHARGING THE BATTERY PACK

**NOTE**

The battery pack autonomy varies according to many factors, such as the frequency of barcode scanning, RF usage, battery life, storage, environmental conditions, etc.

The battery icon on the Taskbar indicates when the battery pack is low.

It is possible to recharge the battery pack by connecting the power supply directly to the Datalogic FALCON™.

Alternatively, it is also possible to recharge the battery pack by using a Single Cradle or the Datalogic FALCON™ Multi Battery Charger.

Moreover recharging is possible by USB Direct connection with the host computer, but with longer charging times and only if the mobile computer is off.

During the charging process the LED positioned at the right side of the display is red constant. Once the charging process has been completed this LED is green constant (see par. **Error! Reference source not found.**).

If the battery pack is removed from the mobile computer, it can be recharged by inserting it into the rear slot of a Single Cradle or the Datalogic FALCON™ Multi Battery Charger.



Do not use the Datalogic FALCON™ until batteries are charged for minimum 4 hours.

**NOTE**

Even if the storage temperature range is wider, In order to achieve the longest battery life, store the terminal and the spare batteries between 20 to 30 °C (68 to 86 °F).

The Batteries must be charged at a temperature ranging from 0° to +40 °C (+32° to +104 °F).

For the GSM models the maximum recommended temperature is + 35° C. At higher values the charging may slow down.

**NOTE**

The battery level may not be displayed correctly for some minutes after the disconnection if the Datalogic FALCON™ is disconnected from power supply before the charging cycle is completed.

**NOTE**

The Datalogic FALCON™ could get warm during charging, this is normal and does not mean a malfunction.

**NOTE**

Use only a USB-IF compliant USB port as a charging source.

soft

2.2 REPLACING THE BATTERY PACK

To correctly replace the battery pack, proceed as follows.

1. Turn off the Datalogic FALCON™.
2. Press the latch release and lift battery from the enclosure as indicated in the figure below:



4. Install the new battery pack, first insert the top end, then the latch side as indicated in the following figure:





Installing, charging and/or any other action should be done by authorized personnel and following this manual.

WARNING

The battery pack may get hot, explode, ignite, and/or cause serious injury if exposed to abusive conditions.

If the battery pack is replaced with an improper type, there is risk of explosion.

Do not place the battery pack in or near a fire or heat; do not place the battery pack in direct sunlight, or use or store the battery pack inside unventilated areas in hot weather; do not place the battery pack in microwave ovens, dryer, high pressure containers, on induction cookware or similar device. Doing so may cause the battery pack to generate heat, explode or ignite. Using the battery pack in this manner may also result in a loss of performance and a shortened life expectancy.

Use only a Datalogic Mobile approved power supply. The use of an alternative power supply will void the product warranty, may cause product damage and may cause heat, explode or ignite.

The area in which the units are charged should be clear of debris and combustible materials or chemicals.

Do not use the battery pack of this terminal for power devices different from this mobile computer.

Immediately discontinue use of the battery pack if, while using, charging or storing the battery pack, the battery pack emits an unusual smell, feels hot, changes colour or shape, or appears abnormal in any other way.

Do not short-circuit the battery pack contacts connecting the positive terminal and negative terminal. This might happen, for example, when you carry a spare battery pack in your pocket or purse; accidental short-circuiting can occur when a metallic object such as a coin, clip, or pen causes direct connection of the contacts of the battery pack (these look like metal strips on the battery pack). Short-circuiting the terminals may damage the battery pack or the connecting object.

Do not apply voltages to the battery pack contacts.

Do not pierce the battery pack with nails, strike it with a hammer, step on it or otherwise subject it to strong impacts or shocks.



Do not disassemble or modify (i.e. bend, crush or deform) the battery pack. The battery pack contains safety and protection devices, which, if damaged, may cause the battery pack to generate heat, explode or ignite.

WARNING

In case of leakage of liquid from the battery, avoid contact with liquid the skin or eyes. If the contact occurs, immediately wash the affected area with water and consult a doctor.

Do not solder directly onto the battery pack.

Do not expose the battery pack to liquids.

Avoid any knocks or excessive vibrations. If the device or the battery is dropped, especially on a hard surface, you should take it to the nearest Authorised Repair Centre for inspection before continuing to use it.

Do not replace the battery pack when the device is turned on.

Do not remove or damage the battery pack's label.

Do not use the battery pack if it is damaged in any part.

Battery pack usage by children should be supervised.

Collect and recycle waste batteries separately from the device in comply with European Directive 2006/66/EC, 2002/95/EC, 2002/96/EC and subsequent modifications, US and China regulatory and others laws and regulations about environment.



NOTE

In order to guarantee an adequate operating autonomy, when replacing the battery pack the mobile computer checks the battery energy level. If the battery is not sufficiently charged, Datalogic FALCON™ does not turn on (when pressing the ON/OFF key).

In this case, either substitute the battery pack with a charged one (sufficiently charged) or insert Datalogic FALCON™ into a powered cradle or plug it into the direct power supply.



NOTE

To achieve the best battery life, turn off the radios not in use.

2.3 CLEANING THE MOBILE COMPUTER

Periodically clean the Datalogic FALCON™ with a slightly dampened cloth

3 CONNECTIONS

3.1 USB CONNECTION

You can use any standard mini USB cable to directly connect the Datalogic FALCON™ to a host computer to transfer data through the USB interface.

A



C



Key:

A) Host Computer

C) Datalogic FALCON™

B) Standard Mini USB
cable



*Connection through the cable is compliant to
2.0 USB standard.*

The Single Cradle can be connected to the Host by any standard mini USB cable to transfer data through the USB interface.

A



D



Key:

A) Host Computer

C) Single Cradle

B) Standard Mini USB
cable

D) *Power Supply (only
necessary for battery
charging)

In this case the power supply is only necessary for battery charging. Insert the power supply plug into the power jack on the base of the cradle and attach the power supply to a power outlet.



Connection through the cradle is compliant to 2.0 USB standard.

NOTE



The actual data transfer speed can be appreciably lower than the maximum theoretical speed.

NOTE

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3.2 CONNECTION TO USB PERIPHERALS

You can use a standard A (4 pin female) to mini A (5 pin male) USB cable to connect the Datalogic FALCON™ to a keyboard or a memory. For all these devices maximum current withdrawal must be below 100mA.



Key:

A Keyboard with USB interface C 94A051024 (Standard A to Mini A USB cable)

B Datalogic FALCON™



Key:

A USB hard drive/ external memory source C 94A051024 (Standard A to Mini A USB cable)

B Datalogic FALCON™

 Connect first the USB peripheral to the cable, and then the cable to the Datalogic FALCON™.

NOTE

 Datalogic FALCON™ works with most of mentioned USB peripherals. In any case, we can't guarantee good operations with all devices available on market place.

NOTE

 Connection is compliant to 1.1 USB standard.

NOTE



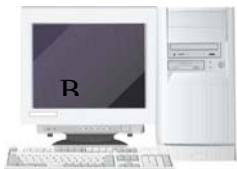
The actual data transfer speed can be appreciably lower than the maximum theoretical speed.

NOTE

3.3 RS232 CONNECTION

You can use a cable to directly connect the Datalogic FALCON™ to a host computer to transfer data through the RS232 interface.

A



C



Key:

- A) Host Computer
- C) Datalogic FALCON™
- B) 94A051022 WIN-NET (HRS ST40X-18S-CV)

The Single Cradle can be connected to the Host by any standard 9-pin serial null-modem cable for RS232 communications.

Once the Host has been turned on, insert the Datalogic FALCON™ mobile computer into the cradle.

A



D



Key:

- A) Host Computer
- C) Single Cradle
- B) 94A051020 CAB-427 Null-Modem
- D) *Power Supply (only necessary for battery charging)

In this case the power supply is only necessary for battery charging. Insert the power supply plug into the power jack on the base of the cradle and attach the power supply to a power outlet.



CAUTION

If the mobile computer supports Windows Mobile, before plugging the RS232 cable you have to check the 'COM1 Enable' option on the 'System, Configuration' window. (Start -> Programs -> System Configuration).

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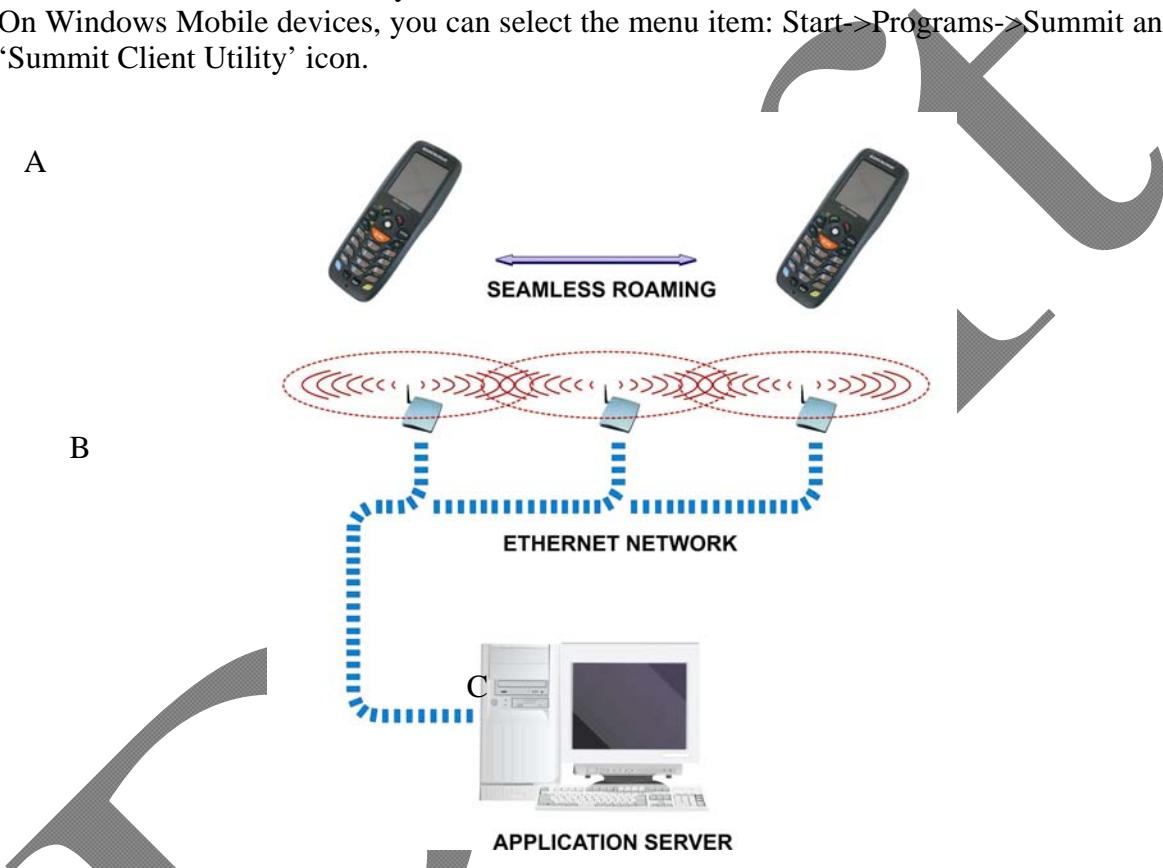
3.4 WLAN CONNECTION

Datalogic FALCON™ 802.11a/b/g radio models can communicate with the host using the on-board radio frequency component and an Access Point connected to the host computer.

For models using the 802.11g radio, you can find information about the applet for radio configuration: <http://www.summitdatacom.com/SCU.htm>.

To launch this utility you can tap the specific icon if it's visible on the taskbar or:

1. On Windows CE devices, you can open Connections folder or Control Panel from desktop and select the 'Summit Client Utility' icon.
2. On Windows Mobile devices, you can select the menu item: Start->Programs->Summit and tap the 'Summit Client Utility' icon.



Key:

- A) Datalogic FALCON™
- B) Access Point
- C) Host – Application Server



NOTE
802.11g radio module is on by default, in order to avoid wasting energy, you can switch it off using the Wireless Communications applet.



NOTE
Suspending the terminal powers off the 802.11b/g radio and drops the radio connection. When the terminal resumes, depending on the radio power mode and security protocol selected, it may take up to 30 seconds for the 802.11b/g radio driver to re-associate the radio to the network.



NOTE

Area coverage and radio performance may vary, due to environmental conditions, access points types or interference caused by other devices (microwave ovens, radio transmitters, etc.)



NOTE

In case of heavy usage the Datalogic FALCON™ could get warm, this is normal and does not mean a malfunction.

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3.5 WPAN CONNECTION

Datalogic FALCON™ mobile computer models with Bluetooth® can communicate with other Bluetooth® enabled devices, such as a printer, within a range of 10 m, using the onboard Bluetooth® module.



Key:

- A) Datalogic FALCON™
- B) Bluetooth® printer



NOTE

*In order to avoid wasting energy, the Bluetooth® module is off by default. If you need to have Bluetooth® working, the module must be powered on using the Wireless Communications applet (see par. **Error! Reference source not found.**), and perform the Discovery procedure (see par. **Error! Reference source not found.**).*



NOTE

Suspending the terminal powers off the Bluetooth® radio and drops the piconet (Bluetooth® connection). When the terminal resumes, it takes approximately 10 seconds for the Bluetooth® radio driver to re-initialize the radio.



NOTE

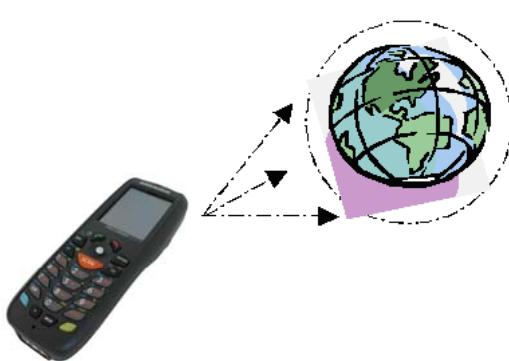
Area coverage and Bluetooth® radio performance may vary, due to environmental conditions or interference caused by other devices (microwave ovens, radio transmitters, etc.), etc.

3.6 WWAN CONNECTION

Datalogic FALCON™ GSM models enhance your connectivity solutions giving you an opening to an international wireless infrastructure that is the global standard.

GSM (Global System for Mobile communications) is a digital mobile phone system based on TDMA; it utilizes the 850, 900, 1800 and 1900 MHz bands.

In order to use a WWAN Connection you have to install a SIM Card* (see instructions on par. **1.5**).



NOTE

*In order to avoid wasting energy, the GSM module is off by default. If you need to have GSM working, the module must be powered on using the Wireless Communications applet (see par. **Error! Reference source not found.**).*



NOTE

Suspending the terminal does not power off the GSM radio and does not drop the connection. Instead, changing the battery powers off the GSM radio and drops the connection. When the terminal resumes, if the connection was managed by Microsoft Internet Explorer, it is automatically restored, otherwise, the radio connection must be manually re-initialized.



NOTE

The GSM voice capability of this mobile computer has to be addressed to occasional use, in well covered areas. If the coverage is poor, the voice quality can be highly affected.



Calls can be made or received using the Datalogic FALCON™ as a phone handset, by the Datalogic FALCON™ headset or by a Bluetooth® headset.

* the SIM Card option is not available in 802.11g radio and batch models

NOTE

During a call, you can set the speaker volume by moving the joystick up and down.

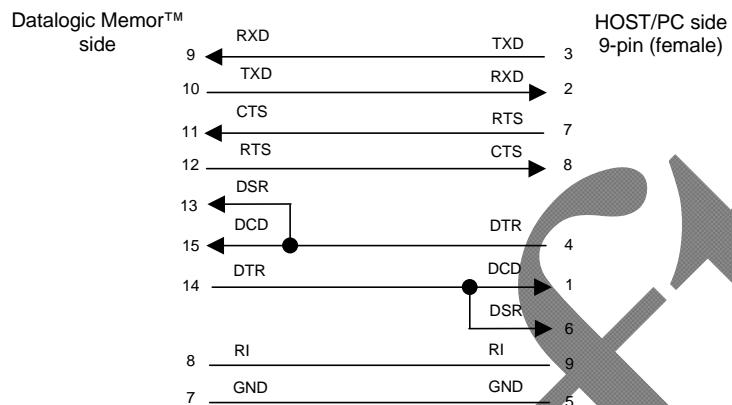
NOTE

In case of heavy usage the Datalogic FALCON™ could get warm, this is normal and does not mean a malfunction.

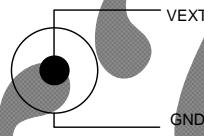
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3.7 CONNECTION CABLES

- **RS232 Direct Connection:**
94A051022 WIN-NET SERIAL CAB (HRS ST40x-18S-CV)



- **Power Supply Polarity:**



3.8 WIRELESS AND RADIO FREQUENCIES WARNINGS



**WARNIN
G**

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications or attachments could damage the product and may violate laws and regulations.



**WARNIN
G**

Most modern electronic equipment is shielded from RF signals. However, certain electronic equipment may not be shielded against the RF signals generated by Datalogic FALCON™.



**WARNIN
G**

Datalogic recommends persons with pacemakers or other medical devices to follow the same recommendations provided by Health Industry Manufacturers Associations for mobile phones.

Persons with pacemakers:

- *Should ALWAYS keep this device more than twenty five (25) cm from their pacemaker and/or any other medical device;*
- *Should not carry this device in a breast pocket;*
- *Should keep the device at the opposite side of the pacemaker and/or any other medical device;*
- *Should turn this device OFF or move it immediately AWAY if there is any reason to suspect that interference is taking place.*
- *Should ALWAYS read pacemaker or any other medical device guides or should consult the manufacturer of the medical device to determine if it is adequately shielded from external RF energy.*

In case of doubt concerning the use of wireless devices with an implanted medical device, contact your doctor.



Turn this device OFF in health care facilities when any regulations posted in

**WARNIN
G**

*these areas instruct you to do so.
Hospitals or health care facilities may use
equipment that could be sensitive to
external RF energy.*

**WARNIN
G**

*RF signals may affect improperly
installed or inadequately shielded
electronic systems in motor vehicles.
Check with the manufacturer or its
representative regarding your vehicle.
You should also consult the manufacturer
of any equipment that has been added to
your vehicle.*

**WARNIN
G**

*An air bag inflates with great force. DO
NOT place objects, including either
installed or portable wireless equipment,
in the area over the air bag or in the air
bag deployment area. If vehicle's wireless
equipment is improperly installed and the
air bag inflates, serious injury could
result.*

**WARNIN
G**

*Turn off the device when in any area with a
potentially explosive atmosphere. Observe
restrictions and follow closely any laws,
regulations, warnings and best practices on
the use of radio equipment near fuel storage
areas or distribution fuel areas, chemical
plants or where some operation involves use
of explosive materials.*

*Do not store or carry flammable liquids,
explosive gases or materials with the device
or its parts or accessories.*

*Areas with a potentially explosive
atmosphere are often, but not always, clearly
marked or showed.*

*Sparks in such areas could cause an
explosion or fire, resulting in injury or
even death.*

!

*To safely disable the radio modules
(WiFi/GSM/BT) do not power off/shut off*

WARNING *the terminal, but use the Wireless Communications applet (see par. **Error!** **Reference source not found.**).*

4 CONNECTIONS

4.1 USB CONNECTION

You can use any standard mini USB cable to directly connect the Datalogic FALCON™ to a host computer to transfer data through the USB interface.

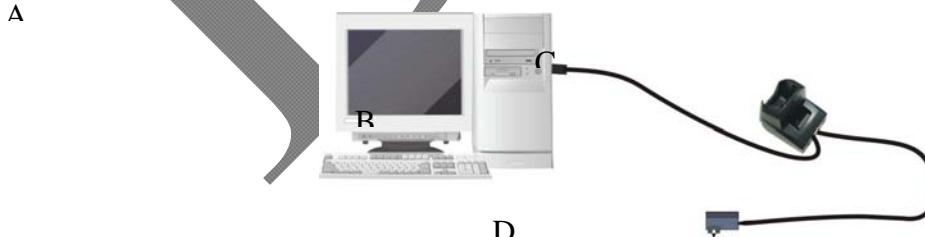


Key:

- A) Host Computer
- B) Standard Mini USB cable
- C) Datalogic FALCON™

NOTE *Connection through the cable is compliant to 2.0 USB standard.*

The Single Cradle can be connected to the Host by any standard mini USB cable to transfer data through the USB interface.



Key:

- A) Host Computer
- B) Standard Mini USB cable
- C) Single Cradle
- D) *Power Supply (only necessary for battery charging)

In this case the power supply is only necessary for battery charging. Insert the power supply plug into the power jack on the base of the cradle and attach the power supply to a power outlet.



Connection through the cradle is compliant to 2.0 USB standard.

NOTE



The actual data transfer speed can be appreciably lower than the maximum theoretical speed.

NOTE

Draft

4.2 CONNECTION TO USB PERIPHERALS

You can use a standard A (4 pin female) to mini A (5 pin male) USB cable to connect the Datalogic FALCON™ to a keyboard or a memory. For all these devices maximum current withdrawal must be below 100mA.



Key:

A Keyboard with USB interface C 94A051024 (Standard A to Mini A USB cable)

B Datalogic FALCON™



Key:

A USB hard drive/ external memory source C 94A051024 (Standard A to Mini A USB cable)

B Datalogic FALCON™

 Connect first the USB peripheral to the cable, and then the cable to the Datalogic FALCON™.

NOTE

 Datalogic FALCON™ works with most of mentioned USB peripherals. In any case, we can't guarantee good operations with all devices available on market place.

NOTE

 Connection is compliant to 1.1 USB standard.

NOTE



The actual data transfer speed can be appreciably lower than the maximum theoretical speed.

NOTE

4.3 RS232 CONNECTION

You can use a cable to directly connect the Datalogic FALCON™ to a host computer to transfer data through the RS232 interface.

A



Key:

- A) Host Computer
- B) 94A051022 WIN-NET (HRS ST40X-18S-CV)
- C) Datalogic FALCON™

The Single Cradle can be connected to the Host by any standard 9-pin serial null-modem cable for RS232 communications.

Once the Host has been turned on, insert the Datalogic FALCON™ mobile computer into the cradle.

A



D



Key:

- A) Host Computer
- B) 94A051020 CAB-427 Null-Modem
- C) Single Cradle
- D) *Power Supply (only necessary for battery charging)

In this case the power supply is only necessary for battery charging. Insert the power supply plug into the power jack on the base of the cradle and attach the power supply to a power outlet.



CAUTION

If the mobile computer supports Windows Mobile, before plugging the RS232 cable you have to check the 'COM1 Enable' option on the 'System, Configuration' window. (Start -> Programs -> System Configuration).

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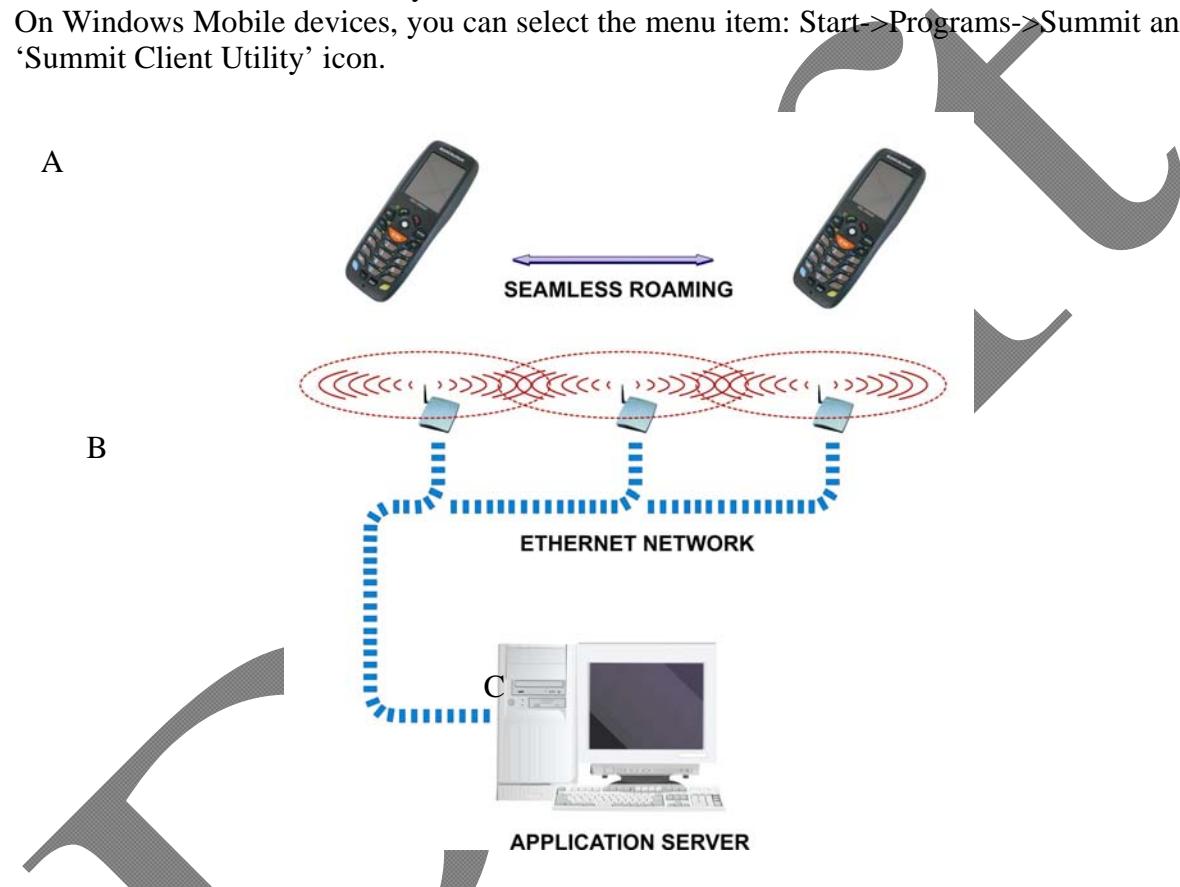
4.4 WLAN CONNECTION

Datalogic FALCON™ 802.11a/b/g radio models can communicate with the host using the on-board radio frequency component and an Access Point connected to the host computer.

For models using the 802.11g radio, you can find information about the applet for radio configuration: <http://www.summitdatacom.com/SCU.htm>.

To launch this utility you can tap the specific icon if it's visible on the taskbar or:

3. On Windows CE devices, you can open Connections folder or Control Panel from desktop and select the 'Summit Client Utility' icon.
4. On Windows Mobile devices, you can select the menu item: Start->Programs->Summit and tap the 'Summit Client Utility' icon.



Key:

- D) Datalogic FALCON™
- E) Access Point
- F) Host – Application Server



NOTE
802.11g radio module is on by default, in order to avoid wasting energy, you can switch it off using the Wireless Communications applet.



NOTE
Suspending the terminal powers off the 802.11b/g radio and drops the radio connection. When the terminal resumes, depending on the radio power mode and security protocol selected, it may take up to 30 seconds for the 802.11b/g radio driver to re-associate the radio to the network.



NOTE

Area coverage and radio performance may vary, due to environmental conditions, access points types or interference caused by other devices (microwave ovens, radio transmitters, etc.)



NOTE

In case of heavy usage the Datalogic FALCON™ could get warm, this is normal and does not mean a malfunction.

Draft

4.5 WPAN CONNECTION

Datalogic FALCON™ mobile computer models with Bluetooth® can communicate with other Bluetooth® enabled devices, such as a printer, within a range of 10 m, using the onboard Bluetooth® module.



Key:

- C) Datalogic FALCON™
- D) Bluetooth® printer



NOTE

*In order to avoid wasting energy, the Bluetooth® module is off by default. If you need to have Bluetooth® working, the module must be powered on using the Wireless Communications applet (see par. **Error! Reference source not found.**), and perform the Discovery procedure (see par. **Error! Reference source not found.**).*



NOTE

Suspending the terminal powers off the Bluetooth® radio and drops the piconet (Bluetooth® connection). When the terminal resumes, it takes approximately 10 seconds for the Bluetooth® radio driver to re-initialize the radio.



NOTE

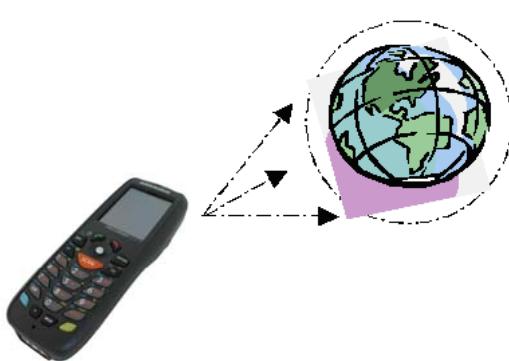
Area coverage and Bluetooth® radio performance may vary, due to environmental conditions or interference caused by other devices (microwave ovens, radio transmitters, etc.), etc.

4.6 WWAN CONNECTION

Datalogic FALCON™ GSM models enhance your connectivity solutions giving you an opening to an international wireless infrastructure that is the global standard.

GSM (Global System for Mobile communications) is a digital mobile phone system based on TDMA; it utilizes the 850, 900, 1800 and 1900 MHz bands.

In order to use a WWAN Connection you have to install a SIM Card* (see instructions on par. **1.5**).



NOTE

*In order to avoid wasting energy, the GSM module is off by default. If you need to have GSM working, the module must be powered on using the Wireless Communications applet (see par. **Error! Reference source not found.**).*



NOTE

Suspending the terminal does not power off the GSM radio and does not drop the connection. Instead, changing the battery powers off the GSM radio and drops the connection. When the terminal resumes, if the connection was managed by Microsoft Internet Explorer, it is automatically restored, otherwise, the radio connection must be manually re-initialized.



NOTE

The GSM voice capability of this mobile computer has to be addressed to occasional use, in well covered areas. If the coverage is poor, the voice quality can be highly affected.



Calls can be made or received using the Datalogic FALCON™ as a phone handset, by the Datalogic FALCON™ headset or by a Bluetooth® headset.

* the SIM Card option is not available in 802.11g radio and batch models

NOTE

During a call, you can set the speaker volume by moving the joystick up and down.

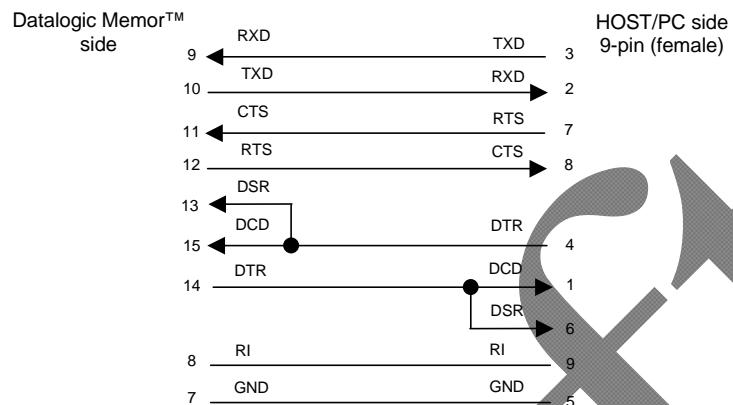
NOTE

In case of heavy usage the Datalogic FALCON™ could get warm, this is normal and does not mean a malfunction.

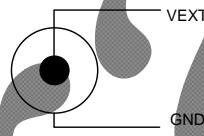
Draft

4.7 CONNECTION CABLES

- **RS232 Direct Connection:**
94A051022 WIN-NET SERIAL CAB (HRS ST40x-18S-CV)



- **Power Supply Polarity:**



4.8 WIRELESS AND RADIO FREQUENCIES WARNINGS



**WARNIN
G**

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications or attachments could damage the product and may violate laws and regulations.



**WARNIN
G**

Most modern electronic equipment is shielded from RF signals. However, certain electronic equipment may not be shielded against the RF signals generated by Datalogic FALCON™.



**WARNIN
G**

Datalogic recommends persons with pacemakers or other medical devices to follow the same recommendations provided by Health Industry Manufacturers Associations for mobile phones.

Persons with pacemakers:

- *Should ALWAYS keep this device more than twenty five (25) cm from their pacemaker and/or any other medical device;*
- *Should not carry this device in a breast pocket;*
- *Should keep the device at the opposite side of the pacemaker and/or any other medical device;*
- *Should turn this device OFF or move it immediately AWAY if there is any reason to suspect that interference is taking place.*
- *Should ALWAYS read pacemaker or any other medical device guides or should consult the manufacturer of the medical device to determine if it is adequately shielded from external RF energy.*

In case of doubt concerning the use of wireless devices with an implanted medical device, contact your doctor.



Turn this device OFF in health care facilities when any regulations posted in

**WARNIN
G**

*these areas instruct you to do so.
Hospitals or health care facilities may use
equipment that could be sensitive to
external RF energy.*

**WARNIN
G**

*RF signals may affect improperly
installed or inadequately shielded
electronic systems in motor vehicles.
Check with the manufacturer or its
representative regarding your vehicle.
You should also consult the manufacturer
of any equipment that has been added to
your vehicle.*

**WARNIN
G**

*An air bag inflates with great force. DO
NOT place objects, including either
installed or portable wireless equipment,
in the area over the air bag or in the air
bag deployment area. If vehicle's wireless
equipment is improperly installed and the
air bag inflates, serious injury could
result.*

**WARNIN
G**

*Turn off the device when in any area with a
potentially explosive atmosphere. Observe
restrictions and follow closely any laws,
regulations, warnings and best practices on
the use of radio equipment near fuel storage
areas or distribution fuel areas, chemical
plants or where some operation involves use
of explosive materials.*

*Do not store or carry flammable liquids,
explosive gases or materials with the device
or its parts or accessories.*

*Areas with a potentially explosive
atmosphere are often, but not always, clearly
marked or showed.*

*Sparks in such areas could cause an
explosion or fire, resulting in injury or
even death.*

WARNING

*To safely disable the radio modules (WiFi/GSM/BT) do not power off/shut off the terminal, but use the Wireless Communications applet (see par. **Error! Reference source not found.**).*

5 MAINTENANCE

**NOTE**

Rechargeable backup batteries and battery packs are not initially charged. Therefore the initial operation to perform is to charge them. See below.

**CAUTION**

Annual replacement of rechargeable battery pack avoids possible risks or abnormalities and ensures maximum performance.

5.1 CHARGING THE BATTERY PACK

**NOTE**

The battery pack autonomy varies according to many factors, such as the frequency of barcode scanning, RF usage, battery life, storage, environmental conditions, etc.

The battery icon on the Taskbar indicates when the battery pack is low.

It is possible to recharge the battery pack by connecting the power supply directly to the Datalogic FALCON™.

Alternatively, it is also possible to recharge the battery pack by using a Single Cradle.

Moreover recharging is possible by USB Direct connection with the host computer, but with longer charging times and in this case it is advised to keep the mobile computer off.

During the charging process the LED positioned at the right side of the display is red constant. Once the charging process has been completed this LED is green constant (see par. **Error! Reference source not found.**).

If the battery pack is removed from the mobile computer, it can be recharged by inserting it into the rear slot of a Single Cradle.



**CAUTI
ON**

Do not use the Datalogic FALCON™ until batteries are charged for minimum 4 hours.



NOTE

Even if the storage temperature range is wider, In order to achieve the longest battery life, store the terminal and the spare batteries between 20 to 30 °C (68 to 86 °F).

The Batteries must be charged at a temperature ranging from 0° to +40 °C (+32° to +104 °F).

For the GSM models the maximum recommended temperature is + 35° C. At higher values the charging may slow down.



NOTE

The battery level may not be displayed correctly for some minutes after the disconnection if the Datalogic FALCON™ is disconnected from power supply before the charging cycle is completed.



NOTE

The Datalogic FALCON™ could get warm during charging, this is normal and does not mean a malfunction.



NOTE

Use only a USB-IF compliant USB port as a charging source.

5.2 REPLACING THE BATTERY PACK

To correctly replace the battery pack, proceed as follows.

3. Turn off the Datalogic FALCON™.
4. Press the latch release button and pull the battery latch down as indicated in the figure below:



5. Remove the cover and the battery pack.



5. Install the new battery pack, first insert the bottom (contacts) side, then the upper side as indicated in the following figure:



6. Press the latch release button and pull the battery latch down to reinsert the cover.



**CAUTI
ON**

As the battery cover is lifted, the mobile computer automatically shuts off, in order to retain data during the pack substitution.



Installing, charging and/or any other action should be done by authorized personnel and following this manual.

WARNING

The battery pack may get hot, explode, ignite, and/or cause serious injury if exposed to abusive conditions.

If the battery pack is replaced with an improper type, there is risk of explosion.

Do not place the battery pack in or near a fire or heat; do not place the battery pack in direct sunlight, or use or store the battery pack inside unventilated areas in hot weather; do not place the battery pack in microwave ovens, dryer, high pressure containers, on induction cookware or similar device. Doing so may cause the battery pack to generate heat, explode or ignite. Using the battery pack in this manner may also result in a loss of performance and a shortened life expectancy.

Use only a Datalogic Mobile approved power supply. The use of an alternative power supply will void the product warranty, may cause product damage and may cause heat, explode or ignite.

The area in which the units are charged should be clear of debris and combustible materials or chemicals.

Do not use the battery pack of this terminal for power devices different from this mobile computer.

Immediately discontinue use of the battery pack if, while using, charging or storing the battery pack, the battery pack emits an unusual smell, feels hot, changes colour or shape, or appears abnormal in any other way.

Do not short-circuit the battery pack contacts connecting the positive terminal and negative terminal. This might happen, for example, when you carry a spare battery pack in your pocket or purse; accidental short-circuiting can occur when a metallic object such as a coin, clip, or pen causes direct connection of the contacts of the battery pack (these look like metal strips on the battery pack). Short-circuiting the terminals may damage the battery pack or the connecting object.

Do not apply voltages to the battery pack contacts.

Do not pierce the battery pack with nails, strike it with a hammer, step on it or otherwise subject it to strong impacts or shocks.



Do not disassemble or modify (i.e. bend, crush or deform) the battery pack. The battery pack contains safety and protection devices, which, if damaged, may cause the battery pack to generate heat, explode or ignite.

WARNING

In case of leakage of liquid from the battery, avoid contact with liquid the skin or eyes. If the contact occurs, immediately wash the affected area with water and consult a doctor.

Do not solder directly onto the battery pack.

Do not expose the battery pack to liquids.

Avoid any knocks or excessive vibrations. If the device or the battery is dropped, especially on a hard surface, you should take it to the nearest Authorised Repair Centre for inspection before continuing to use it.

Do not replace the battery pack when the device is turned on.

Do not remove or damage the battery pack's label.

Do not use the battery pack if it is damaged in any part.

Battery pack usage by children should be supervised.

Collect and recycle waste batteries separately from the device in comply with European Directive 2006/66/EC, 2002/95/EC, 2002/96/EC and subsequent modifications, US and China regulatory and others laws and regulations about environment.



NOTE

In order to guarantee an adequate operating autonomy, when replacing the battery pack the mobile computer checks the battery energy level. If the battery is not sufficiently charged, Datalogic FALCON™ does not turn on (when pressing the ON/OFF key).

In this case, either substitute the battery pack with a charged one (sufficiently charged) or insert Datalogic FALCON™ into a powered cradle or plug it into the direct power supply.



NOTE

To achieve the best battery life, turn off the radios not in use.

CLEANING THE MOBILE COMPUTER

Periodically clean the Datalogic FALCON™ with a slightly dampened cloth.

6 TECHNICAL FEATURES

6.1 TECHNICAL DATA

Datalogic FALCON™ Common Features

PHYSICAL CHARACTERISTICS	
DIMENSIONS (LWXH)	802.11b/g / Batch models: 15.2 x 5.5 x 4.0 cm / 5.9 x 2.2 x 1.6 in EDGE models: 16.5 x 5.5 x 4.0 cm / 6.5 x 2.2 x 1.6 in
WEIGHT (DEPENDING ON MODEL)	220 g / 7.76 oz (incl. 1100 mAH battery) 250 g / 8.81 oz (incl. 2000 mAH battery)
AUDIO	Rear Speaker for beeps and ringing tones Microphone and Front Speaker for phone calls Headset
LEDS	Two-color Good Read/Programmable Charging Status
DISPLAY	64K Color TFT LCD with 320 x 240 pixel resolution (QVGA), with LED backlight and touch screen, antiglare and antiscratch protection
KEYBOARD	23 Plastic Top - Backlit Keys + Joystick + lateral ON/OFF key
OPERATING TEMPERATURE*	0° to +50 °C / 32 °F to +122 °F
STORAGE TEMPERATURE	-20° to +70 °C / -4° to +158 °F
HUMIDITY**	10 to 80% non condensing for temperatures < 38 °C
DROP RESISTANCE***	1.2 m / 3.9 ft
ENVIRONMENTAL SEALING	IP 54
ESD PROTECTION	4 KV contact discharge, 8 KV air discharge

- * Battery must be charged at a temperature ranging from 0° to +40 °C.
For the GSM models the maximum recommended temperature is +35°C. At higher values the charging may slow down.
Close to the limits of the working temperature, some display and/or battery performance degradation may occur.
When the battery is exhausted, the GSM turns off and it is not working until the battery is charged or changed.
- ** Multiple rapid humidity and/or temperature variations may cause condensing.
- *** Multiple drops can permanently damage the device.

Draft

SYSTEM	
OPERATING SYSTEM	Windows CE 5.0 Professional/ Windows Mobile 6.1 Professional
MICROPROCESSOR	Marvell XScale™ PXA 310 624 MHz
SYSTEM RAM MEMORY	128 MB
SYSTEM FLASH MEMORY	256 MB
POWER SUPPLY	
DC Supply	5 V ± 5%
Battery Pack	1 cell Li-Pol or Li-Ion 1100 mAh@3.7 V (nominal) Alternatively 1 cell Li-Pol or Li-Ion 2000 mAh@3.7 V (nominal)
Internal Backup Battery	Rechargeable Ni-MH 30 mAh (2 x 15 mAh cells)

COMMUNICATIONS				
INTERFACES			Win CE Com Port	Win Mobile Com Port
	Bluetooth® Interface		COM5	COM5
	Serial Interface	RS232 USB 1.1	COM1 COM6	COM1 COM6
WIDE AREA NETWORK (WAN)	GSM Quad-band (850, 900, 1800, 1900 MHz) Radio with accessible SIM card interface			
LOCAL AREA NETWORK (LAN)	IEEE 802.11b/g DSSS			
PERSONAL AREA NETWORK (PAN)	Bluetooth® IEEE 802.15, Class 2, Version 2.0			

READING OPTIONS	
LASER CHARACTERISTICS	
SCANNING RATE - BIDIRECTIONAL	104 ± 12 scan/sec
MAXIMUM RESOLUTION	0.10 mm / 4 mils
SKEW ANGLE	± 50°
PITCH ANGLE	± 65°
AIMING LASER	VLD, wavelength 630~680 nm
BAR CODES	UPC A, UPC E, EAN 8, EAN 13, Code 39, Code 39 Full ASCII, Code 32, Interleaved 2 of 5, Industrial 2 of 5, Matrix 2 of 5, Code 128, EAN 128, Codabar, MSI, Plessey, Code 93, Code 11, GS1 Databar
LASER CLASSIFICATION	Laser: Class 2 Safety class EN 60825-1:2001
LED CLASSIFICATION	Led (Green Spot): Class 1
IMAGER CHARACTERISTICS	
SCANNING RATE	60 frames/sec
MAXIMUM RESOLUTION	0.13 mm / 5 mils
AIMING LASER	VLD, wavelength 645~665 nm
BAR CODES	Decoded barcodes 1D: UPC A, UPC E, EAN 8, EAN 13, Interleaved 2 of 5, Code 39, Code 39 Full ASCII, Codabar, Code 128, EAN 128, Code 93, GS1 Databar, MSI, Bookland EAN, ISSN EAN; Matrix 2 of 5, Standard 2 of 5 Decoded barcodes 2D: PDF417, DataMatrix, QR, MicroPDF, RSS, Maxicode, Aztec

	Postal codes: POSTNET, PLANET, Japan Post, Australia Post, KIX Code, Royal Mail Code (RM4SCC), Intelligent mail, UPU FICS
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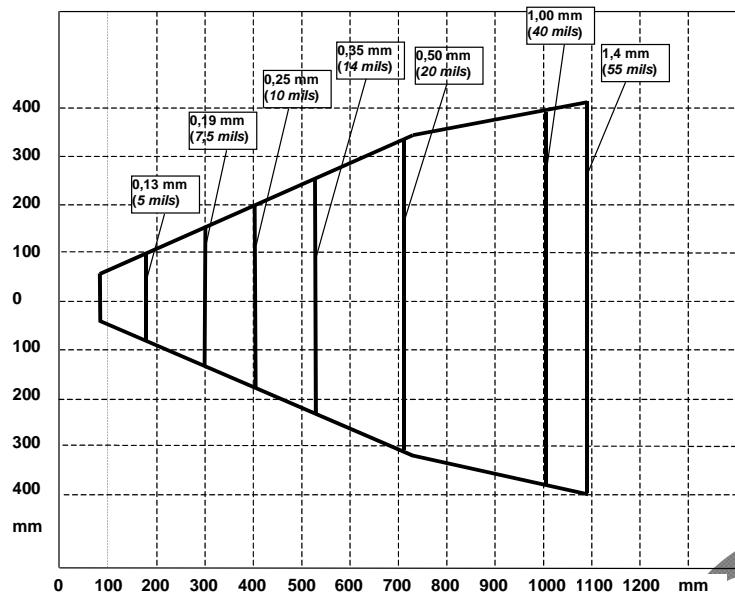
LASER CLASSIFICATION	Laser: Class 2 Safety class: N 60825-1:2001
LED CLASSIFICATION	Led (Illuminator): Class 1M
ILLUMINATION SYSTEM	LEDs 620~630 nm

Draft

6.2 READING DIAGRAMS

Datalogic FALCON™ 1D

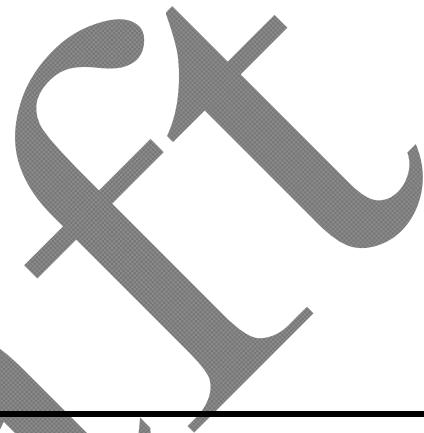
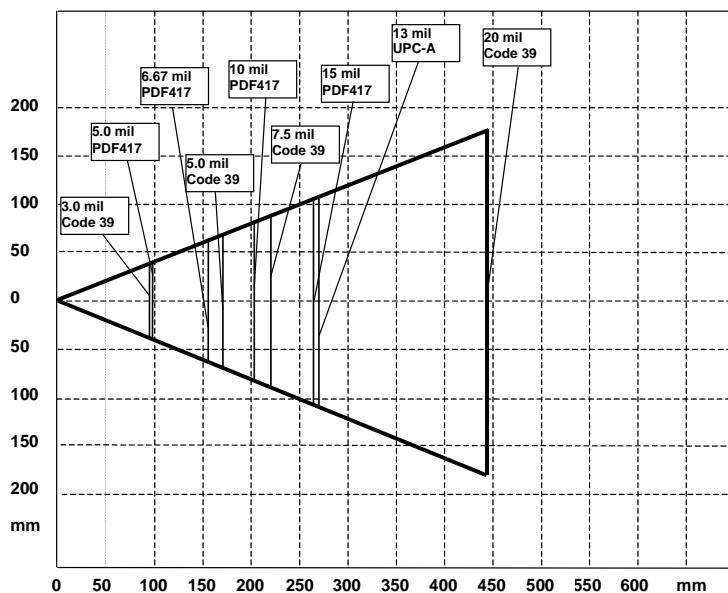
Typical Reading Diagram - Reading Zones (10° skew angle)



Draft

Datalogic FALCON™ SE4500-DL

Typical Reading Diagram - Reading Zones (10° skew angle)



7 TECHNICAL FEATURES

7.1 TECHNICAL DATA

Datalogic FALCON™ Common Features

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WEIGHT (DEPENDING ON MODEL)	220 g / 7.76 oz (incl. 1100 mAH battery) 250 g / 8.81 oz (incl. 2000 mAH battery)
AUDIO	Rear Speaker for beeps and ringing tones Microphone and Front Speaker for phone calls Headset
LEDS	Two-color Good Read/Programmable Charging Status
DISPLAY	64K Color TFT LCD with 320 x 240 pixel resolution (QVGA), with LED backlight and touch screen, antiglare and antiscratch protection

KEYBOARD	23 Plastic Top - Backlit Keys + Joystick + lateral ON/OFF key
OPERATING TEMPERATURE*	0° to +50 °C / 32 °F to +122 °F
STORAGE TEMPERATURE	-20° to +70 °C / -4° to +158 °F
HUMIDITY**	10 to 80% non condensing for temperatures < 38 °C
DROP RESISTANCE***	1.2 m / 3.9 ft
ENVIRONMENTAL SEALING	IP 54
ESD PROTECTION	4 KV contact discharge, 8 KV air discharge

* Battery must be charged at a temperature ranging from 0° to +40 °C.
For the GSM models the maximum recommended temperature is +35°C. At higher values the charging may slow down.
Close to the limits of the working temperature, some display and/or battery performance degradation may occur.
When the battery is exhausted, the GSM turns off and it is not working until the battery is charged or changed.

** Multiple rapid humidity and/or temperature variations may cause condensing.

*** Multiple drops can permanently damage the device.

Draft

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OPERATING SYSTEM	Windows CE 5.0 Professional/ Windows Mobile 6.1 Professional
MICROPROCESSOR	Marvell XScale™ PXA 310 624 MHz
SYSTEM RAM MEMORY	128 MB
SYSTEM FLASH MEMORY	256 MB
POWER SUPPLY	
DC Supply	5 V ± 5%
Battery Pack	1 cell Li-Pol or Li-Ion 1100 mAh@3.7 V (nominal) Alternatively 1 cell Li-Pol or Li-Ion 2000 mAh@3.7 V (nominal)
Internal Backup Battery	Rechargeable Ni-MH 30 mAh (2 x 15 mAh cells)

COMMUNICATIONS				
INTERFACES			Win CE Com Port	Win Mobile Com Port
	Bluetooth® Interface		COM5	COM5
	Serial Interface	RS232 USB 1.1	COM1 COM6	COM1 COM6
WIDE AREA NETWORK (WAN)	GSM Quad-band (850, 900, 1800, 1900 MHz) Radio with accessible SIM card interface			
LOCAL AREA NETWORK (LAN)	IEEE 802.11b/g DSSS			
PERSONAL AREA NETWORK (PAN)	Bluetooth® IEEE 802.15, Class 2, Version 2.0			

READING OPTIONS	
LASER CHARACTERISTICS	
SCANNING RATE - BIDIRECTIONAL	104 ± 12 scan/sec
MAXIMUM RESOLUTION	0.10 mm / 4 mils
SKEW ANGLE	± 50°
PITCH ANGLE	± 65°
AIMING LASER	VLD, wavelength 630~680 nm
BAR CODES	UPC A, UPC E, EAN 8, EAN 13, Code 39, Code 39 Full ASCII, Code 32, Interleaved 2 of 5, Industrial 2 of 5, Matrix 2 of 5, Code 128, EAN 128, Codabar, MSI, Plessey, Code 93, Code 11, GS1 Databar
LASER CLASSIFICATION	Laser: Class 2 Safety class EN 60825-1:2001
LED CLASSIFICATION	Led (Green Spot): Class 1
IMAGER CHARACTERISTICS	
SCANNING RATE	60 frames/sec
MAXIMUM RESOLUTION	0.13 mm / 5 mils
AIMING LASER	VLD, wavelength 645~665 nm
BAR CODES	Decoded barcodes 1D: UPC A, UPC E, EAN 8, EAN 13, Interleaved 2 of 5, Code 39, Code 39 Full ASCII, Codabar, Code 128, EAN 128, Code 93, GS1 Databar, MSI, Bookland EAN, ISSN EAN; Matrix 2 of 5, Standard 2 of 5 Decoded barcodes 2D: PDF417, DataMatrix, QR, MicroPDF, RSS, Maxicode, Aztec

	Postal codes: POSTNET, PLANET, Japan Post, Australia Post, KIX Code, Royal Mail Code (RM4SCC), Intelligent mail, UPU FICS
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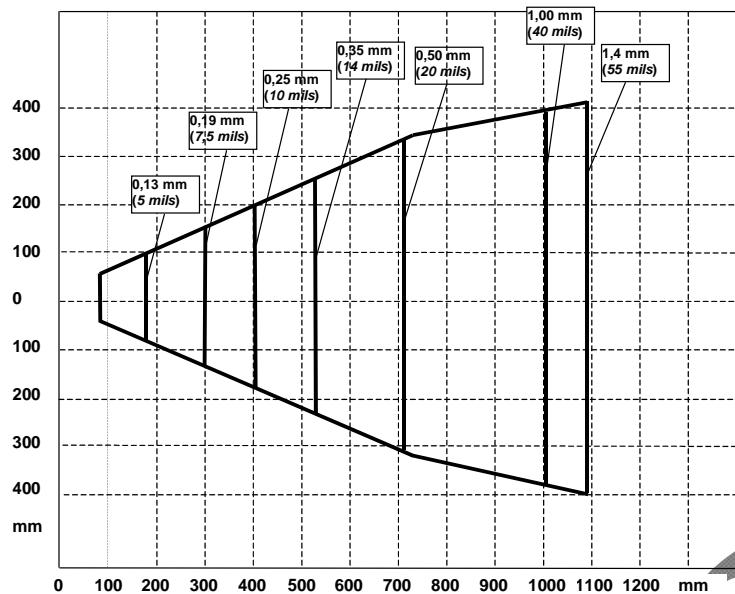
LASER CLASSIFICATION	Laser: Class 2 Safety class: N 60825-1:2001
LED CLASSIFICATION	Led (Illuminator): Class 1M
ILLUMINATION SYSTEM	LEDs 620~630 nm

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7.2 READING DIAGRAMS

Datalogic FALCON™ 1D

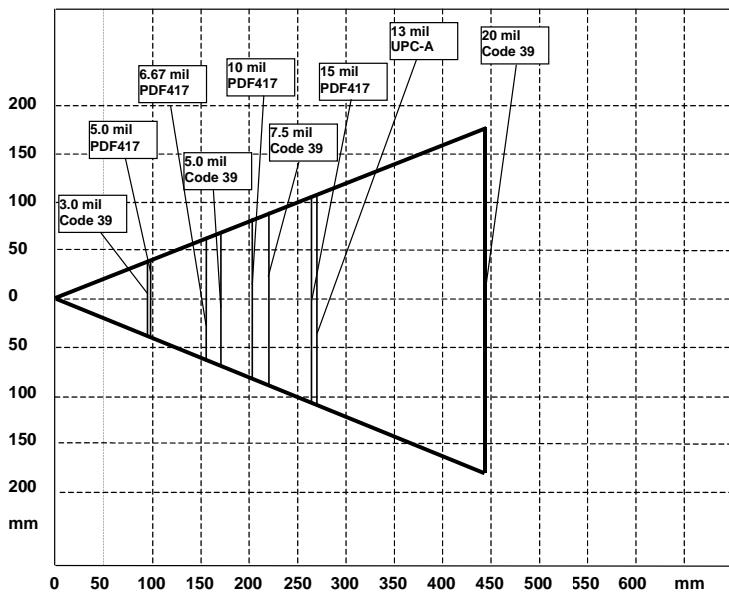
Typical Reading Diagram - Reading Zones (10° skew angle)



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Datalogic FALCON™ SE4500-DL

Typical Reading Diagram - Reading Zones (10° skew angle)



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